

Green Infrastructure

What's Legal

Sustainable Infrastructure Solutions:
A municipal perspective to use to Reduce
Combined Sewer Overflows

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MSDGC

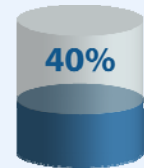
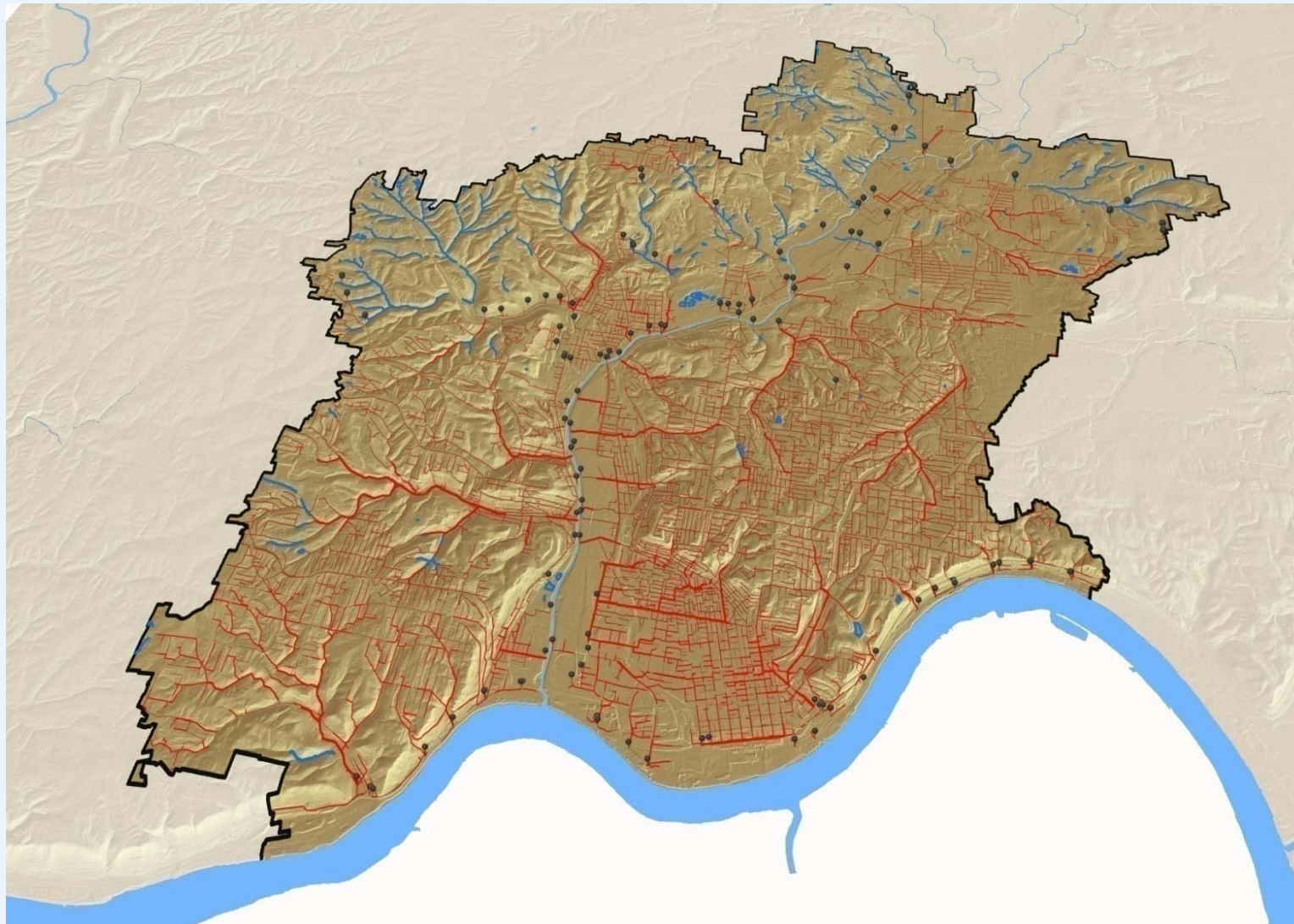
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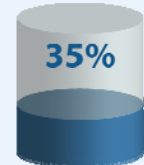
Agenda

