ROCKY FLATS SITE
REGULATORY CONTACT RECORD 2024-01

Purpose: Solar Ponds Plume Treatment System (SPPTS) utilities reconfiguration project and Interceptor Trench System (ITS) extension tie-in project

Contact Record Approval Date: May 29, 2024

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Regulatory Contacts and Affiliations: Brian Walker and Rick Mruz, Colorado Department of Public Health and Environment (CDPHE); Brandon Nichalson and David Connolly, U.S. Environmental Protection Agency (EPA)

Date of Consultation Meeting: February 27, 2024

Consultation Meeting Participants: Brian Walker and Rick Mruz, CDPHE; Brandon Nichalson and David Connolly, EPA; Andy Keim and Michelle Franke, DOE; Dana Santi, Kirk Briscoe, Ryan Wisniewski, John Boylan, George Squibb, Karin McShea, Janette Kiernan, Miquette Gerber, Harry Bolton, and April Tischer, RSI

Related Contact Records: None

Introduction: DOE is proposing to perform an SPPTS utilities reconfiguration project and ITS extension tie-in project. The two projects are interrelated with the ITS extension tie-in dependent on the completion of the SPPTS utilities reconfiguration. The ITS extension tie-in project will create a direct connection between the subsurface ITS extension and the SPPTS. The SPPTS utilities reconfiguration project will modify (remove and install) infrastructure within the SPPTS area to support a new groundwater transfer pipeline (the ITS extension tie-in) and install utilities required for the upcoming full-scale uranium treatment component (UTC).

Discussion: DOE will perform the SPPTS utilities reconfiguration project within the fence surrounding the SPPTS treatment and power components, and it will perform most of the ITS extension tie-in project south of the fenced area (Figure 1). These projects include the installation and modification of subsurface plumbing and electrical conduit designed and field-fitted to support the future installation of the full-scale UTC and the addition of the ITS extension tie-in. DOE will complete these piping and conduit modifications through trenching, as needed, within the fenced SPPTS area and to the south within the ITS extension tie-in project area. The projects will include trenches excavated to a depth and width needed for safe work conditions which are not expected to exceed 8 feet (ft) in depth. The projects will use excavated soils as cover and berms in the vicinity of the excavations and as backfill for the trench once installation is completed. The only waste DOE expects to be generated will be construction debris associated with the utility modifications and ITS extension tie-in with an expectation that the projects generate no hazardous waste. DOE will make a final waste determination at the completion of the project before the disposal of all waste.

The ITS extension tie-in project will support collection of groundwater from the Solar Ponds Plume and provide two benefits. The first is that the tie-in will allow for more efficient collection and transfer of groundwater within the ITS extension directly to the SPPTS. Secondly, should the SPPTS collection trench be damaged by the failure of the North Walnut Creek Slump (NWCS), the tie-in provides a preferential pathway outside of the NWCS footprint for collected groundwater to be routed to the SPPTS for treatment. This change will ensure continued collection and treatment of groundwater from the ITS extension should the NWCS fail and compromise the existing infrastructure. The ITS extension tie-in will bypass the ITS drain lines shown in Figure 2.

DOE believes that groundwater in the ITS extension currently reaches the SPPTS treatment components but does so via indirect routes that may allow water to be lost to evapotranspiration or held up in the soils rather than being treated. Connecting the ITS extension directly to the SPPTS will more quickly and efficiently route this water to the treatment components, with less water lost to the soils and vegetation upgradient of the SPPTS. The ITS extension tie-in project will begin with the installation of an attenuation feature that will store collected water and help manage the variability in the volume of groundwater that is directed to the treatment components. The attenuation feature will retain collected groundwater during high groundwater flow periods to help ensure that groundwater captured within the ITS extension is treated, thereby contributing to DOE's objective of providing climate resiliency. DOE will install this feature at a depth of approximately 5.5 ft just south of the SPPTS, as shown in Figure 2. The deepest portion of the attenuation feature will be at its eastern end, where a depth approximately 7 ft is required and where DOE will install an inlet sump.

