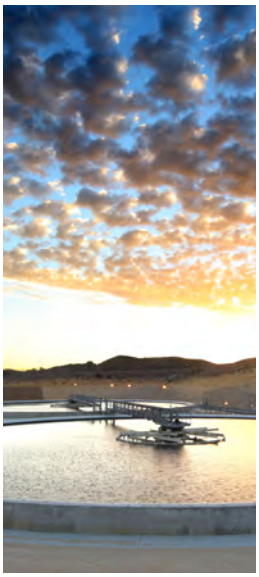
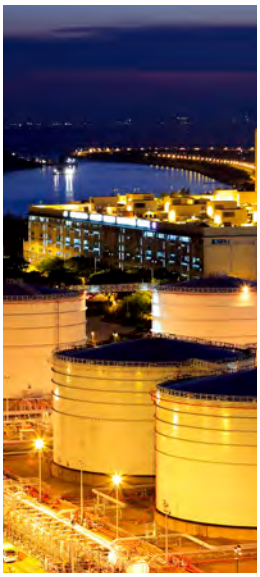
Confidential Settlement
Discussion Document


# Removal Plan for Alley - Railroad

Pilsen Site
Chicago, Illinois
Revision 03

1801 Old Highway 8 Northwest, Suite 114 St. Paul Minnesota 55112
039826 | Report No 15b | September 22 2015

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# 1. Introduction

This document provides information on the removal and remediation of elevated lead in surface soil within the Pilsen area known as the Alley/Railroad Area. The United States Environmental Protection Agency (USEPA) has notified H Kramer & Company (H Kramer), the City of Chicago (City), and Burlington Northern Santa Fe Railway (BNSF) (hereafter collectively the Parties) that each is a potentially responsible party under CERCLA for alleged soil contamination at the Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site in Chicago IL (EPA Site ID C5N8-01) (OU1). The Parties have worked with USEPA to develop this Removal Work Plan for Alley-Railroad to address environmental conditions at OU1 through a removal action.

This report provides the scope and remedial cost associated with the scope of work provided herein.

# 2. Background

## 2.1 Alley and Railroad Sampling Results

The results of sampling completed in the alley and railroad area are presented in the following documents:

- Site Assessment Report for Pilsen Soil Assessment Area: Rail Road/Alley Chicago, Cook County, Illinois Addendum 1; dated November 3, 2014
- Pilsen Soils OU1 Railroad Spur and Alley Site: Western Areas, Rail Road Spur Soil Sample Results: USEPA Memorandum dated May 22, 2015
- Pilsen Soils OU1 Railroad Spur and Alley Site: Western Areas, Rail Road Spur Reanalysis of Soil Sample ID PA-RR26—0624 for TCLP Lead: USEPA Memorandum dated August 21, 2015

This area is divided into the following ten parts based generally on land ownership and use as shown of Figure 2.1 and listed as follows:

1. **Area 1 Revised - Railroad West of Loomis (West Part)**: This part is approximately 18 feet in width (defined as 9 feet on each side of the centerline of the rail road tracks) 490 feet long between Laflin and Loomis and is owned by the City of Chicago. This area has lead levels above 800 mg/kg but EPA samples collected in this area were below the TCLP lead criteria within the area. The rails and ties are in place and the spur is inactive.
2. **Area 2 Revised - Railroad West of Loomis (East Part)**: This part is triangular in shape and approximately 120 feet long and between 18 and 45 feet wide at its widest point (defined as 9 feet on each side of the centerline of the rail road tracks with the area between the two sets of tracks at the east end included). This area is directly adjacent to Loomis and is owned by the City of Chicago. This area has lead levels above 800 mg/kg. The rails and ties are in place and the spur is inactive.
3. **Area 3 -Loomis Crossing**: This is the paved street section of Loomis where the railroad tracks formerly crossed the road. The rails and ties have been removed and there is street pavement or concrete sidewalks covering this area.

4. **Area 4 - Railroad East of Loomis (North)**: This part is approximately 95 feet long and owned by H. Kramer and was used by BNSF. This part lies between Loomis and 21st Place (entrance to H Kramer). The rails and ties are still present. This area exceeds 800 mg/kg lead and has TCLP[1] lead within the area. The rail spur is inactive.

5. **Area 5- 21st Place**: - This part represents an approximate 135 foot by 75 foot area east of Loomis which is the entrance to H Kramer and is currently owned by the City. This area exceeds 800 mg/kg lead and also has TCLP lead within the area. The rail spur is inactive.

6. **Area 6 - Railroad East of Loomis (South)**: This part represents an approximate 110 foot long section of railroad tracks used by BNSF and owned by H. Kramer. This part lies between the east-west alley and 21st Place (entrance to H Kramer). The rails and ties are still present. This area exceeds 800 mg/kg lead but EPA samples collected in this area were below the TCLP lead criteria within the area. The rail spur is inactive.

7. **Area 7- North South Alley**: This part is approximately 110 feet by 25 feet in area and is owned by the City. It has a gravel/fill surface and has lead above 800 mg/kg but EPA samples collected in this area were below the TCLP lead criteria within the area.

8. **Area 8 - Unpaved East- West Alley**: This part represents an approximate 325 feet of unpaved alley along the western part and is owned by the City. This area has lead levels above 800 mg/kg and has TCLP lead within the area.

9. **Area 9 - Paved East West Alley**: This part represents an approximate 175 feet of paved alley along the eastern part and is owned by the City. This area has lead levels above 800 mg/kg. Recent inspection of this area indicates that the pavement in this area is in poor shape.

10. **Area 10 - Railroad South of Alley**: This approximately 120 feet long railroad segment is owned by DeTrinh and 1358 Cermak LLC and was used by BNSF. This part lies between the east-west alley to the north and Cermak Road to the south. The rails and ties are still present. This area exceeds 800 mg/kg lead but EPA samples collected in this area were below the TCLP lead criteria within the area. The rail spur is inactive.

Figure 2.1 shows the remediation area.

# 3. Removal/Remediation Objectives

## 3.1 Removal Action

The work will be completed as a removal action under Title 40 Code of Federal Regulations Part 300.415.

Consistent with the scope allowed under a Removal Action, the following work is included in the Removal Action

1. Fences, warning signs, or other security or site control precautions
2. Capping of contaminated soils

[1] Toxicity Characteristic Leaching Procedure (TCLP) lead concentrations above 5.0 milligrams per liter (mg/L)

3. Excavation, containment, treatment and disposal of hazardous and non-hazardous materials

## 3.2 Removal/Remediation Objectives

The Removal Plan has considered the factors identified in 40 CFR 300.415 (B) (2) (i)-(vii) to determine the appropriateness of removal action activities.

1. Excavate (with off-site disposal) or provision of a paved engineered barrier over soils containing lead at concentrations above 800 mg/kg Removal Management Level (Ingestion Pathway) for Industrial/Commercial properties."
2. Surface cover materials to be implemented will be protective of nearby human populations. Geofabric and asphalt covers will provide an engineered protective barrier[2] to prevent migration of contaminants from the soils.
3. High levels of hazardous substances or pollutants (i.e. TCLP lead > 5 mg/L) will be treated in-situ removed from the site, disposed of properly. Geofabric and asphalt covers will provide an engineered barrier to prevent migration of contaminants remaining in the soils.
4. The removal action contractor will consider the daily weather conditions during removal activities and will protect stockpiled soils and exposed soils from erosion and weather effects.
5. Threat of fire or explosion will be considered throughout the removal action activities. Suitable precautions will be made to prevent exposure to or from these threats.

## 3.3 Supporting Documents

Prior to beginning the field program, a Health and Safety Plan (HASP) will be developed and implemented. The HASP will be developed in accordance with Federal Occupational Safety and Health Administration (OSHA) standards for hazardous waste operations (29 CFR 1910.120). The HASP will define the levels of personnel protective equipment (PPE) to be used and define the air monitoring to be conducted during soil removal activities.

