October 20, 2023 Project No. 31406585.06

Ms. Maureen Hatfield
MC-127
VCP-CA Section, Team 1, Remediation Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

RE: REVISED INTERIM MEASURES WORK PLAN – ENGLEWOOD INTERMODAL YARD
UNION PACIFIC RAILROAD COMPANY – HOUSTON WOOD PRESERVING WORKS
4910 LIBERTY ROAD, HOUSTON, HARRIS COUNTY, TEXAS
HAZARDOUS WASTE PERMIT/COMPLIANCE PLAN NO: 50343, ISWR NO 31547
EPA IDENTIFICATION NO TXD000820266; RN100674613/CN600131098

Dear Ms. Hatfield,

WSP USA Inc. (WSP), on behalf of Union Pacific Railroad (UPRR), prepared the attached Revised Interim Measures Work Plan (IMWP) – Englewood Intermodal Yard (EIY) for the UPRR Houston Wood Preserving Works (HWPW) (the Site) in response to the Texas Commission on Environmental Quality (TCEQ) comment letter dated July 5, 2023. The TCEQ letter provided comments on the UPRR *Proposed Interim Measures Work Plan* dated May 17, 2023. Below are responses to the TCEQ comments in a comment-response format.

TCEQ Comments:

A. Proposed Interim Measures:

Comment No. 1. The proposed interim remedy to only excavate the areas where known NAPL seeps have been observed does not appear to be sufficient to fully address the NAPL seeping through cracks in the concrete cap in the long term. In a 2020 assessment report[1], UPRR identified shallow NAPL impacted soil in the vadose zone near the former lagoon / Aboveground Storage Tank areas identified on historical aerial photos of the EIY. The proposed interim remedy should include excavations in these areas to evaluate the source of the NAPL seeps. The NAPL source area excavations could be conducted in phases to prevent disruption to the ongoing site activities.

[1] Golder, 2020. Interim Non-Aqueous Phase Liquid (NAPL) and Total Petroleum Hydrocarbon (TPH) – NAPL Assessment Report, dated May 29, 2020

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Response: As part of the Revised IMWP to address TCEQ comments, UPRR proposes to conduct the focused excavations in a phased approach. The initial phase will include conducting 12 focused excavations in the EIY as detailed in the attached Revised IMWP. This includes the initial six excavations plus an additional six excavation areas. The additional six locations were selected based on either where tar-like material surface seeps have been observed (three locations) or selected locations where surface soil samples (approximately 5 feet below ground surface (BGS) or less) indicate greater than 10,000 milligram/kilogram (mg/kg) total petroleum hydrocarbon (TPH) concentrations (three locations). TPH concentrations in soil greater than 10,000 mg/kg exceed the Tier 1 Theoretical Residual Soil Saturation Limit PCL ($Soil_{Res}$) [as defined in Texas Administrative Code (TAC) Chapter 30 Section (§)350.75(i)(10)], where NAPL can become mobile at those soil COC concentrations. The 12 proposed focused excavations were plotted on **Figure 2** in the attached Revised IMWP with the 1955 aerial showing the likely historical source areas (former lagoon area and former above-ground storage tank (AST) area) for the tar-like material seeps. The proposed focused excavation locations will be conducted within both of the former source areas.

A second phase of focused excavations may be proposed following completion of the initial 12 focused excavations presented in the Revised IMWP. Specifically, if the focused excavations that were selected where soil sample concentrations exceed 10,000 mg/kg results in removal of visually-observed NAPL from surface soils, UPRR will amend the Revised IMWP to include additional focused excavations at other locations where surface soil TPH concentrations exceed 10,000 mg/kg. The amended Revised IMWP will be submitted to the TCEQ for review prior to implementing the subsequent phase of focused excavations.

Comment No. 2. Prior excavation revealed NAPL that did not initially appear mobile but was identified as mobile after several months. Because of this if any evidence of NAPL (mobile or non-mobile) is identified in the excavation sidewalls or excavation bottom, UPRR should continue excavating the NAPL laterally and vertically until there is no visual NAPL present. NAPL mobility is influenced by weather conditions and likely surface loading from the railcar storage in the EIY, and other activities. Therefore, assessment of NAPL mobility during excavation may not be reflective of the mobility in all conditions.

Response: As discussed in various reports submitted to the TCEQ between 2018 and 2021, the following observations of mobile NAPL were routinely made during previous excavation activities where tar-like material seeps were observed:

- The following observations were made during the test pit excavation conducted in 2018 as detailed in the Monthly Status Update – Soil Cap and Concrete Repairs dated October 31, 2018 (Golder): "*The NAPL substance was observed in each of the four test pits … The NAPL observed in each test pit visually appeared to be similar at each location and was described as a black, viscous material. The **NAPL appeared to flow into the test pits slowly like a paste**."* This is shown in the following photograph of a test pit provided in the October 2018 Monthly Status Update:

GOLDER **PHOTOGRAPHIC LOG**

Client Name: Union Pacific Railroad	Site Location: Englewood Intermodal Yard/Houston Wood Preserving Works, 4910 Liberty Road, Houston, Texas	Project No. 30401358

Photo No. 3 | Date: 10/04/18

Description:

Test Pit B100:
View of test pit B100, looking north, note NAPL material seeping in around 3 feet bgs.

- As stated in the Response Action Completion Report (RACR) dated March 26, 2019 (Golder) detailing the construction of the NAPL Collection System, "*during the construction activities, the NAPL, which is paste-like in consistency, was observed within the top few feet below the concrete pavement and* ***would slowly flow into the excavation****…*" Below is a photograph of the NAPL material observed in the sidewall of the excavation that was provided in the RACR.

Photo No. 8 | Date: 01/24/19

Description:

A seam of NAPL material encountered on the north wall of the large excavation.

- The following observations were noted in the Englewood Intermodal Yard – Test Pit Evaluation letter report dated June 2, 2021 (Golder): *"NAPL was observed in five (TP-01, TP-02, TP-03, TP-05, TP-07)*

of the seven test pits at varying depths within the firm, black clay subsurface. Pockets of viscous NAPL were observed within the clay soil matrix underlying the road base material, typically at depths between 2 and 3 feet below ground surface (bgs)". Below is a photograph of a test pit provided in the Test Pit Evaluation letter report:

PHOTOGRAPHIC LOG

Client Name: Union Pacific Railroad	**Site Location: Englewood Intermodal Yard 5500 Wallisville Rd, Houston, Texas**	**Project No.** 19119232

Photo No. 11 / Date: 7/14/2020	
Full Excavation B096 (TP-03)	
B096 (TP-03) fully excavated, large amount of NAPL can be observed coming in from wall. Latitude: 29.784436 Longitude: -95.320594	

To address the TCEQ's comment regarding continuing excavation until there is no visual NAPL present, additional language to clarify the decision process to extend an excavation based on the presence of **visually-observed** NAPL is provided in the attached Revised IMWP.

Comment No. 3. UPRR observed NAPL and a NAPL sheen in five of the seven test pits and three NAPL recovery sumps located approximately 50 feet from a storm drain line running along the C-Row[2]. Please revise the plan to address the potential for infiltration of NAPL into the on-site storm sewer system and the utilities.

Response: Evaluation of on-site storm sewer and utilities for potential NAPL migration will be conducted in a phased approach. The focused excavations detailed in the attached Revised IMWP will serve as an initial phase of evaluation by providing information on the subsurface NAPL and the potential of NAPL extending to the on-site storm sewer system. Focused excavations located on the west and northeast end of the study area will provide information on the nature and extent of the NAPL in the shallow soils where the underground utilities are found.

[2] 2Post-Response Action Completion Report, dated March 29, 2023, and Monthly Status Update – Englewood Intermodal Yard – NAPL Collection System/Concrete Cap Repairs dated June 9, 2023, and 3Englewood Intermodal Yard – Test Pit Evaluation Report, dated June 2, 2021

In addition, UPRR is developing a work plan to evaluate off-site storm sewer system impacts and connections to the onsite storm sewers as part of the USEPA Administrative Settlement Agreement and Order on. Consent (ASAOC) signed on February 24, 2023. Following completion of activities detailed in the Revised IMWP and the ASAOC evaluation, UPRR will prepare a feasibility study to address the on-site storm sewer system as necessary. In addition, the focused excavations detailed in the Revised IMWP will provide information on the subsurface NAPL and the potential of NAPL extending to the on-site storm sewer system.

Comment No. 4. The proposed replacement cover for the excavation areas doesn't: (1) provide a demonstration that it is equivalent or better cover than the existing cap (2) prevent cracking of new pavement, and (3) address NAPL seeps through cracks in current cover and any new pavement. Review of the monthly status report and annual post-response action completion report indicates that (1) a tar like material continues to seep through cracks in concrete cap and patched cracked areas, (2) new seeps have been observed in 2022, and (3) overall concrete cap is in poor condition. Therefore, as a part of the interim measure work plan, please assess EIY Cap and propose alternative remedy to address cracks in the cap.

Response: UPRR believes the proposed design in the IMWP of the reinforced concrete cover (6 inches) combined with the underlying base material (10 inches) and compacted clay (approximately 32 inches) is equivalent or better than the existing cap, which does not include the clean, compacted clay ($1x10^{-7}$ cm/sec) layer. The total thickness of the cover following the focused excavation will be four feet compared to the current concrete pavement of six inches with underlying base material (as shown in the photograph at the bottom of page 3 of this letter).

The concrete and base material elements of the design matches the concrete cover that was constructed as part of the NAPL Collection System[3], which consisted of 10-inches of compacted base material and 6-inches of reinforced concrete pavement. WSP has conducted weekly inspections of the NAPL Collection System and has not observed any significant cracks in the pavement except along the edges where the new concrete joins with the previous concrete cover. The following photograph taken in May 2023 shows the concrete cover for the NAPL Collection System. There are no significant cracks observed across the NAPL Collection System area except along the joint with the existing concrete (note cracks along joint near "B107" label). A tar-like material seep is noted at the joint between the new concrete and previous concrete cover. It is important to note that the scope for the NAPL Collection System constructed in 2019 did not include over excavating for visually-observed NAPL in the sidewalls of the excavation. The tar-like material seep noted in the following photograph likely is due to a NAPL source below the joint between the new and old concrete cover. The proposed scope provided in the Revised IMWP for the focused excavations includes over excavating the soils where NAPL is visually observed, thereby removing the potential for NAPL seeps to develop at the joints between the new and old concrete cover.

The proposed response action objective of the existing concrete cover as detailed in the Response Action Plan (RAP) Revision No. 5[4] is that it "*serves as a physical barrier to prevent exposure of the commercial/industrial pathway to the surface and subsurface soil PCLE Zones as discussed in the initial RAP*." The concrete cover continues to fulfill that response action objective. However, with the occurrence of NAPL seeps, UPRR will

[3] Golder, 2019. Response Action Completion Report (RACR), March 29, 2019

[4] Golder, 2020. Response Action Plan (RAP), Revision No. 5, August 29, 2020

conduct an inspection of the Concrete Cap joints and cracks and develop an alternative remedy to address the cracks in the concrete cover. The focus of the inspection will be in the area where the former lagoon and AST areas were located, and where TPH concentrations greater than 10,000 mg/kg have been reported in surface soil samples within the EIY. Details of the crack/joint inspection, development of alternatives, and a timeline are provided in the Revised IMWP.

TCEQ Comment - B. Please provide a discussion of any changes made from prior version of the Dust Control and Air Monitoring Plan.

Response: The key elements of the Dust Control and Air Monitoring Plan for the EIY Focused Excavations (see Section 2.0) and the Englewood North By-Pass Rail Construction Project Work Plan (July 8, 2021) are the same for particulate matter (PM) monitoring (USEPA's 2012 National Ambient Air Quality Standards (NAAQS) and target dust control levels. The Dust Control and Air Monitoring Plan prepared for the EIY Focused Excavations was updated to address dust generating activities associated with the proposed soil excavation response actions and proposes fewer air and dust monitoring stations (seven stations) since the proposed soil disturbance area is comparatively smaller compared to the Englewood North By-Pass Rail Construction Project.