After the installation of the attenuation feature but before the installation of the ITS extension tie-in pipeline, DOE will excavate at least two temporary dewatering pits into the ITS extension to a depth of approximately 5–10 ft below grade. Surface piping and hoses will convey the groundwater that accumulates in these pits to the newly installed attenuation feature. This will ensure that groundwater generated during construction will be collected and routed to the SPPTS.

After the dewatering of the excavated portion of the ITS extension to an adequate degree, DOE will install the ITS extension tie-in pipeline by connecting to the attenuation feature and working up the slope toward the ITS extension and dewatering pits. This pipeline will be at a depth between 2–8 ft. The project will begin trenching at the attenuation feature and proceed upgradient toward the ITS extension tie-in. This will permit water generated during construction to be captured and directed to the SPPTS. DOE will stockpile excavated soils in the area and then use them as backfill and to construct berms once the installation is complete.

Similarly to the utility reconfiguration project, DOE expects that the ITS extension project will only generate waste in the form of construction debris associated with the pipe installation; there is no expectation that any hazardous waste will be generated. DOE will make a final waste determination at the completion of the project before the disposal of all waste.

At project completion, DOE will install erosion controls and seed disturbed areas outside the fenced SPPTS area with a native seed mix.

Preble's Meadow Jumping Mouse: A portion of the ITS extension tie-in project is in Unit 6 of the critical habitat of the Preble's meadow jumping mouse (PMJM) (*Zapus hudsonius preblei*) and may affect the mouse or its designated critical habitat. None of the utilities reconfiguration project will be in PMJM habitat because it is limited to the fenced area surrounding the SPPTS. This project is not covered under the 2004 Programmatic Biological Assessment. Therefore, DOE initiated a consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act, and the agency produced a Biological Assessment (BA) and submitted it to USFWS on January 23, 2024.

The BA describes the potential direct and indirect impacts of the project, the measures that will be taken to reduce these impacts, and how impacts will be mitigated. USFWS is expected to respond with a Biological Opinion (BO). Project activities that impact the PMJM or its habitat will not start until the BO is received.

Wetlands: Wetlands in the ITS extension tie-in project area were mapped on September 21, 2023, in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* and the 1987 *Corps of Engineers Wetlands Delineation Manual*. Data were collected using the *Wetland Determination Data Form – Western Mountains, Valleys, and Coast Region*.

A wetland dominated by foxtail barley (*Hordeum jubatum*) is within the project disturbance limits. Ground disturbance associated with the installation of a pipe as part of the ITS extension tie-in project will directly impact the wetland.

Because this project is a Comprehensive Environmental Response, Compensation, and Liability Act project associated with maintaining the remedy at the Rocky Flats Site, Colorado, wetland impacts will be addressed by following the substantive requirements of the appropriate Clean Water Act regulations. No administrative requirements (such as acquiring a permit) are necessary.

DOE will reseed disturbed soil with a native seed mix and will monitor the soil for the next several years. After five growing seasons, DOE will again map wetlands in the area using the methodology outlined above and will mitigate any loss of wetlands.

Migratory Bird Treaty Act: The ITS extension tie-in project is scheduled to start during the migratory bird nesting season (along the Colorado Front Range the migratory bird nesting season generally occurs between April 1 and August 31). Therefore, project-related activities may impact birds nesting in the area.

Most birds that occur and nest on the Site are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (Title 16 *United States Code* Sections 703–712). To comply with the requirements of the MBTA and to help avoid or minimize impacts to and "take" of birds, the project will follow measures outlined in the *Migratory Bird Treaty Act Issues, Natural Resource Management Activities, and Maintenance and Project Activities at the Rocky Flats Site, Colorado.* One of the measures described in this document is removing or altering vegetation in the project area to reduce bird habitat and, therefore, reduce the potential for nesting in the area. The Site ecologist will determine if vegetation alteration would be beneficial in affected areas. In addition, DOE will conduct preconstruction clearance surveys before the start of the project and any vegetation-altering activities to determine if any active nests are in the project footprint.

Should a bird nest be found in the work area, workers will contact the Site ecologist immediately. DOE shall comply with applicable requirements of the MBTA.

