



August 31, 2018

Project No. 30401358

Ms. Maureen Hatfield

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



**RE: MONTHLY STATUS UPDATE – SOIL CAP AND CONCRETE CAP REPAIRS
UNION PACIFIC RAILROAD HOUSTON WOOD PRESERVING WORKS FACILITY
4910 LIBERTY ROAD FACILITY, HOUSTON, TEXAS
POST-CLOSURE CARE PERMIT NO. HW-50343; INDUSTRIAL SWR NO. 31547**

Dear Ms. Hatfield:

Golder Associates, Inc. (Golder), formerly Pastor, Behling & Wheeler, LLC (PBW), on behalf of Union Pacific Railroad Company (UPRR), is pleased to provide this monthly status update for the implementation of the cap repairs identified in the Updated Post-Response Action Care Report (PRACR) dated January 16, 2018 for the UPRR Houston Wood Preserving Works Facility (the Site). Monthly status updates were requested by the Texas Commission on Environmental Quality (TCEQ) in a letter dated March 20, 2018. This monthly status report also provides response to comments in a TCEQ letter dated August 22, 2018.

A brief description of the current status of the repairs is provided below:

- Soil Cap – Repairs to the soil cap were conducted on June 12 and 13, 2018. No further actions are necessary to address the soil cap repairs.
- Concrete Cap (Englewood Intermodal Yard) – Repairs to the concrete cap include addressing the seep area within parking slots B100 to B109 (for container trailers) where a tar-like substance was observed surfacing through the joints and cracks in the concrete and asphalt surfaces. Golder continues to conduct weekly inspections of the affected area. When significant amounts of the tar-like substance are observed on the concrete surface, a remediation contractor (United States Environmental Services (USES)) is notified to mobilize to the Site to remove and properly dispose of the material.

The TCEQ provided a letter to UPRR dated August 22, 2018 containing comments on the concrete cap seep and planned repairs. Below are the TCEQ comments contained in that letter and UPRR responses to those comments:

- *If significant amounts of tar-like substance are removed and disposed of by a remediation contractor, then the Status Update should include at a minimum: the amount of material removed, identify of the location(s) where the material was removed, and the manifest identifying the final disposition of the material.*

Response: The UPRR remediation contractor has recovered approximately one-half of a 55-gallon drum (approx. 25-30 gallons) of the thick, tar-like substance that has seeped to the surface over the past 12 months. The seeps appear to be active during the warmer months of the year, and not active during the cooler months. The recovery method includes scraping the concrete surface with flat-bladed shovels. This method generally allows recovery of approximately 0.5-gallon to 1 gallon per event. The location of the tar-like substance seeps has been noted within parking slots B100 to B109 (see Attachment A - Figure 1 for the general location). Since there has been less than a full drum recovered during the scraping events, the material has been accumulated in a 55-gallon drum that is stored within the Englewood Intermodal Yard. The drum contents will be disposed of when nearly full. Upon disposal, UPRR will provide the waste manifest in the subsequent monthly update.

- *Please provide details on the revised response action design to address future subsurfacing of the tar-like substance.*

Response: Golder developed a response action design to address the tar-like substance seeps present in the B100 to B109 parking slots. The preliminary design drawings are provided in Attachment B of this letter. The preliminary design consists of the following:

- Saw cut and remove the asphalt or concrete cover (approximately 1,395 square feet of area);
- Excavate the existing road base, soil and debris to a depth of approximately 5 feet below grade. The estimated volume of material to be removed is approximately 215 cubic yards (in-place). The excavated material will be placed in roll-off boxes, profiled for disposal, and disposed at a permitted landfill facility;
- Place a geotextile fabric at the base of the excavation, overlain with approximately 3 feet of high permeability fill (i.e., gravel) to allow the collection of non-aqueous phase liquid (NAPL) in the NAPL collection zone;
- Install a vertical 24-in diameter (or similar) HDPE plastic pipe to a depth of 5 feet below grade, with slotted pipe/perforations in the lower 3 feet of the pipe to allow the recovery of NAPL that may collect in the NAPL collection zone; and
- Backfill the remaining 24 inches of the excavation with a combination of compacted select fill, compacted base material, and reinforced concrete to return the ground surface for parking of the container trailers.

Modifications to the design may be made prior to or during the construction phase depending on field conditions.

The preliminary design described above was developed based on information gathered from three soil borings (SB-1 B108, SB-2 B105, and SB-3 B100 (boring logs provided in Attachment C)) conducted in the

seep area (see Attachment A – Figure 1 for locations). The boring logs indicate the presence of a NAPL saturated zone (NAPL described as a black rubbery material) approximately three feet below grade. Prior to implementing the proposed remedial action, Golder plans to conduct test pits in the area of the planned response action, and at two other areas where small tar-like material seeps have been noted over the past month (parking slots B13 and B57 (Attachment A – Figure 1)), as discussed in the following response. Once the test pits have been conducted and information gathered from the test pits have been evaluated, UPRR will then revise the proposed response action as necessary and submit the proposed remediation design to remediation contractors to provide bids and implement the design (subject to revisions based on the test pits).

