

# ROCKY FLATS SITE

## REGULATORY CONTACT RECORD 2021-04

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**Purpose:** East Trenches Plume Treatment System (ETPTS) discharge line replacement

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**Contact Record Approval Date:** December 13, 2021

**Site Contacts and Affiliations:** Andy Keim, U.S. Department of Energy (DOE); Dana Santi and Ryan Wisniewski, RSI EnTech, LLC (RSI)

**Regulatory Contacts and Affiliations:** Lindsay Murl, Colorado Department of Public Health and Environment (CDPHE); Jesse Aviles, U.S. Environmental Protection Agency (EPA)

**Date of Consultation Meeting:** September 15, 2021

**Consultation Meeting Participants:**

Lindsay Murl, CDPHE; Jesse Aviles, EPA; Andy Keim, DOE

**Related Contact Records:** None

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**Introduction:**

On the morning of Tuesday, September 14, 2021, Legacy Management Support (LMS) staff identified an ETPTS pump that had malfunctioned. It was determined that the pump had burned out because the effluent discharge line was clogged with calcium scale. This pump, which is in the effluent tank of the ETPTS (Figure 1), pumps treated groundwater to the ETPTS effluent discharge gallery. Since the burned-out pump was identified within hours of failure and response actions (see “Immediate Response” section below) were implemented immediately, all treated water was maintained within the system while the effluent tank pump was inoperable, and normal treatment operations were uninterrupted.

**Background:**

The ETPTS air stripper treats groundwater from both the Mound Site Plume Collection System and the ETPTS that is contaminated with volatile organic compounds. The treatment component of the ETPTS has been modified through the years from its original configuration and treatment methods as described in Contact Records CR 2012-02, CR 2014-01, CR 2014-04, and CR 2016-02.

**Immediate Response:**

A new pump was installed the same morning that the burned-out pump was identified in the effluent tank. A temporary, aboveground line was routed from the newly installed pump into the effluent manhole to bypass the clogged line. The temporary line was a measure that would maintain the operation of the system until a permanent solution for the clogged line could be implemented.

The temporary line required that certain components be propped open for line access. To prevent wildlife entrapment, the edges of the effluent vault and manhole were covered with geotextile fabric. The fabric was secured with rope and T-posts to prevent wildlife access yet allow easy removal during maintenance and repair activities.

The DOE Office of Legacy Management (LM) notified, via phone, the Rocky Flats Legacy Management Agreement (RFLMA) parties of the ETPTS status on September 15, 2021, and provided general details regarding the impact and planned response, which is regulated under the Rocky Flats Site, Colorado, institutional controls and the 2017 Restrictive Notice (see section “Institutional Control (IC) Evaluation” below for further detail). After discussion of the planned response, the RFLMA parties verbally approved proceeding with the replacement of the clogged subsurface discharge line.

### **Performed Correction:**

Because of the temporary line’s vulnerability to environmental conditions, such as freezing temperatures and disturbance by wildlife, the below ground line needed to be replaced as soon as feasible. On October 12, 2021, the clogged line was removed and replaced with approximately 13 feet (ft) of 2-inch high-density polyethylene (HDPE) pipe, which connected the ETPTS effluent vault with the effluent manhole. The line replacement required an excavation approximately 17 ft long by 6 ft wide with a varying depth of 2–5 ft. Photo 1 illustrates the general size of the excavation and the configuration of the newly installed discharge line.

Soil from the excavation was temporarily stored on the parking area just east of the ETPTS effluent tank and manhole and managed in accordance with all applicable or relevant and appropriate requirements as listed in Table 21 of the 2006 *Corrective Action Decision/Record of Decision* and consistent with the then in-effect approved *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (currently, DOE-LM/1497-2007). Upon completion of the line replacement, all excavated soil was placed back into the excavation and compacted (photo 2).

The only waste generated from this action was the old discharge line with calcium scale buildup. A waste determination was made for this material, and it was disposed of in compliance with all applicable regulations. Specifically, LM made a determination no waste was hazardous and the calcium scale buildup was disposed of as solid waste.

### **Preble’s Meadow Jumping Mouse:**

The ETPTS line replacement work area is in Unit 6 of the critical habitat of the Preble’s meadow jumping mouse (also called Preble’s mouse or PMJM) (*Zapus hudsonius preblei*). Work activities at the groundwater treatment systems were consulted on in the Rocky Flats Programmatic Biological Assessment (PBA) and the associated Programmatic Biological Opinion (PBO). In addition, in 2018, as part of receiving credit for the habitat created in the former Industrial Area in the Central Operable Unit (Central OU), DOE also established exclusion zones around each of the groundwater treatment systems, including the ETPTS. DOE received approval for these exclusion zones in the concurrence letter from the U.S. Fish and Wildlife Service (USFWS) on July 18, 2018 (TAILS: 06E24000-2018-I-1200). The exclusion zones were established to allow work to be done at the groundwater treatment systems without requiring repeated consultation between DOE and USFWS. The exclusion zones were taken as a permanent loss of habitat, and mitigation was done to account for these areas. No further mitigation is required for work conducted within these exclusion zones, and only a project notification to USFWS is required prior to conducting work within these zones.

