



REGIONAL STORMWATER MANAGEMENT PROGRAM

Addressing flooding, erosion, and water quality



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Stormwater problems across Northeast Ohio:

Flooding, erosion, poor water quality



@neorsd

Problems cannot be solved by property owners alone.



Stream bank erosion along
Stickney Creek

Regional Stormwater Management Program

- Slip opinion issued Sept. 15
- Request for reconsideration denied: Dec. 2, Slip opinion final
- Escrow funds received from Huntington Bank: \$20.9 million

District has authority to implement and collect fee for the Regional Stormwater Management Program

Regional Stormwater Management Program

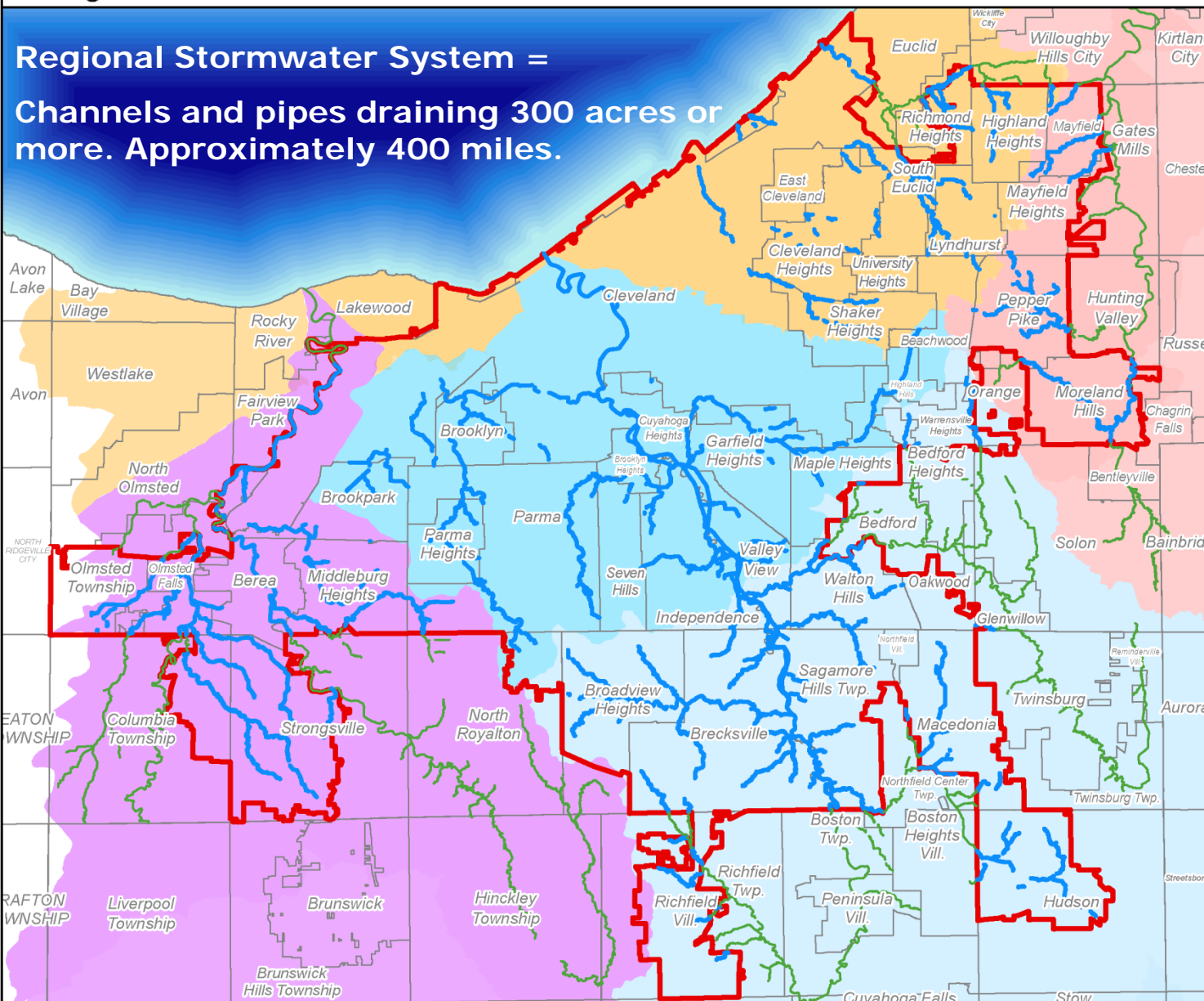
- Funding Solutions:
 - More than \$228 million in backlogged stormwater-related projects
 - Implement fee based on impervious surface