- *UPRR has asked for and received numerous extensions to complete the design and implementation of the concrete cap repairs. The TCEQ is concerned that repairs to the concrete cap are taking much longer than necessary. The TCEQ requests that all repairs to the concrete cap be completed by the end of September 2018.*

Response: The delays in implementing the propose response action design have been driven based on changing field conditions during the hottest months of the year where the seeps appear to be more active. In mid to late July 2018, two small seeps of the tar-like material (parking slots B13 and B59) were identified during the weekly site visits further east of the primary area (slots B100-B109) where the seeps have been noted. In response, prior to implementing the proposed response action design, UPRR proposes to conduct test pits in both the primary area and the two new areas to preliminarily evaluate potential seepage into the excavation and evaluate response options for the two new areas. The proposed locations of the test pits are shown on Figure 1 (Attachment A). Dimensions of the test pits will be approximately 4 to 5 feet deep, 2 feet wide and 6 feet long. Excavated material will be placed in roll-off boxes, profiled and disposed of at a permitted landfill facility. Each test pit will be left open for about 24 hours to observe seepage of the tar-like substance over that time period, and then backfilled with clean fill and asphalt pavement placed at the surface.

The remediation contractor is anticipated to initiate the test pit excavations during the week of September 10, 2018 (depending on weather). Following the test pit excavation, the information gathered will be used to revise the preliminary response action design as necessary for implementation. Based on the planned activities, below is an estimated schedule to address the tar seeps (subject to change depending on field conditions and the final contractor schedule):

- September 10-12, 2018 – Conduct test pits, evaluate data
- September 21, 2018 – Revise propose response action design, as needed
- September 28, 2018 – Submit request for bids to potential remediation contractors
- October 12, 2018 – Select remediation contractor to implement the proposed response action design
- October 22, 2108 – Begin construction of the response action design. Completion of the response action will be dependent on field conditions.

Once the repairs to the concrete cap have been completed, UPRR will submit an Updated PRACR summarizing the repairs to both caps. Per our call between TCEQ, UPRR and Golder on Monday, August 27th, we discussed that the repairs to the concrete cap would be more extensive and that given the need for the test pits, that the repairs would not likely be completed by the end of September 2018. Therefore, UPRR respectfully requests the TCEQ to extend the requested completion date based on the proposed schedule stated above. UPRR will keep the TCEQ updated on the proposed activities for the concrete capped area.

If you have any questions or need additional information, please feel free to call me at (512) 671-3434 or Mr. Kevin Peterburs of UPRR at (414) 267-4164.

Sincerely,

Golder Associates Inc.



Eric C. Matzner, P.G.
Senior Consultant / Associate



ECM

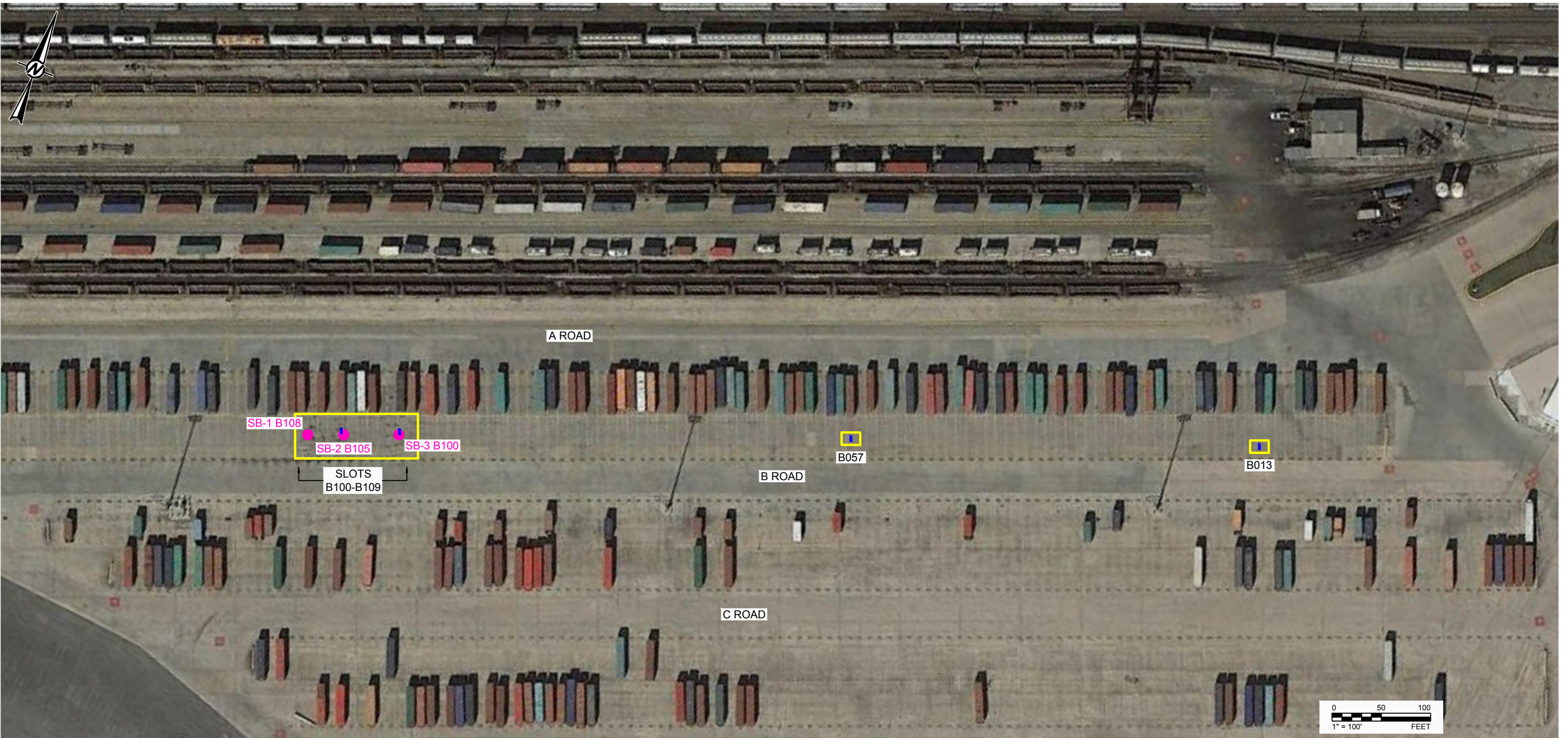
CC: Mr. Kevin Peterburs, UPRR – Milwaukee, WI

