



ALTA  
ENVIRONMENTAL  
To: Amanda Cruz, United States Environmental Protection Agency (USEPA)

From: Eric Fraske, P.E., Alta Environmental/NV5

CC: Roberto Puga, P.G. and Jerry Faucheux, PFC  
Peter Ruttan and Poonam Acharya, California Department of Toxic Substances Control (DTSC)

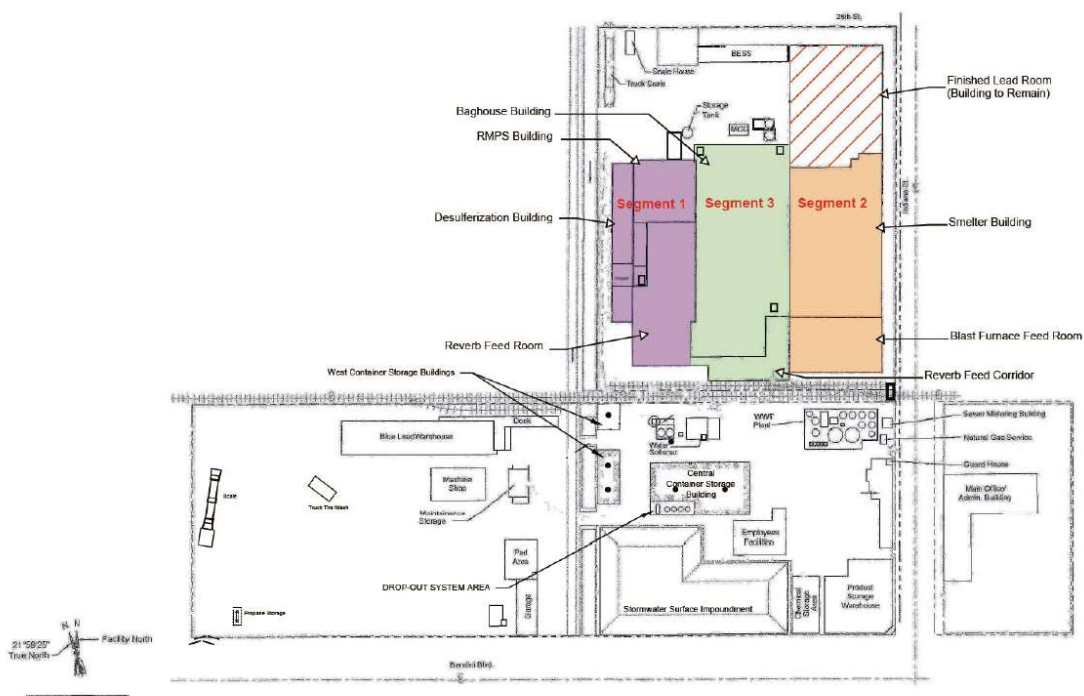
Date: January 12, 2021

Subject: Technical Memorandum #4: Backfill of Tunnel with Flowable Fill

## **BACKGROUND**

Phase I Closure of the former Exide Vernon facility (Site) consists of decontamination and deconstruction of the three segments of the Main Containment Building located on the northern portion of the Site (Figure 1).

**Figure 1: Site Map**



In the Closure Plan, it was assumed that decontamination (washing) of the floor in each segment would successfully remove surficial lead material so that concentrations of lead within the floor surface would be below the DTSC's commercial/industrial human health screening level for lead in soil of 320 milligrams per kilogram (mg/kg). Floor chip sampling in Segment 1 was conducted in 2019 following completion of decontamination activities. At that time, concentrations of lead in excess of the 320 mg/kg were identified

throughout Segment 1. To address the potential health and environmental risk of leaving the concrete floor containing lead in excess of the 320 mg/kg open and exposed, Exide proposed to install a layer of asphalt pavement across Segment 1 to act as a protective cover. A Paving Plan was submitted to the DTSC on May 21, 2019.

On June 10, 2019, the DTSC responded to Exide's submitted Paving Plan and indicated *"DTSC considers this measure an extension of the requirements in Section 3.2.2, step 7 of the Closure Implementation Plan (CIP) dated October 5, 2017. In the CIP, Exide is required to keep any concrete walls with total lead concentrations above 320 mg/kg wrapped in plastic unless they are under negative pressure; covering floors in asphalt and sealing walls is a more conservative measure than this and thus it essentially meets the same CIP requirements. DTSC discussed this issue with South Coast Air Quality Management District and they agree with this approach. Exide's letter does not require specific DTSC approval because it is a continuation of activities that were previously approved via DTSC's CIP conditional approval letter dated October 5, 2017."*

Based on the Segment 1 sampling described above, it was assumed that the floors within Segments 2 and 3 containing lead in excess of 320 mg/kg, would also require post-decontamination floor sealing (asphalt paving) measures. The sealing of these floors was included in Exide's November 6, 2019 request for an amended schedule.

Segment 2 has recently been decontaminated in preparation for planned floor paving activities. Along the west side of Segment 2 (Attached Figure 2), two tunnels are present that connect the basement kettle gallery to the baghouses (Segment 3). During this decontamination, structural deficiencies (damaged or weakened concrete) in the roof of the southern tunnel/floor of Segment 2 were identified (Photograph 1).

**Photograph 1: South Tunnel Structural Damage**



Due to the identified structural deficiencies, portions of the Segment 2 cannot be paved due to safety concerns. Additionally, the tunnel is located beneath the proposed footprint of the Segment 3 scaffolding wall. Scaffolding cannot be safely constructed over this tunnel without installation of engineered shoring and/or reinforcement of the ceiling, both which would require additional time and budget to design and implement. A delay in scaffold construction for the Segment 3 eastern wall would increase the duration of the temporary containment over Segment 2, known as the Full Enclosure Unit (FEU). The Segment 2 FEU has been operational for over 14 months, which has exceeded its useful design life. Further extending the duration of the Segment 2 FEU may increase the risk of a tear.