- The Problem
- The Challenge
- Consent Decree Elements
- MSD Source Control: Direct & Enabled

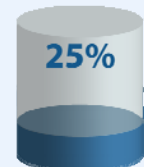
Yesterday's Decisions – Today's Liability



RUNOFF



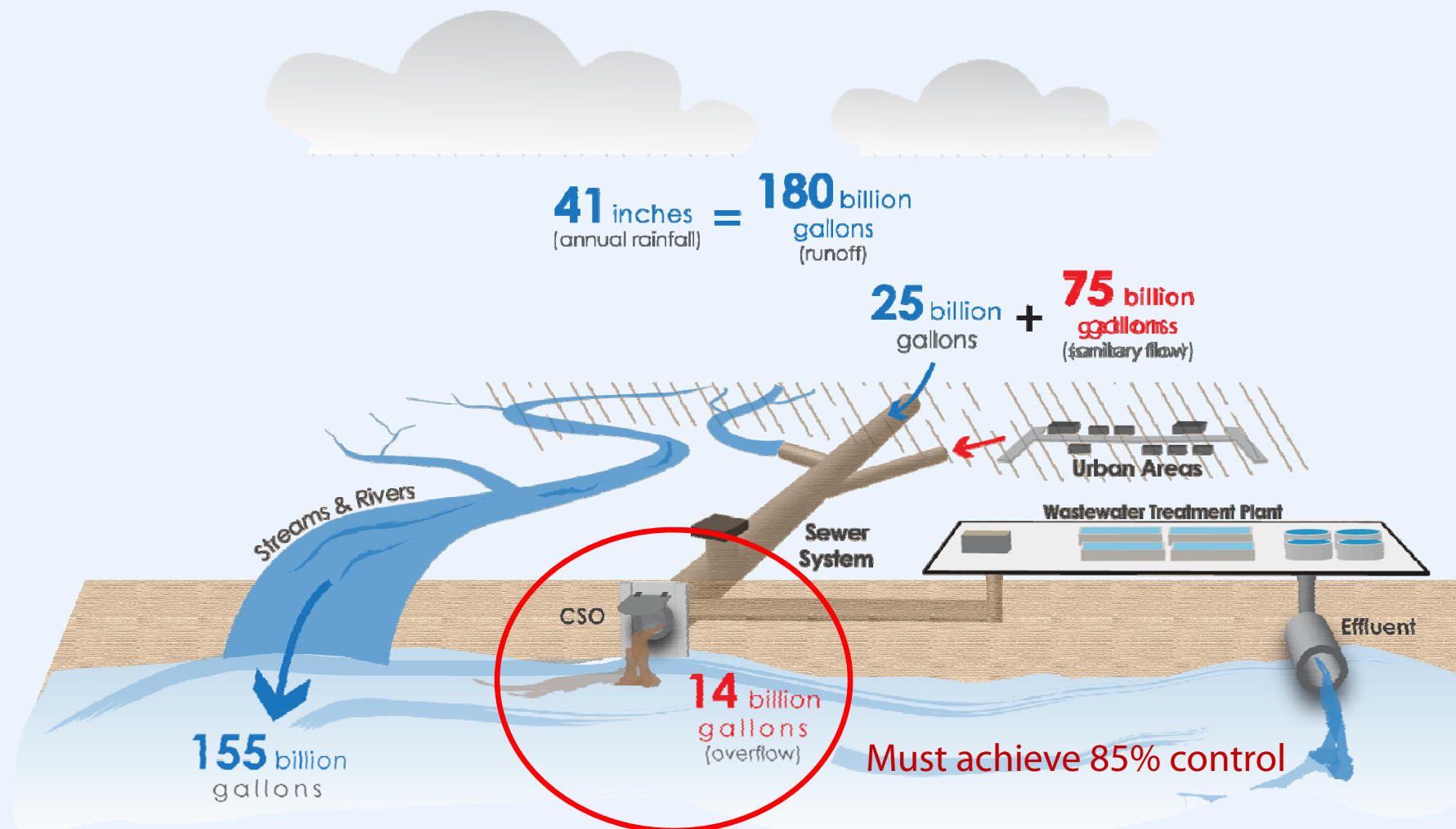
EVAPOTRANSPIRATION



INFILTRATION

Over 400 miles of existing sewers, 603 miles of combined sewers

MSD Current Environmental Challenge



MSD is among the Top 5 CSO dischargers in the US

MSD's Approved Consent Order Elements

Wet Weather Strategy

Source Control
Conveyance & Storage
Product Control

Strategic

Flexible

Phased Approach

Phase 1: 2009 – 2018

