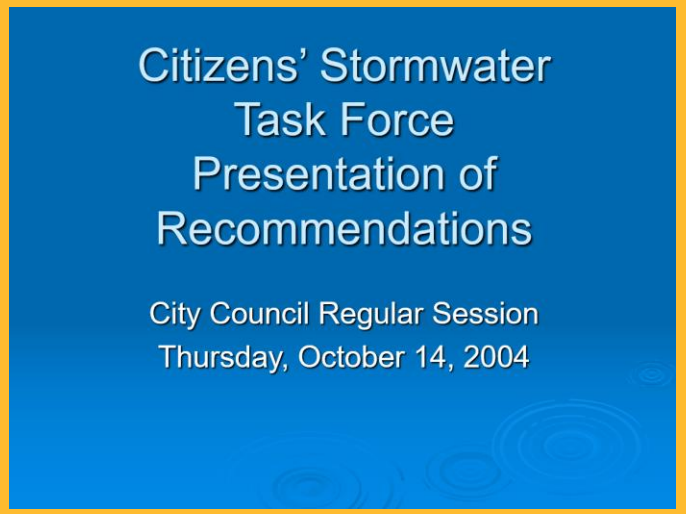
Stormwater Utility Rate and Implementation Study Update



April 14, 2025

Public Works Commitee

George Binger III, PE, CFM

Deputy Director of Public Works / City Engineer

LS

Yours Truly

Agenda

- City Council Priority Goal “Stormwater”
- Why is dedicated stormwater funding important?
- Stormwater impacts everyone!
- Stormwater Utility Historical Review
- Ignite! Alignment
- Stormwater Issues, Operation, Maintenance, & Utility Funding Approach
- Stormwater Utility Rate Study Summary
- Next Steps and Discussion

Flooding

Current City Level of Service:

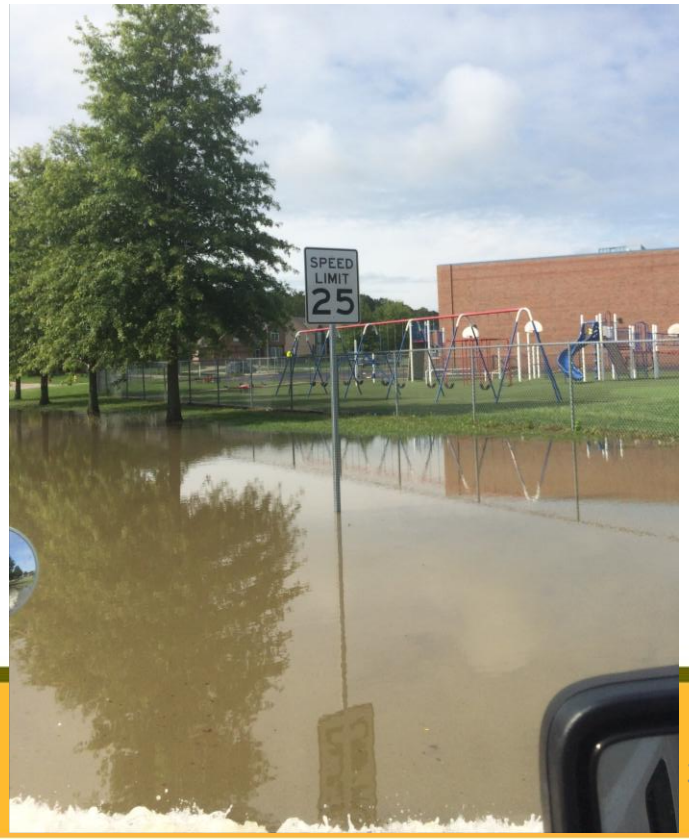
Enrolled in FEMA's National Flood Insurance Program (NFIP) - Enables property owners to purchase flood insurance

