

COMBINED SEWER SYSTEM OPERATIONAL PLAN 2021 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 City's reissued NPDES permit 3PD00034*MD that became effective June 1, 2021, 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, 2021 through December 31, 2021.

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 D, E, and F of the City's NPDES permit, the Department is responsible for:

1. January 1, 2021 through May 31, 2021 under NPDES Permit 3PD00034*LD, inspection of 5 of the 27 combined sewer overflow (CSO) locations 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. June 1, 2021 through December 31, 2021 under the reissued NPDES Permit 3PD00034*MD, inspection of all 30 combined sewer overflow (CSO) locations 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, the estimated duration of overflow and the estimated volume of overflow is recorded. (Whenever a CSO location is observed to be overflowing, the initial and supplemental public notifications are sent out as per 40 CFR 122.38).

In the reissued Permit, six additional CSOs are listed that had previously been identified by the EPA as SSOs:

<u>ID#</u>	<u>LOCATION</u>
100	Dilworth Street @ Gulf Road
101	Washington Avenue @ Glenwood Street
114	West Bridge Street (West of Bridge)
132	Lake Avenue @ Chestnut Street
189	Lincoln Court @ Blaine Street
190	East River Street @ Smith Court

CSOs 170, 172 and 181 were eliminated by the City of Elyria during sewer improvement projects. The total number of CSOs as of December 31, 2021 is 30.

3. Post-rain inspections are performed after rain events that cause the wastewater treatment plant total influent flow rate to exceed 30 MGD. These inspections are 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 past and current list of post-rain inspection locations is provided at the end of this report, and is all inclusive for the entire year.
4. 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 Collection System Management will be immediately notified of the dry-weather overflow. The Collection System Management 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.
5. 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 Collection System Management and the City Engineer. All repairs to the regulators are made by a contractor through the City Engineer's Office, upon notification.

6. 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 E. coli bacteria during the months of June through August. 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 E. coli 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.
7. 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.
8. 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 Collection System Superintendent at estefek@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. 2021 Data Review

1. In 2021, there were 22 rain events that caused the wastewater treatment plant to reach a flow rate of at least 30 MGD. During these 22 rain events, 485 CSO locations were inspected. Wet-weather overflows were observed for 39 inspections (8%). The average maximum treatment plant flow rate for these events was 43.14 MGD, and the average duration of elevated treatment plant flow for these events was 6 hours. For samples under NPDES permit 3PD00034*LD the average CBOD₅ and TSS measured in the CSO overflow grab samples were 10 mg/L and 92 mg/L, respectively. Please refer to the attached 2021 CSO data sheets at the end of this report.
2. In 2021, all of the CSO locations were inspected monthly during dry-weather. Of the 360 inspections, there were no dry weather overflows.
3. All of the CSO regulators were evaluated during 2021 and all remain in excellent condition. There were no repairs required in 2021.
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 2021, 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
164 1241 East Avenue

6. There are currently no combined sewers that convey wastewater from significant industrial users.
7. The Wastewater Department provides pollution prevention information to the community via the City web site (www.cityofelyria.org), by handing out fliers during the Elyria Apple Festival, through Lorain County Solid Waste District functions, local radio station ads, newspaper advertisements, and fliers included with the

utility bills mailed out to all Elyria residents. The major focus is on the City website and flyers included with the utility bills. 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 Collection System Superintendent at estefek@cityofelyria.org. All of this information is also included in the Consumer Confidence Report (CCR) mailed annually to residents by the City of Elyria Water Pumping Plant. The department continues to arrange for annual plant tours for the local Middle Schools, civic groups or residents who want to tour the plant. Due to the COVID-19 pandemic, no tours were scheduled in 2021. 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, close to City Hall, 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 sewer collection systems, 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 2020. 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, and 1b-South, 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 completed Phase 1c and Phase 1CT, taking the sewer under the Ohio Turnpike and State Route 57. The sewer continued south on Bon-Air Street to Poplar Street, then west on Poplar Street, across Abbe Road, and terminating at Longfellow Street. Phase 1-d will begin at this location Spring/Summer of 2022. The City is waiting on the PTI from the Ohio EPA. Near the intersection of Abbe Road and Poplar Street there is a diversion structure with a weir that allows the Abbe Road sanitary to overflow into the ESRS during wet weather events. This is the first active pick-up point on this sewer. These flows are conveyed to the Elyria Wastewater Treatment Plant for treatment.

