

# **Combined Sewer Overflow Long Term Control Plan Citizens Advisory Committee Recommendations**

The Combined Sewer Overflow (CSO) issue falls within a larger context in that implementation of NPDES Phase II regulations, storm water, watershed management and ultimately Total Maximum Daily Load (TMDL) regulations will eventually envelop the CSO Long Term Control Plan (LTCP). The planning and implementation of the CSO LTCP must remain comprehensive in principle to blend and not conflict with future planned regulations.

The purpose of a LTCP is to reduce the number of CSO discharge events to four or fewer times per year. The rationale behind these recommendations results from recognition of cumulative and increasing human impacts on aquatic biological systems caused by untreated human waste entering rivers, lakes and streams.

In the Muncie community, the number of “CSO events”, when raw sewage flows into the segment of the White River or its tributaries in Muncie Sanitary District territory, is directly related to the volume of water from rain or snowmelt entering combined storm and sanitary sewers. When the volume peaks beyond the capacity of the sewer system and the Water Pollution Control Facility (WPCF) raw sewage is discharged to the river. During low flow

periods, the WPCF is able to treat all wastewater in the sewer system. Clearly, the primary cause of CSO events is excess storm water entering the combined sewer system: 62% of the current Annual Wet Weather Inflow is directly discharged to White River. Therefore, preventing storm water from entering the system would ensure sufficient capacity in the current system to treat all waste in the Muncie Sanitary District. As totally separating combined sewers is financially and politically unreasonable, this subcommittee of the Citizens Advisory Committee, in conjunction with the engineers employed by the Muncie Sanitary District, recommends that the following be implemented:

- Decrease clear water inflow to sewer system at the source, where feasible
  - Create in-system temporary storage
  - Increase pumping to WPCF
- Separate sewers and eliminate CSOs where feasible & monitor remaining active CSO's
  - Increase primary treatment capacity to WPCF

The CAC recognizes that water has no political or “utility” boundaries and that water entering the District via the White River and various tributaries already exceeds the acceptable limits for indicator contaminants, like E.coli (*A Compilation of E.coli data for the CSO Citizens Advisory Committee, 2001*).

For this reason, we recommend taking a watershed approach to pollution control. Furthermore, on page 31 of the “FINAL DRAFT of the CSO LTCP and Use Attainability Analysis Guidance Document”, sent from IDEM to the Sanitary District, a process is outlined to eliminate CSO's

and/or implement a watershed management approach to reach loading reductions. We recommend that the combined knee-of-the-curve and watershed approach must be used in the CSO LTCP and any future clean-water initiatives.

The Muncie Sanitary District Board of Commissioners charged the Citizens Advisory Committee with the following:

1. Defining sensitive areas: Both EPA and IDEM have definitions of “sensitive areas.” In accordance with these definitions, there are no “sensitive areas” within the Muncie Sanitary District’s jurisdiction;
2. Reviewing and recommending signage verbiage and postings at the CSO structures;
3. Reviewing the LTCP and identifying a series of recommended outcomes.

The Citizens Advisory Committee submits the following recommendations to the Muncie Sanitary District Board of Commissioners:

- **CSO 022 Partial Sewer Separation**

This project includes separating a portion of the combined sewers that are tributary to CSO 022 that discharges to Buck Creek. The first priority sewer separation projects will direct stormwater to another storm sewer outlet, which will reduce combined sewer overflows and improve stormwater drainage. The extent of the sewer separation is based on affordability and specific projects will be identified as funding becomes available. The Probable Project Cost for the CSO 022 Partial Sewer Separation Project of \$16.1 million represents 40 percent of the Probable Project Cost of \$40.3 million to completely separate the sewers tributary to CSO 022 and should result in approximately 40 percent of the sewers being separated.

- **CSO 024 Sewer Separation and Elimination of Overflow**

CSO 024 is the discharge of a 60-inch combined sewer to the south bank of Buck Creek near Port Avenue. This project will separate the sewers tributary to this overflow and eliminate CSO 024.

- **CSO Monitoring and Screening for Active Overflows Primarily Used for Flood Control (Buck Creek CSOs 023, 025 and 026).**

This project will provide for permanent water-level monitoring and overflow screening in each overflow chamber.

- **CSO 015 Partial Sewer Separation (SR 32)**

This project involves sewer separation associated with expected improvements to State Route 32 that will be constructed by the Indiana Department of Transportation. State Route 32 includes Main Street west bound and Jackson Street east bound bordered with the White River on the east and on the west. To improve roadway drainage in this area, it is anticipated that new storm sewers will be constructed that discharge directly to the White River. As stormwater in this area is primarily tributary to CSO 015, the construction of these new storm sewers will also reduce combined sewer overflows.

- **CSO 015 Monitoring and Screening**

The partial sewer separation associated with SR 32, as noted above, and the construction of the Kilgore Interceptor, as described below, will greatly reduce but not eliminate overflows from CSO 015. Hence there is a need to provide permanent water-level monitoring and screening for the remaining overflows.

- **Kilgore Interceptor (84-inch)**

This project involves the construction of an interceptor sewer to transport the discharge from CSO 015 to the water pollution control facility. The capacity of the 84-inch pipe is sufficient to transport flows from a ten-year, one-hour event. However, as the downstream pumping and

treatment facilities at the water pollution control facility will initially be built at a smaller size, the Kilgore Interceptor will be used initially for storage and transport of combined sewer overflows.

- **CSO 028 Sewer Separation and Elimination of Overflow**

CSO 028 is the discharge of a 63 x 42-inch combined sewer to the east bank of the White River between Gilbert Street and High Street. This project will separate the sewers tributary to this outfall and CSO 028 will be eliminated.

- **CSO Monitoring and Screening for Active Overflows Primarily used for Flood Control (White River CSOs 013, 012, 008, and 007)**

This project will provide for permanent water-level monitoring and overflow screening in each overflow chamber.

- **Water-In-Basement Reduction Program**

This project involves the initial establishment of a program with the goal of preventing the backup of sewage into basements. Specific items to include in the program need to be determined.

- **CSO Bar Screen, CSO Pump Station and Relocation of CSO 018**

This project includes connections from the three existing interceptor sewers that enter the WPCF site along with the proposed Kilgore Interceptor Sewer to a common location so that the combined sewage can be screened and then pumped to the selected CSO treatment facility. The CSO Bar Screen and a CSO Pump Station would have an initial capacity of 67.5 mgd. This capacity is one half of the ultimate capacity of 135 mgd that was calculated for a ten-year, one-hour storm event and was selected for initial affordability associated with a UAA alternative and to allow for future expansion.

- **CSO Retention/Treatment Facilities**

This project includes the construction of a CSO Retention/Treatment Facility with an initial volume of 2.6 million gallons. This volume is one half of the ultimate volume of 5.2 million gallons that was calculated to retain flows from a one-year, one-hour storm event and to provide for primary treatment for flows from a ten-year, one-hour storm event. The selected capacity of 2.6 million gallons provides for initial affordability associated with a UAA alternative and allows for future expansion.

- **CSO Disinfection Facilities**

This project includes facilities for the handling and use of Sodium Hypochlorite and Sodium Hypochlorite for the disinfection and dechlorination of CSOs up to the initial pumping capacity of 67.5 mgd.

The CAC strongly encourages the installation of an on-going citizens advisory review board that is charged with the continuous review of water quality planning and implementation policies and projects within and beyond the Sanitary District. Regularly scheduled maintenance and cleaning of the combined system is critical to the success of the LTCP. The CAC cannot emphasize enough the importance of continuous and on-going comprehensive education to children and adults about water quality issues.