Close the road, and wait

Clean mud and debris within right of way

Inspect structures for Substantial Damage

Minimal Maintenance & Ensure Permit Compliance



Repetitive Flooding

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

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

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

Current System

Data as of April 2024

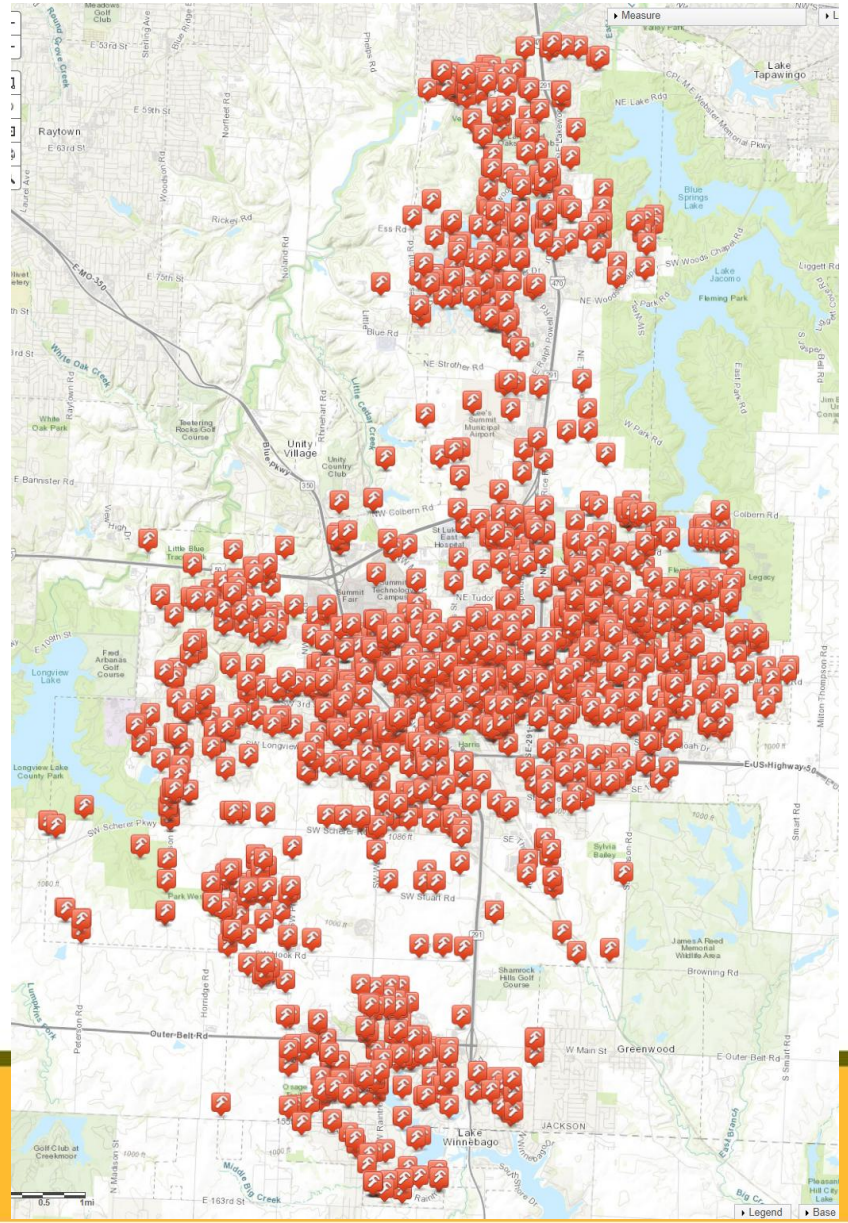
Public Infrastructure	Existing
Miles of Pipe	301
Miles of CMP	110
Mile of CMP removed	1.5
Number of Structures	18,682
Buried Structures	20
City-Owned Channel (miles)*	12
City-owned basins	22 (13.3 acres)
# of City-owned BMP	21