In November 2008, pursuant to its NPDES permit, the City of Elyria submitted to Ohio EPA a proposed Combined Sewer Overflow Long Term Control Plan ("2008 Draft LTCP"), a Sewer System Characterization Report, and a proposed System Evaluation and Capacity Assurance Plan (SECAP). In May 2011, Elyria submitted to Ohio EPA a Wet Weather Plan Summary and Proposed Schedule that consolidated projects from the 2008 Draft LTCP, the 2008 SECAP, and a 2011 Evaluation of Feasible Alternatives to Wet Weather Bypasses (the "2011 Wet Weather Control Plan"). Elyria has worked closely with Ohio EPA and US EPA to develop a comprehensive Integrated Wet Weather Control Plan that updates the 2011 Wet Weather Control Plan that addresses the construction and implementation of WWTP and Sewer System improvements. Throughout this period, the City has proceeded with selected components of the Integrated Wet Weather Control Plan, with the concurrence of Ohio EPA and US EPA.

For additional information concerning this report, please contact:

Erin Stefek
Operations Superintendent/Collection System
City of Elyria
Wastewater Pollution Control
(440) 366-2211 Ext. 5120
estefek@cityofelyria.org

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 Collection System Management 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 Collection System Management 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 all CSO locations during each storm event.
3. On the Wet Weather CSO hand sheets, list the date, 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, and the inches of weir that water is flowing over, and record on the hand sheets. Estimated volumes will later be

calculated using the weir length, and height of flow over the weir using Manning's Equation.

4. The initial CSO public notification email must be sent out within four (4) hours of becoming aware of an active CSO. The supplemental CSO public notification email must be sent out within seven (7) days of the end of the overflow.
5. Wet weather overflow activity will be reported 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 each 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 using the same procedure as for wet weather events. Notify the Collection System Management 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.

City of Elyria CSO Nine Minimum Controls – Revised March 2021

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. All sanitary sewers 42-inches or less in diameter are currently cleaned on approximately a three-year rotation and the storm sewers are cleaned on approximately a five-year rotation. Sewers with diameters greater than 42-inches are cleaned by contractors. 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 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 2021. 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, 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 2021, 477.05 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 (CCR), 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 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 of Elyria Sanitation Department offers a curb-side recycling program and 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. New CSO Area warning signs have been posted on the bridges over the waters of the East and West Branches of the river, as well as throughout Cascade Park, Elywood Park and at the Bur Oak Park canoe launch. Swimming in the river is prohibited by City Ordinance 521.11. Signs providing details of this prohibition are posted at each of these same locations. There are no other access points to the river within the city corporation limits. The current combined sewer overflow 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 Collection System Superintendent of the wastewater pollution control at estefek@cityofelyria.org. The email notification log for 2021 is attached within this report.

