ROCKY FLATS SITE
REGULATORY CONTACT RECORD 2020-02

Purpose: Mound Site Plume Collection System (MSPCS) Transfer Line Maintenance and Soil Disturbance Review Plan

Contact Record Approval Date: November 23, 2020

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

Date of Consultation Meeting: September 29, 2020

Consultation Meeting Participants:
Lindsay Masters, CDPHE; Jesse Aviles, EPA; Scott Surovchak and Andy Keim, DOE; Dana Santi, David Ward, Ryan Wisniewski, John Boylan, George Squibb, Jody Nelson, April Tischer, Chris Oliver, Justin Hugo, Paul Jagim, Nicole Lachance, Kirk Briscoe, Navarro

Related Contact Records: CR 2016-02

Introduction: DOE is proposing to perform maintenance on the buried transfer line that connects the Mound Site Plume Collection System (MSPCS) and the East Trenches Plume Treatment System (ETPTS). This project will restore full flow capacity and maintenance access to the transfer line by removing and replacing faulty cleanouts causing partial blockage of the line. The blockages (Figure 1) were identified in a 2019 video camera inspection and appear to be the result of defective welds in the cleanouts. This maintenance project will involve excavation, removal and replacement of nine cleanouts; a video camera inspection to identify any additional obstructions; repair of any additional obstructions; removal and replacement of protective structures (e.g., bollards, concrete collars), if necessary; and, a hydrostatic test of the repaired transfer line. This maintenance project is expected to be completed in 4 weeks or less.

Discussion: The transfer line was installed in 2016 as part of the Mound Site Plume Treatment System (MSPTS) reconfiguration project (CR 2016-02[1]). This project consolidated treatment of volatile organic compound (VOC)-contaminated groundwater from the Mound Site and East Trenches plumes at the ETPTS. A lift station pumping system and transfer line were installed to

[1]The change in the location of groundwater treatment from the MSPTS to the ETPTS was determined by the RFLMA parties to constitute a significant change to the Mound Site Plume remedy selected in the September 2006 *Corrective Action Decision/Record of Decision for Rocky Flats Plant (USDOE) Peripheral Operable Unit and Central Operable Unit*. In this situation, CERCLA requires that the agency publish an Explanation of Significant Differences (ESD) that details the changes. The ESD was included in the RFLMA Contact Record for the MSPTS reconfiguration project (CR 2016-02).

transfer contaminated groundwater collected in the MSPTS (now MSPCS) groundwater collection trench to the ETPTS for treatment. The transfer line is a solid wall, high-density, 2-inch-diameter polyethylene (HDPE) pipe that runs approximately 1600 feet (ft) from the lift station to the ETPTS. The transfer line segment west of the MSPCS lift station is gravity-flow; the segment east of the lift station that runs uphill to the apex of the line is pressurized; and the segment east of the apex that runs to the ETPTS is gravity-flow (Figures 2 and 3). The line has nine cleanouts located at 200 ft intervals along its length to facilitate maintenance. The excavation at each cleanout is anticipated not to exceed a 10 ft long, 6 ft wide, and 5 ft deep area, remaining in the previously disturbed area from the line's initial installation. Efforts will be made to minimize excavated material; however, a large enough excavation will be required for personnel to safely remove the faulty cleanout and install the replacement.

Each of the nine cleanouts is covered by a plastic landscape box flush with the ground surface. Some or all of these boxes may be replaced as part of this maintenance activity. Some of the cleanouts adjacent to the ETPTS access road have additional protective structures that include six subsurface concrete cutoff collars and five aboveground metal bollards. Because of their proximity to the cleanouts, there is the potential that one or more of these protective structures may be disturbed during maintenance of the transfer line. Any structure that is disturbed will be removed and replaced. Collars will potentially be disturbed during excavation of the cleanouts; therefore, a separate excavation to replace removed collars will not be required. An image of a concrete cut-off collar is shown in Figure 4, taken when the transfer line was installed. Removal and replacement of bollards will require a separate excavation, each approximately 1 ft in diameter and 3 ft deep.

