cuyahoga SOIL&WATER conservation district

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Field Review
Technical Advisory Report
Long-Term Operation & Maintenance

Report Delivered: ☑

Site Name:	Chesapeake Drive - 035	**Report Date:**	2018-09-20
Location:	Facility 035	**Inspection Date:**	2018-09-07
Permit Holder:	Chesapeake HOA	**Reviewed By:**	Carla Regener, CPESC, CESSWI
Contact:	John Graven	**Site NPDES Number:**	N/A
Address:	18104 Heritage Trail Strongsville OH 44136	**Application No:**	N/A

Stormwater Control Measure Field Review of Conditions and Compliance Activities performed through a Memorandum of Understanding in accordance with Ohio Revised Code, Chapter 940 and North Royalton Codified Ordinances

Site Condition Summary

View of retention basin located north of Chesapeake Drive. Overgrown vegetation was observed at both the inflow and outflow for this basin. Erosion was occurring in the northeast corner of the basin.

Needed Maintenance Activity Details:

Please provide the appropriate contact and email address for future inspection reports to Carla Regener at cregener@cuyahogswcd.org.
As a stormwater control measure (SCM) owner/operator in the Northeast Ohio Regional Sewer District's (NEORSD) stormwater service area, you may be eligible for a stormwater fee credit. The credit is a conditional reduction in the NEORSD stormwater fee if an account holder takes measures to reduce the stormwater rate or volume and/or protect the water quality of runoff flowing from their property to the regional stormwater system. The credit can be obtained through continued use, operation, and maintenance of approved SCMs. To find out more details about the credit program and to apply for credit you can find details online at: https://www.neorsd.org/fee-credit/, or contact Chris Hartman with NEORSD at 216-881-6600 X6656.
See needed maintenance activity details below.

Additional Information:

Stormwater control measures (SCMs) are manmade structures that help reduce flooding by holding back and slowly releasing water during rain events. They include man-made retention ponds, dry detention basins, and underground detention devices. Sites with a constructed SCM are responsible for maintaining the structure. A guidance document has been compiled by local stormwater experts to assist private owners with inspection and maintenance and is available online at the following link:
http://www.neohiostormwater.com/uploads/3/0/9/8/3098302/compressed_scm_om_manual_final_8-21-15.pdf

Inflow Structure

View of inflow structure located along the southern edge of the basin.

View of inflow structure in the southeastern corner of the basin.

Up close view of damaged inflow pipe in the southeast.

View of inflow pile along the eastern edge of the basin.

View of additional inflow in the southeastern portion of the basin.

Needed Maintenance Activity Details:

Repair damaged infrastructure.
Ensure that inflow structures are kept clear of overgrown plants to minimize the blockage of flow.

Additional Information:

Inflow structures (pipes, culverts, curb cuts, etc.) direct stormwater runoff into stormwater control measures. These inflow structures can become clogged by overgrown plants, accumulation of sediment, floating trash and debris. A clogged inflow structure can result in erosion and blocked flow. Unclogging the inflow structure is relatively simple. Remove overgrown plants, accumulated sediment, and debris with a shovel, rake, a pole or your hand. Inspect inflow areas regularly as they can become clogged at any time.

Outlet Structure

View of outlet structure in the western portion of the basin.

Needed Maintenance Activity Details:

Ensure that outlet structures are kept clear of overgrown plants to minimize the blockage of flow.

Additional Information:

Outlets provide a path for water from stormwater control measures to the storm sewer or stream. The outlet structure is designed to slow down water and hold it back within the stormwater control measure during rain events. These outlets can become clogged by accumulation of sediment, floating trash and debris. A clogged outlet can result in loss of storage and flooding of unintended areas. Unclogging the outlet is relatively simple. Remove accumulated sediment and debris with a shovel, rake, a pole or your hand. Inspect the outlet regularly, it can become clogged at any time.

Invasive Aquatic Plants

View of algae within the basin.

Needed Maintenance Activity Details:

Remove accumulating algae to ensure proper function. This can be done by raking the surface of the water.

Additional Information:

Stormwater control measures can become overgrown with invasive plants without routine maintenance. The plants form a mat that thickens each year, reducing space in the basin for water detention. Narrowleaf cattails (typha angustifolia), Common Reed Grass (Phragmites), and Reed Canary Grass (Phalaris) form protective thickets which allow for mosquito breeding. Invasive plants can be controlled using physical or chemical methods. When chemical methods are preferred, please first refer to http://epa.ohio.gov/dsw/permits/GP_Pesticide.aspx. As with all plant management in stormwater control measures, any soil disturbance will need to be stabilized with seeding/uniform plant growth. Depending on the length of time the invasive plants have been growing, dredging of accumulated sediment may also be needed before seeding and stabilization.

Permanent Stabilization

View of erosion occurring in the northeastern corner of the basin.

Needed Maintenance Activity Details:

Stabilize eroding areas to prevent further erosion and sedimentation of the stormwater control measure.

Additional Information:

Permanent uniform plant cover and other protective measures (e.g. landscape mulching, turf reinforcement matting, rocks, etc.) stabilize soil and prevent soil loss. The land on site should be monitored to ensure there is always at least 70% uniform coverage of soil with plants or protective measures. In places where soil is bare and exposed to accelerated soil loss, steps should be taken to repair and/or re-seed and re-mulch. If plant cover is patchy and in need of repair, identify the cause of failure and take corrective actions (e.g. a soil fertility analysis and apply necessary lime and fertilizer while preparing the seedbed).

Trash and Debris

View of minor amount of trash within the basin.

Additional view of trash within the basin.

Needed Maintenance Activity Details:

Remove trash from the stormwater control measure as needed to ensure proper function and aesthetic quality.

Additional Information:

Excessive amounts of trash and plant debris can clog stormwater control measures and should be removed on a routine basis for proper function, safety, and aesthetic quality.

Emergency Spillway

View of emergency spillway located in the northeastern portion of the basin.

Needed Maintenance Activity Details:

Cut back vegetation annually to prevent the growth of woody vegetation (shrubs and trees) and ensure proper flow over the spillway during large storm events.

Additional Information:

Emergency spillways are a safe path for water to flow out of stormwater control measures during floods. The spillway needs to be kept clear of obstruction and debris. Emergency spillways need to be maintained with plant cover or other protective measures (e.g. turf reinforcement matting, rock, cement etc.) to prevent soil loss. Plants should be cut back annually from the emergency spillway to prevent trees and shrubs from blocking flow.

Sediment

Needed Maintenance Activity Details:

Wet (retention) basins are designed to catch and settle sediment to prevent it from traveling into nearby streams/sewer systems. Owners should budget for eventual dredging which typically is needed every 15-20 years.

Additional Information:

Stormwater control measures are designed to capture sediment and will need periodic sediment removal to maintain proper water storage volume. Sediment should be removed when the designed storage volume has been reduced by 25%, or the pond becomes nutrient enriched (e.g. excessive floating plants). Trapped sediment is usually clean enough for on-site use. However, laboratory analysis of sediment should be performed if the pond has received spills, is in a highly industrial area, or if the watershed has intensive traffic.

Comments:

Well planned, designed and constructed stormwater control measures remove pollutants, protect stream channels, and mitigate floods. To accomplish these goals and keep these features safe, aesthetic, and mosquito free, they must be maintained. Routine maintenance listed above should be performed to maintain stormwater control measure function.

Please feel free to contact Carla Regener (cregener@cuyahogaswcd.org), Storm Water Specialist, at the Cuyahoga SWCD if you have any questions.

CC:

Mark Schmitzer, City of North Royalton - Engineering

Robert Stefanik, City of North Royalton