EXPLANATION OF SIGNIFICANT DIFFERENCES

FOR THE INTERIM RECORD OF DECISION

SOUTHSIDE CHATTANOOGA LEAD SUPERFUND SITE

CHATTANOOGA, HAMILTON COUNTY, TENNESSEE

EPA SITE ID: TNN000410686

Prepared by:

U.S. Environmental Protection Agency
Region 4 Atlanta, Georgia

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I. INTRODUCTION AND STATEMENT OF PURPOSE

The Southside Chattanooga Lead Superfund Site (Site) is in Chattanooga, Hamilton County, Tennessee. The U.S Environmental Protection Agency Site identification number is TNN000410686. The EPA is presenting this significant change to the remedy selected in the Interim Record of Decision (ROD) for the Site, which was issued on February 20, 2019. This Explanation of Significant Differences (ESD) documents the expected increase in the volume of foundry fill and the cost to cleanup lead-contaminated soil from residential properties in eight south Chattanooga neighborhoods. The EPA as the lead agency developed this Proposed ESD in coordination with the Tennessee Department of Environmental Conservation (TDEC), the support agency.

The EPA is required under Section 117(c) of the Comprehensive Environmental Response, Compensation and Liability Actof 1980 (CERCLA or Superfund), as amended, to publish an ESD when, remedial actions differ in any significant respect from the plan set forth in the ROD. Sections 300.435(c)(2)(i) and 300.825(a)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300, describe the criteria for issuing an ESD if there is a significant, but not fundamental, difference in the scope, performance, or cost of the remedy. A difference is significant but not fundamental if it affects basic features of the remedy such as timing and cost but does not affect the overall approach to managing hazardous waste at the Site.

The EPA identified lead in residential soil as the contaminant of concern at the Site. The February 2019 Interim ROD estimated that it would cost $25.87 million to implement the selected remedy addressing 203,000 cubic yards of non-hazardous lead-contaminated soil. The Interim ROD was based on sampling of a small fraction of properties in the eight neighborhoods identified during the pre-remedial investigations prior to listing the Site on the National Priority List.

The remedial action for the Site began in September 2019. Since the start of the remedial action, additional properties have been sampled which have confirmed that the volume of contaminated soil exceeding the lead clean up level in the Interim ROD is expected to increase. Additionally, after 15 months of work, the cost for cleanup of initial residential properties is well above the cost estimated in the Interim ROD.

This ESD seeks to increase the number of properties, cost of the remedy and volume of soil being excavated from residential properties and disposed offsite. Otherwise,the selected remedy remains the same as described in the 2019 Interim ROD. The estimated cost of remediating the Site has increased to $113.5 million, and the volume of lead-contaminated soil being removed has increased to 433,300 cubic yards. There are no other changes to the selected remedy.

This ESD and supporting documentation have been added to the Administrative Record for the Site by means of an Administrative Record addendum (NCP 300.825(a)(2)). The Administrative Record file and all associated documents are available for public review at the South Chattanooga Library, 925 West 39th Street, Chattanooga, Tennessee 37410, and at the following website: https://www.epa.gov/superfund/southside-chattanooga-lead.

II. SITE HISTORY AND CONTAMINATION

From the middle of the 19th century to the late 20th century as many as 60 foundries operated in the City of Chattanooga (Figure 1). Many produced iron and brass cast products that were produced by pouring molten metal into molds. Sand was the most common molding material used. While the foundry sand

was reused, sand fines, spent sands, and baghouse dust were waste products that were removed from the process periodically. Fines, spent sand, and baghouse dust can contain elevated concentrations of lead and other metals. Anecdotal information indicates that it was common practice for foundries to give residents excess foundry waste material to use as fill and topsoil.

In 2011, the EPA conducted a removal site assessment in a south Chattanooga neighborhood that resulted in a time-critical removal action to remove lead-contaminated soil at 84 residences in the Read and Mitchell Avenue Area. The excavated material was disposed of at an EPA-approved facility. TDEC raised concerns about lead-contaminated foundry waste potentially located in other residential areas, citing data from Brownfields and local development projects that were addressed under the state voluntary cleanup program. The Tennessee Department of Health (TDOH) had also collected data that indicated a relatively high percentage of children with elevated blood lead were living in south Chattanooga neighborhoods compared to surrounding areas.

