

COMBINED SEWER SYSTEM OPERATIONAL PLAN 2019 COMBINED SEWER OVERFLOW ANNUAL REPORT

A. Introduction

This report is being submitted by the City of Elyria Wastewater Pollution Control (WWPC) Department to fulfill requirements outlined in the Combined Sewer Overflow (CSO) Operational Plan as submitted to Ohio EPA in November of 1996, the Long Term CSO Control Plan as submitted to Ohio EPA on June 26, 1998, the City's NPDES permit 3PD00034*LD, and the US EPA regulations in 40 CFR 122.38 pertaining to public notification requirements for CSO discharges to the Great Lakes Basin, which became effective on November 7, 2018. The period covered by this report includes January 1, 2019 through December 31, 2019.

B. Program Overview

The City of Elyria is in compliance with all recommendations outlined in the Nine Minimum Controls, Combined Sewer System Operational Plan, and the Long Term Combined Sewer Operation Plan (LTCSOP) documents. Accordingly, and as required in Part II E of the City's NPDES permit, the Department is responsible for:

1. Inspection of 5 of the 27 combined sewer overflow (CSO) locations, performed on a rotating basis, during wet weather events when the wastewater treatment plant reaches a total influent flow rate of 30 million gallons per day (MGD) during the rain event. The purpose of these inspections is to note whether or not CSOs are overflowing to storm sewer pipes that ultimately discharge to the Black River. In the event that an overflow is occurring, a grab sample is taken from the storm discharge pipe. The sample is taken to the wastewater plant laboratory for total suspended solids (TSS) and five-day carbonaceous biochemical oxygen demand (CBOD5) analyses and the results are reported to Ohio EPA in the monthly electronic Discharge Monitoring Reports (eDMR). Whenever a CSO location is observed to be overflowing, the initial and supplemental public notifications are sent out as per 40 CFR 122.38.
2. Post-rain inspections, after rain events that cause the wastewater treatment plant total influent flow rate to exceed 30 MGD, performed at certain CSO locations that either historically overflow at higher frequencies, or have tendencies to plug with debris, such as leaves, grass clippings, twigs and litter. When debris is observed in the channel or if the level in the channel appears to be abnormally high, (indicating a possible partial plug downstream of the manhole) the sewer crew is notified, the debris is removed and the combined sewer is cleaned. The list of post-rain CSO locations is evaluated annually by department personnel. Additional CSO locations may be added to this list at anytime during the year, if deemed necessary. The current list of post-rain inspection locations is provided at the end of this report.
3. Monthly dry-weather inspections of all CSO regulators are performed to identify those

regulators and combined sewers which may need cleaning prior to the development of a problem. Even partial plugging of combined sewers may cause sewage to back up and result in an unnecessary overflow during minimal rain events. If any unusual observations are made at a CSO location, the sewer maintenance crew is called to jet-clean the combined sewer. Dry-weather overflows are not permitted. Whenever a dry-weather overflow is observed, a sample is obtained, if possible, from the storm side of the regulator and is sent to the wastewater plant lab for appropriate analyses per the City's NPDES permit. In addition, the sewer maintenance crew is contacted immediately to clean the combined sewer and regulator to stop the overflow from occurring. The wastewater treatment plant Superintendent and collection system Managers are also immediately notified of the dry-weather overflow. Either the Superintendent or the collection system Managers will notify the Division of Surface Water at Ohio EPA's Northeast District Office in Twinsburg, Ohio by phone and will follow up with an email and written letter describing the event. The initial and supplemental public notifications would also be sent out as per 40 CFR 122.38.

4. Evaluation of all CSO regulators to identify regulators in need of repair. These evaluations are performed during the monthly dry-weather inspections. A list of recommended repairs is sent to the wastewater treatment plant Superintendent and the City Engineer. All repairs to the regulators are made by a contractor through the City Engineer's Office, upon notification.
5. Develop a sampling program for different locations on the Black River in the event that excessive fecal coliform levels are observed upstream of the wastewater treatment plant. In accordance with the current NPDES permit, plant personnel test the Black River upstream of the plant outfall for fecal coliform bacteria during the months of May through October. The department has identified numerous sampling locations on the East and West branches of the Black River and on the main stem of the river after the confluence in the event that such sampling is required. If high fecal coliform levels are detected at any of these sampling locations, samples are taken upstream of that location to identify the source of contamination and corrective actions are taken.
6. Post and maintain signs at public access points and sensitive areas on the Black River that could be potentially impacted by discharges from combined sewer overflows. The only potential access points to the Black River in Elyria are at the bridges over the river, Cascade Park, and Elywood Park. Signs are posted at these locations to warn the public that combined sewer overflows exist upstream and downstream of those areas. Additional signs are posted on streets that dead-end on the east and west branches of the river. The area from the dead-end of the streets to the river is private property. The signs are posted at the dead-end to warn residents who live on those streets. City ordinance 521.11 prohibits swimming in the Black River at all times within the corporation limits of the City. A sign referencing this ordinance is posted with each CSO warning sign. There is also a canoe and kayak launch at Bur Oak Park north of Elyria in Sheffield Township. This was identified as a potential sensitive area and a CSO warning sign is posted and maintained at this location as well. Bur Oak Park is part of the Lorain County Metro Parks system. The Lorain County Metro Parks also

have laws prohibiting swimming in the river throughout their park system. Cascade Park, Elywood Park, and Bur Oak Park have been identified as potential sensitive areas. All signs are compliant with the requirements in 40 CFR 122.38. They are inspected periodically and replaced as needed. A list of sign locations is provided at the end of this report.