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**Regional Stormwater System =
Channels and pipes draining 300 acres or
more. Approximately 400 miles.**



- Regional Drainage in NEORSD Service Area
- Regional Drainage not in NEORSD Service Area
- NEORSD Stormwater Service Area
- Community
- Watershed**
- Chagrin River Watershed
- Cuyahoga River North Watershed
- Cuyahoga River South Watershed
- Lake Erie Tributaries Watershed
- Rocky River Watershed

1:244,637

Coordinate System : Ohio State Plan North
Datum: NAD 1983 , NAVD 1988
Projection: Lambert Conformal Conic

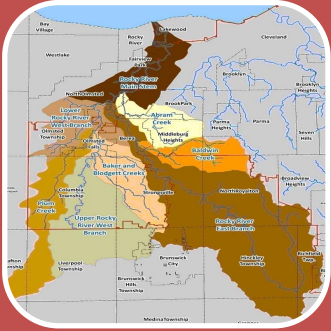
Sources: NEORSD GIS, Cleveland GIS, Cuyahoga Co. GIS, Summit Co. GIS, Lorain Co. Auditor, Lake Co. GIS

Map Created: October 2015

Notes
RSS_Watersheds.mxd

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For more information, please contact: GIS Services, 3900 Euclid Avenue, Cleveland, Ohio 44115 (216-881-8600).

Regional Stormwater Management Program Components...



Stormwater
Master
Plans



Inspect &
Maintain



Construct
Projects



Encourage
Good
Practices



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Stormwater Inspection and Maintenance



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Inspection & Maintenance

- **Goal:** Increase functionality of Regional Stormwater System to reduce critical consequences of flooding, erosion & catastrophic failure
- Responsible for inspection and maintenance of streams that are part of the Regional Stormwater System