USEPA policy requires that all work performed by or on behalf of USEPA involving the collection of environmental data be implemented in accordance with a USEPA-approved Quality Assurance Project Plan (QAPP). In addition to this Work Plan, a QAPP has been developed (GHD, September 2015) to integrate all technical and quality aspects of the project and documents, quality assurance (QA), quality control (QC), and technical activities and procedures associated with planning, implementing, and assessing environmental data collection operations. The QAPP will be submitted to the USEPA for review and approval.

The following sampling and monitoring activities will be performed for the removal action activities.

- Collecting soil samples from treated soils to ensure the treated soils are below to objective of 5 milligrams/per liter (mg/L) for lead

[2] Engineered barriers will consist of compacted gravel and/or compacted gravel with an asphalt cap. A pre-construction survey of the work areas (including adjacent areas) will be conducted to develop a cut and fill plan, and a grading plan to promote proper drainage and prevent ponding/flooding. A post construction survey will also be conducted to define the limits of the engineered barriers. .

- Conduct downwind particulate monitoring during earth moving activities associated with the removal action
- Conduct construction personnel air filter sampling for lead

Details regarding these sampling and monitoring activities (including monitoring action levels) are provided in the QAPP and/or HASP.

# 4. Evaluation of Remediation of Alley/Railroad Area

## 4.1 Description of Remedy

A cost estimate is provided in Appendix A. The railroad/alley work will be completed in a phased approach as described in Section 4.2. It is understood that due to the nature of this removal action under CERCLA, the City would approve the use of gravel as an engineered barrier (Area 1 Revised), would waive permit requirements, would waive storm water detention/ sewer requirements and would also waive any landscaping requirements. It is further assumed that the paving portion of the work will be completed without the requirements to develop detailed grading/design plans and any design approvals.

Given that the USEPA has already completed extensive sampling, no additional delineation or confirmation sampling will be required. Additionally, the new gravel placed in Areas 6 and 10 this past May will be excavated and staged for reuse. This gravel will utilized as backfill and grading material during the remedial scope discussed below. Additionally water will be applied to the ground surfaces during earth working activities to control dust.

Prior to implementation of the remedy, a Site Specific Health and Safety Plan (HASP) will be developed. The HASP will be developed in accordance with Federal Occupational Safety and Health Administration ("OSHA") standards for hazardous waste operations (29 CFR 1910.120). No additional delineation or confirmation sampling (excavation or sidewalls) for total lead is proposed in conjunction with the work[3]. Previous soil sampling efforts completed by the USEPA and/or its contractors have fully characterized the lead distribution in soil within OU1.

A description of the remedial scope for each area is presented as follows:

1. **Area 1 Revised - Railroad West of Loomis (West Part)[4]**: This part is 490 feet long between Laflin and Loomis and is owned by the City of Chicago. This area has lead levels above 800 mg/kg. The removal plan for this area is as follows:

[3] USEPA will collect confirmation samples at its discretion as part of its oversight role as defined under the Administrative Order on Consent (AOC). This sampling is limited to the following:
- The USEPA may use an XRF unit to screen the soil/gravel in Area 1 and collect up to two post excavation confirmation soil samples for total lead analyses to ensure soil/gravel above 800 mg/kg are removed from this area prior to installing the gravel barrier.
- The USEPA may collect one split confirmation sample of the treated TCLP soil from Areas 4, 5, or 8 to ensure the treatment objective of 5.0 mg/L is met.
- The USEPA may collect up to two co-located downwind air samples.
- The USEPA may collect one personnel OSHA lead filter sample.
- All sample analyses will be performed on an expedited rush 24-hour turnaround basis with the exception of the TCLP analysis which will be on a 48-hour turnaround basis.

[4] Note the size of Area 1 has been revised to end near soil sample location PA-RR-26 and Area 2 has been extended to the west.

a. BNSF will remove the rails and ties from this area.

b. H. Kramer will remove the organic soils that are not suitable for backfill and dispose offsite as non-hazardous waste. Soils above the RML will be removed (excavated) down to a depth of 6 inches from the existing grade. EPA's sampling in this area below 6 inches has shown that the RML has been met below 6 inches. This excavated material will be used as backfill in Areas, 4, 5, 6, 7, 8, or 9. After the surficial materials are removed a brightly colored geotextile fabric[5] will be placed over the area. Then 6 inches of gravel will be placed as an engineered barrier (gravel supplied by BNSF). Bollard posts will be installed at the west end of this area, and at the parking lot cross over to prevent traffic from entering the pathway[6].

2. **Area 2 Revised - Railroad West of Loomis (East Part)**: This part is approximately 120 feet long and 18 to 45 feet in width at its widest point. This area is directly adjacent to Loomis and is owned by the City of Chicago. This area has lead levels above 800 mg/kg. The rails and ties are in place and the spur is inactive. No TCLP treatment will be required. The removal plan for this area is as follows:

   a. BNSF will remove the rails and ties from this area. .

   b. H. Kramer will remove the organic soils that are not suitable for backfill and dispose offsite as non-hazardous waste. Soils above the RML will not be removed from Area 2. A brightly colored geotextile fabric will be placed over the area. Then 3 inches of gravel will be placed as part of an engineered barrier (gravel supplied by BNSF). A bollard post will be installed at the east end of this area to prevent traffic from entering the pedestrian pathway.

   c. H. Kramer will then place a 3-inch asphalt layer as an engineered barrier.

3. **Area 3 - Loomis Crossing**: This is the paved street section of Loomis where the railroad tracks formerly crossed the road. The rails and ties have been removed and there is street pavement or concrete sidewalks covering this area. No remediation is required because the pavement and sidewalks are in good condition.

4. **Area 4 - Railroad East of Loomis (North)**: This part is 95 feet long and owned by H. Kramer and was used by BNSF. This part lies between Loomis and 21st Place (entrance to H Kramer). The rails and ties are still present. This area exceeds 800 mg/kg lead and has TCLP lead within the northeast corner of the area. The rail spur is inactive. The removal plan for this area is as follows:

   a. BNSF will remove the rails and ties from this area.

   b. H. Kramer will treat in-situ the TCLP soil in the upper 0.5 feet of material within this area with a soil reagent[7]. The limits of the TCLP excavation area within Area 4 is defined in Appendix B. After treatment a waste characterization sample will be collected of the treated material for expedited TCLP lead analysis. Once the analysis confirms the treated soil is below 5 mg/L, this material will be excavated and transported off-Site for disposal as non-hazardous material. The area will be re-graded and a brightly colored

[5] Daylight Orange Nonwoven Geotextile or generally equivalent material

[6] The paved portion of Area 1 which is a driveway between two parking lots is not included in the Area 1 remediation area.

[7] Free Flow-200 heavy metals stabilizing reagent by Free Flow Technologies, Ltd. at a 4-percent application rate mixed in-situ with soil.

geotextile fabric will be placed over the area. Then a 6 inch layer of gravel will be placed and the area will be covered with a 3-inch asphalt layer as an engineered barrier.

5. **Area 5 - 21st Place**: This part represents a 135 foot by 75 foot area east of Loomis which is the entrance to H Kramer and is owned by the City. This area exceeds 800 mg/kg lead and also has TCLP lead within the area. The rail spur is inactive. The removal Plan for this area is as follows:

   a. BNSF will removed the rails and ties from this area

   b. H. Kramer will treat in-situ the TCLP soil within this area with a soil reagent. The limits of the TCPL excavation area within Area 5 is defined in Appendix B. After treatment a waste characterization sample of the treated material will be collected for expedited TCLP lead analysis. Once the analysis confirms the treated soil is below 5 mg/L, this material will be excavated and transported off-Site for disposal as non-hazardous material. After the TCLP excavation, surface soils and gravel from Areas 1, 5, 6, 7, 8 or 9 can be used as backfill for the excavated area.The area will be re-graded and a brightly colored geotextile fabric will be placed over the area.

   c. The City will then place a 6-inch layer of gravel and the area will be covered with a 6-inches asphalt layer as an engineered barrier[8].

