

CITY OF BELLEVILLE

Combined Sewer Overflow Public Notification Program

The City of Belleville is currently in the process of developing a long term control plan (LTCP) for combined sewer system overflows to protect the environment and assure compliance with the clean water act.

The original sewer system in the City of Belleville, constructed in 1912, is still in service and was constructed as a combined sewer system (CSS). A combined sewer system is a wastewater collection system that conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and storm water through a single-pipe system to a publicly owned treatment works (POTW) treatment plant. Construction of combined sewer systems was common practice during that era. Dilution of wastewater by storm water was believed to be beneficial at that time, as effective treatment processes meeting today's standards had not yet been developed. Construction of combined sewer systems are no longer allowed under current EPA standards. Additions were made to the original system, complying with the standards in effect during the time of construction, as the city grew. Approximately 40% of the current system consists of combined sewers. A combined sewer overflow (CSO) is the discharge from a combined sewer system at a point prior to the publicly owned treatment works. During periods of moderate to heavy rainfall, the sewer system can not handle the amount of inflow due to the capacity limits of the pipe or treatment plant and the combined sewer overflows to relieve the system. Combined sewer overflow discharge varies with the intensity and duration of the rainfall event. Without the relief provided by combined sewer overflows extreme street flooding and numerous basement backups would frequently take place.

Combined sewer overflow discharges consist primarily of storm water run off and could contain detectable levels of domestic sewage.

Combined sewer overflows are subject to National Pollutant Discharge Elimination System (NPDES) permit requirements including both technology-based and water quality-based requirements of the Clean Water Act (CWA). The City of Belleville's NPDES permit includes the operation of thirteen (13) combined sewer overflows. IEPA has determined that none of the combined sewer overflow outfalls within the City of Belleville discharge into sensitive areas. Sensitive areas are any water in the immediate area of the discharge point designated as an Outstanding National Resource Water, found to contain either shellfish beds or threatened or endangered aquatic species or their habitat, used for primary contact recreation, or within the protection area for a drinking water intake structure.

Following is a list of the permitted combined sewer overflows within the City's sewer system:

CSO #	Location	Receiving Stream
2	Portland Ave. & Mascoutah Ave.	Richland Creek
4	South Church & Richland Creek	Richland Creek
5	Freeburg Ave. & Van Buren St.	East Creek
8	South Belt East & IL 159	Richland Creek
11	Garfield St. & Richland Creek	Richland Creek
12	Centreville Ave. & Lincoln St.	Richland Creek
14	West Main St. & South 6 th St.	Richland Creek
20	4 th St. North of Monroe St.	Richland Creek
23	Southern RR & 23 rd St.	Catawba Creek
28	North of Main St. at 51st St. (Eliminated 10/24/07)	Schoenenburger Creek
30	66 th St. North of West Main St.	Schoenenburger Creek
31	78th St. & County Highway 42 (Eliminated 10/24/07)	Powdermill Creek
32	79th St. & County Highway 42 (Eliminated 11/20/07)	Powdermill Creek
35	South 88 th St. at Lift Station	Powdermill Creek
37	370' North of E. St. & 9 th St.	Catawba Creek
38	First Flush Basin	Richland Creek

The City of Belleville has developed and implemented a combined sewer overflow inspection and maintenance program to minimize the effects of combined sewer overflow discharge. Elements of this program are as follows:

- Inspections of the wastewater treatment facilities are performed hourly each day to assure that maximum flow and proper treatment are being maintained.
- The bar screens in the pump station at the wastewater treatment plant are inspected each shift and are continuously self cleaning.
- The pumps at the wastewater treatment plant pump station are inspected daily and preventive maintenance procedures are performed every six (6) months.
- Inspections of the first flush/holding basin concrete lining of the interior levee slopes and the influent and effluent structures are performed on a daily basis.
- Inspections and preventive maintenance procedures are performed on the fifty (50) pump stations within the sewer system on a continuous cycle.
- All combined sewer overflow discharge points are inspected weekly during dry weather and during, if practical, or within twenty-four (24) hours of a rain event.
- Street sweeping is performed on a regular basis to minimize the amount of debris flushed into the combined sewer system during a rain event. During fall months a greater emphasis is placed on street sweeping in wooded areas with combined sewers to reduce the amount of leaves entering the system that can cause clogging of pipes.
- Inspection and cleaning of catch basins is performed on a continuous basis. Approximately 25% of the ±4300 catch basins are cleaned each year.
- Approximately 25% of the sewer system is cleaned each year to prevent excessive build up of solids and maintain system capacity.

- Suspected problem areas in the sewer lines are inspected by running a video camera through the line. Repairs are then made on an as needed basis.
- Smoke and dye testing is used to detect illegal connections with are then ordered to be removed in accordance with the sewer use ordinance.

The City has also developed and implemented a Pollution Prevention Plan to help reduce pollutants from entering the Combined Sewer System and polluting our streams. Elements of the plan are:

- Street Cleaning – Street cleaning and storm catch basin cleaning are done on a regular basis.
- Public Education – City newsletters, warning signs on catch basins, and web site information to make the public aware of what they can do to help clean up their environment.
- Solid Waste Collection and Recycling – Proper disposal of waste materials and recyclables are important. The City provides these services. These waste materials must be disposed of properly rather than thrown in the street to be carried into our Sewer Lines and streams by storm water.
- Production Bans/Substations – This requirement currently does not apply to the City.
- Control of Product Use – The City properly uses pesticides and herbicides through the summer months. All precautions are taken to reduce and prevent exposure to the Public.
- Illegal Dumping – the Public Works Department post illegal dumping signs in designated areas where dumping is a problem in the City. The Police Department investigates illegal dumping occurrences. Items that are dumped are collected by Public Works Departments and properly disposed of. The Police Department works closely with Neighborhood Watch Associations to report illegal dumping.
- Bulk Refuse Disposal – the City’s Sanitation Department collects bulk items daily by appointment. The City offers a city-wide bulk refuse cleanup every three (3) years. Information for these services are available on the Sanitation Department Web Page Link.
- Hazardous Waste Collection – The Illinois EPA and St. Clair or Madison County Health Departments offer residents an annual one day hazardous waste disposal pick-up. Search both Counties websites for information. St. Clair County Health Department also provides a list of facilities for hazardous waste collection throughout the year by contacting their department or visiting their website.
- Water Conservation – The City currently does not have Water Conservation requirements.
- Commercial/Industrial Pollution Prevention – The City’s Pretreatment and Sewer Ordinances cover all industrial and commercial dischargers. Inspections, testing, and permitting are used to ensure compliance with all regulations.

No known dry weather overflow (DWO) has occurred since implementation of the inspection program at any of the City’s authorized combined sewer overflows. We perform weekly inspections of the City’s combined sewer overflows to ensure that the regulators are working properly and that a dry weather overflow has not occurred. A portion of the combined sewer overflow inspections are performed at higher sanitary sewer flow periods in the dry weather flow cycle. These observations verify that the combined sewer overflow regulating mechanisms are adequate to control the peak dry weather flows and maximize the storage of pollutants in the sewer system and minimize the discharge of pollutants from the combined sewer overflows. The most recent stream inspections revealed no evidence of sewage sludge deposits within pools at or

downstream of combined sewer overflow discharge points. Downstream water samples taken during combined sewer overflow discharge have been in compliance with the wastewater treatment plant effluent standards specified in the NPDES permit.

Beginning in 1991, the City initiated steps to significantly reduce the frequency of combined sewer overflow discharges. A new pumping station and first flush/holding basin were constructed at the treatment plant to handle additional flows during rainfall events. Subsequent to completion of the pump station and basin, three (3) new interceptor sewers were constructed to transport more flow to the treatment plant and reduce the frequency of combined sewer overflow discharges. The first flush basin also catches the solids that are deposited in the pipes from wastewater during periods of low flow in addition to solids and organic material that may be washed into the combination sewers from streets and parking lots at the beginning of a rain event. The increased flow and velocity due to the inflow of storm water cleans the pipes early in the rain event, prior to combined sewer overflow discharge, and deposits these solids in the basin. Basin flow is then pumped to the treatment plant. Wastewater entering the combined sewer system during a rain event of adequate intensity to cause combined sewer overflow discharge would then be extremely diluted.

The long term control program currently being developed will include provisions to further reduce combined sewer overflow discharges. Separation of storm water and wastewater throughout the City is both impractical and cost prohibitive. It would require construction of a complete new collection system for storm water and extensive modification of the existing system to be left in place for wastewater. Construction operations would require removal and replacement of large quantities of street, curbing and sidewalk in addition to relocation of numerous underground utilities. Considerable inconveniences would be experienced by residents and business owners due to road closures/lane restrictions and intermittent utility service loss. Cost for total separation throughout the City could be as much as \$100,000,000. Separation of storm water and wastewater can, however, be feasible in specific areas and will be included as an element of the long term control program. Every effort is made to accomplish storm water and wastewater separation in conjunction with any street improvement projects. Currently, the following projects will provide separation of storm water and waste water:

- Portland Avenue Storm Water Separation Project (CSO #2)
- South Belt West between South 16th and South 22nd Streets (CSO #4)

These projects should result in reductions of combined sewer overflow discharge at the specific locations noted.

Construction for separation of storm water and wastewater is under way in the Portland Avenue Watershed. Upon completion, this project should allow closure of the combined sewer overflow located at Portland Avenue and Mascoutah Avenue (CSO #2). This is our largest permitted combined sewer overflow with a pipe diameter of seventy-two (72) inches. Funding for this project which is estimated to be \$5,000,000 is being provided by a federal legislative grant. The city provides 25% and the federal government provides 75% of the funding. The Portland Avenue project will be completed in phases. Completed storm water removal projects on West Main from 59th Street to 36th Street allowed the closure of CSOs at 51st Street and Main and South 78th Street. Proper maintenance and sewer line repairs helped remove the CSO at South 79th Street. Future projects that include storm water and wastewater separation are proposed for the following locations:

- South Illinois Street from Main Street to IL 15
- Scheel Area Storm Water Removal

Please refer to the Long Term Control Plan (LTCP) section of this web page for details of the IEPA approved plan to eliminate the remaining Combined Sewer Overflows.

Comments and recommendations from the general public pertaining to the public notification program are being requested. Please call (618)233-7146 8:00 am-4:30 pm Monday-Friday for information or to provide comments.

As of March 2008