



COLORADO
Department of Public
Health & Environment



DENVER, CO 80202

Memorandum

Subject: Engineering Evaluation/Cost Analysis Approval Memo, Highway 24 Mill Site

From: Patrick Medland, Project Manager, Colorado Department of Public Health and Environment

Through: Meg Broughton, Remedial Project Manager
Jessica Stromsdorfer, On-Scene Coordinator
Dee Rothery, Emergency Management Branch Manager
Jamie Miller, Remedial Branch Manager
Superfund and Emergency Management Division, EPA Region 8

To: Aaron Urdiales, Director
Superfund and Emergency Management Division, EPA Region 8

The purpose of this memorandum is to request approval to proceed with an Engineering Evaluation/Cost Analysis (EE/CA) for a non-time-critical removal action (NTCRA) proposed for the Highway 24 Mill Site (Site) in Colorado Springs, El Paso County, Colorado. The proposed NTCRA is being performed pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The purpose of the proposed NTCRA is to address contaminated soils that contain high levels of lead and arsenic. The removal objectives will be to minimize current and future human health risks associated with exposure to contaminated soils at the Site. This memorandum documents that the situation meets the criteria in the NCP for initiating a removal action, *see* 40 CFR § 300.415, and that the required removal action is a NTCRA. For this Site, the Colorado Department of Public Health and Environment (CDPHE) is the CERCLA lead agency with support from the United States Environmental Protection Agency Region 8 (EPA). CDPHE will prepare the proposed EE/CA, which will present and analyze several alternatives for the removal action. CDPHE, in consultation with the EPA, will then select a removal alternative after taking public comment on the EE/CA's proposed alternatives. The EPA will draft the action memorandum for the selection. CDPHE will then implement the removal action.

Background

The Site is located immediately east of a large, reclaimed tailings pile that was associated with the Gold Hill Tailings Site where the Golden Cycle Mill processed ore and disposed of 12.5 million tons of tailings from 1901 to 1949. The areal extent of the historic tailings pile was approximately 170 acres. Historically and currently, the Site has been used as a manufactured home park known as the A-1 Mobile Village. The El Paso County assessor lists the Site property at 1025 Garner Street as 11.24 acres. The Site includes densely-spaced mobile homes, many large trees, and paved roadways.

Previous Actions

In 1995, the EPA investigated the soils at the Site, tailings pile, and area between. Data from this investigation was summarized in the Soils Letter Report, which identified lead and arsenic as contaminants of concern at the site:

- Samples collected from the A-1 Mobile Village indicated the presence of lead at concentrations up to 710 milligrams per kilogram (mg/kg) and arsenic at concentrations up to 120 mg/kg.
- Samples collected from the area between the A-1 Mobile Village and the tailings pile indicated the presence of lead at concentrations up to 1,400 mg/kg and arsenic at concentrations up to 290 mg/kg.
- Samples collected from the tailings pile indicated the presence of lead at concentrations up to 2,200 mg/kg and arsenic at concentrations up to 2,900 mg/kg.

In the early 2000s, a developer installed a cap over the tailings pile under the CDPHE Voluntary Cleanup Program.

In May 2022, the EPA removal program initiated a removal assessment at the Site by conducting Incremental Sampling of Site soils at two depths, 0 to 1 inches and 1 to 6 inches. A total of 97 decision units (DUs) were established at the Site with sampling occurring at 93 DUs. Of these 97 DUs, 83 were residential lots at the Site, and 14 were common areas (or vacant land). Four lots were not sampled due to access issues. Additionally, three areas were sampled at Sondermann Park in Colorado Springs as background locations. These samples were analyzed for Target Analyte List (TAL) metals using EPA Method 6020. Bioavailability analysis was completed on 15 of the samples analyzed for TAL metals. Results of the sampling are reported in the Garner Street Soils Letter Report (Tetra Tech, March 26, 2023).

Current Status

Based on measurements using Google Earth, the Site is approximately 11.24 acres, approximately 3 acres of that being paved roadway. Of the 97 DUs, 83 are individual residential properties comprising an estimated 6.8 acres. The remaining 14 DUs and berms are vacant land calculated as 1.44 acres.

