

2018 Stormwater Construction

Project Number	Project Name	RSS Asset ID(s)	WAC Watershed	Subwatershed	Project Community	Construction NTP
1320	Shaker Lakes Dam Rehabilitation	DB00056 & DB00101	LED	Doan	Shaker Hts. and Cleveland Hts.	5-Apr-18 (Ant. June 2018)
1369	Beechers Brook Bank Stabilization (Design-Build)	BE00021	Chagrin River	Beechers	Mayfield Village	15-Mar-18
1369	Baldwin Creek Bank Stabilization (Design-Build)	BD000259	Rocky	Baldwin	Parma	19-Apr-18
1515	Spring Creek Culvert Rehabilitation	SP00002	Cuyahoga River North	Spring	Cleveland	10-May-18
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1502	Stickney Creek at Ridge Road- Stream Relocation and Utility Repair (Design-Build)	ST00209	Cuyahoga River North	Stickney	Brooklyn	26-Oct-18

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Regional Sewer District**



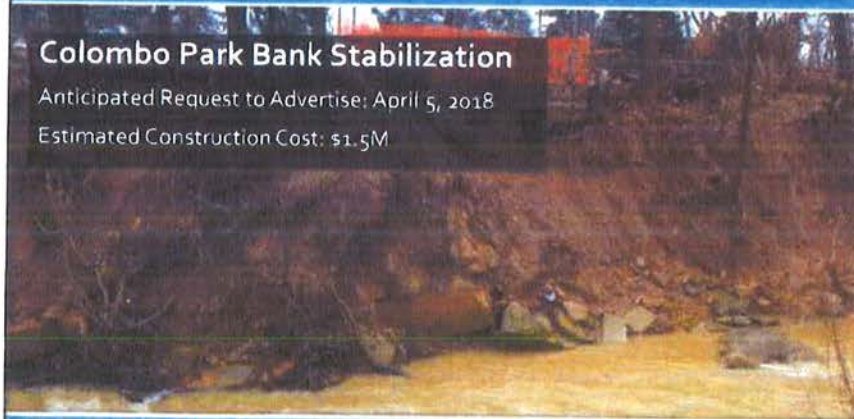
Stormwater Construction

Upcoming Construction

Colombo Park Bank Stabilization

Anticipated Request to Advertise: April 5, 2018

Estimated Construction Cost: \$1.5M

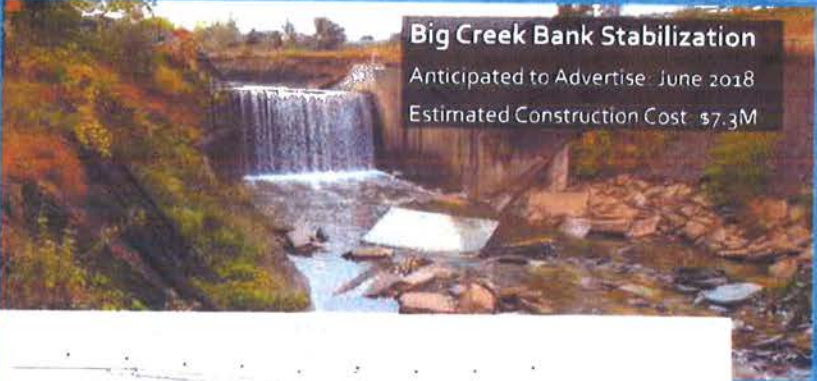


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Stormwater Construction

Upcoming Construction



Big Creek Bank Stabilization
 Anticipated to Advertise: June 2018
 Estimated Construction Cost: \$7.3M



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Stormwater Construction

Upcoming Construction



Stickney Creek Stream Relocation and Utility Repair at Ridge Road in Brooklyn
 Anticipated Construction NTP: Oct. 2018



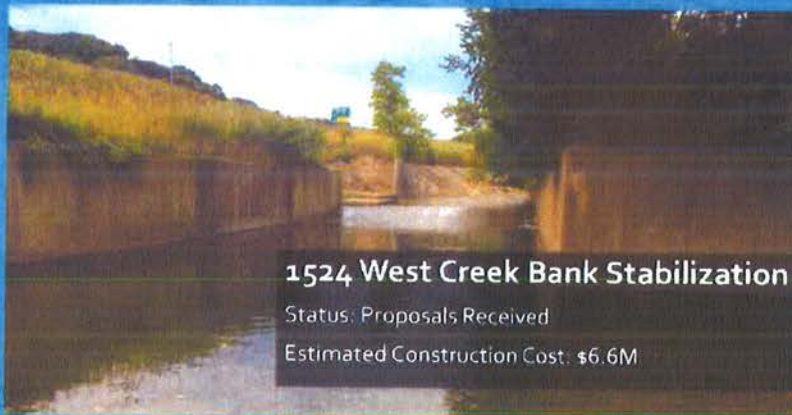
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2018 Stormwater Design

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2	NEW SWIM Debris Racks, Access and Easements	Various	Various	Various	NA	26-Feb-18
3	Hemlock Creek and Mill Creek Bank Stabilization - HC00038, HC00040, HC00042, MC00125- Preliminary Design Unnamed Trib. to E. Br. Rocky River Ridge Road Bank Erosion - RY00434	Cuyahoga River North	Hemlock Creek Seven Hills		69	1-Apr-19
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7	Pepper Luce Erosion and Deterioration - PC00145 Pepper Luce Gates Mills Blvd Culvert Deterioration PC00218	Chagrin River	Pepper Luce Creek	Pepper Pike	69	31-Jul-18 (2 Sites Combined)
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Stormwater Construction Upcoming Design



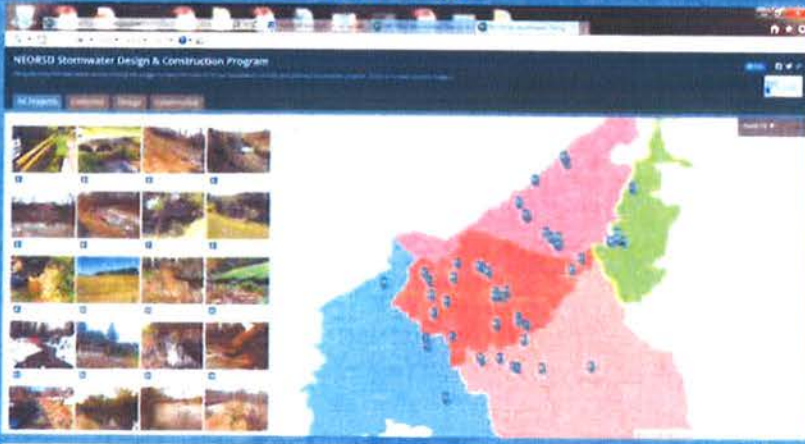
1524 West Creek Bank Stabilization

Status: Proposals Received

Estimated Construction Cost: \$6.6M

Stormwater Construction Plan

Track Progress



<http://neorsd.org/stormwaterplan>

Easement Policy

Stormwater Construction Plan Projects

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Conservation Planning and Property Acquisition