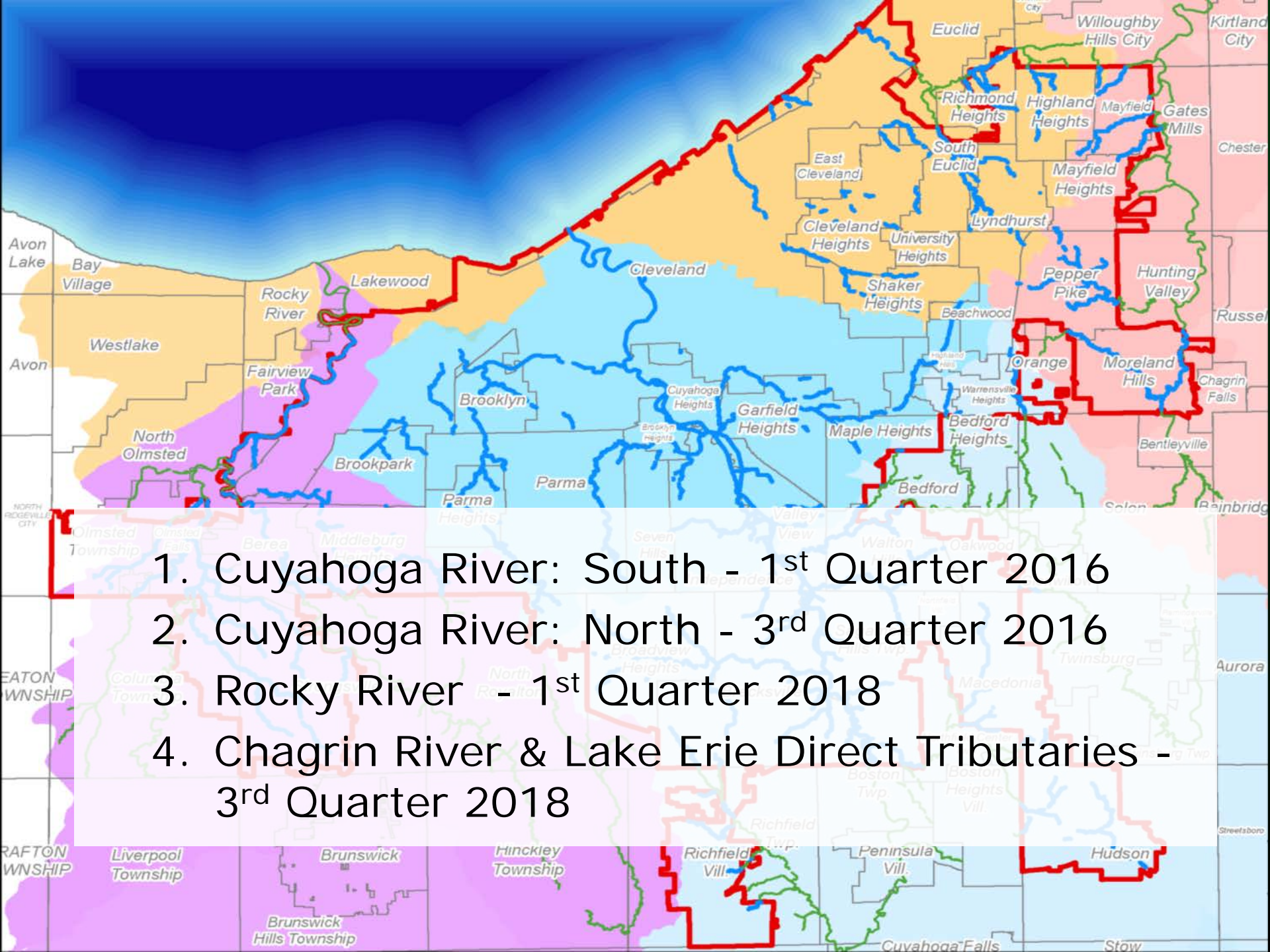


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Maintenance Activities





1. Cuyahoga River: South - 1st Quarter 2016
2. Cuyahoga River: North - 3rd Quarter 2016
3. Rocky River - 1st Quarter 2018
4. Chagrin River & Lake Erie Direct Tributaries - 3rd Quarter 2018



Doan Brook Stream Enhancement, Cleveland

Stormwater Construction Plan



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Stormwater Construction Plan Schedule

2016 Stormwater Projects		Estimated Construction Cost	2016											
			Q1			Q2			Q3			Q4		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1311	Highland Park Golf Course Stream Restoration	\$1,500,000	Procurement	Design & Permitting	Bidding & Award	Construction	Construction	Construction	Construction	Construction	Construction	Construction	Construction	Construction
1413	Chevrolet Blvd. Detention Basin	\$1,702,405	Construction	Construction	Construction	Construction	Construction	Construction	Construction	Construction	Construction	Construction	Construction	Construction
1364	Euclid Creek Concrete Spillway EC00008	\$425,000	Procurement	Design & Permitting	Bidding & Award	Bidding & Award	Bidding & Award	Bidding & Award	Construction	Construction	Construction	Construction	Construction	Construction
1365	Shaker - Green Lake Dredging DB00101	\$2,700,000	Procurement	Design & Permitting	Bidding & Award	Bidding & Award	Bidding & Award	Bidding & Award	Construction	Construction	Construction	Construction	Construction	Construction
1320	Shaker Lakes Dam Rehabilitations DB00056 & DB00101	\$3,600,000	Procurement	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Construction	Construction
1410	Doan Brook Stream Stabilization DB00029 & DB00021	\$2,350,000	Procurement	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting
1411	Big Creek Stabilization BC00032	\$4,000,000			Procurement	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting
1409	Pearl and York Bank Stabilization BC00299	\$750,000		Procurement	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting
1412	Cuyahoga River at Towpath Bank Stabilization CR00132	\$1,250,000		Procurement	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting	Design & Permitting
TBD	Baldwin Creek Stabilization BD00253, BD00259, BD00257	\$1,370,000												Procurement
TBD	Hemlock Creek Bank Stabilization HC00038 MC00125	\$1,200,000												Procurement
1369	Beechers Brook and Pepper Creek Bank Stabilization CW00021 & CW00146	\$2,750,000												Procurement

