

Reinforced Concrete Pipes at Bridgeton Sanitary Landfill

Last Updated Aug. 31, 2013

RCP Abandonment Completed - June 3, 2013

What is a Reinforced Concrete Pipe?

A reinforced concrete pipe, from here forward referred to as an RCP, is part of Bridgeton Sanitary Landfill's replaced leachate collection system. These RCPs are 6' diameter pipes that extend from the surface of the landfill to its bottom or approx. 320 below the ground's surface. Prior to the subsurface smoldering event, these RCPs were dug up or filled with dirt/rock to abandon them. Since the subsurface smoldering event began, landfill gas pressures have increased and some of these RCPs have dislodged the dirt/rock used to plug them and have begun emitting landfill gas or steam, which is odorous.



Photos of reinforced concrete pipes (left SC-2 and right SC-4) covered in flexible membrane liner before abandonment. SC-4 is under pressure from landfill gas.



Photos of reinforced concrete pipes (left SC-2 and right SC-4) after abandonment.

RCP Abandonment Plan

On March 14, 2013, Republic Services initially submitted for review and approval by the department their RCP abandonment plan. Bridgeton Landfill indicated plans to install an enhanced, additional cover system and cover integrity management system in the South Quarry of the landfill once the RCPs were abandoned. The [department provided comments](#) to Republic Services on their submitted plan on March 18, 2013.

On March 22, 2013, after receiving [Republic Services responses](#) to the department's and St. Louis County Department of Health's comments, the [RCP abandonment plan](#) was [approved](#).

Republic's goals for this RCP abandonment program were to:

1. Create a safe area in the vicinity of the abandoned vertical sumps (RCP's).
2. Reduce the likelihood of damaging differential settlement or protrusion of the RCP structure through the enhanced cover.
3. Reduce the ability of the RCPs to deliver gasses and odors directly to the cover environment at a level where collection under the cover would not be successful at controlling gasses.
4. Minimize odor releases during the abandonment processes.
5. Provide abandonment approaches that maintain worker safety.

Republic Services indicated while work was being completed on the 6 RCPs, odors would likely increase significantly. The RCP abandonment process was one step in preparation for the capping of the South Quarry. As part of the interim capping system, Republic Services also installed 25 perimeter collection sumps that required trenching into waste and increased odors.



Photos of perimeter collection sump installation.