The March 26, 2023, Garner Street Soils Letter Report indicates elevated levels of lead and arsenic in Site residential soils. The results are summarized as follows:

- The highest concentration of lead in the 0- to 1-inch sample depth was 640 mg/kg and 100 mg/kg for arsenic.
- The highest concentration of lead in the 1- to 6-inch sample depth was 700 mg/kg and 140 mg/kg for arsenic.
- 75 DUs had concentrations of lead equal to or greater than 100 mg/kg and/or 68 mg/kg of arsenic in the 0- to 1-inch sample depth. Of the 75 DUs, 40 had a concentration of lead equal to or greater than 200 mg/kg.

- 76 DUs had concentrations of lead equal to or greater than 100 mg/kg and/or 68 mg/kg of arsenic in the 1- to 6-inch sample depth. Of the 76 DUs, 40 had a concentration of lead equal to or greater than 200 mg/kg.
- Of the 93 sampled DUs, 79 had associated sample concentrations at or above 100 mg/kg of lead or 68 mg/kg of arsenic. Fifty-three of the sampled DUs had associated sample concentrations at or above 200 mg/kg of lead or 68 mg/kg of arsenic. Fourteen of the sampled DUs did not have concentrations equal to or exceeding the stated levels.
- Of the five berm samples collected, four had concentrations of lead greater than 200 mg/kg. The concentration of arsenic in three of those four samples exceeded 68 mg/kg.

In January 2024, the EPA issued Updated Soil Lead Guidance for CERCLA sites and RCRA Corrective Action facilities (Updated Soil Lead Guidance, January 17, 2024) that lowered recommended regional screening levels (RSLs) for lead-contaminated soil.¹ Specifically, the guidance lowered the RSLs for lead-contaminated soil in residential areas from 400 parts per million (“ppm,” a unit equivalent to mg/kg in soil) to 200 ppm. The guidance also set the Removal Management Level at 200 ppm. In February 2024, the EPA issued additional guidance for Selecting the Appropriate CERCLA Cleanup Authorities and Considerations for Removal Actions Under the Updated Residential Lead Soil Guidance (February 29, 2024). Following the release of these guidance documents, the EPA and CDPHE reevaluated Site conditions regarding lead and arsenic exposure. Arsenic was detected at concentrations greater than the removal management level (RML) of 68 ppm in many of the soils with lead concentrations greater than 200 ppm.

The January 17, 2024, guidance provides provisions for the RSL for lead to be set at 100mg/kg if additional sources of lead (e.g. lead water service lines, lead-based paint) are identified and aggregate lead exposure and increased risk to children living in these areas are considered. Given the age of the homes at the Site, additional sources of lead are possible.

Bioavailability analysis was completed on 15 of the samples analyzed for TAL metals. The Site-wide average relative bioavailability of lead and arsenic were 15% and 13%, respectively, which is relatively low, yet soils in many DUs still have lead and arsenic concentrations above the bioavailability-adjusted RSLs. During the EE/CA process, the final removal levels will be determined based on evaluation factors in the new EPA lead guidance for removal actions.

Threat to Public Health, Welfare or the Environment

For the EPA to determine that a removal action is warranted, there must be an actual or a potential unacceptable risk to human health or the environment from the release or potential release of hazardous substances, pollutants or contaminants. The EPA will formally document this determination in the Action Memorandum for the NTCRA, which will be issued after the EE/CA is completed by CDPHE, and a description of it and notice of its availability for public comment is published in a major local newspaper of general circulation.

¹ <https://www.epa.gov/superfund/updated-soil-lead-guidance-cercla-sites-and-rcra-corrective-action-facilities>.

Sampling at the Site has documented elevated levels of lead and arsenic in the soil. Lead and arsenic (and their compounds) are both a “hazardous substance” as defined by Section 101(14) of CERCLA and explicitly identified in 40 CFR §302.4.

Section 300.415(b)(2) of the NCP lists the factors to be considered in determining the appropriateness of a removal action. Paragraph (b)(2)(i), (iv), (v), and (vii) of Section 300.415 directly applies as follows to the conditions as they exist at the Site:

300.415 (b) (2) (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants

Lead and arsenic have been detected at elevated levels in surficial soil at the Site, including yards, common spaces and surrounding berms. The Site includes over 80 homes that are occupied by residents, including children. There are no barriers restricting access to the contaminated soils in these areas.

300.415(b)(2)(iv) – High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate

The May 2022 sampling event collected soil samples at the 0 to 1-inch and 1 to 6-inch intervals. These soils are at or near the surface. Disturbance of these soils, such as digging or playing, could allow for contaminated soils to become airborne and migrate downwind.