6. **Area 6 - Railroad East of Loomis (South)**: This part represents a 110 foot long section of railroad tracks used by BNSF and owned by H. Kramer. This part lies between the east-west alley and 21st Place (entrance to H Kramer). The rails and ties are still present. This area exceeds 800 mg/kg lead but EPA samples collected in this area were below the TCLP lead criteria within the area. The rail spur is inactive. The removal plan for this area is as follows:

   a. BNSF will remove the rails and ties from this area.

   b. H. Kramer will place a brightly colored geotextile fabric over the area. Then 6 inches of gravel will be placed and the area will be covered with a 3-inch asphalt layer as an engineered barrier.

7. **Area 7- North South Alley**: This part is 110 feet by 25 feet in area and is owned by the City. It has a gravel/fill surface and has lead above 800 mg/kg but EPA samples collected in this area were below the TCLP lead criteria within the area. The removal plan for this area is as follows:

   a. H. Kramer will re-grade the area and then place a brightly colored geotextile fabric over the area.

   b. The City will then place a 6-inch layer and the area will be covered with a 3-inch asphalt layer as an engineered barrier.

8. **Area 8 - Unpaved East-West Alley**: This part represents 325 feet of unpaved alley along the western part and is owned by the City. This area has lead levels above 800 mg/kg and has TCLP lead within the area. The short section of the rail spur at the west end of this area is inactive. The removal plan for this area is as follows;

[8] The western portion of Area 5 (area west of RR tracks) is covered with brick pavers. These pavers will not be removed but instead will be incorporated into the engineered barrier. The City will place 3-inches of asphalt over the brick pavers.

a. BNSF will remove the rails and ties from this area.

b. H. Kramer will treat in-situ the TCLP soil within this area with a soil reagent. The limits of the TCPL excavation area within Area 8 is defined in Appendix B. After treatment a waste characterization sample of the treated material will be collected for expedited TCLP lead analysis. Once the analysis confirms the treated soil is below 5 mg/L, this material will be excavated and transported off-Site for disposal as non-hazardous material. After the TCLP excavation, surface soils and gravel from Areas 1,,5,6,7,8, or 9 will be used as backfill for the excavated area.The area will be re-graded and a brightly colored geotextile fabric will be placed over the area

c. The City will then place 6 inches of gravel and the area will be covered with a 3-inch asphalt layer as an engineered barrier.

9. **Area 9 - Paved East West Alley**: This part represents 175 feet of paved alley along the eastern part and is owned by the City. This area has lead levels above 800 mg/kg. Remediation is needed in this area because the pavement is in poor condition. The removal plan for this area is as follows;

   a. H. Kramer will re-grade this area in conjunction with Area 8 and a brightly colored geotextile fabric will be placed over the area.

   b. The City will then place 6 inches of gravel and the area will be covered with a 3-inch asphalt layer as an engineered barrier.

10. **Area 10 - Railroad South of Alley**: This 120 feet long railroad segment is owned by DeTrinh and 1358 Cermak LLC and was used by BNSF. This part lies between the east-west alley to the north and Cermak Road to the south. The rails and ties are still present. This area exceeds 800 mg/kg lead but EPA samples collected in this area were below the TCLP lead criteria within the area. The rail spur is inactive. The removal plan for this area (pending access) is as follows:

    a. BNSF will remove the rails and ties from this area.

    b. H. Kramer will install a brightly colored geotextile fabric over the area. Then 6 inches of gravel will be placed and the area will be covered with a 3-inch asphalt layer as an engineered barrier.

## 4.2 Removal Phased Implementation

In order to implement the Removal Plan in an efficient manner, the parties have developed a phased approach to implement the scope of work described above. A schedule for implementing the work will be provided to the USEPA in a Removal Plan Addendum within 10 days after the AOC is signed. The Removal Plan will be completed in three phases as described below.

**Phase I:** BNSF will undertake and pay the cost of the work to remove the rails and ties, and transport and dispose of them appropriately. The railroad will also provide the gravel and materials for the required engineered barrier in Area 1 Revised 1 and Area 2 Revised that will complete the pedestrian walk way.

**Phase II:** H Kramer will treat in-situ the TCLP contaminated soil from Areas 4, 5 and 8 as required by the work plan. After receiving analysis confirming the treated soil are below 5 mg/L this soil will be excavated and transported off-site and disposed as a non-hazardous material. Excavate and transport surface materials from Areas 1, 5, 6, 7, 8, 9, and 10 for use as backfill material for the

Area 5 and 8 excavations, install a brightly colored geotextile fabric, lay and grade the materials to be provided by BNSF as part of Phase I, and prepare the subgrade for areas that are to be paved by the City and H Kramer as part of Phase III.

**Phase III:** After all the removal and preparation work for paving provided for in Phases I and II are completed:

a. The City will provide granular base and pave the Areas it currently owns: Areas 5, 7, 8, and 9.

b. H Kramer will pave the Areas it currently owns: Areas 4 and 6 (without sewers or storm water detention) and will pave Area 2 and 10. No permits or design approval will be required by the City. The work plan will serve as the design approval.

c. H Kramer will pursue vacation of Areas 5 and 7 with the City, and after the work is completed and vacation is effected:

   - H Kramer will be responsible for O & M for the Areas it then owns: 4, 5, 6, and 7.
   - The City will be responsible for O & M for the Areas it then owns: 1, 2, 3, 8 and 9.

## 4.3 Overall Protection of Human Health and the Environment

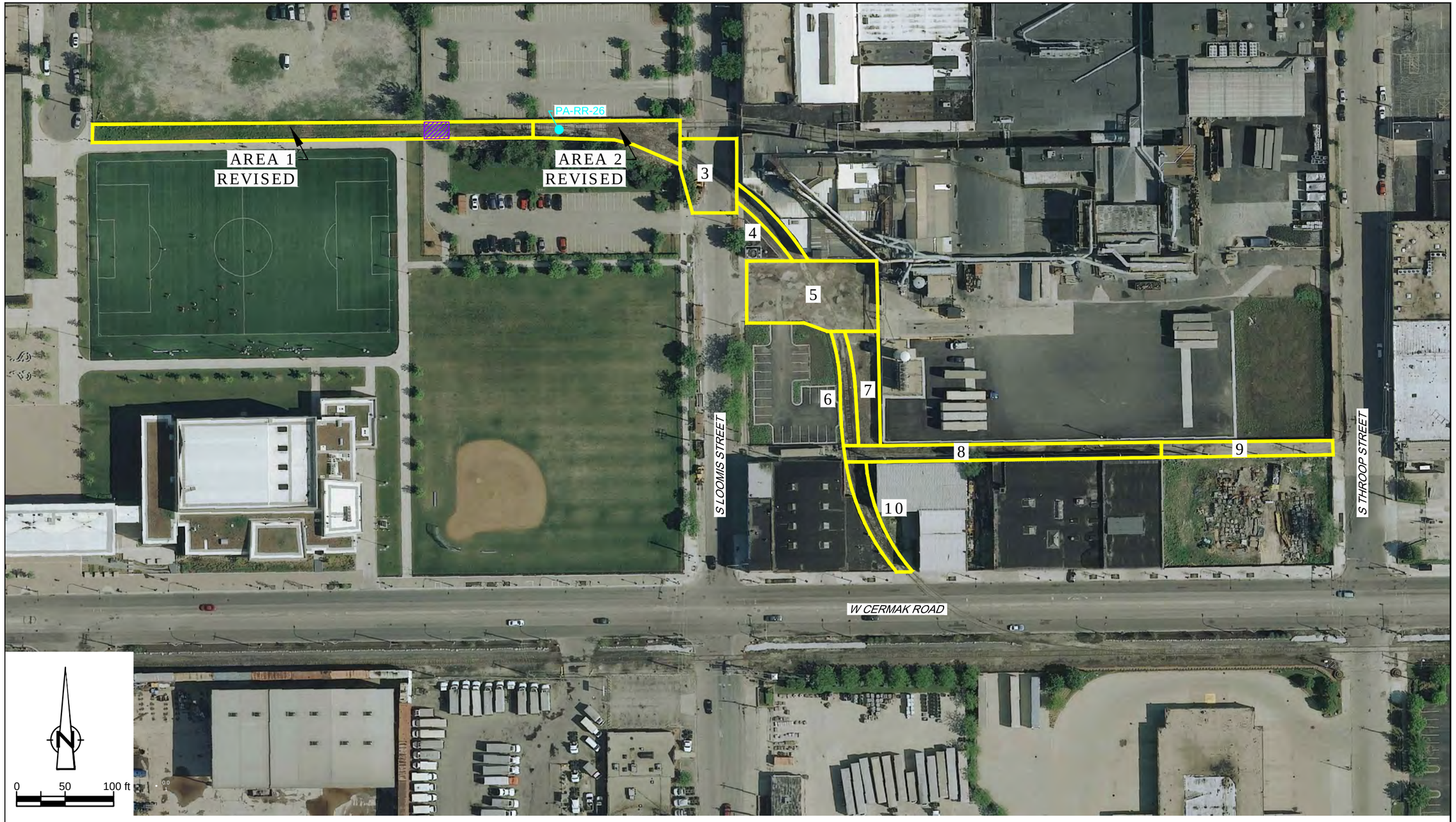
Contaminants of potential concern for the human health pathway are lead. The proposed remedial action is to excavate and dispose of soil that exceeds the TCLP criteria and to install engineered barriers over remaining soils that exceed the 800 mg/kg Removal Management Level (Ingestion Pathway) for Industrial/Commercial properties. Following remediation property owners will work closely with the USEPA to establish and implement institutional controls (Industrial commercial land use), and long-term inspection and maintenance programs to ensure that the containment remedy is maintained and undisturbed.