7. Provide a method to notify the local public health agency, residents, and any interested parties whenever combined sewer overflows are active, as per 40 CFR 122.38. The Initial notification must be made within four hours of becoming aware of an active CSO overflow and must contain information, including the date and time the overflow started, location of the discharge, water body receiving the discharge, public access areas potentially impacted, and contact information. A Supplemental Notification must also be provided within seven days after the overflow has ended. The purpose of the supplemental notification is to provide information concerning the estimated volume and duration of the overflow, as well as the amount of precipitation received that contributed to the overflow. The City has developed a CSO Public Notification email list for these notifications. Residents, interested parties and agencies can sign up to be on the email list by sending an email request to the Wastewater Plant Superintendent at tkorzan@cityofelyria.org. Data pertinent to this section is provided at the end of this report. The City's CSO Public Notification Plan is available on the Wastewater Department page of the City's website at <http://www.cityofelyria.org/departments/wastewater/combined-sewer-overflow/>.

C. 2019 Data Review

1. In 2019, there were 26 rain events that caused the wastewater treatment plant to reach a flow rate of at least 30 MGD. During these 26 rain events, 130 CSO locations were inspected. Wet-weather overflows were observed for 7 inspections (5%). The average maximum treatment plant flow rate for these events was 51 MGD, and the average duration of elevated treatment plant flow for these events was 5 hours. The average CBOD₅ and TSS measured in the CSO overflow grab samples were 5 mg/L and 92 mg/L, respectively. Please refer to the attached 2019 CSO data sheets at the end of this report.
2. In 2019, all of the CSO locations were inspected monthly during dry-weather. Of the 324 inspections, there were no dry weather overflows.
3. All of the CSO regulators were evaluated during 2019 and all remain in excellent condition. There were no repairs required in 2019.
4. None of the CSO locations have built-in devices for partial treatment of overflows. The older designs of the regulators and the outgoing storm pipes are not currently amenable for such devices.
5. Upon review of the data from 2019, the following CSO locations were identified as requiring follow-up inspections after significant rain events due to weir design,

having a higher frequency of overflow, or a tendency to accumulate debris in the channel:

ID# LOCATION:

160 Howe Street @ East Avenue
146 West Avenue @ 9th Street
133 Lake Avenue @ Tremont Street
170 East Avenue @ Depot Street
164 1241 East Avenue

6. There are currently no combined sewers that convey wastewater from significant industrial users.
7. The fecal coliform data for the sampling station upstream of the wastewater treatment plant outfall indicated that there was one incident of a high fecal coliform count on July 16, 2019. While it could not be proven definitively, we believe the source of the elevated fecal coliform was a storm water retention pond with stagnant water that was being drained to a storm ditch and, ultimately to the Black River. Draining of the pond was stopped and subsequent testing on the river showed normal levels of fecal coliform.
8. The wastewater department continues to provide pollution prevention information to the community via the local government cable television channel, the City web site (www.cityofelyria.org), by handing out fliers during the Elyria Apple Festival, through Lorain County Solid Waste District functions, and through local radio station and newspaper advertisements. This information discusses litter control, the proper disposal of grass clippings and leaves, and reasons for not dumping or placing anything into catch basins. Information is also provided regarding the proper disposal of cooking grease, personal and baby wipes, diapers, feminine hygiene products, paper towels, household hazardous waste products, and other such items. A separate advertising campaign was launched to instruct residents, agencies and other interested parties how to receive public notification emails whenever combined sewer overflows are found to be active. Anyone interested in receiving these public notification emails can send an email request to the Superintendent of the Elyria Wastewater Pollution Control Plant at tkorzan@cityofelyria.org. The Wastewater Plant Superintendent continues to arrange for annual plant tours for the local Middle Schools, civic groups or residents who want to tour the plant. Many times residents will call the plant directly to ask questions or express concerns and will be provided any information they require. The City of Elyria continues to maintain the current street sweeping program, placing extra emphasis on the combined sewer areas in order to minimize road grit and solids from entering the combined and storm sewers during rain events. The Elyria Sanitation Department operates a recycling program with the Lorain County Landfill for items such as, newspapers, magazines, cardboard, food and beverage cans and bottles. Barnes Nursery has a drop-off station located

at 45 Chestnut Street where residents can drop off yard waste for recycling at no cost to residents. Brown paper yard bags can be picked up at City Hall, the Sanitation Department, or at the drop-off center.

The Wastewater Department performs a variety of additional tasks to comply with the nine minimum controls for CSOs and the Operational and Long Term Control Plans, which help minimize activation of overflows. These tasks include:

