

**Partial Deletion Justification for the
Area East of Davis Creek and the
Non-Easement Portion of the
Area East of Davis Creek Extension of the
Willow Boulevard/A-Site Operable Unit (OU2) of the
Allied Paper, Inc./Portage Creek/Kalamazoo River
Superfund Site from the National Priorities List
Kalamazoo, Michigan
December 19, 2023**



Area East of Davis Creek, 2022.

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List of Acronyms

CERCLA	- Comprehensive Environmental Response, Compensation and Liability Act
CQA	- Construction Quality Assurance
CQAPP	- Construction Quality Assurance Project Plan
cy	- Cubic Yards
DRC	- Declaration of Restrictive Covenants and Environmental Protection Easement
EGL	- Michigan Department of Environment, Great Lakes, and Energy
EPA	- U.S. Environmental Protection Agency
FR	- Federal Register
FFS	- Focused Feasibility Study
FYRs	- Five Year Reviews
HHRA	- Human Health Risk Assessment
ICs	- Institutional Controls
iSIC	- Intelligent Sensor Interface & Control
LOAEL	- Lowest Observed Adverse Effect Level
LTS	- Long-Term Stewardship
µg/m ³	- Micrograms per Cubic Meter
mg/kg	- Milligrams per Kilogram
NCP	- National Oil and Hazardous Substances Pollution Contingency Plan
NGVD 29	- National Geodetic Vertical Datum of 1929
NOAEL	- No Observed Adverse Effect Level
NOIPD	- Notice of Intent for Partial Deletion
NPL	- National Priorities List
NREPA	- Natural Resources and Environmental Protection Act
O&M	- Operation and Maintenance
OLEM	- EPA Office of Land and Emergency Management
OU	- Operable Unit
OU2	- Operable Unit 2, Willow Boulevard/A-Site
PCBs	- Polychlorinated Biphenyls
PM	- Particulate Matter
PVSP	- Performance Standards Verification Plan
QA/QC	- Quality Assurance/Quality Control
RA	- Remedial Action
RAOs	- Remedial Action Objectives
RBSLs	- Risk Based Screening Levels
RD	- Remedial Design
RD/RA	- Remedial Design/Remedial Action
RI	- Remedial Investigation
RI/FFS	- Remedial Investigation/Focused Feasibility Study
ROD	- Record of Decision
RRD	- Michigan Environmental Response Division
Sf	- Square Feet
SWAC	- Surface Weighted Average Concentration

TML	- Turbidity Monitoring Location
UU/UE	- Unlimited Use/Unrestricted Exposure
WB/A-Site	- Willow Boulevard/A-Site (OU2)

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Non-Easement Portion of the Area East of Davis Creek Extension Area
of the Willow Boulevard/A-Site (WB/A-Site) Operable Unit (OU2) of the
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
from the National Priorities List
Kalamazoo, Michigan**

1.0 Purpose

The U.S. Environmental Protection Agency (EPA) Region 5 is proposing to delete a portion of the Willow Boulevard/A-Site Landfill Operable Unit (WB/A-Site or OU2) of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Allied Paper Site or Site) located in Kalamazoo, Michigan from the National Priorities List (NPL) (see Figure 1).

The portion of the WB/A-Site proposed for deletion is shown in Figures 2 to 3-1 and comprises the majority of the land/soil portion of the WB/A-Site located east of Davis Creek (about six acres). The WB/A-Site areas included in this deletion are:

- Area East of Davis Creek, and
- Non-Easement Portion of the Area East of Davis Creek Extension Area (Non-Easement Extension Area), which excludes the sewer and the unfenced phone line easement portions of the Area East of Davis Creek Extension Area (Extension Area).

EPA is proposing to delete these portions of the Site from the NPL because all cleanup actions have been implemented and no further response action is necessary for these areas other than periodic inspection and maintenance of the restored banks and vegetation, continued monitoring and maintenance of the land and groundwater use restrictions, and five-year reviews (FYRs).

The other portions of the WB/A-Site were remediated during the Remedial Action (RA) but will remain on the NPL while EPA and the Michigan Department of Environment, Great Lakes, and Energy (EGLE), formerly known as the Michigan Department of Environmental Quality, evaluate the long-term groundwater monitoring data to assess the integrity and effectiveness of the landfill containment system remedy. The portions of the WB/A-Site that are not being considered for deletion as part of this action are:

- Willow Boulevard Landfill, including the Willow Boulevard Drainageway,
- A-Site Landfill, including:
 - Area South of A-Site Berm,

- Area Near Monitoring Well AMW-3A,
- Sewer and Unfenced Phone Line Easement Portions of the Extension Area,
- Groundwater; and
- Davis Creek¹.

The sewer and unfenced phone line easements located in the Extension Area (see Figures 3 and 3-1) are not included in the proposed deletion because residual polychlorinated biphenyl (PCB) contamination remains at a few locations in the unfenced phone line easement and around a 54-inch City of Kalamazoo sewer line that could not be fully excavated. These areas are subject to the land and groundwater use restrictions in the WB/A-Site's DRC. Additional evaluation is needed to determine whether specific long-term-stewardship (LTS) procedures are needed for these areas to ensure that any utility workers who may come into contact with the contaminated soil are protected and that any excavated materials are appropriately managed.

The other portions of the Allied Paper Site, including OU1, OUs 3 to 5, and OU7, will also remain on the NPL and are not being considered for deletion as part of this action. There is currently not an OU6 at the Site.

