

Closure of an Injection System



State of Oregon
Department of
Environmental
Quality

Background

When an Underground Injection Control (UIC) system is not in use or abandoned, cannot be authorized by rule or permit, or is prohibited, the owner or operator must close the system. Closure requirements are identified in Oregon Administrative Rule 340-044-0040.

Requirements for UIC closure depend on the type of UIC system.

Sewage Drill Holes

Sewage drill holes are drilled, hammered, or blasted boreholes, typically in bedrock in eastern Oregon, used for sewage or sanitary waste disposal. There are two steps to closing a sewage drill hole:

Step 1: Pre-Closure Notification Form

Create an account in Your DEQ Online (YDO) at the following link:

<https://www.oregon.gov/deq/Permits/Pages/Your-DEQ-Online-Help.aspx>

Submit the form with required fees to DEQ through YDO.

Step 2: Closure

Solids must be removed from the sewage drill hole, and the drill hole must be closed by sealing the structure with cement grout or concrete.

Other sealing materials may be used with written approval from the UIC Hydrogeologist. Closure must be overseen by a licensed geologist or engineer, or conducted by a licensed well driller. This is necessary to ensure that cement or cement grout emplacement occurs in accordance with OAR 340-044-0040(3)(c).

Stormwater UICs

Stormwater UICs infiltrate only stormwater runoff from roofs, private driveways, parking lots, and streets. There are three steps to closing a stormwater UIC:

Step 1: Pre-Closure Notification Form

Find the preclosure notification form in YDO at the following link:

<https://www.oregon.gov/deq/Permits/Pages/Your-DEQ-Online-Help.aspx>

Submit the form with required fees to DEQ through YDO. DEQ will review the Pre-Closure Notification Form and authorize closure of the UIC system via email.

Step 2: Sampling

DEQ requires sampling of sediment in UICs where field screening of sediment inside the UIC indicates the presence of contamination or of a spill, or if the sediment inside the UIC is going to be transported it must be sampled to determine if it must be handled as hazardous waste or non-hazardous waste. (Sampling is not required for stormwater UICs that drain runoff solely from roofs or private driveways.) Analyze the sediment for RCRA-8 metals by the Toxicity Characteristic Leaching Procedure to determine if the sediment needs to be managed as a hazardous waste.

You will need to conduct additional analyses if evidence of a chemical spill is found during closure. Call the UIC Hydrogeologist if you find evidence of a spill to discuss sampling requirements.

Step 3: Closure

After receiving authorization, close the UIC in a manner that prevents vertical fluid movement. If you are closing a vertical UIC, remove the top four feet of the UIC structure and backfill with fill material. At a minimum, the upper four feet of the hole must be backfilled with impermeable material (a fill material of 300 pounds per square inch controlled density fill meets or exceeds Oregon Water Resource Department abandonment requirements) that mushrooms out over the top of the UIC. Horizontal UICs can be closed by installing a permanent plug comprised of controlled density fill. Closure must be overseen by a licensed geologist or engineer, which is necessary to ensure that decommissioning meets the standards of OAR 340-044-0040.

Prohibited UICs

Prohibited UICs are identified in OAR 340-044-0015, and include UICs that inject:

- Industrial or commercial processes water or wastewater (for example, vehicle wash water),
- Fluids from industrial or commercial operation areas where hazardous substances or toxic materials including petroleum products are stored, used or handled (for example, refueling areas),

Underground Injection Control Program

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DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

- Fluids into floor pits or floor drains at industrial or commercial facilities,
- Motor vehicle waste from repair or maintenance activities, and
- Agricultural drainage.

DEQ strives for efficient investigation and closure of prohibited UICs to facilitate the use, sale, refinancing, and/or redevelopment of contaminated property, while protecting human health and the environment. Closure requirements for prohibited UICs depend on the type of prohibited UIC.

Step 1: Pre-Closure Notification Form and Closure Work Plan

In YDO find the Pre-Closure Notification form in YDO at this link:

<https://www.oregon.gov/deq/Permits/Pages/Your-DEQ-Online-Help.aspx> It is necessary to prepare a Closure Work Plan when decommissioning prohibited UICs. Contact the DEQ UIC Hydrogeologist at 503-239-6371 to discuss the type of prohibited UIC, and closure and sampling requirements that are specific to your site. The plan needs to be submitted 30 calendar days before closure. Typically, closure work plans include:

- UIC system background (e.g., fluids injected into the UIC, construction information,
- figure showing site layout)
- Soil, sediment, and/or groundwater samples that will be collected during closure, collection methods, and laboratory analyses that will be performed
- Screening levels that will be used to assess the need for sampling outside of the UIC and further excavation
- Decommissioning methodology (solids and liquid removal, fill-in-place or excavation, backfill placement)
- Pre-Closure Notification Form

DEQ will assist the UIC owner with determining whether participation in the Independent Cleanup Program or Voluntary Cleanup Program is appropriate.

Step 2: DEQ Approval

DEQ will review the Closure Work Plan and authorize closure of the UIC system in writing. DEQ will authorize closure usually within 30 calendar days of receiving the form and work plan.

Step 3: Closure

After receiving authorization to close the UIC, close the UIC in accordance with the Closure Work Plan.

Step 4: Prepare a Closure Report

The goal of the closure report is to document decommissioning of the UIC. The closure report must include the following:

- Pre-Closure Notification Form
- Date of closure
- Name of contractor or those who performed the closure
- Description of how the system was closed, including what materials were used
- Closure log showing vertical depth of the UIC system and vertical placement of the material used to close the system
- Description of what samples were collected and at what depth, including chain-of-custody forms that document sample handling and transfer
- Summary of sampling data and analyses, including laboratory reports
- Description of how and where any materials removed from the UIC system were disposed of, as well as the bill of lading from the facility that received the material and the bill of lading for its disposal
- Photos and diagrams showing how the UIC system was closed
- A statement that the closure meets DEQ's closure requirements (OAR 340-044-0040) and Oregon Water Resources Department abandonment requirements (either OAR 690-240-0030 or 690-220-0030)
- The closure report must be certified by a registered State of Oregon licensed geologist, professional engineer with geotechnical expertise, or engineering geologist

Closure reports that are prepared to fulfill requirements of the Tanks Program, Voluntary Cleanup Program, or Independent Cleanup Program will meet UIC program requirement for a Closure Report, so long as the information described above is included in the report.

For more information

Contact the UIC Senior Hydrogeologist, at 503-229-6371, or call toll-free in Oregon at 1-800-452-4011, ext. 6371.

Alternative formats

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email deqinfo@deq.state.or.us.