C. Comments on the Soil/Waste Management Plan:

TCEQ Comment No. 1. UPRR mentions that attempts will be made to separate the excavated soils from the concrete/asphalt generated during excavation activities. If the concrete/asphalt are separated then explain in detail what steps will UPRR take to manage separated waste, and characterize and dispose of the concrete/asphalt.

Response: UPRR proposes to place the concrete/asphalt generated during the excavation activities into roll-off containers pending transportation and disposal. Excavated soils will be placed in separate roll-off containers. The roll-offs will be covered when it is not actively being loaded. UPRR will characterize the concrete/asphalt separately from the excavated soils by collecting a 5-point composite waste characterization sample of the concrete/asphalt debris. The concrete/asphalt will be disposed of following local, state, and federal laws and regulations. Additional details on the handling and waste characterization of the concrete/asphalt material generated have been added to the Soil/Waste Management Plan.

TCEQ Comment No. 2. For waste classification, please reference 30 TAC 335 Subchapter R in addition to the guidance cited.

Response: The reference to 30 TAC 335 Subchapter R has been added to the Soil/Waste Management Plan.

TCEQ Comment No. 3. Please note that the generator is responsible for hazardous waste determination and ensuring that the waste is appropriately classified in accordance with the TCEQ rules. This includes application of any generator knowledge for the determination of the appropriate analytical methods.

Response: Comment is acknowledged. UPRR conducted a good faith effort to identify whether the contamination identified in the EIY was related to the listing description for listed hazardous waste. As detailed in Management of Remediation Wastes under RCRA (RCRA Online Number: 14291, October 14, 1998), “where a facility owner/operator makes a good faith effort to determine if a material is a listed hazardous waste but cannot make such a determination because documentation regarding a source of contamination, contaminant, or waste is unavailable or inconclusive, EPA has stated that one may assume the source, contaminant or waste is not listed hazardous waste and, therefore, provided the material in question does not exhibit a characteristic of hazardous waste, RCRA requirements do not apply. This approach was first articulated in the Proposed National Contingency Plan (NCP) preamble which notes that it is often necessary to know the source of a waste (or contaminant) to determine whether a waste is a listed hazardous waste under RCRA and also notes that, “at many CERCLA sites no information exists on the source of the wastes.” This approach was also discussed in the HWIR-Media proposal preamble, 61 FR 18805, April 29, 1996.” Historical aerials and Sanborn Fire Insurance Maps of the area from the 1950s indicate a former wastewater lagoon and ASTs were located within the current day EIY. However, there are no records of the wastes generated and handled at the HWPW when the former lagoons were in operation. In addition to the uncertainty of the former operations in the EIY area, other sources of chemicals of concern (COCs) have occurred at the Site, primarily possible releases from the fuel storage in the former ASTs area. Therefore, UPRR will evaluate the analytical data from the waste samples generated from the EIY to determine if the waste is characteristically hazardous through analytical testing as discussed under 30 TAC 335.504(a)(3).

TCEQ Comment No. 4. Revise the Work Plan to describe how 5-point composite samples will be collected from each roll-off box.

Response: The 5-point composite sample will be collected from each roll off by collecting directly from five separate, random, representative areas within the roll-off container from the loose material using a gloved hand and/or decontaminated/disposal sampling equipment or excavator bucket. The loose material will be collected in a single container or Ziploc bag and mixed thoroughly. A sample will be collected from the container/bag

using the appropriate sampling procedure for the required analytical methods. Attachment C was revised to include these details.

TCEQ Comment No. 5. Sample collection from tar-like NAPL: If the recovered NAPL is not uniform in character or if it stratified, please collect additional representative samples. Please revise the Work Plan to explain how additional representative samples will be collected.

Response: As previously noted from the test pit excavation conducted in 2020 (seven test pits), the NAPL observed in each test pit visually appeared to be similar at each location and was described as a black, viscous material[5]. During the focused excavation activities, field personnel will describe the NAPL observed in the excavation and along the sidewalls if present. If the NAPL appears not uniform in character or stratified, field personnel will collect samples of the NAPL for characterization including TPH fractionation by Texas TX1006 Method. Details on the NAPL sampling have been added to the Revised IMWP.

TCEQ Comment No. 6. The Toxicity Characteristic Leaching Procedure (TCLP) bullet only mentions RCRA constituents.

- *Please evaluate for Class 1 constituents in 30 TAC 335.521(a)(1) as necessary.*
- *UPRR lists volatile organic compound (VOC) analysis by SW846 Method 8240 or 8260. VOC analysis should be by SW846 Method 8260.*
- *The list of waste characterization analysis is missing reactive/corrosive/ignitable analysis if needed – please note that Texas Class 1 industrial waste classification applies to ignitable and corrosive to solids.*

Response: The attached Revised IMWP was updated to include TCLP evaluation of the Class 1 constituents listed in 30 TAC §335.521(a)(1), clarified that Method 8260 will be used for VOC analysis, and reactive/corrosive/ignitable (RCI) analysis will be conducted as needed.

TCEQ Comment No. 7. UPRR stated that waste will be stored in the Englewood Intermodal Yard. Please specify the maximum duration of this storage and how the storage meets and maintains any generator storage exemptions.

Response: Wastes generated as part of this interim measure will be transported to a landfill permitted to receive the waste within 90 days of generation. Preliminary information suggests the environmental media and wastes generated will be classified as a Texas Class 1 or 2 waste. If any of the waste generated is considered characteristically hazardous, the wastes will also be transported to a landfill permitted to receive the waste within 90 days of generation.

D. Stormwater Management Plan:

TCEQ Comment No. 1. Explain in detail the installation of temporary sediment controls.

[5] Golder, 2021. Englewood Intermodal Yard – Test Pit Evaluation Report, June 2, 2021.

Response: Since the area where the focused excavations will be conducted is surrounded by concrete and/or asphalt cover, migration of sediment from the excavations is not anticipated. However, temporary triangular silt dikes and/or straw waddles will be placed around each focused excavation area until the excavations are backfilled. Excavated soils will be placed in roll-off containers and covered to protect from stormwater.

TCEQ Comment No. 2. Since this is not a site-wide stormwater management plan, please assess stormwater for VOCs by SW-846 Method 8260; Semi-Volatile Organic Compounds (SVOCs) by SW-846 Method 8270; Total Petroleum Hydrocarbons (TPH) by Texas Method 1005; RCRA Metals by SW-846 Methods 6000/7000 series and Class 1 constituents in 30 TAC 335.521(a)(1) as necessary.

Response: As detailed in Attachment D of the IMWP, the constituents listed above are listed in the Stormwater Management Plan. A reference to Class 1 constituents listed in 30 TAC §335.521(a)(1) was added to the Stormwater Management Plan.

TCEQ Comment No. 3. For waste classification, please reference 30 TAC 335 Subchapter R in addition to the guidance cited.

Response: The reference to 30 TAC 335 Subchapter R has been added to the Stormwater Management Plan.

TCEQ Comment No. 4. Explain sampling frequency and methods for the assessment of NAPL sheen.

Response: If water accumulates in an excavation and a petroleum sheen is observed, an attempt to sample the sheen will be conducted using a Teflon oil spill sampling net or absorbent. That sample will be analyzed for TPH-fractions by TCEQ TX1006 method. The TX1006 data will be compared to data for other NAPL samples previously collected in the EIY.

TCEQ Comment No. 5. UPRR stated that waste will be stored in the Englewood Intermodal Yard. Please specify the maximum duration of this storage and how the storage meets and maintains any generator storage exemptions.

Response: Wastes generated as part of this interim measure will be transported to a landfill permitted to receive the waste within 90 days of generation. See response to TCEQ comment 7 on the Soil/Waste Management Plan.

Please feel free to give me or Kevin Peterburs of UPRR at 414-267-4164 a call if you have any questions or comments.

WSP USA INC.

Eric C. Matzner, P.G.
Vice President, Director - Hydrogeologist

Luke Bragg, P.E.
Texas P.E. No. 138798, Environmental Engineer

CC: Kevin Peterburs, UPRR Senior Manager, Site Remediation
TCEQ Region 12, Houston, Texas

Attachments: Revised Interim Measure Work Plan – Englewood Intermodal Yard
Figure 1 – Proposed Focused Excavation Areas
Figure 2 – Proposed Focused Excavation Areas with Historic Features (1955 Aerial)
Attachment A – Preliminary Design Drawings
Attachment B – Dust Control and Air Monitoring Plan
Attachment C – Soil/Waste Management Plan
Attachment D – Stormwater Management Plan

Revised Interim Measure Work Plan – Englewood Intermodal Yard
Houston Wood Preserving Works, Houston, Texas

In response to the TCEQ's letter dated January 26, 2022 and the TCEQ's comment letter dated July 5, 2023, 2023, on the Interim Measure Work Plan (IMWP) dated May 17, 2023, WSP, on behalf of Union Pacific Railroad (UPRR), evaluated alternatives to address the tar-like material seep areas and other potential tar-like material seep areas based on historical operations and source areas in the Englewood Intermodal Yard (EIY). This Revised IMWP proposes to conduct a phased approach for the EIY consisting of the following activities:

1. Conduct an initial phase of focused excavations where the recent seeps have been observed and areas where total petroleum hydrocarbon (TPH) concentrations in surface soils exceed 10,000 mg/kg. A second phase may be conducted based on the effectiveness of the initial phase;
2. Inspect the joints and cracks in the concrete/asphalt cap area; and
3. Evaluate the on-site storm sewer system and utilities in conjunction with the required activities under the US Environmental Protection Agency (USEPA) Administrative Settlement Agreement and Order on Consent (ASAOC) dated February 24, 2023.

Details on the proposed response action and preliminary designs for the focused excavation areas are provided in the following sections.

Focused Excavations

WSP developed the proposed response action design to address the tar-like substance seeps observed in the EIY and in areas where potential tar-like substance seeps could develop. Based on the weekly inspections during the warmer summer and fall months (May through October), small seeps of tar-like material were observed on the concrete and asphalt surface joints within the EIY. The focused excavation approach was selected given the shallow (generally encountered within the top 3 feet below ground surface) and sporadic occurrence of the NAPL in the surface soils within the EIY.

In addition, WSP reviewed the surface soil TPH concentrations for soil samples collected at the EIY. TPH concentrations in soil greater than 10,000 mg/kg exceed the Tier 1 Theoretical Residual Soil Saturation Limit PCL ($Soil_{Res}$) [as defined in Texas Administrative Code (TAC) Chapter 30 Section (§)350.75(i)(10)], where NAPL can become mobile at those soil COC concentrations. As detailed in the Interim NAPL & TPH-NAPL Assessment Report[6], soil sampling within the EIY indicated total TPH concentrations by Texas Method TX1005 exceeded the Tier 1 $Soil_{Res}$ of 10,000 mg/kg in the former lagoon area and within the former AST area. Soil sampling activities associated with the EIY Phase 3 Construction Project conducted in 2023 indicated soil TPH (TX1005) concentrations greater than 10,000 mg/kg in four locations (SE-45, SE-48, SE-49, SE-53) within the active rail area along the northern area of the EIY.

The focused excavation approach is the most applicable method to address the NAPL seeps in the EIY in terms of short-term and long-term effectiveness, mass removal, implementability, overall protection, and compliance with the Texas Risk Reduction Program (TRRP).

