FTS Field & Technical Services
200 Third Avenue • Carnegie, PA 15106 • Phone: 412-429-2694 • Fax: 412-279-4512

May 24, 2017

Mr. Christopher Saari
Wisconsin Department of Natural Resources
2501 Golf Course Road
Ashland, WI 54806

RE: Former Koppers Inc. Facility, Superior Wisconsin
WDNR DNR BRRTs No: 0216000484
WDNR Facility ID: 816009810

Subject: 2016 On-Property Corrective Measures Monitoring & Maintenance Report

Dear Mr. Saari:

Field and Technical Services LLC (FTS), on behalf of Beazer East, Inc. (Beazer), and in accordance with the Operation and Maintenance Plan, On-Property Corrective Measures (O&M Plan; Arcadis, revised September 2011), is submitting this On-Property Corrective Measures Annual Monitoring & Maintenance Report for 2016, for the Former Koppers Inc. Facility in Superior, Wisconsin (the Site). This report documents the monitoring and maintenance activities conducted during 2016 for the completed on-property corrective measures (i.e., surface covers and Outfall 001 drainage ditch liner system; Figure 1).

The 2016 monitoring activities included the following:

- Monitoring the two collection sumps beneath the restored Outfall 001 drainage ditch for the presence of dense, non-aqueous phase liquid (DNAPL; performed on December 6, 2016); and
- Visually inspecting the surface covers and Outfall 001 drainage ditch liner system (performed on October 6, 2016).

Table 1 summarizes the DNAPL collection sump monitoring results. As indicated in Table 1, DNAPL has not been detected in either of the collection sumps to date.

The October 6, 2016 inspection observations and photographs are presented in a Site Inspection Form in Attachment 1. As noted in Attachment 1, several areas of the engineered surface covers were noted as requiring repairs in Areas B, and F2. No issues were observed in Areas A, G, H, or S or at Outfall 001 drainage ditch during the October 2016 inspection.

Areas where surface cover issues were noted during the October 2016 inspection will be addressed in 2017.

If you have questions regarding this submittal or require additional information, please call me at (412) 429-2694 or Jane Patarcity of Beazer at (412) 208-8813.

Sincerely,

Field and Technical Services

Hank Pappert
Project Manager

Attachments

cc: John Robinson, WDNR
Jane Patarcity, Beazer
Linda Paul, Koppers
David Bessingpas, Arcadis
Terry Peterson, TRP