This document provides information about the WB/A-Site and explains how the land/soil portion of the Area East of Davis Creek and the Non-Easement Extension Area meet EPA's criteria for partial deletion. EPA plans to publish a Notice of Intent for Partial Deletion (NOIPD) of the Site from the NPL in the Federal Register (the proposed rulemaking) and will open a 30-day public comment period on this proposed action. The documents that provide support for this report and the partial deletion are available for review in the Allied Paper NPL Partial Deletion Docket (see index and internet links in Attachment C). This docket will also be available online at <https://www.regulations.gov>, Docket ID EPA-HQ-OLEM-2023-0470 and at EPA's webpages for the Site under "Site Documents & Data" at <https://www.epa.gov/superfund/allied-paper-kalamazoo>.

The deletion or a partial deletion of a site from the NPL does not create, alter, or revoke any individual's rights or obligations, including the obligations of Georgia-Pacific, LLC under the May 18, 2009 OU2 Consent Decree. The deletion or a partial deletion of a site from the NPL does not in any way alter the EPA's right to take enforcement actions, as appropriate. The NPL is designed primarily for informational purposes and to assist EPA with site management.

Section 300.425(e)(3) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.425(e)(3), states that a deletion or partial deletion of a site from the NPL does not preclude eligibility for future response actions, should future conditions warrant such

¹ Cleanup was not required for Davis Creek since PCBs were not detected in surface water and sediment concentrations did not exceed any applicable criteria, including the site-specific default sediment criteria of 0.33 milligrams/kilogram (mg/kg) for the protection of people who eat fish. However, Davis Creek will remain on the NPL until other portions of the WB/A-Site connected to the creek are deleted.

actions. As the Area East of Davis Creek and Non-Easement Extension Area are considered to be part of the Allied Paper Site, Section 300.425(e)(3) is applicable to this proposed action.

2.0 Agency Concurrence

EPA requested EGLE's concurrence with proposing the Area East of Davis Creek and Non-Easement Extension Area for deletion on October 12, 2023. EGLE issued a letter concurring with EPA's proposed partial deletion on November 20, 2023. A copy of EGLE's concurrence letter is provided in Attachment B.

EPA's Office of Land and Emergency Management (OLEM) reviewed this Partial Deletion Justification report and provided comments on November 8, 2023. EPA Region 5 addressed OLEM's comments and expects OLEM to propose the Site for partial deletion in the Federal Register in EPA's February 2024 NPL Deletions Update.

3.0 Community Notification and Opportunity for Review and Comment

EPA and EGLE have, and will continue, to conduct public participation activities throughout all response actions for this Site, satisfying the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Sections 113(k) and 117, 42 U.S.C. §§ 9613(k) and 9617, and the NCP, 40 C.F.R. §§ 300.415(n), 300.430(f), 300.815, and 300.820.

EPA will publish a notice advertising the availability of the NOIPD and the 30-day public comment period in a local newspaper, the Kalamazoo Gazette, concurrent with the publication of the NOIPD in the Federal Register, in order to satisfy public participation procedures required by Section 300.425(e)(4) of the NCP. EPA will also issue a press release announcing the proposed partial deletion and the public comment period and will e-mail a copy of the press release to the Kalamazoo River Community Advisory Group and to approximately 510 subscribers on the Site's e-mail list. EPA expects to complete these activities in February 2024.

The documents that EPA relied on for this report and to support the deletion of the Area East of Davis Creek and Non-Easement Extension Area from the NPL are available for public review in the partial deletion docket (see NPL Partial Deletion Docket Reports in Attachment C). This Partial Deletion Justification report and copies of the reports in the docket are also available to the public online at <https://www.regulations.gov>, Docket ID EPA-HQ-OLEM-2023-0470 and at EPA's webpage for the Site at <https://www.epa.gov/superfund/allied-paper-kalamazoo> under "Site Documents & Data".

4.0 Site Background and History

4.1 Site Location and Current Conditions

The WB/A-Site is one of six OUs associated with the Allied Paper Site, which addresses extensive areas of PCB contamination due to paper-making manufacturing activities. The Site includes paper mill properties, waste disposal areas, and approximately 77 miles of the Kalamazoo River, from Morrow Lake Dam to Lake Michigan, and a 3-mile stretch of Portage Creek, including the banks and floodplains of the river and creek (see Figure 1). The six OUs are located throughout Allegan and Kalamazoo Counties of Michigan and are:

- OU1 – Allied Paper Property/Bryant Mill Pond Area,
- OU2 – WB/A-Site,
- OU3 – King Highway Landfill,
- OU4 – 12th Street Landfill,
- OU5 – 77 miles of the Kalamazoo River divided into seven areas, including a 3-mile stretch of Portage Creek; and
- OU7 – Former Plainwell Paper Mill Property.

There is not currently an OU6 at the Site.

4.2 NPL Listing and Site ID

EPA proposed the Allied Paper Site to the NPL in the Federal Register (FR) on May 5, 1989 (54 FR 19526). EPA finalized the Site on the NPL on August 30, 1990 (55 FR 35502). The EPA Site ID is MID006007306.

4.3 WB/A-Site and Areas Proposed for Partial Deletion

The WB/A-Site is an undeveloped, former landfill area located southeast of the intersection of Business I-94 and Highway M-96 (King Highway) in Kalamazoo Township, Kalamazoo County, Michigan (see Figure 2). The OU covers about 42 acres and is bordered by the Kalamazoo River to the north and northwest, vacant land and light commercial and residential properties to the east and southeast, and Willow Boulevard, the former Olmstead Creek, and residential areas to the south and southwest.

The WB/A-Site consists of two disposal areas that received PCB-contaminated waste from Georgia-Pacific's paper-making operations: the Willow Boulevard Landfill and the A-Site Landfill. The Willow Boulevard Landfill is approximately 11 acres and includes the Willow Boulevard Drainageway. The A-Site Landfill area covers about 31 acres and includes the Area South of A-Site Berm, the former Olmstead Creek (considered part of the Area South of A-Site Berm), the Area East of Davis Creek and Extension Area, and the Area Near Monitoring Well AMW-3A. The Area East of Davis Creek and the Non-Easement Extension Area (which is a

portion of the Extension Area), are located in the A-Site Landfill portion of the OU and are the two areas being proposed for deletion (see Figures 3 and 3-1).