The MSPCS groundwater collection trench, lift station pumping system, and transfer line are primary components of what is now referred to as the MSPCS. Currently, contaminated groundwater gravity flows to the MSPCS lift station from the MSPCS groundwater collection trench, which is west of the lift station. When the groundwater reaches a predetermined level, the lift station pump is automatically activated and groundwater is pumped from the lift station into the transfer line. The pump is necessary to move the groundwater from the lift station to the apex of the transfer line. Once the groundwater reaches the apex, it then gravity flows east to the ETPTS influent manhole (Figure 3). Operation of the MSPCS lift station and transfer line will be periodically interrupted to perform this maintenance activity. Work will be coordinated such that groundwater transfer is halted at the beginning of the week; repair work will be conducted during the week; and groundwater transfer will resume for the weekend. The current system is designed to support temporary interruption in flow. This schedule will provide the capacity to ensure all groundwater still reaches the ETPTS. The weekly schedule will be maintained until the repair project is completed. The proposed sequence of project activities is summarized below:

1. Prior to the start of maintenance on the MSPCS transfer line, the line will be isolated (e.g., valves closed, power to the lift station pump locked out) to prevent groundwater flow through the transfer line while work is being performed.
2. At each cleanout, an approximately 10 ft long × 6 ft wide × 5 ft deep excavation will be dug to remove and replace the cleanouts.
3. Excavated soil will be stockpiled on a liner on the ground directly adjacent to each excavation and will be used to backfill the excavations when the project is complete. Appropriate erosion control best management practices found in the *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE-LM/1497-2007) will be

implemented for this project. Following successful completion of the hydrostatic test, the excavations will be backfilled, and the disturbed areas will be contoured to match the original grade or higher and seeded.

4. Cleanout piping removed during the maintenance work will be placed into a container (e.g., bag, drum) that will be closed at the end of each day. The estimated volume of debris from removal of the nine cleanouts is up to 5 cubic yards. Plastic valve boxes, metal bollards, pieces of concrete base, and concrete cutoff collars that are removed will be staged on a plastic liner or placed in containers. If present, soil will be brushed off the debris prior to being placed in a container or staged on plastic liner. The debris will be staged at a central location. A waste determination will be made, and the debris will be dispositioned in accordance with regulatory requirements.
5. While work is being performed on the transfer line during the week, groundwater will continue to collect in the MSPCS groundwater collection trench west of the MSPCS lift station. This groundwater will be temporarily stored in the trench. At the end of each week, the transfer line will be restored to service; the lift station pump will be reactivated, and routine transfer operations will take place over the weekend.
6. Video camera inspections of the transfer line will be conducted during this maintenance work to determine if other repairs are required. Additional repairs to the transfer line may be made based on the results of the inspection. Once all necessary repairs have been completed, a hydrostatic test will be performed to ensure the integrity of the transfer line.
7. The transfer line will not be fully restored to service until the video camera inspection and hydrostatic tests are completed and the excavations have been backfilled.

Water Management During Maintenance Work: Groundwater will be managed consistent with the water management practices approved in CR 2016-02 that pertain to the MSPCS:

- On the basis of the depth to groundwater in the area, groundwater is not expected to be encountered in the excavations. If groundwater is encountered, it will be captured and transferred to the ETPTS for treatment.
- Because the transfer line will be drained prior to cutting the pipe, the amount of residual groundwater in the pipe is expected to be minimal. Any groundwater that drains from the pipe will be captured and transferred to the ETPTS for treatment.

DOE will manage stormwater to achieve compliance with applicable or relevant and appropriate requirements (ARARs) for stormwater, listed in Table 21 of the 2006 *Corrective Action Decision/Record of Decision* ("Storm Water Permit for Construction Activities" and "General Permits"). The estimated total area of soil disturbance for this maintenance project is 0.05 acres, which is much less than the 1-acre threshold for small construction activities found in the stormwater ARARs. Therefore, precipitation and stormwater run-on water that enters the trenches excavated during maintenance will be pumped to the ground surface in a manner that is consistent with the approved *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE-LM/1497-2007).

Preble's Meadow Jumping Mouse: The entire MSPCS transfer line project area is within the critical habitat of the Preble's meadow jumping mouse (*Zapus hudsonius preblei*) (Figure 2). On March 28, 2016, DOE began Endangered Species Act Section 7 consultation and requested concurrence from the U.S. Fish and Wildlife Service (USFWS) for the installation of the

pipeline. Approval was granted from USFWS in a Biological Opinion on June 16, 2016 (TAILS: 06E24000-2016-F-0559). The activities to repair and conduct maintenance on the transfer line will be conducted within the original construction boundary as defined in the 2016 Biological Assessment and associated Biological Opinion for the MSPTS project. A project notification for this fieldwork was submitted to USFWS on September 23, 2020. No impacts to wetlands are expected or approved for this project. No Migratory Bird Treaty Act issues are expected, as the project will be conducted outside the nesting window for the Front Range, which runs from April 1 to August 31.