TABLE

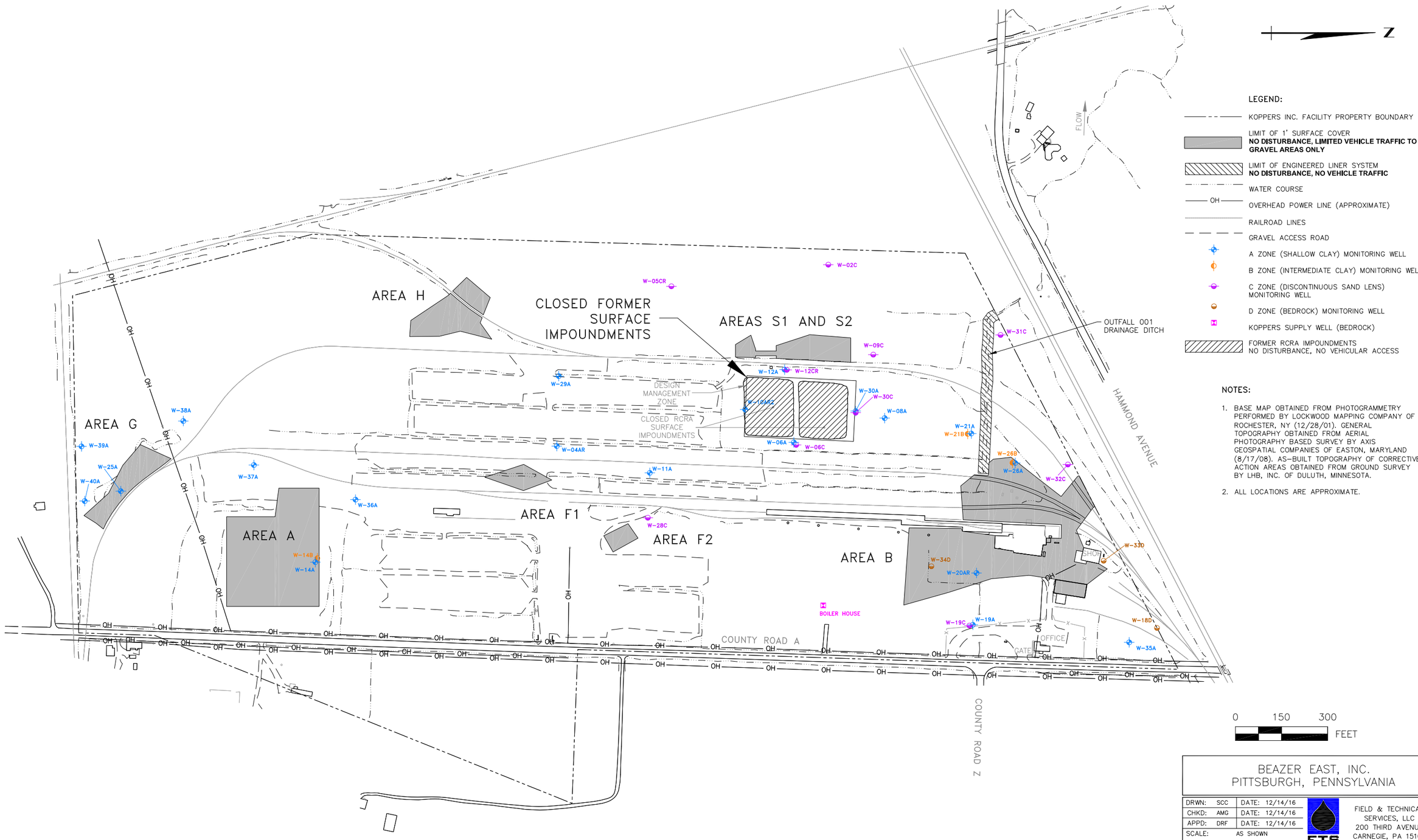
Table 1

Summary of Outfall 001 Drainage Ditch Sump DNAPL Monitoring/Removal Data[1]
Former Koppers Inc. Facility - Superior, WI

Date	Depth to Water (ft)	Depth to DNAPL (ft)	Depth to Sump Bottom (ft)	DNAPL Thickness (ft)	DNAPL Volume Removed (gal)	Notes/Comments
East Sump						
1/31/11	11.65	--	20.76	--	--	No DNAPL detected with interface probe or visible on PVC
2/25/11	10.01	--	20.78	--	--	No DNAPL detected with interface probe or visible on PVC; silt on PVC
3/28/11	Not measured - ice present at 11.60 feet below top of riser pipe				--	
4/12/11	12.55	--	20.82	--	--	No DNAPL detected with interface probe or visible on PVC; silt on probe tip
5/19/11	12.80	--	20.78	--	--	No DNAPL detected with interface probe or visible on PVC; silt on probe tip
6/30/11	12.96	--	20.79	--	--	No DNAPL detected with interface probe or visible on PVC; silt on probe tip
9/9/11	13.11	--	20.79	--	--	No DNAPL detected with interface probe or visible on PVC; silt on probe tip
10/21/11	13.20	--	20.85	--	--	No DNAPL detected with interface probe or visible on PVC
6/26/12	13.03	--	21.85 [2]	--	--	No DNAPL detected with interface probe or visible on PVC
9/25/12	13.47	--	20.83	--	--	No DNAPL detected with interface probe or visible on PVC; silt on probe tip
5/1/13	Not measured - ice present at 13.25 feet below top of riser pipe					
8/21/13	13.40	--	20.83	--	--	No DNAPL detected with interface probe or visible on PVC
6/26/14	13.49	--	20.84	--	--	No DNAPL detected with interface probe or visible on PVC; silt on probe tip
7/16/15	13.10	--	20.90	--	--	No DNAPL detected with interface probe or visible on PVC; silt on probe tip
12/06/16	12.46	--	20.82	--	--	No DNAPL detected with interface probe or visible on PVC; silt on probe tip
West Sump						
1/31/11	10.20	--	20.90	--	--	No DNAPL detected with interface probe or visible on PVC
2/25/11	Not measured - ice present at 10.05 feet below top of riser pipe				--	
3/28/11	Not measured - ice present at 9.50 feet below top of riser pipe				--	
4/12/11	Not measured - ice present at 10.00 feet below top of riser pipe				--	
5/19/11	10.62	--	20.89	--	--	No DNAPL detected with interface probe or visible on PVC
6/30/11	10.75	--	21.54 [2]	--	--	No DNAPL detected with interface probe or visible on PVC
9/9/11	11.05	--	21.54 [2]	--	--	No DNAPL detected with interface probe or visible on PVC
10/21/11	11.07	--	20.93	--	--	No DNAPL detected with interface probe or visible on PVC
6/26/12	10.84	--	20.90	--	--	No DNAPL detected with interface probe or visible on PVC
9/25/12	11.54	--	20.92	--	--	No DNAPL detected with interface probe or visible on PVC
5/1/13	10.23	--	20.91	--	--	No DNAPL detected with interface probe or visible on PVC
8/21/13	11.59	--	20.85	--	--	No DNAPL detected with interface probe or visible on PVC
6/26/14	11.07	--	20.92	--	--	No DNAPL detected with interface probe or visible on PVC
7/16/15	11.21	--	20.94	--	--	No DNAPL detected with interface probe or visible on PVC
12/06/16	11.22	--	20.88	--	--	No DNAPL detected with interface probe or visible on PVC

Notes:
1. Measurements obtained using an oil/water interface probe affixed to 3/4-inch PVC pipe
2. Probe advanced into horizontal portion of pipe.

FIGURE



LEGEND:

- KOPPERS INC. FACILITY PROPERTY BOUNDARY
- LIMIT OF 1' SURFACE COVER **NO DISTURBANCE, LIMITED VEHICLE TRAFFIC TO GRAVEL AREAS ONLY**
- LIMIT OF ENGINEERED LINER SYSTEM **NO DISTURBANCE, NO VEHICLE TRAFFIC**
- WATER COURSE
- OH — OVERHEAD POWER LINE (APPROXIMATE)
- RAILROAD LINES
- GRAVEL ACCESS ROAD
- A ZONE (SHALLOW CLAY) MONITORING WELL
- B ZONE (INTERMEDIATE CLAY) MONITORING WELL
- C ZONE (DISCONTINUOUS SAND LENS) MONITORING WELL
- D ZONE (BEDROCK) MONITORING WELL
- KOPPERS SUPPLY WELL (BEDROCK)
- FORMER RCRA IMPOUNDMENTS NO DISTURBANCE, NO VEHICULAR ACCESS

NOTES:

1. BASE MAP OBTAINED FROM PHOTOGRAMMETRY PERFORMED BY LOCKWOOD MAPPING COMPANY OF ROCHESTER, NY (12/28/01). GENERAL TOPOGRAPHY OBTAINED FROM AERIAL PHOTOGRAPHY BASED SURVEY BY AXIS GEOSPATIAL COMPANIES OF EASTON, MARYLAND (8/17/08). AS-BUILT TOPOGRAPHY OF CORRECTIVE ACTION AREAS OBTAINED FROM GROUND SURVEY BY LHB, INC. OF DULUTH, MINNESOTA.
2. ALL LOCATIONS ARE APPROXIMATE.

