

Attachment E

City of Parma Storm Water Management Program Update to Comply with Ohio EPA General Permit #OHQ000003 for MS4 Facility Permit #3GQ00030AG

Stormwater Management Program

MCM 1: Public Education and Outreach

Program Responsibility and Oversight

The Public Service Director is responsible for the overall management and implementation of our Public Involvement and Public Education (PIPE) program.

To assist in implementing our SWMP under MCM 1, we have entered into Memorandum of Understanding with the Cuyahoga Soil and Water Conservation District (CSWCD). This MOU is attached in the SWMP Appendix. The CSWCD's Education Program Staff prepares an annual Outreach Strategy document for our program that outlines the specific themes and activities they will be assisting us with for the year. A copy of the most recent Outreach Strategy document is included annually in the SWMP as an appendix.

CSWCD participates in the Northeast Ohio Public Involvement Public Education (NEO PIPE) committee. The NEO PIPE committee is a regional consortium of Soil and Water Conservation Districts, conservation organizations and other government agencies committed to improving water quality in Northeast Ohio. The group shares resources and publications, pursues grant funding for large-scale outreach initiatives, and strives to bring a unified message across Northeast Ohio. The NEO PIPE committee generates the themes for the 5-year permit term based on relevant TMDL issues that need to be addressed in the communities. CSWCD incorporates these regional NEO PIPE efforts into our overall PIPE program.

Rationale for Themes and Target Audience Selection

Our MS4 is located in the Cuyahoga River, West Creek, Big Creek, and the Headwaters to Chippewa Creek Watersheds, which have TMDLs for nutrients, bacteria, DO/OE, and habitat. The Rocky River TMDLs are in progress. Because the majority of these pollution problems are caused by increases in impervious cover and the resulting increases in stormwater volume and velocity, we will focus much of our Public Education and Outreach program on increasing public awareness of the links between land use practices and stormwater pollution. We will target pollutant sources identified in our TMDL(s), such as sediment pollution from stream bank erosion and improperly controlled construction sites and habitat alteration due to land use changes. Our education and outreach program focuses on addressing these pollutants. During the permit term, we will follow the themes detailed in Table 1 (p. 3).

Our community's population was 81,601 at the 2010 census. Our primary target audience is residential landowners, single-family residential comprises over 88.27% of our community's land use, so actions on their properties contribute significantly to stormwater runoff in our MS4. We also target the development community as they contribute significant amounts of sediment pollution to our MS4.

Rationale and Description of Chosen Mechanisms

Our primary mechanisms for delivery are the following:

- An article is included in our community newsletter, prepared by the CSWCD Education Program Staff. The newsletter is mailed to 10%-15% of the population and is posted to the City's website and other social media outlets on a quarterly to annual basis. We also include upcoming events which help to inform people of additional public involvement opportunities. A copy of the newsletter is included in the MCM 1 Appendix.
- Community display of education materials. Our community displays information provided to us by CSWCD in a display located in our City Hall and Activity Center/Office for Aging. Materials on display include an annual poster, stormwater educational article related to the annual theme and any other materials provided to us by CSWCD.
- A targeted educational mailing will be mailed to 10-15% of our Community's population annually with targeted messaging related to the year's theme, with the goal of 50% being reached by the end of the five year permit cycle.
- Our community website www.cityofparma-oh.gov is updated by the Communications Director and receives an average of 10,000 unique visitors a month. We have a stormwater information section in our Service Department page on the website that the Communications Director updates on a quarterly and annual basis with information relevant to the year's chosen theme. We estimate that the website reaches 10%-15% of our population annually. On the City's webpage, we include a link to CSWCD's Stormwater Education page (<http://www.cuyahogawcd.org/programs/stormwater-education>), which in turn links you to the education theme for the year (<http://www.cuyahogawcd.org/programs/lake-erie-starts-here>).
- Our community Facebook page (www.facebook.com/cityofparma), currently has 8000 likes. The Communications Director updates the Facebook page periodically with educational stormwater information and links to upcoming events. We estimate each post reaches 10%-15% of our population. The City also has a twitter account at twitter.com/@pammamayor which currently has 1,819 followers and had 8,337 impressions last week. The Communications Director updates the Facebook page periodically with educational stormwater information and links to upcoming events. We estimate each post reaches 10%-15% of our population.
- Community events, workshops, and presentations are conducted in junction with CWSCD and West Creek Conservancy's assistance. A list of the 2016 events sponsored by West Creek Conservancy is included in the SWMP appendix. We also work with the CSWCD Education Program Staff to host rain barrel workshops and stormwater related annual workshops on our relevant stormwater theme. CSWCD Education Program Staff also presents on stormwater related topics to civic groups, scout troops or schools as requested. Lastly, we promote annual county-wide teacher workshops to our local schools in order to educate our educators about nonpoint source pollution and watershed issues.

In addition, to these primary mechanisms, we may use other mechanisms such as posters, flyer mailings, and resident outreach mailings. Any additional mechanisms used will be archived, tracked, and documented with the assistance with CSWCD for reach and success, and included in the annual reporting to Ohio EPA. Our measurable goal is to reach a minimum of 50% of our MS4 population over

five years, using a minimum of five themes with at least two mechanisms of delivery for each theme. If it does not appear that these objectives are being reached, the program will be re-evaluated and different mechanisms will be selected to meet our measurable goal.

Table 1: Public Education and Outreach Program Summary

MCM 1: Public Education and Outreach					TMDLs Addressed: nitrogen, phosphorus, bacteria, DO/OE, sediment/TSS					
Performance Standards: Must use more than one mechanism of delivery to residents. Must use at least 5 different themes, one of which must be for the development community. Must reach at least 50% of the population by the end of the permit cycle.					Nutrients	Habitat	Bacteria	TSS/sediment	DO/Org Enrich	Flow
Theme	Target Audience(s)	Mechanisms for Delivery (minimum of 2)	Schedule and Measurable Goal	Responsible Party						
Theme 1: Honey I Shrunk the Lawn! (2015) Promotes the reduction of turfgrass and limiting fertilizer/pesticide usage on residential lawns.	Residential property owners & managers, teachers	Targeted mailings, quarterly newsletters, annual theme-based poster and educational materials available at community locations, presentations to target audiences, annual county-wide teacher workshop, workshops for rain barrels, rain gardens, green cleaning and native plants and landscaping.	Reach 10-15% of population annually with targeted message related to year's theme, with the goal of 50% being reached by the end of the five year permit cycle	CSWCD Education Program Staff	X	X				
Theme 2: Lake Erie Starts Here (2016) Outreach and involvement activities will identify this connection and provide recommendations and opportunities to make a positive watershed impact to various target audiences.	Residential property owners, teachers, large property owners	Targeted mailings, quarterly newsletters, annual theme-based poster and educational materials available at community locations, presentations to target audiences, theme-specific page on CSWCD web site, annual county-wide teacher workshop, workshops for rain barrels, rain gardens, green cleaning and native plants and landscaping.	Reach 10-15% of population annually with targeted message related to year's theme, with the goal of 50% being reached by the end of the five year permit cycle	CSWCD Education Program Staff	X	X		X	X	X
Theme 3: Lake Erie – Don't Waste It (2017) Promotes the reduction of stormwater pollution from pet waste, human waste (HSTS/Illicit	Pet owners, HSTS owners, residents, restaurants, landscapers (development	Targeted mailings, quarterly newsletters, annual theme-based poster and educational materials available at community locations, presentations to target audiences, theme-specific page on CSWCD web	Reach 10-15% of population annually with targeted message related to year's theme, with the goal of 50% being	CSWCD Education Program Staff	X		X	X	X	