In accordance with PBA requirements, USFWS was notified of the emergency action for the ETPTS line replacement on September 22, 2021. The boundary of the exclusion zone was staked in the field. All work activities to excavate and replace the clogged line were conducted within the boundary of the exclusion area at the ETPTS. Erosion controls were already in place downgradient of the work area, and WoodStraw erosion control material was applied after work was complete to reduce potential for soil movement. No seeding of this area was conducted since it is desirable to have no vegetation present around the treatment system equipment.

**Wetlands:**

No wetlands were impacted as part of this work; therefore, no permitting or notifications related to wetlands were required.

**Migratory Bird Treaty Act:**

The migratory bird nesting season along the Front Range of Colorado extends from April 1 to August 31. Because activities related to the ETPTS line replacement were conducted after the typical nesting season, there was little likelihood of impacts to nesting migratory birds. In addition, the work area contained sparse vegetation that does not serve well as a nesting site. No birds or nests were noted in the area during work activities or while ecologists were establishing work boundaries.

**Institutional Control (IC) Evaluation:**

The *Corrective Action Decision/Record of Decision Amendment for Rocky Flats Plant (USDOE 2006) Central Operable Unit* requires specific ICs to ensure the protectiveness of the remedy at the Rocky Flats site. These ICs are required by and enforceable through the 2017 Restrictive Notice for Rocky Flats, recorded with Jefferson County. RFLMA Attachment 2, Table 4, lists the Restrictive Notice’s ICs for the Central OU, including requirements for soil disturbance evaluation.

The soil disturbance work is subject to IC 2, which is shown in Table 1. The required Soil Disturbance Review Plan (SDRP) for IC 2 is included as Attachment 1.

*Table 1. Institutional Controls*

	Excavation, drilling, and other intrusive activities below a depth of three feet are prohibited, without prior regulatory review and approval pursuant to the Soil Disturbance Review Plan in RFLMA Attachment 2.
IC 2	<p><b>Objective:</b> Prevent unacceptable exposure to residual subsurface contamination.</p> <p><b>Rationale:</b> Contaminated structures, such as building basements, exist in certain areas of the Central OU, and the Comprehensive Risk Assessment did not evaluate the risks posed by exposure to this residual contamination. Thus, this restriction eliminates the possibility of unacceptable exposures. Additionally, it prevents damage to subsurface engineered components of the remedy.</p>

**Resolution:**

CDPHE, after consultation with EPA, approved the activities described in this Contact Record (CR). Based on the information provided, CDPHE determined that the response activities would not result in an unacceptable release or exposure to residual subsurface contamination and would not damage any component of the remedy. CDPHE has also determined that the response activities met the rationale and objectives of IC 2. Progress and the completion of the work will be reported by DOE in RFLMA quarterly and annual reports of surveillance and maintenance activities for the periods in which these activities occur.

**Action Complete:**

The activities approved in this CR are complete.

**Contact Record Prepared by:**

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**Distribution:**

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Rocky Flats Contact Record File