0 150 300
FEET

REFERENCE:
1. CAD FILES PROVIDED BY ARCADIS FOR A FIGURE ENTITLED SITE PLAN AND DENOTED AS FIGURE 1.

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN:	SCC	DATE: 12/14/16	FIELD & TECHNICAL SERVICES, LLC 200 THIRD AVENUE CARNEGIE, PA 15106
CHKD:	AMG	DATE: 12/14/16	
APPD:	DRF	DATE: 12/14/16	
SCALE:	AS SHOWN		
ISSUE DATE:			

FTS

KOPPERS INC. PLANT
SUPERIOR, WISCONSIN

SITE PLAN

PROJECT NO: 0M055609
DRAWING NUMBER
FIGURE 1

ATTACHMENTS

Site Inspection Form – 10/6/16

Former Koppers Inc. Facility – Superior, WI

By Field & Technical Services

Nathan Bachik
10/10/2016

Post Construction Site Inspection Form
Beazer East, Inc.
Koppers Inc. Facility, Superior, Wisconsin

Inspection Date: October 6, 2016

Weather Conditions: Mostly Sunny

Inspector Name and Organization: Brandon Bick + Nathan Bachyk FTS

Inspector Signature: Brandon Bick Nathan Bachyk

Area A

(check one)	No	Yes	If yes, provide description and take photos
Excessive erosion	X		
Evidence of excessive settling or ponding	X		
Areas lacking well-established vegetation	X		

Action Items: None

Photographs: Photo: 1 ; Looking East from West side

Photo: 2 ; Looking East/Southeast from West side

Photo: ;

Photo: ;

Photo: ;

Area B

(check one)	No	Yes	If yes, provide description and take photos
Excessive erosion	X		
Evidence of excessive settling or ponding		X	Rutting due to ruts formed by heavy machinery
Areas lacking well-established vegetation		X	Railroad track maintenance activities left areas w/ sparse vegetation, ruts, and ponding

Action Items: Repair disturbed soils and sparsely vegetated areas; continue to monitor

Photographs: Photo: 1 ; Looking South from main access road

Photo: 2 ; Looking North from Southern edge

Photo: 3 ; Looking West at gravel area South of shop

Photo: 4 ; Looking Southwest at Western portion of cover area

Photo: 5 ; Looking North at area along West side of RR tracks

See full report for Photos 6-12

Area F-1

(check one)	No	Yes	If yes, provide description and take photos
Excessive erosion	X		
Evidence of excessive settling or ponding	X		
Areas lacking well-established vegetation		X	Small 2 x 3 ft area with sparse vegetation

Action Items: Small sparse vegetated areas

Photographs: Photo: 1 ; Looking South from North end
Photo: 2 ; Looking Northwest from South end
Photo: _____ ;
Photo: _____ ;
Photo: _____ ;

Area F-2

(check one)	No	Yes	If yes, provide description and take photos
Excessive erosion	X		
Evidence of excessive settling or ponding	X	~~X~~ NB, 10/6/16	
Areas lacking well-established vegetation	X	~~X~~ NB 10/6/16	

Action Items: minor ruts

Photographs: Photo: 1 ; Looking North from South side
Photo: 2 ; Close up of ruts from Photo 1
Photo: _____ ;
Photo: _____ ;
Photo: _____ ;

Area G

(check one)	No	Yes	If yes, provide description and take photos
Excessive erosion	X		
Evidence of excessive settling or ponding	X		
Areas lacking well-established vegetation	X		

Action Items: None

Photographs: Photo: 1 ; Looking South from North corner

Photo: 2 ; Looking Northwest from Southeast corner

Photo: _____ ;

Photo: _____ ;

Photo: _____ ;

Area H

(check one)	No	Yes	If yes, provide description and take photos
Excessive erosion	X		
Evidence of excessive settling or ponding	X		
Areas lacking well-established vegetation	X		

Action Items: None

Photographs: Photo: 1 ; (East side of RR tracks) looking Southwest from Northeast corner

Photo: 2 ; (West side of RR tracks) looking Southwest from Northeast corner

Photo: _____ ;

Photo: _____ ;

Photo: _____ ;

Areas S-1 and S-2

(check one)	No	Yes	If yes, provide description and take photos
Excessive erosion	X		
Evidence of excessive settling or ponding	X		
Areas lacking well-established vegetation	X		

Action Items: None

Photographs: Photo: 1 ; Looking North at Area S2 from Area S1

Photo: 2 ; Looking South at Area S1 from Area S2

Photo: _____ ; _____

Photo: _____ ; _____

Photo: _____ ; _____

Outfall 001 Drainage Ditch

(check one)	No	Yes	If yes, provide description and take photos
Excessive erosion	X		
Evidence of excessive settling or ponding	X		
Areas lacking well-established vegetation	X		