The Site remedy is required to meet the Illinois Environmental Protection Agency (IEPA) Applicable, Relevant, and Appropriate Requirements (ARARs). The IEPA ARARs are attached (see Appendix C) and the Site Remedy has been designed to meet these requirements.

## 4.4 Cost

The remedial cost estimate for the railroad- alley area is provided in Table 4.1 and details are provided in Appendix A.

# Figure




LEGEND:

1 REMEDIATION AREA

PA-RR-26 EPA SAMPLE LOCATION AND IDENTIFIER

PAVED DRIVEWAY IS NOT INCLUDED IN THE OUI REMEDIATION AREA

GHD

figure 2.1

OUI REMEDIATION AREAS
PILSEN SITE
*Chicago, Illinois*

39826-01(015)GN-CO001 AUG 25/2015

# Table

**Table 4.1**

**Remedial Cost Estimate**
**OU1 Pilsen - Chicago, Illinois**

| *Description* | *Area* | *Unit* | *Quantity* | *Unit Price* | *Total* | *Comment* |
|---|---|---|---|---|---|---|
| Mobilization | | LS | 1 | $ 18,000 | $ 18,000 | |
| Site Facilities | | LS | 1 | $ 16,000 | $ 16,000 | |
| City of Chicago Permits | | LS | 1 | $ - | $ - | Not applicable |
| Soil Removal/grading | | Day | 15 | $ 7,250 | $ 108,750 | |
| Rail Removal | all RR | Day | 12 | $ 7,250 | $ 87,000 | |
| Non-regulated surface debris disposal | all RR | ton | 600 | $ 65 | $ 39,000 | |
| Non-hazardous debris transportation | all RR | ton | 600 | $ 35 | $ 21,000 | |
| TCLP soil treatment and excavation | 4 | ton | 70 | $ 95 | $ 6,685 | |
| | 5 | ton | 270 | $ 95 | $ 25,650 | |
| | 8 | ton | 178 | $ 95 | $ 16,910 | |
| Transport of TCLP treated soil | 4 | ton | 70 | $ 25 | $ 1,759 | |
| (Areas 4, 5 & 8) | 5 | ton | 270 | $ 25 | $ 6,750 | |
| | 8 | ton | 178 | $ 25 | $ 4,450 | |
| Disposal of organic soils | 1 | ton | 105 | $ 65 | $ 6,825 | Areas 1 & 2 |
| Disposal of organic soils | 2 | ton | 64 | $ 65 | $ 4,160 | Areas 1 & 2 |
| Transportation of organic soils | 1 | ton | 105 | $ 35 | $ 3,675 | Areas 1 & 2 |
| Transportation of organic soils | 2 | ton | 64 | $ 35 | $ 2,240 | Areas 1 & 2 |
| Non-regulated surface debris disposal | 5 | ton | 200 | $ 65 | $ 13,000 | |
| Non-hazardous debris transportation | 5 | ton | 200 | $ 35 | $ 7,000 | |

**Table 4.1**

**Remedial Cost Estimate**
**OU1 Pilsen - Chicago, Illinois**

| *Description* | *Area* | *Unit* | *Quantity* | *Unit Price* | *Total* | *Comment* |
|---|---|---|---|---|---|---|
| Backfill to replace TCLP excavation | 4 | ton | 70 | $ 28 | $ 1,970 | |
| | 5 | ton | 270 | $ 28 | incl above | From Area 1, 5, 6, 7, 8, 9, or 10 |
| | 8 | ton | 178 | $ 28 | incl above | From Area 1, 5, 6, 7, 8, 9, or 10 |
| Fabric Placement | 1 | SY | 980 | $ 2.0 | $ 1,960 | |
| | 2 | SY | 600 | $ 2.0 | $ 1,200 | |
| | 4 | SY | 264 | $ 2.0 | $ 528 | |
| | 5 | SY | 1125 | $ 2.0 | $ 2,250 | |
| | 6 | SY | 306 | $ 2.0 | $ 611 | |
| | 7 | SY | 306 | $ 2.0 | $ 611 | |
| | 8 | SY | 650 | $ 2.0 | $ 1,300 | |
| | 9 | SY | 350 | $ 2.0 | $ 700 | |
| | 10 | SY | 400 | $ 2.0 | $ 800 | |

**Table 4.1**

**Remedial Cost Estimate**
**OU1 Pilsen - Chicago, Illinois**

| *Description* | *Area* | *Unit* | *Quantity* | *Unit Price* | *Total* | *Comment* |
|---|---|---|---|---|---|---|
| Pedestrian Bollards | 1&2 | LS | 3 | $ 1,000 | $ 3,000 | |
| Pedestrian Gravel (6 inches) | 1 | ton | 288 | $ 32 | $ 9,216 | |
| Pavement with 6 inch gravel base | | | | | | |
| | Area 2 Rev. | SY | 600 | $ 40 | $ 24,000 | 3" gravel/3" of asphalt |
| | 4 | SY | 264 | $ 50 | $ 13,194 | 6" gravel/3" of asphalt |
| | 5 | SY | 1125 | $ 60 | $ 67,500 | 6" gravel/6" of asphalt |
| | 6 | SY | 306 | $ 50 | $ 15,278 | 6" gravel/3" of asphalt |
| | 7 | SY | 306 | $ 50 | $ 15,278 | 6" gravel/3" of asphalt |
| | 8 | SY | 650 | $ 50 | $ 32,500 | 6" gravel/3" of asphalt |
| | 9 | SY | 350 | $ 50 | $ 17,500 | 6" gravel/3" of asphalt |
| | 10 | SY | 400 | $ 50 | $ 20,000 | 6" gravel/3" of asphalt |
| | | | | Subtotal | $618,251 | |
| CRA Engineering Review, Remedial Action Plan, HASP, Specifications, Bid Review, QAPP, Reporting | | LS | 1 | $ 83,000 | $ 83,000 | |
| Construction Oversight | | LS | 1 | $ 75,000 | $ 75,000 | |
| | | | | Sub-total | $ 158,000 | |

| | |
|---|---|
| **Subtotal** | $776,251 |
| **Contingency (15%)** | $116,438 |
| **Total** | $892,688 |