TABLE 1		COMBINED SEWER OVERFLOWS			NPDES: 3PDD00034*MD
Sampling Station	ID Number	Description	Latitude	Longitude	Receiving Water
3PDD00034006	102	Columbus St. @ St. Claire St.	41° 22' 23"	82° 06' 13"	East Branch Black River
3PDD00034007	103	Washington Ave. North of Bridge	41° 22' 08"	82° 05' 22"	East Branch Black River
3PDD00034008	104	Washington Ave. @ Depot St.	41° 22' 04"	82° 06' 23"	East Branch Black River
3PDD00034011	120	Dewey Ave. @ Lorain Blvd.	41° 22' 40"	82° 07' 03"	Black River
3PDD00034012	121	Bond St. @ Jefferson Alley	41° 22' 50"	82° 07' 14"	Black River
3PDD00034013	130	Furnace St. @ Florence Ct.	41° 22' 35"	82° 06' 42"	Black River
3PDD00034015	133	Lake Ave. @ Tremont St.	41° 22' 16"	82° 06' 40"	East Branch Black River
3PDD00034016	142	Fourth St. @ West Ave.	41° 21' 51"	82° 06' 37"	West Branch Black River
3PDD00034018	145	West Ave. @ Elyria High School	41° 21' 45"	82° 06' 37"	West Branch Black River
3PDD00034019	146	West Ave. @ Ninth St.	41° 21' 30"	82° 06' 38"	West Branch Black River
3PDD00034020	150	East Ave. @ Fourth St.	41° 21' 50"	82° 06' 14"	East Branch Black River
3PDD00034021	152	Fifth St. @ East Ave.	41° 21' 46"	82° 06' 14"	East Branch Black River
3PDD00034022	153	East Ave. @ Sixth St.	41° 21' 42"	82° 06' 14"	East Branch Black River
3PDD00034025	158	Ninth St. @ East Ave.	41° 21' 30"	82° 06' 15"	East Branch Black River
3PDD00034026	159	Gates Ave. @ East Ave.	41° 21' 27"	82° 06' 15"	East Branch Black River
3PDD00034027	160	Howe St. @ East Ave.	41° 21' 21"	82° 06' 15"	East Branch Black River
3PDD00034028	161	East Ave. @ George St.	41° 21' 21"	82° 06' 15"	East Branch Black River
3PDD00034029	162	230 Wooster St.	41° 21' 19"	82° 06' 20"	East Branch Black River
3PDD00034030	163	Wooster St. @ East Ave.	41° 21' 19"	82° 06' 16"	East Branch Black River
3PDD00034031	164	1241 East Ave.	41° 21' 15"	82° 06' 15"	East Branch Black River
3PDD00034035	180	Third St. @ Chestnut St.	41° 21' 55"	82° 06' 41"	West Branch Black River
3PDD00034037	182	Broad St. @ Water St.	41° 22' 04"	82° 06' 53"	West Branch Black River
3PDD00034038	191	Buckeye St. @ East River St.	41° 22' 07"	82° 05' 47"	East Branch Black River
3PDD00034044	151	East Ave. / 4th St. Siphon Chamber	41° 21' 50"	82° 06' 13"	East Branch Black River
3PDD00034045	100	Dilworth St. @ Gulf Rd.	41° 22' 47"	82° 05' 40"	Black River
3PDD00034046	101	Washington Ave. @ Glenwood St.	41° 22' 44"	82° 05' 60"	Black River
3PDD00034047	114	West Bridge St. @ the bridge	41° 22' 12"	82° 07' 02"	West Branch Black River
3PDD00034048	132	Lake Ave. @ Chestnut St.	41° 22' 18"	82° 06' 43"	West Branch Black River
3PDD00035050	189	Lincoln St. @ Blaine St.	41° 21' 56"	82° 06' 04"	East Branch Black River
3PDD00034051	190	East River St. @ Smith Ct.	41° 22' 16"	82° 05' 54"	East Branch Black River

CHECKLIST #1

DATE: _____ TIME: _____ INIT: _____
 _____ Rain Event _____ Dry Weather Checks _____ Post-Rain Checks

STATION #	CSO#	LOCATION	DRY	OVER	INCHES OF WATER GOING OVER WEIR**	WEIR"	ACTUAL WEIR**
3PDD00034038	191	Buckeye St. @ East River				4"	
3PDD00034050	189	Lincoln @ Blaine St.				64"	
3PDD00034044	151	East Ave. @ Fourth St. (Siphon Chamber)				6"	
3PDD00034020	150	East Ave. @ Fourth St.				14"	
3PDD00034021	152	Fifth St. @ East Ave.				7"	
3PDD00034022	153	East Ave. @ Sixth St.				18"	
3PDD00034025	158	Ninth St. @ East Ave.				4"	
3PDD00034026	159	Gates Ave. @ East Ave.				8"	
3PDD00034027	160	Howe St. @ East Ave.				5"	
3PDD00034028	161	East Ave. @ George St.				12"	
3PDD00034029	162	Wooster St. (Mid-Block)				5"	
3PDD00034030	163	Wooster St. @ East Ave.				6"	
3PDD00034031	164	1241 East Ave.				15"	
3PDD00034019	146	West Ave. @ Ninth St.				14"	
3PDD00034018	145	West Ave. @ Elyria High School				12"	
3PDD00034016	142	West Ave. @ Fourth St.				10"	
3PDD00034045	100	Dilworth @ Gulf Rd.				30"	
3PDD00034015	133	Lake Ave. @ Tremont St.				6"	
3PDD00034048	132	Lake Ave. @ Chestnut St.				24"	
3PDD00034013	130	Furnace St. @ Florence Ct.				12"	