The southern and eastern boundaries of the WB/A-Site are fenced except for a portion of the phone line easement on Georgia-Pacific property located east of the Extension Area, between the fence and Olmstead Road. The City of Kalamazoo's 54-inch sewer line running through the southern portion of the Extension Area is also located within the fenced area (see Figures 3 and 3-1). The entrance to the WB/A-Site is located on Lake Street in the southeast corner of the OU through an access road situated between the Area East of Davis Creek and the Extension Area. The unfenced portion of the phone line easement is approximately 55 feet wide and 520 feet in length and covers approximately 0.65 acres.

Additional information about the WB/A-Site DRC is provided in Section 6.6, Institutional Controls (ICs), of this report.

4.3.1 Area East of Davis Creek

The Area East of Davis Creek is a 3.5-acre vegetated area located on the eastern portion of the WB/A-Site, across Davis Creek, east of the A-Site Landfill. The area is in a topographic depression that is prone to flooding and includes a wetland. Prior to the RA, this area was vegetated with shrubs and trees and partially bordered by a low earthen berm.

During historical operations, decant water from dewatering activities at the A-Site Landfill was discharged to this area. This led to a thin layer of PCB-contaminated residuals (generally less than 6 inches, with some isolated 12-inch pockets) overlying the surface. The maximum total PCB concentration detected in this area during the remedial investigation (RI) was 36 milligrams per kilogram (mg/kg). Total PCB concentrations in the three sediment samples collected from Davis Creek were significantly lower and ranged from 0.053 to 0.12 mg/kg. PCBs were not detected in the surface water sample collected from Davis Creek.

4.3.2 Extension Area

During the RA, paper-making residuals were discovered in the approximately 3.5-acre equipment and material staging area south of the Area East of Davis Creek, south of the main entrance road. Sampling indicated that the material contained PCBs and would require remediation as an extension of the Area East of Davis Creek; this area became known as the Extension Area.

The cleanup was completed in the Extension Area. However, two confirmation samples collected in the phone line easement, east of the Extension Area fence, contained PCBs at concentrations of 148 and 230 mg/kg (see Figures 3 and 4). These concentrations were significantly above the cleanup standard for the Area East of Davis Creek and the Extension Area, which is 0.33 mg/kg. However, due to the phone line Easement, additional excavation could not be conducted.

Residual PCB materials were also left in place along the City of Kalamazoo's 54-inch sewer line that runs through the southern portion of the Extension Area (see Figures 3 and 3-1). This was due to the City Engineer's requirement that no excavation be conducted within five feet above the top of the sewer or within 12 feet from the center line of the sewer. A demarcation layer of geomembrane and orange construction fencing were installed over the materials that could not be excavated; however, additional evaluation is needed to determine whether specific LTS procedures are needed to ensure that any utility workers who may come into contact with the contaminated soil are protected and that any excavated materials are appropriately managed.

Additional information about the soil excavation in the Extension Area is provided in Section 6.3, Soil Excavation, of this report.

5.0 Remedy Selection

EGL E conducted a RI and a focused feasibility study (FFS) for the WB/A-Site and submitted a final RI/FFS Report on December 2, 2004. EPA issued a proposed cleanup plan for the WB/A-Site on July 15, 2005, and accepted comments on the proposed plan until September 16, 2005. EPA selected the final cleanup remedy for the WB/A-Site in a September 27, 2006, Record of Decision (ROD). The OU2 remedy included:

- Excavating materials containing PCBs at concentrations above relevant criteria from adjacent areas, including materials from the Area East of Davis Creek, and consolidating the materials with existing residuals at the A-Site Landfill for capping (see Figure 5),
- Constructing a cover system over the WB/A-Site Landfills,
- Creating a setback, where necessary, to prevent a hydraulic connection between PCB-containing materials and the Kalamazoo River,
- Stabilizing banks and berms,
- Installing a groundwater monitoring network,
- Establishing erosion controls across the landfills,
- Establishing procedures for long-term monitoring programs, Habitat restoration measures, and
- Institutional controls including fencing, warning signs, and deed restrictions limiting future land use to industrial/commercial to prevent exposure to PCB-contaminated material.

5.1 Remedial Action Objectives (RAOs)

The RAOs of the OU2 remedy in the ROD are to:

1. Eliminate exposure to PCB-contaminated material exceeding applicable land-use and/or risk-based cleanup criteria,
2. Prevent PCB migration, via erosion or surface water runoff, into the Kalamazoo River, and

3. Mitigate, to the extent practicable, adverse effects to the environment due to implementation of the RA.

5.2 Cleanup Criteria

The cleanup criteria applicable to the WB/A-Site were determined to be:

- Generic Commercial II and Industrial Land Criteria of 16 mg/kg PCBs (soil) protective of human health for onsite workers and/or trespassers, established under Michigan Part 201, Environmental Remediation of the Natural Resources and Environmental Protection Act (NREPA), PA 451 of 1994, as amended, and Part 201 Administrative Rules;
- Generic Residential Land Use Criteria of 4 mg/kg PCB (soil) protective of human health for residential land-use, established under Michigan Part 201, Environmental Remediation of the NREPA, PA 451 of 1994, as amended, and Part 201 Administrative Rules;
- The No Observed Adverse Effect Level (NOAEL) to Lowest Observed Adverse Effect Level (LOAEL) range of 6.5 mg/kg to 8.1 mg/kg PCB in soil and/or sediment for the protection of terrestrial ecological receptors (the American Robin) as established in the Baseline Environmental Risk Assessment; and
- The 2003 Human Health Risk Assessment (HHRA) sediment cleanup criteria protective of people consuming fish range of 0.04 mg/kg to 0.30 mg/kg of PCBs, with cleanup criteria of 0.20 mg/kg (10^{-5} cancer risk) to 0.34 mg/kg (noncancer hazard index of 1) found to be protective of high-end (reasonable maximum exposure) sport anglers. At the time the HHRA was developed, EGLE's historical PCB detection limit of 0.33 mg/kg had been used as a screening and sediment target level in Michigan under Michigan's NREPA, Part 201. Based on discussions with EGLE, EPA selected a risk-based concentration of 0.33 mg/kg as the cleanup criteria for PCBs in sediment in the ROD, as this concentration was sufficiently protective of the high-end sports angler.

5.2.1 Area East of Davis Creek and Extension Area

The ROD determined that the cleanup criteria applicable to the soil excavation in the Area East of Davis Creek (and subsequently applied to the Extension Area) were the NOAEL/LOAEL of 6.5 mg/kg to 8.1 mg/kg for PCBs to protect terrestrial receptors and the 0.33 mg/kg default sediment PCB criteria to protect people who eat fish.

The ROD required the aquatic sediment criteria to be applied to wetland portions of the OU that are inundated for a period of time such that the sediment-to-fish-to-consumer exposure pathway would present an unacceptable risk to consumers of fish (people and mink). If the wetlands were not inundated for a period of time such that the sediment-to-fish-to-consumer exposure pathway would present an unacceptable risk to consumers of fish, then a cleanup

level within the NOAEL/LOAEL range of 6.5 mg/kg PCB to 8.1 mg/kg PCB would apply to protect terrestrial ecological receptors in the wetlands.

During the remedial design (RD) it was determined that the 0.33 mg/kg sediment criteria would apply to the entire Area East of Davis Creek. This 0.33 mg/kg sediment criteria was subsequently applied to the PCB-contaminated material found in the adjacent Extension Area during the RA.

6.0 Remedy Implementation

Georgia-Pacific entered into a Consent Decree with EPA to implement the WB/A-Site remedy on May 18, 2009. Georgia-Pacific submitted a RD Work Plan in 2010 and conducted pre-design activities in March 2010. The pre-design activities included a geotechnical investigation, soil sampling for PCBs, a topographic survey, and wetlands characterization. EPA approved Georgia-Pacific's RD on April 27, 2011. Georgia-Pacific submitted the Final Design Report and Drawings on May 4, 2011.

Georgia-Pacific conducted the RA construction from May 2011 to February 2014. EPA and EGLE conducted a Pre-Final Certification inspection of the remedy on April 28, 2014. Georgia-Pacific addressed the issues identified during the Pre-Final Certification and submitted a Completion of Remedial Action Report (RA Report) in September 2014. EPA approved the WB/A-Site RA Report on September 25, 2014.

EPA approved each of Georgia-Pacific's documents for the OU after providing EGLE and the other Site Trustees, comprising the Michigan Department of Natural Resources, the National Oceanic and Atmospheric Administration, and the United States Fish and Wildlife Service (USFWS), an opportunity to review and comment.

The RA construction activities are summarized in the following sections. The complete details of the cleanup are documented in the RA Report dated September 2014.

6.1 Pre-Construction Activities

Pre-construction activities included habitat surveys and the identification and sampling of borrow materials to be used to restore the excavated areas to grade.

6.1.1 Habitat Surveys

A habitat survey was conducted in the Area East of Davis Creek on October 20, 2010, to identify trees where the Indiana bat might roost during the summer and be disturbed during construction. One tree was identified in the Area East of Davis Creek; this tree was removed in April 2011 prior to the start of construction so it could not be used for roosting. A Mussel Survey was conducted in Davis Creek in October 2010, and no mussels were observed.

6.1.2 Identification and Sampling of Borrow Materials

Borrow material sources (e.g., sand backfill, aggregate material, and habitat stone) to be used in site restoration were sampled and analyzed for EPA Target Compound List volatile organic compounds, semivolatile organic compounds, pesticides, PCBs, Resource Conservation and Recovery Act metals, and total petroleum hydrocarbons. Topsoil material was also analyzed for pH and total organic carbon.

The analytical results were compared to applicable Michigan Part 201 cleanup criteria and Part 213 Tier 1 Risk Based Screening Levels (RBSLs) for Soil in Michigan Remedial Response Division (RRD) Operational Memorandum No. 1 (Table 1, Column No. 3, Groundwater Surface Water Interface Criteria, Table 2 and Column No. 19, Direct Contact Criteria & RBSLs), issued by the EGLE RRD on December 10, 2004.

The analytical results for arsenic in 20 samples (W70790, W70791, W70874, W70957, W70962, W70964 through W70967, and W70969 through W70979) of borrow materials used in the A-Site Landfill, Area South of A-Site Berm, Area East of Davis Creek, Extension Area, and AMW-3A Area exceeded the general soil cleanup criteria (7.6 mg/kg) for residential and commercial category I but, were within the non-residential criteria (37 mg/kg) for industrial and commercial category II (Table 3, Column No. 27, Direct Contact Criteria & RBSLs). Therefore, due to the land use designation of the OU property required by the 2006 ROD and 2010 DRC (i.e., industrial), all material from the borrow sources were deemed acceptable for use. The maximum concentrations of arsenic detected in the borrow material were: 36.2 mg/kg in general fill sample W70974, 29.6 mg/kg in gas venting sand sample W70962, and 10 mg/kg in topsoil sample W70978.