- 1) Maintaining a grease trap inspection program to verify that restaurants, industries, church halls and other social clubs/organizations are maintaining their grease traps and interceptors with a frequency that will prevent grease from entering the sanitary sewer system. Restaurant owners and personnel are educated on the importance of preventing grease from entering the sewer, the negative impacts that grease buildups can have on the proper functioning of the sewer systems, and on the proper maintenance of their grease traps. Any facility that is found to have excessive grease in the effluent of the grease trap or interceptor is issued a Notice of Violation and fined a minimum of \$100.00. Chronic violations result in escalated enforcement by the City of Elyria Water Pollution Control Board.
- 2) Increased cleaning frequencies of the sanitary sewer collection system in the Midway Mall area and other areas in the city where there are numerous restaurants concentrated that discharge to a particular main in the sanitary sewer collection system. The increased cleaning helps to prevent problems and maximizes the use of the collection system.
- 3) Frequent cleaning of the smaller siphons in the sanitary sewer collection system to ensure that the siphons are flowing efficiently, preventing backups of sewage in these areas and maximizing the use of the collection system.
- 4) Cleaning and televising the sanitary and combined sewers. The combined sewers on the City's South side are cleaned on a more frequent basis due to the accumulation of grit in these sewers. Keeping both the sanitary and combined sewers clean decreases the probability of plugs in these sewers and maximizes the capacity of the sewers, preventing sewage backups and overflows.
- 5) Cleaning and televising the area storm sewers while cleaning the sanitary sewers. Keeping the storm sewers open and in good repair reduces the ponding of water on the ground, which reduces infiltration of storm water into the sanitary sewers.
- 6) Following a rotational schedule for cleaning the tops of catch basins throughout the year. All catch basin tops are cleaned several times in a typical year. The storm pipes from the catch basins are cleaned while cleaning the sanitary and storm sewers in the area.
- 7) Handing out the Water Environment Federation (WEF) brochures for proper disposal of grease and wipes in residential areas whenever collection system maintenance

crews find high levels of grease or the presence of wipes in the sanitary and combined sewers.

A status update on all of the nine minimum controls for CSOs is provided at the end of this report.

Construction continued on the 78-inch diameter East Side Relief Sewer throughout 2019. This sewer is being constructed as a wet weather relief sewer, and will take excess flows during rain events and relieve some of the burden on existing sewers. Significant progress on construction had already been made, with Phases 1a, 1b-North, 1b-South, and 1-c, taking the sewer from the Wastewater Pollution Control Plant property, south on Gulf Road and East down Whitman Blvd., past Belmar Court. Phase 1c was initiated in 2019, taking the sewer to the intersection of Abbe Road and Howard Street. In 2020, the City expects to continue with Phase 1c and proceed with Phase 1CT, taking the sewer under the Ohio Turnpike and State Route 57, then south on Bon-Air Street to Poplar Street.

Construction of the East Avenue Relief Sewer started in October of 2017. This relief sewer consists of twin, side-by-side 72" diameter sewer pipes installed at a depth of approximately 25 feet on East Avenue, extending from 4th Street to 5th Street. The diameters reduced to 60-inches between 5th Street and 6th Street, and the pipe diameters further reduced to 48-inches going south from 6th Street. This sewer was constructed as a partial replacement sewer for some of the older existing sewers on East Avenue and also functions to store wet weather flows during rain events. This project is helping to control CSOs in the East Avenue area. Consistent with the City's integrated planning efforts, this project incorporated green infrastructure elements by including the construction of bioswales along East Avenue to reduce storm water inflow into the combined sewer system and improve water quality. This project was moved up on the wet weather plan projects list to coincide with needed street improvements and was completed in September of 2018.

The reversal of the Cascade Siphon has taken a large burden off of the Washington Avenue and Gulf Road portions of the existing East Side Interceptor by diverting wet weather flow to the larger diameter West Side Interceptor. This has reduced the number and volume of overflows and basement backups in the Washington Avenue and downstream areas during wet weather. Lift Station maintenance personnel continue to inspect the gate at the siphon head chamber to provide assurance that the gate opening is accurately set and will function properly during wet weather events.

In accordance with requirements of the city's NPDES permit, the City has prepared and submitted to Ohio EPA a Comprehensive Sewer Overflow Control Plan (the Comprehensive Plan). The Comprehensive Plan provides an integrated wet weather approach that addresses overflows, bypasses at the wastewater treatment plant, improvements to remove storm water from the sanitary and combined sewer systems, and public notification and participation. Since the Comprehensive Plan was submitted

to Ohio EPA in 2011, the City has been actively participating in its review and evaluation with both Ohio EPA and US EPA. Throughout this period, the city has also proceeded with selected components of the plan, with the concurrence of Ohio EPA and US EPA.

For additional information concerning this report, please contact:

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Wastewater Pollution Control
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CSO INSPECTION POLICY

A. DRY WEATHER INSPECTIONS

1. All current combined sewer overflow locations will be inspected at least once a month. It cannot be raining during these inspections and the plant influent flow rate must be less than 8 MGD. It will be noted whenever:
 - there is an active overflow
 - the flow in the channel is higher than usual
 - there is debris that could obstruct the flow of sewage
 - diversions, valves, etc. need to be repaired
 - any other situation exists that is out of the ordinary
2. The CSO Inspection Notes Form will be used to log the CSO location, date, and pertinent remarks. If a location is clean and well maintained, record "OK" under remarks.
3. Inspection notes will be kept on file in the office of the Collection System Managers.
4. Whenever a dry weather overflow situation exists, a grab sample must be taken at the overflow location on the storm side of the regulator. The sewer crew must be contacted immediately to clean the sewer line upstream and downstream from the overflow manhole. The grab sample will be tested by the lab for CBOD₅ and total suspended solids. The duration, volume, and number of occurrences per month will also be recorded. The Wastewater Plant Superintendent and Collection System Managers will be notified immediately whenever a dry weather overflow is discovered so that timely notifications can be made to Ohio EPA and to the CSO public notification email list.
5. In the event of a dry-weather overflow, the Plant Superintendent or Collection System Managers will call Ohio EPA, Northeast District Office (800-686-6330) to notify them of the overflow and follow up with an email and written letter.