MCM 1: Public Education and Outreach					TMDLs Addressed: nitrogen, phosphorus, bacteria, DO/OE, sediment/TSS					
Performance Standards: Must use more than one mechanism of delivery to residents. Must use at least 5 different themes, one of which must be for the development community. Must reach at least 50% of the population by the end of the permit cycle.					Nutrients	Habitat	Bacteria	TSS/Sediment	DO/Org Enrich	Flow
Theme	Target Audience(s)	Mechanisms for Delivery (minimum of 2)	Schedule and Measurable Goal	Responsible Party						
Discharge), Household Hazardous Waste, Yard Waste and Commercial Waste (e.g., restaurant grease). Note: Applies to MCM 3.	community)	site, annual county-wide teacher workshop, workshops for green cleaning, TV ads at DMV locations, mailing to licensed dog owners via county auditor.	reached by the end of the five year permit cycle							
Theme 4: On the Road to Clean Water (2018) Promotes the reduction of stormwater pollution from vehicle operation and maintenance, roads and other paved surfaces, roadside ditch management practices and on-road sediment tracking from construction sites (development community). Also addresses community water resource concerns about litter and salinity. Note: portions apply to MCM 6 (fleet vehicles).	Motor vehicle owners, vehicle fleet managers, parking lot owners, residents, construction contractors, land developers (development community)	Targeted mailings, quarterly newsletters, annual theme-based poster and educational materials available at community locations, presentations to target audiences, theme-specific page on CSWCD web site, annual county-wide teacher workshop, workshops for green cleaning, TV ads at DMV locations, mailing to licensed dog owners via county auditor, CSWCD Tech Tips e-blast (development community). Possibly gas pump TV ads, car wash coupons.	Reach 10-15% of population annually with targeted message related to year's theme, with the goal of 50% being reached by the end of the five year permit cycle	CSWCD Education Program Staff	X		X	X	X	
Theme 5: Runoff Reduction – What's Your Runoff Footprint? (2019) Promotes practices that reduce stormwater runoff volume, such as rain barrels, rain gardens, increased tree canopy, turf conversion and green	Residential property owners, commercial property owners, land developers	Targeted mailings, quarterly newsletters, annual theme-based poster and educational materials available at community locations, presentations to target audiences, theme-specific page on CSWCD web site, annual county-wide teacher workshop, workshops for rain barrels, rain gardens, green cleaning	Reach 10-15% of population annually with targeted message related to year's theme, with the goal of 50% being reached by the end of the five year permit cycle	CSWCD Education Program Staff	X	X		X	X	X

MCM 1: Public Education and Outreach					TMDLs Addressed: nitrogen, phosphorus, bacteria, DO/OE, sediment/TSS					
Performance Standards: Must use more than one mechanism of delivery to residents. Must use at least 5 different themes, one of which must be for the development community. Must reach at least 50% of the population by the end of the permit cycle.					Nutrients	Habitat	Bacteria	TSS/Sediment	DO/Org Enrich	Flow
Theme	Target Audience(s)	Mechanisms for Delivery (minimum of 2)	Schedule and Measurable Goal	Responsible Party						
infrastructure (development community).		and native plants and landscaping.								

Program Evaluation

CSWCD and our community will conduct public opinion and awareness surveys in 2017 and 2019 with the goal of evaluating public knowledge and awareness of stormwater issues and to what extent the public has adopted appropriate BMPs .

The Engineering Department meets with Cuyahoga SWCD staff at least once annually to review program goals and progress.

MCM 2: Public Involvement and Participation

Program Responsibility and Oversight

The Public Service Director, or his delegate, is responsible for the overall management and implementation of our public involvement and public education program.

The City evaluates the progress on the public involvement and participation program annually. We review the year's involvement event(s) for type of target audience involvement and amount of public participation.

To assist in implementing our public involvement activities under MCM 2, we have entered into a Memorandum of Understanding with the Cuyahoga Soil and Water Conservation District (CSWCD). This MOU is attached in the SWMP Appendix. The CSWCD's Education Program Staff prepares an annual Outreach Strategy document for our program that outlines the specific involvement events (also listed in *Table 2*) they assist us with for the year. The Outreach Strategy document from the CSWCD is included in the SWMP Appendix.

Public Involvement and Participation in the SWMP Process

The City's plan to actively involve the public in the development and implementation of our program involves organizing at least one public involvement event per year to build awareness of local watershed and stormwater issues and to provide opportunity for anyone to positively impact the watershed. Our measurable goal is to host a minimum of five public involvement activities over the permit cycle.

The following Council Committees deal with stormwater and related issues in the community: Environmental Standards Committee, Finance Committee, and Governmental Operations. Concerns raised at these Committee meetings inform decisions related to target audiences and delivery mechanisms as outlined in the annual outreach strategies. These Committee meetings are open to the public.

Primary Involvement Audiences and Rationale

As described in our MCM 1 rationale, our primary audience will be homeowners as residential comprises over 88.27% of our community's land use. We will work with individual landowners, homeowner's associations, block clubs, other residential groups to help involve our residential population in our stormwater program. We also believe engaging and involving children in environmental programs is an important component of sustaining a successful long-term program, so we have established relationships with local scout troops and work with teachers, troop leaders, and program administrators at our schools to involve their students in stormwater-related activities.

Involvement Activities and Rationale

During this permit cycle, we will offer a minimum of five public involvement activities as described in Table 2.

These activities were primarily chosen based on their ability to improve in-stream habitat and reduce nutrient pollution, excessive stormwater flow, sediment, and low DO/organic enrichment, which are noted in our Cuyahoga River, West Creek, Big Creek, and the Headwaters to Chippewa Creek Watersheds as issues of concern. Other public involvement activities not listed below may be included during the permit term to fulfill minimum requirements based on TMDL applicability, availability of resources and local opportunities. Additional detail is annually described in the Outreach Strategy provided in January by CSWCD. Events held will be included in the Annual Report to Ohio EPA.

Table 2: Public Involvement and Participation Program

MCM 2: Public Involvement and Participation			TMDLs Addressed: phosphorus, nitrogen, bacteria, DO/OE, sediment/TSS					
Performance Standards: Must hold a minimum of 5 public involvement and participation activities over the permit term.			Nutrients	Habitat	Bacteria	TSS/Sediment	DO/Org Enrich	Flow
Activity	Schedule and Measurable Goal	Responsible Party						
Stream Cleanup Event	At least 1 stream cleanup annually, and we will track the number of participants	Service Director, CSWCD Education Program Staff	X	X		X	X	X
Build Your Own Rain Barrel Workshop	At least 1 rain barrel workshop conducted in the community, where residents will build a barrel to install at their residence. We will track the number of participants	Service Director, CSWCD Education Program Staff	X					X
Rain Garden or Sustainable Landscape Installation	At least 1 rain garden or other sustainable landscape option, including reduction of turfed areas, will be installed or implemented in the community	Service Director, CSWCD Education Program Staff	X	X		X	X	X