Attachments: Attachment A – Englewood Intermodal Yard Site Map
Attachment B – Proposed Response Action Design Figures
Attachment C – B100-B109 Seep Area Soil Boring Logs

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ATTACHMENT A

Englewood Intermodal Yard Site Map



**PRELIMINARY
DESIGN**

- LEGEND**
- PROPOSED TEST PIT LOCATIONS (6'L x 2'W x 5'D)
 - ENVIRONMENTAL SAMPLE BORING LOCATIONS (PBW, 2018)
 - ▭ AFFECTED AREA (TAR-LIKE SUBSTANCE SURFACING THROUGH SOME CRACKS AND JOINTS)

REFERENCE(S)
BASE MAP TAKEN FROM GOOGLE EARTH IMAGE DATED 01-23-2017.

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
ENGLEWOOD INTERMODAL YARD - SEEP INVESTIGATION

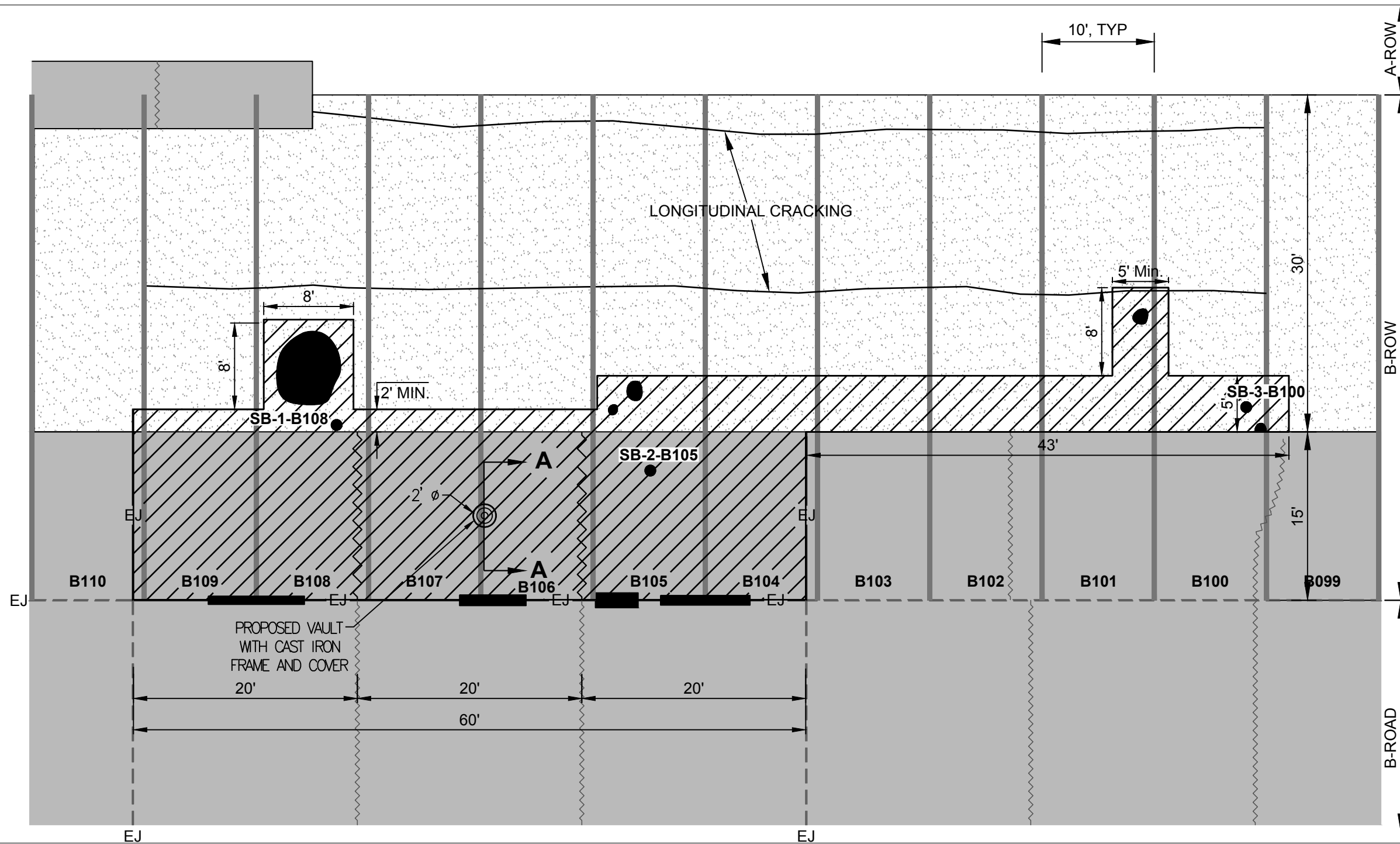
TITLE
SITE MAP

CONSULTANT	YYYY-MM-DD	2018-08-31
	DESIGNED	BZH
	PREPARED	BZH
	REVIEWED	RBL
	APPROVED	ECM

PROJECT NO. 30401358-640 REV. 0 FIGURE 1

ATTACHMENT B








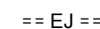
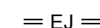


