

CITY OF ROCKY RIVER 2010 ANNUAL PROGRESS REPORT

ENVIRONMENTAL PROTECTION AGENCY ORDER

Docket No. V-W-09-AO-11

NPDES Permit OH0030503

January 20, 2011

The United States Environmental Protection Agency's (USEPA) Administrative Order, dated September 29, 2010, revised April 27, 2010, required the City of Rocky River under paragraph 25 to submit an annual progress report conveying the following information:

"25(a) Respondent's progress on the projects described in the SSES implementation schedule, including specific references to the projects in that schedule. Respondent must identify any deficiencies and all steps that have been taken to correct the deficiencies."

Progress of Sewer System Evaluation Study (SSES):

On October 22, 2010, the City of Rocky River submitted as required by the USEPA Order, a Sewer System Evaluation Study (SSES) schedule and work plan developed in-part by the consultant URS Corporation, Ohio. The City is currently waiting for comment from the USEPA, Region 5 on the work plan. The following is work that was completed to assist with the development of the work plan:

CITY WIDE FLOW MONITORING

The City of Rocky River owns and maintains the separate storm and sanitary sewer collection systems within the city. The city's sanitary sewage is conveyed to the Rocky River Wastewater Treatment Plant via an interceptor sewer network. Heavy rains in the past have caused Sanitary Sewer Overflows (SSO's) at 3 locations in the City. The United States Environmental Protection Agency (USEPA) has imposed Findings and Orders (F&O) upon the City to remove the overflows which discharge to waters of the state.

As a first step in the response to the USEPA F&O, the City of Rocky River retained URS Corporation to develop an action plan. The plan included a schedule of immediate, short and long term action items. One of the recommended action items was to conduct a comprehensive sanitary sewer flow monitoring program throughout the entire collection system. This was also a requirement of the F&O to monitor all pipes 18" and larger between February 15, 2010 and September 30, 2010. URS suggested that the flow monitoring be conducted during between the Spring and Summer months to record wet weather events. All equipment was installed by June 17, 2010 and was removed by September 20, 2010.

The project Scope involved the installation of 22 flow monitoring devices to monitor flows in 13 of the City's 14 sanitary sewersheds throughout the sanitary collection system for a period of 90 days. The 14th sewershed flows east, directly into the City of Lakewood's collection system and eventually to the Lakewood WWTP for treatment. During the same 90-day time period, precipitation data was recorded at 2 locations in the City using portable rain gauges with remote data recorders.

FLOW METER DESCRIPTION AND CONFIGURATION

URS utilized American Sigma Model 910 and 920 flow meters for this project. The 910 and 920 meters are equipped with a submerged area/velocity pressure transducer sensor to measure the depth of the liquid in the sewer. The depth of liquid is converted into a cross sectional area (A) based on the size and shape of the pipe. The submerged area/velocity sensor uses Doppler technology to measure the velocity (V) of the liquid in the sewer. From these two measurements a flow (Q) can be calculated ($Q = A * V$). The flow meters were programmed to collect level and velocity readings every 10 minutes. Flow data was collected weekly by URS personnel using American Sigma "Insight" (V 4.2) computer software installed on a laptop computer. Data was analyzed using American Sigma "Insight" (V5.7) and American Sigma "Vision 2000" (V 3.01-4.10) computer software programs.

RAIN AND FLOW SUMMARY

As noted above, to isolate and segment flows into geographical drainage areas, the City was divided into 14, 13 of which were monitored. sanitary sewersheds. The remaining nine flow monitoring devices were used to subtract out flows entering the Rocky River collection system from the Cities of Fairview Park and Bay Village. A flow meter was placed in the sanitary sewer pipe at the downstream end of each sewershed. Flows in the sewers were recorded every 10 minutes during wet and dry weather. The wet and dry weather flows for each sewershed were compiled into tables and compared to each other. Flows during the two major rainfall events recorded during the monitoring period were analyzed and each sewershed was ranked according to the magnitude of increased flows during the rain events. The greater the ratio between wet weather flow as compared to the dry weather flow, the higher the ranking. The major rain events occurred on August 21, 2010 (1.0") and September 16, 2010 (1.4").

The Sewersheds are ranked as follows:

- ◆ YEAR ONE (HIGHEST PRIORITY) SEWERSHEDS WITH KNOWN SSOs
 - Sewershed 5 – Lake Road east of Falmouth
 - Sewershed 4 – Upstream of Beachcliff Pump station
 - Sewershed 12 - Westway east of Northview (Hampton/Lakeview)

- ◆ YEAR TWO (HIGH PRIORITY) SEWERSHEDS

- Sewershed 13 – Spencer Interceptor south of Center Ridge Road
- Sewershed 11 – Hilliard Blvd. east of Spencer Creek
- Sewershed 2 – Old Elmwood Sewer at WWTP
- Sewershed 14 – East of Bohlken Park (Wooster Road south)

◆ YEAR THREE (MODERATE PRIORITY) SEWERSHEDS

- Sewershed 3 – Lake Road east of WWTP
- Sewershed 9 – East Detroit and North Wooster Roads
- Sewershed 7 – T-Track Interceptor near WWTP

◆ YEAR FOUR (LOW PRIORITY) SEWERSHEDS

- Sewershed 8 – T-Tracks east of Morewood Pkwy.
- Sewershed 6 – Spencer Interceptor near WWTP
- Sewershed 1 – Lake Road west of WWTP

“25(b) Respondent’s progress in implementing the CMOM program once approved and incorporated into this Order.”