Institutional Control Evaluation: The *Corrective Action Decision/Record of Decision Amendment for Rocky Flats Plant (USDOE) Central Operable Unit* (issued September 2006) requires specific institutional controls (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 (Restrictive Notice), recorded with Jefferson County, Colorado. The *Rocky Flats Legacy Management Agreement* (RFLMA), Attachment 2, Table 4, lists the Restrictive Notice's ICs for the Central Operable Unit, 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 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, 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.

Abbreviation: OU = operable unit

Resolution: CDPHE, after consultation with EPA, has approved the activities described in this contact record (CR). Based on the information provided, CDPHE determined that the proposed activities will not result in an unacceptable release of 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.

DOE will conduct the work after approval of this CR, but DOE will not begin the approved soil disturbance until 10 calendar days after this CR is posted on the Rocky Flats Site webpage, and stakeholders are notified of the posting in accordance with the RFLMA Public Involvement Plan.

DOE will report the progress and completion of the work 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 DOE has completed the installation or replacement of the components of the SPPTS identified above, completed functional testing of the new configuration, backfilled excavations to the original grade or higher, performed postdisturbance reseeding, and installed established postdisturbance soil erosion controls, as identified in the approved *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE-LM/1497-2007).

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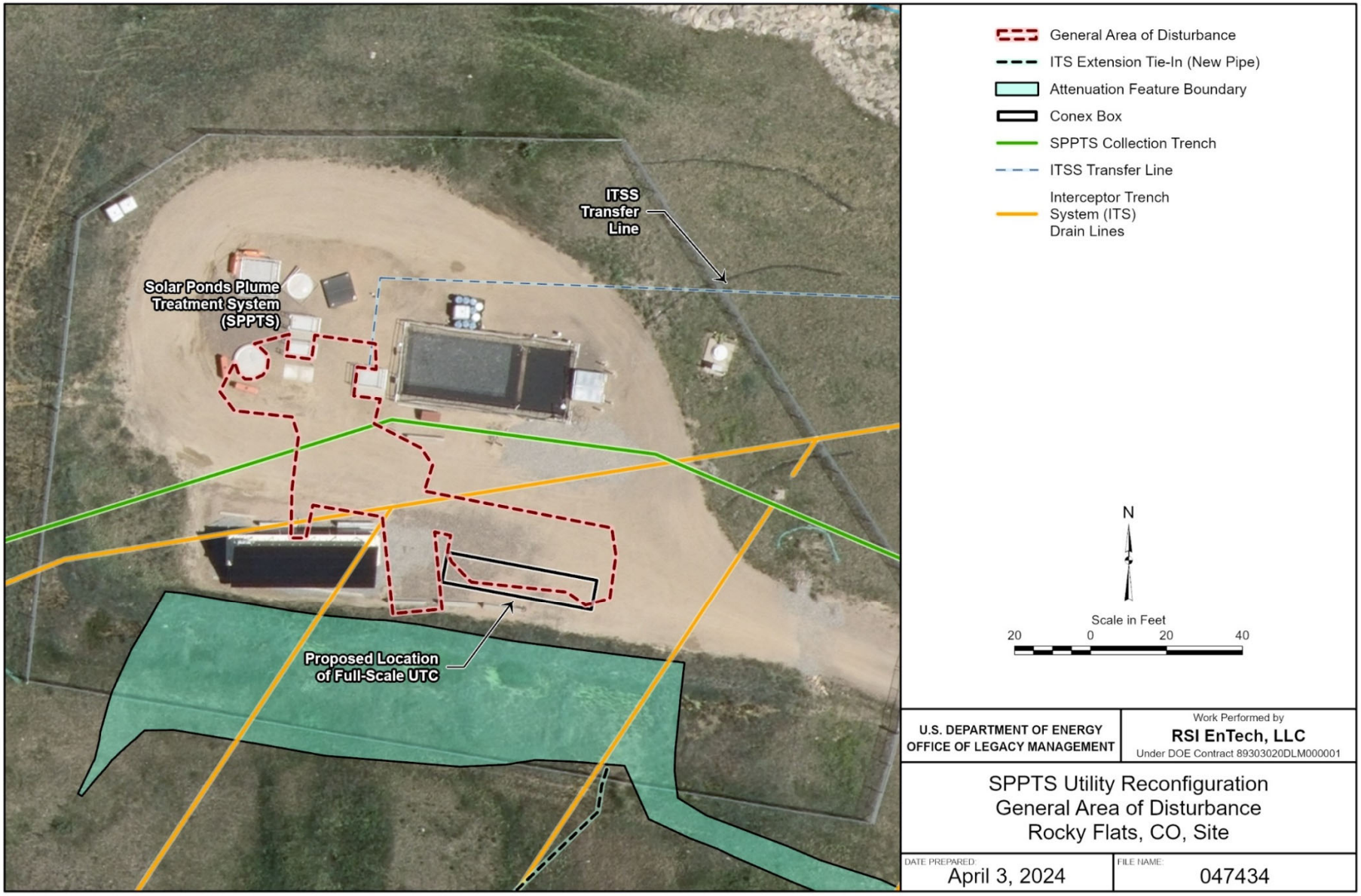