Proposed Response Action Design Figures



**PRELIMINARY
DESIGN**

REFERENCE(S)
BASE MAP TAKEN FROM GOOGLE EARTH IMAGE DATED 01-23-2017.

LEGEND

-  REINFORCED CONCRETE PAVEMENT
-  ASPHALT PAVEMENT/ROAD BASE
-  PARKING STALL YELLOW LINE (4" WIDE)
-  EXISTING SEEP LOCATION
-  PROPOSED AREA OF EXCAVATION
-  EXISTING EXPANSION/CONSTRUCTION JOINT
-  PROPOSED EXPANSION/CONSTRUCTION JOINT
-  == EJ == EXISTING CONTRACTION/CONTROL JOINT
-  = EJ = PROPOSED CONTRACTION/CONTROL JOINT
-  PROPOSED NAPL COLLECTION VAULT (2')
-  SOIL BORING LOCATION

CLIENT
UNION PACIFIC RAILROAD CO. 

PROJECT
ENGLEWOOD INTERMODAL YARD - SEEP INVESTIGATION

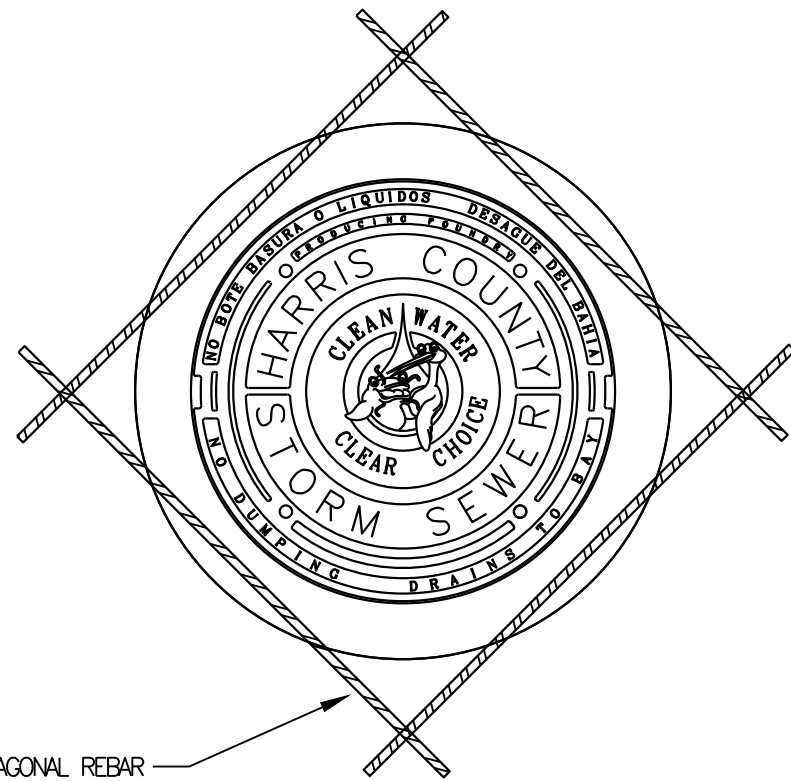
TITLE
PROPOSED REMEDIAL EXCAVATION

CONSULTANT	YYYY-MM-DD	2018-08-31
	DESIGNED	BZH
	PREPARED	BZH
	REVIEWED	RBL
	APPROVED	ECM

PROJECT NO.
30401358-640

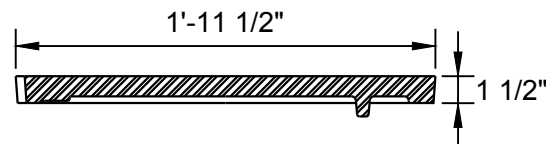
REV.
0

FIGURE
2

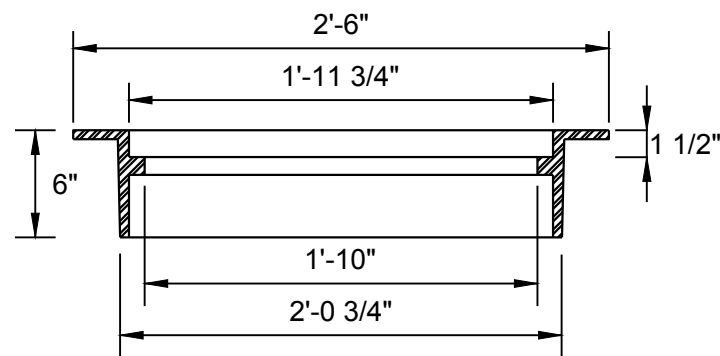


DIAGONAL REBAR
REQUIRED AT OPENING
(1 #6 TOP & BOTTOM)