- Design and Construction
 - Early design concept input
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 - Eliminate non-sustainable land use
- Planning
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 - Acquisition Strategy w/ partner
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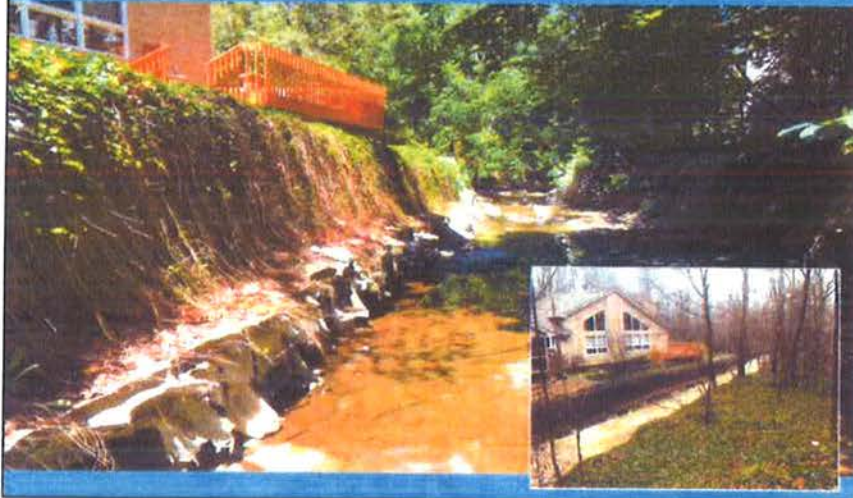


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Pepper Creek Restoration

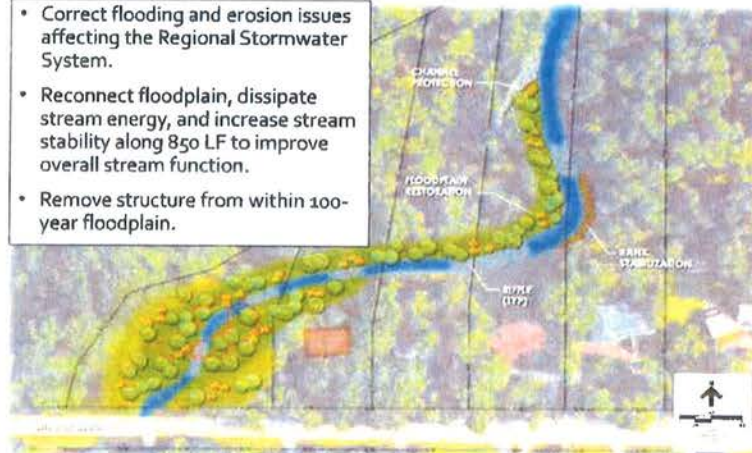
Pepper Pike



Pepper Creek Restoration

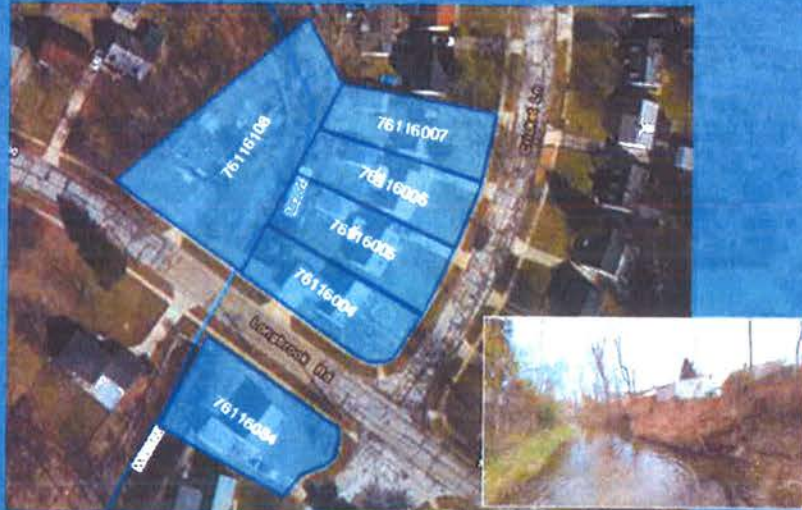
Project Concept

- Correct flooding and erosion issues affecting the Regional Stormwater System.
- Reconnect floodplain, dissipate stream energy, and increase stream stability along 850 LF to improve overall stream function.
- Remove structure from within 100-year floodplain.



Mill Creek Stream Restoration at Cricket Lane

Warrensville Heights



Hemlock Creek Restoration

Seven Hills



Questions

Donna Friedman

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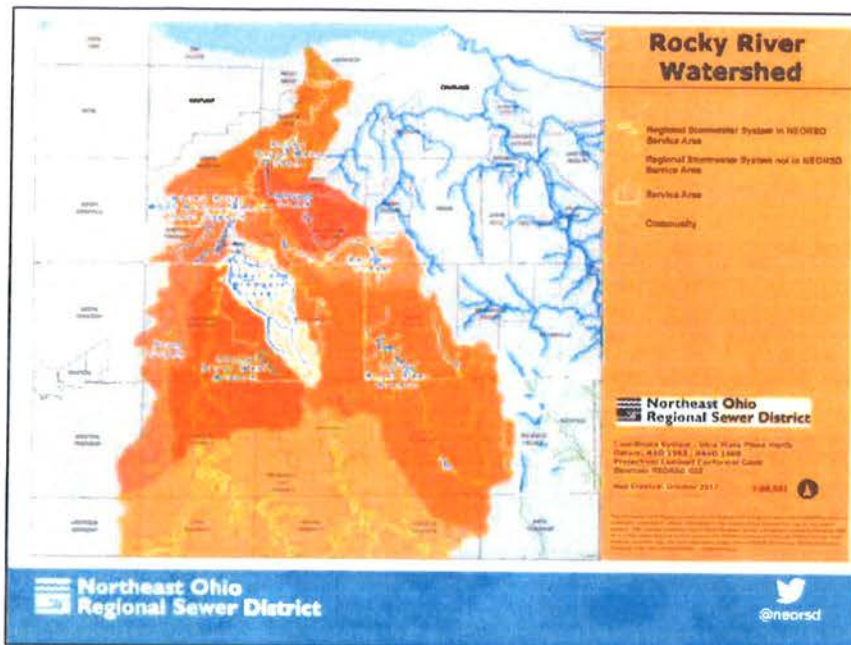