Abbreviation: ITSS = Interceptor Trench System Sump

Figure 1. SPPTS Utility Reconfiguration General Area of Disturbance

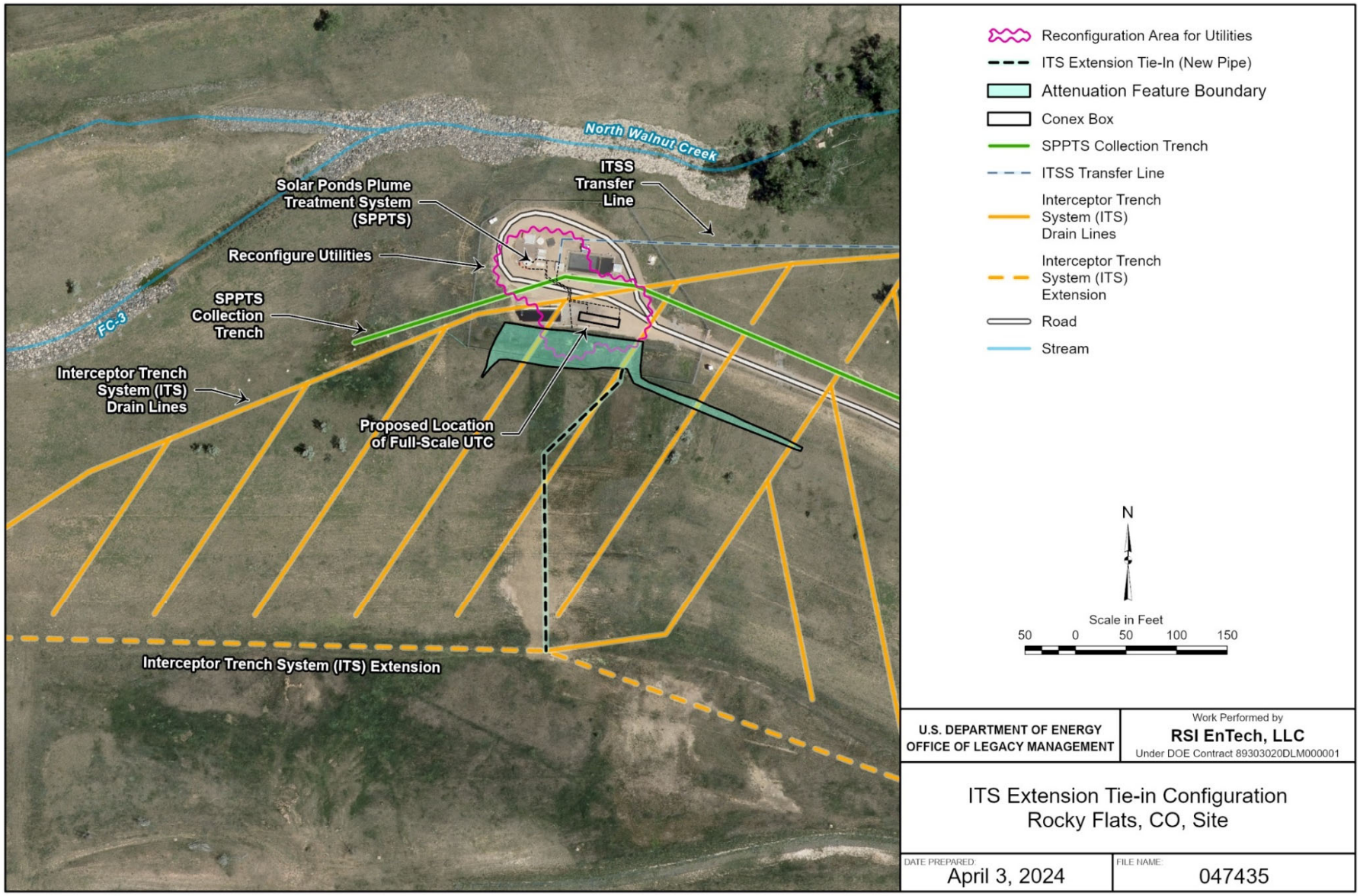

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Figure 2. ITS Extension Tie-In Configuration

Attachment 1

Rocky Flats Legacy Management Agreement Soil Disturbance Review Plan

Proposed Projects: Interceptor Trench System (ITS) extension tie-in and Solar Ponds Plume Treatment System (SPPTS) utilities reconfiguration projects

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

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

DOE is proposing to reconfigure the utility components associated with the SPPTS and install an ITS extension tie-in pipeline, as described in Contact Record 2024-01.

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

Other than components of the SPPTS, the ITS and ITS extension, and monitoring wells, there are no structures near the project area. The planned work is far enough from the wells and ITS lines to avoid damaging them, and it will only disturb the ITS extension and those SPPTS components that are targeted as part of this activity.

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

IHSS 101, Solar Evaporation Ponds: A large area south of the SPPTS, including the southern portion of the North Walnut Creek Slump area, is within former IHSS 101, Solar Evaporation Ponds. This IHSS was closed with No Further Accelerated Action in 2003. A closure summary is provided below.

In accordance with the Environmental Restoration Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol Notification #02-08, soil was removed from six hot spot locations. Confirmation sampling was conducted in the excavations to confirm that sufficient soil had been removed. All contaminant concentrations and activities were less than RFCA Tier II Soil Action Levels (SALs), except for one beryllium concentration, which was slightly greater than the RFCA Tier II SAL (1.10 milligrams per kilogram [mg/kg] versus the SAL of 1.04 mg/kg). None of the results exceeded the Wildlife Refuge Worker (WRW) SALs.

