THE CITY OF Fremont EST. 1849 OHIO

CSO

2021 ANNUAL REPORT

Requirement: The City of Fremont was required to develop a public notification plan that describes how it will ensure that the public receives adequate notification of Combined Sewer Overflow (CSO) occurrences and impacts. The plan is on the City website. Also on the website are all notifications and the Annual Report.

Identification of locations:

The City of Fremont has 14 permitted CSO locations. All of which have signs indicating the possibility that a CSO could occur at that location. Four of the locations (5, 9, 12, 13 as indicated in Table 1 and Figure 1) are pumped CSOs and have beacons that turn on when a CSO is occurring at that location and have signage indicating as such. There is no treatment at any of the locations.

Location on Map (Figure 1)	Station Code (Latitude, Longitude)	Description
1	2PD00007004 (41N 20' 35" 83W 06' 31")	Oxbow Pond (Middle) – Gravity outfall to Sandusky River. Manually operated sluice gate. Flap gate on river side.
2	2PD00007005 (41N 20' 40" 83W 06' 35")	Oxbow Pond (North) – Gravity outfall to Sandusky River. Manually operated sluice gate. Flap gate on river side.
3	2PD00007006 (41N 20' 52" 83W 06' 42")	Howland Street - Gravity outfall to Sandusky River. Manually operated sluice gate. Flap gate on river side.
4	2PD00007007 (41N 21' 02" 83W 06' 33")	Pine Street (gravity) - Gravity outfall to Sandusky River. Manually operated sluice gate. Flap gate on river side.
5	2PD00007008 (41N 21' 03" 83W 06' 02")	Pine Street (pumped) – Pumped overflow to Sandusky River. Mercury switch float level control activated. Three 12,000 gpm Johnston vertical turbine pumps.
6	2PD00007009 (41N 21' 06" 83W 06' 23")	Chestnut Street – This CSO is no longer active and has been bricked shut. Previously gravity to Sandusky River.
7	2PD00007010 (41N 21' 21" 83W 06' 58")	Walnut Street Siphon - This CSO is no longer active and has been bricked shut. Previously gravity to Sandusky River.
8	2PD00007011 (41N 20' 29" 83W 06' 36")	Birchard Street (gravity) - Gravity outfall to Sandusky River. Two manually operated sluice gates. Flap gates on river side.
9	2PD00007012 (41N 20' 28" 83W 06' 37")	Birchard Street (pumped) – Pumped overflow to Sandusky River. Drexelbrook level control activated. Two 6000 gpm Johnston vertical turbine pumps.
10	2PD00007013 (41N 21' 04" 83W 06' 45")	Bull Run - Gravity outfall to Sandusky River. Two manually operated sluice gates. Flap gates on river side.
11	2PD00007015 (41N 21' 14" 83W 06' 37")	Liberty Street (gravity) - Gravity outfall to Sandusky River. Two manually operated sluice gates. Flap gates on river side.
12	2PD00007016 (41N 21' 13" 83W 06' 38")	Liberty Street (pumped) - Pumped overflow to Sandusky River. Drexelbrook level control activated. Three 6000 gpm Johnston vertical turbine pumps.
13	2PD00007017 (41N 21' 31" 83W 06' 17")	Sand Road Pond - Gravity outfall to Sandusky River. Manually operated sluice gate. Flap gate on river side.
14	2PD00007018 (41N 21' 07" 83W 06' 45")	Fulton Street - Gravity outfall to Sandusky River. Manually operated sluice gate. Eliminated July 2020.

Table 1

* All CSOs discharge to the Sandusky River

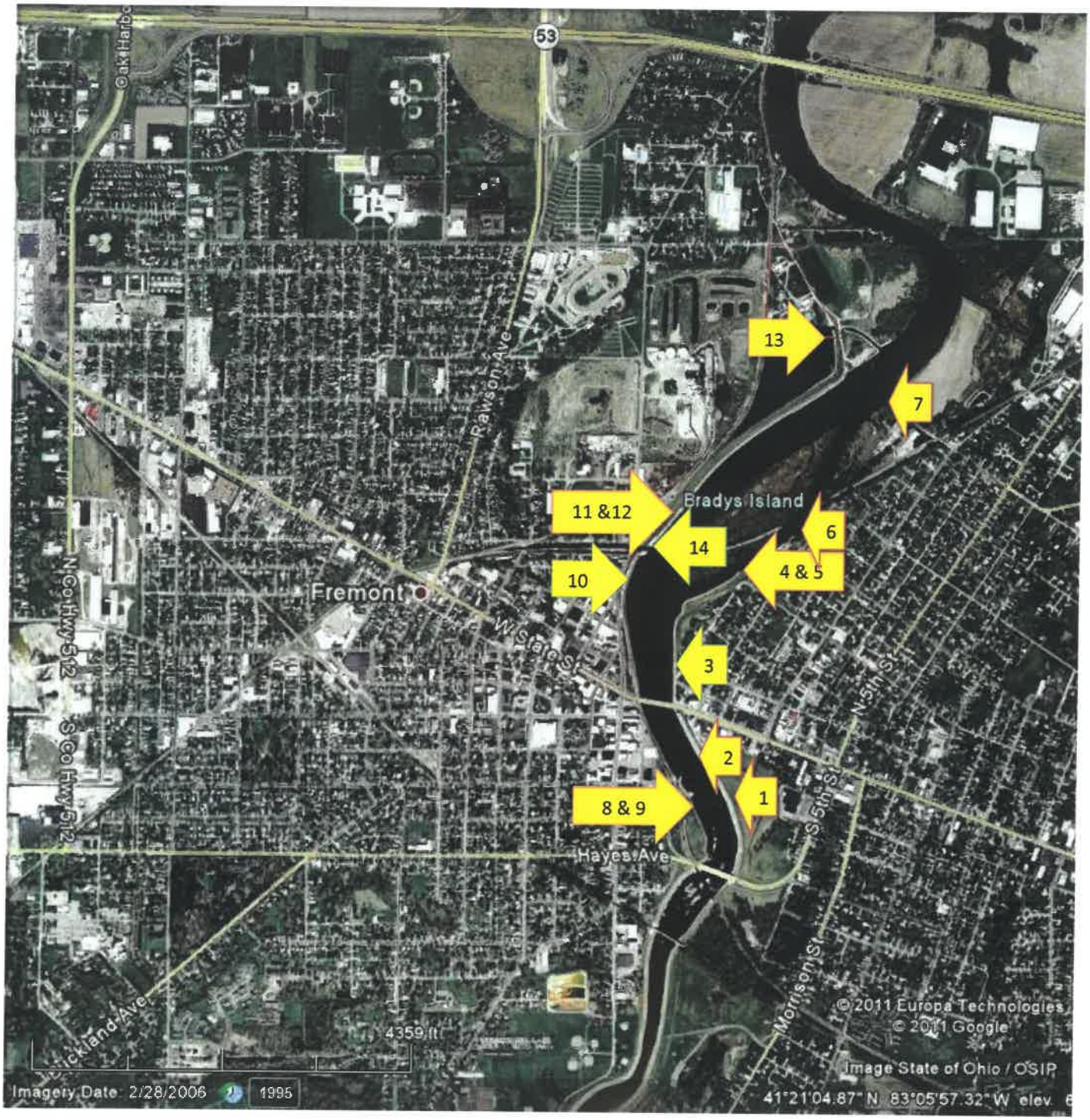

Figure 1 – CSO locations

2021 Wet Weather CSO Information

Date (start of CSO)	Location (Table 1)	Precipitation (inches)	Approximate Duration (Hours)	Estimated Volume (MG)	TSS (mg/l)	BOD (mg/l)
5/23/21	12	0.59	0.33	0.131		
5/26/21	12	0.70	0.67	0.272		
6/7/21	12	0.43	0.67	0.278		
6/27/21	9	0.57	2.8	0.194		
6/27/21	12	0.57	0.53	0.453		
6/29/21	9	0.82	8.67	0.634		
6/29/21	12	0.82	1.02	1.039		
6/30/21	9	0.77	10.15	1.046		
6/30/21	12	0.77	1.27	1.315		
7/17/21	2	2.45	2	1.000		
7/17/21	5	2.45	0.7	0.797		
7/17/21	9	2.45	40.1	3.457		
7/17/21	10	2.45	2	1.000		
7/17/21	12	2.45	29.6	20.190		
7/24/21	5	0.67	0.07	0.108		
7/24/21	9	0.67	7.4	0.504		
7/24/21	12	0.67	0.67	0.436		
8/11/21	5	1.45	0.33	0.260		
8/11/21	12	1.45	0.84	0.555		
8/29/21	9	0.74	6.3	0.865		
8/29/21	12	0.74	0.75	0.544		
9/22/21	12	2.46	2.1	0.818		
10/8/21	5	1.27	0.2	0.251		
10/8/21	9	1.27	10.1	0.633		
10/8/21	12	1.27	1.3	1.008		
10/24/21	5	0.84	0.2	0.189		
10/24/21	12	0.84	0.9	0.349		
TOTAL		32.63	131.67	38.327		

2021 Dry Weather CSO Information

The City is aware of no dry weather CSO events in 2021.

Public Access Areas Potentially Impacted by CSOs

Darr-Root Fishing Access Area is a State owned public access area that is managed by the Ohio Department of Natural Resources. It is located at 201 Walnut Street which is directly across the Sandusky River from the Fremont WRC and downstream of all of the City's CSO discharges.

Summary of the Implementation of The Nine Minimum Controls

1. Proper Operation and Regular Maintenance Program for the Sewer System

The City's Water & Sewer Maintenance Department currently cleans a quarter of the City's sewers and catch basins every year if inspections indicate it necessary. The sewers are cleaned through a contract with a local company. The catch basins are done with City staff. Other areas of the City's sewer system and catch basins are cleaned as needed by City staff. Records of these activities are kept and this program is the responsibility of the Water & Sewer Department Superintendent.

2. Maximization of Storage in the Collection System

With the exception of locations 7 & 14 (figure 1) all CSO locations are either gated or pumped. Location 7 has been bricked and there have not been any CSOs at that location since it was bricked. Location 14 (Eliminated July 2020) consists of a storm sewer that has two locations where a sanitary sewer intersects the sewer and weir structures allow sewage to mix with the storm flow under significant precipitation events. The City has a flood control structure that all CSOs must either pass through when the gates are open or be pumped into the Sandusky River. Only three locations are pumped, 5, 9 and 12 as indicated in figure 1. Except under extreme flood conditions all gates are kept shut. The three pumped locations have had the pump control devices configured to maximize storage in the system before they will activate and initiate a CSO. Therefore, by controlling the pumps and keeping the gates closed the storage in the system is maximized. The City also has two storage ponds that hold excess flow during extreme events and when flow subsides in the system drain back to the system for full treatment at the wastewater treatment facility.

3. Review and Modification of Pretreatment Requirements

The City of Fremont has an approved Pretreatment program as required by 40 CFR 403.8. The City has developed technically based local limits and has incorporated them into the program as well as individual Industrial User's permits. These local limits are reviewed at a minimum at every permit renewal or every five years and are adjusted as necessary. Currently the City has nine permitted Industrial Users. The City also has a fats, oil and grease control program that

applies to all sewer users including industrial and commercial (restaurants). The City is up to date with all requirements of the pretreatment program.

4. Maximization of Flow to the POTW for Treatment

The City finished a major upgrade to its POTW in 2016 which increased the maximum flow capacity from approximately 7 MGD to 24 MGD. This upgrade was completed in large part to help reduce the number and volume of CSOs from the collection system. To date this has been very successful and the new facility has been able to treat flows approaching 30 MGD for short periods of time and flows between 24-25 MGD for several consecutive days while meeting all NPDES permit requirements. Upon start-up of the new facility the City discovered that the main interceptor sewer had large accumulations of grit that were causing the new grit removal system to fail. This resulted in having to limit the flow coming into the new facility. In late 2017 and early 2018 the City hired a contractor to clean the interceptor sewer and since then the facility has been able to experience the higher flows mentioned earlier. As a result the City is experiencing a greater than 95% reduction in the CSO volume compared to the time period before the new facility was put into operation.

5. Elimination of CSOs During Dry Weather

The City is not aware of any dry weather CSO events. As stated earlier, all CSO are either gated or pumped with the exception of locations 7 & 14(eliminated). Inspections of locations 7 & 14(eliminated) during dry weather have never indicated that a dry weather CSO has occurred.

6. Control of Solid and Floatable Materials to CSOs

The City catches first flush during a precipitation event by maximizing flow to the POTW and diverting flow to the two storage ponds. This reduces the amount of solid and floatable waste that reaches the Sandusky River. The City also has a garbage and recycling program and a street sweeping protocol that also reduces the waste that reaches the river.

7. Pollution Prevention Programs to Reduce Contaminates in CSOs

The City of Fremont's Pollution Prevention activities include educational programs through the schools and at the wastewater facility, street sweeping program, garbage and recycling collection and household hazardous waste collection through the solid waste district.

8. Public Notification

The City is required to notify the public when a CSO event occurs. The following protocol is followed:

The Liberty Street (Station Code 2PD00007016), Birchard Street (Station Code 2PD00007012) and Pine Street (Station Code 2PD00007008) CSO locations that are pumped have monitoring and call out systems that alert facility personnel when a CSO occurs. When personnel are notified by the system that a CSO is occurring the appropriate public entities and other interested parties that are on the notification list will be contacted by email within four hours. The Fremont WRC Superintendent or Assistant Superintendent will issue the initial notification. Supplemental notifications will be issued by the Fremont WRC Superintendent.

*Fulton Street CSO location (2PD00007018) was eliminated in 2020. All other CSO locations require manual opening of gates and therefore City personnel are aware when those locations discharge.

The initial notification email will have the following information:

1. The water body that received the discharge: Sandusky River
2. The location(s) of the discharge(s): Downtown Fremont to discharge channel of Fremont WRC. The only public access area that would be potentially impacted is the Darr-Root Fishing Access Area.
3. The Date and Time the CSO commenced or when Fremont WRC personnel became aware of the CSO event.
4. Indicate whether at the time of the notification if the discharge is still occurring and if not the approximate time it ended.
5. Point of contact: jslamson@fremontohio.org Phone 419-334-3876 or 419-680-5217

The supplemental notification will be provided to the public and other interested parties within seven days of an event and will have the following information:

1. The measured or estimated volume of the discharge.
2. The approximate time that the CSO discharge ended.

9. Monitoring to Characterize CSO Impacts and the Efficiency of CSO Controls

Our NPDES permit requires the City to monitor flow and duration of CSOs and also sample and analyze discharges for Carbonaceous Biochemical Oxygen Demand and Total Suspended Solids once per month. This information is reported on the monthly data monitoring reports that are submitted to Ohio EPA. Some CSOs either occur at times when plant staff are unavailable to collect a sample or are of too short a duration to allow collection of a sample. The information that is available for 2021 is listed in the above table.

Status of the Implementation of the Long Term Control Plan (LTCP)

The City finished a major upgrade to its POTW in 2016 which increased the maximum flow capacity from approximately 7 MGD to 24 MGD. This upgrade was completed in large part to help reduce the number and volume of CSOs from the collection system. To date this has been very successful and the new facility has been able to treat flows approaching 30 MGD for short

periods of time and flows between 24-25 MGD for several consecutive days while meeting all NPDES permit requirements. As a result the City is experiencing a greater than 95% reduction in the CSO volume compared to the time period before the new facility was put into operation.

The City of Fremont completed Part I, C- Schedule of Compliance, 6. b. (Event Code 05599) and c. of NPDES Permit #2PD00007*VD. The elimination of the Fulton Street CSO has been completed at both locations of interconnection. At the most northerly location adjacent to Rawson Avenue, the Water and Sewer Maintenance Department installed a plug in the interconnection eliminating the possibility that sewage from the Bull Run sanitary sewer can enter the Fulton Street storm sewer. This work was completed on November 1, 2019. The Engineering Department determined that this interconnection is at an elevation in the system where it is unlikely that the flow from Bull Run could ever enter the Fulton Street storm sewer, but a plug was installed as a precautionary measure to eliminate any possibility of this happening. In July a contractor completed the work of eliminating the interconnection of the Bull Run sanitary sewer with the Fulton Street storm sewer at the Hickory Street location. A PTI was submitted and approved for this project and consisted of installing a concrete conduit perpendicular to the Fulton Street storm sewer that allows flow from the Bull Run sewer to flow through the Fulton Street sewer without the possibility of mixing. (See Figure 1)

Figure 1. - Bull Run conduit (orange structure) through the Fulton Street storm sewer.

The City installed a water level sensor in an upstream manhole from the eliminated interconnection to monitor the level in the sewer to make sure there is no threat of surcharging the sewer and flooding basements.

The City finished a sewer model study and completed an engineering report that describes what the City has determined the next steps should be in meeting the goals of the LTCP. This

engineering report was submitted in December 2020 to Ohio EPA. The sewer model and engineering report indicate the City is experiencing four or less CSOs based on a typical year and is meeting the goals of the LTCP which currently has a completion date of December 31, 2028. Ohio EPA has responded to the submitted Engineering Report and requested further information from the City. The City is currently working on providing the requested information with its consultant, Stantec, located in Cleveland, Ohio.