COVER AND FRAME PLAN VIEW

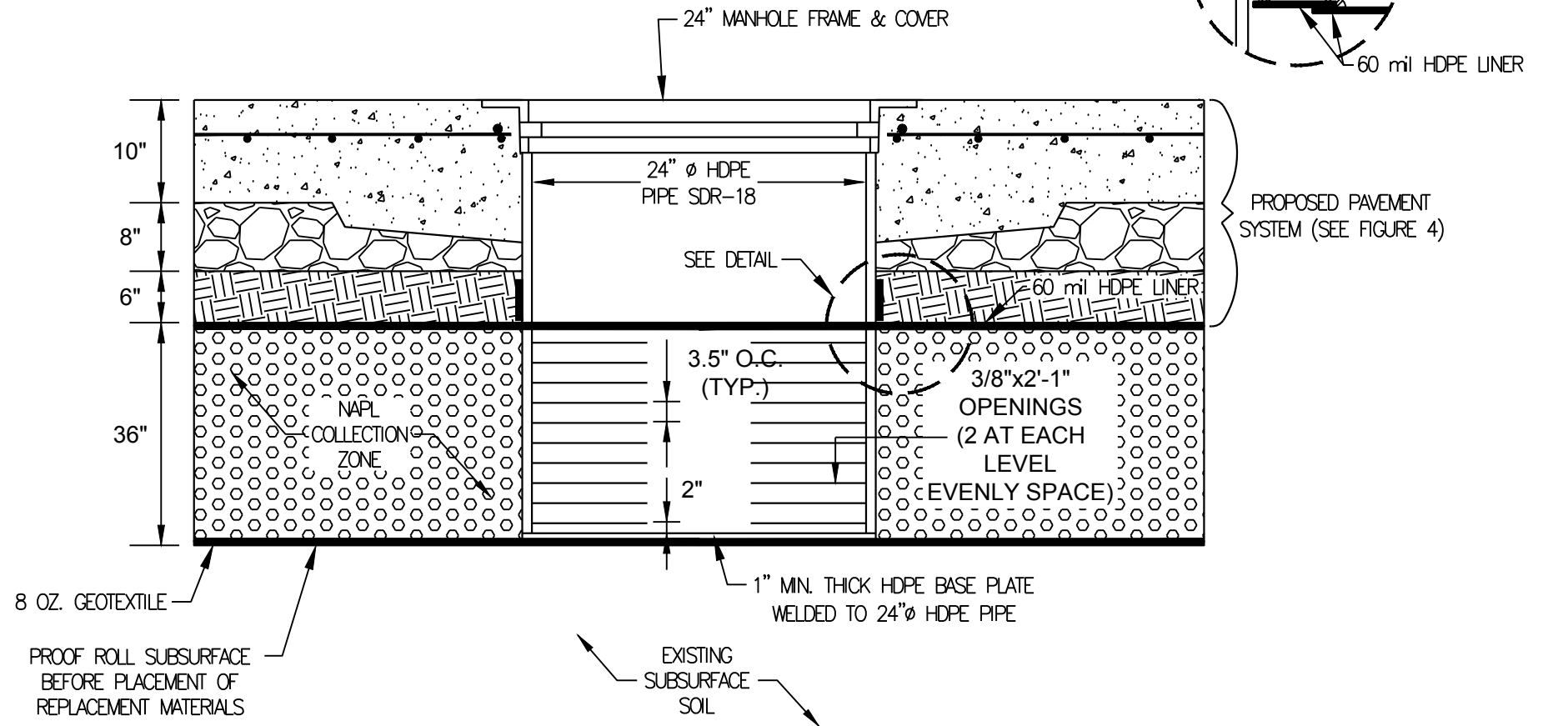


COVER SECTION A-A



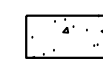


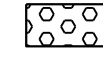
FRAME SECTION A-A

**PRELIMINARY
DESIGN**



NOTE:

1. FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS MODEL V-1814 FRAME AND V-1418 COVER OR APPROVED EQUAL.

-  REINFORCED CONCRETE (#5 REBAR @ 12" O.C. EACH WAY)
-  COMPACTED BASE MATERIAL (TXDOT GRADE 1 AGGREGATE)
-  COMPACTED SELECT FILL
-  COMPACTED HIGH PERMEABILITY FILL (3/4" - 1" ANGULAR GRAVEL)