WSP identified 12 proposed locations to conduct the focused excavation activities. The 12 locations were identified through a review of noted surface seep locations where NAPL seeps have been observed during the

[6] Golder, 2020. Interim Non-Aqueous Phase Liquid (NAPL) and Total Petroleum Hydrocarbon (TPH) – NAPL Assessment Report, dated May 29, 2020

2021/2022 weekly inspections and selected locations where surface soil sample concentrations indicate greater than 10,000 mg/kg TPH concentrations, as summarized on the following Table 1 and shown on Figure 1:

Table 1 – Proposed Focused Excavation Locations

Focused Excavation (FE) Area	Location (Lat/Long*)	Rationale
FE-1	Former Lagoon Area (N 29.784022 , W 95.320740)	Seep at Slot B105
FE-2	Former Lagoon Area (N 29.783983 , W 95.320603)	Seep at Slot B102
FE-3	Former Lagoon Area (N 29.784077 , W 95.320618)	Seep at Slot B101
FE-4	Former Lagoon Area (N 29.784587 , W 95.319353)	Seep at Slots B056/B057
FE-5	Former AST Area (N 29.785130 , W 95.318447)	Seep at Slot A022
FE-6	Former AST Area (N 29.785245 , W 95.318105)	Seep at Slot A011
FE-7	Former Lagoon Area (N 29.784084 , W 95.320439)	Seep at Slot B96
FE-8	Former AST Area (N 29.784736 , W 95.318919)	Seep at Slot B42
FE-9	Former AST Area (N 29.785047 , W 95.318173)	Seep at B016
FE-10	Former AST Area (N 29.784659 , W 95.317485)	Soil sample at DPT-42-19
FE-11	Former Lagoon Area (N 29.784109 , W 95.319342)	Soil sample at DPT-38-19
FE-12	Former Lagoon Area (N 29.785314 , W 95.318539)	Soil sample at SE-45

Note - * - Latitude/longitude of center of proposed focused excavation. Locations may be adjusted based on field conditions.

The 12 proposed focused excavations were plotted on **Figure 2** with the 1955 aerial showing the likely historical source areas (former lagoon area and former AST area) for the tar-like material seeps and elevated TPH concentrations. As noted in Table 1, the proposed focused excavation locations will be conducted within both of the former source areas.

Prior to conducting the excavation activities, the proposed focused excavation areas will be delineated with white paint for underground utility clearance. Utility notifications through the Texas 811 Call Before You Dig (CBUD) will be conducted a minimum of 72 hours prior to initiating the investigation activities. Additionally, a private utility locator using ground penetrating radar (GPR) will attempt to locate subsurface utilities within the excavation areas. In the event there is a conflict with a proposed location and a located underground utility, the proposed excavation area will be adjusted to be cleared of utilities.

Preliminary Design

The preliminary design for the focused excavations consists of the following:

- Saw cut a 20-foot by 20-foot area and remove the asphalt or concrete cover at the 12 proposed locations (approximately 4,800 square feet of area);
- Excavate soil and debris to a depth of approximately 48 inches below concrete/asphalt surface. The estimated volume of material to be removed is approximately 60 cubic yards per excavation area (approximately 720 cubic yards (in-place) total for the 12 areas). Excavation sidewalls will be visually inspected for the presence of NAPL and possible NAPL seepage (mobile NAPL) into the excavation. Excavated material including mobile NAPL that may enter the excavation will be placed in roll-off boxes or drums (recovered NAPL that can be separated from the excavated soils will be placed in drums), profiled for disposal, and disposed at a permitted landfill facility;
- Backfilling of the excavation with the following:
    - Install and compact 32 inches of low permeability clay soil (1 x 10^{-7} cm/sec);
    - Install a woven geotextile fabric over the compacted low permeability clay (Mirafi 500X or engineers approved product); and
    - Install 10-inches of compacted base material and install either a 6-inch-thick reinforced concrete pavement or asphaltic pavement system to match the surrounding surfaces.

The preliminary design drawings for the focused excavations are provided in Attachment A. Modifications to the design may be made prior to or during the construction phase depending on field conditions encountered.

During the excavation phase, the excavation may be extended based on field conditions and visual observations of NAPL in the sidewalls or floor of the focused excavations. Previous excavation activities conducted in the EIY to assess the tar-like material seeps (NAPL Collection System and test pits[7]) documented visual observations of NAPL in the sidewalls of the excavations. If NAPL is visually-observed in the sidewall or floor of a focused excavation once completed (i.e., 20-foot x 20-foot by 48 inches deep), the excavation may be extended to the following:

- Laterally until no NAPL is visually observed in the excavation sidewall or until other field conditions (i.e., utilities, rail infrastructure) prevent additional excavation,
- Vertically no more than 60 inches below the concrete cap surface, given the compacted low-permeability clay backfill in the focused excavation will function as a cap for any potential NAPL upward vertical migration.

A second phase of focused excavations or other alternatives may be proposed following completion and evaluation of the effectiveness of the initial excavations presented in this Revised IMWP. If the excavations that were selected because soil samples indicated exceed 10,000 mg/kg (Tier 1 $Soil_{Res}$) results in the removal of NAPL in the surface soils, UPRR will amend the Revised IMWP to include additional focused excavations at locations where surface soil TPH concentrations exceed 10,000 mg/kg. The amended Revised IMWP will be submitted to the TCEQ for review prior to implementing the subsequent phase of focused excavations.

[7] Golder, 2019. Response Action Completion Report (RACR), March 29, 2019, and Englewood Intermodal Yard – Test Pit Evaluation Report, dated June 2, 2021

Supporting Construction Plans

As required in the RAP (Rev 7) for the Site for excavation activities within the capped areas (Golder, 2021), the following plans will be developed in support of the Work Plan:

- A dust control and air monitoring plan to be implemented during the construction and excavation activities when impacted soil may be encountered is provided in Attachment B;
- A soil/waste management plan detailing the characterization, profiling, management and disposal procedures to be used when handling concrete/asphalt pavement and disturbed soils with COC concentrations above applicable PCLs pursuant to state and federal regulations is provided in Attachment C; and
- A stormwater management plan detailing the storm water control measures that will be implemented during the construction activities is provided in Attachment D.

UPRR will provide notification to the TCEQ (IHW Permits, Remediation Division, and Region 12 Office) and inform the public (via UPRR website (www.houstonwoodpreservingworks.com)) at least 30 calendar days prior to start of the planned construction activity. UPRR will begin the interim measure activity according to the following project schedule and will submit monthly status updates to the TCEQ following the notification and until completion of the planned construction activity.

A Response Action Completion Report (RACR) Addendum will be submitted to the TCEQ within 60 days after completion of construction activities. In addition, the backfilled focused excavation areas will be inspected weekly as part of the Englewood IM Yard concrete cap inspection schedule.

Concrete Cap Area Joint/Crack Visual Inspection

UPRR will evaluate the overall condition of the Concrete Cap area within the EIY. Specifically, the Concrete Cap will be inspected for spalled cracks and joints in the pavement where NAPL surface seeps could occur. The focus of the inspection will be in the area where the former lagoon and AST areas were located, and where TPH concentrations greater than 10,000 mg/kg have been reported in surface soil samples within the EIY. Once the condition of the concrete cover has been evaluated, UPRR will submit a IMWP Addendum specifically addressing alternative remedies to address cracks as potential areas for future seeps in the Concrete Cap area.

Evaluation of On-Site Storm Sewer and Utilities

Evaluation of on-site storm sewer and utilities for potential NAPL migration will be conducted in a phased approach. The focused excavations detailed in this Revised IMWP will serve as an initial phase of evaluation by providing information on the subsurface NAPL and the potential of NAPL extending to the on-site storm sewer system. Focused excavations FE-1, FE-2, FE-3, and FE-4 located on the west end and FE-12 on the northeast end of the study area will provide information on the nature and extent of the NAPL in the shallow soils where the underground utilities are found.

In addition, the USEPA ASAOC Section VIII. (Performance of the Work) Item 14.c. requires UPRR to “conduct an evaluation of the nearby off-site storm sewer system impacts and connections to the onsite storm sewers.” As part of that evaluation, UPRR will assess the on-site storm sewer system for potential groundwater and NAPL discharge and will develop a feasibility study for evaluating alternatives to address the on-site utilities.

Following completion of activities detailed in the Revised IMWP and the ASAOC evaluation, UPRR will prepare a feasibility study to address the on-site storm sewer system, as necessary. In addition, the focused excavations detailed in the Revised IMWP will provide information on the subsurface NAPL and the potential of NAPL extending to the on-site storm sewer system.

Project Schedule

The preliminary schedule for the activities detailed in this Revised IMWP will be as follows:

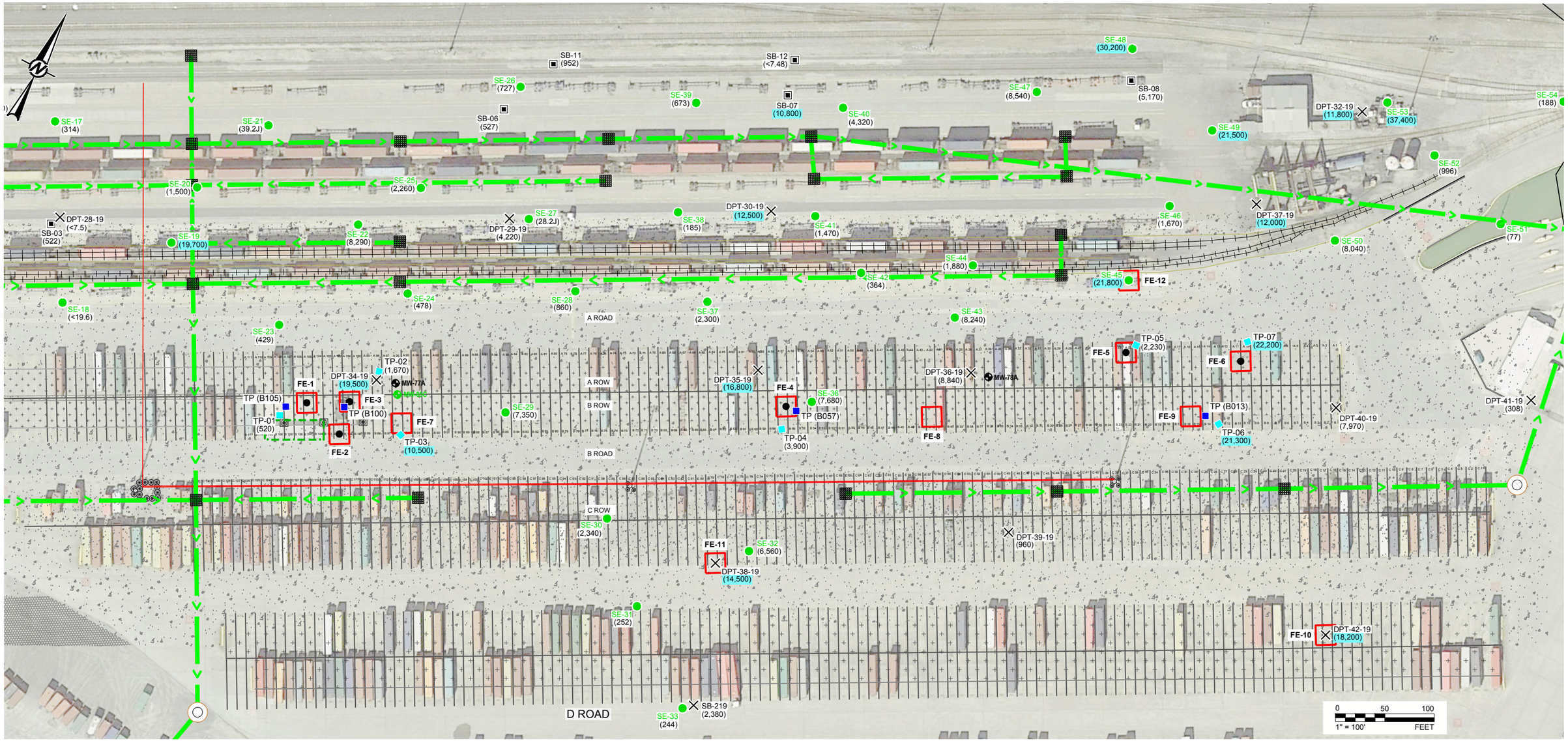
Activity	Start	Finish	Duration
Prepare and submit bid documents to contractors, select a contractor, and schedule field activities	Upon TCEQ approval of the Revised Interim Measures Work Plan	Within 45 days of TCEQ approval of the Work Plan	45 days
Conduct Interim Measures – Focused Excavations	Within 30 days of selection of contractor[1]	60 days following start of interim measures[2]	60 days[2]
Evaluate Effectiveness of Focused Excavations – Submit Revised IMWP Addendum if additional excavations (2nd Phase) or other alternatives are proposed.	Following construction activities	Within 60 days after completion of initial construction activities	60 days
Conduct Interim Measures – Focused Excavations (2nd Phase)	Upon TCEQ approval of Revised IMWP Addendum, Within 30 days of selection of contractor[1]	60 days following start of interim measures[2]	60 days[2]
Prepare and submit the Focused Excavation RACR to the TCEQ	Following construction activities (2nd Phase, if implemented)	Within 60 days after completion of construction activities	60 days
Conduct Interim Measures – Concrete Cap Crack/Joint Inspection	Upon TCEQ approval of the Revised Interim Measures Work Plan	30 days following start of interim measures[2]	30 days
Evaluate On-Site Storm Water Utilities per ASAOC Section VIII. 14.c.	To be determined	To be determined	
Prepare and submit Response Action Effectiveness Reports (RAERs)	Annually (March 31st to be included in the Post-Response Action Completion Reports (PRACRs))		Annually

Notes:

[1] – Construction schedule will be contingent on the selected contractor's availability and schedule.