Phase 2: Schedule to be
submitted by 2017

Affordable

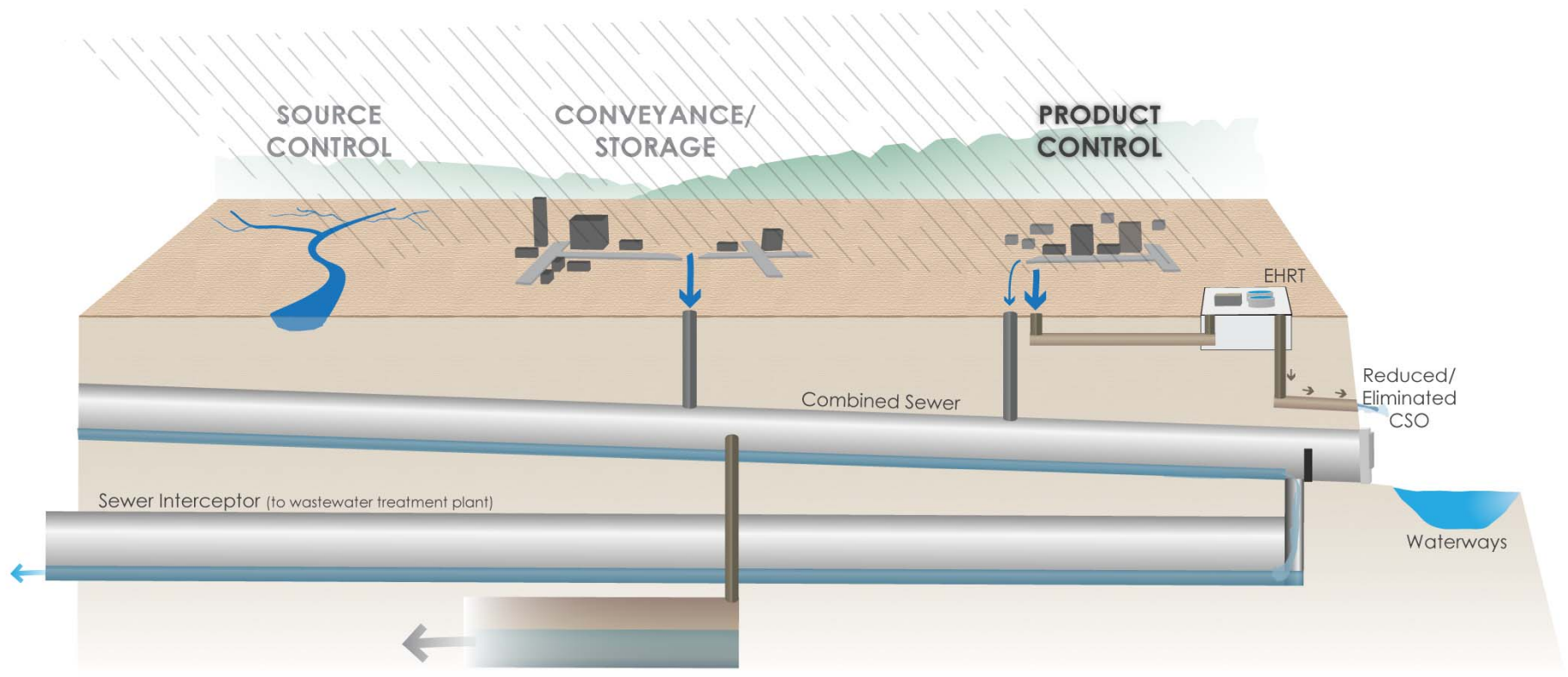
Controlled Spending

Phase 1: \$1.145B

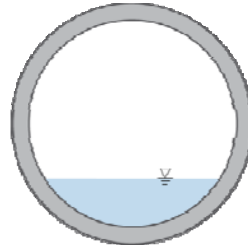
Credit for \$300M in projects

Phase 2: To Be Determined

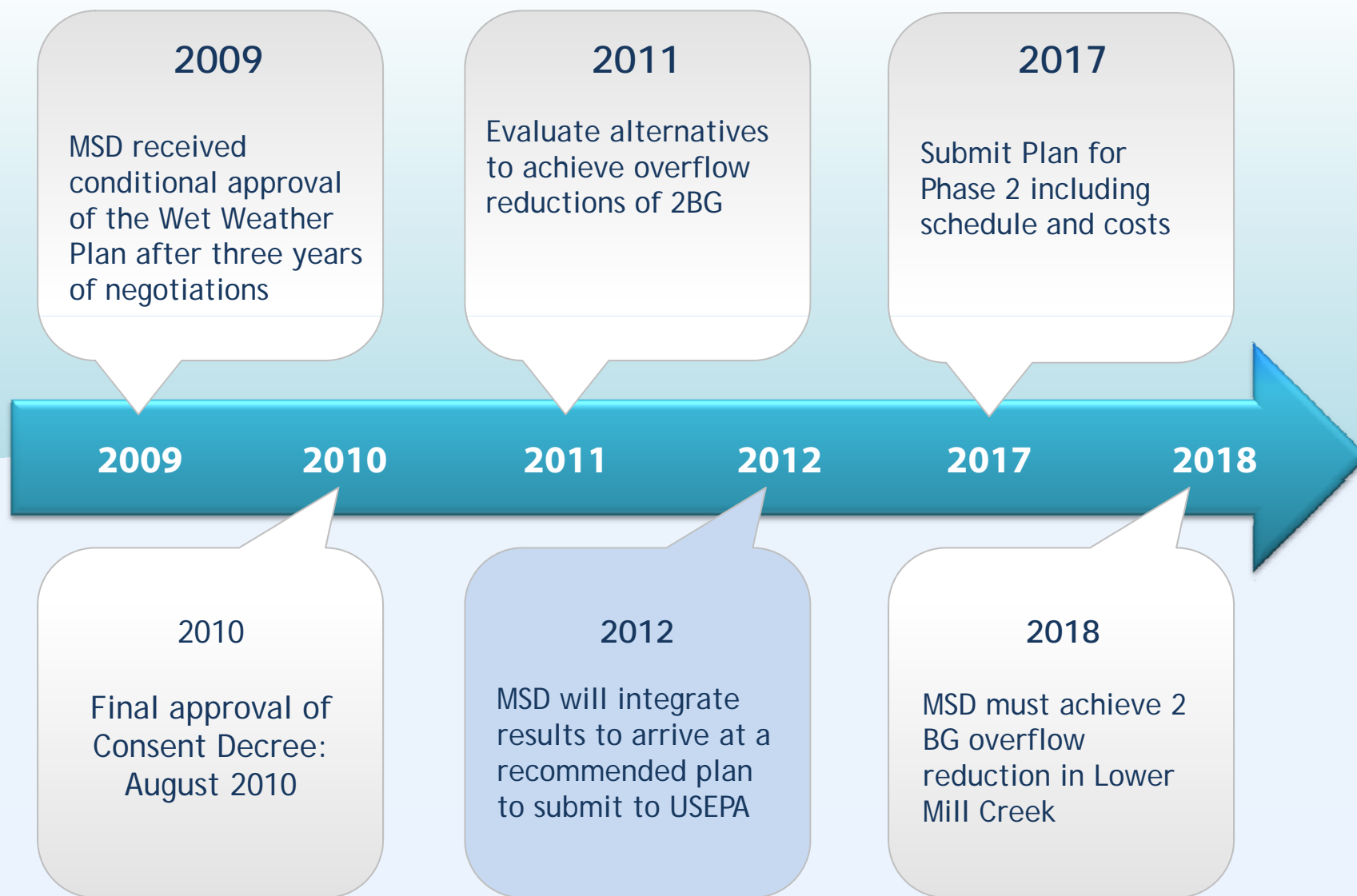
MSD's Wet Weather Strategy



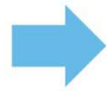
Hydraulic Grade Line
inside sewer



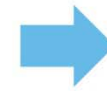
MSDGC Phase 1 Timeline



Current Conditions
in the Community



Leverage
MSD's Investment



Community's Vision
for the Future

THE CINCINNATI ENQUIRER

Property value at a substantial decline



Expand & improve
parks and greenspaces

Opportunities for
improved mixed use and
affordable housing

Improve traffic flow,
pedestrian accessibility
and safety

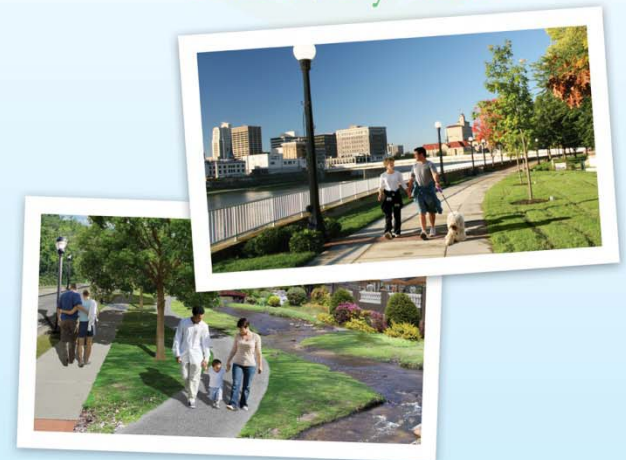
Incentives for
business retention
or redevelopment

MSD

Metropolitan Sewer District

Investment to reduce sewer overflows
and meet federal mandates

economics
sustainability
infill
jobs
bike trails
smart growth
safety
recreational
opportunities
better
education
community
gardens
quality place
community assets



MSD's Sustainable Watershed Evaluation Process

Lay the Groundwork

Build the Foundation

Set the Framework

Data & Inventory Analysis

- Natural Systems
- Built Systems
- Community Character
- Policy Issues
- Watershed Projects
- Constituency Building

Comprehensive Characterization of Watershed

Opportunities & Constraints

- Synthesize Outcomes from Inventory
- Formulate Goals
- Perform Modeling
- Develop Risk Assessment
- Evaluate Alternatives
- Constituency Strengthening

Wet Weather Strategy Matrix with Conceptual Costs/Benefits

Solutions & Action Plans

- Refine Strategies
- Evaluate
- Build Project/Public Interface
- Identify & Assess Potential Risks with Risk Register