Stormwater Program: Community Resources

<http://www.neorsd.org/communitystormwaterresources.php>

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Watershed Advisory Committee **Rocky River** **March 2018**

REGIONAL
STORMWATER
MANAGEMENT
PROGRAM

Northeast Ohio Regional Sewer District

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Agenda

- Regional SW Program Updates
 - Illicit Discharge Detection and Elimination – 2017 Update
 - Watershed Partners Service Agreement
 - Plan Review
- Stormwater Master Plan
- Stormwater Inspection and Maintenance
 - Inspections and Activities
 - Urgent Storm Response Process
 - Long-term Monitoring of Assets
- Stormwater Construction Plan
 - 2018 Projects
 - Permanent and Temporary Easement Policy
 - Conservation Planning and Land Acquisition

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Illicit Discharge Detection & Elimination

- What is community's role?
 - Title III and IV: sanitary overflows from any source, including illicit connections, are prohibited
 - Phase II MS4 permit compliance
- Services provided by the District
 - BOH outfall screening/sampling for *E. coli* and flow
 - Assistance with source tracking through BOH and Water Quality and Industrial Surveillance group



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Illicit Discharge Detection & Elimination

Summary of 2017 Sampling

- Outfalls Inspected = **4,148**
- Outfalls with *E. coli* >10,000 MPN/100 mL = **140**
- Outfalls with flow >10,000 GPD = **65**



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Illicit Discharge Detection & Elimination

What to expect in 2018

- Notifications from NEORSD about problem outfalls
- Coordination meetings with community, NEORSD, and Ohio EPA
- Mapping update: Addition of outfalls in culverted streams
 - Cuyahoga County BOH to start with pilot community
 - More accurate MS4 maps
 - Better data for source tracking

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2018 Central Lake Erie Basin Collaborative Services

Provide strategic implementation of the District's Regional Stormwater Management Program. Work includes:

- Development of a stormwater fee credit assistance program
- Development of a stormwater fee tree credit to compliment municipal & regional tree canopy recovery goals



2018 Central Lake Erie Basin Collaborative Services

Provide strategic implementation of the District's Regional Stormwater Management Program. Work includes:

- Assist the District with the implementation of Stormwater Master Plan recommendations
- Assist Member Communities in updating parking lot and downspout disconnection codes

NEORSD Plan Review

Beginning March 5...

All submissions of plans for review will be made online through the District's Plan Review page. For information on how to register and submit plans go to...

www.neorsd.org/business-home/community-discharge-permit-program-cdpp-plan-review/

The new submission process will simplify and streamline the plan review timeline and make it easier for applicants to obtain information about requirements for review and status of a review in process. For more info contact:

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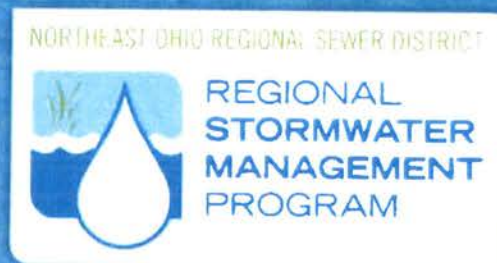


Mary Maciejowski
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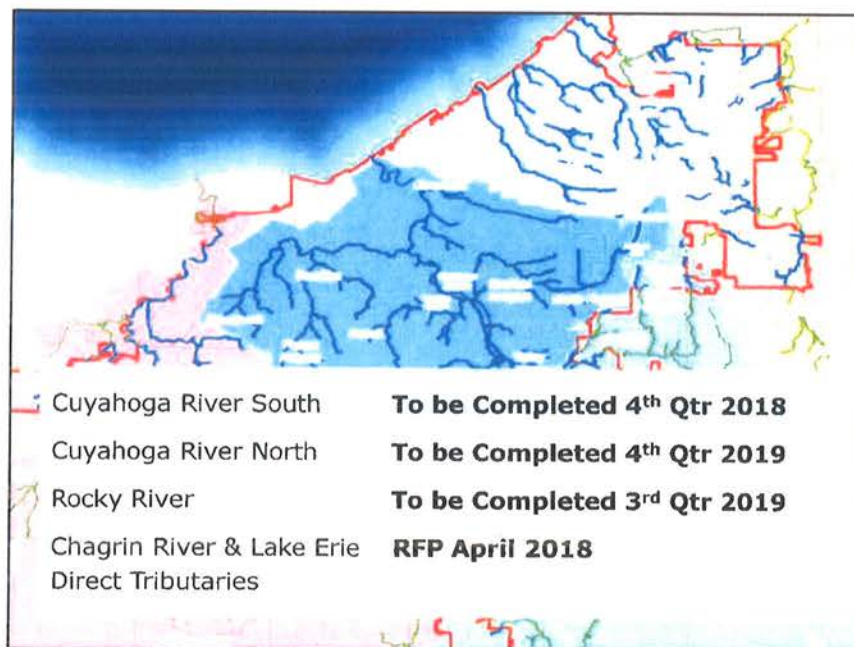
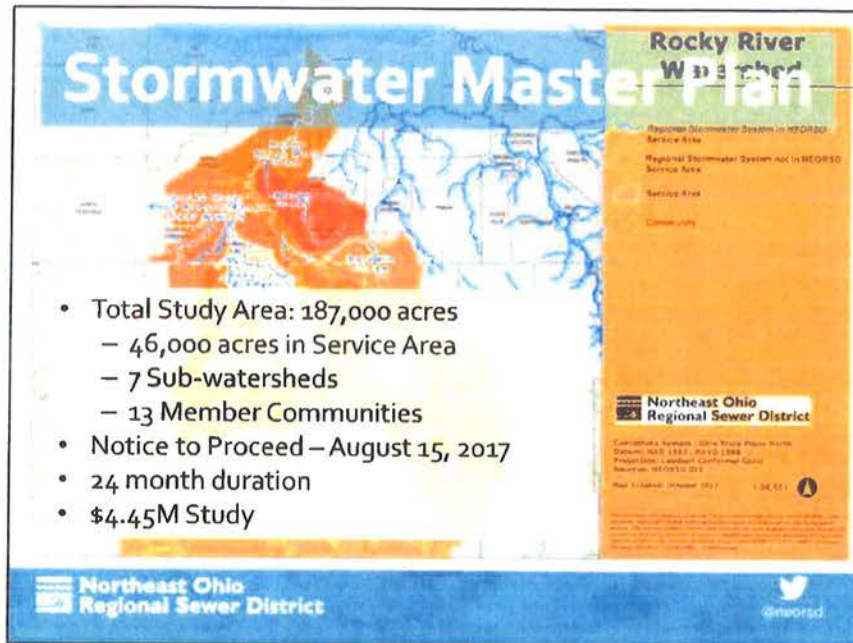


