

# SOUTHSIDE CHATTANOOGA LEAD SUPERFUND SITE

January 2024

The Southside Chattanooga Lead Site (SSCL) is located in downtown Chattanooga, Tennessee. SSCL was listed on the National Priorities List in September 2018. The site consists of eight (8) residential neighborhoods and non-residential communal areas (parks, schools, playgrounds, childcare centers) in the *Alton Park, Cowart Place, East Lake, Highland Park, Jefferson Heights, Oak Grove, Southside Gardens and Richmond neighborhoods* (see map on Page 2).

## Activity Timeline

2011 – A Chattanooga resident presented at the emergency room with lead poisoning.

2011 – The EPA conducted a removal assessment.

2012-13 – The EPA conducted removal activities at 84 residences (Read Avenue).

2016 – The EPA tested soil from more than 300 residential yards near the former foundries. The soil samples were collected and analyzed for lead, arsenic and other metals.

2017 – The EPA removed lead-contaminated foundry- from an additional fifteen (15) properties (Jefferson Heights). These were the properties with the highest levels of lead and with children residing on or nearby the properties.

2018 January – SSCL was proposed to NPL.

2018 September – SSCL was listed on the NPL.

Since the mid-19th century, about 60 foundries, typically iron, steel, and brass, operated within the City of Chattanooga. These foundries



specialized in melting and casting metals into parts for automobiles, train locomotives, airplanes, plumbing fixtures, etc. Sand, which was commonly used as the

molding for these parts, was broken away from the metal piece once the molten metal had cooled.

*(continued on page 2)*

## **BILATERAL INFRASTRUCTURE LAW (BIL) – INVESTING IN AMERICA**

To date, over 44,000 projects have been awarded funding from the Bipartisan Infrastructure Law. They range from repaving roads and water system upgrades funded through formula grants to states to competitive funding for massive bridge, transit projects and supporting environmental cleanup of contamination across the nation. For SSCL, the pace of cleanup is being significantly accelerated due to the increased funding from BIL.

As of January 1, 2024, a total of 813 properties of 1,350 properties known to have lead concentrations exceeding the site-specific cleanup level have been

## Activity Timeline

2018 July – The EPA removed lead-contaminated foundry-related waste soil from three properties in Southside Gardens and one property in Highland Park.

December 2018 – The EPA collected and analyzed soil samples from an additional 455 properties.

2019 March – The Agency began to remediate properties with lead concentration levels of 1200 ppm and higher, under a Time Critical Removal Action.

2019 May – The EPA collected and analyzed soil samples from an additional 261 properties.

September 2019 – We collected and analyzed soil samples from an additional 338 properties.

2020 January – The EPA collected and analyzed soil samples from an additional 78 properties and collected surface water and groundwater samples for the final decision document.

The EPA presented a significant change to the remedy selected in the site Interim Record of Decision (IROD), originally issued 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.

2023 - The EPA and TDEC continues to support requests for lead sampling and remediation, with the assistance of staff, interns and contractor support.

(cont from page 1)

remediated. To date 3,035 of approximately 5,490 properties within the Site boundary have been sampled. Cleanups are on track to meet or exceed the fiscal year 2024 cleanup goal of 250 properties. As of December 2023, we have disposed of approximately 154,091 tons of contaminated soil.

Most of the sand was reused to make future molds, but sand fines were generated with reuse and could not be reused. Until the advent of the Resource Conservation and Recovery Act (RCRA) in the early 1970s, facilities discarded their used waste foundry material on their own properties, sent them to local landfills, or gave them away to be used as fill material or as a topsoil layer on other properties. Some of the material that was generated at the foundries pre-RCRA has been found to be hazardous because of the high lead concentrations that are present but were unknown at the time.

The Environmental Protection Agency's state partner, the Tennessee Department of Environment and Conservation (TDEC), raised concerns about lead-contaminated foundry waste potentially located in other residential areas. TDEC had supporting data from Brownsfield and local development projects and state voluntary oversight activities. The EPA and TDEC initiated a soil study to determine whether further evaluation and cleanup were necessary. The Tennessee Department of Health presented data indicating a relatively high percentage of children with elevated blood lead levels, compared to the children living in the surrounding areas.



Map of Chattanooga Tennessee



The Southside Chattanooga Lead Superfund Site with neighborhoods defined.

Of the 1,350 properties known to have elevated lead concentrations, 813 properties have been cleaned up and 537 properties are in the queue for cleanup, as of January 1, 2024. The number of completed cleanups at this site exceeds the current total of cleanups to be performed.

### **Did You Know?**

The Agency for Toxic Substances and Disease Registry's (ATSDR) 2020 Toxicological Profile for Lead shows that lead can cause health problems in almost every organ and system in your body. Lead exposure can come from a variety of means:

- Eating food or drinking water that contains lead.
- Drinking water from pipes that were soldered with lead can cause exposure.
- Spending time or living in homes with lead-based paints can result in exposure when the paint breaks down and forms dust, which can get on your hands or into your mouth and nose and be swallowed.
- Spending time in areas where the soil is contaminated with lead.
- Working in a job where lead is used or participating in certain hobbies where lead is used, such as making stained glass.
- Using healthcare products from other countries, alternative treatments or folk remedies.