In 2016, the EPA, in cooperation with TDEC and the TDOH, began a site inspection to determine whether lead-contaminated foundry-related waste materials were isolated to the Read and Mitchell Avenue area or whether additional areas may be impacted. After obtaining permission from property owners, the EPA collected soil samples in several neighborhoods near the former foundries. The collected soil samples were analyzed for lead, arsenic, and other metals. The site investigation confirmed that elevated levels of lead in soil were not limited to the Read and Mitchell Avenue area but extended to several other neighborhoods.

In 2017, based on soil sampling data, the EPA conducted another time-critical removal action and excavated lead-contaminated foundry-related waste soil from four properties that were occupied by 15 residences in Jefferson Heights. The excavated material was disposed of at an EPA-approved facility.

The EPA added the Site to the National Priority List on September 13, 2018 (Federal Register Vol 83, No. 178; Docket ID No.: EPA-HQ-OLEM-2017-0605). The EPA issued an Interim ROD for the Site on February 20, 2019, to address and estimated 203,000 cubic yards lead-contaminated soil that may present unacceptable risks to human health at residential properties in eight impacted neighborhoods (Figure 2). Activities to characterize groundwater, surface water, and sediment at the Site are ongoing.

III. SELECTED INTERIM REMEDY

The major components of the interim remedy include:

- Excavating up to 2 feet of lead-contaminated soil from residential yards and disposing of it offsite;
- Installing a visual barrier at the bottom of the excavation if lead is present above the cleanup level below 2 feet;
- Backfilling with clean material and grading to provide positive drainage;
- Restoring vegetation; and
- Implementing institutional controls (ICs), as appropriate, to ensure long-term protectiveness of the interim remedy.

The interim remedy is expected to achieve the following remedial action objectives:

- Prevent potential current and future unacceptable risks to human receptors resulting from direct contact with soil containing lead at concentrations above the cleanup level; and

- Prevent migration of lead from the impacted properties to other areas via overland flow and air dispersion.

The soil lead cleanup level for the Site (360 milligrams per kilogram) will limit the probability of a child's blood lead level exceeding 8 micrograms per deciliter to 5 percent or less after cleanup. The EPA is currently evaluating its existing policy on human health risks from lead contamination in soil. Should the lead policy change, the EPA will determine if changes to the cleanup levels for lead in residential soil are needed at this Site. If the cleanup level for lead changes, EPA will reevaluate the Site and determine if additional actions are needed. A Record or Decision (ROD) or ROD Amendment with a public comment period may be required.

IV. DESCRIPTION OF SIGNIFICANT DIFFERENCES

The EPA used Hamilton County Census Data to estimate that approximately 3,600 residential properties within the eight known impacted neighborhoods would require sampling. Using the sampling results from only 8 percent of the potentially impacted properties, the EPA predicted that approximately 30 percent of the properties may contain lead-bearing material with concentrations above the Site-specific cleanup level of 360 mg/kg. The total volume of lead-contaminated soil was estimated to be 203,000 cubic yards. The actual number of impacted properties and resulting volume of lead-contaminated soil was expected to be determined during remedial design and remedial action.

Remedial design was completed in September 2019 and included sampling through December 2018 (Table 1). The rate of properties found to exceeding the cleanup level increased from 30 percent in the Interim ROD to 38 percent in the remedial design.

Table 1. Status of Remedial Design Sampling and Cleanup by Neighborhood -12/31/2018

Neighborhood	Total No. of Residential Properties	Total No. of Properties Sampled	Total No. of Properties >360 mg/kg	Calculated Rate Exceeding 360 mg/kg	Predicted Total No. of Properties >360 mg/kg
Alton Park	566	270	73	27%	
Cowart Place	232	47	16	34%	
East Lake	1267	28	8	29%	
Highland Park	857	163	98	60%	
Jefferson Heights	170	127	27	21%	
Oak Grove	327	43	23	53%	
Richmond	55	24	10	42%	
Southside Garden	145	49	23	47%	
Total	3619	741	279	38%	1100