Questions



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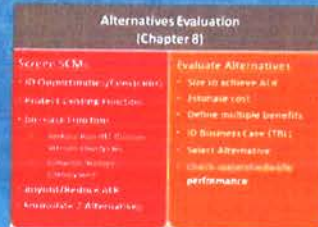
Stormwater Master Plans

Goals and Objectives

Operational Performance Evaluation



Modeling & Alternatives Evaluation



Recommendations and Report



Results: Prioritized list of construction and maintenance projects



SW Master Plan

Rocky River Schedule

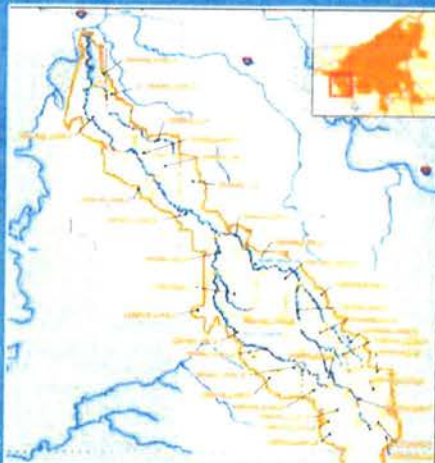
List of sub-watersheds, in order of evaluation:

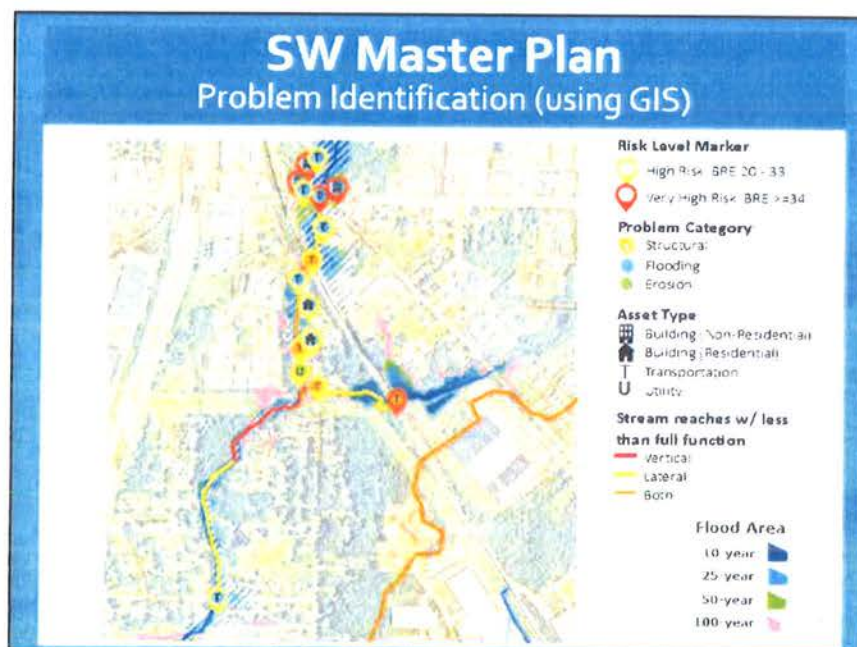
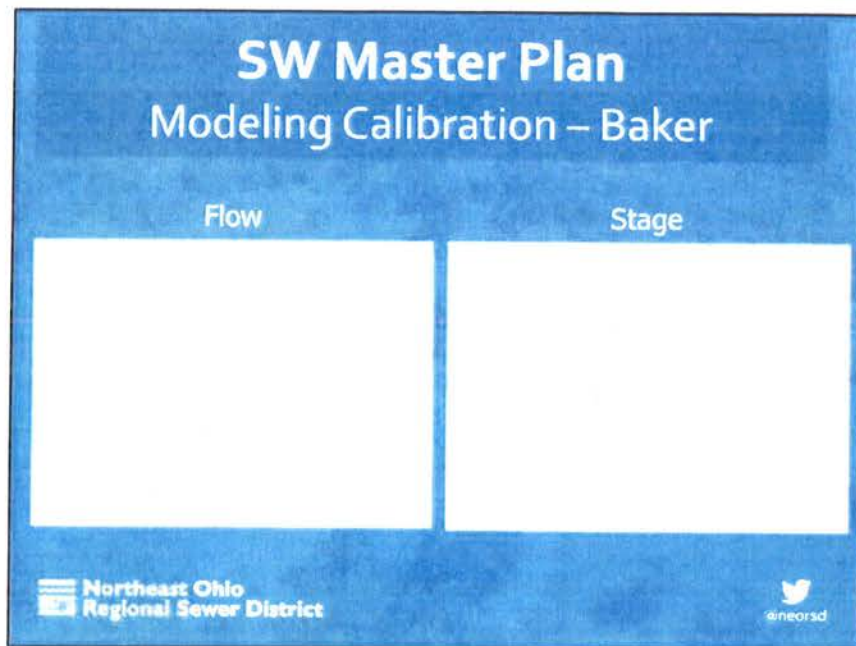
- Baker Creek
- Baldwin Creek
- Abram Creek
- Rocky River West
- Rocky River East
- Blodgett Creek
- Plum Creek
- Rocky Main Stem

Field Work

- Installation of stream gauges and rain gauges
- Community Work Plans
- Field Inspections
 - Open Channel Streams, Culverted Streams
 - Storage Basins, Major Structures
 - Crossings
- Spherical Data
 - Backpack cameras, drones
 - 360-degree photos of streams

SW Master Plan Modeling Subcatchments – Baker





SW Master Plan

Evaluation and Recommendations - 2018

- Opportunities / Constraints
- Protect Existing Function and/or Increase Function
 - Reduce runoff / restore stream-floodplain
 - Enhance storage-conveyance
- Property Acquisition
- Size to achieve acceptable Level of Risk
- Define multiple benefits, including water quality
- Check watershed-wide performance
- Community input