**SECTION A-A
N.T.S.**

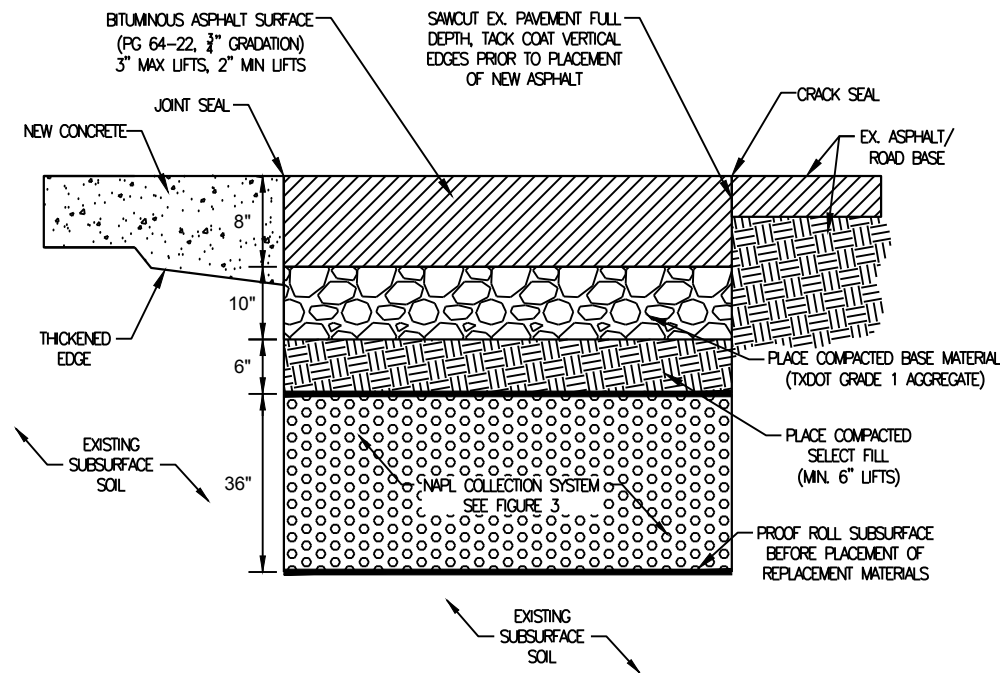
CLIENT
UNION PACIFIC RAILROAD CO. 

PROJECT
ENGLEWOOD INTERMODAL YARD - SEEP INVESTIGATION

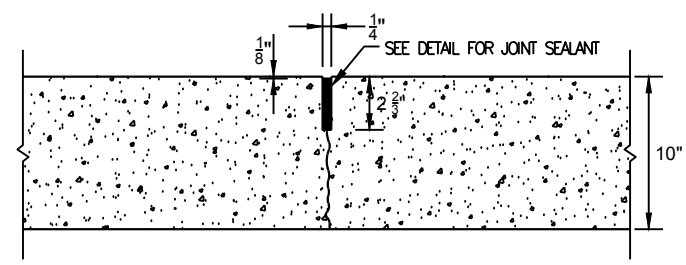
TITLE
PROPOSED NAPL COLLECTION SYSTEM

CONSULTANT	YYYY-MM-DD	2018-08-31
	DESIGNED	BZH
	PREPARED	BZH
	REVIEWED	RBL
	APPROVED	ECM

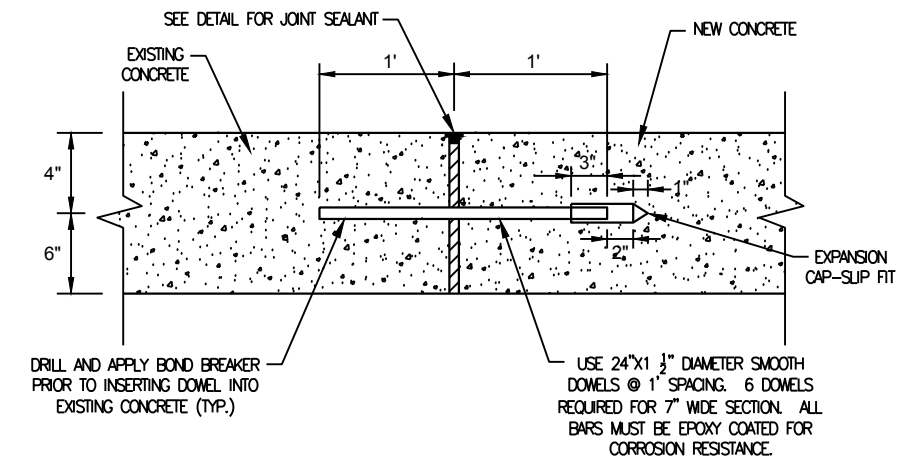
PROJECT NO. 30401358-640 REV. 0 FIGURE 3