# Appendices

# Appendix A
# Remedial Cost Estimate Details

**Table A.1**

**Remedial Cost Estimate**
**OU1 Pilsen - Chicago, Illinois**

| *Description* | *Area* | *Unit* | *Quantity* | *Unit Price* | *Total* | *Comment* |
|---|---|---|---|---|---|---|
| Mobilization | | LS | 1 | $ 18,000 | $ 18,000 | |
| Site Facilities | | LS | 1 | $ 16,000 | $ 16,000 | |
| City of Chicago Permits | | LS | 1 | $ - | $ - | Not applicable |
| Soil Removal/grading | | Day | 15 | $ 7,250 | $ 108,750 | |
| Rail Removal | all RR | Day | 12 | $ 7,250 | $ 87,000 | |
| Non-regulated surface debris disposal | all RR | ton | 600 | $ 65 | $ 39,000 | |
| Non-hazardous debris transportation | all RR | ton | 600 | $ 35 | $ 21,000 | |
| TCLP soil treatment and excavation | 4 | ton | 70 | $ 95 | $ 6,685 | |
| | 5 | ton | 270 | $ 95 | $ 25,650 | |
| | 8 | ton | 178 | $ 95 | $ 16,910 | |
| Transport of TCLP treated soil | 4 | ton | 70 | $ 25 | $ 1,759 | |
| (Areas 4, 5 & 8) | 5 | ton | 270 | $ 25 | $ 6,750 | |
| | 8 | ton | 178 | $ 25 | $ 4,450 | |
| Disposal of organic soils | 1 | ton | 105 | $ 65 | $ 6,825 | Areas 1 & 2 |
| Disposal of organic soils | 2 | ton | 64 | $ 65 | $ 4,160 | Areas 1 & 2 |
| Transportation of organic soils | 1 | ton | 105 | $ 35 | $ 3,675 | Areas 1 & 2 |
| Transportation of organic soils | 2 | ton | 64 | $ 35 | $ 2,240 | Areas 1 & 2 |
| Non-regulated surface debris disposal | 5 | ton | 200 | $ 65 | $ 13,000 | |
| Non-hazardous debris transportation | 5 | ton | 200 | $ 35 | $ 7,000 | |

**Table A.1**

**Remedial Cost Estimate**
**OU1 Pilsen - Chicago, Illinois**

| *Description* | *Area* | *Unit* | *Quantity* | *Unit Price* | *Total* | *Comment* |
|---|---|---|---|---|---|---|
| Backfill to replace TCLP excavation | 4 | ton | 70 | $ 28 | $ 1,970 | |
| | 5 | ton | 270 | $ 28 | incl above | From Area 1, 5, 6, 7, 8, 9, or 10 |
| | 8 | ton | 178 | $ 28 | incl above | From Area 1, 5, 6, 7, 8, 9, or 10 |
| Fabric Placement | 1 | SY | 980 | $ 2.0 | $ 1,960 | |
| | 2 | SY | 600 | $ 2.0 | $ 1,200 | |
| | 4 | SY | 264 | $ 2.0 | $ 528 | |
| | 5 | SY | 1125 | $ 2.0 | $ 2,250 | |
| | 6 | SY | 306 | $ 2.0 | $ 611 | |
| | 7 | SY | 306 | $ 2.0 | $ 611 | |
| | 8 | SY | 650 | $ 2.0 | $ 1,300 | |
| | 9 | SY | 350 | $ 2.0 | $ 700 | |
| | 10 | SY | 400 | $ 2.0 | $ 800 | |

**Table A.1**

**Remedial Cost Estimate**
**OU1 Pilsen - Chicago, Illinois**

| *Description* | *Area* | *Unit* | *Quantity* | *Unit Price* | *Total* | *Comment* |
|---|---|---|---|---|---|---|
| Pedestrian Bollards | 1&2 | LS | 3 | $ 1,000 | $ 3,000 | |
| Pedestrian Gravel (6 inches) | 1 | ton | 288 | $ 32 | $ 9,216 | |
| Pavement with 6 inch gravel base | | | | | | |
| | Area 2 Rev. | SY | 600 | $ 40 | $ 24,000 | 3" gravel/3" of asphalt |
| | 4 | SY | 264 | $ 50 | $ 13,194 | 6" gravel/3" of asphalt |
| | 5 | SY | 1125 | $ 60 | $ 67,500 | 6" gravel/6" of asphalt |
| | 6 | SY | 306 | $ 50 | $ 15,278 | 6" gravel/3" of asphalt |
| | 7 | SY | 306 | $ 50 | $ 15,278 | 6" gravel/3" of asphalt |
| | 8 | SY | 650 | $ 50 | $ 32,500 | 6" gravel/3" of asphalt |
| | 9 | SY | 350 | $ 50 | $ 17,500 | 6" gravel/3" of asphalt |
| | 10 | SY | 400 | $ 50 | $ 20,000 | 6" gravel/3" of asphalt |
| | | | | Subtotal | $618,251 | |
| Engineering Review, Remedial Action Plan, HASP, Specifications, Bid Review, QAPP, Reporting | | LS | 1 | $ 83,000 | $ 83,000 | |
| Construction Oversight | | LS | 1 | $ 75,000 | $ 75,000 | |
| | | | | Sub-total | $ 158,000 | |

| | |
|---|---|
| **Subtotal** | $776,251 |
| **Contingency (15%)** | $116,438 |
| **Total** | $892,688 |

**Table A.2**

**Assumptions**
**Pilsen - Chicago, Illinois**

| ***Work Summary*** | ***Disposal*** | | ***Depth*** | ***CY*** | ***Ton*** |
|---|---|---|---|---|---|
| | Areas with TCLP > 5 | | | | |
| | Area 4 | RR-04 TCLP = 12 | 0-6 inch depth | 44 | 70 |
| | Area 5 | PA-RR07, 08 = 13 | 6-24 inch depth | 169 | 270 |
| | Area 8 | AC04 = 12 | 0-6 inch depth | 111 | 178 |
| | | AC03 = 12 | 0-6 inch depth | | |
| *Area 1 Revised* | | AY05 = 9.6 | 6-12 inch depth | | |
| BNSF removes rails and ties | | | | | 518 |
| H Kramer removes organic soils 0-0.2 feet | | | | | |
| H Kramer excavates 0.2 to 0.5 feet of contaminated soil and places in Areas 4 or 5 | | | | | |
| H Kramer places fabric, six inches of gravel (gravel supplied by BNSF) | | | | | |
| *Area 2 + RR26 area Revised* | | | | | |
| BNSF removes rails and ties | | | | | |
| H Kramer removes organic soils 0-0.2 feet | | | | | |
| H Kramer places fabric, 3 inches of gravel and 3 inches of pavement | | | | | |
| *Area 3* | | | | | |
| No remediation, area recently paved by City | | | | | |
| *Area 4* | | | | | |
| BNSF removes rails and ties | | | | | |
| H Kramer treat and removes TCLP soil | | | | | |
| H Kramer places backfill in TCLP hole with material from Areas 1, 2, 3, 5, 6, 7, 8 or 9 | | | | | |
| H Kramer places fabric | | | | | |
| H Kramer places 6 inches of gravel and 3 inches asphalt | | | | | |

| *Area 5* | Areas with non-TCLP debris to be removed | area (SF) | debris (CY) | (ton) | | |
|---|---|---|---|---|---|---|
| BNSF removes rails and ties | Area 5 | 10125 | 188 | 300 | | |
| H Kramer removes 6 inches of surface debris | | | | | | |
| H Kramer treat and removes TCLP soil | | | | | | |
| H Kramer places backfill in TCLP hole with material from Areas 1, 2 | Shipment quantities | | | | | |
| H Kramer places fabric (or supplies to City) | | tons | truckloads | days | prep days | |
| City places six inches of gravel and paves 6 inches | TCLP | 518 | 32 | 5 | 1 | 6 |
| | Area 1 | | | 3 | | 3 |
| *Area 6* | non-haz | 300 | 19 | 5 | 1 | 6 |
| Remove tracks, grade area flat | | 818 | | | | 15 |
| H Kramer places fabric | | | | | | |
| H Kramer places 6 inches of gravel and 3 inches asphalt | 16 tons of waste per truckload | | | | | |
| | 8 trucks per day | | | | | |