SW Master Plan

Community Communication

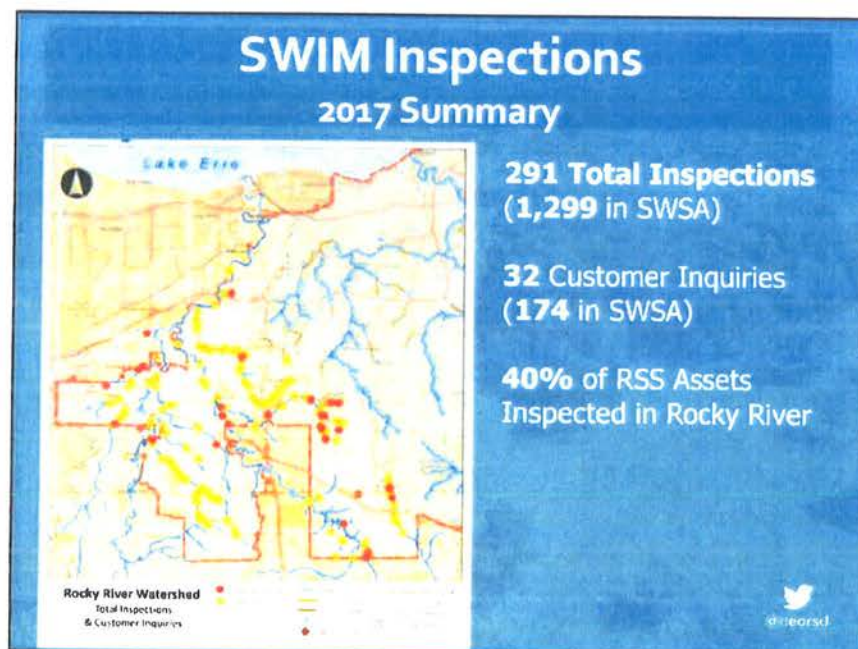
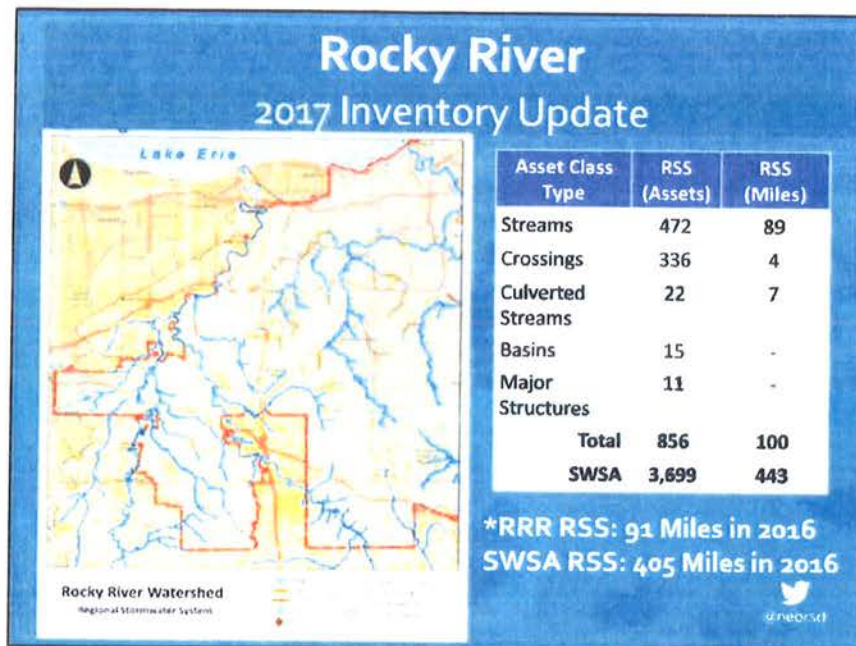
- Meet with communities
 - Alternatives Evaluation
- Recommendations and Community Report

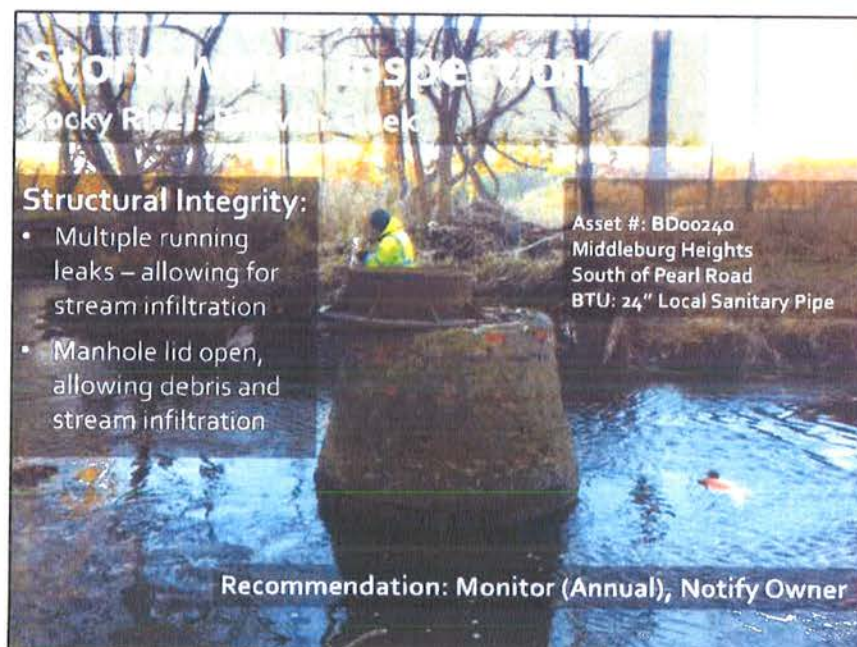
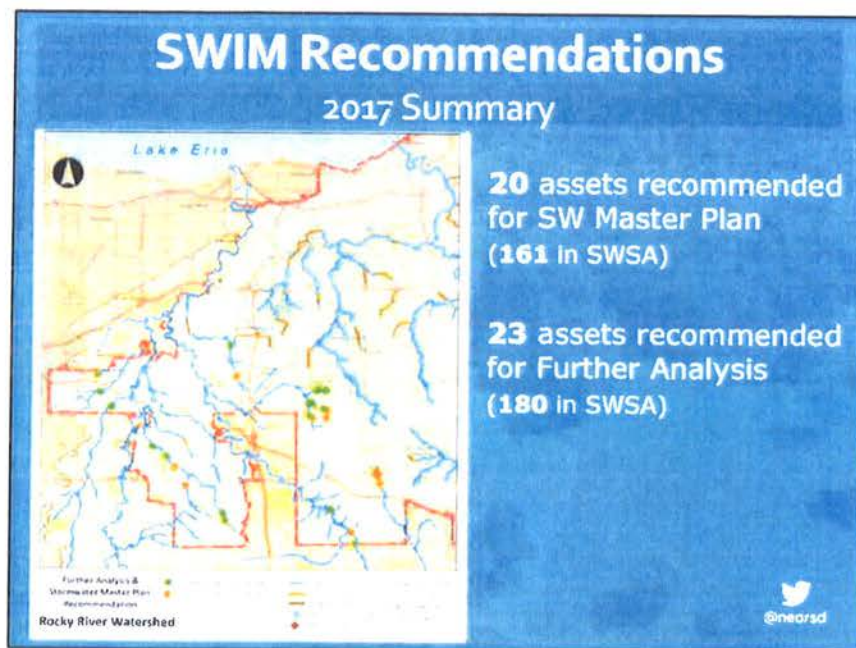
Your Watershed Team Leader serves as the point of contact between the communities and the District