Layers of contaminated soil structure

The effects of lead are the same whether it enters the body by breathing it in or eating it. The nervous system is the main target for lead poisoning in children and adults. Long-term exposure can result in decreased learning, memory, and attention and weakness in fingers, wrists or ankles.



Children are more vulnerable to lead poisoning than adults because their nervous system is still developing. Children can be exposed to lead in their environment and before birth from lead in their mother's body. At lower levels of exposure, lead can decrease mental development, especially learning, intelligence and behavior.

### **The Agency's Approach:**

In fulfilling the mission of protecting human health and the environment, the EPA recommends a cleanup for all yards with a lead concentration greater than 360 mg/kg. The EPA issued the Interim Record of Decision (IROD) in 2019 to address the contaminated soil at residential properties. The specific components of the remedy include:

- Excavating the lead contaminated soil/foundry sand from residential yards to a maximum depth of two feet below land surface;
- Transporting and disposing of excavated soil to an off-site EPA approved facility;
- Backfilling the excavated areas with clean material and grading to provide positive drainage;
- Restoring the impacted and disturbed areas; and
- Installing an additional demarcation layer if lead-bearing material is present greater than two feet bls.

SSCL properties are prioritized for cleanup based on the Regional Tiered Approach:

- First priority is given to properties with a lead concentration greater than or equal to 1,200 mg/kg in the surface soil.
- Second priority is given to properties with a lead concentration greater than 360 mg/kg in the surface soil and with young children (ages 0-6) present in the household.
- Third priority is given to all other properties with a lead concentration greater than 360 mg/kg in the surface soil.

## In the News

On January 17, 2024, the EPA announced it is lowering the recommended screening levels for investigating and cleaning up lead-contaminated soil in residential areas where children live, learn and play. While the guidance is effective immediately, all of this will take some time. The Agency is currently establishing cleanup goals for the SSCL site, taking into consideration the natural background level of lead in the area and the body's ability to uptake lead, known as bioavailability. EPA Region 4 is committed to protecting the community and will provide updates to the community as soon as we are able.

## By the Numbers:

### Neighborhood Status Update:

Neighborhood	Total # of Properties	Total # of Properties Sampled	Total # of Properties > 360 ppm	Calculated Rate of Exceedance	Predicted Total # of Properties > 360 ppm	# Removal/ Remedial Actions Complete
Alton Park	532	387	122	31.50%	168	63
Cowart Place	221	131	48	36.60%	81	26
East Lake	2191	832	234	28.10%	616	64
Highland Park	1511	1090	693	63.60%	961	554
Jefferson Heights	168	154	31	20.10%	34	6
Oak Grove	692	316	146	46.20%	320	55
Richmond	52	41	23	56.10%	29	18
Southside Gardens	123	84	53	63.10%	78	27
<b>Total</b>	<b>5490</b>	<b>3035</b>	<b>1350</b>	<b>44.50%</b>	<b>2442</b>	<b>813</b>

The number of completed cleanups at this site exceeds the current total of cleanups to be performed. Of the 1,350 properties known to have elevated lead concentrations, 813 properties have been cleaned up and 537 properties are in the queue for cleanup.

The total cost to implement the remedy and the total volume of non-hazardous lead-contaminated soil to be addressed were originally estimated in the Interim ROD to be \$25.87 million and 203,000 cubic yards respectively. However, these estimates were based on sampling a small fraction of properties within the eight residential neighborhoods. The estimated total cost to implement the remedy and the volume of lead-contaminated soil to be excavated has been revised to reflect current sampling results as well as the actual costs incurred during cleanup. On August 31, 2021, the EPA issued an Explanation of Significant Differences (ESD) to document an increased cost of the remedy and the increased volume of lead-contaminated soil to be removed. The ESD estimates that the cost to remediate the Site has increased to \$113.5 million, and the volume of lead-contaminated soil being removed has increased to 433,300 cubic yards.

### The EPA Team

Jasmin Jefferies	Remedial Project Manager
Rosemarie Nelson	Community Involvement Coordinator
Marianne Lodin	Site Attorney
TetraTech	Remedial Action (START) Contractor
CMC	Remedial Action (ERRS) Contractors

**For more information,  
please visit the website at:**  
[www.epa.gov/superfund/southside-chattanooga-lead](http://www.epa.gov/superfund/southside-chattanooga-lead)

### Our Agency Partners

EPA College and Underserved Partnership Program (CUPP)\*  
City of Chattanooga, Tennessee  
Tennessee Department of Environment and Conservation (TDEC)  
Tennessee Department of Health  
Agency for Toxic Substances and Disease Registry (ASTDR)  
University of Tennessee Chattanooga (UTC) and University of Puerto Rico  
Chattanooga Neighborhood Environmental College

\*CUPP is an EPA Region 4 program working with the Department of Education Minority Science and Engineering Improvement Program (MSEIP). Region 4's relationship with the Department of Education's MSEIP is new and hopes to continue supporting internships into the future.