Institutional Control (IC) Evaluation: The *Corrective Action Decision/Record Of Decision Amendment For Rocky Flats Plant (USDOE) Central Operable Unit* requires specific institutional controls to ensure the protectiveness of the remedy at Rocky Flats. These institutional controls are implemented through the Restrictive Notice for Rocky Flats, recorded with Jefferson County. RFLMA Attachment 2, Table 4 lists the Restrictive Notice's institutional controls 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

IC 2	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.
	Objective: Prevent unacceptable exposure to residual subsurface contamination. **Rationale:** Contaminated structures, such as building basements, exist in certain areas of the Central OU (Central Operable Unit), 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.

Resolution: CDPHE, after consultation with EPA, has approved the activities described in this Contact Record (CR). CDPHE has determined that the proposed activities will not result in an unacceptable release or exposure to residual subsurface contamination and will not damage any component of the remedy. CDPHE has also determined that the proposed activities meet the rationale and objectives of IC 2.

The work will be conducted after approval of this CR, but DOE will not conduct the approved soil disturbance until 10 calendar days after this CR is posted on the Rocky Flats Site website and stakeholders are notified of the posting in accordance with the *Rocky Flats Legacy Management Agreement* (RFLMA) Public Involvement Plan.

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 will be complete when the partially blocked piping has been replaced, the video camera inspection has shown that the transfer line is

clear of blockages, the hydrostatic test has been successfully completed, disturbed protective structures are replaced, the excavations have been backfilled to original grade or higher, post-disturbance reseeding has been performed, and post-disturbance soil erosion controls as identified in the approved *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE-LM/1497-2007) are in place.

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Rocky Flats Contact Record File