** 95,000 feet (18 miles), or 16%, of CMP is within 10 feet of occupied structures*

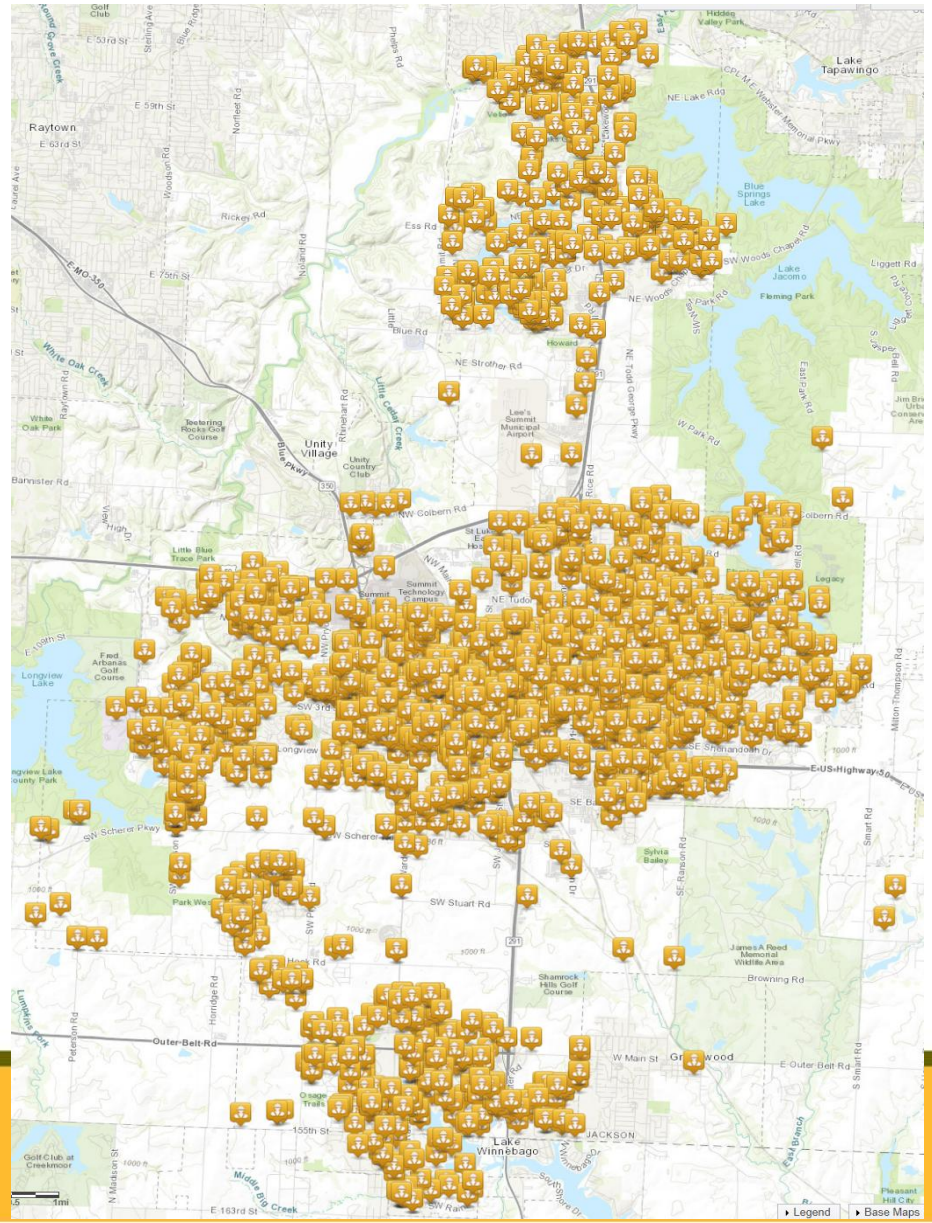
Current Stormwater Level of Service

- 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

1,856 Work Orders in 10 years



3,067 Service Requests in 10 years



A Day in the Life of the “Band Aid” Crew

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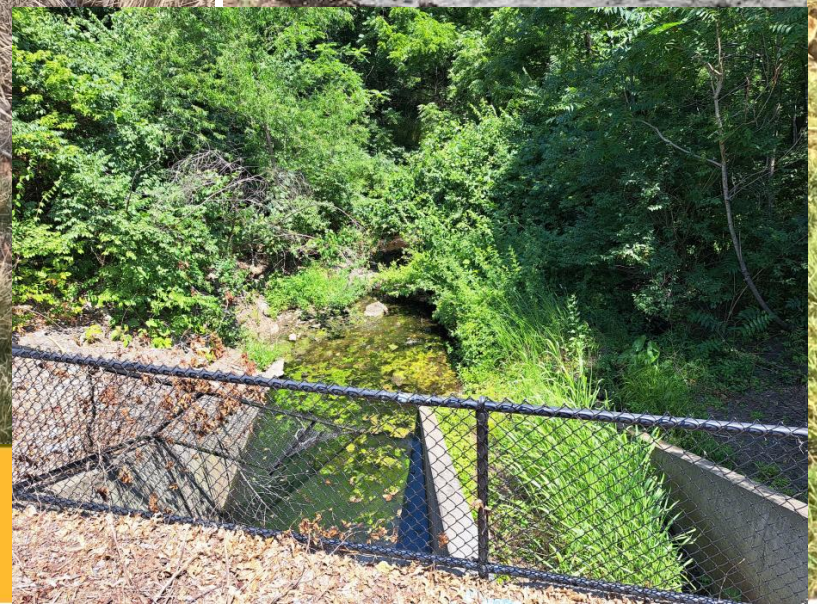