[2] – Completion of field activities will be contingent on weather conditions and/or any unknown delays occurred during the construction activities.

FIGURES



LEGEND

	EXISTING CONCRETE
	EXISTING ASPHALT
	EXISTING RAIL SPURS
	EXISTING PARKING STALL STRIPE
B100	EXISTING PARKING STALL LABELS
	EXISTING 2 in ELECTRICAL CONDUIT (PVC SCH 80 OR HDPE OF EQUVALENT THICKNESS)
	EXISTING LIGHT POLE
	EXISTING BOLLARD
	STORMWATER DRAIN LINE
	PROPOSED FOCUSED EXCAVATION AREA
	EXISTING NAPL COLLECTION SUMP
	A-TZ MONITORING WELL LOCATION
	C-TZ MONITORING WELL LOCATION
	EXISTING NAPL COLLECTION SYSTEM (CONSTRUCTED FEB. 2019)
	NAPL SEEP LOCATION (OBSERVED IN 2021)
	TEST PIT LOCATION (2019)
	TEST PIT LOCATION (JULY 2020)
	2013 SOIL BORING LOCATION
	TPH (TX1005) SOIL SAMPLE LOCATION (2019-2020)
	PHASE 3 SOIL EVALUATION SOIL BORING LOCATION (2023)
(308)	TOTAL TPH (TX1005) CONCENTRATION (mg/kg)

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, DATED 02-23-2019

NOTE(S)

1. UNDERGROUND UTILITIES SHOW HEREON ARE APPROXIMATE BASED ON A RIGHT-OF-WAY AND TRACK MAP PROVIDED FOR INFORMATION. ALWAYS CALL 811 BEFORE YOU DIG.
2. TOTAL TPH CONCENTRATIONS GREATER THAN 10,000 mg/kg (TIER 1 $SOIL_{Res}$ PCL) ARE HIGHLIGHTED BLUE.

CLIENT
UNION PACIFIC RAILROAD CO

PROJECT
HOUSTON WOOD PRESERVING WORKS
ENGLEWOOD INTERMODAL YARD

TITLE
PROPOSED FOCUSED EXCAVATION AREAS

CONSULTANT

YYYY-MM-DD	2023-10-03
DESIGNED	AJD
PREPARED	AJD
REVIEWED	ECM
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\pdxfer.pdx\complexdata\offfox\Texarkana\Projects - Round Rock_20191911923\2 - HWPW\2023-07\ | File Name: 1 - Proposed Focused Excavation Areas (Ver 2).dwg | Last Edited By: adiamond Date: 2023-10-20 Time:3:12:28 PM | Printed By: adiamond Date: 2023-10-20 Time:3:36:45 PM

LEGEND

- EXISTING CONCRETE
- EXISTING ASPHALT
- EXISTING RAIL SPURS
- EXISTING PARKING STALL STRIPE
- B100 — EXISTING PARKING STALL LABELS
- EXISTING 2 in ELECTRICAL CONDUIT (PVC SCH 80 OR HDPE OF EQUVALENT THICKNESS)
- EXISTING LIGHT POLE
- EXISTING BOLLARD
- STORMWATER DRAIN LINE
- PROPOSED FOCUSED EXCAVATION AREA
- EXISTING NAPL COLLECTION SUMP
- A-TZ MONITORING WELL LOCATION
- C-TZ MONITORING WELL LOCATION
- EXISTING NAPL COLLECTION SYSTEM (CONSTRUCTED FEB. 2019)
- NAPL SEEP LOCATION (OBSERVED IN 2021)
- TEST PIT LOCATION (2019)
- TEST PIT LOCATION (JULY 2020)
- 2013 SOIL BORING LOCATION
- TPH (TX1005) SOIL SAMPLE LOCATION (2019-2020)
- PHASE 3 SOIL EVALUATION SOIL BORING LOCATION (2023)
- (308) — TOTAL TPH (TX1005) CONCENTRATION (mg/kg)

REFERENCE(S)

BASE MAP TAKEN FROM ADAMS AERIAL SURVEY W.O. #938-18, FLYING DATE 2/12/1955.

NOTE(S)

1. UNDERGROUND UTILITIES SHOW HEREON ARE APPROXIMATE BASED ON A RIGHT-OF-WAY AND TRACK MAP PROVIDED FOR INFORMATION. ALWAYS CALL 811 BEFORE YOU DIG.
2. TOTAL TPH CONCENTRATIONS GREATER THAN 10,000 mg/kg (TIER 1 $SOIL_{Res}$ PCL) ARE HIGHLIGHTED BLUE.

CLIENT
UNION PACIFIC RAILROAD CO

PROJECT
HOUSTON WOOD PRESERVING WORKS
ENGLEWOOD INTERMODAL YARD

TITLE
PROPOSED FOCUSED EXCAVATION AREAS WITH HISTORICAL FEATURES (1955 AERIAL)

CONSULTANT
WSP

YYYY-MM-DD	2023-10-03
DESIGNED	AJD
PREPARED	AJD
REVIEWED	ECM
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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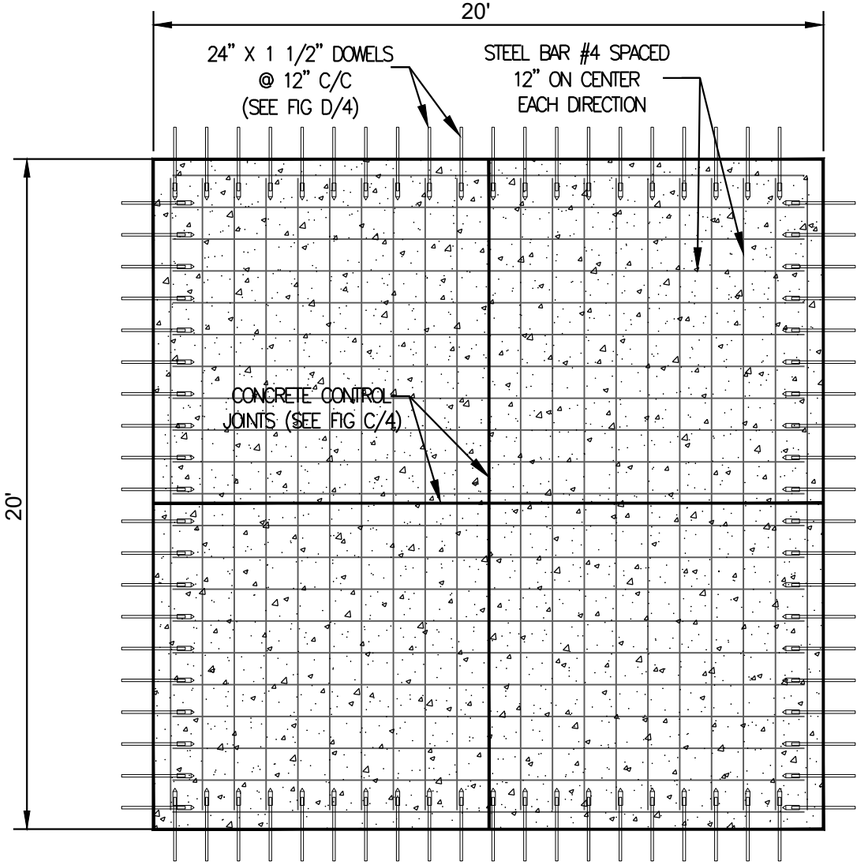
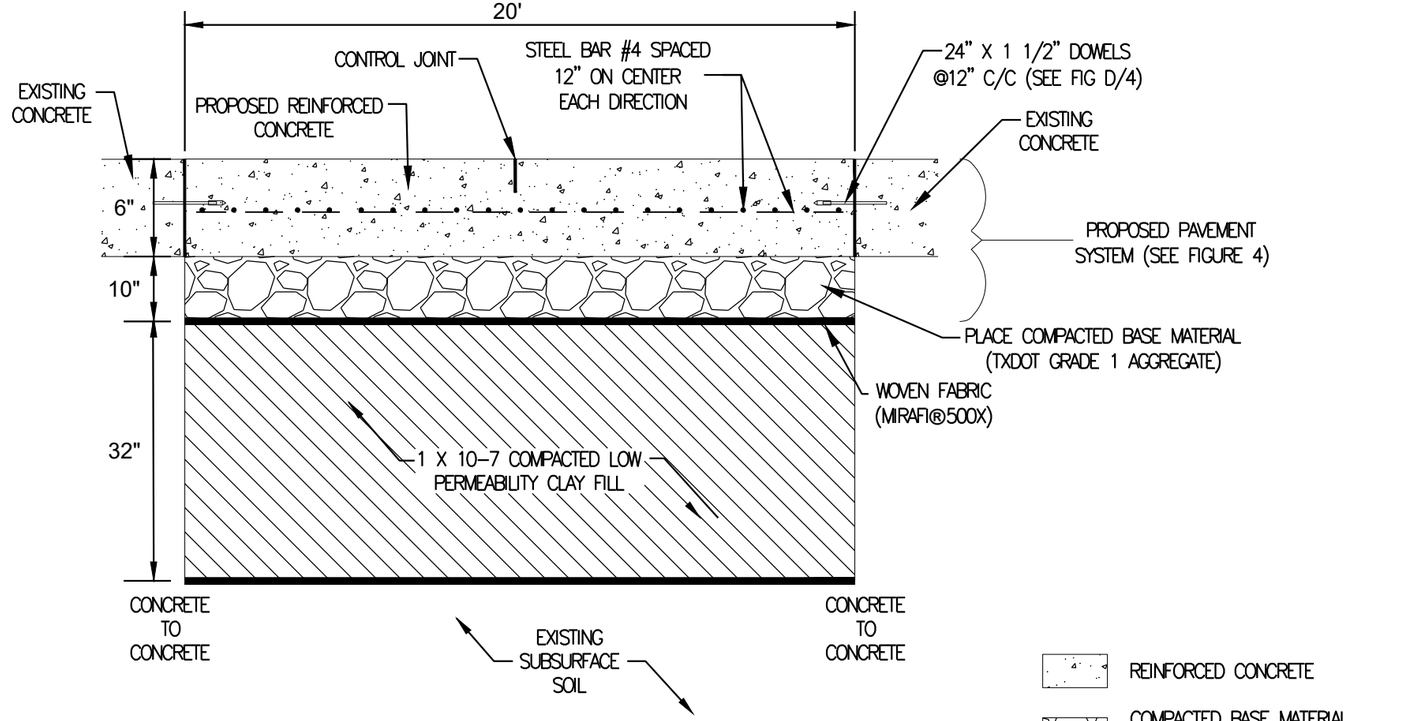
ATTACHMENT A

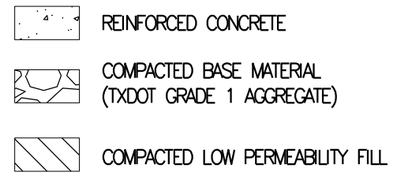
Preliminary Design Drawings - Focused Excavations



PLAN VIEW
N.T.S.