No Blockage

Partial Blockages

Figure 1. Photographs of Transfer Pipe Interior

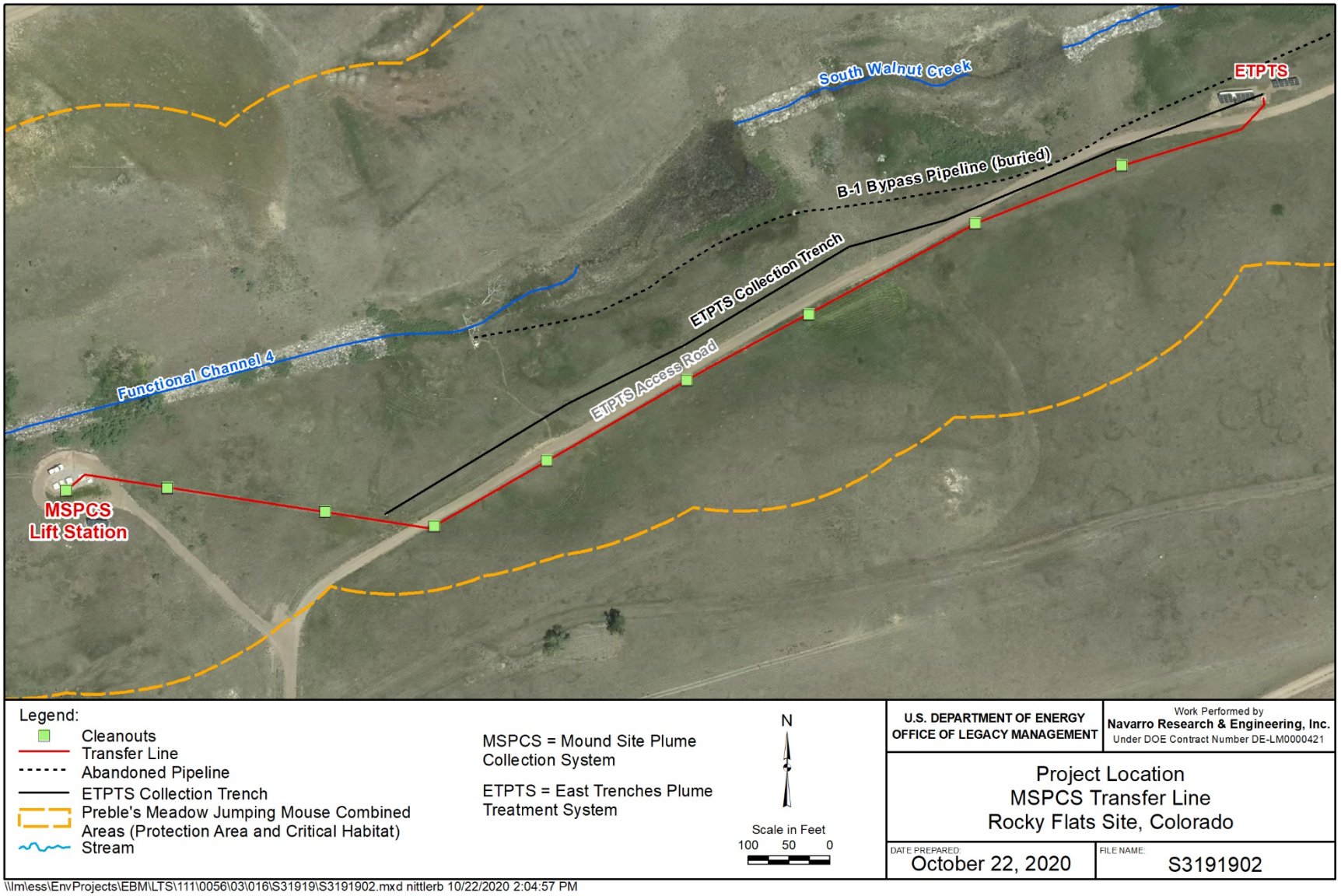

Figure 2. Mound Site Plume Collection System Transfer Line Project Location

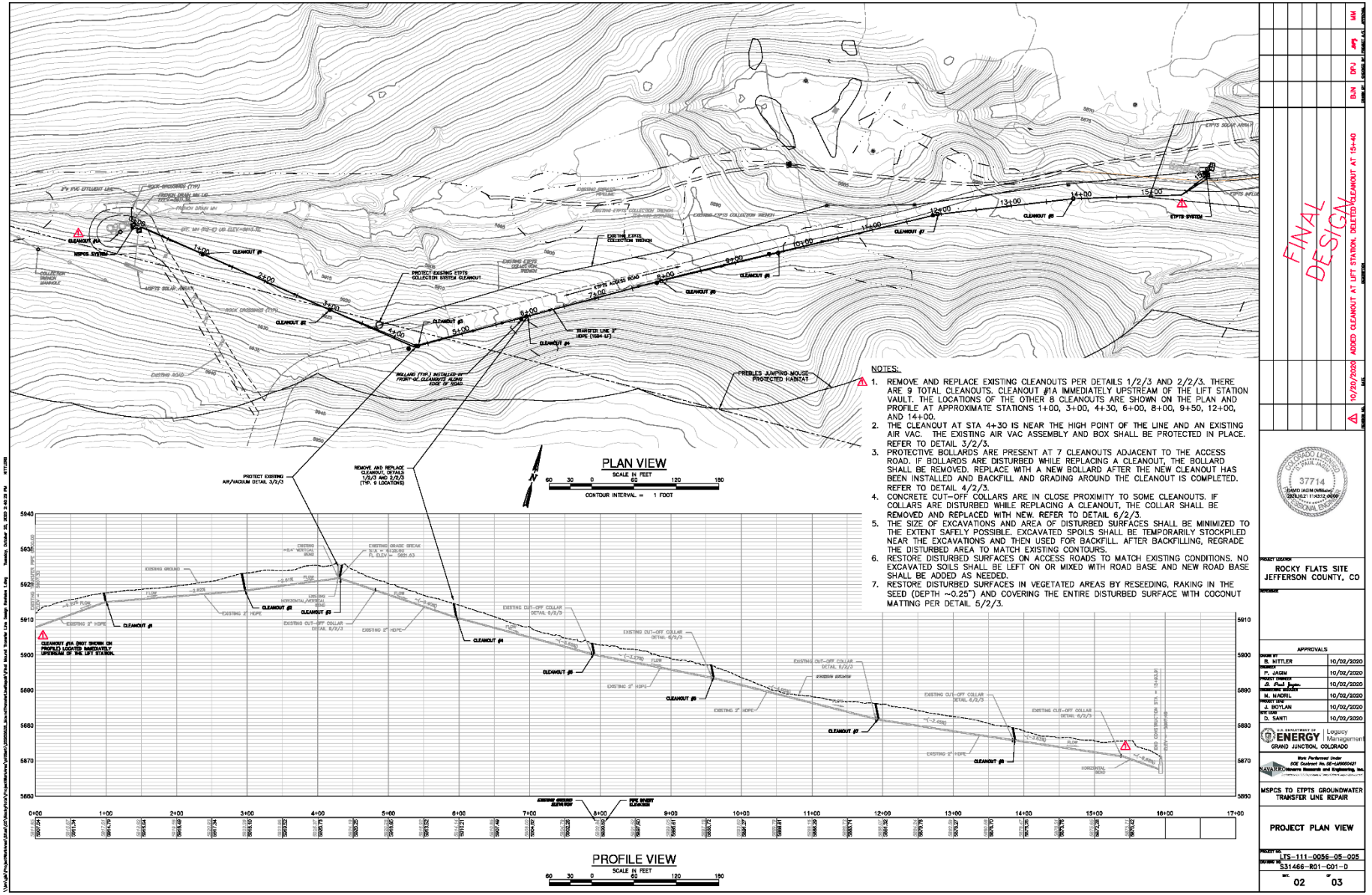

Figure 3. Figure 3 MSPCS Transfer Line Plan and Profile View

Figure 4. Present Concrete Cut-off Collar at Installation

Attachment 1

Rocky Flats Legacy Management Agreement Soil Disturbance Review Plan

Proposed Project: Mound Site Plume Collection System Transfer Line Maintenance

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.

DOE is proposing to perform maintenance on the buried transfer line that connects the Mound Site Plume Collection System (MSPCS) and the East Trenches Plume Treatment System (ETPTS). The objective of this project is to restore full flow capacity and maintenance access to the transfer line by removing and replacing faulty cleanouts causing partial blockage of the line. This maintenance project will involve excavation, removal, and replacement of nine cleanouts, a video camera inspection of the entire line to identify and repair any additional obstructions, removal and replacement of protective structures (e.g., bollards, concrete collars) if necessary, and a hydrostatic test of the transfer line. Excavations at each of the nine cleanouts are estimated to be 10 ft long, 6 ft wide, and 5 ft deep, remaining in the previously disturbed area from the line's initial installation.

Each of the nine cleanouts is covered by a plastic landscape box flush with the ground surface. Some or all of these boxes may be replaced as part of this maintenance activity. Some of the cleanouts adjacent to the ETPTS access road have additional protective structures that include six subsurface concrete cutoff collars and five aboveground metal bollards. Due to their proximity to the cleanouts, there is the potential that one or more of these protective structures may be disturbed during maintenance of the transfer line. Any structure that is disturbed will be removed and replaced. Collars will potentially be disturbed during excavation of the cleanouts; therefore, a separate excavation to replace removed collars will not be required. An image of a concrete cut-off collar is shown in Figure 4 of CR 2020-02 taken when the transfer line was installed. Removal and replacement of bollards will require a separate excavation, each approximately 1 ft in diameter and 3 ft deep. All excavations will be backfilled to original grade or higher.