MCM 2: Public Involvement and Participation			TMDLs Addressed: phosphorus, nitrogen, bacteria, DO/OE, sediment/TSS					
Performance Standards: Must hold a minimum of 5 public involvement and participation activities over the permit term.			Nutrients	Habitat	Bacteria	TSS/Sediment	DO/Org Enrich	Flow
Activity	Schedule and Measurable Goal	Responsible Party						
Tree Planting Event	Conduct at least one volunteer tree-planting event with students from [local school]; number of participants will be tracked	Service Director, CSWCD Education Program Staff		X				X
Watershed-friendly lawn care and household cleaners workshop	Conduct at least one hands-on workshop, where participants will create their own environmentally-friendly lawn care and household cleaning products for use; number of participants will be tracked	Service Director, CSWCD Education Program Staff	X				X	
Storm Drain Stenciling	Conduct at least one storm drain stenciling event; number of participants and numbers of storm drains stenciled will be tracked.	Service Director, CSWCD Education Program Staff	X	X	X	X	X	

Public Information for Involvement Opportunities

We primarily inform the public of our involvement and participation events through our community website and e-newsletter and mailings. The website has a "Community Highlights" on the main page that is updated weekly by our Communications Director and the site receives an average of 10,000 unique visitors a month. Our community newsletter includes upcoming events for the public and is mailed to subscribing residents on a quarterly basis. Other mechanisms, depending on event, may include event-specific flyers to be handed out at our Ribbon Rock, Farm Days, or other public gatherings, or distributed at public locations such as the Library or City Hall. Our community has an educational display set up in our City Hall Lobby to display stormwater educational materials provided by CSWCD, which include the annual poster, newsletters, educational flyers and brochures, involvement events, and more.

The City's Resident Services Department maintains a violation reporting/complaint line. Any relevant complaints are compiled by the City and investigated. A report documenting the resolution is generated and kept on file at the City. The City Engineer, Building Inspector, or SWCD assist in enforcement action and escalation, such as a notice of violation or a stop work order until the any violation is corrected. Any calls to CSWCD related to illicit discharge can be routed to the City's Service Department for follow up and tracking. CSWCD will assist with illicit discharge outreach as requested by City.

The City Council schedule is posted on the City's website, placed on the City Council bulletin board in front of the Council Office, and the Media is notified of the next Council meeting the Friday before the meeting. The City's public notice procedures are included in the SWMP Appendix.

Program Evaluation

The City's Engineering Department meets with Cuyahoga SWCD staff at least once annually to review program goals and progress and coordinate upcoming events.

CSWCD and our community will conduct public opinion and awareness surveys in 2017 and 2019 with the goal of evaluating public knowledge and awareness of stormwater issues and to what extent the public has adopted appropriate BMPs. Individual involvement activities will include a post-activity survey to gauge whether awareness of stormwater issues increased as a result of the program.

MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program

Authorizing Legislation

The City of Parma illicit discharge codified ordinance chapter 938 prohibits discharges to the MS4. There is also a list of allowable non-storm water discharges to the MS4 per Part II. B.3.g. of NPDES Permit #OHQ000003. The City Engineer shall administer, implement, and enforce the provisions of the illicit discharge chapter. Any powers or duties imposed upon the City Engineer may be delegated in writing by the Service Director of the City of Parma to persons or entities acting in the beneficial interest of or in the employ of the City of Parma.

The City of Parma has also renewed our MOU with Cuyahoga County Board of Health (CCBH) to provide a comprehensive IDDE and Pollution Prevention/Good Housekeeping program. This effective program will identify illicit discharges within Parma's MS4 system, work towards eliminating sources of illicit discharge, identify any pollution concerns, and establish measurable goals. The pollution prevention/good housekeeping for municipal operations program includes the development and implementation of an operation and maintenance program to help prevent and reduce runoff from municipal operations, annual employee training on a variety of stormwater related topics, implementing appropriate best management practices (BMPs) and establishing measurable goals.

CCBH identified all the MS4 outfall locations, continues to conduct dry weather inspections, and collects water quality samples from the Parma MS4 system. The municipal employees are provided in annual training on stormwater topics and best management practices as they relate to Pollution Prevention/Good Housekeeping for Municipal Operations. CCBH is beginning to assist Parma with a Pollution Prevention/Good Housekeeping Plan. They also provide a detailed annual report of IDDE and Pollution Prevention/Good Housekeeping for municipal operation activities in Parma. A copy of this MOU is included in the SWMP Appendix.

To improve this program the city has continued our MOU agreement with the Cuyahoga County Public Works. In addition, the city has a Community Discharge Permit with the Northeast Ohio Regional Sewer District (NEORS) for assistance with source tracking. The city will be in discussion in the first quarter of 2017 with NEORS to increase assistance with GIS mapping of the MS4 system.

MS4 System & HSTS Maps

CCBH has provided the initial MS4 system map for the city. We are working towards including publicly owned catch basins, pipes, and ditches; including flood control facilities; and add the public and privately owned post construction water quality practices. A copy of the initial MS4 system map is included in SWMP Appendix. The City intends to have CCBH, CCPWD, and NEORS assist and help be responsible for performing updates to the MS4 system map. The map will be updated annually to

reflect the addition and removal of public stormwater infrastructure. It will also include the addition or removal of privately owned post construction water quality practices installed to satisfy the requirements of the Ohio EPA's and NPDES permit for stormwater associated with construction activities.

The expansion of the SWMP map is not applicable to the City of Parma because the entire city is already defined as in the urbanized area. In addition, the map will not include sewerage treatment systems that discharge into the MS4 as the City of Parma does not have any such systems.

The City of Parma, City Engineer, or his delegate, is responsible for updating the SWMP mapping. The City will be updating the existing MOUs with the CCBH, CCPWD, and NEORS to improve the partnerships we have in place so that we can continue to improve the MS4 system mapping and documentation to ensure compliance with the Ohio EPA's SWMP requirements.

IDDE Surveillance Plan

The City of Parma has had CCBH conduct 100% of the required dry weather screenings for the MS4 outfalls at least once to date. CCBH has also evaluated the collected data from the initial and ongoing dry weather screenings and identifies priorities and goals for the continuing system surveillance program. The city is working with NEORS through the community discharge permit to create mechanisms will be utilized for the ongoing system surveillance, we will determine the frequency with which the mechanisms need to be implemented. CCBH continues to provide provisions to evaluate data collected each year and set or revise the priorities and goals annually.

The City of Parma SWMP program does not include evaluation of sewage treatment plants as the city does not have any. However, the City of Parma has a five year plan to eliminate the household septic tanks by constructing sanitary sewers and mandating connection with the assistance of the CCBH.

As part of the SWMP, CCBH provides training for municipal staff on how to identify illicit discharge and to whom it should be reported. The City prohibits open dumping in codified ordinance 660 Safety, Sanitation and Health. If open dumping is found the property owner is cited. The citation(s) are forwarded to the municipal court system for legal action. The city will add the prohibition of open dumping to Parma Codified Ordinance chapter 938 -Illicit Discharge or Connection to City Storm Water System and Chapter 660 - Safety, Sanitation, and Health to be more thorough.

When an illicit discharge is reported, it is investigated by one or more of the following agencies: City Engineering Department, City Service Department, County Health Department, the County Public Works Department, and OEPA depending on what type of illicit charge it is likely to be. When the illicit discharge has been due to a failing septic system, the city of Parma proposed the new sanitary along the unsewered street. Once sanitary sewer constructed, the property owner is required to connect to the new sanitary sewer and abandoned the existing septic tank. For nonpoint source illicit discharges and spills, the city is improving the correction action system currently in place (citation sent to municipal court) by receiving assistance of the CCBH and NEORS to help enforce remediation of the illicit discharges.