SECTION A-A
N.T.S.



NOTES:

1. Soil classified in the United Soil Classification System (USCS) as a CH or CL materials shall be used for fill soil. The clay fill soil shall not exceed a maximum hydraulic conductivity of 1 x 10-7 cm/sec.
2. Clay fill soil shall be placed in 6" lifts, compaction to 95% of standard proctor test (ASTM D698).
3. Woven fabric (Mirafi 500X or equivalent) shall be placed on the top of the clay fill materials.
4. Aggregates shall be placed in 6" lifts, compaction to 95% of standard proctor test (ASTM D698).
5 Concrete to be 4500 psi compressive strength at 28 days.
6. Dowel into existing concrete pavement per Expansion/Construction joint detail.
7. Thickened edge to be used on all outer edges of new concrete pavement except where doweled into existing concrete pavement (minimum 14" thick).

NOT FOR CONSTRUCTION

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS
ENGLEWOOD INTERMODAL YARD

TITLE
FOCUSED EXCAVATIONS - PROPOSED BACKFILL AND CONCRETE PAVEMENT DETAILS

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-02-24
DESIGNED	KG
PREPARED	AJD/KG
REVIEWED	GRH/RLB
APPROVED	GRH/RLB

PROJECT NO. 30401358-640
REV. 0
FIGURE A-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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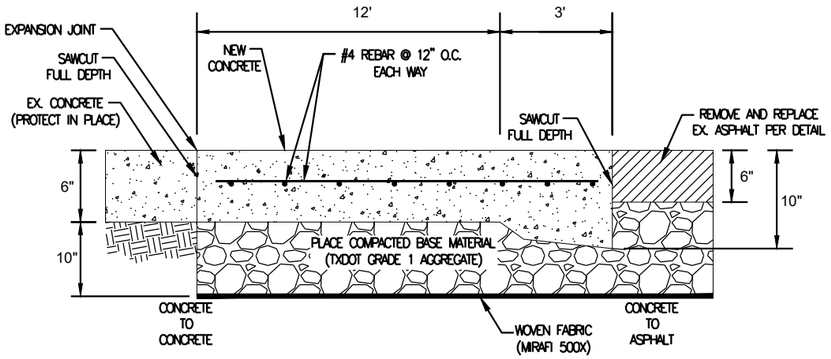
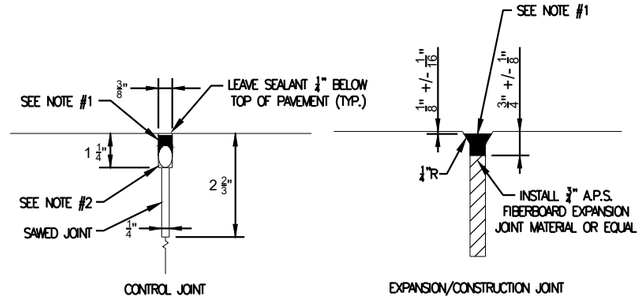


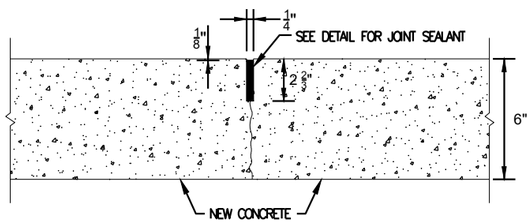
NOTES:
1. See joint spacing plan in Figure 2.
2. Concrete to be 4,500 psi compressive strength at 28 days.
3. Dowel into existing concrete pavement per Expansion/Construction joint detail.
4. Thickened edge to be used on all outer edges of new concrete pavement except where doweled into existing concrete pavement (minimum 14" thick).

B **CONCRETE PAVEMENT CROSS SECTION**
N.T.S.

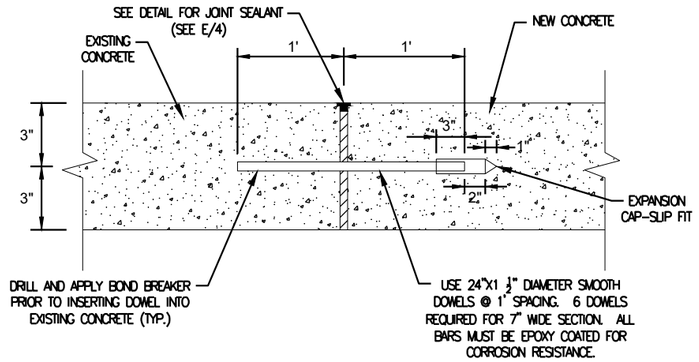


NOTES:
1. Use DOW Corning 890-SL Silicone Sealant or equal.
2. Round closed cell polyethylene backer rod. Use backer rod sized ¼" greater than joint width.
3. Sawcut and clean out existing joints before applying joint seal.

E **TYPICAL JOINT SEALING DETAIL**
N.T.S.



C **CONTROL JOINT DETAIL**
N.T.S.



D **EXPANSION JOINT DETAIL**
N.T.S.

NOT FOR CONSTRUCTION

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS
ENGLEWOOD INTERMODAL YARD

TITLE
FOCUSED EXCAVATIONS - CONCRETE PAVEMENT DETAILS

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-02-24
DESIGNED	KG
PREPARED	AJD/KG
REVIEWED	GRH/RLB
APPROVED	GRH/RLB

PROJECT NO. 30401358-640
REV. 0
FIGURE A-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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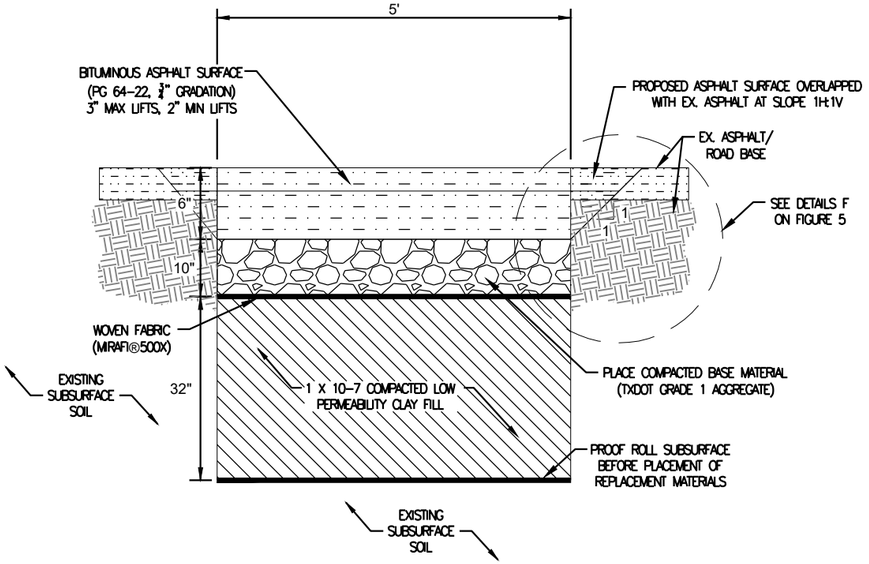
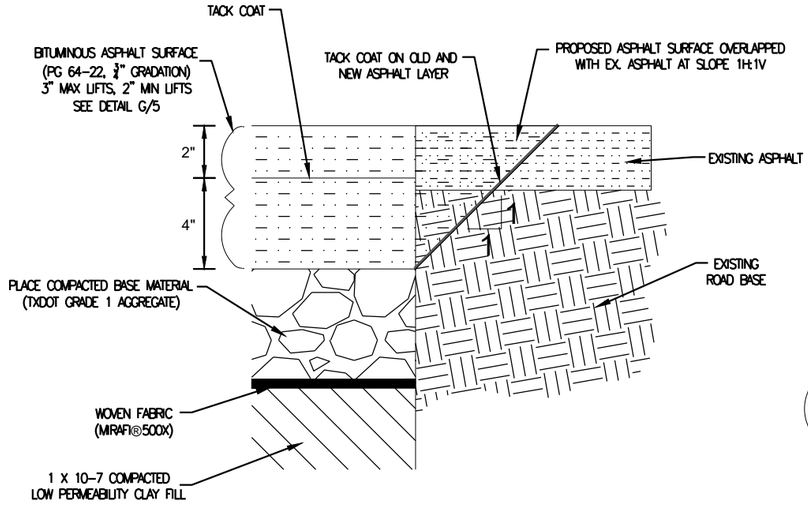
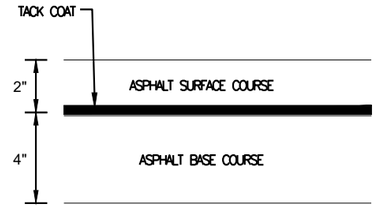


A **ASPHALT PAVEMENT CROSS SECTION**
N.T.S.

NOTES:
1. Soil classified in the United Soil Classification System (USCS) as a CH or CL materials shall be used for Fill soil. The clay fill soil shall not exceed a maximum hydraulic conductivity of 1 x 10-7 cm/sec.
2. Clay fill soil shall be placed in 6" lifts, compaction to 95% of standard proctor test (ASTM D698).
3. Woven fabric (Mirafi 500X or equivalent) shall be placed on the top of the clay fill materials.
4. Aggregate shall be placed in 6" lift, compaction to 95% of standard proctor test (ASTM D698).
5. Asphalt Performance Graded Binder PG 64-22 shall be used.
6. Asphalt bonding agent SS-1H or equivalent Tack Coat shall be used to ensure the bonding between old and new asphalt layer.



F **PROPOSED AND EXISTING ASPHALT JOINT DETAIL**
N.T.S.



G **BITUMINOUS ASPHALT SURFACE DETAIL**
N.T.S.

NOTES:
1. Asphalt Base Course shall be TxDOT Grade 1 aggregates.
2. Asphalt bonding agent SS-1H or equivalent Tack Coat shall be used on top of Base Course.
3. Asphalt Surface Course shall use PG 64-22..

NOT FOR CONSTRUCTION

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS
ENGLEWOOD INTERMODAL YARD

TITLE
FOCUSED EXCAVATIONS - PROPOSED BACKFILL AND ASPHALT PAVEMENT DETAILS

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-02-24
DESIGNED	KG
PREPARED	AJD/KG
REVIEWED	GRH/RLB
APPROVED	GRH/RLB

PROJECT NO. 30401358-640 | REV. 0 | FIGURE A-3

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

ATTACHMENT B

Dust Control and Air Monitoring Plan

Industrial Hygiene and
Safety Technology, Inc.

2235 Keller Way
Carrollton, TX 75006
Phone: (972) 478-7415
Fax: (972) 478-7615

http://www.ihst.com

Leaders in
Quality, Service
and Innovation

Dust Control and Air Monitoring Plan

Houston Wood Preserving Works - Englewood Intermodal Yard - Focused Excavations

Houston, Texas

Prepared for:

Union Pacific Railroad

Author: Tracy K. Bramlett

Date: 10/20/2023

Contents

Purpose and Scope

This document describes the dust control and air monitoring procedures to be employed by Union Pacific Railroad (UPRR) and its contractors during focused excavation work associated with remediation of twelve (12) seep areas in the UPRR Englewood Intermodal Yard associated with historical operations in this portion of the former Houston Wood Preserving Works site. The purpose of this plan is to help control migration of airborne dust emissions from the rail remediation areas to non-railroad properties adjacent to the remediation area.

This project will take place on the east end of the Englewood Intermodal Yard, in the concrete-covered parking area just south of the southernmost rail track in the Intermodal Yard. Figure 1 provides an overview of the approximate geographic area.