B. WET WEATHER INSPECTIONS

1. When the wastewater treatment plant total raw sewage flow rate reaches 30 MGD during a rain event, the plant operators will notify the appropriate personnel as soon as possible, no matter what time of day or night.
2. Department personnel will immediately go out and inspect a minimum of 5 CSO locations during each storm event according to the rotating schedule, as per the City's NPDES permit.
3. Whenever a CSO location is actively overflowing the weir, a grab sample will be obtained from the overflow storm pipe. Sampling should be done within the first 30

minutes of discharge.

4. In the Wet Weather CSO Log Book, list the date, the five locations, the time of arrival at each, and record "Dry" or "Overflow". In the event of an overflow, estimate the height of the water overflowing the weir to the storm pipe, if possible, and record in the log book. Estimated volumes will later be calculated using the weir length, diameter and slope of the pipe, and Manning's Equation.
5. Samples obtained from overflows will be taken to the lab for analysis for CBOD₅ and suspended solids. The estimated duration, estimated volume, and number of occurrences per month will be recorded.
6. The initial CSO public notification email must be sent out within 4 hours of becoming aware of an active CSO.
7. Wet weather overflow activity will be detailed in the electronic Daily Monitoring Report (eDMR) that is sent to Ohio EPA.

C. POST RAIN CSO INSPECTIONS

1. Post rain CSO locations will be inspected after a rain event that results in a wastewater treatment plant influent flow rate of 30 MGD or greater. These inspections are to be done on the next regular work day after the rain event, and when the total plant influent flow rate is less than 8 MGD.
2. The CSO Post Rain Event Inspection Form will be used to record notes in the same manner as for the dry weather inspections detailed above.
3. Notify the sewer collection crew whenever debris has accumulated in the channel of a CSO location or whenever the flow in the channel appears to be higher than usual so that the combined sewer can be cleaned before a complete plug develops in the line resulting in a dry-weather overflow.
4. In the event that a dry weather overflow is discovered, collect a sample from the storm side of the regulator for submission to the lab for TSS and CBOD₅ testing. Contact a collection system Manager immediately to have the combined sewer and regulator jet-cleaned to eliminate the dry weather overflow. Estimate the duration and volume of the overflow. Notify the Wastewater Plant Superintendent or the Collection System Managers so that timely notifications can be made to Ohio EPA and to the CSO public notification email group, as detailed above.

D. REPORTING

1. All CSO wet-weather inspection data and dry weather overflow data, if any, will be reported to Ohio EPA in the monthly electronic Daily Monitoring Report (eDMR).

2. All CSO data and other pertinent information for a calendar year will be reported in the Annual CSO Report. The annual report is sent to Ohio EPA's Northeast District Office and Central Office. The report will also be posted to the Wastewater Department page of the City of Elyria website at www.cityofelyria.org. A link to the report will be provided to US EPA as per 40 CFR 122.38. A notification email will be sent to the CSO Public Notification email group advising the interested parties and agencies that the annual report has been posted and a link to the web page will be provided in the email.

ELYRIA COMBINED SEWER OVERFLOW LOCATIONS

Sampling Station	ID Number	Description	Latitude	Longitude	Receiving Water
3PD00034006	102	Columbus St. @ St. Claire St.	41° 22' 23"	82° 06' 13"	E. Br. of Black River
3PD00034007	103	Washington Ave. north of bridge	41° 22' 08"	82° 05' 22"	E. Br. of Black River
3PD00034008	104	Washington Ave. @ Depot St.	41° 22' 04"	82° 06' 23"	E. Br. of Black River
3PD00034011	120	Dewey Ave. @ Lorain Blvd.	41° 22' 40"	82° 07' 03"	Black River
3PD00034012	121	Bond St. @ Jefferson Alley	41° 22' 50"	82° 07' 14"	Black River
3PD00034013	130	Furnace St. @ Florence Ct.	41° 22' 35"	82° 06' 42"	Black River
3PD00034015	133	Lake Ave. @ Tremont St.	41° 22' 16"	82° 06' 40"	E. Br. of Black River
3PD00034016	142	Fourth St. @ West Ave.	41° 21' 51"	82° 06' 37"	W. Br. of Black River
3PD00034018	145	West Ave. @ Elyria H.S.	41° 21' 45"	82° 06' 37"	W. Br. of Black River
3PD00034019	146	West Ave. @ Ninth St.	41° 21' 30"	82° 06' 38"	W. Br. of Black River
3PD00034020	150	East Ave. @ Fourth St.	41° 21' 50"	82° 06' 14"	E. Br. of Black River
3PD00034021	152	Fifth St. @ East Ave.	41° 21' 46"	82° 06' 14"	E. Br. of Black River
3PD00034022	153	East Ave. @ Sixth St.	41° 21' 42"	82° 06' 14"	E. Br. of Black River
3PD00034025	158	Ninth St. @ East Ave.	41° 21' 30"	82° 06' 15"	E. Br. of Black River
3PD00034026	159	Gates Ave. @ East Ave.	41° 21' 27"	82° 06' 15"	E. Br. of Black River
3PD00034027	160	Howe St. @ East Ave.	41° 21' 21"	82° 06' 15"	E. Br. of Black River
3PD00034028	161	East Ave. @ George St.	41° 21' 21"	82° 06' 15"	E. Br. of Black River
3PD00034029	162	230 Wooster St.	41° 21' 19"	82° 06' 20"	E. Br. of Black River
3PD00034030	163	Wooster St. @ East Ave.	41° 21' 19"	82° 06' 16"	E. Br. of Black River
3PD00034031	164	1241 East Ave.	41° 21' 15"	82° 06' 15"	E. Br. of Black River
3PD00034032	170	East Ave. @ Depot St.	41° 22' 05"	82° 06' 14"	E. Br. of Black River
3PD00034034	172	Holly Lane @ East Ave.	41° 21' 53"	82° 06' 14"	E. Br. of Black River
3PD00034035	180	Third St. @ Chestnut St.	41° 21' 55"	82° 06' 41"	W. Br. of Black River
3PD00034036	181	Second St. @ Water St.	41° 21' 59"	82° 06' 51"	W. Br. of Black River
3PD00034037	182	Broad St. @ Water St.	41° 22' 04"	82° 06' 53"	W. Br. of Black River
3PD00034038	191	Buckeye St. @ East River St.	41° 22' 07"	82° 05' 47"	E. Br. of Black River
3PD00034044	151	East Ave. 4 th St. Siphon Chamber	41° 21' 50"	82° 06' 13"	E. Br. of Black River