In 2017, the city will work with NEORS and CCBH to improve our IDDE surveillance plan to address TMDL concerns.

IDDE Elimination Plan

In recent years, the city has worked with CCBH and NEORS to help locate illicit discharges in the City of Parma. The City is aware of illicit discharges caused by failing septic systems. The City has a five year plan to eliminate all the septic systems by constructing sanitary sewers in these areas. Once constructed, the property owner is required to connect to the new sanitary sewer and abandon the existing septic system. This plan is included in the Appendix of this SWMP.

In 2017, the city of Parma will improve this program by gaining the assistance of NEORS to source track and prioritize the illicit discharges. For sources of illicit discharge that are not removed by the end of the reporting year, the city will access NEORS expertise to devise mechanisms to track those cases and develop a site-specific source elimination plan. The City of Parma then plans to enact procedures for removing the source of illicit discharge and develop additional enforcement mechanisms outside of citing the property owner and summoning the individual/entity to appear before municipal court. We will also be looking to NEORS to assist in establishing initiatives designed to address TMDL concerns.

MCM 4: Construction Site Runoff Control

Authorizing Legislation

Within the Appendix of this SWMP is a copy of the City of Parma's Chapter 2301: Comprehensive Storm Water Management and Chapter 2303: Erosion and Sediment Control which are the pieces of legislation that City of Parma implemented in 2008. The overall program management of the construction site program is the Public Service Director, or his delegate. These ordinances require construction sites to install to maintain sediment/erosion control practices and pollution prevention practices. These ordinances are enforced on all sites that have a larger common plan of development or sale that disturbs one or more acres of land. The City is in the process of updating the existing ordinances to meet standards set forth by the new model from the Chagrin River Watershed Partners. Within the update we will meet or exceed the technical requirements of the Ohio EPA General NPDES permit for Storm Water Associated with Construction Activates #OHC000004, including federal effluent limitations found in Part II. The ordinances will also be updated to include the enhanced requirements to address TMDL concerns.

Plan Review Program

The City of Parma Comprehensive Storm Water Management ordinance describes review of the storm water pollution prevention plan (SWP3). Plan review is required by the City's Engineering Department for any project disturbing earth. An abbreviated plan is required for those projects under an acre of disturbance and a full SWP3 plan review is required for those site over one acre or any larger common plan of disturbance. These plans must be approved and a Storm Water Management permit must be pulled from the City's Engineering Department. The permit requires a copy of the project NOI from the OEPA be submitted prior to the permit being released and prior to any earth disturbance occurring including clearing, grading, grubbing, filling, or excavating.

Municipal projects are handled in a similar fashion to private projects. In times when additional assistance is needed to complete public or private plan reviews, the City enlists the help of the CSWCD. A copy of the MOU the City has with the CSWCD is included in the SWMP Appendix.

Site Inspection Program

In addition, the City's MOU with the CSWCD includes CSWCD performing all monthly construction site inspections to ensure implementation with the approved SWP3 plan. CSWCD performs a project's first SWP3 inspection within 7 days of the commencement of the site's earth disturbance. The City of Parma insures that construction sites are in compliance with their approved SWP3 by using an escalated enforcement policy. If a site has a noncompliant inspection, a follow-up inspection is conducted within 3, 7, or 10 days depending on the type of deficiency. If the deficiency persists the inspection fee for the subsequent inspection(s) is increased. The city of Parma's codified fee schedule charges the following: a compliance inspection is \$125, first noncompliance inspection is \$300, and second or subsequent noncompliance inspection is \$500.

At this time our SWMP requires construction sites to be inspected at least once a month. As TMDLs are becoming more of a concern, the city can discuss with CSWCD to prioritize the inspections based on TMDL concerns, proximity to waterways, amount of disturbed area, compliance history of the site etc. and incorporate those perimeters into the SWMP.

Municipal projects are handled in a similar fashion to private projects. In times when additional assistance is needed to complete public site inspections, the City enlists the help of CSWCD. A copy of the MOU the City has with the CSWCD is included in the SWMP Appendix.

Enforcement Program

Within the city enforcement escalation policy, the Engineering Department has the ability to write written inspection reports for notice(s) of deficiency, notice(s) of violation, and stop work orders. The City also has imposed inspection fines, and written citations compelling attendance in Municipal Court where criminal penalties can be imposed. As the city is updating our environmental ordinances, we could codify our enforcement escalation policy though to date we have not done this, it is just a policy at this time.

The city uses the following enforcement mechanisms. If a site has a noncompliant inspection, a follow-up inspection is conducted within 3, 7, or 10 days depending on the type of deficiency. If the deficiency persists the inspection fee for the subsequent inspection(s) is increased. The city of Parma's codified fee schedule charges the following: a compliance inspection is \$125, first noncompliance inspection is \$300, and second or subsequent noncompliance inspection is \$500. In addition, the City's Engineering Department has the ability to impose stop work orders any time a construction site is in noncompliance with the approved SWP3 Plan. When noncompliance continues the city's engineering Department has cited property owners and/or developers and/or contractors to appear in Municipal Court. Violations on municipal projects are handled with the same enforcement policy. We include these policies within the contract language and the general notes of the construction and SWP3 plans.

The City has not yet established enforcement initiatives to address TMDL concerns outside of requiring projects to comply with water quality as set forth by the Ohio EPA's 2008 model ordinance. We will be revising and updating the ordinances in 2017. We will be looking for assistance from CSWCD and NEORSD to ensure TMDLs can begin to be addressed.

MCM 5: Construction Site Runoff Control

Authorizing Legislation

Within the Appendix of this SWMP is a copy of the City of Parma's Chapter 2301: Comprehensive Storm Water Management and Chapter 2303: Erosion and Sediment Control which are the pieces of legislation that City of Parma implemented in 2008. The overall program management of the construction site program is the City Engineer as delegated by the City Service Director. These ordinances are continuing to be updated to comply with the newest model ordinance forth by the Chagrin River Watershed Partners. We do require that structural BMPs to treat water quality volume when there is a larger common plan of development or sale that disturbs 5 or more acres of land. Our ordinances include planning, zoning, and building codes for nonstructural BMPs that limits the addition of impervious surfaces, reduce existing impervious surfaces, and protect sensitive open spaces. The city of Parma passed riparian and wetland setback legislation in 2003. We have an ordinances that allows downspout disconnection and rain barrel installation. In addition, the city allows conservation development, compact developments, and mixed-use development. The Engineering Department has in recent years reviewed draft ordinances for parking lot maximums and incentives for infill developments and redevelopment. The City of Parma is working towards enhancing requirements to our code to address TMDL concerns.

At this time the City has not installed any post construction BMPs on municipal construction projects as it has not built any municipal projects that disturb more than an acre of land. The city's most recent road projects have been constructed by ODOT or Cuyahoga County.