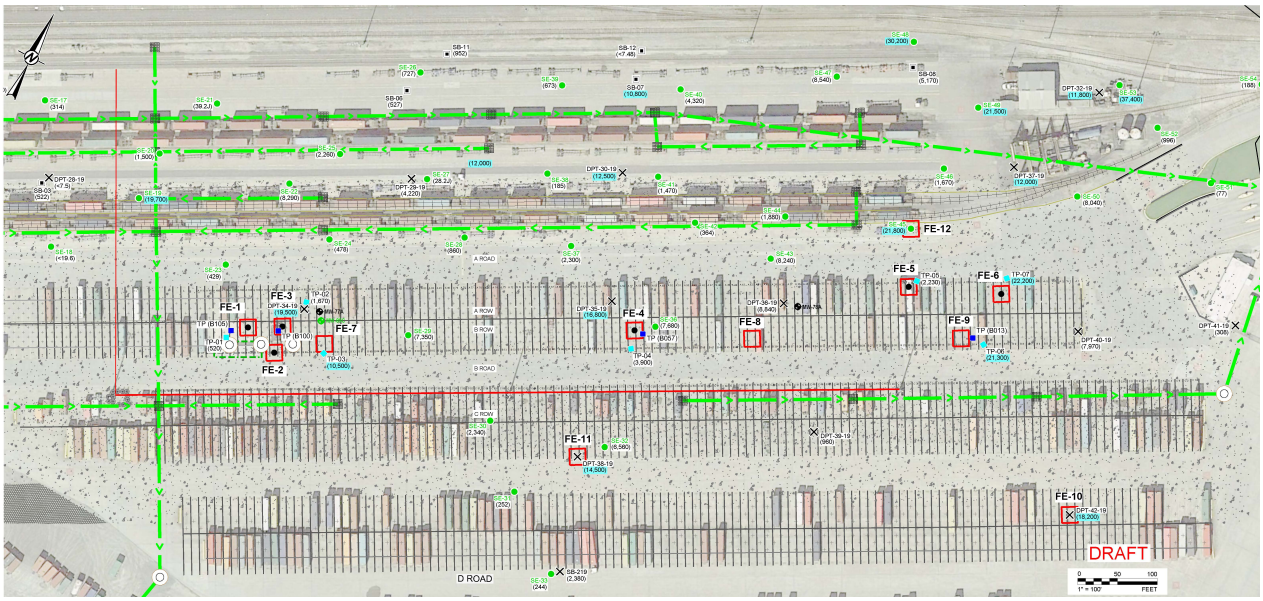

Figure 1. Site Plan for Focused Excavations, Houston Wood Preserving Works, Englewood Intermodal Yard

Section 1. Dust Control Plan

General Description of Remediation Site

This project will take place on the east end of the Englewood Intermodal Yard, in the concrete-covered parking area just south of the southernmost rail track in the Intermodal Yard. Excavation activities will be focused primarily on breaking concrete around the specified locations, excavating and replacing contaminated soil, and repairing the concrete park lot areas affected by the remediation activities. Figure 1 provides an overview of the geographic area.

The work area for this project is bordered to the north by the Intermodal Yard, mainline track and the former Houston Wood Preserving Works Site. Residential properties are located north of the former Houston Wood Preserving Works site, along the north side of Liberty Road, approximately 820 feet from the work area. Closest residential properties south of the work area are approximately 900 feet to the south, on the south side of Lee Street. East of the work area, the closest residential properties are located approximately 570 feet from the work area, East of Harlem and Erastus streets. The closest residential properties generally to the west are located approximately 1500 feet southwest of the work area, near Lee and Yates, and approximately 1650 feet northwest of the work area, near the intersection of Amboy and Quitman.

General Description of Remediation Activities

Remediation activities associated with this project are anticipated to generally include travel of vehicles throughout the concrete-covered area on the east end of the Intermodal Yard, focused breaking/cutting of the concrete cap of the Intermodal Yard parking lot, equipment/materials staging, removal and replacement of contaminated soils and waste materials and repair of the concrete parking cap.

Work crews are anticipated to be working only in the locations specified in Figure 1. Work at multiple locations simultaneously is possible. Potential for significant migration of remediation-related particulate matter appears low for this project.

Target Dust Control Levels

Control Levels for Measured Airborne Dusts

Air monitoring will be performed during all site remediation activities (see Section 2, Air Monitoring Plan, for details on air monitoring methods). Real-time measurements for PM 2.5 and PM 10 particulates will be conducted, and the following control levels will apply:

- ***Notice Level*** –30-minute average of PM 2.5 particulate levels > 30 ug/m3 and/or PM 10 particulate levels > 75 ug/m3
    - The Notice Level is intended as an early warning of potential elevations in airborne dust levels. When the notice level is exceeded the Air Monitoring Specialist will investigate the area(s) where the initial elevations in dust levels are indicated, and inform the Remediation Manager, Environmental Manager and other designated personnel of the known or most likely source(s) of the elevated levels, and advise what actions, if any, appear warranted to limit airborne dust generation. The Remediation Manager and Environmental Manager will determine how to best implement the recommendations of the Air Monitoring Specialist.
- ***Action Level*** –30-minute average of PM 2.5 particulate levels > 55 ug/m3 and/or PM 10 particulate levels > 150 ug/m3
    - The Action Level is intended as an indication that control measures should be implemented in a timely manner to mitigate generation of airborne dusts. When the

Action Level is exceeded, the Air Monitoring Specialist will investigate the area(s) where the elevations in dust levels are indicated, and inform the Remediation Manager, Environmental Manager and other designated personnel of the known or most likely source(s) of the elevated levels, and advise what actions, if any, appear warranted to limit airborne dust generation. The Remediation Manager and Environmental Manager will determine how to best implement the recommendations of the Air Monitoring Specialist.

- ***Stop-Work Level*** –30-minute average of PM 2.5 particulate levels > 85 ug/m3 and/or PM 10 particulate levels > 300 ug/m3
    - The Stop-Work Level is intended as an indication that continued generation of airborne dusts at or above the specified levels are likely to result in overall daily averages or short-term elevations in airborne dust levels that could be greater than the parameters established for the project. When the Stop-Work Level is exceeded, work in the affected area(s) should be stopped until additional controls are implemented. The Air Monitoring Specialist will investigate the area(s) where the elevations in dust levels are indicated, reporting his findings and recommendations to the Remediation Manager, Environmental Manager and other designated personnel. This team will work together to determine what control measures will be effective in reducing dust levels and how to best implement those measures and resume remediation activities. If stop-work levels are reached more than twice per day, the dust-generating activity will be stopped for the remainder of the work day and UPRR will design and implement a more effective dust control program prior to resuming work the following work day

Visible Airborne Dust Emissions

For the purposes of this Dust Control and Air Monitoring Plan*, significant visible emissions of airborne dusts* are defined as follows:

- Visible emissions of airborne dust from remediation-related activities (including, but not limited to, excavation, grading, loading and unloading of aggregates and soils and vehicular traffic) that meet any or all the following criteria:
    - Generates a visible dust cloud that extends more than 10 feet vertically and/or more than 25 feet horizontally in any direction beyond the point of generation and:
        - Persists for more than five (5) minutes at a time; and/or -
        - Recurs more than twice every thirty (30) minutes.
    - Generates a visible dust cloud that is migrating or appears likely to migrate to non-railroad properties.

This plan includes control measures for specific operations that may generate significant visible airborne dust emissions. However, all project supervisory personnel should remain alert for sources of significant visible airborne dust emissions and take appropriate action to minimize such emissions to the extent practical whenever and wherever they may occur. The Air Monitoring Specialist, Remediation Manager

and Environmental Manager will work as a team to monitor and minimize significant visible airborne dust emissions.

Roles and Responsibilities

Air Monitoring Specialist

The Air Monitoring Specialist will have primary responsibility for maintaining and monitoring results from air monitoring stations, informing the Remediation Manager and Environmental Manager when control levels are triggered, identifying activities and conditions contributing to elevated dust levels and making initial recommendations for corrective action. Specific responsibilities include:

- Maintenance and monitoring of air monitoring stations, as described in the Air Monitoring Plan section of this document.
- Making routine observations of worksite activities, with specific focus on potential dust-generating activities.
- Communicate instances of control level triggering and/or generation of significant visible airborne dust emissions to the Remediation Manager and Environmental Manager, along with explanations of the sources of dust emissions and recommendations for appropriate control measures.
- Communicate results of integrated air sample analyses to designated UPRR management personnel, the Environmental Manager and Remediation Manager.
- Maintain a daily log of site activities, including photographs, observations, air monitoring station inspections, integrated air sample collection, control level triggering events, notifications made to the Remediation Manager and Environmental Manager, and responsive actions.
- Assist the Remediation Manager and Environmental Manager in developing effective and practical dust control measures for atypical and/or as-needed situations involving dust emissions.

Environmental Manager

The Environmental Manager will have primary responsibility for working directly with the Air Monitoring Specialist, informing UPRR managers of day-to-day control measures and responses. Specific responsibilities include:

- Providing support and guidance to the Air Monitoring Specialist in communicating with project managers and UPRR personnel.
- Inform UPRR management personnel of relevant day-to-day dust control activities and atypical events.
- Work with the Air Monitoring Specialist and the Remediation Manager to develop practical and effective measures for atypical and/or as-needed dust control measures.

- Effectively communicate dust control measures and requirements to UPRR managers and jobsite supervisory personnel.

The Environmental Manager may delegate some or all of these responsibilities to qualified persons but remains ultimately responsible.

Site Supervisory Personnel

Site supervisory personnel are responsible for ensuring duties and responsibilities for dust control measures assigned to them are effectively and consistently implemented. They are also responsible for monitoring and reporting to the Air Monitoring Specialist and Environmental Manager instances of generation of significant visible airborne dusts.

Documentation and Reporting

Daily Log

The Air Monitoring Specialist will maintain a daily log of site activities, including, but not limited to:

- Descriptions or site work activities.
- Site photographs and relevant observations.
- Periodic observations of environmental conditions (windspeed, temperature, humidity, rainfall, etc.)
- Air monitoring station inspections
- Integrated air sample collection record, including sample data sheets, chain of custody records and lab reports.
- Descriptions of control level triggering events, notifications made to the Remediation Manager and Environmental Manager, and responsive actions.
- Descriptions of any problems encountered and responsive actions taken.

Weekly Summary Reports

The Air Monitoring Organization will issue weekly summary reports to the designated UPRR manager(s). Weekly summaries will include, but not be limited to, the following items:

- Summary results of the week's air monitoring data.
- Summary of any control level triggering events and response actions taken.
- Summary of any problems or atypical situations encountered, and the actions taken for resolution.

- Compilation of the Air Monitoring Specialist's daily logs for the preceding week, including notes and photographs.

Closeout Report

The Air Monitoring Organization will issue a final closeout report, summarizing the overall results of air monitoring and dust control efforts for the entire project.

Primary Dust Sources and Control Measures

This section specifies the primary sources of potential dust generation, and the control options to be employed to minimize dust emissions from those sources. The sources identified here are anticipated to be the most significant and/or frequent dust sources associated with the proposed work.

Vehicular Traffic through Parking Lot

Routine vehicular traffic is anticipated throughout the east central concrete parking lot of the Intermodal Yard. Loose soils from the tires of vehicles and work equipment may deposit on the travel surfaces. Environmental drying and pulverization of deposited soils along the roadway may form finer dusts which can be disturbed by vehicles and equipment traveling over the site.

The following controls are to be used to minimize dust formation from vehicular traffic along the service road:

- ***Proactive cleaning of travel surfaces***
    - Travel surfaces and road should be cleaned of soil/dust accumulation by street sweepers, using wet methods (i.e., street sweeper equipped with water spray bars, or water truck wetting of road surface, immediately followed by street sweeper).
        - Dry sweeping of travel surfaces is prohibited.

If the previously specified controls are not effective in reducing visible and/or measured roadway dust emissions, the following secondary controls will be implemented:

- ***Reduce speed of vehicular traffic on service road to 5 mph until visible and/or measured dust levels appear to be adequately controlled.***
    - Reduced speed will apply to all traffic on the service road, including crew vehicles, UPRR vehicles, haulers and any remediation equipment traveling on the service road.