By January 1, 2021, the EPA had performed 164 cleanups and had sampled 1964 properties (Table 2). The local zoning codes were used to refine the number of residential properties in each neighborhood and the volume of impacted soil. Actual costs were used to adjust the projected project cost. The effects of volume and cost changes are as follows:

- The universe of properties that need to be sampled in the impacted neighborhoods increased by 39 percent, from 3600 to 5,000, based on the City of Chattanooga's zoning designations;
- The percentage of properties exceeding 360 ppm increased to 41 percent based on sampling results;

- The volume of soil removed per property increased from by 24 percent, from184.5 cubic yards in the Interim ROD (i.e., 203,000 cubic yards/1,100 properties) to 229 cubic yards in the field (i.e., 37,600 cubic yards/164 properties); and
- The average cost to cleanup each property increased by 155 percent, from $23,520 per/property to approximately $60,000 per/property (i.e., $9.7M/164 properties).

Table 2. Status of Remedial Design Sampling and Cleanup by Neighborhood - 1/1/2021

Neighborhood	Total No. of Residential Properties	Total No. of Properties Sampled	Total No. of Properties with Lead >360 mg/kg	Calculated Rate of Properties Exceeding 360 mg/kg	Predicted Total No. of Properties >360 mg/kg	No. Cleanup Actions Complete By 1/1/2021
Alton Park	470	322	95	30%	139	2
Cowart Place	200	132	41	31%	62	
East Lake	2112	449	102	23%	480	2
Highland Park	1392	686	419	61%	850	152
Jefferson Heights	164	151	31	21%	34	4
Oak Grove	526	123	59	48%	252	1
Richmond	48	38	20	53%	25	
Southside Garden	88	63	36	57%	50	3
Total	5000	1964	803	41%	1,892	164

Based on recent sampling, the estimated number of properties that may require cleanup has increased. Excavation volumes and costs incurred in the field have also increased. As a result, the estimated volume of lead-contaminated soil that requires removal is 433,300 cubic yards, and the estimated cost to clean up the Site is $113.5 million. There are no other changes to the selected remedy.

V. STATE AND COMMUNITY ACCEPTANCE

The state supports this ESD. EPA has and will continue to work with the community throughout the on-going cleanup. To communicate this ESD with the public EPA will conduct community meetings or virtual engagements, depending on current federal COVID guidelines, as well as, mailouts and other outreach efforts. The ESD will also be published in a local venue and will be available at https://www.epa.gov/superfund/southside-chattanooga-lead.

VI. STATUTORY DETERMINATIONS

The remedy selected in the 2019 Interim ROD remains fundamentally unaltered, and the statutory determinations made in the Interim ROD still apply. The significant change to the remedy is the increased volume of contaminated soil and the increased cost to implement the remedy.

The selected remedy will continue to be protective of human health and the environment and will comply with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action. This remedy remains technically feasible, cost-effective, and satisfies the requirements of CERCLA §121.

VII. PUBLIC NOTIFICATION AND THE ADMINISTRATIVE RECORD

Pursuant to NCP § 300.435(c)(2)(i), the EPA will publish a brief description of this ESD in the local

newspaper. An electronic copy of this ESD will also be available online at: https://www.epa.gov/superfund/southside-chattanooga-lead, under Site Documents & Data. No public comment period was held for this ESD. The EPA will conduct enhanced community outreach through neighborhood meetings, availability sessions, local media outlets, trusted community organizations, and website documents, to inform the community about the changes identified in this ESD. If the cleanup level for lead changes, the EPA will evaluate the Site and determine if additional actions are needed. A Record or Decision (ROD) or ROD Amendment may be provided to the public for comment.

Pursuant to NCP § 300.825(a)(2), this ESD will become part of the Administrative Record for the Site. The Administrative Record for the response actions related to the Site is available for public review online at: https://www.epa.gov/superfund/southside-chattanooga-lead, under Site Documents & Data.

VIII. AUTHORIZING SIGNATURE

I have determined the remedy for the Site, as modified by this ESD, is protective of human health and the environment, and will remain so provided the actions presented in this ESD are implemented as described above.