Plan Review

The City's Comprehensive Stormwater Management ordinance describes what is required to be reviewed in a SWP3 plan. Our program does require that a SWP3 plan be submitted and reviewed by the Engineering Department for any new development or redevelopment project that disturbs one or more acres of land. Approval of the SWP3 plan and obtaining a stormwater management permit is required for any construction project prior to clearing, grading, grubbing, filling, or excavating. Our code also requires that a long-term maintenance plan and agreement identifying the responsible party to conduct a long-term maintenance for routine and non-routine tasks. These maintenance plans and agreements continue to improve, and are more often a recorded document, as property owners are becoming more aware of their necessity and requirement to comply with OEPA regulations. We continue to improve on obtaining access easements with site maps indicating the location of such easements.

In 2016, the City began to rely on CSWCD to perform post construction BMP approval and tutorials, prior to final occupancy of a site, for property owner(s) to familiarize themselves with the maintenance requirements of their newly installed BMPs.

If and when the City conducts a municipal construction project that exceeds one acre of earth disturbance it will be required to comply with the SWMP program and the Ohio EPA regulations.

Program to Ensure Installation

The CSWCD conducts inspections of the constructed permanent stormwater quality practices to ensure they comply with the approved SWP3. If the practice does not comply CSWCD notifies the city's

Engineering Department who has the ability to impose a stop work order until the practice is constructed per plan. A copy of the MOU that the city has with CSWCD is attached in the Appendix.

Long-term Maintenance Program

The City of Parma's long-term maintenance program is continuing to evolve. The City has CSWCD perform an annual inspection of each post construction management practice within the city. A list of the current post construction practices within the City of Parma are included in the SWP3 Appendix. A deficiency report is forwarded to the city at the end of each year. In 2017, the city hopes to work with CSWCD to improve our escalated enforcement to bring the outstanding maintenance needs of each post construction BMP into compliance. At this time the city's long-term maintenance program does not include enhanced features to address TMDL concerns.

The City keeps records of construction projects that required a NOI in our stormwater project cabinet. Each project has its own file where the long-term maintenance plan and drawings can be found. In 2016, CSWCD began reviewing the ownership of each of the existing post construction BMP. When new owners have been found CSWCD has updated the record. At this time, it has been difficult for property owners to ensure appropriate funding for their post construction BMP as maintenance costs have been difficult to determine at the onset of the project's completion. As maintenance costs become more definitive the city will look for more thorough explanation of funding from property owners.

In addition, the City intends to review each of the projects' post construction records to ensure a post construction maintenance agreement is in place. In 2017-2018 the city intends, with CSWCD assistance to require a post construction management agreement be created for any site that does not have a proper agreement in place.

The City is responsible for maintain on a few post construction water quality practices. In 2017 through 2019, the intention is to update or create a maintenance plan for these practices and ensure budgetary funds to provide the routine maintenance necessary.

At this time, the City's SWMP does not include a process to add or remove abandoned post construction BMPs from our inventory map, but we will be working with CSWCD and NEORS to update the maps using a GIS system.

Enforcement Program

The City has CSWCD perform an annual inspection of each post construction management practice within the city. A deficiency report is forwarded to the city at the end of each year. In 2017, the city hopes to work with CSWCD to improve our escalated enforcement to bring the outstanding maintenance needs of each post construction BMP into compliance. The Engineering Department has the ability to write written inspection reports for notice(s) of deficiency, notice(s) of violation, and stop work orders. The City also has imposed inspection fines, and written citations compelling attendance in Municipal Court where criminal penalties can be imposed. The enforcement of the escalation plan has been the responsibility of the City Engineer as delegated by the service director. Once CSWCD performs the annual inspection the deficiency letter is forwarded to the responsible property owner on record. The deficiency notice gives a deadline for corrective action to be completed. If the corrective action is not completed the Engineering Department can fight the property owner and forward the citation to municipal court for further legal action.

The City has not yet established enforcement initiatives to address TMDL concerns outside of requiring projects to comply with water quality as set forth by the Ohio EPA's 2008 model ordinance. The city will

be revising and updating the ordinances in 2017. The city will be looking for assistance from CSWCD and NEORS to ensure TMDLs can begin to be addressed.

MCM 6: Pollution Prevention & Good Housekeeping for Municipal Operations

Employee Training

The City of Parma's SWMP has established a training program on storm water pollution for employees with CCBH's assistance. CCBH provides this training at least once a year for our Service Department, Golf Course, Recreation Department, Police Department, and Fire Department employees. A topic list is prepared by the CCBH prior to these trainings. Next year, we will ask CCBH to begin incorporating trainings regarding stormwater best management practices that address TMDL concerns in our community. A copy of the MOU the City of Parma has with CCBH is attached in the SWMP Appendix.

Storm Water Pollution Prevention Plan (SWPPPs) for Municipal Operations

The City of Parma's SWMP has five municipal facilities that are subject to pollution prevention and good housekeeping requirements. The sites include:

1. Ridgewood Golf Course
2. Service Garage
3. Nike site facility
4. Justice Center
5. Fire Station #2

Each individual SWP3 Plan indicates who the primary site contact is along with facility-specific SWP3 Plan information. A copy of the updated compliance action items needed of each of the facilities SWP3 Plan are attached in the Appendix.

A SWP3 is prepared for each of our facilities and a copy is kept on file at each facility as well as in the Engineering Department and with the Service Director. Each facility SWP3 is updated to be compliant with the SWP3 requirements in the Ohio EPA Industrial Stormwater General Permit.

The City is continuing to work with CCBH and NEORS to improve our compliance with requirements of Ohio EPA's general NPDES permit for stormwater associated with industrial activities #OHR000005. We hope to improve our SWPPPs by updating our site maps, include sector specific best management practices implementing inspection and monitoring, particularly in regards to TMDL concerns.

The City's existing Good Housekeeping Program NPDES permit number is 3GQ000360*AG. We will develop and implement an improved SWP3 plan for each facility. Our existing good housekeeping program has an established narrative which defines procedures, mechanisms, and compliance action items.

MS4 System Maintenance and Pollution Prevention Programs

The City of Parma's current Pollution Prevention/Good Housekeeping for Municipal Operations Program currently maintain publicly owned storm sewers, catch basin, streets, open channels along roads, parking lots, and storm water management practices such as bio retention cells, detention, and retention ponds. The City of Parma relays on CCPWD through a maintenance agreement for the maintenance schedule and maintenance standards of the city's storm sewer and sanitary sewer system. The most recently updated sewer map has been included in the appendix. It indicates when the sewers have been maintained, lined, repaired, and replaced. The Parma Sewer Maintenance Map can be found

online at http://publicworks.cuyahogacounty.us/pdf_publicworks/en-US/Cities%20-%20Maps/2015/PARMA.pdf.

The SWMP does describe maintenance standards for the MS4 municipal operations. It also identifies the pollution prevention practices for the following municipal operations: street sweeping, catch basin cleaning, parking lot sweeping, leaf collection, deicer application and storage, roadkill management, street repairs and maintenance; pesticide, herbicide, and fertilizer application and storage; parks, cemetery and golf course grounds management, police and fire department facilities.

The City does not address trash and debris collection practices as these operations are handled by Republic Services through a contract with the City.

In 2017 through 2019, the City hopes to implement BMP selection for pollution prevention and TMDL concerns, again with the assistance from CCBH and NEORSD. The SWMP program is addressed through the Service Department as delegated by the Service Director.

Program Evaluation and Oversight

The Service Director is responsible for management and oversight of the Pollution Prevention/Good Housekeeping for Municipal Programs. Where distinct milestones are noted for BMPs under this MCM, they are tracked by the responsible parties noted for each facility. The Service Director meets with the each SW3P facility for the annual reporting required by Ohio EPA to evaluate whether these specific milestones and other ongoing BMPs are being met. Our goals are selected to reflect TMDL recommendations, permit requirements, current practices, and manpower requirements of the BMPs. Review and Update of the Stormwater Management Program.