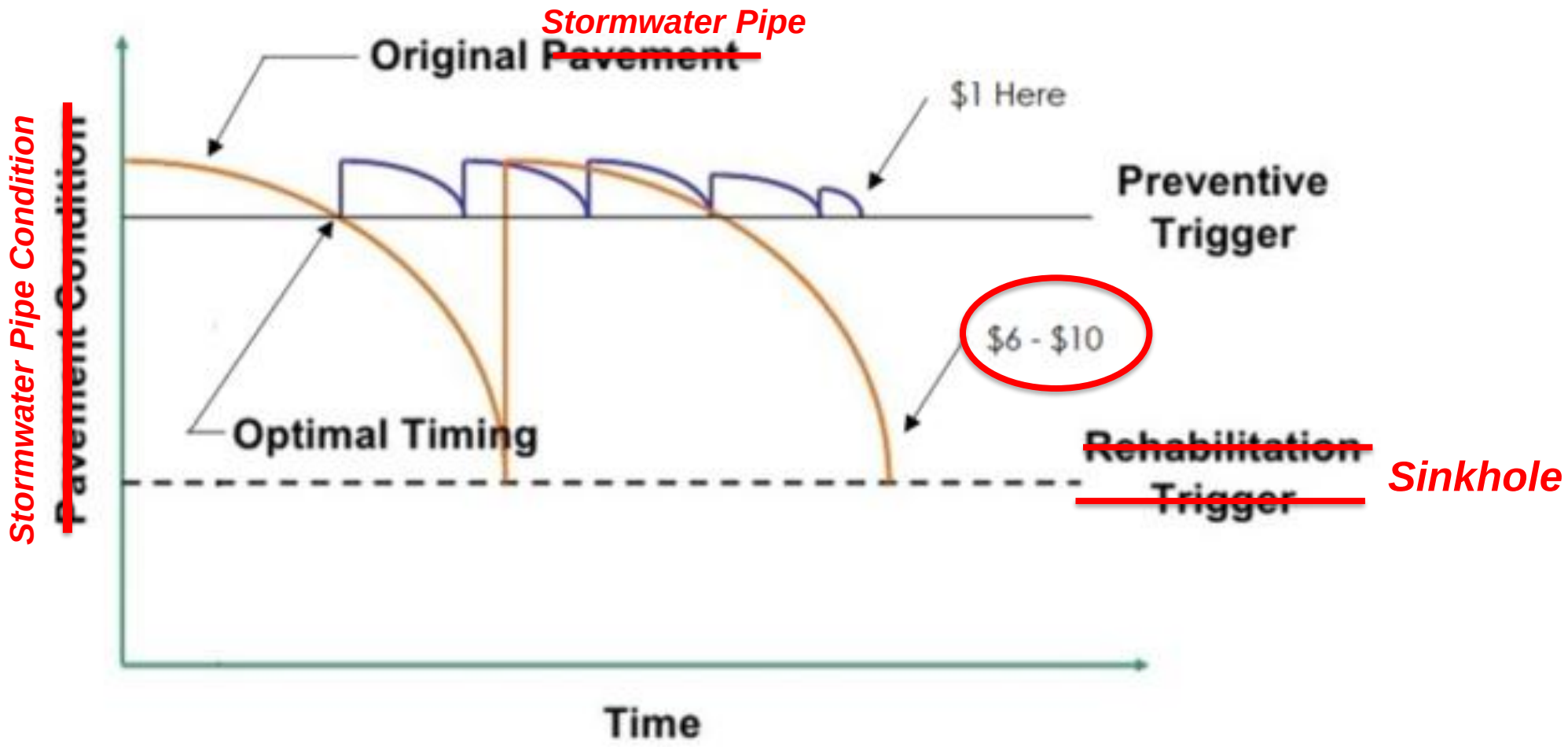
Why Stormwater Utility?