300.415(b)(2)(v) – Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released

The Site is adjacent to Fountain Creek. Heavy rains or flooding events have the potential to wash contaminated soils into the creek and allow these contaminants to migrate down the creek.

300.415(b)(2)(vii) – The availability of other appropriate federal or state response mechanisms to respond to the release

The local and state governments do not possess the funding to take removal actions.

Statutory Basis for Action

The actual release of lead and arsenic poses an imminent and substantial endangerment to the public health—specifically residents of the A-1 Mobile Park—welfare, or the environment. Surficial soils at the Site are contaminated to levels greater than the arsenic RML and updated lead RSL, and access to contaminated soils at the Site is not controlled. The receptors at the Site include residents, visitors and workers. Children live at the Site².

The public can readily ingest and inhale soils not underneath barriers such as buildings or roadways. Some likely and probable routes of exposure are direct ingestion of soils through eating,

² 2018 – 2022 American Community Survey’s 5-Year Data

incidental ingestion from soil that remains on unwashed fingers or garden fruits and vegetables, and inhalation of dust from disturbed soils.

Determining the Appropriateness of the NTCRA Process

In accordance with § 300.415(b) (4) of the NCP, the CDPHE has determined that a planning period of at least six months exists before on-site activities can be initiated. To date, the EPA's 2022 removal assessment identified the presence of Site-related hazardous substances, pollutants or contaminants in surficial soils.

The NTCRA is anticipated to be consistent with any further cleanup action to be taken at the Site. Failure to address the Site would result in potential risk to human health and the environment. Based on the above considerations, it is appropriate to conduct an EE/CA for a NTCRA.

Based on a review of applicable EPA guidance, the NCP, and conditions at the Site, and upon approval of this EE/CA Approval Memorandum, CDPHE will consider and analyze options to address contaminated soils that pose an exposure threat to human health in an EE/CA. CDPHE will publish notice of the EE/CA in a major local newspaper of general circulation and make the EE/CA available for public review and comment. After careful consideration of any public comments it receives, CDPHE, in consultation with the EPA, will then select a preferred NTCRA, which CDPHE will implement. In accordance with Section 300.415(j) of the NCP, the NTCRA will attain any federal or state ARARs to the extent practicable considering the exigencies of the situation. CDPHE will continue to consult with the EPA, as a support agency, during the planning, selection and implementation of the NTCRA.

Enforcement Actions

There are currently no enforcement actions occurring at the Site.

Proposed Project, Oversight, and Cost

With approval of this memorandum, an EE/CA will be developed and finalized, and the information generated will be used to establish the scope of the proposed actions and cost estimates.

CDPHE previously provided an anticipated scope of work (SOW) to the EPA that included assumptions based on information from similar sites. Based on that SOW, CDPHE estimates a cost of \$2,400,000. Since that budget is based on information from other soil removal sites, educated estimations about lot sizes and availability, and assumptions of contractor fees, CDPHE places a -30% (\$1,680,000) to +50% (\$3,600,000) estimate accuracy range. This range is a pre-EE/CA estimate, and the bioavailability data suggest a decrease in scope, leading to costs on the lower end.

Estimated funding needed for contractual obligations:

Task	Estimated Costs
1. EE/CA Preparation	\$130,000
2. Removal Work Plan Development and Documentation	\$200,000
3. Removal Action Field Work	\$1,900,000

CDPHE estimates an additional \$170,000 of funding is needed to cover state personnel, supply, travel, and indirect costs for this project.

It should be noted that the final alternative chosen during the EE/CA process may significantly affect the project budget estimate.

Public Involvement

CDPHE will lead public involvement activities for this NTCRA. CDPHE will prepare a Community Involvement Plan for this NTCRA. CDPHE expects to issue an EE/CA for public comment in 2025, along with a concurrent fact sheet and newspaper publication that describes the EE/CA, notifies the public of the EPA's preferred alternative for the NTCRA, and provides an opportunity for public involvement.

Approval/Disapproval

The conditions at the Site meet the NCP criteria for a removal action. Based on the information and analysis presented in this memorandum, please indicate your concurrence or non-concurrence with the recommendation to perform an EE/CA as part of an NTCRA for the Highway 24 Mill Site.

Approve: _____

Aaron Urdiales, Director

Superfund and Emergency Management Division

Disapprove: _____

Aaron Urdiales, Director

Superfund and Emergency Management Division