**Table A.2**

**Assumptions**
**Pilsen - Chicago, Illinois**

***Work Summary***

*Area 7*
Grade area flat
H Kramer places fabric (or supplies to City)
City places six inches of gravel and paves 3 inches

*Area 8*
H Kramer treats and removes TCLP soils
H Kramer regrades Area 8
H Kramer places fabric (or supplies to City)
City places six inches of gravel and paves 3 inches

*Area 9*
H Kramer regrades Area 8
H Kramer places fabric (or supplies to City)
City places six inches of gravel and paves 3 inches

*Area 10*
Remove tracks, grade area flat
H. Kramer places fabric, six inches of gravel
H Kramer places 6 inches of gravel and 3 inches asphalt

*TCLP Soil Disposal*
Characterized as D008 Waste
Disposal
Treatment and Disposal = $95/ton
Transport = $25/ton

*Debris Disposal*
Disposal
Treatment and Disposal = $65/ton
Transport = $35/ton

*Surface Replacement Area 5*
CA-6 six-inch thick Stone = $28/ton
6 inch stone + 6 inch Asphalt = $60/SY

***Disposal***

Contractor Equipment

| | unit | rate | days | total |
|---|---|---|---|---|
| Excavator | Day | $ 1,600 | 1 | $ 1,600 |
| Excavator | Day | $ 1,600 | 1 | $ 1,600 |
| Skid Steer | Day | $ 1,500 | 1 | $ 1,500 |
| Front End Loader | Day | $ 1,600 | 1 | $ 1,600 |
| Laborer | Day | $ 950 | 1 | $ 950 |
| | | | | $ 7,250 |

No Stormwater Retention Pond will be required
No sewer upgrades will be required

place 6 inches of stone over all disturbed areas

Leave non-haz in place and cover with stone

Soil density = 1.6 ton / cubic yard

fabric to be placed at all disturbed surfaces

all areas to be completed concurrently

| ***Depth*** | ***CY*** | ***Ton*** |
|---|---|---|

**Table A.2**

**Assumptions**
**Pilsen - Chicago, Illinois**

| *Work Summary* | *Disposal* | *Depth* | *CY* | *Ton* |
|---|---|---|---|---|

**Table A.3**

**Remedial Cost Estimate for Railroad and Alley Area**
**Pilsen - Chicago, Illinois**

***Areal Extent Estimates***

| | | *N-S Width feet* | *E-W Length feet* | *Depth feet* | *Volume ft³* | *Area ft²* | *CY* | *Ton* | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | **RR to west of Loomis** | 18 | 490 | 0.2 | 1,764 | 8,820 | 65 | 105 | remove organic layer |
| 2 | **RR west of Loomis** | 45 | 120 | 0.2 | 1,080 | 5,400 | 40 | 64 | remove organic layer |
| | | 45 | 120 | 0.25 | 1,350 | 5,400 | 50 | 80 | 6 inches of gravel |
| 3 | **Loomis Crossing** | 78 | 65 | 0 | 0 | 5,070 | 0 | 0 | |
| 4 | **RR tracks north of chiller** | 95 | 25 | 0.5 | 1,188 | 2,375 | 44 | 70 | |
| 5 | **21st Place Drive (debris)** | 75 | 135 | 0.5 | 5,063 | 10,125 | 188 | 300 | 100 tons will come from Area 1 |
| | **(TCLP volume is 30% of area x 1.5 ft)** | | | 1.5 | 4,556 | | 169 | 270 | |
| 6 | **N-S RR Tracks East of parking lot** | 110 | 25 | 0.5 | 1,375 | 2,750 | 51 | 81 | |
| 7 | **N-S alley** | 110 | 25 | 0.5 | 1,375 | 2,750 | 51 | 81 | |
| 8 | **Unpaved W-E alley** | 18 | 325 | 0.5 | 2,925 | 5,850 | 108 | 173 | |
| 9 | **Paved W-E alley** | 18 | 175 | 0 | 0 | 3,150 | 0 | 0 | |
| 10 | **N-S RR tracks south of alley** | 120 | 30 | 0.5 | 1,800 | 3,600 | 67 | 107 | |
| | **Totals** | | | | **22,475** | **55,290** | **832** | **1,332** | |

# Appendix B
# TCLP Excavation Areas

**Appendix B**

**TCLP Excavation Areas**
**OU1 Pilsen Site**
**Chicago, Illinois**

The attached figures define the limits of the TCLP excavation in Areas 4, 5, and 8 based on the soil data collected by the EPA/Weston.

***Area 4***

- No additional delineation. Use Weston data.
- The TCLP area measures approximately 25' x 95'= 2,375 ft2. Volume of 44 CY or 70 tons
- The plan is to treat in-situ the upper 0.5 feet of material within this area with a soil reagent[1]. Once the analysis confirms the treated soil is below 5 mg/L, this material would be transported off-Site for disposal.
- No further delineation or confirmation sampling will be conducted because this has been completed through the USEPA sampling program.

***Area 5***

- The TCLP area measures approximately 55' x 55'= 3,025 ft2. Volume of 168 CY or 269 tons.
- The upper 0.5 feet of material with in this area (TCLP area as shown on the Figure) will be removed and either disposed of as non-TCLP debris or utilized as backfill in TCLP excavations.
- Then the area within the limits of the TCLP area from 0.5' to 2.0' feet below original grade as shown on the Figure will be treated in-situ with a soil reagent. After treatment a composite waste profile sample will be collected for expedited TCLP lead analysis. Once the analysis confirms the treated soil is below 5 mg/L, this material would be transported off-Site for disposal.
- No further delineation or confirmation sampling will be conducted because this has been completed through the USEPA sampling program .The western and southern limits if the TCLP area of this excavation are defined by samples RR04, 06 (6-24”) and RR10, 12 (6-24”).

***Area 8***

- No additional delineation. Use Weston data.
- The TCLP area measures approximately 15' x 100'= 1,500 ft2. Volume of 111 CY or 178 tons
- The area within the limits of the TCLP area as shown on the Figure will be treated in-situ from 0.0' to 2.0' with a soil reagent.
- After treatment a composite waste profile sample will be collected for expedited TCLP lead analysis.

---

[1] Free Flow Heavey Metals Treatment Reagent by Free Flow Technologies, Ltd. at a 4-percent application rate mixed in-situ with soil.

- Once the analysis confirms the treated soil is below 5 mg/L, this material would be transported off-Site for disposal.
- The western limit of the TCLP area is defined by samples AC02 and the eastern limit is defined by sample AC05 where the total lead concentrations is much lower and implies that the TCLP result would be less than 5 mg/L.
- No further delineation or confirmation sampling will be conducted because this has been completed through the USEPA sampling program.