CSO RAIN EVENT ROTATION LIST		
STATION	NUMBER	LOCATION
3PD00034006	102	Columbus Street @ St. Clair Street
3PD00034007	103	Washington Avenue, North of bridge
3PD00034008	104	Washington Avenue @ Depot Street
3PD00034020	150	East Avenue @ 4th Street
3PD00034032	170	East Avenue @ Depot Street
3PD00034012	121	Bond Street @ Jefferson Alley
3PD00034011	120	Dewey Avenue @ Lorain Blvd.
3PD00034013	130	Furnace Street @ Florence Court
3PD00034015	133	Lake Avenue @ Tremont Street
3PD00034035	180	3rd Street @ Chestnut Street
3PD00034030	163	Wooster Street @ East Avenue
3PD00034029	162	Wooster Street (middle of block - 230)
3PD00034031	164	1241 East Avenue
3PD00034028	161	East Avenue @ George Street
3PD00034027	160	Howe Street @ East Avenue
3PD00034019	146	West Avenue @ 9th Street
3PD00034018	145	West Avenue @ Elyria High School
3PD00034016	142	West Avenue @ 4th Street
3PD00034036	181	2nd Street @ Water Street
3PD00034037	182	Braod Street @ Water Street
3PD00034032	170	East Avenue @ Depot Street
3PD00034034	172	Holly Lane @ East Avenue
3PD00034031	164	1241 East Avenue
3PD00034021	152	5th Street @ East Avenue
3PD00034025	158	9th Street @ East Avenue
3PD00034038	191	Buckeye Street @ East River Street
3PD00034044	151	East Avenue/4th Street Siphon Chamber
3PD00034026	159	Gates Avenue @ East Avenue
3PD00034015	133	Lake Avenue @ Tremont Street
3PD00034022	153	East Avenue @ 6th Street

Post Rain CSO Check List

Inspections shall be done when flow gets below 8 MGD

<u>Number</u>	<u>Location</u>	<u>Date</u>	<u>OK</u>	<u>Initials</u>	<u>Remarks</u>
133	Lake Ave. @ Tremont St.		<input type="checkbox"/>		
146	West Ave. @ 9 th St.		<input type="checkbox"/>		
160	Howe St. @ East Ave.		<input type="checkbox"/>		
164	1241 East Ave.		<input type="checkbox"/>		
170	East Ave. @ Depot St.		<input type="checkbox"/>		

Monthly Dry Weather CSO Check List

Month: _____ Year: _____

	<u>Location</u>	<u>Date</u>	<u>OK</u>	<u>Initials</u>	<u>Remarks</u>
102	Columbus St. @ St. Clair St.		<input type="checkbox"/>		
103	Wash. Ave. North of bridge		<input type="checkbox"/>		
104	Washington Ave. @ Depot St.		<input type="checkbox"/>		
150	East Ave. @ 4 th St.		<input type="checkbox"/>		
152	5 th St. @ East Ave.		<input type="checkbox"/>		
121	Bond St. @ Jefferson Alley		<input type="checkbox"/>		
120	Dewey Ave. @ Lorain Blvd.		<input type="checkbox"/>		
130	Furnace St. @ Florence Ct.		<input type="checkbox"/>		
133	Lake Ave. @ Tremont St.		<input type="checkbox"/>		
180	3 rd St. @ Chestnut St.		<input type="checkbox"/>		
146	West Ave. @ 9 th St.		<input type="checkbox"/>		
145	West Ave. @ Elyria H.S.		<input type="checkbox"/>		
142	West Ave. @ 4 th St.		<input type="checkbox"/>		
181	2 nd St. @ Water St.		<input type="checkbox"/>		
182	Broad St. @ Water St.		<input type="checkbox"/>		
163	Wooster St. @ East Ave.		<input type="checkbox"/>		
162	230 Wooster St.		<input type="checkbox"/>		
164	1241 East Ave.		<input type="checkbox"/>		
161	East Ave. @ George St.		<input type="checkbox"/>		
160	Howe St. @ East Ave.		<input type="checkbox"/>		
170	East Ave. @ Depot St.		<input type="checkbox"/>		
172	Holly Lane @ East Ave.		<input type="checkbox"/>		
158	9 th St. @ East Ave.		<input type="checkbox"/>		
191	Buckeye St. @ East River St.		<input type="checkbox"/>		
151	East Ave./4 th St. Siphon Chamber		<input type="checkbox"/>		
159	Gates Ave. @ East Ave.		<input type="checkbox"/>		
153	East Ave. @ 6 th St.		<input type="checkbox"/>		

