

WATERSHED MOMENTS

Historical

1880s Construction starts on Peoria's sewer network. Typical for the time, stormwater and sanitary water are discharged directly into the river through the same pipe, called a combined sewer. According to documents, "by 1900, at least 10 sewers had been built with outfalls into the Illinois River. During these early years, sewers were constructed apparently where and when liquid refuse became intolerable."

Greater Peoria Sanitary & Sewage District forms. A large "interceptor" sewer is built along the riverfront. During dry weather, it delivers sewage to the new Darst Street wastewater treatment plant. During wet weather periods of less than 1/10th of inch of rain, the combined sewer system still overflows into the river at 20 locations. (CSOs = combined sewer overflows.)

1920s to 1930s

City & GPSD sign an agreement defining the responsibilities of each for existing systems and Peoria's future expansion. Both agree to only build separate sanitary and storm sewers for as-yet-undeveloped areas.

Peoria adopts 1st master plan for wet weather management. It delineates separate storm sewers to relieve flooding, overflows and backups. It explains the effect that impervious density has on runoff.

1952

1970s - 1990s

Federal Clean Water Act created through sweeping amendments to 1948 Water Pollution Control Act. Public awareness of water pollution is growing, and a permit is now required to discharge pollutants into "waters of the U.S." EPA begins regulating Peoria's CSOs through a National Pollutant Discharge Elimination System (NPDES) permit.

1970s Peoria prepares a facilities plan to address continued CSO problems. Sewer flow monitors are installed at 10 locations along with rain gauges and wastewater samplers.

A Clean Water Act amendment establishes that urban stormwater conveyance systems are point sources of pollution. NPDES expands to include Municipal Separate Storm Sewer Systems (MS4 for short).

1980s Peoria performs impact study to determine the effect of CSOs on the river and presents findings to Illinois EPA. Starting in 1987 (through 1994), Peoria proactively undertakes about \$10M (in 1980s dollars) in projects to reduce sewer overflows. These include:

- Separating sewers in drainage basins
- Constructing swirl concentrators to remove trash from overflows
- Installing gates to control flow discharged to interceptor
- GPSD treatment plant improvements
- Installing telemetry to monitor sewer flows

U.S. EPA establishes a CSO control policy. This framework compels U.S. municipalities to develop Long-Term Control Plans to ensure that their CSOs do not prevent meeting water quality standards of receiving waters. The policy's stated principles include finding cost-effective controls, with phased implementation, to accommodate a community's financial capability.

1994 Peoria completes CSO project improvements. Benefits include reducing:

- # of CSO locations from 20 to 16
- Average days of overflows from 40/year to 28/year
- Overflow volume from estimated 840 million gallon avg. to 160 million gallon avg. in a typical year
- Trash discharging to the Illinois River



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2000s - Present

NPDES Phase II permit for MS4s applies to Peoria. City submits plan to comply with 6 minimum control measures for storm sewer system O&M.

Peoria's NPDES sanitary sewer permit requires city to develop a Long-Term Control Plan to reduce incidence of CSOs. 20-30 CSO events occur per year, on avg., at 16 locations. Non-compliance will lead to major fines and penalties. Peoria begins developing control plan and performing public outreach.

November. EPA determines Peoria's CSO area is environmentally "sensitive." This mandates a higher level of protection than included in normal CSO control policy. It means CSOs must be eliminated/relocated, to the extent of community affordability.

Peoria explores CSO control plan using all-green infrastructure. With EPA's designation of the Illinois River CSO area as "sensitive"—requiring higher levels of control—City estimates green infrastructure installation could be approx. 2/3 cost of gray.

(December) City Council authorizes a study of ways to fund & manage stormwater infrastructure.

(Spring-Summer) Study of managing Peoria's stormwater infrastructure gets under way. Among other things, it reviews capital improvements, O&M, administrative and regulatory compliance needs. A diverse stakeholder group is invited to join new OneWater Committee; this advisory group examines wet weather system needs and funding options.

(June) City Council begins budget discussions. Stormwater infrastructure and CSO funding needs are among many priorities.

2003 **Peoria compiles stormwater master plan** identifying needs throughout whole city. Nearly 1,000 citizen complaints are documented. It says erosion is threatening houses and other structures. It recommends exploring alternate funding mechanisms to adequately improve and maintain a sustainable stormwater infrastructure.

2006

2008 **Public hears 3 options to reduce CSOs.** These all involve "gray" infrastructure—building one or more treatment tanks—plus "green" solutions / litter control. At the time, public prefers building 4 tanks along the river at a cost of (in 2008 dollars) \$105M-\$127M. Draft control plan is submitted to EPA.

2009 to 2013 **EPA questions Peoria on affordability,** saying citizens can afford a control plan of \$500M or more. City analyzes 19 alternate solutions, including sewer separation; City Council hears a preferred option of building 4 storage/treatment tanks + 2 long pipes to the wastewater treatment plant. Negotiations continue in earnest.

2014

Tri-County Regional Planning Commission publishes Stormwater Utility Feasibility Study for 13 participating governmental bodies, including Peoria. The study concludes a user-fee utility approach for funding stormwater management is a viable option for Central Illinois.

2015 **(March) Peoria submits draft of 100% green infrastructure CSO control plan to EPA.** If approved, it may be nation's 1st all-green solution. The City seeks to employ cost-effective techniques like pervious pavers and natural plantings to keep stormwater from entering combined sewers. This would virtually eliminate CSOs and beautify streetscapes. Current estimate for installing green infrastructure is around \$200M (in 2015 dollars), phased in over a period TBD. The City continues work on a financial model to understand the impacts of the CSO program and to guide planning for anticipated costs. Peoria hopes to partner with EPA on a workable, long-term solution.

2017 to today **Stormwater utility launches citywide approach.** Peoria City Council approves a stormwater utility for the funding of wet weather needs. The funds help the City address the considerable backlog of stormwater projects. Peoria embarks on a citywide approach of managing stormwater where it falls using green infrastructure.