Loose Aggregate and Soil Loading, Hauling and Unloading

Loading and unloading of loose aggregate and soils, whether excavated materials to be transported offsite or fresh fill material intended for onsite use, can produce airborne dusts if the materials are dry.

Hauling of these materials in uncovered or leaking transports can allow materials to blow off the tops of the transport and/or fall to roadways and other traffic routes, where they can dry and become pulverized, potentially contributing to airborne dust levels. The following controls will be employed to minimize airborne dusts potentially generated by loading, hauling and unloading loose aggregates and soils:

- Transport:
    - Truck beds and containers used for hauling loose aggregate and soils will be covered on top during transport, to prevent blowing off of materials while onsite and during travel.
    - Unloading gates on truck beds and containers used for hauling loose aggregate and soils will be kept functional and closed at all times while traveling to, from and within the remediation site. Loose soils and aggregates must not be allowed to spill onto onsite or offsite traffic paths.
- Loading and Unloading:
    - Loading and unloading of loose aggregates and soils should be monitored closely to ensure that airborne dust generation is minimized.
    - Where loading or unloading appears to generate significant visible airborne dust emissions and / or triggers PM 2.5 or PM 10 control levels, the following controls will apply:
        - Loading or unloading should be completed in the shortest amount of time possible.
        - If wind conditions appear to create a potential for migration of visible airborne dusts to non-railroad properties, any or all of the following will be employed, as most practical for the situation:
            - Loading or unloading will be paused until conditions are more favorable.
            - Materials will be loaded or unloaded in an alternate location, further from non-railroad properties.
            - Water will be used to wet the materials being loaded or unloaded, reducing generated dusts.
                - Important! No wetting of potentially hazardous materials should be performed during loading without prior approval from the Site Environmental Manager.

Secondary Dust Sources and Control Measures

This section specifies secondary sources of potential dust generation, and the control options to be employed to minimize dust emissions from those sources. The sources identified here are anticipated to be infrequent and/or to generate limited elevations in dust levels. Specified controls are to be

implemented on an as-needed basis and are not required when the specified sources are not present or active or have little potential to generate airborne dust.

Excavation Activities

Excavation activities may include drilling, digging with backhoes and trackhoes, as well as moving and relocation of excavated soils and aggregates with the same equipment, as well as dozers and front-end loaders. Excavated soils and aggregates on this project are anticipated to typically have a relatively high moisture content, and to not routinely produce significantly elevated dust levels unless the excavated materials are allowed to dry. In the event that excavation activities produce significant visible airborne dust emissions and/or trigger PM 2.5 or PM 10 control levels, the following dust control measures will be used:

- Where practical, use water to wet the excavation and/or excavated materials.
- Wetting need not be extreme, only enough to suppress significant visible dust emissions for the duration of the operation.

Concrete Cutting, Breaking or Drilling

Concrete cutting or drilling involves the use of saws, drills, hammers and other power tools to cut, break or drill concrete. These operations can produce high levels of airborne dust. The following controls will be used for such activities:

- Saws, hammers, drills and other power tools must be equipped with dust capture and collection systems, or wet methods must be used for any cutting, breaking or drilling operations.

Other Sources of Dust Emissions not Specifically Identified

During the course of the project, other sources of dust emissions may be observed. If these sources generate significant visible airborne dust emissions and/or trigger PM 2.5 or PM 10 control levels, the Air Monitoring Specialist and Environmental Manager will work as a team to develop and implement appropriate controls.

Section 2. Air Monitoring Plan

Purpose and Scope

This air monitoring plan has been developed to ensure that dust control measures implemented for the project are effective in controlling migration of airborne dusts from remediation activities to non-railroad properties. Air quality monitoring under the scope of this plan will consist of fence-line ambient air monitoring to measure airborne dust concentrations. Air monitoring will be conducted by IHST, Inc.

The primary objectives of the perimeter air monitoring are to:

- Monitor and record the ambient airborne dust concentrations at the UPRR property lines immediately adjacent to residential properties.
- Help ensure that background-adjusted dusts levels at the UPRR property lines do not exceed the current EPA National Ambient Air Quality Standards (NAAQS) for particulate matter.
- Ensure that engineering controls and work practices help minimize potential off-site drift of airborne dusts.

General

The USEPA's 2012 NAAQS standard for $PM_{2.5}$ and PM_{10} particulate matter have been used to develop the air monitoring plan for this project. $PM_{2.5}$ particulates are fine particulates which can penetrate deeper into the respiratory system. PM_{10} are coarser particles. Of interest in this project are the 24-hour levels established for these particulates. The 24-hour levels represent airborne concentrations averaged over a 24-hour period. The respective particulate NAAQS levels are presented below:

- $PM_{2.5}$ (24-hr average): 35 ug/m3
- PM_{10} (24-hr average): 150 ug/m3

The goal of the Action Levels established for this project is to help ensure that remediation activities do not contribute significantly to airborne particulate concentrations at off-property locations. Control levels are chosen to minimize the contribution of fugitive dust emissions from the rail remediation activities to the overall particulate matter concentrations.

Methods of Monitoring

Data-logging Particulate Monitors

Real-time particulate air monitors equipped with $PM_{2.5}$ and PM_{10} size-selective laser particle counters will be used at the Site to monitor dust levels at or near the property boundaries during remediation activities. Each monitor will be equipped with paired, manufacturer-calibrated PlanTower aspirated aerosol sensors. Data from both sensors will be captured and averaged to provide single $PM_{2.5}$ and PM_{10} concentrations at each monitoring station. The dual-sensor configuration provides redundancy, as well as rapid detection of potential intra-sensor sensor inconsistencies and/or sensor failure. The sensors collect internal

measurements at 10 second intervals and report 2-minute average concentrations of both $PM_{2.5}$ and PM_{10} particulate matter[1]. Perimeter monitors will be equipped with omni-directional sampling heads and mounted on tripods, fenceposts or other suitable support at an approximate height of 5-6 feet.

A weather station will also be placed at a background sampling location to measure wind direction, wind speed, temperature, humidity and precipitation. Air monitors and weather station will log data at 2 -minute intervals. All stations will be powered by deep-cycle marine batteries coupled with solar panels.

Instruments will be connected to the internet through cellular modems, and all data will be uploaded to a website that will allow real-time and historic review of the data by onsite IHST personnel as well as remotely located IHST, UPRR and other designated management personnel.

Real-time data from the downwind particulate monitors will be evaluated in 30-minute averaged blocks to provide comparison to Control Level criteria specified in the Dust Control Plan (Section 1 of this document).

Integrated Air Samples

Soil sampling in work areas were found to have concentrations of polynuclear aromatic hydrocarbons (PAH's) and some metals. Soil sampling data suggests that significant airborne exposures to these agents is unlikely, but a limited number of integrated air samples will be collected to verify that dust control measures are effectively limiting migration of these agents to non-railroad properties.

The agents to be sampled and the sample collection and analysis methods are specified in the following table.

Table 1. Integrated Air Sampling Agents and Analysis Methods

Agent	Collection Media	Air Flow Rate	Analysis Method
Particulate-phase PAHs	PUF/XAD2	10 lpm	EPA TO-13A
Arsenic	PVC filter	10 lpm	NIOSH 7303-MS
Lead	PVC filter	10 lpm	NIOSH 7303/7300 ICP-MS

Dates of collection of integrated air samples and number of samples collected will vary, based on site activities, locations affected and environmental conditions. A total of up to 6 air samples per work week for each agent are initially planned.

[1] Field and laboratory evaluation of the PlanTower sensors (used in PurpleAir aerosol monitors) by California's South Coast Air Quality Management Division showed the sensors to have high precision, low intra-model variability, and very strong correlation with Federal Equivalent Method (FEM) instruments. These results indicate the PlanTower sensors will provide reliable results and enable high-density deployment of particulate monitoring stations along the site perimeter.

Control Levels for metals and PAHs will be as follows:

- Arsenic:
    - The Texas Commission on Environmental Quality (TCEQ) has established a long-term Air Monitoring Comparison Value (AMCV)[2] for arsenic of 0.067 ug/m^3.
    - Sample analysis results will be compared to the long-term AMCV. Air samples will be collected at sufficient volume and duration to ensure reporting limits are at or below the long-term AMCV.
    - Where sample period average arsenic concentrations are at or below the AMCV or not detected in air samples with a detection limit at or below the AMCV, dust control measures will be considered effective.
- Lead:
    - The USEPA has established a NAAQS for lead of 0.15 ug/m3, as a three-month average. The TCEQ has adopted this value by reference in its AMCV for lead.
    - Air sample results for lead will be compared to the NAAQS of 0.15 ug/m3 to determine effectiveness of dust control measures. Air samples will be collected at sufficient volume and duration to ensure reporting limits are at or below the NAAQS.
    - Where sample period average lead concentrations are at or below the NAAQS or not detected in air samples with a reporting limit at or below the NAAQS, dust control measures will be considered effective.

[2] AMCVs are chemical-specific air concentrations set by the TCEQ and intended to protect human health and welfare. Exposure to an air concentration at or below the AMCVs is not likely to cause adverse health effects in the general public, including sensitive subgroups such as children, the elderly, pregnant women, and people with preexisting health conditions.

- PAHs:
    - The TCEQ has established interim AMCV for selected PAHs.
    - Air sample results for PAHs will be compared to the long-term AMCV specified in the table below to determine effectiveness of dust control measures.

Current TCEQ AMCV for PAHs
(Source: TCEQ TAMIS Database, retrieved 7/1/2021)

PAH	Short-Term AMCV (ug/m3)	Long-Term AMCV (ug/m3)
Acenaphthene	100	10
Acenaphthylene	100	10
Anthracene	1	0.067
Benzo(a)anthracene	0.5	0.05
Benzo(a)pyrene	None	0.017
Benzo(b)fluoranthene	0.5	0.05
Benzo(g,h,i)perylene	0.5	0.05
Benzo(k)fluoranthene	0.5	0.05
Chrysene	0.5	0.05
Dibenzo(a,h)anthracene	0.5	0.05
Fluoranthene	0.5	0.05
Fluorene	10	1
Indeno(1,2,3-cd)pyrene	0.5	0.05
Naphthalene	500	50
Phenanthrene	8	0.8
Pyrene	0.5	0.05

    - Where sample period average PAH concentrations are at or below the specified long-term AMCV or not detected in air samples with a reporting limit at or below the long-term or short-term AMCV, dust control measures will be considered effective. Air samples will be collected at sufficient volume and duration to ensure reporting limits are at or below the long-term AMCV.

After sample collection, samples will be properly packaged and secured and shipped overnight to a qualified laboratory for rush analysis. Sample results will be available in 4-5 business days of receipt by the laboratory.

If sample results indicate concentrations above specified control levels, IHST and UPRR will determine appropriate responses necessary to further reduce dust emissions from the sampled operations/areas.

Monitoring Station Locations

Seven (7) PM 2.5 / PM 10 monitoring stations will be active each day remediation activities are to be performed. Up to two (2) PAH / metals integrated air sampling stations will be active on selected days.

See Figure 2 for illustration of air sampling station locations.

Determination of PM 2.5 / PM 10 Particulate Levels for Control Purposes

The tracks immediately north of the work area may be used to park idling locomotives. Exhaust emissions from idling locomotives and traffic dust from intermodal operations may confound perimeter particulate measurements for this segment.

Air quality in the Houston area is variable, and the work areas are located in mixed industrial / residential area. Work activities are not the sole source of variations in particulate levels which are used to determine whether dust concentrations are within acceptable control limits. The following paragraphs describe how IHST will process and interpret air sampling data for this project.

- Only readings from PM 2.5 / PM 10 stations which are downwind or parallel to remediation activities or are located in areas visibly impacted by remediation-related dust will be used for comparison to the dust Control Levels.
- Observations of visual dust emissions from remediation activities, municipal construction and repair projects, traffic levels and idling locomotives will be considered in determining whether potential elevations in particulate levels at those monitoring stations are attributable to remediation activities.
- If IHST identifies other site or environmental conditions that clearly may confound particulate level measurements for control purposes, IHST may apply additional reasonable corrections or exclusions to monitoring station data. Any such corrections or exclusions will be documented and communicated to UPRR managers and the project Environmental Manager.