Action Items: None

Photographs: Photo: 1 ; Looking West from upstream culverts

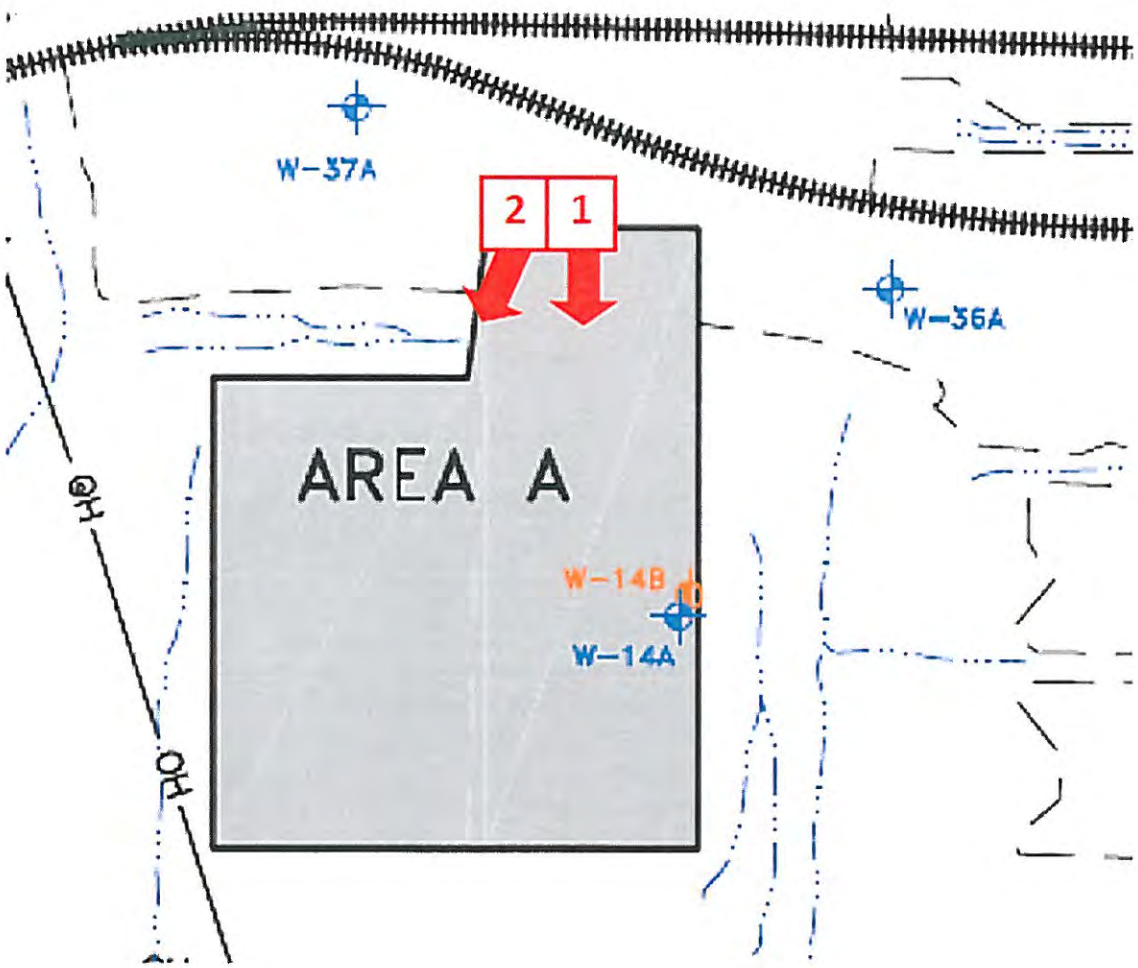
Photo: 2 ; Looking West from BB crossing

Photo: _____ ; _____

Photo: _____ ; _____

Photo: _____ ; _____

Area A:

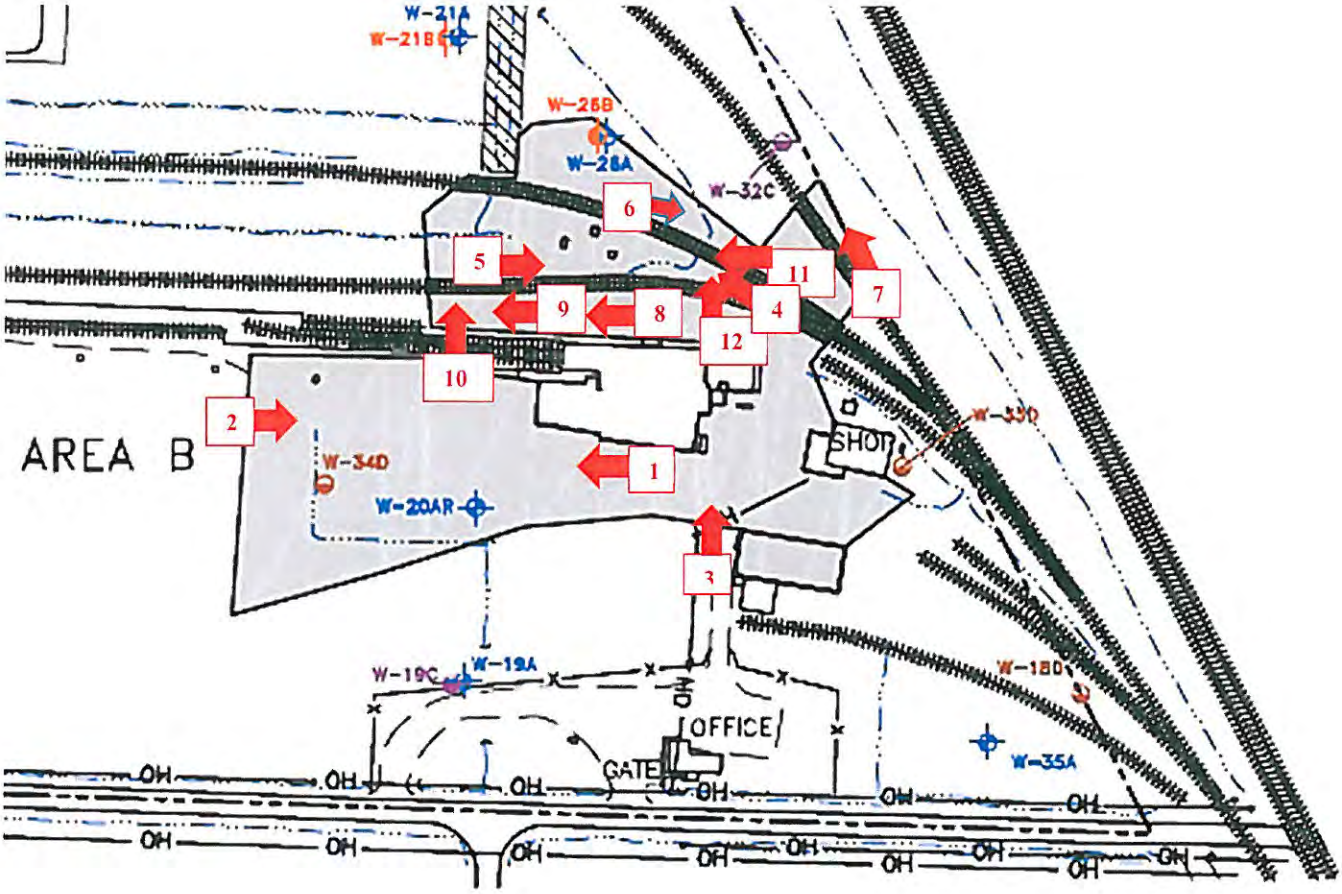


Photographs:

Area A Photo 1, looking East from West side:

Area A Photo 2, looking East/Southeast from West side:

Area B:


W-21A
W-21B
W-26B
W-26A
W-32C
6
5
11
7
9
8
4
12
10
2
AREA B
W-34D
W-20AR
1
3
SHOT
W-33D
W-19C
W-19A
W-18D
OFFICE
GATE
W-35A
OH

Area B Photo 1, looking South from main access road:

Area B Photo 2, looking North from Southern edge:

Area B Photo 3, looking West at gravel area south of shop:

Area B Photo 4, looking Southwest at Western portion of cover area (Sparse vegetation and small ruts):

Area B Photo 5, looking North at area along West side of railroad tracks:

Area B Photo 6, looking Northeast at area along West side of railroad tracks, Southwest of shop:

Area B Photo 7, looking Southwest along Northwest edge:

Area B Photo 8, looking South at area along East side of railroad tracks (ponding and disturbed soil):

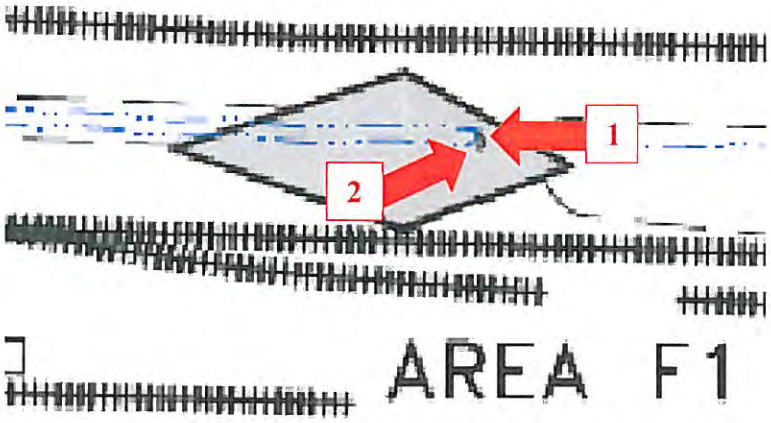
Area B Photo 9, looking South at area along East side of railroad tracks (ponding and ruts):

Area B Photo 10, Close up of ruts from Photo 9 (Apx 2.5' deep ruts):

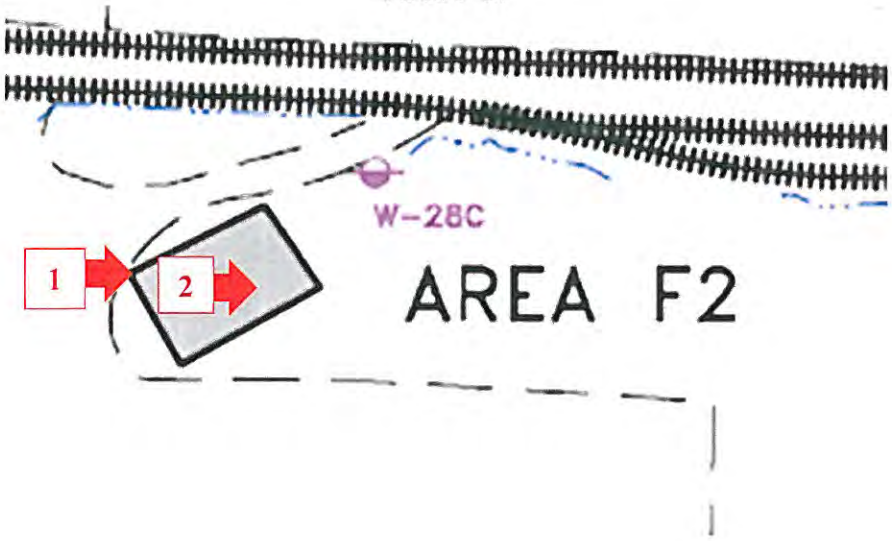
Area B Photo 11, Close up of ruts/sparse vegetation from Photo 4:

Area B Photo 12, Close up of ruts from Photo 4:

Area F1:



Area F-2:

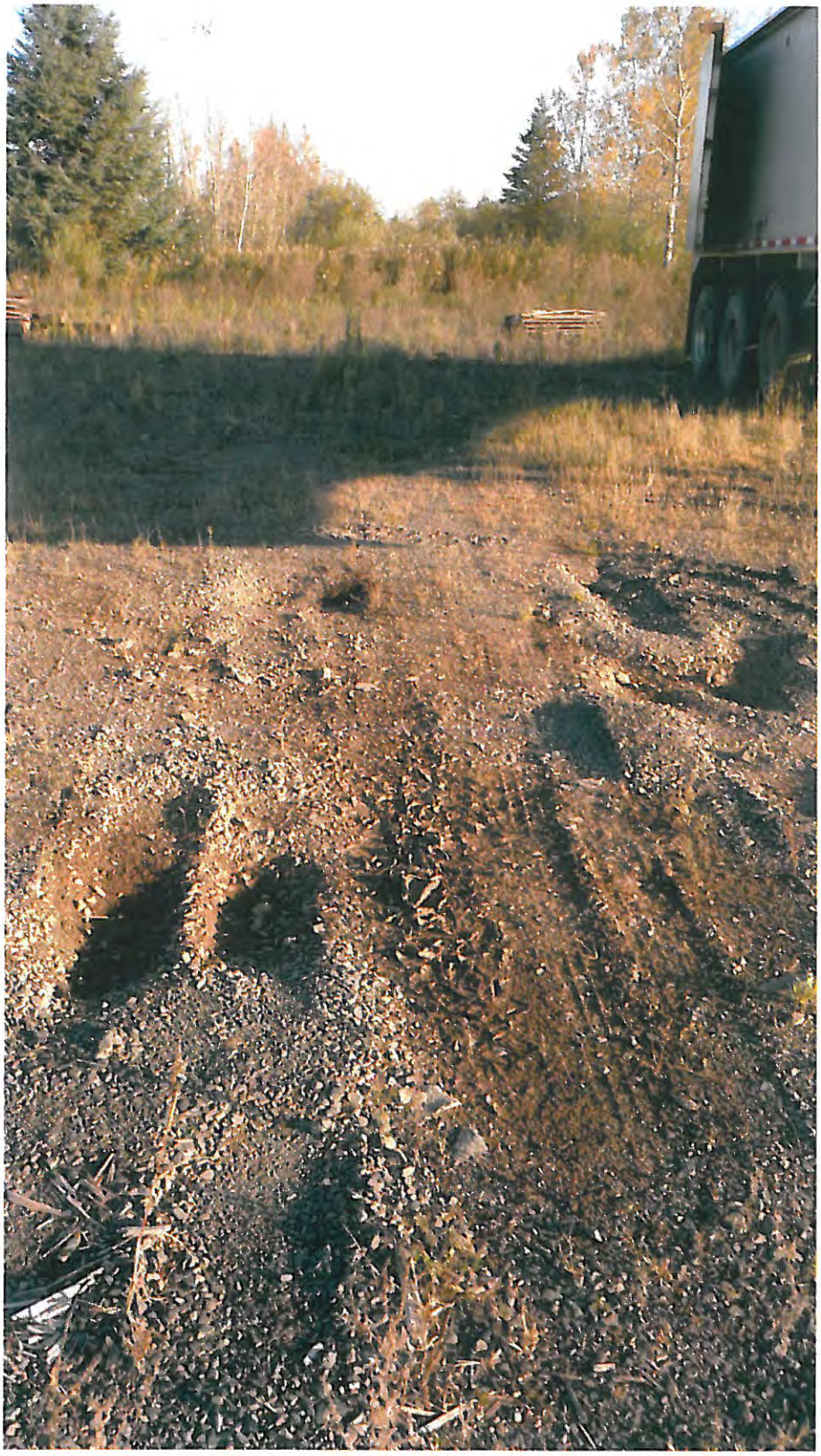


Area F1 Photo 1, looking South from North end:

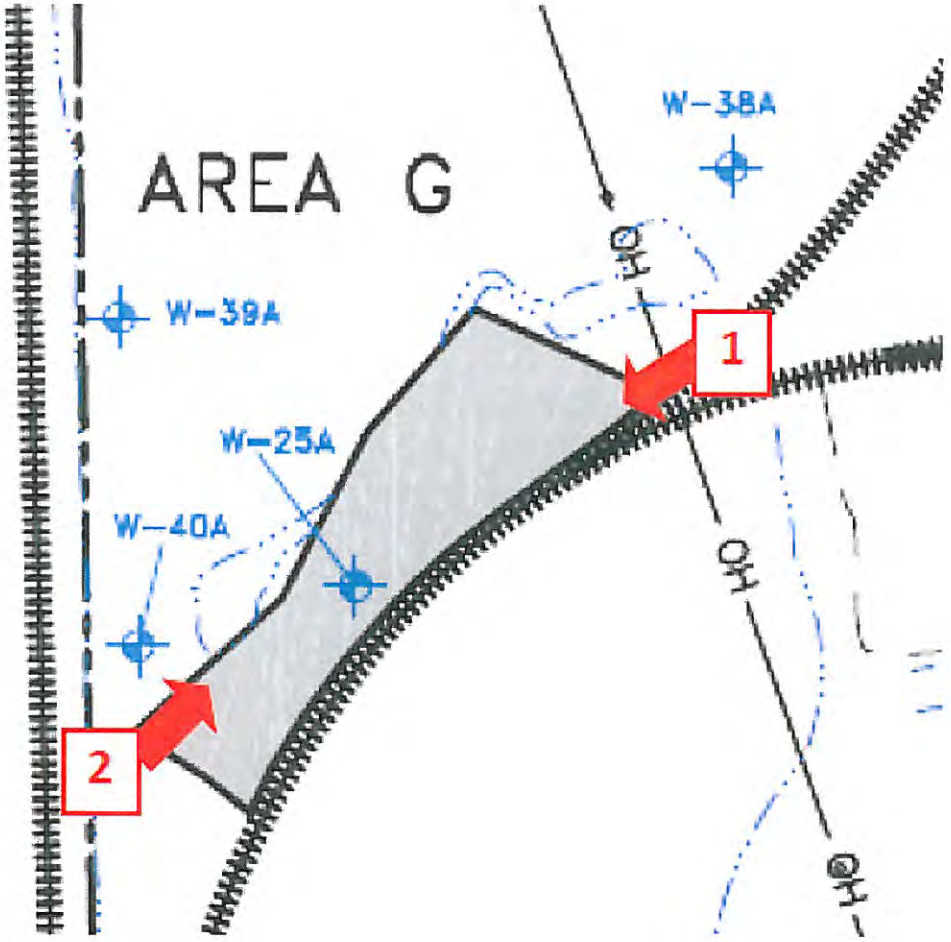
Area F1 Photo 2, looking Northwest from South end (Small sparse vegetated area):

Area F2 Photo 1, Looking North from South side:

Area F2 Photo 2, Close up of ruts from Photo 1:



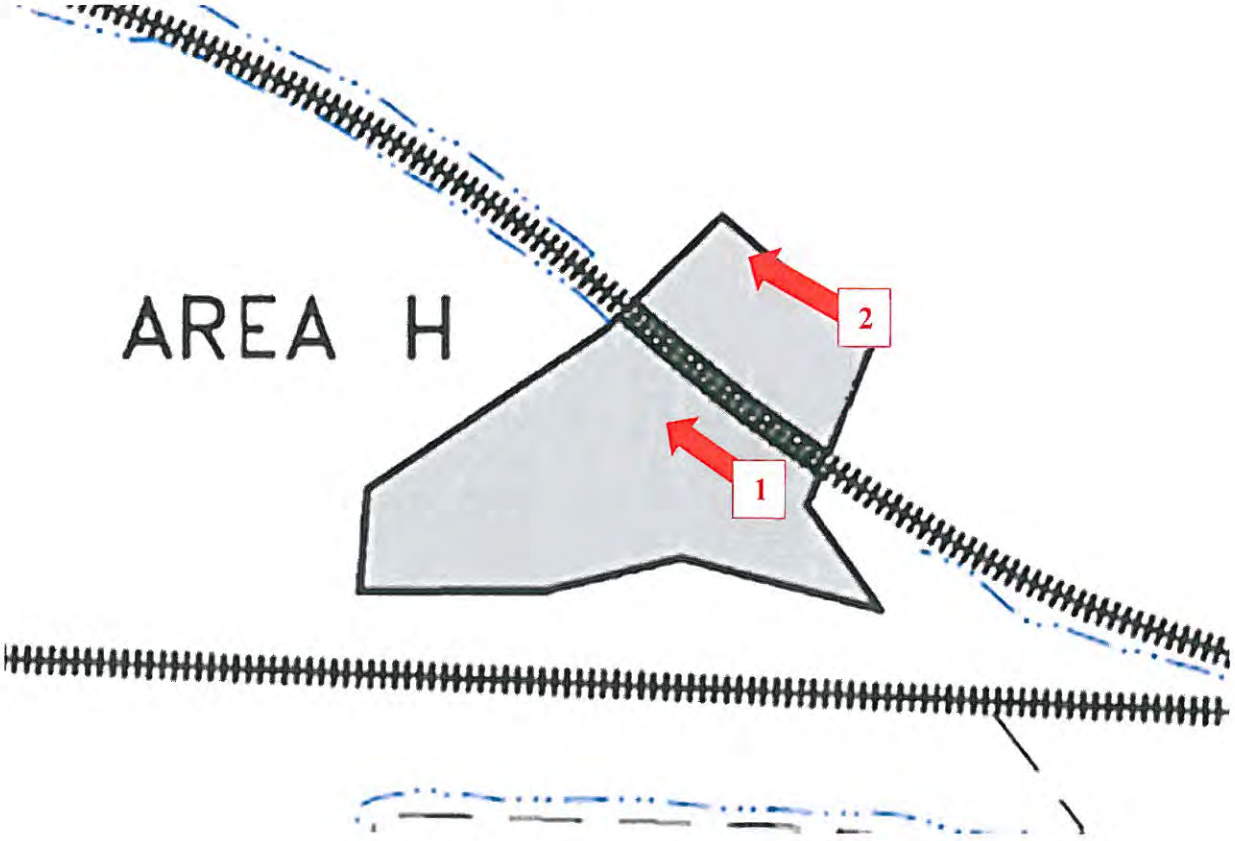
Area G:



Area G Photo 1, looking South from North corner:

Area G Photo 2, looking Northwest from Southeast corner:

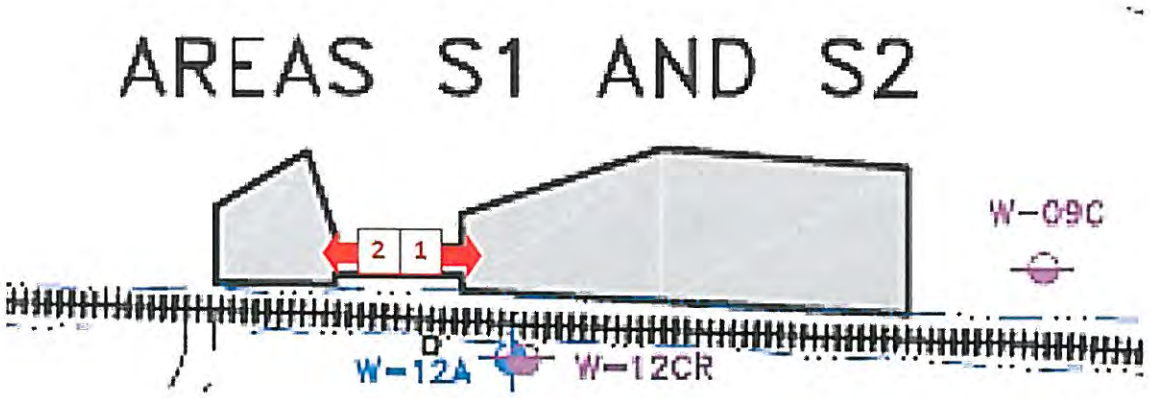
Area H:



Area H Photo 1, (East side of RR tracks) looking Southwest from Northeast corner:

Area H Photo 2, (West side of RR tracks) looking Southwest from Northeast corner:

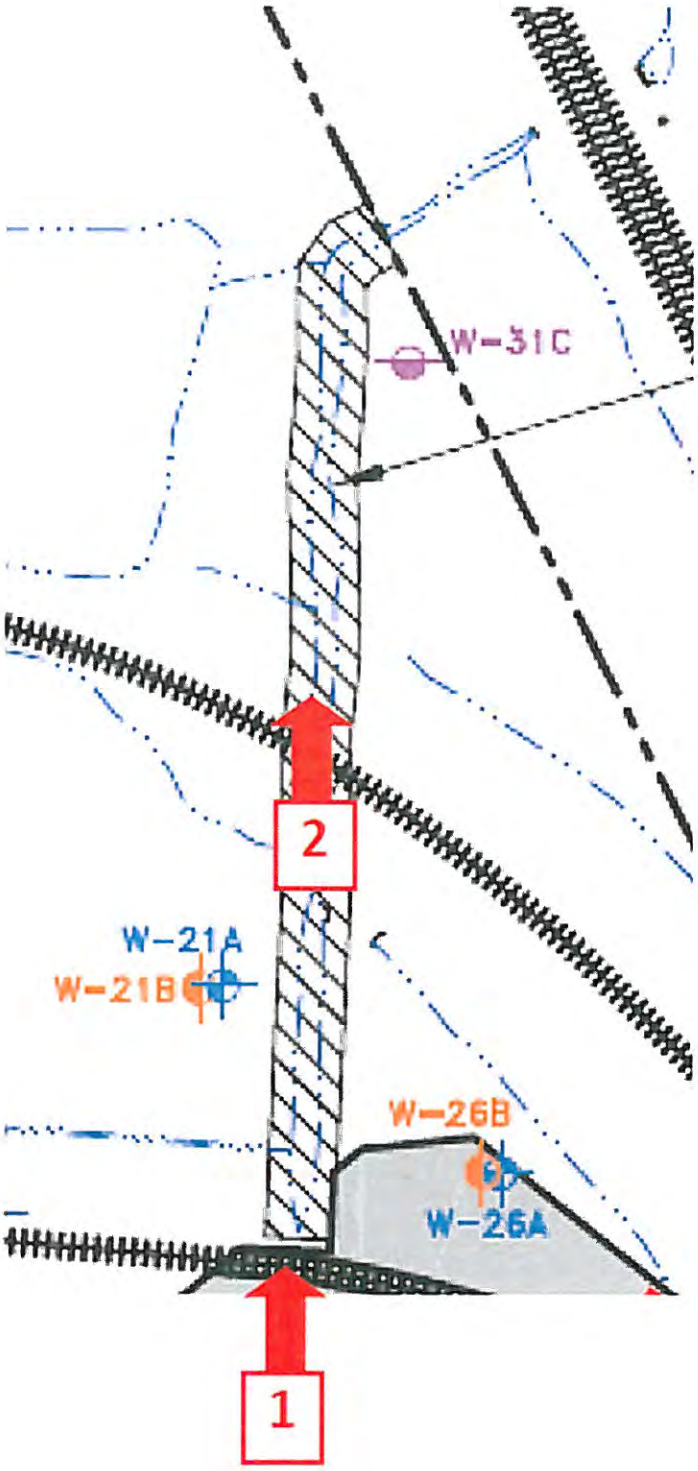
Areas S1 and S2:



Area S Photo 1, looking North at Area S2 from Area S1:

Area S Photo 2, looking South at Area S1 from Area S2:

Outfall 001, Drainage Ditch:



Outfall 001 Drainage Ditch Photo 1, looking West from upstream culverts:

Outfall 001 Drainage Ditch Photo 2, looking West from railroad crossing: