Great Lakes Basin Combined Sewer Overflow Permittee

2024 Annual Notice

City of South Bend Wastewater Treatment Plant
NPDES Permit No. IN0024520
3113 Riverside Drive
South Bend, IN 46628
(574) 277-8515

The City of South Bend has a combined sewer which means storm water and sewage travel in the same pipes. Rain events often cause the pipes to become overwhelmed, which causes a combined sewer overflow (CSO). Nearly all CSO discharges are caused by precipitation or wet weather. The representative precipitation data causing the overflow is included on the Monthly Reports of Operation (MROs) in total inches, to the nearest tenth of an inch (0.1”). The date, location, approximate duration, estimated volume, and cause of each CSO discharge that occurred in 2024 can also be found in the MROs. See MROs listed on City website for the calendar year 2024. Treatment is not provided for these discharges and monitoring data is not available.

The following public access areas are potentially impacted by CSO discharges:

Riverside Boat Launch
East Race Waterway
Veterans Memorial Boat Ramp
Notre Dame Crew Team Boat House
South Bend Boat House
Keller Boat Launch

The following are a description of the location and receiving water for each CSO discharge point:

Outfall	Location	Receiving Water
001	Oakwood Blvd. & Riverside Drive	St. Joseph River
002	Sherman & Riverside Drive	St. joseph River
003	Sherman & McCartney	St. Joseph River
004	West End Angela Bridge	St. Joseph River
006	Riverside & LeLand Ave.	St. Joseph River
007	Lafayette St. & Park Lane	St. Joseph River
008	Park Lane & Main Street	St. Joseph River
010	Bartlett St. & Riverside Drive	St. Joseph River
11A	LaSalle & Michigan	St. Joseph River
11B	LaSalle & Michigan	St. Joseph River
014	Monroe & Lincolnway East	St. Joseph River
018	Bowman Creek	St. Joseph River
019	Miami & Lincolnway East	St. Joseph River
021	Lincolnway & Twyckenham	St. Joseph River
022	East End Trunk Sewer	St. Joseph River
025	Lafayette & Northshore	St. Joseph River
026	Leeper Avenue	St. Joseph River
027	Niles & Sorin	St. Joseph River
028	Niles & Sorin	St. Joseph River
029	Colfax & Sycamore	St. Joseph River
031	Cooper Bridge	St. Joseph River
033	Emerson & North Side Blvd	St. Joseph River
035	Clover Street & North Side Blvd.	St. Joseph River
036	Twyckenham & North Shore Blvd.	St. Joseph River
037	21st & Pleasant St.	St. Joseph River
038	North Side Blvd. & 26th	St. Joseph River
039	27th Street Lift Station	St. Joseph River
040	Alley-31-32-North Side Blvd.	St. Joseph River
041	North Side Blvd. & 36th Street	St. Joseph River
042	North side Blvd. & Logan	St. Joseph River
044	Northview & Riverside	St. Joseph River
045	Main Plant CSO	St. Joseph River
048	Siphon River Crossing #1	St. Joseph River
049	Siphon River Crossing #2	St. Joseph River
060	North Side Blvd. (Between Roberts St and Emerson Ave.)	St. Joseph River

The following is a concise summary of the implementation of the nine minimum controls:

1.1. Proper Operation and Maintenance Programs

The City has a "Streets and Sewer Department" that sits within Public Works. On the Sewers side of that department there are over thirty staff members that work on sewer maintenance and construction. Additionally, there is a three person CSO operations crew that is dedicated exclusively to overseeing the maintenance and proper functioning of the CSO outfalls. The City also has a dedicated long-term control plan Director that oversees the implementation of the LTCP and compliance with the CSO Consent Decree. These personnel, along with senior and executive leadership, ensure the proper operation and the application of regular maintenance programs for the sewer system and CSO outfalls.

The overriding purpose of South Bend's sewer operation and maintenance program is to reduce the magnitude, frequency and duration of CSOs. Specific programs include those focused on street cleaning, catch basin and inlet cleaning, sewer line televising, sewer lining and rehabilitation, CSO outfall inspection and cleaning.

The City also operates the following programs that involve the wider community in action:

- Basement valve program: a co-pay for residences to install an anti-backwater sewer valve.
- Downspout disconnection program: City municipal ordinance specifies that all downspouts be disconnected; the City offered free disconnects to all homeowners.

1.2. Maximum Use of Collection System for Storage

Maximizing the storage capacity of the collection system reduces the volume, frequency and duration of CSO overflows. Therefore, South Bend has taken several steps to maximize the use of the collection system for storage. "CSOnet", our smart sewer system that has successfully been developed and deployed in South Bend has been massively influential in enabling South Bend to maximize the use of the collection system.

South Bend continues to line sewers that are identified by sewer inspections as having high infiltration and inflow (I/I) contributions to maximize the capacity of the collection system.

South Bend has modified CSO diversion structures by raising weirs or adding throttle pipe capacity, to provide additional in-system storage and additional hydraulic capacity when feasible.

Additionally South Bend uses the following non-capital intensive programs to optimize the existing collection system:

Street cleaning, Catch basin and inlet cleaning, Regulator/river crossing inspection/cleaning, Lift station maintenance, Pretreatment program, Use of control valves to slow excess flow in upstream portions of system, Sewer inspection (CCTV), CSO inspection, Sewer cleaning, Sewer lining, Sewer lateral insurance, Root control program, Sewer/manhole/catch basin repair, Illegal dumping control, Leaf and yard waste collection, Hazardous waste collection, Recycling program, and, Erosion control

1.3. Review and Modification of Pretreatment Requirements

South Bend has a pretreatment program to protect the St Joseph River, the WWTP, and our citizens from harmful pollutants by requiring industries to reduce pollution in their discharge *before* it reaches the WWTP.

The pretreatment program employs the equivalent of 2.5 full-time employees and includes the following:

- Industrial discharge permitting,
- Inspecting industries annually,
- Monitoring industries by sampling,
- Receiving and reviewing self-monitoring reports from permitted industries,
- Evaluating industrial discharge permits annually, and
- Initiating enforcement actions against industries in non-compliance.

The City prepares Pretreatment Annual Reports which include any limit violations and descriptions of action taken to improve the quality of the industrial discharges.

1.4. Maximization of flow to the WWTP for Treatment

Flow maximization through the wastewater treatment plant is an important element of South Bend's CSO LTCP. Hydraulically, the WWTP can pass approximately 77 mgd through the primary and secondary treatment facilities. South Bend desires to maximize flow through its WWTP to fully treat additional wet weather flow. As such, and as is required by the CSO Consent Decree, the City has been heavily investing in WWTP upgrades many of which are completed or are near completion.

Additionally, the CSOnet smart sewer system is fundamentally designed to maximize flow to the treatment plant in a manner that significantly reduces the potential for CSOs.

1.5. Elimination of CSOs during Dry Weather

Through operation of its smart sewer system, South Bend has virtually eliminated dry weather CSOs. Dry weather CSOs can result from clogged throttle pipes, river water intrusions through leaky backwater gates or sediment deposits in sewers. South Bend's operation and maintenance program, discussed in MC1: Proper Operation and Maintenance, is designed to prevent dry weather overflows by regularly cleaning sewers and inspecting throttle pipes and backwater gates. Throttle lines are more likely to get plugged after a rain event because of the debris

transported through the sewers during a storm. Sewers that historically have had a history of failure or plugging are inspected at a minimum of once a week. On average, nine sewer locations are inspected each weekday.

South Bend also eliminated throttle lines under 8-inches to minimize pipe blockages by replacing the throttle or adding an additional larger diameter throttle pipe.

Smart sewer sensors communicate with the SCADA system to alert personnel to the potential for a dry weather overflow. Sensor data is updated every five minutes. If the sensor measures water level of 70% (distance from zero flow to overflow), an alarm is activated to SCADA and WWTP personnel notify the CSO Operations Manager. If the water level increases to 90% a second alarm is activated. If the water level increases to the overflow level a third alarm is activated. All alarms are recorded on the SCADA alarm screen at the WWTP.

1.6. Control of Solid and Floatable Materials &

1.7. Pollution Prevention Programs to Reduce Contaminants

South Bend has the following programs that address minimum controls 6 and 7 in tandem.

- Street cleaning,
- Illegal dumping control,
- Special leaf and yard waste collection program,
- Hazardous waste collection program,
- Recycling program,
- Catch basin and riverside signs,
- Erosion control.

1.8. Public Notification of CSO Occurrences and Impacts

South Bend ensures that the public receive information regarding CSOs. Steps taken include:

Each March a notice is placed in the South Bend Tribune newspaper to explain the nature of the potential health effects of CSO discharges and details steps that affected persons can take to avoid exposure. The notice also informs media sources and other affected or interested parties of how to request CSO notifications. The City's website provides information on CSOs and allows citizens to sign up for notifications of overflow events. Public notices include a phone number for residents to contact if they have questions or wish to report an unusual discharge.

CSO notification signs have been placed at each CSO outfall also.

1.9. Monitoring to Characterize CSO Impacts and Controls

Smart sewer network: This dynamic and ever evolving system consists of over various types of sensors at over 100 locations

River water sampling is conducted as frequently as weather permits. South Bend's goal is to sample on a weekly basis during the recreation season for E. coli, dissolved oxygen, total suspended solids and temperature.

Biology: Every year an aquatic biologist undertakes a detailed study of the St. Joseph River on behalf of the City of South Bend.

The following is a concise summary of the status of the implementation of the LTCP to reduce or prevent CSO discharging including:

-A description of key milestones remaining to complete the implementation of the plan:

South Bend entered into an initial consent decree (CD) for CSO remediation in May 2012. It had two phases. Phase one has been completed and consisted of mostly neighborhood sewer separation projects (2017). Phase two, now known as the SAGE Plan (Smarter Alternative for a Greener Environment) was recently amended (2022) as a revised CD with the USDOJ, USEPA, and IDEM. The newly revised CD will result in the building of 4 CSO storage facilities and various new sewer routes including river crossings. The LTCP will be concluded in 2038 at a remaining cost to South Bend of $276 million. South Bend is now completing the construction of its first CSO storage facility, to be fully constructed by December 2025, it is a 3-million-gallon storage tank near the City's WWTP. The second CSO storage tank, a retention-treatment basin (RTB) is in the early stages of being designed and will be a 4.7-million-gallon tank with disinfection facilities. It will be operational by the end of 2029. The City's WWTP will also be substantially enlarged, as regards throughput abilities. This will be completed by 2029, currently final clarifiers are being rehabilitated.

-A description of the average annual number of CSO discharges anticipated after implementation of the LTCP.

South Bend will capture well over 95% of annual CSO volume post LTCP- far exceeding the CSO National Policy requirements. This will equate to approximately 3 overflow events for a typical year.