- Stormwater (rainfall) impacts all properties, land uses, waterways, lakes, etc.
- Stormwater is a resource to be managed
  - Support City's federal stormwater permit compliance
  - Cost savings
  - Reactive vs. Proactive infrastructure maintenance (efficiency and reduced costs)
  - Sustainable funding
  - Failing infrastructure
  - Flood mitigations through capital improvement projects
  - Water quality, erosion control, litter issues, design standards, etc.
  - Public education
- Level of Service policy decisions to manage the community's stormwater resources

Lee's Summit Infrastructure Programs

Type of Resource	Current Preventive Maintenance Programs	Impact if not done	Evaluation Program
Pavement	Pothole patching, street patching, Overlay program, Surface Seal, Crack Seal, Pavement Marking, Curb Program	- Street reconstruction at 10 times the cost of maintenance - Increased vehicle maintenance costs	Pavement Condition Index every 4 years (25% annually)
Water Mains	Water Main replacement program Cathodic Protection	- Emergency repairs - No water - Boil orders	SCADA monitoring Work Order tracking
Sanitary Sewer	CIPP re-lining Jetting and cleaning sewer mains	- Sewer backups - Infiltration and Inflow - Illegal connections	TV camera inspections, Video inspections, smoke testing
Stormwater	None	- Sinkholes; Flooding - Infrastructure Reconstruction - Damaged structures, property, infrastructure, natural streams	None

Preventive Maintenance Program Goals



Sinkholes as an Indicator of Reactive Maintenance

All Stormwater WO*	Sinkhole WO	Comparisons
3,149	379	Sinkhole Work Orders account for 10% of all work orders
$4,474,000	$1,615,000	Sinkhole Work Orders account for 36% of total cost recorded in Work Orders
79	41	Sinkhole Work Orders account for 52% of high cost work orders

**WO = Work Orders*

- Sinkholes can be attributed to lack of preventive maintenance
- Early detection of pipe defects allow for alternative, low-cost maintenance options such as:

  jetting, slip lining, re-lining, grouting pipe flow lines

Consequences of Failure

- Risk to public safety, health and welfare
- Road closures
- Damage to structures and property (homes, buildings, etc.)
- Emergency repairs (exponentially more expensive)
- Flooding
- Channel erosion
- Lower quality of life (litter, water pollution, aesthetic conditions)

Stormwater Utility Historical Review

- Stormwater Master Plan, 1990s-2002
  - Detailed list of flooding issues reported; all types
  - List of capital projects and estimated costs
  - No funding for work; no prioritization of work
- 2003-2004 Stormwater Citizens Task Force
  - 14 citizens; 4 Development Reps; Park Board Member; City Staff; Consultant
  - First effort to prioritize work identified in Stormwater Master Plan
  - 164 projects; $34.8 million; Increased operations & maintenance
  - Recommended City establish a stormwater utility based on user fee
- 2007: LS 360 Strategic Plan
  - Recommended a Stormwater Utility be established
  - Preliminary research on utility structures completed
  - 2008-2010 Recession stymied the political support for a stormwater utility ballot measure
  - Other priorities intervened a funding allocation for stormwater utility study.

Parallel of Current Events

Soviet Union fell
Desert Storm
OKC Bombing of Federal Building
Y2K
Apple Mac 3 ½" Disk

9/11
Afghanistan / OIF
iPod
Hurricane Katrina
Pope John Paul II

Facebook Launched
Amazon Kindle
Netflix

The Great Recession

Why Revisit a Storm Water Utility Initiative?

- 2016: Council/PWC re-started Stormwater Utility discussions
  - Conditions that stalled attempts to create a Stormwater Utility in 2010-2012 subsided
  - New reports of flooding and increasing rates of stormwater infrastructure failure
  - Escalating costs for reactive stormwater maintenance and repairs and limited budget concerns

Boston Marathon Bombing
Royals World Series

- 2017: CIP Sales Tax Renewal included $24.5M for stormwater capital projects
  - Limited to structural flooding mitigation, caused by failed or lack of public infrastructure
  - Corrugated Metal Pipe (CMP) replacements (NE Lakewood Way; Ward Road near Lea Drive)
  - Streambank stabilization (Bristol Drive; 2nd and Independence)
  - Equivalent to $1.6 million per year in capital projects

Patrick Mahomes drafted
Notre Dame Cathedral Fire

- 2021: Ignite! Strategic Plan
  - Plan Goals supported Stormwater Utility
  - Funded a Stormwater Utility Study from General Fund in FY22 Budget

COVID era
Jackson Co Property Assessment Issue
Elections (Bond Issues, Taxes, Council, Etc.)
Park Impact Fee