Arsenic analytical results for one sample (W70980) of general fill material exceeded the nonresidential criterion of 37 mg/kg. However, arsenic results from the re-analysis of this sample were below the non-residential criterion of 37 mg/kg. Therefore, the borrow source was deemed acceptable for use on the site. Unvalidated results from both analyses were reported to EPA in Progress Report No. 27 submitted on January 14, 2013. The arsenic analytical results are available in Table 5-1 of the 2014 RA Report.

6.2 Site Preparation

Site preparation activities were conducted prior to the soil cleanup in the Area East of Davis Creek in August and September 2011. In the Extension Area, these activities were conducted in March 2012. The site preparation activities consisted of:

- Clearing and grubbing of trees, shrubs, and other vegetation,
- Stump removal,
- Constructing temporary access roads and a truck turn-around,

- Constructing a stockpile area,
- Installing erosion, sedimentation, and resuspension controls.

6.2.1 Erosion and Sedimentation Controls

Georgia-Pacific installed woven geotextile silt fences to prevent erosion and sedimentation during the RA. Silt fences were installed at the following locations:

- East bank of Davis Creek,
- South side of the Area East of Davis Creek,
- North side of the bridge across Davis Creek,
- West and south sides of the Extension Area, and
- On the west side of staged materials to prevent the transport of excavated materials.

Additionally, a temporary sand berm was created on the north side of the Area East of Davis Creek. Other erosion control measures including wood chips and erosion control mats were also used in stockpile and consolidation areas. All erosion and sedimentation control features were inspected and maintained regularly throughout construction. The details of the inspections and maintenance of the erosion and sedimentation controls are provided in the Daily Construction Quality Assurance (CQA) Reports located in Appendix B of the 2014 RA Report.

6.2.2 Resuspension Controls

Turbidity curtains with 22-ounce low permeability fabric were used as resuspension control measures in the Area East of Davis Creek and Extension Area. The curtains had 550 pounds of tensile strength, a 5/16-inch galvanized top tension cable with 9,800 pounds of breaking strength, 6-inch floats with 61 pounds per feet of buoyancy, and a 5/16-inch galvanized chain. A material specification of the turbidity curtain can be found in Item Nos. 4 and 4A in Appendix D-1 of the RA Report.

The resuspension controls were visually inspected and repaired as needed during the excavation activities, in response to visible sediment plumes migrating from the active work area, higher visible turbidity levels, or other abnormal events. Details of these inspections are included in the Daily CQA Reports in Appendix B of the RA Report.

6.3 Soil Excavation

6.3.1 Area East of Davis Creek

Georgia-Pacific excavated the PCB-contaminated materials from the Area East of Davis Creek between October and December 2011 and March and April 2012. During this time,

approximately 8,200 cubic yards (cy) of materials were excavated from an area of about 140,000 square feet (sf), then consolidated onto the A-Site Landfill in 2012 for capping.

Saturated materials excavated from the pond area were dewatered prior to transport to the A-Site by adding a solidification agent (Calciment CKD), then tested using in-situ moisture-density testing to verify that the unit weight and moisture content of the materials were appropriate for placement and compaction. Approximately 300 tons of CKD were used. The paper residuals excavated in 2011 were temporarily staged at the south side of the Area East of Davis Creek between December 2011 and March 2012 prior to being consolidated with the A-Site materials.

The contaminated materials were initially excavated until the material appeared to be visually clean, then post-excavation confirmation sampling was conducted in accordance with the requirements of the 2011 Performance Standards Verification Plan (PSVP) to confirm that the cleanup standards were attained. A copy of the PSVP is available in Appendix C of the 2011 Final Design Report. A total of 97 soil confirmation samples and 6 duplicate samples were collected and analyzed for PCBs from the Area East of Davis Creek (see Figure 6).

PCB concentrations in some of the confirmation samples collected from the pond area in the Area East of Davis Creek exceeded the PCB performance standard of <0.33 mg/kg, which required additional excavation in this area. However, after a reasonable effort to remove the PCB-containing sediment to the <0.33 mg/kg performance standard, including two or three re-excavations after partially backfilling the area followed by confirmation sampling, the decision was made, in consultation with EPA and EGLE, to leave some PCB-containing materials in-place (see Figure 7). The decision was based on the surface weighted average concentration (SWAC) for the entire Area East of Davis Creek (0.32 mg/kg) being below the 0.33 mg/kg criterion and the use of clean sand backfill within the pond to provide at least 1 foot of clean material over the remaining sediment (see Table 6-4 in Attachment A and Section 7.0, Confirmation Sampling and Attainment of Cleanup Criteria of this report).

The excavated areas of the Area East of Davis Creek were backfilled using gas-venting sand and six inches of vegetative soil to provide a suitable medium for vegetation restoration. The pond area located at the center of the Area East of Davis Creek was backfilled to an elevation of 753 feet National Geodetic Vertical Datum of 1929 (NGVD 29) in December 2011.

6.3.2 Extension Area

Paper-making residuals were discovered in the Extension Area in 2011 as it was being cleared for use as an equipment and materials staging area during the RA (see Design Notification No. 2011-002 in Appendix E of the RA Report). Georgia-Pacific conducted a test pit investigation consisting of 26 initial test pits excavated across the area in a uniform grid with discrete sampling at five randomly selected test pit locations for PCB analysis. Four additional test pits were then excavated to further delineate the area. PCB analytical results for the five test pit samples (W70604 through W70608) ranged from 0.099 to 150 mg/kg.

Based on the data collected from the test pit investigation, Georgia-Pacific developed an excavation and confirmation sampling plan for the Extension Area. A copy of the excavation and confirmation sampling plan is available in Design Notification No. 2012-019 in Appendix E of the RA Report.

