

Type and Capacity of Storage Units for CSO Long Term Control Plans (LTCPs)

QUESTION

The following question was sent to members of the NACWA Legal Affairs Committee on October 26, 2007:

“We are writing to you as a member of the NACWA Legal Affairs Committee with a request for information from a member agency, which has asked the following question:

Are you a community with a combined sewer system or a wastewater treatment agency serving a combined sewer area that plans to or is utilizing tunnels or reservoirs for storage as part of your CSO Long Term Control Plan? If yes, please specify whether your program includes tunnels, reservoirs or both, and the storage capacity for the tunnels and/or reservoirs upon completion. Also, please indicate whether your reservoir capacity is or will be obtained by contracting directly for its construction or will be developed in some other way (for example, by partnering with the U.S. Army Corps of Engineers or by obtaining rights to an existing storage basin).”

RESPONSES

The following responses were received:

Milwaukee Metropolitan Sewerage District: MMSD uses tunnels but not reservoirs for its CSO long term control plan; MMSD contracted directly for construction of the tunnels. Current capacity is 494 million gallons, with final capacity in 2010 at 521 million gallons. Of the existing 494 million gallon capacity, 89 million gallons of capacity is dedicated to SSO control.

Massachusetts Water Resources Authority: The MWRA submitted the following document with information about its storage capacity:

http://www.nacwa.org/index.php?option=com_vfm&Itemid=404&do=download&file=2007-10mwra-survey.pdf

Narragansett Bay Commission: The NBC has a 65 million gallon tunnel.

Indianapolis: The City has a LTCP current under way that will run through 2025. There are a number of tunnel projects underway, including

- East Bank (3 MG)
- Poques Run tunnel conversion (up to 10 MG)
- Spades Park (9.5 MG)
- Fall Creek-White River tunnel (224 MG, planned)

San Francisco, CA: The City uses tunnels, transport boxes and storage boxes to implement its long term control plan. The total capacity of such structures is approx. 166.5 million gallons, or 197 million gallons when adding in the storage capacity of large collection system sewers feeding into the tunnels, transports and storage boxes. SF constructed its own storage capacity, with the help of EPA's sewer construction grant program.

Detroit, MI: Detroit's Long Term CSO Control Plan includes a 201 MG capture tunnel which is presently under design to "statistically" capture all but one overflow per year. The size of the tunnel was derived using a SWMM hydraulic model and using 36 years of areal participation data. The model was set up to use spatial and temporal rainfall data, resulting in a much smaller tunnel size as opposed to using an unrealistic design, uniform rainfall event. The tunnel will receive CSOs from 17 outfalls along the Rouge River, then dewater its contents when interceptor capacity allows. The one overflow event that will not be entirely captured by the tunnel will be allowed to overflow without any treatment. A single pumps station at the low end of the tunnel will dewater the tunnel. The tunnel will be constructed using traditional contract means.

Sacramento, CA: The City uses enclosed storage facilities to retain excess combined system flows and reduce flooding and CSOs. Some are quite large such as Pioneer Reservoir which stores 23 million gallons of combined wastewater. The City currently has 3 such storage facilities, normally much smaller, and they are made from concrete or concrete pipe and they are completely enclosed. The City does not use any reservoirs. The City contracts directly rather than partnering, but often utilizes EPA contracts.

Columbus, OH: The City submitted the following document outlining its CSO storage plans under its LTCP: http://www.nacwa.org/index.php?option=com_vfm&Itemid=404&do=download&file=2007-10-clmbstrg.xls

Northeast Ohio Regional Sewer District: The NEORSD does plan to utilize tunnel storage as the primary mechanism for CSO control. Reservoir storage is not part of the District's plan. Upon completion, the CSO tunnel storage system will be capable of storing approximately 350 million gallons of CSO per rainfall event. NEORSD is currently completing its Mill Creek CSO storage tunnel which will be capable of storing over 70 million gallons of CSO/event.