The City of Parma performs an annual review of our SWMP in conjunction with preparation of the annual report to Ohio EPA required under Part IV.C of the MS4 Permit #OHQ000003. Any proposed additions to the SWMP during the life of the permit are made upon written notification to Ohio EPA. Changes replacing an ineffective or infeasible SCM specifically identified in the SWMP with an alternate SCM are requested of Ohio EPA according to the procedure outlined in accordance with Part V.G of the MS4 Permit #OHQ000003 and include the following information:

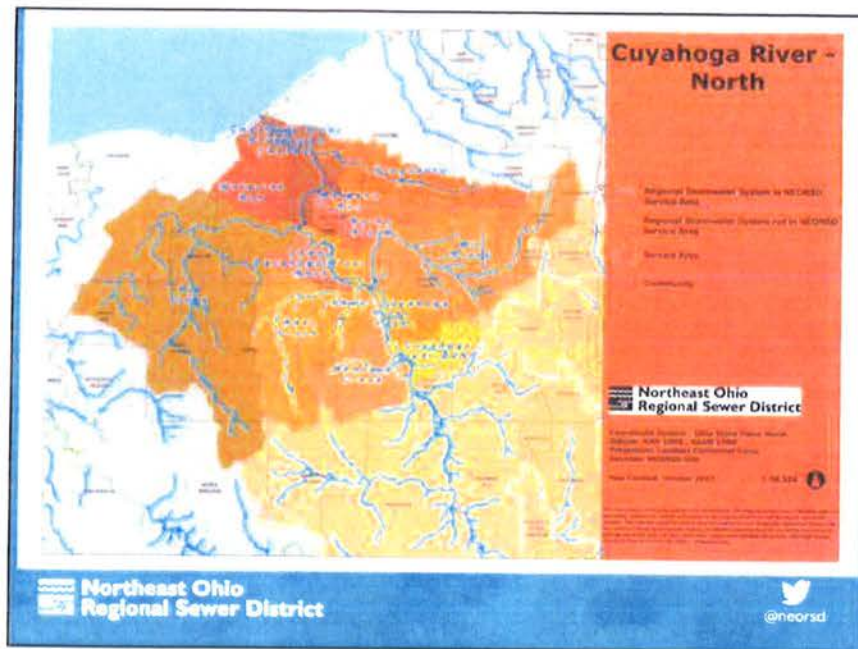
1. An analysis of why the SCM is ineffective or infeasible (including cost prohibitive),
2. Expectations on the effectiveness of the replacement SCM, and
3. An analysis of why the replacement SCM is expected to achieve the goals of the SCM to be replaced.

Unless specifically denied by Ohio EPA, the requested changes proposed in accordance with the criteria above shall be deemed approved and may be implemented 60 days from submittal of the request.

Evaluating, Record Keeping and Reporting

Through the procedures established in each MCM rationale, we evaluate our program compliance, the appropriateness of identified SCMs, and progress toward achieving identified measurable goals and satisfying the performance standards. We retain copies of all reports and documentation required by Part IV.B.1 of the MS4 Permit #OHQ000003 and will retain and make our required documentation accessible to the public if requested to do so in writing according to Part IV.B.2 of the MS4 Permit #OHQ000003. For the 5-year term of the permit, yearly reports are prepared detailing the progress of our City of Parma in meeting the measurable goals of the program using the reporting forms provided by Ohio EPA. Reports are filed annually in accordance with the requirements of Part IV.C of the MS4 Permit #OHQ000003.

Attachment F



Watershed Advisory Committee

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
 - District 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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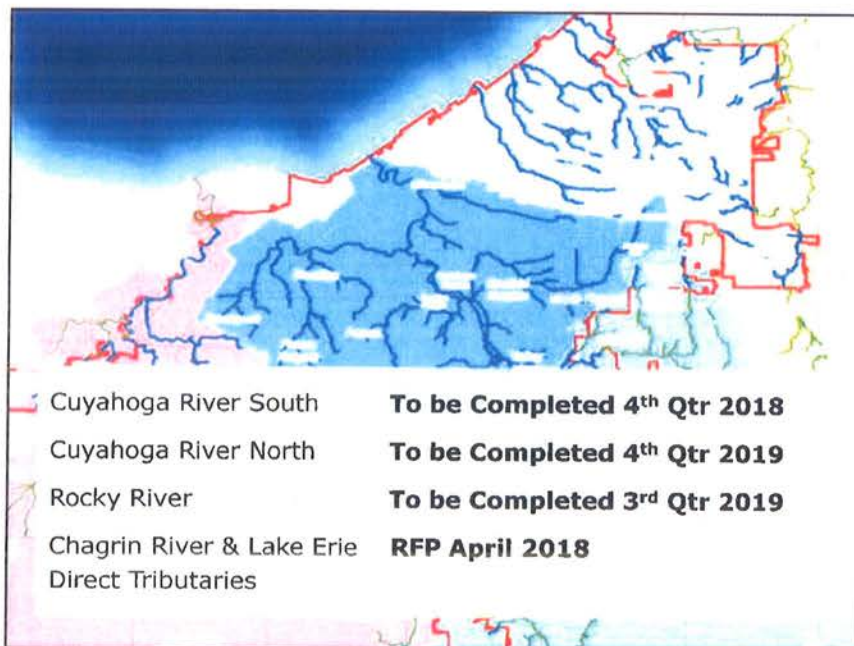
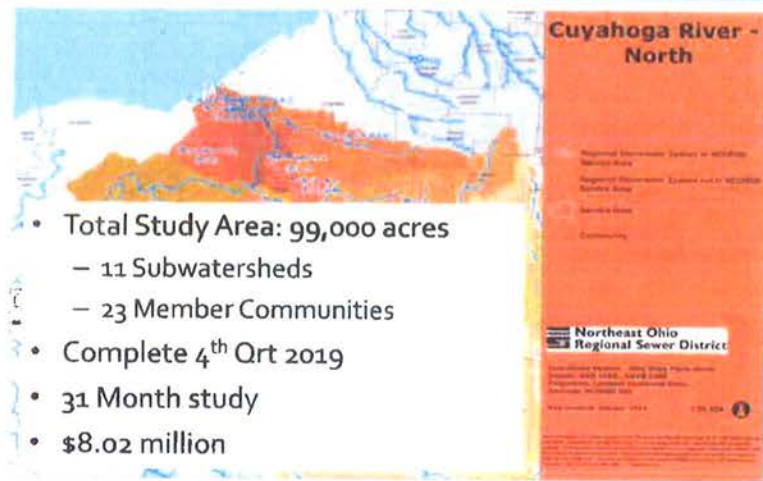
Questions