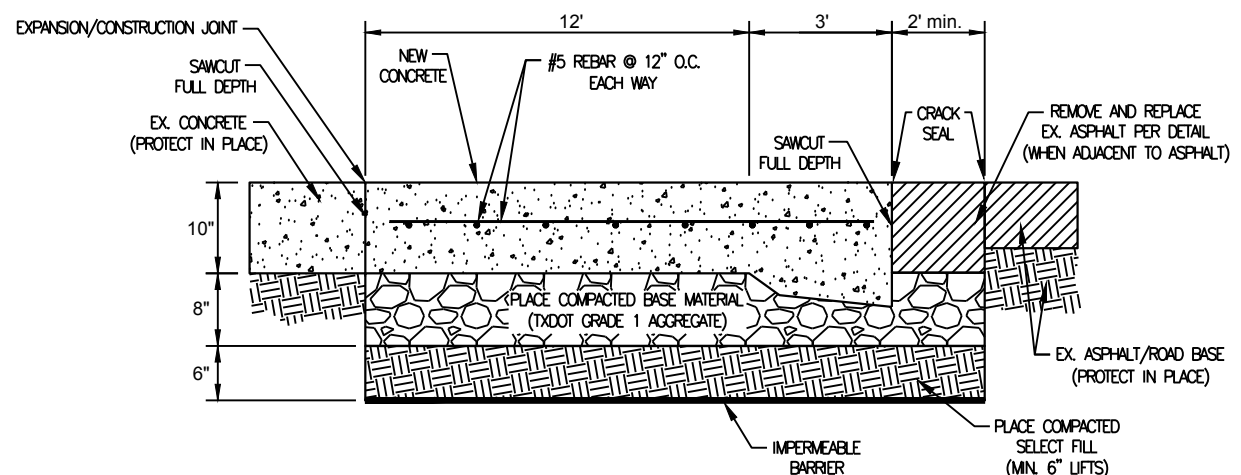
A ASPHALT PAVEMENT DETAIL (CROSS SECTION)
N.T.S.



C CONTRACTION/CONTROL JOINT DETAIL (CROSS SECTION)
N.T.S.

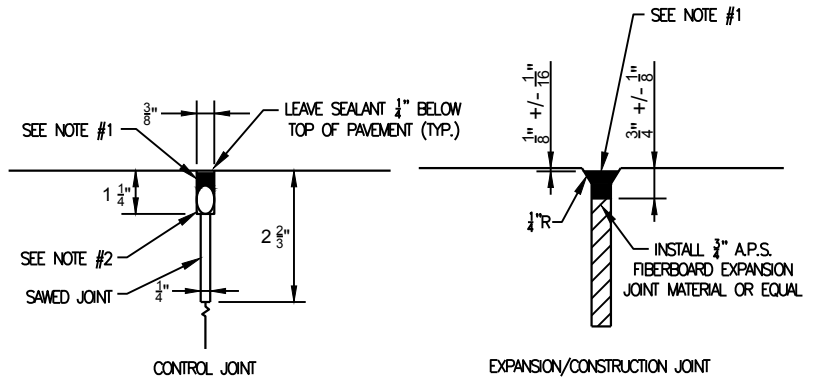


D EXPANSION/CONSTRUCTION JOINT DETAIL (CROSS SECTION)
N.T.S.



- NOTES:
1. See joint spacing plan in Figure 2.
 2. Min. 3 day compression strength = 4,500 psi (high early strength).
 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 DETAIL (CROSS SECTION)
N.T.S.



E TYPICAL JOINT SEALING DETAIL (CROSS SECTION)
N.T.S.

PRELIMINARY DESIGN

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
ENGLEWOOD INTERMODAL YARD - SEEP INVESTIGATION

TITLE
PAVEMENT DETAILS

CONSULTANT	YYYY-MM-DD	2018-08-31
	DESIGNED	BZH
	PREPARED	BZH
	REVIEWED	RBL
	APPROVED	ECM

PROJECT NO. 30401358-640
REV. 0
FIGURE 4

ATTACHMENT C

**B100-B109 Seep Area Soil Boring
Logs**

**LOG OF BORING:
SB-1-B108**



Union Pacific Railroad



SITE INFORMATION		PROJECT AND DRILLING INFORMATION			
B-Row Remediation Sampling Englewood Intermodal Yard Houston, TX	Drilling Company:	Best Drilling Services	Borehole Diameter (in.):	2	
	Completion Date:	5/11/2018	Total Depth (ft):	9	
PBW Project No. 1358-640	Driller:	Carlos Estrada	Water Level (ft):	-	
	Driller's License:	58981	Latitude:	29.78418	
	Logged By:	Jacob Geesin	Longitude:	-95.32101	
	Drilling Method:	DPT	TOC Elev. (ft AMSL):	-	
	Sampling Method:	Continuous Core	Ground Elev. (ft AMSL):	-	

Depth (ft)	Recovery (ft/ft)	PID (ppm)	Sample	USCS	LITHOLOGIC DESCRIPTION
0	1.0/1.0			CON	(0.0 - 1.0) Concrete, asphalt, slight odor
1		0.0			
2		6.7		FILL	(1.0 - 3.6) FILL, asphalt, sand, black, glass fragments, no odor, clay content increases with depth. At 3.0' - 3.6', NAPL (black, rubbery, moderate odor, solid) present
3	4.0/4.0				
4		5.4		ML	(3.6 - 4.2) CLAYEY SILT, gray, soft, dry, slight odor, no plasticity
5		0.8		CL	(4.2 - 6.6) CLAY, gray, firm to hard, dry, medium plasticity, no odor, silt content increases with depth
6		0.0			
7	3.0/4.0			ML	(6.6 - 7.0) CLAYEY SILT, light gray, soft, dry, no odor, no plasticity
8		0.0		CH	(7.0 - 8.0) CLAY, gray with orange mottling, hard, high plasticity, trace calcareous nodules (<1mm)
9		NR		NR	(8.0 - 9.0) NO RECOVERY



