Stormwater Management - A Regional Approach

Association of State Floodplain Managers

May 21, 2019

Northeast Ohio Regional Sewer District
Northeast Ohio Regional Sewer District
Why We Are Here…

Cuyahoga River - 1952
Why We Are Here...

Cuyahoga River - 1960s
Who we are...Organization

- Political subdivision of Ohio
- Created in 1972 by Court Order
  - Code of Regulations
  - Governed by seven Trustees
- Separate and distinct from the City of Cleveland and Cuyahoga County
What We Do...Organization

- Stormwater & sanitary services to 62 communities
  - 1 million customers
  - 90+ billion gallons treated annually
  - 200 MGD average flow at 3 wastewater treatment plants
  - 312 miles of interceptor sewers
  - 400 miles of Regional Stormwater System

- Water quality monitoring

- Lake Erie beach monitoring and maintenance
<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>Regional Plan for Sewerage &amp; Drainage Study (147 problem locations)</td>
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<tr>
<td>2004</td>
<td>Regional Intercommunity Drainage Evaluation (RIDE) Study (513 problem locations)</td>
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<td>2007</td>
<td>Stormwater Roadmap Development</td>
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<tr>
<td>2008-2010</td>
<td>Stormwater Management Program Implementation Projects ($200 Million in Critical Projects)</td>
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</tbody>
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A watershed-based approach to stormwater management is necessary to effectively and efficiently plan, design, construct, and maintain long-term solutions to stormwater problems.

An adequate funding source is necessary to provide a watershed-based approach to stormwater management.
RSMP Litigation History

- **January 10, 2010**: NEORSD Board adopts program
- **January 2010 - February 2012**: Cuyahoga County Common Pleas
- **January 2013**: Program initiated
- **September 26, 2013**: Eighth District Court of Appeals overturns program; Program suspended
- **September 15, 2015**: Supreme Court overturns Appeals Court ruling
- **January 2016**: Program reinstated
Why a Regional Program...

- Address intercommunity drainage
- Ability to address maintenance needs
- Comprehensive, stream focused solutions
- Consistent funding source
Task 3: Hemlock Creek Problem Areas: Overview

- 7 problem areas defined overall
  - 1 in Seven Hills
    - HC-SV-01
  - 6 in Independence
    - HC-IN-01
    - HC-IN-02
    - HC-IN-03
    - HC-IN-04
    - HC-IN-05
    - HC-IN-06
  - Can basin upgrades change DS problems?
Inspection and Maintenance

- Ability to inspect and evaluate the whole system
- Address maintenance needs
Stormwater Inspection & Maintenance

Total Inspections: 265

- Other Inspections (209)
- Customer Inquiries (56)

SWIW Inspections
(01/04/2018 - 05/15/2018)

Map Created: 05/15/2018
Forest Overlook Basin
Hemlock Creek (Seven Hills)
Prior to Storm
Peak Storm Water Level (Rainfall was 1.62-inches)
Post Storm (80 Cubic Yards of Sediment & Debris)
Post Storm Event Response
Bonny Banks RSS Basin

Before Sediment Removal:
• 8 Inspection WOs
• 8 Maintenance Projects
• 319 CY Sediment Removed

Winter 2018:
• 16700 CY of Sediment Removed
Sediment & Debris Removal since 2013

1,600+ truck loads

- 586 projects
- 32,869 cubic yards of sediment and debris removed
Comprehensive, stream focused solutions
West Branch Big Creek Culvert Collapse
West Branch Big Creek Culvert Collapse
West Branch Big Creek Culvert Collapse
Comprehensive, stream focused solutions
Beecher’s Brook Bank Stabilization

Stream Focused Solutions
- Flooding
- Erosion
- Water Quality

Northeast Ohio Regional Sewer District
@neorsd
Beecher’s Brook Culvert 2002

Undersized Culvert

SOM Center Road

Northeast Ohio Regional Sewer District
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Beecher’s Brook Culvert 2002
Beecher’s Brook Culvert 2006
Beecher’s Brook Culvert 2017
QUESTIONS?

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