Fourteen surface and 25 subsurface soil samples were collected and analyzed for radionuclides and metals. Some of the samples were also analyzed for nitrate. All contaminant concentrations and activities in the sampled areas were below RFCA Tier II SALs, except for one beryllium concentration and 16 arsenic concentrations. The beryllium concentration that exceeded the Tier II SAL was 1.10 mg/kg, and the SAL was 1.04 mg/kg. The arsenic concentrations that exceeded the Tier II SAL ranged from 13.0 to 36.3 mg/kg, and the SAL was 2.99 mg/kg. All exceedances were significantly less than the RFCA Tier I SALs. All contaminant concentrations

and activities were less than the WRW SALs, except for one subsurface manganese concentration and eight arsenic concentrations (in surface and subsurface soil). The manganese concentration that exceeded the WRW SAL was 5900 mg/kg, and the WRW SAL was 3480 mg/kg. The arsenic concentrations that exceeded the WRW SAL ranged from 22.4 to 36.3 mg/kg, and the WRW SAL was 22.2 mg/kg.

After completion of accelerated actions, No Further Action was recommended for IHSS 101 based on the following:

- Contaminant concentrations and activities were less than RFCA Tier II SALs, with minor exceptions. No Tier I SALs were exceeded.
- Results of an evaluation indicated additional action was not necessary.

After review of the Closeout Report for IHSS Group 000-1 by the regulatory agencies, DOE received approval from the Colorado Department of Public Health and Environment for the No Further Accelerated Action status for the Solar Evaporation Pond Area of Concern (IHSS 101) on July 25, 2003.