2019 CSO Rain Event List

Station #	Description	Date/Comments											
3PD00034006	102. Columbus St. @ St. Clair St.	1/8/19	Dry	3/14/19	Dry	4/29/19	Dry	6/13/19	Dry	9/13/19	Dry		
3PD00034007	103. Wash. Ave. North of bridge		Dry		Dry		Dry		Dry		Dry		
3PD00034008	104. Washington Ave. @ Depot St.		Dry		Dry		Dry		Dry		Dry		
3PD00034020	150. East Ave. @ 4 th St.		Dry		Dry		Dry		Dry		Dry		
3PD00034032	170. East Ave. @ Depot St.		Dry		Dry		Dry		Dry		Dry		
3PD00034012	121. Bond St. @ Jefferson Alley	1/23/19	Dry	3/30/19	Dry	5/28/19	Dry	6/16/19	Dry	10/31/19	Dry		
3PD00034011	120. Dewey Ave. @ Lorain Blvd.		Dry		Dry		Dry		Dry		Dry		
3PD00034013	130. Furnace St. @ Florence Ct.		Dry		Dry		Dry		Dry		Dry		
3PD00034015	133. Lake Ave. @ Tremont St.		Over		Dry		Dry		Dry		Over		
3PD00034035	180. 3 rd St. @ Chestnut St.		Dry		Dry		Dry		Dry		Dry		
3PD00034030	163. Wooster St. @ East Ave.	2/7/19	Dry	4/14/19	Dry	5/30/19	Dry	6/20/19	Dry				
3PD00034029	162. Wooster St. (middle)		Dry		Dry		Dry		Dry				
3PD00034031	164. 1241 East Ave.		Dry		Dry		Dry		Dry				
3PD00034028	161. East Ave. @ George St.		Dry		Dry		Dry		Dry				
3PD00034027	160. Howe St. @ East Ave.		Dry		Dry		Dry		Dry				
3PD00034019	146. West Ave. @ 9 th St.	2/12/19	Dry	4/19/19	Dry	6/2/19	Dry	7/3/19	Dry				
3PD00034018	145. West Ave. @ E.H.S.		Dry		Dry		Dry		Dry				
3PD00034016	142. West Ave. @ 4 th St.		Dry		Dry		Dry		Dry				
3PD00034036	181. 2 nd St. @ Water St.		Dry		Dry		Dry		Dry				
3PD00034037	182. Broad St. @ Water St.		Dry		Dry		Dry		Dry				
3PD00034032	170. East Ave. @ Depot St.	2/20/19	Dry	4/26/19	Dry	6/5/19	Dry	7/22/19	Dry				
3PD00034034	172. Holly Lane @ East Ave.		Dry		Dry		Dry		Dry				
3PD00034031	164. 1241 East Ave.		Dry		Dry		Over		Dry				
3PD00034021	152. 5 th St. @ East Ave.		Dry		Dry		Dry		Dry				
3PD00034025	158. 9 th St. @ East Ave.		Dry		Dry		Dry		Dry				
3PD00034038	191. Buckeye St. @ East River St.	3/9/19	Dry	4/28/19	Over	6/10/19	Over	8/22/19	Over				
3PD00034044	151. E. Ave./4 th St. Siphon Chamber		Dry		Dry		Dry		Dry				
3PD00034026	159. Gates Ave. @ East Ave.		Dry		Dry		Dry		Dry				
3PD00034015	133. Lake Ave. @ Tremont St.		Dry		Dry		Over		Dry				
3PD00034022	153. East Ave. @ 6 th St.		Dry		Dry		Dry		Dry				

2019 CSO RAIN EVENT SUMMARY

2019 CSO OVERFLOW TEST RESULTS

7
CSO Overflows

AVERAGE	92	5	0.677
MAX	304	6	2.304
MIN	13	4	0.177

DATE	STATION #	LOCATION	TSS (mg/L)	cBOD ₅ (mg/L)	Daily Estimate (MG)	Duration (Hrs)
1/23/19	3PD00034015	133. Lake Avenue @ Tremont Street	140	5	2.304	24.0
4/28/19	3PD00034038	191. Buckeye St. @ East River Street	14	5	0.177	3.0
6/5/19	3PD00034031	164. 1241 East Avenue	304	AE ¹	0.906	4.4
6/10/19	3PD00034015	133. Lake Avenue @ Tremont Street	22	5	0.384	4.0
6/10/19	3PD00034038	191. Buckeye St. @ East River Street	112	5	0.236	4.0
8/22/19	3PD00034038	191. Buckeye St. @ East River Street	40	6	0.177	3.0
10/31/19	3PD00034015	133. Lake Avenue @ Tremont Street	13	4	0.552	5.75

AE¹ = Lowest sample dilution did not meet criteria of analytical method (residual D.O. of at least 1.0 mg/L)

AE² = Analytical data not valid - Sample exceeded maximum holding time for analysis

PUBLIC NOTIFICATION LOG

[illegible]