The PCB-contaminated residuals in the Extension Area were excavated in March and April 2012 to the visually clean layer, then confirmation sampling was conducted to evaluate whether the cleanup levels were attained. The same PCB cleanup level of 0.33 mg/kg sediment criteria protective of people who eat fish used for the Area East of Davis Creek was applied to the soil in the Extension Area.

Georgia-Pacific excavated approximately 9,500 cy of materials in the Extension Area covering an area of about 64,000 sf. A total of 27 soil samples and one duplicate sample were collected for PCB analysis to confirm that the cleanup levels were attained. Contaminated materials were also excavated along the bank of Davis Creek on the west side of the Extension Area, and east of the eastern fence to the extent possible while remaining outside of utility corridors.

Precautions were taken to avoid damaging the City of Kalamazoo's 54-inch sanitary sewer that runs across the southern side of the Extension Area during the excavation (this portion of the Extension Area is not included in the proposed deletion). The City Engineer required a buffer of at least five feet above the top of sewer and 12 feet from the center line of the sewer to be maintained during the excavation activities (see Design Notification No. 2012-019 in Appendix E of the RA Report).

On February 21, 2012, two hydro-excavations were completed to confirm the location of the sewer. Soil from the top three feet of material overlying the sewer within the sewer corridor was removed using a standard reach excavator, then a vacuum truck with a water jet (hydrovac) was used to remove the remaining soil to the top of the five-foot buffer. Prior to final backfill over the 54-inch sanitary sewer line, a demarcation layer consisting of geomembrane and orange construction fencing was laid to identify the area below which residuals were left in place.

Saturated excavated materials from the Extension Area were dewatered by mixing them with dry excavated materials then air-drying. In-situ moisture-density testing was conducted prior to transferring the solidified materials to the A-Site Landfill and again prior to consolidation with the A-Site materials for capping to verify unit weight and moisture content.

The laboratory results from the 27 confirmation soil samples indicated that PCB concentrations in two of the samples collected from the Extension Area in the unfenced phone line easement contained PCB concentrations of 148 mg/kg (W70819) and 230 mg/kg (W70818), which exceeded the PCB performance standard of 0.33 mg/kg (see Figures 3, 4, and 6). However, after a reasonable effort to remove additional PCB-containing soil to meet the performance standard, the contaminated materials were left in-place at these locations due to the presence of the easement.

Because the PCB performance standard of 0.33 mg/kg was met in the remainder of the Extension Area inside the fence line (excluding the soil around the 54-inch sewer line), and the Extension Area, including the sewer and phone line easements, is subject to the land and groundwater use restrictions in the DRC, the cleanup was determined to be complete.² However, because additional evaluation is needed to determine whether specific LTS procedures are required to ensure that any utility workers who may come into contact with the contaminated soil are protected and that any excavated materials are appropriately managed, the sewer and unfenced phone line easements are not included in this proposed deletion.

Additional information about the confirmation soil sampling is provided in Section 7.0, Confirmation Sampling and Attainment of Cleanup Criteria and Table 6-5 in Attachment A of this report.

6.4 Capping

Georgia-Pacific consolidated the excavated materials from the Area East of Davis Creek and the Extension Area with the residuals in the A-Site Landfill and other excavated materials from the Site and constructed a final cover system over the A-Site Landfill. The cover system was designed in accordance with the relevant provisions of Michigan Act 451 Part 115 to isolate PCB-containing material from surface water runoff and rainfall infiltration through the landfill. The construction of the final cover system was completed in 2013, and consists of the following components (from bottom to top):

- 12-inch-thick sand gas-venting layer,
- 40-mil-thick low density polyethylene geomembrane layer,
- Geosynthetic drainage composite layer,
- 24-inch-thick soil protection layer, and
- 6-inch-thick vegetative soil layer.

6.5 Site Restoration

6.5.1 Area East of Davis Creek

Georgia-Pacific submitted a revised restoration plan for the Area East of Davis Creek to EPA in November 2011 (Appendix A-1 in the 2014 RA Report). Based on the revised plan, the pond area was backfilled to an elevation of 753 feet NGVD 29, and, in the north end of the Area East of Davis Creek, the riverbank was backfilled with a mixture of gas-venting sand and general fill.

Geotextile and restoration stone was placed on the restored riverbank, then covered with a six-inch layer of topsoil to the five-year flood elevation. Additionally, a 40-foot-wide notch was cut into the berm along the north end of Davis Creek to the two-year flood elevation of 758 feet

² One confirmation soil sample (W70782) contained a total PCB concentration of 0.334 mg/kg, which was slightly above the 0.33 cleanup level. This slight exceedance was determined to be insignificant.

NGVD 29. This notch was constructed at the request of the Natural Resource Trustees to manage floodwater flow in and out of the Area East of Davis Creek. The dimensions and the elevation of the notch were discussed with the representative of USFWS on May 8, 2012. The excavated areas in the Area East of Davis Creek were backfilled with gas-venting sand and topsoil, then regraded and restored into zones of open water (where the pond was), surrounded by zones of emergent wetland, forested wetland, and forested upland areas.

The forested wetland vegetation was accomplished by seeding and planting native shrubs and trees. Permanent grasses and wetland herbaceous plant species (as identified in the approved RD) were included in the seed mix for the forested wetland habitat to provide ground cover. Native trees and shrubs typical to this type of habitat area were planted to the target density of 300 woody stems per acre.

The forested upland vegetation was completed by seeding and planting a mix of native grasses and wildflowers, trees, and shrubs. Shrubs were planted with live stake and containerized stock. As described in Sections 2.4 and 4.8 of the 2014 RA Report and outlined in Design Notification No. 2011-017, the Forested Upland seed mix was revised to reflect species substitutions to the approved design seed mix.