Imagery Source: ESRI World Imagery

W 21st St

1400

1300

S Loomis St

W Cermak Rd

**RR01,02**

| Parameter | PA-RR01,02 (0-6) | PA-RR01,02 (6-24) |
|---|---|---|
| Cadmium | 16 | 6.1 |
| Copper | 9400 | 3700 |
| Lead | 4000 | 1700 |
| Lead, Fine | 4100 | 2200 |
| Lead, TCLP | 0.87 | 0.98 |
| Tin | 1300 | 560 |
| Zinc | 26000 | 17000 |

TCLP area 25' x 95'= 2,375 ft2

**RR07,08**

| Parameter | PA-RR07,08 (0-6) | PA-RR07,08 (6-24) |
|---|---|---|
| Cadmium | 71 | 49 |
| Copper | 6500 | 3700 |
| Lead | 6800 | 5500 |
| Lead, Fine | 7900 | 9500 |
| Lead, TCLP | 3.6 | 13 |
| Tin | 540 | 450 |
| Zinc | 46000 | 24000 |

**RR04,06**

| Parameter | PA-RR04,06 (0-6) | PA-RR04,06 (6-24) |
|---|---|---|
| Cadmium | 140 | 16 |
| Copper | 11000 | 1800 |
| Lead | 11000 | 1700 |
| Lead, Fine | 23000 | 2600 |
| Lead, TCLP | 12 | 0.24 |
| Tin | 980 | 240 |
| Zinc | 78000 | 9900 |

TCLP Area 55' x 55'=3,025 ft2

**RR11,13**

| Parameter | PA-RR11,13 (0-6) | PA-RR11,13 (6-24) |
|---|---|---|
| Cadmium | 9.3 | 8.6 |
| Copper | 650 | 360 |
| Lead | 940 | 1000 |
| Lead, Fine | 900 | 980 |
| Lead, TCLP | 0.13 | 0.022 |
| Tin | 70 | 110 |
| Zinc | 2200 | 1100 |

**RR10,12**

| Parameter | PA-RR10,12 (0-6) | PA-RR10,12 (6-24) |
|---|---|---|
| Cadmium | 17 | 12 |
| Copper | 1000 | 980 |
| Lead | 1800 | 2400 |
| Lead, Fine | 2600 | 2300 |
| Lead, TCLP | 0.52 | 0.68 |
| Tin | 150 | 170 |
| Zinc | 3800 | 2200 |

**RR14,15,16**

| Parameter | PA-RR14,15,16 (0-6) | PA-RR14,15,16 (6-24) |
|---|---|---|
| Cadmium | 9.5 | 11 |
| Copper | 770 | 900 |
| Lead | 1500 | 2200 |
| Lead, Fine | 3200 | 2200 |
| Lead, TCLP | 0.75 | 0.35 |
| Tin | 130 | 120 |
| Zinc | 5800 | 4700 |

***RML Residential HQ3 Criteria:***
*Cadmium = 210 mg/kg*
*Copper = 9,400 mg/kg*
*Lead = 400 mg/kg*
*Lead, Fines = 400 mg/kg*
*Tin = 140,000 mg/kg*
*Zinc = 70,000 mg/kg*

***TCLP 40 CFR 261 Criteria:***
*Lead, TCLP = 5 mg/l*

Note: Figure Scale is incorrect



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**Legend**

Composite Sampling Location
Soil sample collected at each location ( ) , then homogonized with connected location to obtain the composite sample.

*Result Units = mg/kg*
*Except Lead, TCLP = mg/l*
*Red text indicates criteria exceedance*

0 75 Feet

N

Prepared For:
**US EPA Region V**
Contract No.: EP-S5-06-04
TDD: S05-0001-1211-002
DCN: 2038-2A-BLKW

Prepared By:
**WESTON SOLUTIONS, INC**
750 E. Bunker Court
Suite 500
Vernon Hills, Illinois 60061

**Figure 4-3**
Railroad Property Composite Sampling Results Map
Pilsen Area Soil Site: Railroad/Alley
Chicago, Cook County, Illinois

Imagery Source: ESRI World Imagery

1300

W Cermak Rd

1300

W Cermak Rd

1300

hroop St

## AC04

| Parameter | AC04 (0-6) |
|---|---|
| Cadmium | 40 |
| Copper | 5400 |
| Lead | 5000 |
| Lead, Fine | 5300 |
| Lead, TCLP | 12 |
| Tin | 600 |
| Zinc | 14000 |

## AC05

| Parameter | AC05 (0-6) |
|---|---|
| Cadmium | 25 |
| Copper | 5700 |
| Lead | 3900 |
| Lead, Fine | 3600 |
| Tin | 480 J |
| Zinc | 13000 |

## AC07

| Parameter | AC07 (0-6) |
|---|---|
| Cadmium | 9.3 |
| Copper | 2100 |
| Lead | 940 |
| Lead, Fine | 3200 |
| Tin | 130 J |
| Zinc | 2600 |

## AY03HS

| Parameter | AY03 (0-6) |
|---|---|
| Cadmium | 17 |
| Copper | 1500 |
| Lead | 2600 |
| Lead, Fine | 2300 |
| Lead, TCLP | 1.1 |
| Tin | 190 |
| Zinc | 4800 |

## AC09

| Parameter | AC09 (0-6) |
|---|---|
| Cadmium | 2.1 |
| Copper | 580 |
| Lead | 340 |
| Lead, Fine | 1100 |
| Tin | 37 J |
| Zinc | 750 |

TCLP Area 15'x100'
= 1,500 ft2

## AC01

| Parameter | AC01 (0-6) |
|---|---|
| Cadmium | 10 |
| Copper | 870 |
| Lead | 2700 |
| Lead, Fine | 2000 |
| Tin | 120 J |
| Zinc | 4800 |

## AC10

| Parameter | AC10 (0-6) |
|---|---|
| Cadmium | 0.96 U |
| Copper | 230 |
| Lead | 63 |
| Lead, Fine | 180 |
| Tin | 14 J |
| Zinc | 180 |

## AC02

| Parameter | AC02 (0-6) |
|---|---|
| Cadmium | 18 |
| Copper | 1100 |
| Lead | 1900 |
| Lead, Fine | 1900 |
| Tin | 150 J |
| Zinc | 4400 |

## AC03

| Parameter | AC03 (0-6) |
|---|---|
| Cadmium | 42 |
| Copper | 8400 |
| Lead | 5600 |
| Lead, Fine | 6600 |
| Lead, TCLP | 12 |
| Tin | 1100 J |
| Zinc | 8100 |

## AC06

| Parameter | AC06 (0-6) |
|---|---|
| Cadmium | 18 |
| Copper | 1900 |
| Lead | 3000 |
| Lead, Fine | 2100 |
| Tin | 1600 J |
| Zinc | 5300 |

## AC08

| Parameter | AC08 (0-6) |
|---|---|
| Cadmium | 4.5 |
| Copper | 660 |
| Lead | 570 |
| Lead, Fine | 1000 |
| Tin | 65 J |
| Zinc | 1700 |

***RML Residential HQ3 Criteria:***
*Cadmium = 210 mg/kg*
*Copper = 9,400 mg/kg*
*Lead = 400 mg/kg*
*Lead, Fines = 400 mg/kg*
*Tin = 140,000 mg/kg*
*Zinc = 70,000 mg/kg*

***TCLP 40 CFR 261 Criteria:***
*Lead, TCLP = 5 mg/l*

**Legend**

Composite Sampling Location
Soil sample collected at each location ( ) , then homogonized with connected location to obtain the composite sample.