Procurement
Design & Permitting
Bidding & Award
Construction
Close-out

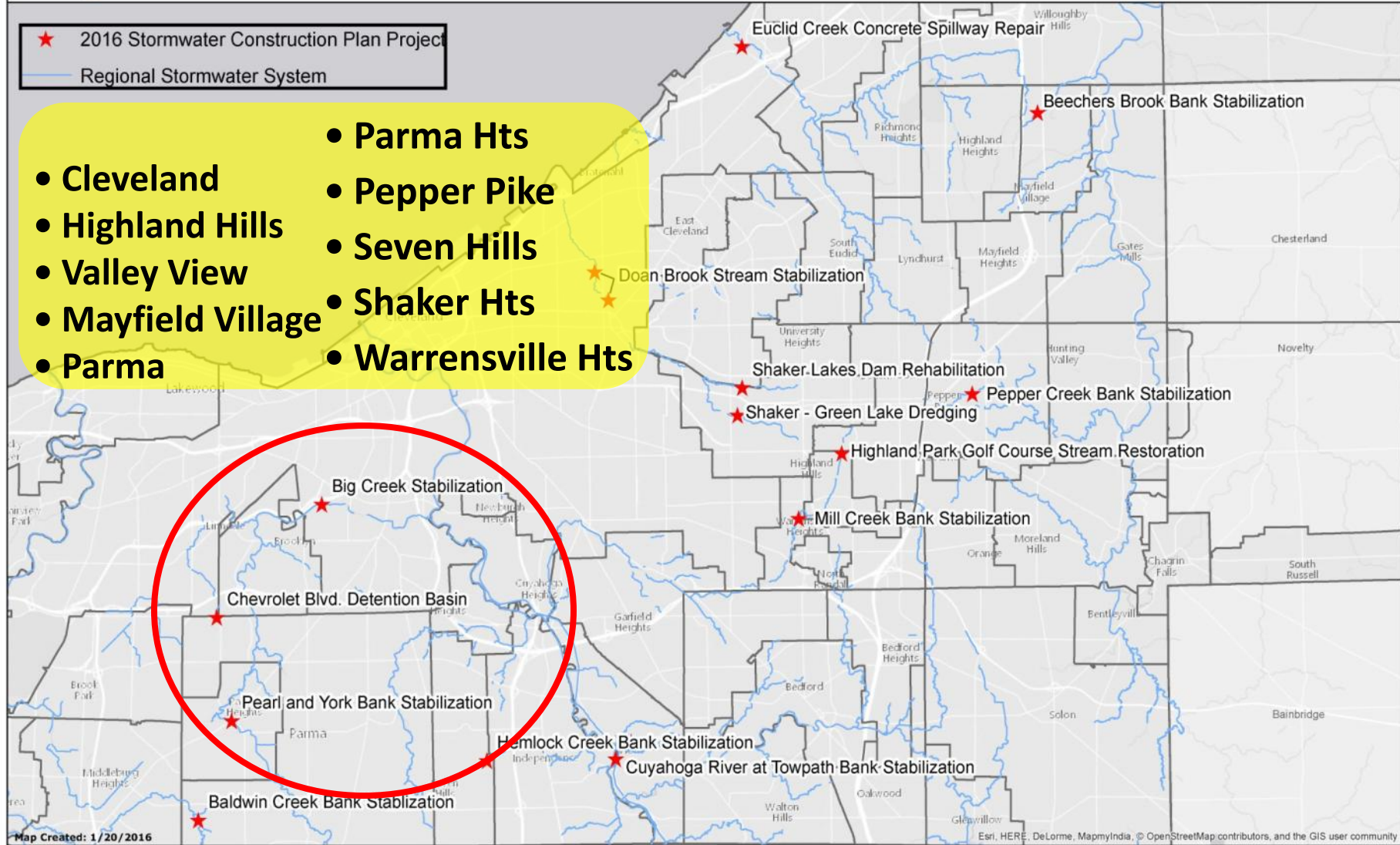


Stormwater Construction Plan



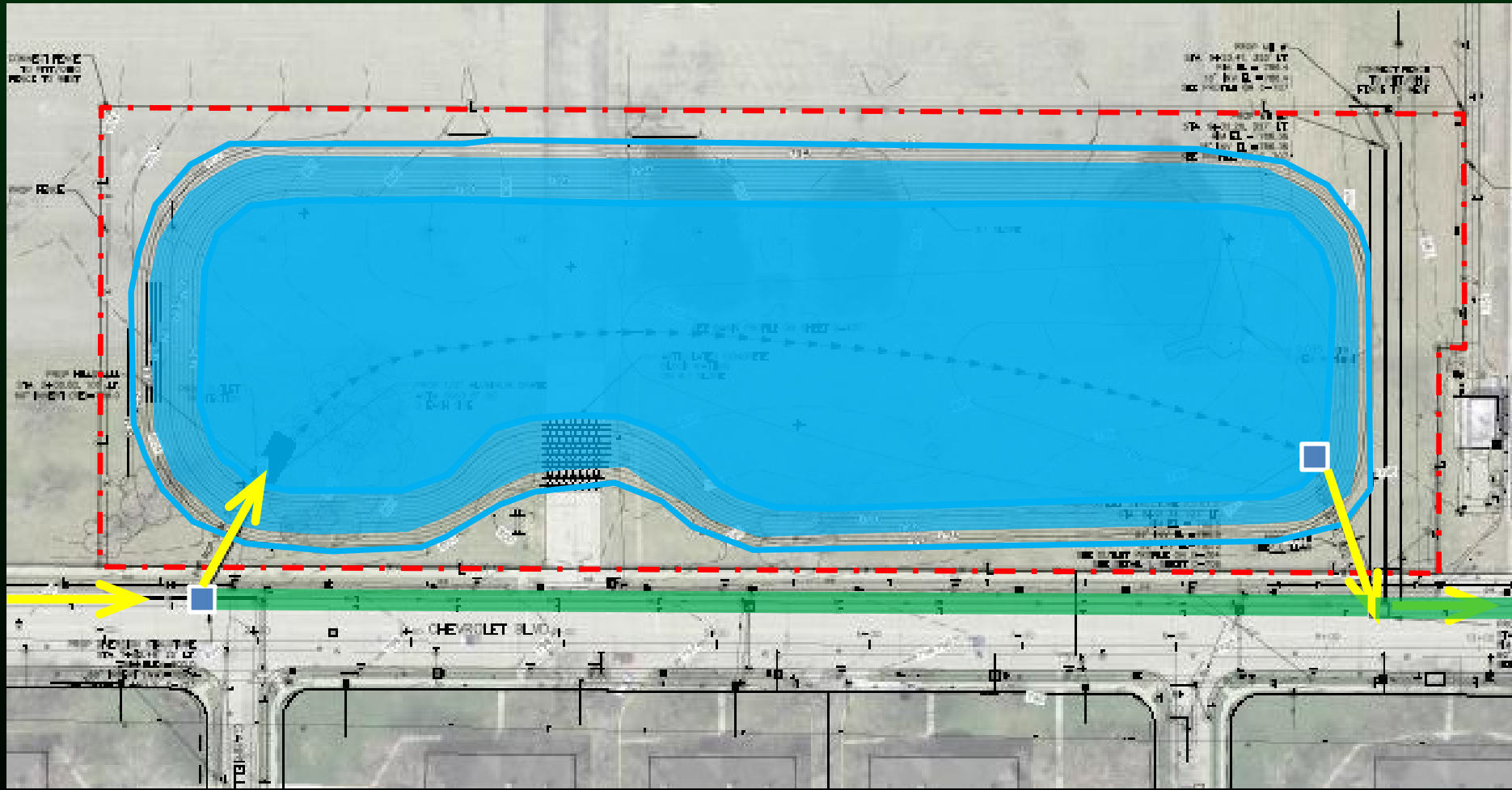
★ 2016 Stormwater Construction Plan Project
— Regional Stormwater System

- Parma Hts
- Cleveland
- Highland Hills
- Valley View
- Mayfield Village
- Parma
- Pepper Pike
- Seven Hills
- Shaker Hts
- Warrensville Hts



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Chevrolet Boulevard Detention Basin Design



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#ProjectCleanLake

Big Creek Drop Structure and Bank Stabilization

Scour behind wingwall

Failed bank repair

Upstream & downstream bank instability



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Big Creek Downstream of Pearl & York Road Intersection

Exposed sanitary sewer manhole

Severe streambank erosion



Stormwater Fee

**2016 Base Rate =
\$5.15 per ERU per month
Billing to begin second half 2016**

- Impervious Area (IA)
 - Billing Unit = Equivalent Residential Unit (ERU)
 - ERU = 3,000 square feet of IA