CITY OF ELYRIA
CSO PUBLIC NOTIFICATION PLAN
TABLE OF CSO SIGNAGE LOCATIONS

LOCATION	DESCRIPTION	NO. SIGNS
Black River, East Branch		
Fuller Road Bridge	NE Corner	1
	NW, SW and SE Corners - No Access	
Riverdale Court	At the Dead End of Street	1
Wolf Court	At the Dead End of Street	1
Elizabeth Street	At the Dead End of Street	1
East 4th Street Bridge	NE and NW Corners	2
	SE and SW Corners - No Access	
Broad Street Bridge	No Access	
East Bridge Street Bridge	NE and NW Corners	2
	SE and SW Corners - No Access	
Smith Court	At the Dead End of Street	1
Washington Avenue Bridge	NE and NW Corners	2
	SE and SW Corners - No Access	
Black River, West Branch		
Mussey Avenue Bridge	No Access	
Riverside Drive @ 12th Street	On river side of 1140 Riverside Drive	1
Riverside Drive @ 11th Street	On river side of intersection	1
3rd Street Bridge	All four corners	4
2nd Street Bridge	All four corners	4
	NW Corner of Metroparks Bike Trail	1
West Bridge Street Bridge	NE and SE Corners	2
	SW and NW Corners - No Access	
Lake Avenue Bridge	No Access	
Two Falls Trail - Off Lake Avenue	Trail to old mill/powerhouse by overlook	1
Black River Main Stem		
Cascade Park, Duck Area	Entrance path to duck feeding area	1
Cascade Park @ CSO 013 Outfall	The storm outfall pipe at the river	1
Cascade Park, Ford Area	Entrance to the ford	1
Elywood Park, Ford Area	Entrance to the ford	1
Cascade Park, 19 Acres Area	Northernmost tip at the river	1
Bur Oak Park Canoe/Kayak Launch	Canoe/Kayak Unloading Area	1
Total Number of Signs Posted		31

BLACK RIVER OBSERVATION POINTS

WEST BRANCH

Oberlin Rd. @ Russia Rd.

Mussey Ave. Bridge

Riverside Dr.

3rd Street Bridge

2nd Street Bridge

West Bridge Street Bridge

Tattersal Ct. (off West River)

Lake Ave. Bridge

EAST BRANCH

Robson Rd.

Fuller Rd. Bridge

Brooklyn St.

4th Street Bridge

Broad Street Bridge

Tannery St.

East Bridge Street Bridge

Smith Ct.

Harrison Street

Washington Avenue Bridge

MAIN STEM RIVER

Cascade Park Drive

Rte.57 Bypass/Black River Bridge

Ford Rd.

Elyria Wastewater Plant, near outfall

City of Elyria CSO Nine Minimum Controls – Revised March 2020

The City of Elyria operates and maintains its combined sewer collection system in accordance with the U.S. EPA's 1994 nine minimum controls (*Federal Register / Vol.59, No.75 / Tuesday, April 19, 1994 / Notices* Section II B. page 18691). A brief description of the controls and Elyria's activities for compliance with this regulation follows:

NMC-1: Reducing CSO Overflows through Operation & Maintenance

Elyria continues to implement its Collections System Operations and Maintenance Program for the combined sewer, separate sanitary sewer and storm sewer systems. The combined sewers are cleaned annually and more often when CSO post-rain or dry-weather inspections indicate that additional cleaning is required. All regulators are checked for deterioration on a monthly basis and are repaired as needed. The sanitary sewers are currently cleaned on approximately a three-year rotation and the storm sewers are cleaned on approximately a five-year rotation. The City keeps a list of known problem areas, such as the smaller siphons and areas that have recurrent root-intrusion issues. These areas are cleaned and root-cut twice per year. The Industrial Pretreatment Department has an aggressive grease trap/interceptor inspection program. Any food service establishment (FSE) found to have excessive grease in the effluent from the trap or interceptor receives a Notice of Violation and is fined. Lorain County Public Health is notified of any FSE that is not properly maintaining the grease traps or interceptors. Sanitary sewers in areas where several FSEs are located are cleaned more frequently to maintain sewer capacity. This, and more, is done to maximize the use of the sanitary and combined sewer collection systems, prevent premature activation of overflows during wet weather and to prevent dry weather overflow activations.

NMC-2: Storing CSO Overflows in the Collection System

Elyria maximizes storage in the collection system through its aggressive sewer cleaning regimen as detailed in the Collection System Operations and Maintenance Program. Large diameter sewers with diameters greater than 42 inches are cleaned by contractors. Elyria completed the East Avenue Relief Sewer Project in September 2018, which resulted in the replacement of several old combined sewers on East Avenue with two side-by-side 72-inch barrel pipes with a restrictor plate designed to store combined sewer flows from the East Avenue area during wet weather events. This project will reduce CSO overflow activations in this area. The City also has a 78-inch diameter East Side Relief Sewer under construction. This ten mile long wet weather relief sewer will pick overflow volumes as well as relieve excess flows from neighborhoods that currently experience sewage backup problems during heavier rain events. The project will take several years to complete.

NMC-3: Reduction of CSO Impacts through the Pretreatment Program

The Elyria Pretreatment Department continues to monitor industrial discharges. There is only one combined sewer that accepts flows from a commercial/industrial area. There are currently

no significant industrial users or non-significant industrial users on this combined sewer. There is one CSO regulator on this sewer, CSO 130, located at the intersection of Furnace Street and Florence Court. This location has never been known to overflow, even in the heaviest of rain events. As noted in NMC-1 above, the Industrial Pretreatment Department routinely inspects grease traps and interceptors at food service establishments (FSEs). Any FSE found to have grease in the effluent from the trap/interceptor receives a Notice of Violation and is fined. Lorain County Public Health is notified of any FSE that is not properly maintaining the grease traps or interceptors.