6.5.2 Extension Area

The excavation in the Extension Area was backfilled with gas venting sand and a six-inch layer of topsoil, which was seeded and mulched. Restoration stone was also placed along the bank of Davis Creek to an elevation of 762 feet NGVD 29, then covered by a layer of topsoil to the top of the bank and seeded.

6.6 Institutional Controls (ICs)

Land and groundwater use in the Area East of Davis Creek and the Extension Area are restricted by the July 22, 2010 DRC recorded with the Kalamazoo County Register of Deeds as Instrument 2010-023169.³

The DRC applies to the entirety of the WB/A-Site and includes, but is not limited to, the following restrictions:

- Restricts the uses of the property to industrial use (e.g., manufacturing, utilities, industrial research and development, and petroleum bulk storage), and prohibits:
 - Any form of residential use,

³ At the time of the DRC, the WB/A-Site was identified by several different county parcel identification numbers (PINs). Sometime after the DRC was recorded, the PINs comprising the surveyed restricted area were consolidated into two PINs, 06-24-195-011 comprising the majority of the WB/A-Site (about 38 acres), and PIN 06-24-340-010 (comprising about three-fourths of the Extension Area).

- Farms or agricultural use,
 - Repair garages or gasoline service stations,
 - Wholesale and retail sale of goods, merchandise, and services
 - Veterinary hospitals,
 - Recreational uses,
 - Hotels, boarding and lodging houses, motor courts, and motels,
 - Funeral parlors,
 - Skating rinks and bowling alleys,
 - Drive-in theatres,
 - Other establishments where children may commonly be present.
- Prohibits the construction of buildings or structures on the property unless the buildings or structures are built with slab-on-grade construction (no basements or crawl spaces) and an evaluation of the potential for any hazardous substances, including methane, to volatilize into indoor air is performed to assure the protection of persons who may be present in the buildings.
 - Prohibits the property from being used in a manner that causes existing contamination to migrate beyond the boundaries of the property, increases the cost of response activities, or otherwise exacerbates the existing soil and groundwater contamination located on the property.
 - Prohibits groundwater from being used for consumption or irrigation.

The DRC grants EPA and EGLE with access to the property, contains EGLE as the grantee, is enforceable, and runs with the land.

Although the soil in the Area East of Davis Creek and the Non-Easement Extension Area was cleaned up to 0.33 mg/kg PCBs, which is less than EGLE's Generic Residential Land Use Criteria of 4 mg/kg of PCBs protective of human health, the analytical results for arsenic in 20 of the samples collected to characterize the borrow materials used to backfill the Area East of Davis Creek, Extension Area, and other areas of the A-Site during the RA exceeded EGLE's general soil cleanup criteria (7.6 mg/kg) for residential and commercial category I Direct Contact Criteria & RBSLs.

The exceedances were detected in borrow material samples W70790, W70791, W70874, W70957, W70962, W70964 through W70967, and W70969 through W70979. However, due to the land use designation of the OU property required by the 2006 ROD and the 2010 DRC (i.e., industrial), all materials from the borrow sources were deemed to be acceptable for use in these areas (see Section 6.1.2, Identification and Sampling of Borrow Materials of this report and Section 5.2.2, Identification of Borrow Materials in the 2014 RA Report).

The maximum concentrations of arsenic detected in the borrow materials were: 36.2 mg/kg in general fill sample W70974, 29.6 mg/kg in gas venting sand sample W70962, and 10 mg/kg in

topsoil sample W70978. A complete copy of the analytical results for the borrow materials is available in Table 5-1 in the RA Report.

7.0 Sampling Results and Attainment of Cleanup Criteria

The ROD determined that the cleanup criteria applicable to the soil excavation in the Area East of Davis Creek (and subsequently applied to the Extension Area) were the NOAEL/LOAEL of 6.5 mg/kg to 8.1 mg/kg for PCBs to protect terrestrial receptors and the 0.33 mg/kg default sediment PCB criteria to protect people who eat fish in areas that are inundated with water such that sediment criteria would be applicable (see Sections 5.2 and 5.2.1 above).

During the RD it was determined that the 0.33 mg/kg sediment criteria would apply to the entire Area East of Davis Creek. This 0.33 mg/kg sediment criteria was subsequently applied to the PCB-contaminated material found in the adjacent Extension Area during the RA.

The completion of the excavation in the Area East of Davis Creek and Extension Area was assessed through PCB soil confirmation sampling in accordance with the PSVP (Appendix C in the 2011 Final RD Report). The purpose of the confirmation sampling was to verify that the applicable PCB cleanup criteria was attained.

The confirmation sample locations were surveyed, and pre- and post-excavation elevations were recorded to document the volume of material excavated. The sampling frequency and locations were based on the planimetric area remediated, which included the combined area of the excavated sidewalls and base. The calculations of the grid interval and proposed sample count were based on the procedures outlined in Michigan's 2002 Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria guidance.

The calculated interval was laid out across the excavated bottom and sidewall area, and the soil samples were collected at randomly selected grid stations. The calculations for the grid interval and confirmation samples were based on the equations documented in Section 6.5, Confirmation Sampling and Analysis of the 2014 RA Report.

The coordinates were provided for the sample locations and a grab sample was collected. Soil grab samples were collected with a hand-driven core from a depth of approximately six inches below the soil surface or from the sidewall of the excavation area. Water overlying the soil in the core was decanted from the core sample prior to being submitted to TestAmerica or KAR Laboratories for PCB analysis.

If the laboratory data confirmed that the PCB concentration for the soil sample was less than or equal to the performance standard, the excavation of that area was considered complete and no additional excavation was conducted. However, if the PCB concentration was greater than the performance standard, an additional six inches of soil was removed below the existing surface, from an area of 20 by 20 feet around that confirmation sample location.