Synthesis Plan for Watershed Integration with Community Revitalization

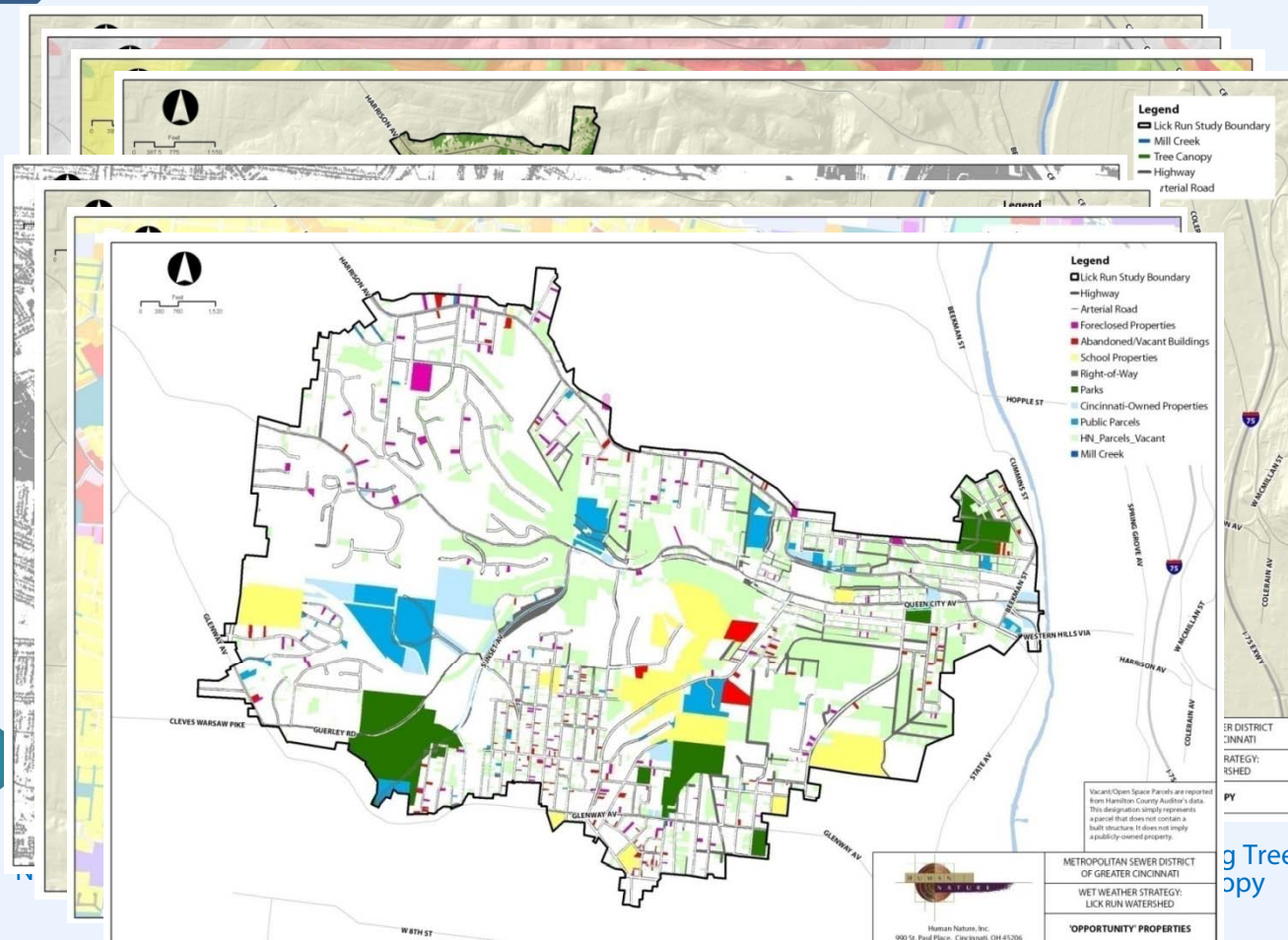
Implementation

- Finalize Watershed Goals
- Refine, Update, Verify Alternatives
- Detail & Market Community of Future Projects

Business Case Evaluation for Project/Proceed with Detailed Design

Data & Inventory Analysis

- ## Comprehensive Characterization of Watershed



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copy

Impervious Surfaces

Sewer System

Land Use

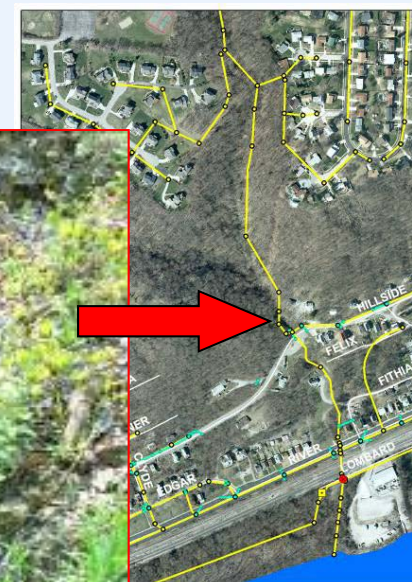
Opportunity Properties

MSD Sustainable Infrastructure Solutions

- Wet Weather Quantity Management: Source Control
 - Removal of rainwater from entering the combined system through the use of sustainable infrastructure solutions
 1. Direct
 2. Enabled
- Water Quality Management
 - Quality of water body in MSD service area
 - Recreational & Stream Restoration projects to enhance public health and biological attainment of water bodies)

Source Control: Direct Impact

- MSD as the implementer
- 100% ratepayer funded
- Owned and operated by MSD to support its core mission
 - Remove liability of stormwater
 - Save pumping, treatment costs & environmental impacts



Source Control: Enabled Impact

Green Demonstration Projects

- Competitive Grant Program
- MSD partners with property owners to offset the cost of installation
 - Measure & Monitor effective
 - Public Education



Source Control: Enabled Impact Early Success Projects



Policy Issues

- Agency/Organizational Jurisdiction Issues
 - City/County/Sewer District
- Existing authorities
 - Change in state law
 - Modification of City/County Agreement
- New partnerships or agreements
 - ie. Parks, Port Authority, USGS
- Incentives
- Monitoring & modeling

Thank You

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www.projectgroundwork.org