NMC-4: Maximizing Flow to the Treatment Plant

The sanitary and combined sewer maintenance program ensures that all sewers are able to convey the maximum flow volumes possible to the Elyria wastewater treatment plant (WWTP). The storm sewer maintenance program ensures that rain waters are conveyed appropriately to the Black River, thus reducing the amount of possible infiltration into the sanitary sewers. Additionally, the West Side Interceptor (WSI) was designed to have excess capacity and the City is making use of that additional capacity by moving wastewater flows from the East Side Interceptor (ESI) to the West Side Interceptor. Completed projects that have taken advantage of the excess capacity of the WSI include building of the South East Interceptor which directs flows from the south east section of Elyria to the WSI, reversal of the Cascade Park siphon which removed flows from the ESI in the Middle Avenue/Washington Avenue/Ohio Street areas to the WSI during rain events, and the building of the Turner Street lift station, which took flows from the western downtown area and diverted them to the WSI. Elyria continues to operate the WWTP at its maximum treatable flow rate during wet weather flow conditions. In addition to the existing 1.6 MG wet weather holding tank, the City has also converted two out of service intermediate clarifiers into wet weather storage tanks, providing an additional 1.8 MG of wet weather storage. Primary clarifiers 1 & 2 at the east side head works are also placed into service during wet weather providing an additional 0.3 MG of wet weather treatment. The City has projects planned at the WWTP that will increase the maximum treatable wet weather flows from 30 MGD to 40 MGD. These projects will take several years to complete.

NMC-5: Preventing Dry-Weather CSO Overflows

There were no dry-weather overflow occurrences during 2019. The CSO Operational Plan includes several activities that are designed to prevent dry-weather overflows. In addition to inspecting CSO regulators during wet weather events, the City also performs post-rain inspections at all CSO regulators that are known to collect leaves, twigs and other debris during rain events. If such materials are seen around the regulators, the sewer maintenance crew is called and the debris is removed and the combined sewer is cleaned. Furthermore, during dry weather, all CSO regulators are checked monthly to make sure the regulators are clean and in good repair, and the flow in the combined sewer is at its normal low level. Higher than normal levels may indicate a partial plug in the combined sewer downstream of the regulator and the sewer maintenance crew would be called to clean the combined sewer.

NMC-6: Controlling Solids and Floatables in CSO Discharges

Twice annually, the City hires a street sweeping contractor to sweep the streets in the city. In 2019, 529 tons of sweepings were disposed of by the contractor. The City also has an ongoing anti-litter campaign. This program uses a multi-media approach where anti-litter messages are provided by radio, newspaper, city website, utility bills, Consumer Confidence Report, selective mailings, and public events, such as the annual Apple Festival. As part of the East Avenue Relief Sewer project, green infrastructure bio-swales were constructed on East Avenue to capture and retain storm water, reducing the volume of storm water as well as the amount of street debris and grit entering the combined sewer system and contributing to CSO discharges. Accumulated debris is removed by City maintenance crews, as needed.

NMC-7: CSO Inspection, Monitoring and Reporting

Elyria currently performs all monitoring of CSOs visually, at the regulators. The use of electronic flow meters was considered but, due to the short storm pipe runs from the CSO regulators to the river, it was determined that the flow meters would be continually damaged by raccoons and other animals that can access the storm pipes and manholes from the river. Studies were performed and data from several years was used to determine the optimal flow rate at the WWTP at which the CSO regulators should be inspected during wet weather events. From these studies, it was determined that CSO regulators will not overflow when the flow rate to the WWTP is less than 30 MGD. As such, collection system personnel are sent out to inspect the CSO regulators after the flow rate to the WWTP reaches 30 MGD. CSO regulators are inspected during wet weather events, during the post-rain period and during dry weather, as mentioned in NMC-5 above. Results from CSO wet weather inspections are reported monthly in the electronic discharge monitoring report (eDMR) submitted to Ohio EPA by the WWTP, and in the Annual CSO Report also submitted to Ohio EPA and USEPA. The City will continue to make available the Annual CSO Report to the public and the City will also inform the Director of USEPA as to the method by which the report is made public.

NMC-8: Pollution Prevention

The City of Elyria works with the Lorain County Solid Waste Management District to publicize information that discusses the proper disposal of household hazardous waste materials, such as motor oil, antifreeze, paint, lawn and garden products, insecticides, mercury-containing items, electronic scrap, and scrap tires. The City also works with the Barnes Nursery facility located near the downtown area to provide residents with a place to take brush, grass clippings and leaves. The City Sanitation Department also has a brush truck that follows the regular trash and recyclable trucks on their regular routes through the city. As part of the City's Storm Water Pollution Prevention Plan, public outreach materials pertaining to storm water quality issues are distributed to the public in the same manner as the anti-litter program materials discussed in NMC-6 above.

NMC-9: Public Notification

A public notification process was initiated with the submittal of the City's CSO Operational Plan in 1996. Signage was posted at the CSO outfalls on the East Branch of the Black River and at Cascade Park to notify the public of the presence and hazards of CSO discharges. The signs posted on the East Branch of the river did not last long due to the continual floating of large trees down river during the larger rain events. The signage at Cascade Park remained. Notification of the public continued annually with the submittals of the Annual CSO Reports. The original public notification process has been replaced with the action items listed in Section 7 of the City of Elyria CSO Public Notification Plan document, which can be found on the Wastewater Department's page of the City of Elyria website www.cityofelyria.org. The current public notification plan consists of an initial notification email that is sent out within four hours of the City becoming aware of an active combined sewer overflow. The initial notification provides the date and time the overflow started, the body of water receiving the overflow, and any sensitive areas that could be potentially impacted by the overflow. A supplemental notification email is sent out after the overflow(s) have stopped. The supplemental notification provides additional information, such as the estimated total volume and duration of the overflow, and the amount of precipitation that caused the overflow to occur. Residents, agencies, and other interested parties can sign up for the email notifications by sending an email request to the Superintendent of the wastewater pollution control plant at tkorzan@cityofelyria.org.