- 2024: City Council Retreat – Priority Goal: Stormwater
  - Re-Engage and advance the Stormwater Utility Initiative

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)

Stormwater Advisory Council

- Reviewed various stormwater utility funding options:
  - sales tax,
  - property tax, and
  - impervious area user fee
- Recommended user fee
- Recommended operations and maintenance based on 2 crews dedicated to stormwater full time (except Snow Ops)

Annual Stromwater Funding Gap

O&M = Operations and Maintenance

Example of Proposed Annual Charge (2029)

Estimated Annual Stormwater User Charge (Based on Inclusion of All Parcels)

Line No	Customer Class	Impervious Area (ft^2)	Billing Units	2029 Annual Charge (a)
				$
1	Residential	800	1.60	22.66
2	Residential	2,000	4.00	56.64
3	Residential	3,500	7.00	99.12
4	Commercial	2,500	5.00	70.80
5	Commercial	5,000	10.00	141.60
6	Industrial	10,000	20.00	283.20
7	Industrial	25,000	50.00	708.00

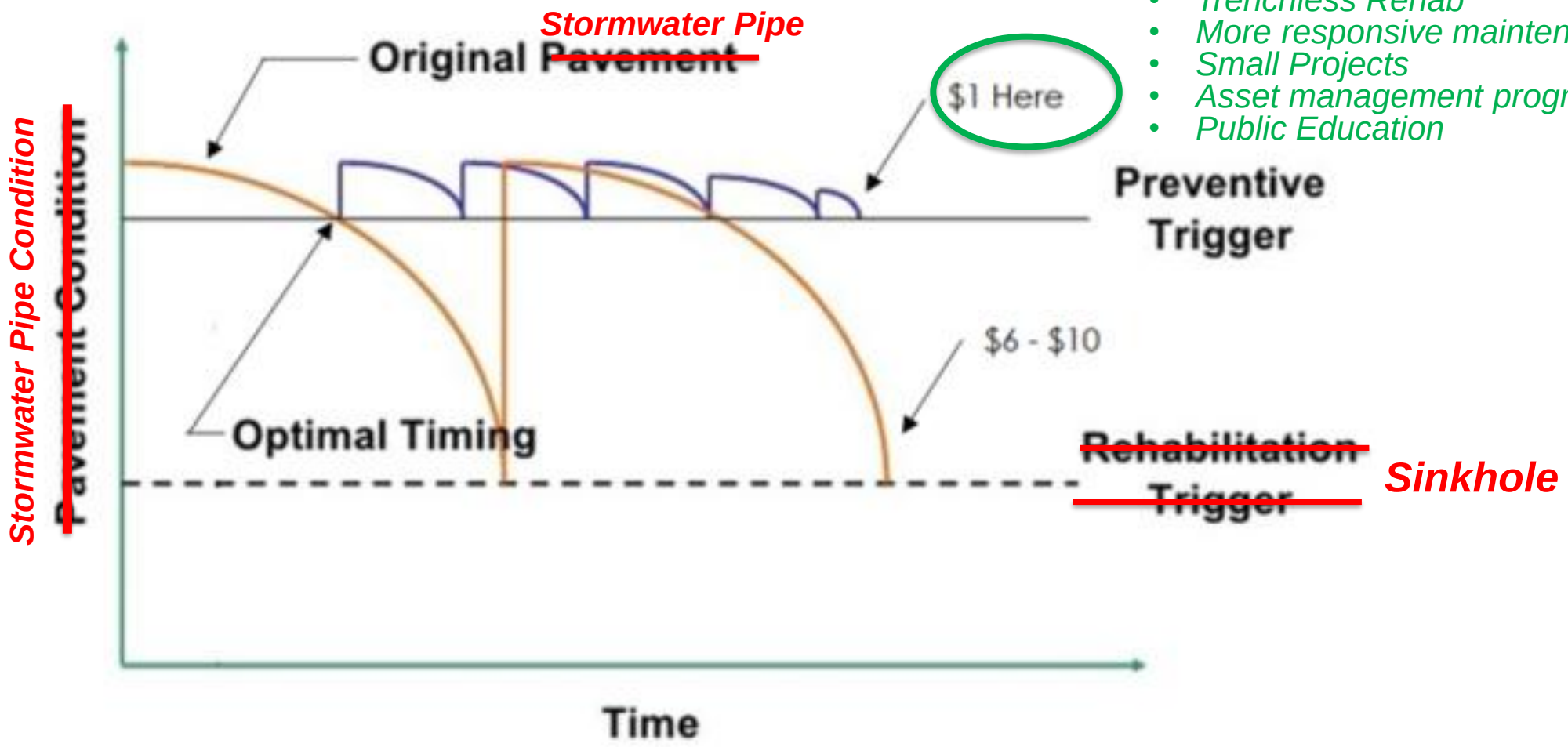
(a) Based on $1.18 per 500 square feet of impervious area per month.