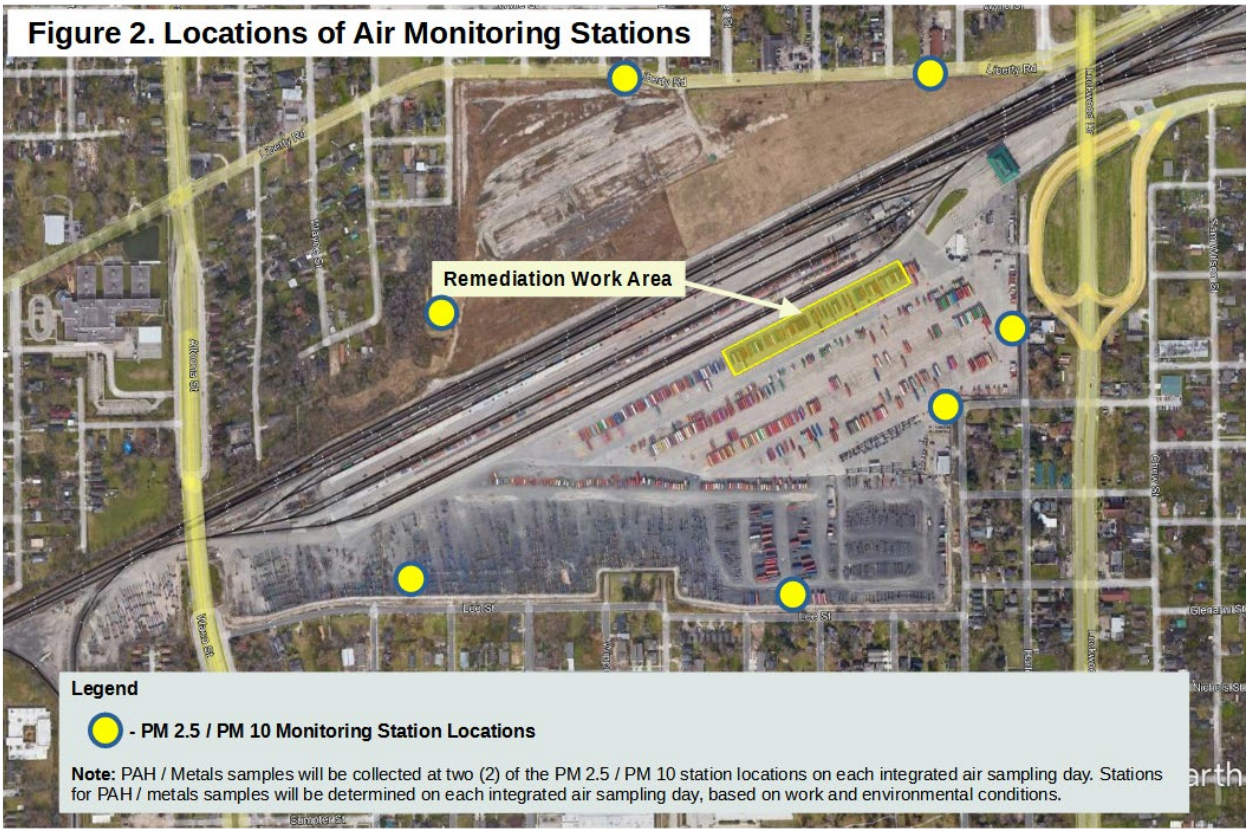

Figure 2. Air Monitoring Station Locations for Focused Excavations, Houston Wood Preserving Works, Englewood Intermodal Yard

Notifications

Notifications of exceedances of the particulate Control Levels will be sent via text message to IHST onsite personnel and designated site managers.

The IHST onsite Air Monitoring Specialist will be the primary individual responsible for monitoring the notifications and recommending additional dust mitigation procedures.

Procedures for Air Monitoring Station and/or Weather Station Failure

In the event of failure of one or more monitoring stations and/or the Weather Station, the IHST onsite industrial hygienist will immediately contact the IHST project manager.

The IHST project manager will arrange for timely correction of the problem, including, if necessary, replacement of the affected instrumentation with 24 hours.

ATTACHMENT C

Soil/Waste Management Plan

ATTACHMENT C

FOCUSED EXCAVATIONS – SOIL/WASTE MANAGEMENT PLAN

UNION PACIFIC RAILROAD – HOUSTON WOOD PRESERVING WORKS

Based on the proposed activities in the Interim Measures Work Plan (IMWP), approximately 720 cubic yards (in-place) of asphalt/concrete and soil will be generated from the Focused Excavation construction activities at the Englewood Intermodal Yard (EIY). Attempts will be made to separate the excavated soils from the concrete/asphalt generated during the excavation activities. Excavated soils and concrete/asphalt will be stored in a controlled manner in roll-off containers or drums that do not allow contaminated media to migrate and does not allow storm water to contact the waste placed pending disposal. Concrete/asphalt generated during the excavation activities will be placed into roll-off containers pending transportation and disposal. The roll-offs will be covered when it is not actively being loaded.

Lined roll-off containers will be constructed of steel and shall be in good working order and condition without damage that would allow excavated soils to migrate from the roll-off container. Roll-off containers will be lined and covered during periods when they are not being loaded or during precipitation events. If drums are used for storage of soil or tar-like non-aqueous phase liquid (NAPL) material encountered in the excavations, drums shall be constructed of steel and shall be in good condition and working order without damage that would allow contents to escape. Each drum shall include a cover/top which will allow the drum to be closed and sealed at all times, except when materials are being added to or removed from the drum or during precipitation events. Roll-offs and drums will be stored within the EIY pending classification and disposal.

Concrete/asphalt and soil samples for waste classification will be collected. If tar-like NAPL is recovered and stored in drums, samples of the NAPL will also be collected for analysis. In addition, if NAPL observed in the excavations appears stratified or not uniform in character within the excavation, separate representative samples of the NAPL will be collected for analysis. For each Focused Excavation area (12 proposed excavation areas), a 5-point composite of the excavated concrete/asphalt and soils will be collected from the roll-off boxes (assumed to be approximately 60 cubic yards (in place) each). The 5-point composite sample will be collected from each roll off by collecting directly from five separate, random, representative areas within the roll-off container from the loose material using a gloved hand and/or decontaminated/disposal sampling equipment or excavator bucket. The loose material will be collected in a single container or Ziploc bag and mixed thoroughly. A sample will be collected from the container/bag using the appropriate sampling procedure for the required analytical methods. A discrete sample of the tar-like NAPL (if recovered) will be collected. The waste samples will be analyzed for the following analysis for waste characterization:

- Total Petroleum Hydrocarbons (TPH) by Texas Method 1005 (NAPL samples will be analyzed for TPH fractions by Texas Method TX1006);
- Toxicity Characteristic Leaching Procedure (TCLP) analysis for evaluate for Class 1 constituents in 30 TAC 335.521(a)(1) (as necessary) including Volatile Organic Compounds (VOCs) by SW-846 Method 8260, Semi-Volatile Organic Compounds (SVOCs) by SW-846 Method 8270; and RCRA Metals by SW-846 Methods 6000/7000 series, and dioxins/furans by EPA Method 8290; and
- pH by EPA Method 9045, Reactivity (Method 9010), Corrosivity (Method 9040), and Ignitability (Method 1010/1020/D92).

Soils, tar-like NAPL material, and concrete/asphalt generated from the Englewood Intermodal Yard will be characterized, classified, and profiled for disposal at a UPRR approved TCEQ permitted landfill facility in accordance with 30 TAC 335 Subchapter R and based on the comparison of the soil analytical data to the hazardous characteristics and Class 1 Toxic Constituent's Maximum Leachable Concentrations (30 TAC Subchapter R (Appendix 1 Table 1)) detailed in the TCEQ *Guidance for the Classification and Coding of Industrial and Hazardous Wastes (RG-022, Revised 03/22)*. UPRR will evaluate the analytical data to determine if the waste is characteristically hazardous through analytical testing as discussed under 30 TAC 335.504(a)(3). Pending waste classification, Texas Waste Codes (TWCs) listed on the current Notice of Registration (NOR) (Solid Waste Registration Number 31547) will be used for the wastes generated from the excavation activities. Regardless of waste classification, wastes generated as part of this interim measure will be transported to a landfill permitted to receive the waste within 90 days of generation.

ATTACHMENT D

Stormwater Management Plan

ATTACHMENT D

FOCUSED EXCAVATIONS – STORMWATER MANAGEMENT PLAN

UNION PACIFIC RAILROAD – HOUSTON WOOD PRESERVING WORKS

Efforts will be made to minimize stormwater runoff into the Focused Excavations and minimize contact with contaminated soils generated during the excavation activities. Best management practices (BMPs) such as temporary sediment controls around the excavations and inlet protection barriers will be placed at existing stormwater drains if located near the proposed excavations to prevent the potential migration of silt and sediment from the excavation areas. BMPs such as temporary triangular silt dikes and/or straw waddles will be placed around each focused excavation area until the excavations are backfilled. Excavated soils will be immediately placed into roll-off boxes and covered as described in Attachment C. This process will prevent exposure of contaminated soils to stormwater and will prevent stormwater from becoming potentially contaminated.

If stormwater comes into contact with impacted soils within the planned focused excavations, stormwater will be containerized by pumping or hand bailing it into a container. Stormwater will be stored in a controlled manner in roll-off containers or 55-gallon drums. The containers will be constructed of steel and shall be in good working order and condition without damage that would allow containerize stormwater to migrate from the roll-off container or drums. Roll-off containers designed to hold liquids will be used for containerizing stormwater during the project. If drums are used, each drum shall include a cover/top which will allow the drum to be closed and sealed at all times, except when fluids are being added to or removed from the drum. Roll-off containers and drums will properly labeled and stored within the EIY pending classification and disposal.

Containerized stormwater will be sampled and analyzed for the following analyses to include Class 1 constituents listed in 30 TAC §335.521(a)(1) for waste characterization:

- Volatile Organic Compounds (VOCs) by SW-846 Method 8260;
- Semi-Volatile Organic Compounds (SVOCs) by SW-846 Method 8270;
- Total Petroleum Hydrocarbons (TPH) by Texas Method 1005;
- RCRA Metals by SW-846 Methods 6000/7000 series;
- Dioxins/furans by EPA Method 8290; and
- Reactivity (Method 9010), Corrosivity (Method 9040), and Ignitability (Method 1010/1020/D92).

If water accumulates in an excavation and a petroleum sheen is observed, an attempt to sample the sheen will be conducted using a Teflon oil spill sampling net or absorbent. The sampling net or absorbent will be passed through the sheen to collect the sample. Multiple passes may be required to obtain sufficient sample for analysis. The sheen sample collected with the Teflon oil spill sampling net or absorbent will be analyzed for TPH-fractionation by TCEQ TX1006 method.

Representative samples of the containerized stormwater will be analyzed, classified, and profiled for disposal at a UPRR-approved TCEQ permitted landfill facility in accordance with 30 TAC 335 Subchapter R and based on the comparison of the stormwater analytical data to the hazardous characteristics and Class 1 Toxic Constituent's Maximum Leachable Concentrations (30 TAC Subchapter R (Appendix 1 Table 1)) detailed in the TCEQ *Guidance for the Classification and Coding of Industrial and Hazardous Wastes (RG-022, Revised 03/22)*. UPRR will evaluate the analytical data to determine if the waste is

characteristically hazardous through analytical testing as discussed under 30 TAC 335.504(a)(3). Pending waste classification, Texas Waste Codes (TWCs) listed on the current Notice of Registration (NOR) (Solid Waste Registration Number 31547) will be used for the wastes generated from the excavation activities. Regardless of waste classification, wastes generated as part of this interim measure will be transported to a landfill permitted to receive the waste within 90 days of generation.