*Result Units = mg/kg*
*Except Lead, TCLP = mg/l*

*Red text indicates criteria exceedance*

0 50 Feet

N

Prepared For:
**US EPA Region V**
Contract No.: EP-S5-06-04
TDD: S05-0001-1211-002
DCN: 2038-2A-BLKW

Prepared By:
**WESTON SOLUTIONS, INC**
750 E. Bunker Court
Suite 500
Vernon Hills, Illinois 60061

**Figure 4-2**
Alley Composite Sampling Results Map
Pilsen Area Soil Site: Railroad/Alley
Chicago, Cook County, Illinois

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Imagery Source: ESRI World Imagery

**AY09**

| Parameter | AY09 (12-24) |
|---|---|
| Cadmium | 48 |
| Copper | 8900 |
| Lead | 15000 |
| Lead, Fine | 6600 |
| Tin | 8200 J |
| Zinc | 7900 |

**AY13**

| Parameter | AY13 (12-24) |
|---|---|
| Cadmium | 7.2 |
| Copper | 1900 |
| Lead | 3200 |
| Lead, Fine | 4000 |
| Tin | 760 J |
| Zinc | 2600 |

**AY16**

| Parameter | AY16 (12-24) |
|---|---|
| Cadmium | 3.2 |
| Copper | 450 |
| Lead | 2100 |
| Lead, Fine | 2500 |
| Tin | 57 J |
| Zinc | 980 |

**AY05**

| Parameter | AY05 (6-12) |
|---|---|
| Cadmium | 36 |
| Copper | 22000 |
| Lead | 8800 |
| Lead, Fine | 8400 |
| Lead, TCLP | 9.6 |
| Tin | 1800 J |
| Zinc | 7300 |

**AY19**

| Parameter | AY19 (12-24) |
|---|---|
| Cadmium | 15 |
| Copper | 20000 |
| Lead | 1600 |
| Lead, Fine | 2100 |
| Tin | 710 J |
| Zinc | 4500 |

**AY02**

| Parameter | AY02 (6-12) |
|---|---|
| Cadmium | 13 |
| Copper | 660 |
| Lead | 2500 |
| Lead, Fine | 3000 |
| Tin | 88 J |
| Zinc | 3000 |

**AY04**

| Parameter | AY04 (6-12) |
|---|---|
| Cadmium | 22 |
| Copper | 4000 |
| Lead | 8700 |
| Lead, Fine | 7500 |
| Tin | 2200 J |
| Zinc | 6000 |

**AY07**

| Parameter | AY07 (12-24) |
|---|---|
| Cadmium | 72 |
| Copper | 12000 |
| Lead | 16000 |
| Lead, Fine | 9300 |
| Tin | 3200 |
| Zinc | 11000 |

**AY12**

| Parameter | AY12 (6-12) |
|---|---|
| Cadmium | 18 |
| Copper | 2000 |
| Lead | 1700 |
| Lead, Fine | 2000 |
| Tin | 420 J |
| Zinc | 3800 |

**AY18**

| Parameter | AY18 (6-12) |
|---|---|
| Cadmium | 40 |
| Copper | 33000 |
| Lead | 3400 |
| Lead, Fine | 4400 |
| Tin | 1000 J |
| Zinc | 14000 |

***RML Residential HQ3 Criteria:***
*Cadmium = 210 mg/kg*
*Copper = 9,400 mg/kg*
*Lead = 400 mg/kg*
*Lead, Fines = 400 mg/kg*
*Tin = 140,000 mg/kg*
*Zinc = 70,000 mg/kg*

***TCLP 40 CFR 261 Criteria:***
*Lead, TCLP = 5 mg/l*

Note: Figure Scale Is incorrect

**Legend**

Sampling Locations

*Red text indicates criteria exceedance*

*Result Units = mg/kg*
*Except Lead, TCLP = mg/l*

0 100 Feet

N

Prepared For:
**US EPA Region V**
Contract No.: EP-S5-06-04
TDD: S05-0001-1211-002
DCN: 2038-2A-BLKW

Prepared By:
**WESTON SOLUTIONS, INC**
750 E. Bunker Court
Suite 500
Vernon Hills, Illinois 60061

**Figure 4-1**
Alley Grab Sampling Results Map
Pilsen Area Soil Site: Railroad/Alley
Chicago, Cook County, Illinois

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# Appendix C
# IEPA ARARs

# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-2829
BRUCE RAUNER, GOVERNOR LISA BONNETT, DIRECTOR

(217) 524-1663


March 30, 2015

Mr. Ramon Mendoza
Federal On-Scene Coordinator
U.S. Environmental Protection Agency, Region V
Superfund Division, Removal Branch 2 SE-5J
77 West Jackson
Chicago, IL 60604

Re: Operable Unit 1 – Pilsen Soils Railroad Spur and Alley Site
LPC# pending – Cook County
SF/Tech

Dear Mr. Mendoza:

Per your request, Illinois EPA is identifying Applicable, Relevant, and Appropriate Requirements (ARARs) for the Operable Unit 1 – Pilsen Soils Railroad Spur and Alley Site located in Chicago, Illinois. Throughout this time-critical removal activity, please forward to me the Action Memorandum, Removal Action Report(s), periodic Pollution Reports (POLREPS), and other relevant site information in order to keep the Illinois EPA Bureau of Land files current and accurate.

To assist U.S. EPA, the Illinois EPA has identified the following State ARARs for the immediate removal of containers. Containers include drums, tanks, and roll-off-boxes. For the ARARs listed in the attachment to this letter, USEPA is considered to be the generator of the waste.

In Illinois, our Resource Conservation and Recovery Act (RCRA) regulations are essentially identical to the Federal RCRA regulations. The essential difference between the Federal and State ARARs for solid wastes is the classification of Special Waste in Illinois.

As part of the removal coordination effort between Illinois EPA and U.S. EPA, please contact me at the above number if you have any additional site-specific questions or additional requests.

Sincerely,

Bruce Everetts
Office of Site Evaluation
Division of Remediation Management
Bureau of Land

bcc: Division File, w/ attachments

| STATE of ILLINOIS ARARs for IMMEDIATE REMOVALS of CONTAINERS | |
|---|---|
| **Regulatory Citation** | **Requirement** |
| | **Determine the Regulatory Classification of the material** |
| 35 IAC 722.111 (40 CFR 262.11) | The generator of a solid waste must determine whether it is a hazardous waste. |
| 35 IAC 808.110 | The waste will probably be classified as a Special Waste. Special wastes are hazardous wastes, industrial process wastes, and pollution control wastes. Pollution control wastes include contaminated media. |
| | |
| | **Obtain IEPA & USEPA Identification Numbers** |
| 35 IAC 722.112 (40 CFR 262.12) | A generator must obtain a USEPA identification number prior to transporting hazardous waste off-site. |
| 35 IAC 809.501 | A generator must obtain an IEPA identification number in order to properly complete an Illinois manifest. |
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| | **Transportation of Wastes Off-Site** |
| 35 IAC 723.120 (40 CFR 263.20) | Hazardous waste must be manifested to a facility that is permitted to accept it. |
| 35 IAC 809.501 | Special waste must be manifested to a facility that is permitted to accept it. |
| 35 IAC 809.201 | All vehicles that haul special waste on public highways in Illinois must have a Special Waste Hauling Permit. |
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| | **On-Site Management of Wastes** |
| 35 IAC 722.134 (40 CFR 262.34) | Containers of hazardous waste can be stored on-site for less than 90 days without obtaining a permit or interim status provided that they are managed in accordance with the requirements at 35 IAC Part 725, Subpart I:<br>- the containers must be in good condition (non-leaking),<br>- the containers must be compatible with the wastes placed in them, |

| STATE of ILLINOIS ARARs for IMMEDIATE REMOVALS of CONTAINERS | |
|---|---|
| **Regulatory Citation** | **Requirement** |
| | - the containers must always be closed except when it is necessary to add or remove waste,<br>- the containers must not be opened, or managed in a way that may cause them to rupture or leak,<br>- the containers must be inspected weekly,<br>- incompatible wastes must not be placed in the same container,<br>- a container of waste that is incompatible with other wastes must be separated from the other wastes,<br>- containers of ignitable or reactive waste must be located at least 50 feet from the property line, |
| 35 IAC 722.134<br>(40 CFR 262.34) | The 90 day exclusion only applies to wastes that are managed in containers, tanks, drip pads or containment buildings. Hazardous waste that is placed on the ground is subject to all of the regulations for a waste pile as soon as it is placed on the ground. |
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