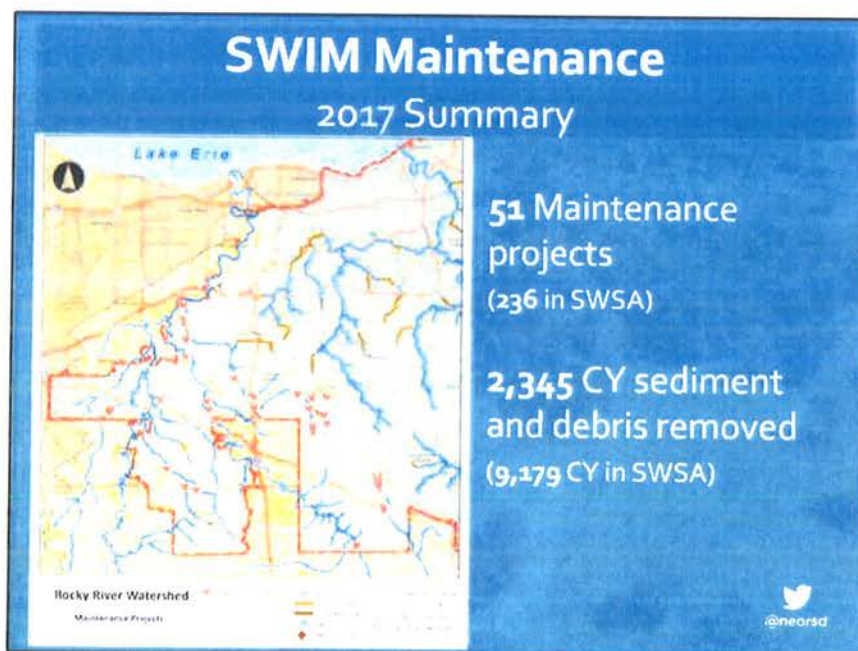
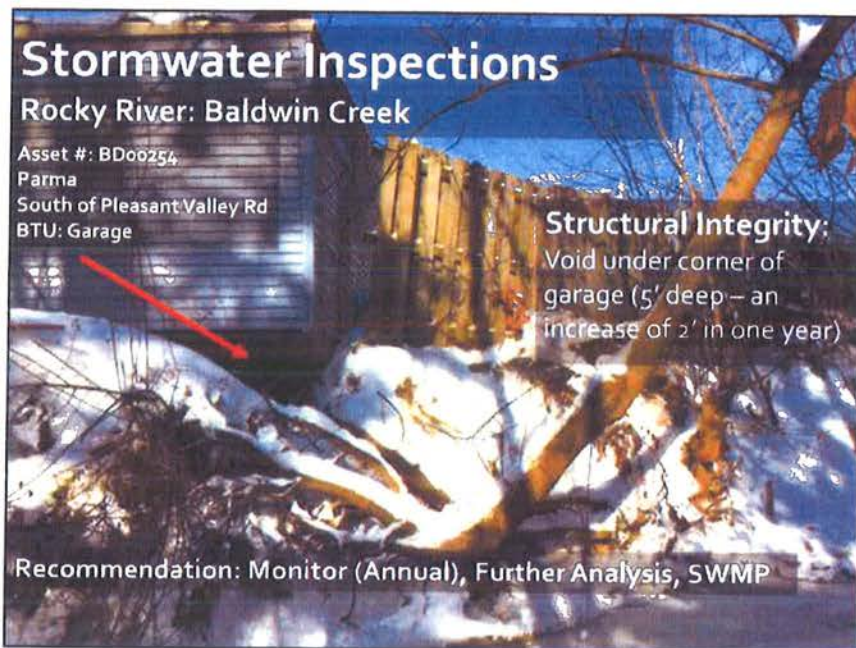


Terminology Review

- **Asset Class Types:**
 - Streams (Open)
 - Crossings (Bridges/Culverts)
 - Culverted Streams (Long Reaches of Buried Pipe)
 - Basins (Dry/Wet, Regulated/Unregulated)
 - Major Structures (Low Head Dams/Drop Structures/Locks)
- **Acronyms:**
 - ALR – Acceptable Level of Risk
 - RSS – Regional Stormwater System
 - BTU – Building, Transportation, Utility Assets along the RSS
 - BEHI/NBS – Bank Erosion Hazard Index/Near Bank Stress
 - SWSA – Stormwater Service Area







Stormwater Maintenance

Rocky River: Baker Creek

Strongsville

Asset ID: BK00188

Maintenance Project: Debris Removal (12 CY)