Stormwater Fee

**2016 Base Rate =
\$5.15 per ERU per month
Billing to begin second half 2016**

- Property Classification
 - SFR: Single Family Residential
 - NSFR: Non-Single Family Residential

Stormwater Fee

**2016 Base Rate =
\$5.15 per ERU per month
Billing to begin second half 2016**



SFR Property



NSFR Property

Stormwater Fee – Single Family

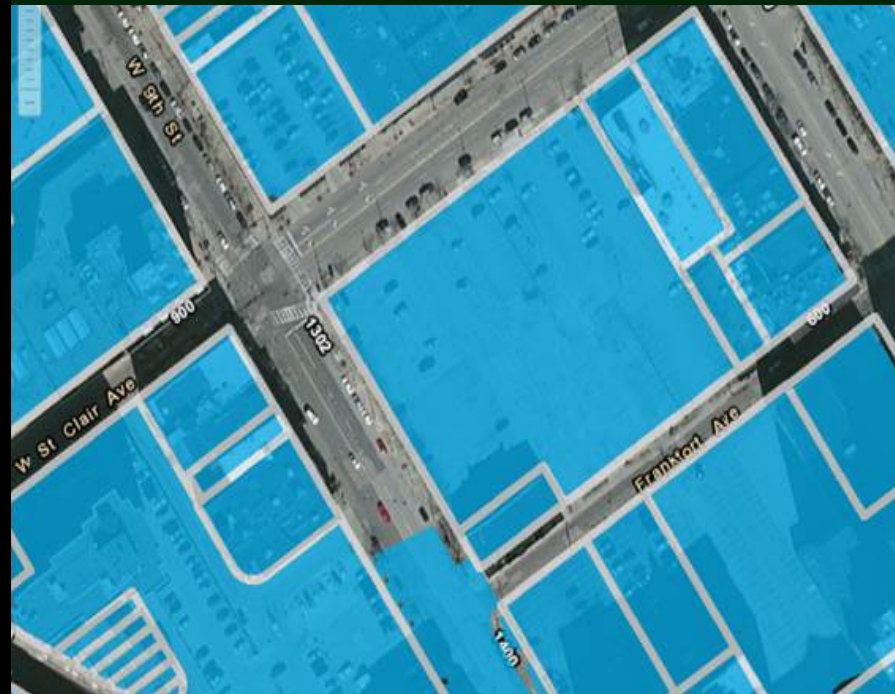
- Tier 1 (Small) < 2,000 ft²
– **\$3.09** per month
- Tier 2 (Medium)
– **\$5.15** per month
- Tier 3 (Large) > 4,000 ft²
– **\$9.27** per month



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Stormwater Fee Example

- Downtown Cleveland
- 99,000 sq.ft of total impervious area
- 33 ERUs across multiple parcels
- \$509.85/quarter
- \$2039.40/year



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Stormwater Fee Credits

- **Stormwater Fee Credits recognize on-site Stormwater Control Measures**
 - Quantity Credit
 - Quality Credit
 - Education Credit
 - Individual Residential Credit

Stormwater Fee Credits



Raingarden



Pervious Pavement



Cistern



ion

**Good Stormwater
Management =
Disconnection and
Distribution**



Detention Basin

Retention Pond



Community and Customer Outreach



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Watershed Advisory Committees

- Meets March and October
- Members: Member Community, Public Agency with control of infrastructure in the watershed
- Interested Entities: Watershed Groups, Land Conservancies

Community Cost-Share

- 25% of annual Stormwater Fee revenue collected in each Member Community
- Address current, or minimize new stormwater flooding, erosion or water quality problems

Community Cost-Share

- Opportunities may include:
 - NPDES Phase II / MS4 Compliance
 - Mitigate Separate Sanitary Sewer Overflow
 - Local Storm Sewer Rehabilitation
 - Stormwater Control Measure Maintenance
 - MS4 IDDE Mapping / Source Tracking
 - Matching Funds for Stormwater Related Grants

Customer Outreach

- Customer service and Watershed Team Leaders are prepared to answer calls: 216.881.8247
- Outreach
 - Fee Finder and bill insert in 2016
 - Blog posts and social media
 - Community Outreach events
 - Creation of informational literature
 - Updates on Customer Service line
 - Community Presentations

Thank You

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