



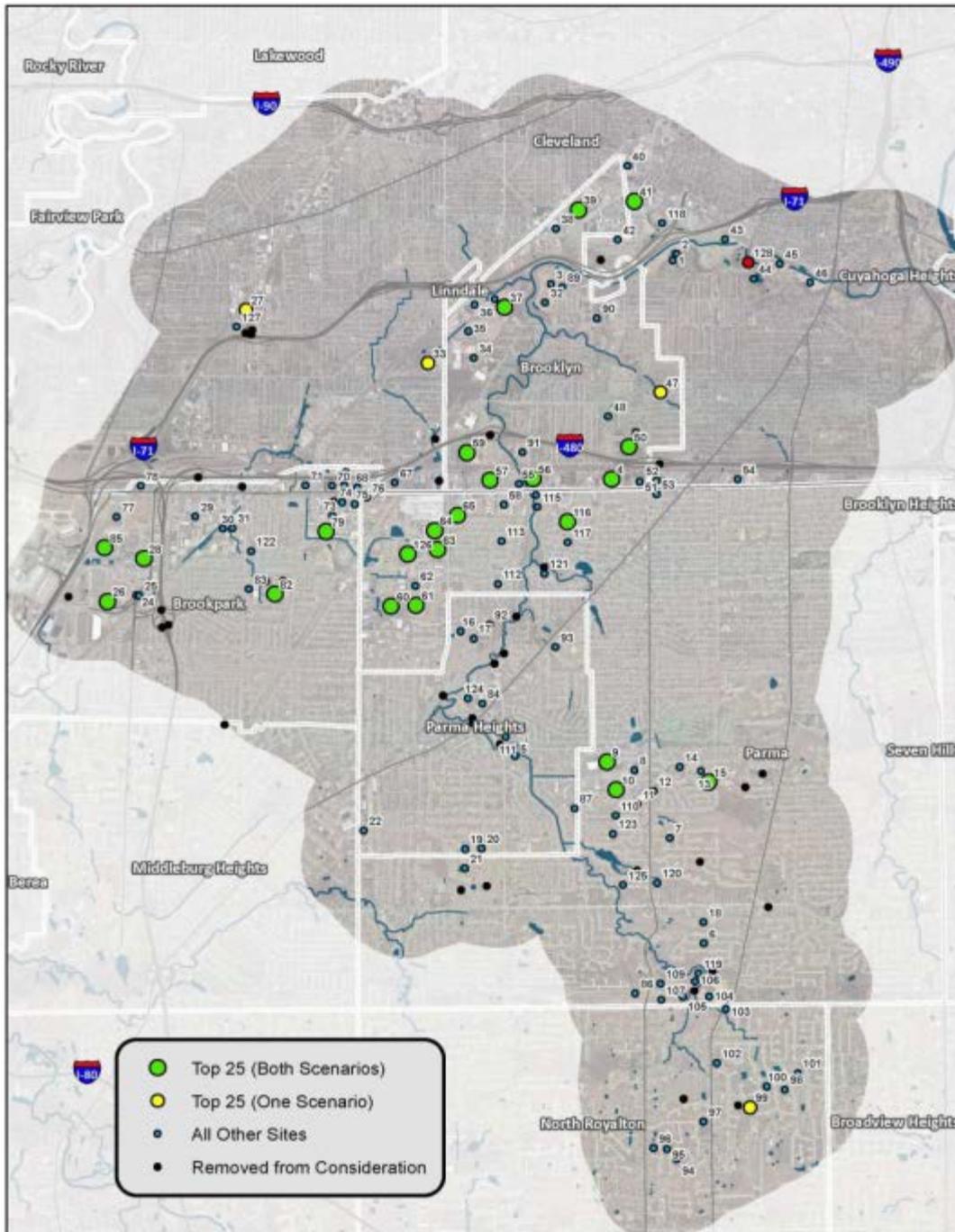
Fern Hill

Stormwater Treatment Wetland

Parma, Ohio



Stormwater Retrofit Inventory & Prioritization by Tetrattech





Existing Conditions			
Drainage Acres	50.8	TN Load (lbs/year)	136.1
Impervious Acres	15.2	TP Load (lbs/year)	20.2
Flood / Water Quality Treatment	0 / 0 %	TSS Load (lbs/year)	12,945

General Finding: 36 inch pipe enters directly into Big Creek just downstream of the bridge. There is a manhole on private property that would provide access to the pipe.

Proposed Conditions			
Existing Storage Volume (ac-ft)	0	Pretreatment Cell (SF)	5,701
Proposed Storage Volume (ac-ft)	0.77	Wetland (SF)	27,807
Proposed Ohio EPA Water Quality Volume Met (%)	100%	TSS Load Reduction (lbs/year)	10,744
Additional Flood Control Volume (ac-ft)	0.06	TN Load Reduction (lbs/year)	35.4
		TP Load Reduction (lbs/year)	8.7

Retrofit Description
 Runoff associated with small storm events will be diverted from an existing pipe into a pretreatment cell, which will allow sediment to fall out of suspension. Water will then meander through a constructed wetland, whose depth will be maintained by a flow control structure that empties into the existing stormwater pipe. Vehicle access will be provided to ensure ease of maintenance.

Planning Level Cost Estimate*		
	Lower Range	Upper Range
Total Cost	\$192,000	\$304,000
Cost per Square Foot	\$5.73	\$9.08

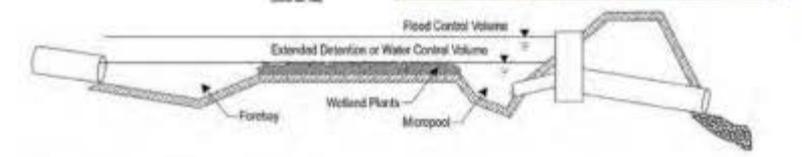
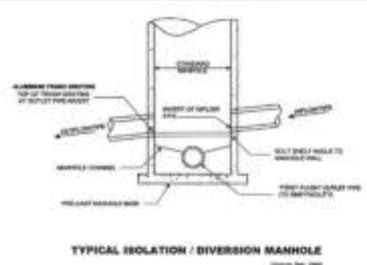
*Includes probable construction costs, design, survey, permitting, sediment testing, and a 25% contingency.



View of the site from trail.



Manhole leading to the underground pipe that will be diverted to treatment areas.



Conceptuals for Grant Application

by Tetrattech

**Surface Water
Improvement Grant
Received by Parma
Project Management
By Cleveland Metroparks**

Landscape sketch





Pre-existing Condition

Pre-bid Site Visit

March 2014



CAUTION
AUTHORIZED
PERSONNEL
ONLY

CAUTION
AREA UNDER
CONSTRUCTION

NOTICE
SAFETY GLASSES
MUST BE WORN
IN THIS AREA

**SAFETY
FIRST**
REPORT ALL ACCIDENTS
NO MATTER HOW SMALL
TO YOUR SUPERVISOR

Additional notices and documents are posted on the board, including a map and a photograph of a person wearing safety glasses.



Construction Begins
March 2015
By Metroparks Site Construction



Construction Begins

March 2015

By Metroparks Site Construction





Want to check it out first hand?

Join a Naturalist & Big Creek Connects

Friday, June 26, Noon - 1pm

Restoration Tour



**Cleveland
Metroparks**

BIG CREEK STORM WATER WETLAND PROJECT

This project was financed in part through a grant from the Ohio Environmental Protection Agency under the provisions of the Surface Water Improvement Fund and the USEPA Great Lakes Restoration Initiative.

Completion June 2015