Therefore, in order to mitigate the safety and environmental risks associated with the structural deficiencies and potential delay of paving and/or scaffolding activities, it is proposed that the south tunnel be backfilled with a cement-based flowable slurry fill material as described below.

#### **FLOWABLE FILL INSTALLATION**

Upon approval from the USEPA, the onsite remediation contractor American Integrated Services (AIS) and their subcontracted paving contractor Huntington Pacific (HPC), will immediately commence with backfill of the south Segment 2 tunnel (Figure 2). It is estimated that approximately 240 cubic yards (approximately 24 to 30 truckloads) of 3-sack slurry will be required. The slurry pour will require approximately two days to complete.

The flowable fill will be placed using a similar approach as the flowable fill that was used in four Segment 1 sumps (Sumps J, 6, upper feed room sump, lower feed room sump). That work was described in the previously referenced June 2019 Paving Plan.

#### **HEALTH AND SAFETY**

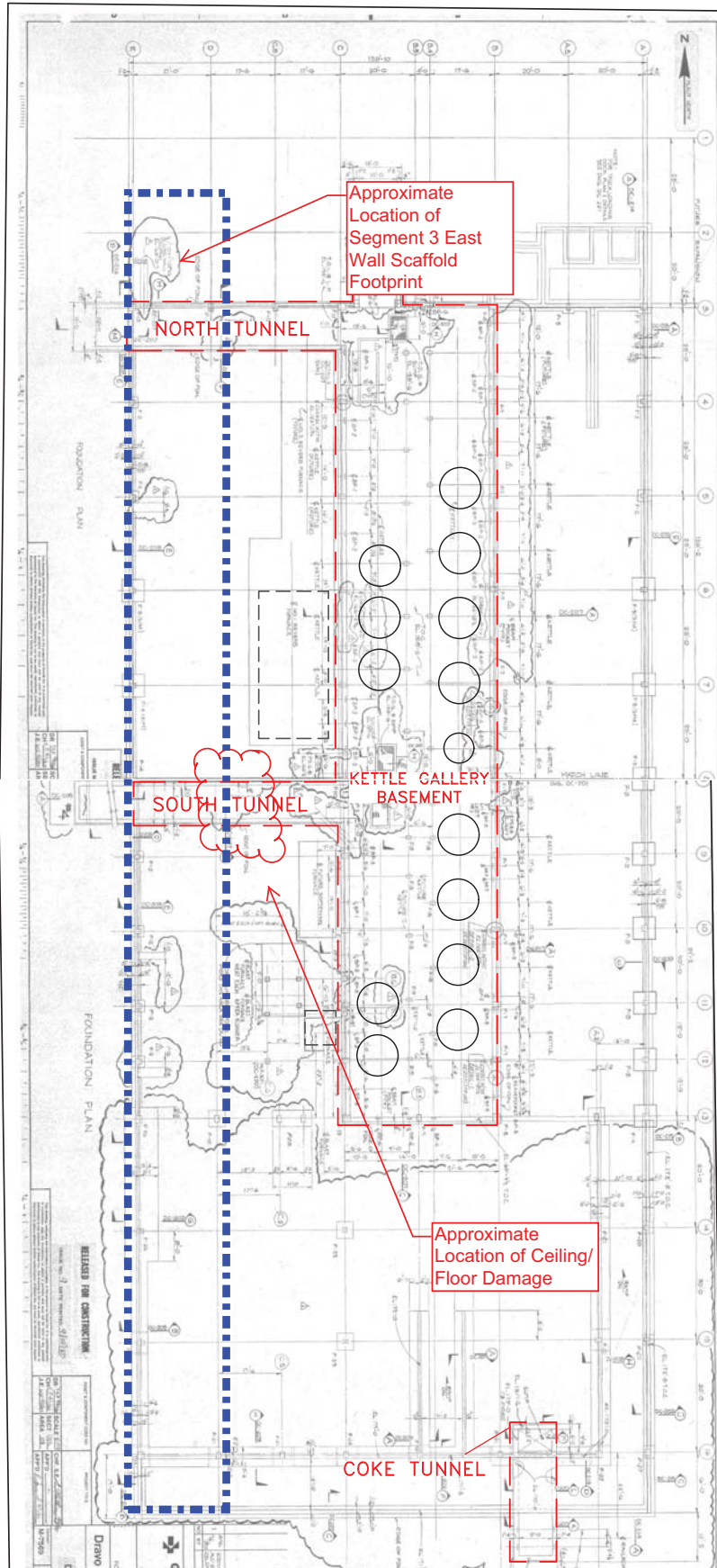
The work presented in this technical memorandum will be performed in accordance with the AIS Site health and safety plan. This plan was recently updated to include applicable COVID-19 protocols.

#### **CEQA CONSIDERATIONS**

Based on the limited nature of this slurry fill work, which is a necessary construction method to complete a task of the approved Closure Plan and Closure Implementation Plan and that has been previously implemented in other parts of the site, and discussions with the Vernon Environmental Response Trust (VERT) CEQA consultant, additional CEQA analysis does not appear necessary.

#### **ATTACHMENTS:**

Figure 2 – Segment 2 Tunnel and Sump Locations



**FIGURE 2: SEGMENT 2 TUNNELS AND SUMPS**

CLIENT:  
Vernon Environmental Response Trust

PROJECT #: VERT-20-9944



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DRAWN: BP

SCALE:  
None

SITE LOCATION:  
2700 Indiana Street  
Vernon, California

APPROVED: EF

DATE: December 2020

LEGEND:



Approximate Outline of Basement Area



Approximate Location of Former Kettle