Pre-Maintenance

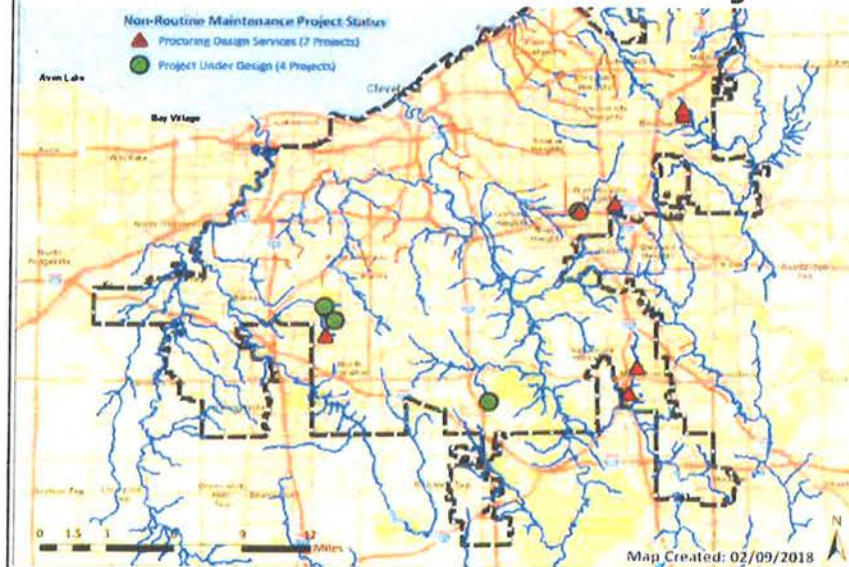


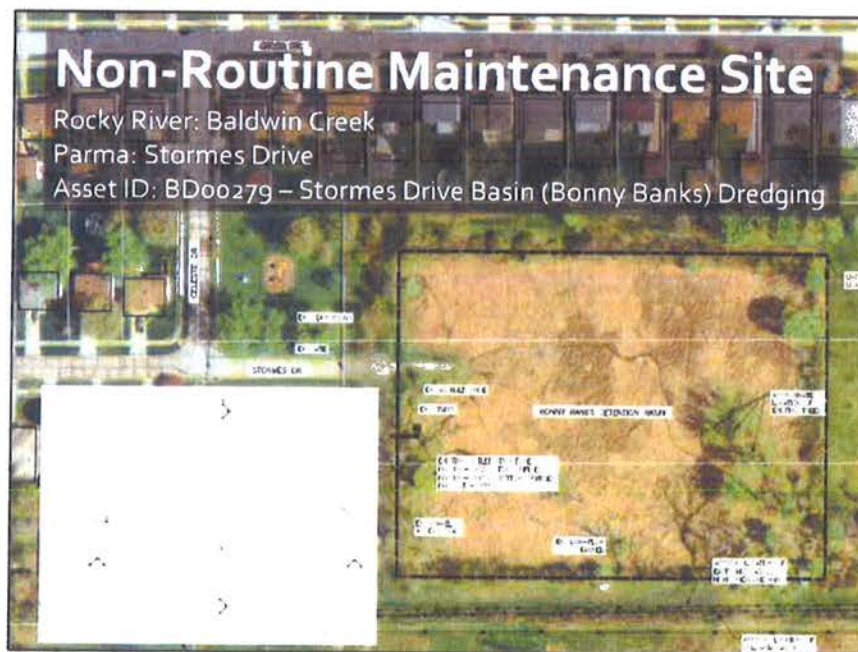
Post-Maintenance

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2018 SWIM Pilot Maintenance Projects





SWIM Urgent Storm Response

- Review any Advanced Warning Notification (e.g., National Weather Service)
- Field Check and Clean Known Problem Assets Prior to Storm
- Track Rainfall for Size of Storm (e.g., 10-yr, 24-hr) and Monitoring data for Evidence of Flooding (monitoring data)
- Review any media, customer, or Member Community reported flooding

Please notify us of any flooding along RSS!

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SWIM Urgent Storm Response

- Field Check areas of concern, which can expand depending upon extent of flooding
- Conduct any recommended field maintenance activities, once water level permits safe access for Contractors
- Any observable structural issues are assessed. If a structural failure appears imminent, then both owner and senior District staff are notified for potential emergency declaration and resolution

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SWIM Urgent Response

Cuyahoga River South – Indian Creek

Macedonia: Crow Road

430 CY of debris removed over 12 properties in 9 days

Calendar of Events

11/5/17 – Micro Burst Storm event hit

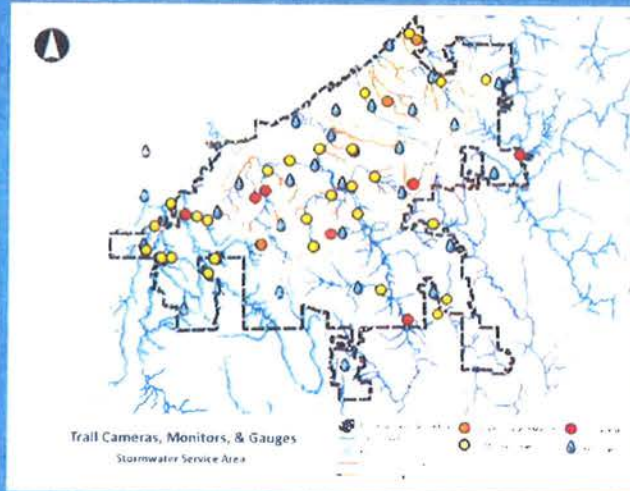
11/6/17 – SWIM inspections began

11/8 – 11/14/17 – RiverReach Construction Clean-up

SWIM Long Term Monitoring

- Goal is to better understand:
 - RSS storm event response (Flooding)
 - Changes due to new hydrology or Maintenance & Construction projects
- Currently Using Two Types of Monitors:
 - Stage Monitors
 - Trail Cams

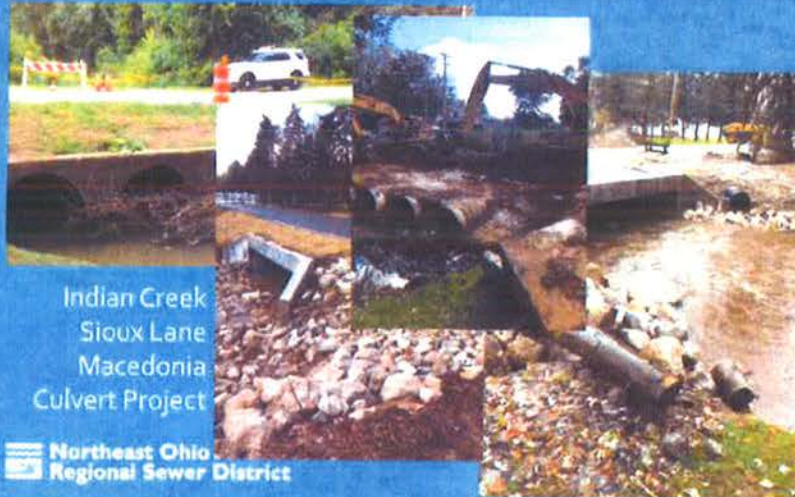
SWIM Long Term Monitoring



SWIM 2018 Planned Activities

- Implement Recommended Maintenance Projects from SW Master Plans
- Continue Piloting Non-Routine Maintenance Projects
- Inspect and Inventory RSS assets and BTUs without condition scores
- Request Record Drawings from Member Communities (Basins and Crossings)

Stormwater Construction Plan



2018 Stormwater Design and Construction Projects

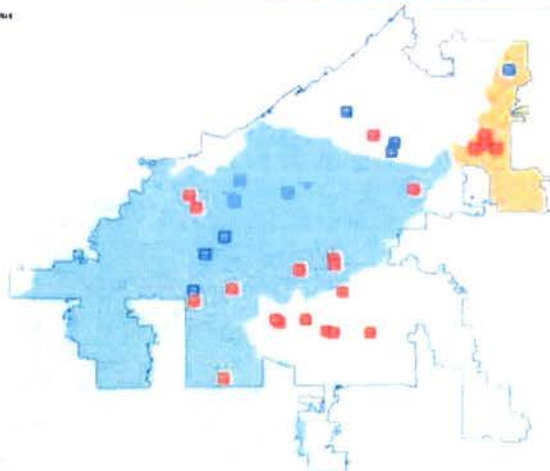
Stormwater Project Status



Design



Construction



Stormwater Construction Under Construction



Emerald Parkway Culvert Repair

Est. Substantial Completion: June 1, 2018

Construction Cost: \$4,700,000

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Regional Sewer District**



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Regional Sewer District**



Stormwater Construction

Upcoming Construction

Baldwin Creek Bank Stabilization

Anticipated Construction NTP: June 2018

Estimated Construction Cost: \$1,170,000



Stormwater Construction

Upcoming Construction



East Branch Rocky River Royalton Farm Restoration

319 Matching Funds

Anticipated Design NTP- 1st Qtr 2018

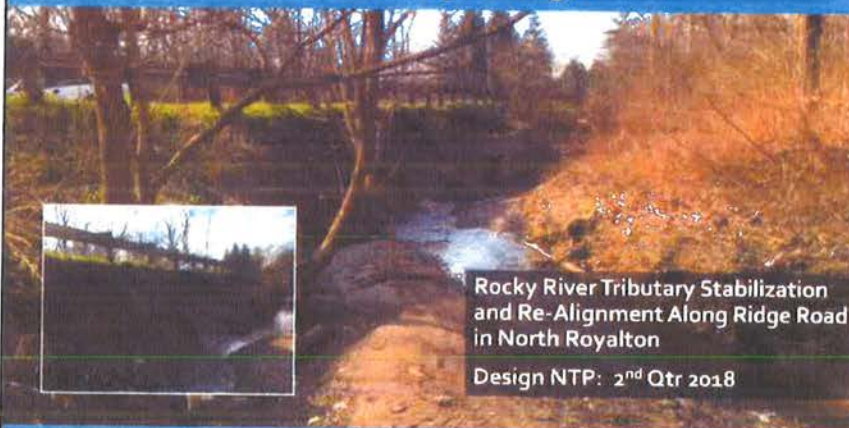
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Stormwater Construction Upcoming Design



Rocky River Tributary Stabilization
and Re-Alignment Along Ridge Road
in North Royalton

Design NTP: 2nd Qtr 2018

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Stormwater Construction Upcoming Design



Baldwin Creek Stabilization
Near Abbey Road in North
Royalton

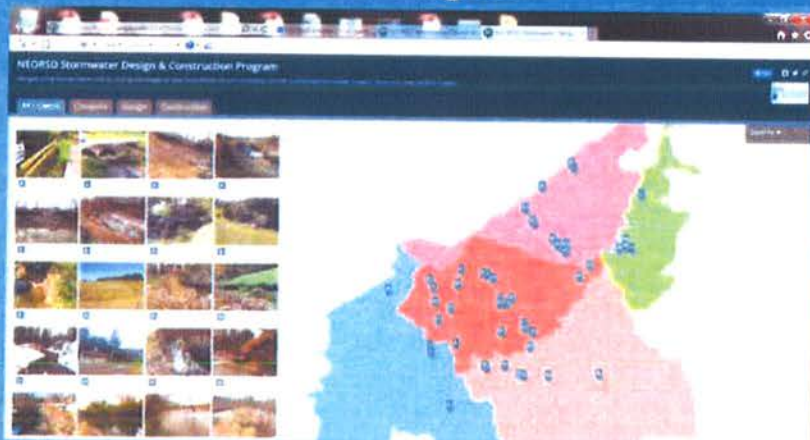
Design NTP: 2nd Qtr 2018



 **Northeast Ohio
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Stormwater Construction Plan Track Progress



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Conservation Planning and Property Acquisition

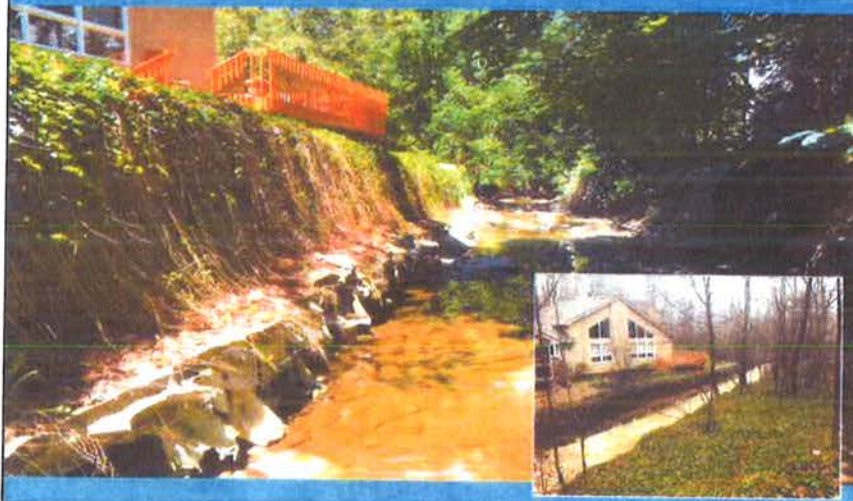
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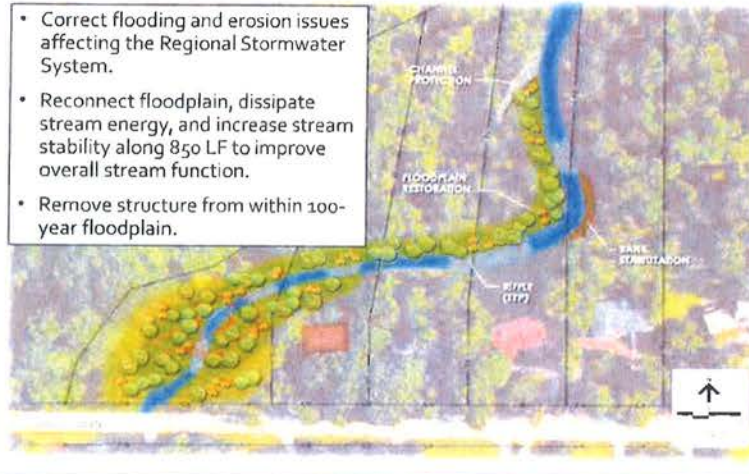
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Pepper Creek Restoration Pepper Pike



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Hemlock Creek Restoration Seven Hills



Questions

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borchertsm@neorsd.org



Stormwater Program: Community Resources
<http://www.neorsd.org/communitystormwaterresources.php>

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