This ESD documents the significant changes related to the remedy at the Site. The EPA selected these changes with the concurrence of TDEC

Michael S. Regan, Administrator
U.S. Environmental Protection Agency

AUG 3 1 2021
Date

Figure 1. Historical Industries in Chattanooga

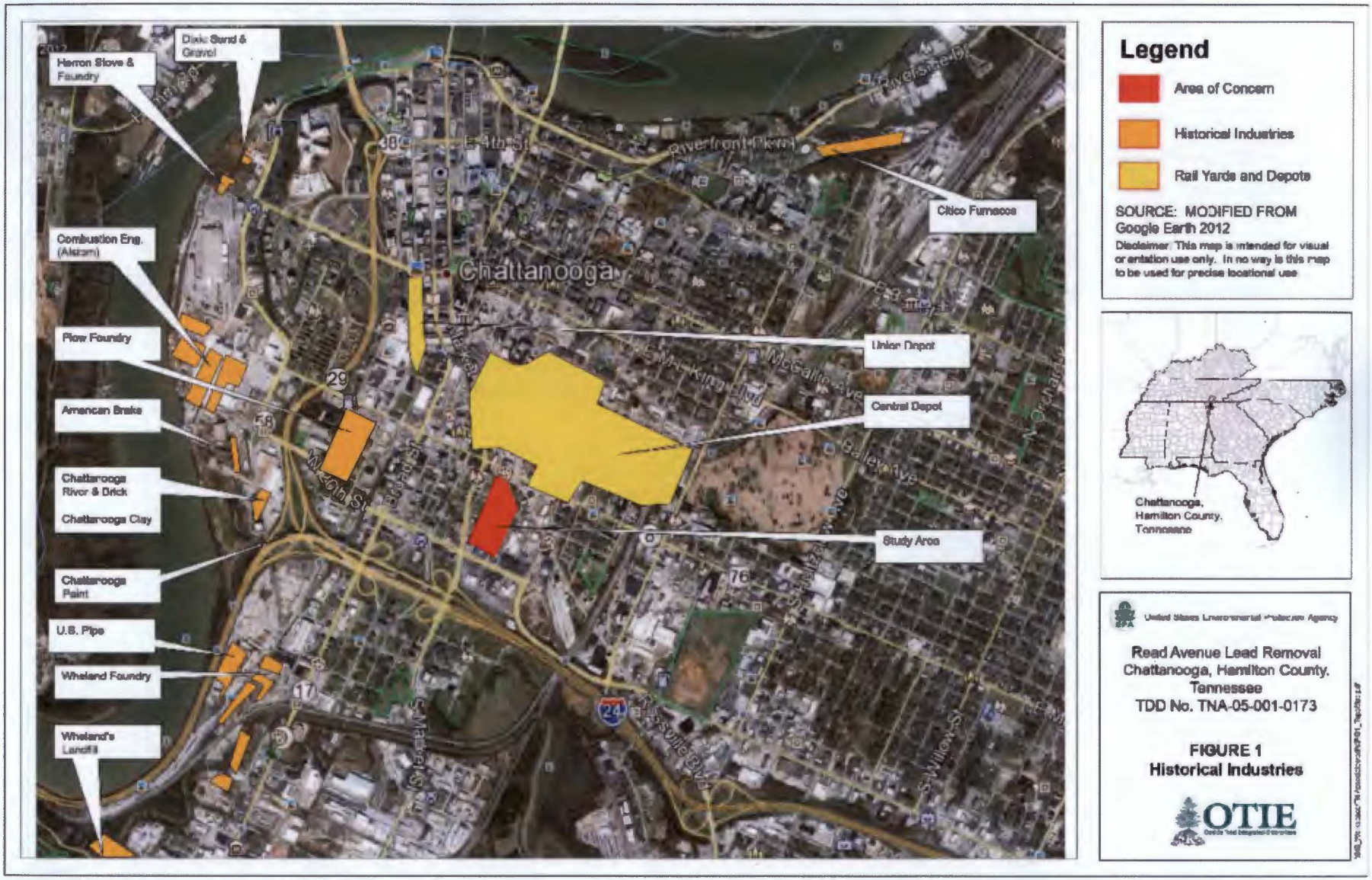

Figure 2. Site Location Map and Neighborhoods