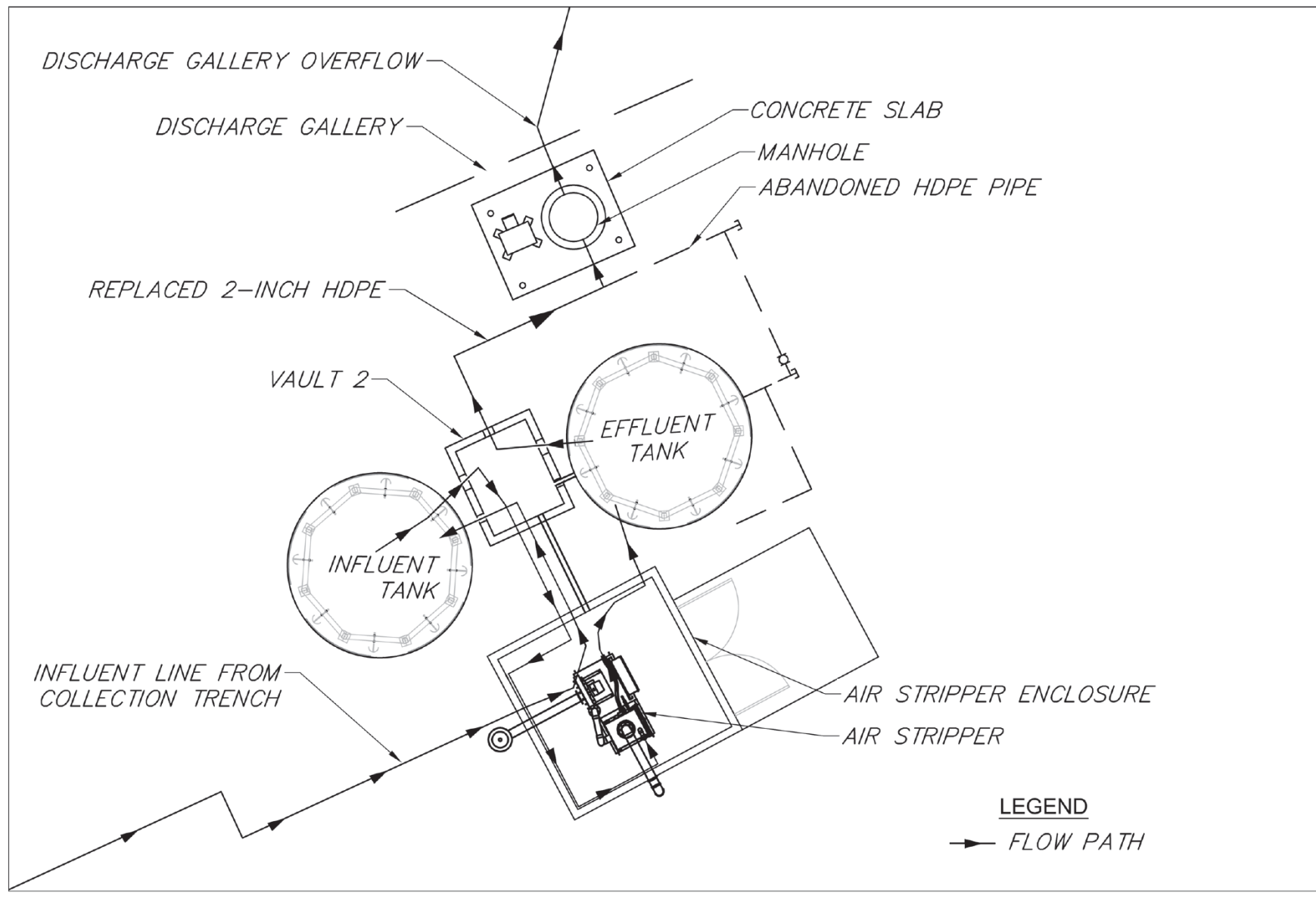


Figure 1. ETPTS Design Layout



*Photo 1. Excavation with New Effluent Discharge Line Installed*



*Photo 2. Work Area After Line Replacement and Backfill*

## Attachment 1

### Rocky Flats Legacy Management Agreement Soil Disturbance Review Plan

**Proposed Project:** East Trenches Plume Treatment System (ETPTS) discharge line replacement

This Soil Disturbance Review Plan (SDRP) provides information required by *Rocky Flats Legacy Management Agreement* (RFLMA) Attachment 2, “Legacy Management Requirements,” Section 4.1, “Soil Disturbance Review Plan,” regarding the work proposed by the U.S. Department of Energy (DOE).

Description of the proposed project, including the purpose, the location, and the lateral and vertical extent of excavation.

A buried pipeline used to convey treated water from the ETPTS to a subsurface discharge gallery was clogged with calcium scale that could not be removed using standard maintenance techniques (such as snaking). The clogged line needed to be replaced as soon as feasible with another buried line to ensure proper functioning through subfreezing temperatures. The line replacement required an excavation approximately 17 feet (ft) long by 6 ft wide with a varying depth of 2–5 ft. Figure 1 of CR 2021-04 shows the layout of the ETPTS along with the location of the line that was replaced. The RFLMA parties (DOE, Colorado Department of Public Health and Environment, U.S. Environmental Protection Agency) discussed this plan and it was verbally approved.

Refer to the “Performed Correction” section along with Figure 1 of the CR for additional detailed information on the completed activity.

Information about any remaining subsurface structures in the vicinity of the proposed project.

Other than components of the ETPTS, there are no structures near the activity. The eastern end of the B-Pond Bypass Pipeline is a short distance west of the project area but is not at risk from subsurface work conducted within this area.

Information about any former Individual Hazardous Substance Sites (IHSSs), Potential Areas of Concern (PACs), or other known or potential soil or groundwater contamination in the vicinity of the proposed project.

This construction area was not an IHSS or PAC. In the *Facility Investigation - Remedial Investigation/Corrective Measures Study - Feasibility Study Report for the Rocky Flats Environmental Technology Site* (June 2006), the figures in Section 3, “Nature and Extent of Soil Contamination,” do not indicate soil contamination in this area. No groundwater was encountered in the excavation activities associated with this work.