DOE will manage stormwater to achieve compliance with applicable or relevant and appropriate requirements (ARARs) for stormwater, listed in Table 21 of the 2006 *Corrective Action Decision/Record of Decision* ("Storm Water Permit for Construction Activities" and "General Permits"). The estimated total area of soil disturbance for this maintenance project is 0.05 acres, which is less than the 1-acre threshold for small construction activities found in the stormwater ARARs. Precipitation and stormwater run-on water that enters the trenches excavated during maintenance will be pumped to the ground surface in a manner consistent with the approved *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE-LM/1497-2007).

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

Other than components of the MSPCS and the concrete collars, there are no subsurface structures that will be impacted by the maintenance work. The ETPTS groundwater collection trench and the abandoned B-1 bypass pipeline are both north of the eastern, gravity-drain segment of the MSPCS transfer line (Figures 2 and 3 of CR 2020-02) and generally run parallel to the transfer line. The distance from the transfer line to the ETPTS groundwater collection trench varies from 20 to 50 ft; the distance to the abandoned B-1 bypass pipeline varies from 30 to over 100 ft.

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.

The area of the MSPCS transfer line did not include any IHSSs or PACs. 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.

The eastern, gravity-drain segment of the transfer line is underlain by the VOC composite groundwater plume, as shown in Figure 2 of RFLMA Attachment 2. Based on the depth to groundwater in the area and the lack of groundwater presence when the transfer line was initially installed, contaminated groundwater and soil that has come into contact with contaminated groundwater is not expected to be encountered in the project excavations.