#1 Checklist est. 6/2021 es

* MEASURE THE DEPTH OF WATER IN INCHES GOING OVER THE WEIR

** MEASURE THE ACTUAL LENGTH OF WATER IN INCHES GOING OVER THE WEIR

*** NOTIFY TERRY, ERIN AND CHRIS IN THE EVENT ANY OVERFLOWS ARE GOING OVER ***

CHECKLIST #2

DATE: _____ TIME: _____ INIT: _____
 _____ Rain Event _____ Dry Weather Checks _____ Post-Rain Checks

STATION #	CSO#	LOCATION	DRY	OVER	INCHES OF WATER GOING OVER WEIR*	WEIR"	ACTUAL WEIR**
3PD00034046	101	Washington Ave. @ Glenwood				36"	
3PD00034006	102	Columbus St. @ St. Clair				6"	
3PD00034051	190	East River @ 1st m.h. South of Smith Ct.				30"	
3PD00034007	103	Washington Ave. (North of bridge)				14"	
3PD00034008	104	Washington Ave. @ Depot St.				3"	
3PD00034011	120	Dewey @ Lorain Blvd.				10"	
3PD00034035	180	Third St. @ Chestnut St.				13"	
3PD00034037	182	Broad St. @ Water St.				8"	
3PD00034047	114	West Bridge St. (West of bridge)				32"	
3PD00034012	121	Bond St. @ Jefferson Alley				11"	

*MEASURE THE DEPTH OF WATER IN INCHES GOING OVER THE WEIR

**MEASURE THE ACTUAL LENGTH OF WATER IN INCHES GOING OVER THE WEIR

***NOTIFY TERRY, ERIN AND CHRIS IN THE EVENT

ANY OVERFLOWS ARE GOING OVER***

2021 CSO RAIN EVENT SUMMARY

22	Rain Events
----	-------------

AVERAGE	8.68	43.14	6	0.75
MAX	20.00	78.00	21	3.14
MIN	4.10	20.00	0	0.00
Total	--	--	138	16.53

Date	Time	Flow Before (MGD)	Max. Flow (MGD)	Duration of Event (Hrs.)	Rainfall (Inches)	CSO Overflow
1/1/21	1450	10.00	65.00	7.00	0.62	Y
2/23/21	1345	20.00	20.00	14.25	0.00	Y*
2/24/21	1430	10.00	35.00	7.60	0.00	N*
3/18/21	1445	8.00	47.00	4.25	0.73	N
4/29/21	0820	15.00	70.00	12.75	1.51	Y
5/9/21	1100	6.00	72.00	14.00	1.18	N
5/28/21	1041	6.00	41.00	1.00	0.67	N
6/13/21	0657	4.80	50.00	2.50	0.99	N
6/30/21	0514	11.00	35.00	1.00	0.40	N
7/8/21	1220	7.00	34.00	0.33	0.30	N
7/12/21	1745	9.00	48.00	1.75	0.35	Y
7/16/21	2000	6.00	48.00	21.25	0.56	Y
7/25/21	0235	6.00	34.00	0.25	0.27	N
8/13/21	1915	6.00	60.00	5.75	0.59" North; 3" South	Y
8/25/21	0658	4.10	76.00	11.00	2.30	Y
9/22/21	1025	5.00	78.00	18.60	3.14	Y
10/8/21	1840	6.00	61.00	4.00	0.71	Y

City of Elyria - Wastewater Pollution Control

10/24/21	2300	20.00	70.00	6.00	0.96	N
10/29/21	0900	15.00	34.45	3.00	0.60	Y
12/6/21	0640	5.00	33.00	0.17	0.33	Y
12/11/21	0545	6.00	33.00	0.25	0.63	Y
12/27/21	0808	5.00	34.00	1.00	0.28	N