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Stormwater Master Plan



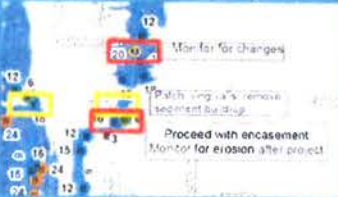
Stormwater Master Plans

Goals and Objectives

Operational Performance Evaluation



Recommendations and Report



Modeling & Alternatives Evaluation

Alternatives Evaluation (Chapter 8)	
<ul style="list-style-type: none"> Identify SCMs Identify Opportunities/Constraints Identify Existing Conditions Identify Potential Identify Potential Benefits Identify Potential Risks Identify Potential Costs Identify Potential Impacts Identify Potential Mitigation Measures Identify Potential Monitoring Measures Identify Potential Maintenance Measures Identify Potential Construction Measures Identify Potential Operation Measures Identify Potential Decommissioning Measures Identify Potential Rehabilitation Measures Identify Potential Restoration Measures Identify Potential Reuse Measures Identify Potential Recycling Measures Identify Potential Energy Measures Identify Potential Water Measures Identify Potential Air Measures Identify Potential Noise Measures Identify Potential Vibration Measures Identify Potential Other Measures 	<ul style="list-style-type: none"> Evaluate Alternatives Size to achieve ARA Estimate cost Define multiple benefits Identify Benefits (B1) Select Alternative Check waterbody water performance

Results: Prioritized list of construction and maintenance projects



SW Master Plan

Field Work

Essentially complete

- Open Channel Streams
- Culverted Streams – 36 miles
- Crossings
- Major Structures
- Storage Basins



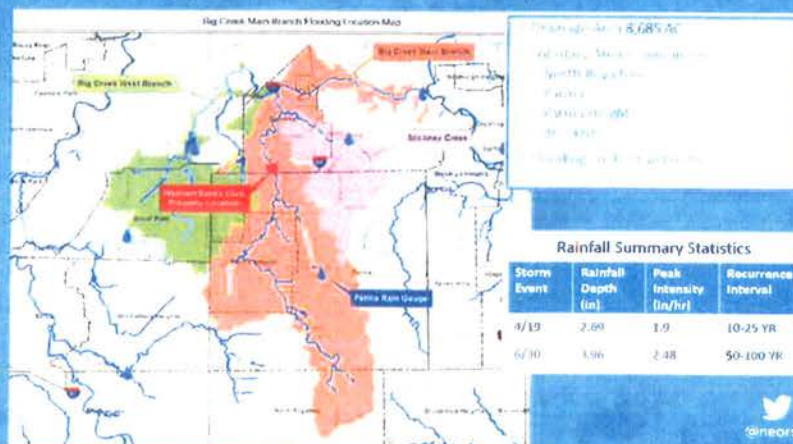
SW Master Plan Modeling

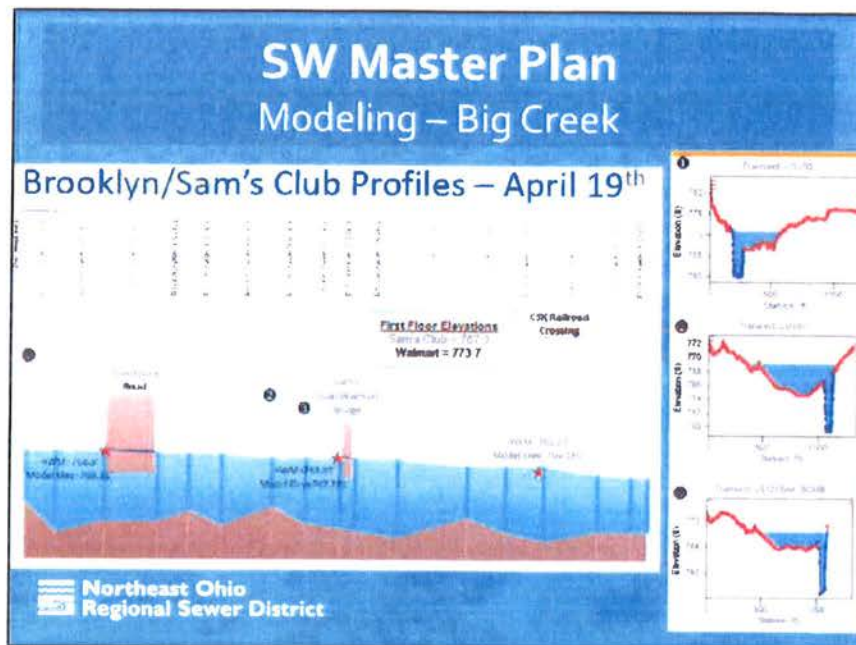
- Work on models underway – through end of 2018
 - Big Creek, including main branch, west branch and Stickney Creek
 - West Creek and Mill Creek
 - Other Cuyahoga tributaries
- Using wastewater model to inform SWIM model in combined area
- Using GIS for visual aid to model flood inundation areas and high risk BTU assets to identify problem areas

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SW Master Plan Modeling – Big Creek





SW Master Plan

Alternatives Evaluation - 2019

- 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

- Member Community Work Plans
- Meet with communities
 - Problem Area Review
 - 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

Cuyahoga River North

2017 Inventory Update

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Lake Erie



Asset Class Type	RSS (Assets)	RSS (Miles)
Streams	635	89
Crossings	319	6
Culverted Streams	75	36
Basins	15	-
Major Structures	7	-
Total CRN*	1,051	131
Service Area	3,699	443

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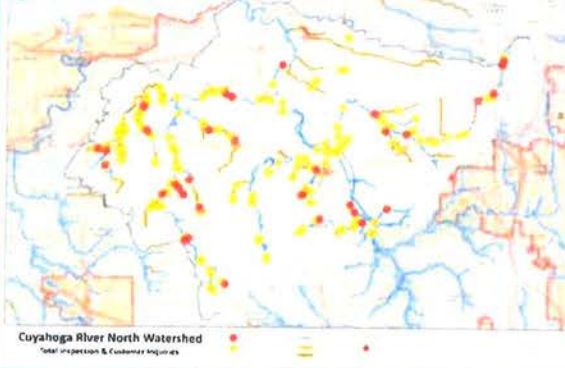
*CRN RSS: 118 Miles in 2016
Service Area RSS: 405 Miles in 2016

SWIM Inspections

2017 Summary

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Lake Erie



**361 Total
Inspections** (1,299
in Service Area)

**36 Customer
Inquiries**
(174 in Service Area)

**42% of RSS
assets inspected**

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SWIM Recommendations 2017 Summary



64 Assets
recommended
for SW Master
Plan
(161 in Service Area)

81 Assets
recommended
for Further
Analysis
(180 in Service Area)



Tributary to Cuyahoga River

Asset #: CU00129
Valley View Woods Park
Structural BRE= 21

Structural Integrity:

Damaged gabions,
heavy rust and pinholes
in CMP barrel, active
water infiltration,
undermined concrete at
outlet and deep scour
hole

Recommendation:

Further Analysis, Monitor (Annual), Notify Owner

SWIM Maintenance

2017 Summary



84 Maintenance projects

(236 in Service Area)

2,331 CY sediment and debris removed

(9,179 CY in Service Area)



Stormwater Maintenance

Cuyahoga River North: West Creek

Independence

Asset ID: WC00017

Maintenance Project: Large Woody Debris Removal (80 CY)



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Stormwater Maintenance

Cuyahoga River North: Mill Creek

Cleveland/Warrensville Heights

Asset ID: MC00117

Maintenance Project: Large Woody Debris Removal (35 CY)