Progress of the Capacity, Management, Operation and Maintenance (CMOM) Program:

On October 22, 2010, the City of Rocky River submitted as required by the USEPA Order, a CMOM schedule and program manual. The City received the approval from the USEPA for the CMOM program in a letter dated December 30, 2010. The City is currently implementing the approved CMOM program. All work completed in the implementation of the CMOM program will be included in the 2011 Annual Progress Report.

“25(c) An inventory of all SSOs from the Respondent’s sewers from the previous year, identifying the dates, sources, estimated volumes, receiving waters and principal pollutants contained in the discharges. Respondent must also issue a press release informing the public of the availability of the inventory and make the inventories available on its principle webpage.”

Inventory of all Sanitary Sewer Overflows (SSOs) within the City of Rocky River's sewer system during 2010 including date of events, location, volume, receiving water and principal pollutant test results:

Date of SSO event	Location	Volume Million Gallons	Receiving Water
3/23/2010	Beachcliff and Falmouth (ID 302)	0.03713	Lake Erie
3/23/2010	Westway and Magnolia (ID 306)	0.08203	Spencer Creek
4/25/2010	Beachcliff and Falmouth (ID 302)	0.01248	Lake Erie
4/25/2010	Westway and Magnolia (ID 306)	0.0072	Spencer Creek
5/7/2010	Beachcliff and Falmouth (ID 302)	0.0162	Lake Erie
5/7/2010	Avalon and Falmouth (ID 303)	0.0008	Lake Erie
5/7/2010	Westway and Magnolia (ID 306)	0.0039	Spencer Creek
5/14/2010	Beachcliff and Falmouth (ID 302)	0.02586	Lake Erie
5/14/2010	Westway and Magnolia (ID 306)	0.0113	Spencer Creek
6/6/2010	Beachcliff and Falmouth (ID 302)	0.01504	Lake Erie
6/6/2010	Avalon and Falmouth (ID 303)	0.00058	Lake Erie
6/6/2010	Westway and Magnolia (ID 306)	0.07106	Spencer Creek
6/22/2010 **	Beachcliff and Falmouth (ID 302)	0.004	Lake Erie
7/9/2010 **	Westway and Magnolia (ID 306)	0.00962	Spencer Creek
7/12/2010	Beachcliff and Falmouth (ID 302)	0.05269	Lake Erie
7/12/2010	Westway and Magnolia (ID 306)	0.02484	Spencer Creek
7/17/2010	Beachcliff and Falmouth (ID 302)	0.0162	Lake Erie
7/17/2010	Avalon and Falmouth (ID 303)	0.0001	Lake Erie
7/17/2010	Westway and Magnolia (ID 306)	0.00337	Spencer Creek
7/28/2010	Beachcliff and Falmouth (ID 302)	0.01886	Lake Erie
7/28/2010	Westway and Magnolia (ID 306)	0.03489	Spencer Creek
8/12/2010	Beachcliff and Falmouth (ID 302)	0.00698	Lake Erie
8/21/2010	Beachcliff and Falmouth (ID 302)	0.0006	Lake Erie
8/21/2010	Westway and Magnolia (ID 306)	0.00448	Spencer Creek
9/16/2010	Beachcliff and Falmouth (ID 302)	0.05414	Lake Erie
9/16/2010	Avalon and Falmouth (ID 303)	0.00253	Lake Erie
9/16/2010	Westway and Magnolia (ID 306)	0.03934	Spencer Creek
9/28/2010	Beachcliff and Falmouth (ID 302)	0.025	Lake Erie
10/3/2010	Beachcliff and Falmouth (ID 302)	0.13363	Lake Erie
10/3/2010	Avalon and Falmouth (ID 303)	0.00206	Lake Erie
10/3/2010	Westway and Magnolia (ID 306)	0.00218	Spencer Creek
10/26/2010	Beachcliff and Falmouth (ID 302)	0.00138	Lake Erie
11/25/2010	Beachcliff and Falmouth (ID 302)	0.01347	Lake Erie
11/30/2010	Beachcliff and Falmouth (ID 302)	0.0173	Lake Erie
11/30/2010	Westway and Magnolia (ID 306)	0.0004	Spencer Creek

**** PRINCIPAL POLLUTANTS IN 2 SAMPLED EVENTS**

Date of SSO Event	Location	Volume MG	Suspended Solids	CBOD5	Phosphorus	Nitrogen Ammonia	E. coli
6/22/2010	Beachcliff @ Falmouth ID 302	0.004 MG	72 mg/l	67 mg/l	3.51 mg/l	7.84 mg/l	Too Numerous to count
7/9/2010	Westway @ Magnolia ID 306	0.00962 MG	200 mg/l	73 mg/l	1.87 mg/l	4.49 mg/l	Too Numerous to count

All above recorded sanitary sewer overflows occurred during wet weather (rain and/or snow melt) events due to excessive infiltration and inflow (I&I) within the City of Rocky River sewer system. The City of Rocky River has implemented a long term maintenance and rehabilitation program to clean, repair and improve the sewer system and reduce I & I and sanitary sewer overflows.

All sanitary sewer overflows have been reported to the United States Environmental Protection Agency Region 5, the Ohio Environmental Protection Agency and the Cuyahoga County Board of Health as required by the Order and the Ohio EPA NPDES Permit 3PE00009*JD issued to the Rocky River Wastewater Treatment Plant.