** High flow due to rain and snow melt

* High flow due to snow melt

1/18 had 2" snow melt
 1/24 had 2" snow melt
 2/10 had 1/4" snow melt

2021 CSO OVERFLOW TEST RESULTS

40 CSO Overflows		AVERAGE	92	10	0.158
		MAX	186	10	2.627
		MIN	12	10	0.000

DATE	STATION #	LOCATION	TSS (mg/L)	cBOD ₅ (mg/L)	Daily Estimate (MG)	Duration (Hrs)	Total Per Rain Event
1/1/21	3PDD00034015	133. Lake Avenue @ Tremont Street	12	AE ²	0.672	7.0	
2/23/21	3PDD00034038	191. Buckeye Street @ East River Street	186	10	0.841	14.25	
4/29/21	3PDD00034031	164. 1241 East Avenue	78	10	2.627	12.75	
7/12/21	3PDD00034050	189. Lincoln Street @ Blaine Street	---	---	0.006	1.75	0.006
7/16/21	3PDD00034050	189. Lincoln Street @ Blaine Street	---	---	0.241	21.25	
7/16/21	3PDD00034038	191. Buckeye Street @ East River Street	---	---	0.043	21.25	
7/16/21	3PDD00034031	164. 1241 East Avenue	---	---	0.056	21.25	
7/16/21	3PDD00034019	146. West Avenue @ Ninth Street	---	---	0.019	21.25	0.359
8/13/21	3PDD00034038	191. Buckeye Street @ East River Street	---	---	0.021	5.75	
8/13/21	3PDD00034050	189. Lincoln Street @ Blaine Street	---	---	0.522	5.75	
8/13/21	3PDD00034044	151. East Ave. @ 4th St. Siphon Chamber	---	---	0.055	5.75	
8/13/21	3PDD00034025	158. Ninth Street @ East Avenue	---	---	0.004	5.75	
8/13/21	3PDD00034027	160. Howe Street @ East Avenue	---	---	0.002	5.75	
8/13/21	3PDD00034028	161. East Avenue @ George Street	---	---	0.019	5.75	
8/13/21	3PDD00034031	164. 1241 East Avenue	---	---	0.015	5.75	
8/13/21	3PDD00034045	100. Dilworth Street @ Gulf Road	---	---	0.086	5.75	0.724
8/25/21	3PDD00034038	191. Buckeye Street @ East River Street	---	---	0.022	11.0	
8/25/21	3PDD00034050	189. Lincoln Street @ Blaine Street	---	---	0.331	11.0	
8/25/21	3PDD00034027	160. Howe Street @ East Avenue	---	---	0.0002	11.0	
8/25/21	3PDD00034028	161. East Avenue @ George Street	---	---	0.024	11.0	
8/25/21	3PDD00034031	164. 1241 East Avenue	---	---	0.005	11.0	
8/25/21	3PDD00034019	146. West Avenue @ Ninth Street	---	---	0.0002	11.0	
8/25/21	3PDD00034045	100. Dilworth Street @ Gulf Road	---	---	0.021	11.0	
8/25/21	3PDD00034015	133. Lake Avenue @ Tremont Street	---	---	0.0001	11.0	
8/25/21	3PDD00034048	132. Lake Avenue @ Chestnut Street	---	---	0.0005	11.0	
8/25/21	3PDD00034006	102. Columbus Street @ St. Claire St.	---	---	0.012	11.0	
8/25/21	3PDD00034051	190. East River @ 1st M.H. South of Smith Ct.	---	---	0.038	11.0	0.454

9/22/21	3PD00034038	191. Buckeye Street @ East River Street	---	---	0.005	18.6	
9/22/21	3PD00034050	189. Lincoln Street @ Blaine Street	---	---	0.211	18.6	
9/22/21	3PD00034015	133. Lake Avenue @ Tremont Street	---	---	0.007	18.6	0.223
10/8/21	3PD00034038	191. Buckeye Street @ East River Street	---	---	0.008	4	
10/8/21	3PD00034050	189. Lincoln Street @ Blaine Street	---	---	0.363	4	
10/8/21	3PD00034045	100. Dilworth Street @ Gulf Road	---	---	0.026	4	0.397
10/29/21	3PD00034038	191. Buckeye Street @ East River Street	---	---	0.0008	3	
10/29/21	3PD00034050	189. Lincoln Street @ Blaine Street	---	---	0.0004	3	0.001
12/6/21	3PD00034038	191. Buckeye Street @ East River Street	---	---	0.0001	0.17	0.0001
12/11/21	3PD00034038	191. Buckeye Street @ East River Street	---	---	0.00001	0.25	0.0001
12/11/21	3PD00034050	189. Lincoln Street @ Blaine Street	---	---	0.00003	0.25	
12/11/21	3PD00034019	146. West Avenue @ Ninth Street	---	---	0.00001	0.25	
12/11/21	3PD00034045	100. Dilworth Street @ Gulf Road	---	---	0.00006	0.25	

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

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

AE³ = sample discarded before analysis

**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