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Stormwater Maintenance

Cuyahoga River North: Mill Creek

Independence

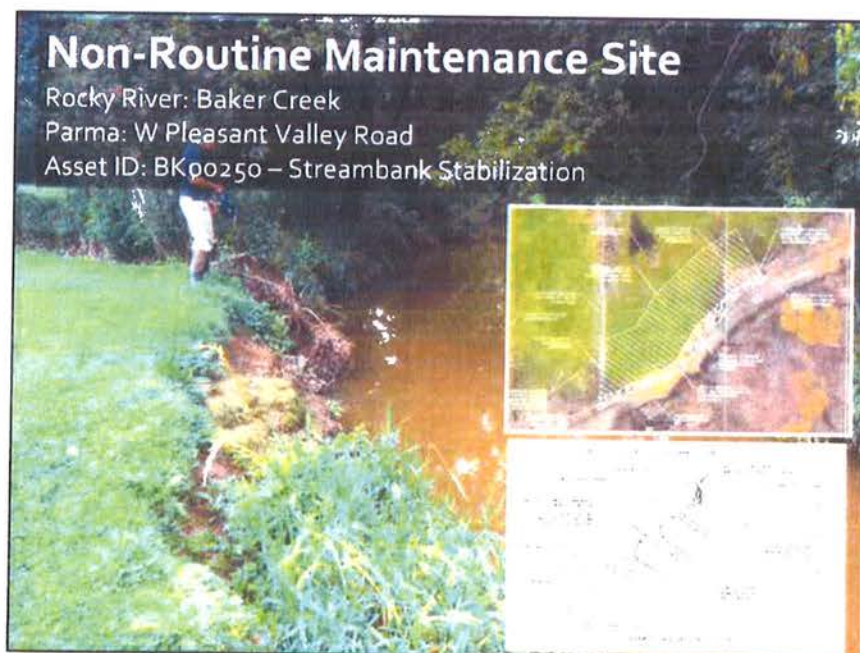
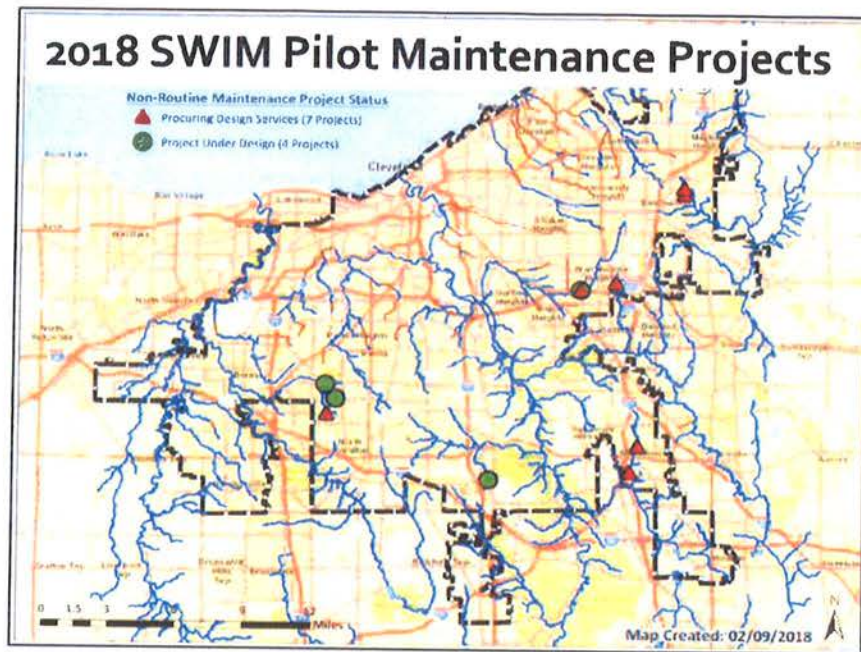
Asset ID: MC00043

Maintenance Project: Large Woody Debris Removal (28 CY)



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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

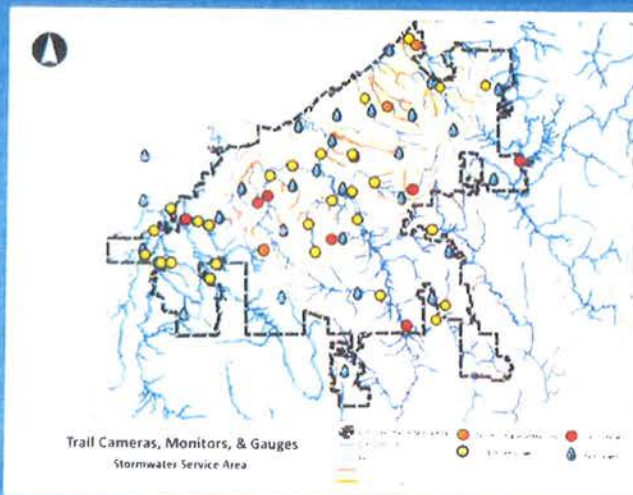
SWIM Long Term Monitoring

- 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

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SWIM Long Term Monitoring



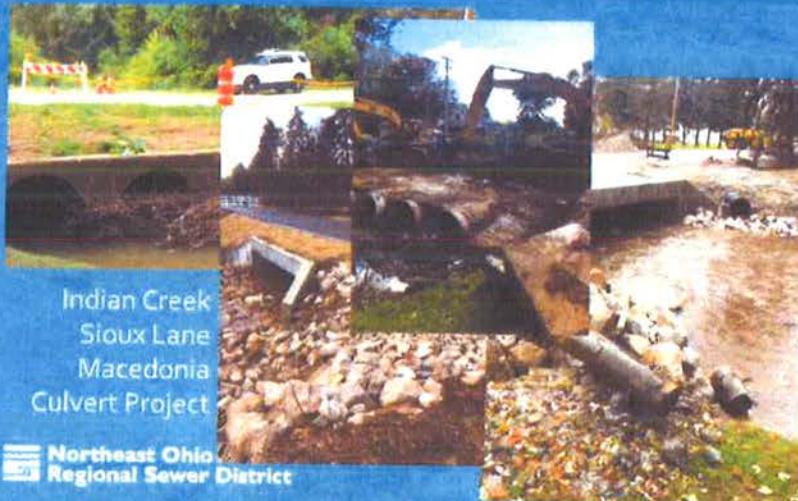
SWIM 2018 Planned Activities

- 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)

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Stormwater Construction Plan

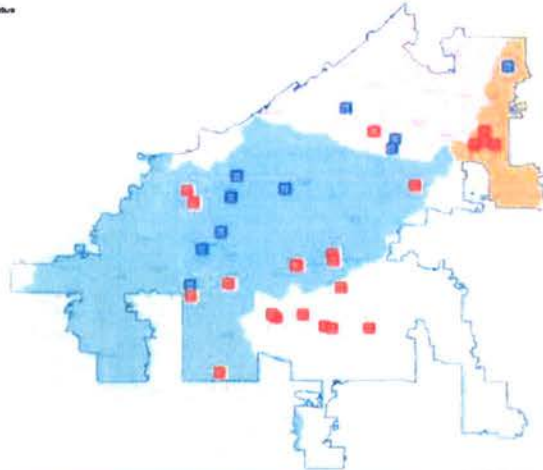


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2018 Stormwater Design and Construction Projects

Stormwater Project Status

Design
Construction



Stormwater Construction Completed

Cuyahoga River Towpath Bank Stabilization

Final Construction Cost: \$1,614,921.81

- 1,100 Feet of river bank stabilized to arrest erosion
- Used bioengineering techniques and native vegetation for habitat enhancement



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