2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O-512.671.3434 F-512.671.3446
www.pbwllc.com

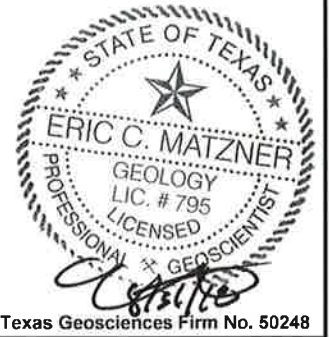
Notes:

- 1.) Boring plugged and abandoned upon completion of sampling activities.
- 2.) This boring log should not be used separate from its original report.
- 3.) NR - No Recovery

**LOG OF BORING:
SB-2-B105**



Union Pacific Railroad



SITE INFORMATION
B-Row Remediation Sampling
Englewood Intermodal Yard
Houston, TX

PBW Project No. 1358-640

PROJECT AND DRILLING INFORMATION
Drilling Company: Best Drilling Services
Completion Date: 5/11/2018
Driller: Carlos Estrada
Driller's License: 58981
Logged By: Jacob Geesin
Drilling Method: DPT
Sampling Method: Continuous Core
Borehole Diameter (in.): 2
Total Depth (ft): 9
Water Level (ft): --
Latitude: 29.78418
Longitude: -95.32092
TOC Elev. (ft AMSL): --
Ground Elev. (ft AMSL): --

Depth (ft)	Recovery (ft/ft)	PID (ppm)	Sample	USCS	LITHOLOGIC DESCRIPTION
0	1.0/1.0			CON	(0.0 - 1.0) Concrete
1		2.6			(1.0 - 2.0) Asphalt
2		8.1		FILL	(2.0 - 3.0) FILL, clay, black, wood fragments, at 2.0 - 3.0', NAPL (black, solid, rubbery), glass fragments, moderate odor, dry
3	4.0/4.0				
4		0.0		CL	(3.0 - 5.0) SILTY SANDY CLAY, gray, soft, slight odor, no plasticity
5		3.9			
6		1.4		CH	(5.0 - 8.0) CLAY, gray with orange mottling, hard to very hard, high plasticity, slight odor, silt present 7.6' - 7.8'
7	3.0/4.0				
8		2.2			
9		NR		NR	(8.0 - 9.0) NO RECOVERY



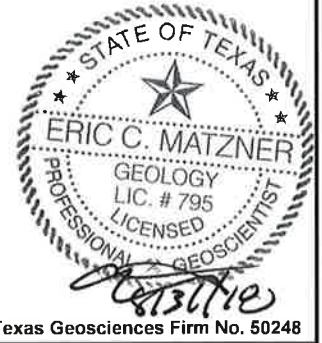
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O:512.671.3434 F:512.671.3446
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Notes:
1.) Boring plugged and abandoned upon completion of sampling activities.
2.) This boring log should not be used separate from its original report.
3.) NR - No Recovery

**LOG OF BORING:
SB-3-B100**



Union Pacific Railroad



SITE INFORMATION

B-Row Remediation Sampling
Englewood Intermodal Yard
Houston, TX

PBW Project No. 1358-640

PROJECT AND DRILLING INFORMATION

Drilling Company: Best Drilling Services	Borehole Diameter (in.): 2
Completion Date: 5/11/2018	Total Depth (ft): 9
Driller: Carlos Estrada	Water Level (ft): -
Driller's License: 58981	Latitude: 29.78426
Logged By: Jacob Geesin	Longitude: -95.32078
Drilling Method: DPT	TOC Elev. (ft AMSL): -
Sampling Method: Continuous Core	Ground Elev. (ft AMSL): -

Texas Geosciences Firm No. 50248

Depth (ft)	Recovery (ft/ft)	PID (ppm)	Sample	USCS	LITHOLOGIC DESCRIPTION
0	1.0/1.0			CON	(0.0 - 1.0) Concrete, asphalt
1		6.0			
2		8.9		FILL	(1.0 - 3.3) FILL, asphalt, gravel (>2mm), black, glass fragments, slight odor. At 3.0' - 3.3', NAPL (black, solid, rubbery, moderate odor) present
3	3.5/4.0				
4		10.3		CL	(3.3 - 4.5) SILTY CLAY, gray, soft to firm, slight odor, low to medium plasticity
5		3.6		NR	(4.5 - 5.0) NO RECOVERY
6		0.6			
7	3.0/4.0			CH	(5.0 - 8.0) CLAY, gray with orange mottling, hard, high plasticity, slight odor
8		1.2			
9		NR		NR	(8.0 - 9.0) NO RECOVERY



2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O-512.671.3434 F-512.671.3446
www.pbwllc.com

Notes:

- 1.) Boring plugged and abandoned upon completion of sampling activities.
- 2.) This boring log should not be used separate from its original report.
- 3.) NR - No Recovery