1 Billing Unit = 500 square feet of impervious area

Impervious Area for median home size in LSMO is 3,500 square feet

What do we get?

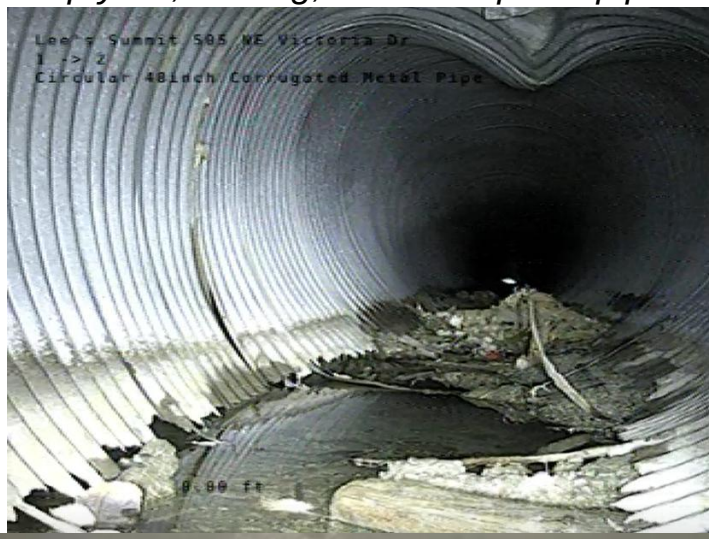
- *CCTV Inspections*
- *Early Detection*
- *Pipe & Inlet cleaning*
- *More frequent culvert cleaning*
- *Trenchless Rehab*
- *More responsive maintenance*
- *Small Projects*
- *Asset management programs*
- *Public Education*



Before/After: Lining instead of Replacement

Current, Reactive LOS:
Wait to fail; $720,000
Road closed 2 to 4 months

Reactive LOS: (Pipe Under Shed)
Wait for sinkhole; Tear up yard, fencing, shed to replace pipe
6 weeks of work



Proactive LOS:
Line pipe
No surface impact
5 days of work

Proactive LOS:
Inspect and Identify
Line pipe
$390,000
Road closed 5 to 10 days

SWU Resources

- Dedicated operations and maintenance staff
- Dedicated engineering and technical 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
  - Small capital improvements

Public Education Strategies and Plan

- Convey an unseen need
- Common misunderstandings regarding stormwater management
- Billing / collections approach
- Potential Strategies
  - Assistance from SWAC members
  - Group meetings (HOAs, business groups, etc.)
  - Videos and web pages
  - Published information, mailers, etc.,

Questions from June 2023

Why do we need increased Stormwater Levels of Service (How to Relate)?

- Large volume of sinkhole failures
- Amount of work exceeds capacity of current resources
- Unable to “get ahead” through preventive maintenance

What would we get from a Stormwater Utility (Need to Clarify)?

- Proactive, Preventive Maintenance
  - Extend life of infrastructure
  - Cost savings
  - Improved water quality
- Reduced risk of damage due to failed infrastructure (flooding or structural damage)
- More Public Education, Permit Compliance, Etc.

Questions from June 2023

What's the longer-term capital improvement plan for stormwater and does the scope of this proposed utility meet expectations?

- Does the utility fund more major Stormwater CIP?
- Will this address private property issues (e.g. bank erosion threatening property)?
- Could the utility accept private basins or structures to be maintained by the City?

How would the user fees get billed to customers?

- Monthly as part of Water Utility, or Consolidated Municipal billing system?
- Annually as part of property tax billing?
- How do rates and the basis of calculations get updated?

Questions from June 2023

What does the public engagement look like for a ballot measure?

- Communications
- Support
- Approach

When could this be on a ballot?

- User Fees: 2026 or 2027?
- Sales Tax: 2032?

What other questions?