Following the re-excavation, a sample was collected from a random location within the reexcavated area and submitted for laboratory PCB analysis.

If the PCB concentration from the second round of sampling was less than or equal to the performance standard, no further excavation was conducted. However, if the PCB concentration remained greater than the performance standard, Georgia-Pacific consulted with EPA and EGLE to determine whether additional remedial actions would be effective in achieving the cleanup standard in the area and what those actions might involve, and/or if compliance with the cleanup criteria could be achieved using a SWAC approach.

Specific information about the soil confirmation sampling for the Area East of Davis Creek and Extension Area is provided below.

7.1 Area East of Davis Creek

In the Area East of Davis Creek, Georgia-Pacific excavated residual materials from an approximately 140,000 square foot area and collected a total of 97 soil confirmation samples and 6 duplicate samples for PCB analysis (see Figure 6). Eighty-two of the 97 samples (and 6 duplicates) were taken outside the pond area and the remaining 15 samples were collected from within the pond. The complete validated PCB analytical results for these samples are included in Table 6-3 of the 2014 RA Report.

After the initial excavation, PCB concentrations in 22 of the first 58 soil confirmation samples taken outside of the pond exceeded the performance criterion of 0.33 mg/kg. Based on these data, these areas were re-excavated and re-sampled. After the second excavation, five of the 22 samples still exceeded the performance criteria. Following the third excavation, one of the five samples collected outside the pond still exceeded the performance criterion of 0.33 mg/kg. Similarly, PCB concentrations in all three of the soil confirmation samples collected from within the pond exceeded the performance criterion of 0.33 mg/kg after the first excavation. These areas were re-excavated in an attempt to meet the performance criterion of 0.33 mg/kg.

After reasonable excavation efforts at two of the three sample locations in the pond area and the remaining sample location outside the pond area that exceeded the criteria, and using the SWAC approach, consistent with the 2009 Consent Decree and Statement of Work, the PCB performance standard of 0.33 mg/kg was met. The calculated SWAC for the Area East of Davis Creek was 0.32 mg/kg which is below the cleanup criteria of 0.33 mg/kg. The SWAC calculations are included in Table 6-4 in Attachment A and the layout of SWAC sampling locations is provided in Figure 7.

Based on the confirmation sampling and the use restrictions for this area imposed by the 2010 DRC, the soil/land portion of the entire Area East of Davis Creek is proposed for NPL deletion.

7.2 Extension Area

Georgia-Pacific excavated residual materials from an approximately 64,000 square foot area in the Extension Area and collected a total of 27 soil confirmation samples and 1 duplicate sample for PCB analysis (see Figure 6). The complete set of validated PCB analytical results for the confirmation samples are available in Table 6-3 of the 2014 RA Report.

After the first excavation, PCB concentrations in five out of the 27 soil confirmation samples exceeded the performance criterion of 0.33 mg/kg (W70771, W70772, W70775, W70781, and W70787).⁴ These areas were re-excavated and re-sampled for PCB analysis. Two of the re-excavated areas still exceeded the performance criteria after the second excavation (W70773 and W70777). Therefore, these areas were again re-excavated and re-sampled. Following the second re-excavation, the performance criterion of 0.33 mg/kg was achieved in these areas (see Table 6-5 in Attachment A and Figure 4).

PCB concentrations in two other soil confirmation samples that were collected from the unfenced phone line easement exceeded the performance criteria of 0.33 mg/kg. The PCB concentrations in these samples were 148 mg/kg (W70819) and 230 mg/kg (W70818). However, after a reasonable effort to remove PCB-contaminated soil to meet the performance standard, the PCB-containing materials were left in place at these locations due to the location of the phone line easement. Because the PCB performance standard of 0.33 mg/kg was met in the remainder of the area inside the fence (excluding the soil around the 54-inch sewer line) the cleanup was determined to be complete (see Figures 3 and 4).⁵

Although land and groundwater use in the Extension Area is restricted by the DRC, the sewer and unfenced phone line easement portions of this Extension Area (see Figures 3 and 3-1) are not included in the proposed NPL deletion. This is because additional evaluation is needed to determine whether specific LTS procedures are required to ensure that any utility workers who may come into contact with the contaminated residuals are protected and that any excavated materials are appropriately managed.

8.0 Demonstration of Cleanup Quality Assurance/Quality Control (QA/QC)

Georgia-Pacific conducted the Area East of Davis Creek and Extension Area soil cleanup in accordance with the quality assurance/quality control (QA/QC) procedures outlined in the

⁴ Figure 5 indicates that sample W70793 (Area L-9) was a re-excavated sample, however, based on Table 6-3 in the 2014 RA Report, the initial sample from this area, W70786, contained a total PCB concentration of 0.098 mg/kg, which is below the 0.33 mg/kg criteria and did not require re-excavation. This is consistent with the text in Section 6.5.2 in the RA Report.

⁵ One confirmation soil sample (W70782) contained a total PCB concentration of 0.334 mg/kg, which was slightly above the 0.33 cleanup level. This slight exceedance was determined to be insignificant.

Construction Quality Assurance Project Plan (CQAPP) included in Appendix H of the EPA-approved 2011 Final RD Report.

The CQAPP outlined the procedures to be used to construct the remedy and document that the RA was conducted in accordance with all aspects of the approved the RD. The CQAPP identified the steps to be used to monitor and document the quality of the materials and the condition and manner of their installation, construction, and removal. The construction quality assurance (CQA) activities were performed under the CQAPP for:

- Mobilization and site preparation,
- Soil removal operations,
- Construction dewatering, sediments/soil drainage, and water treatment,
- Landfill cover system – soils,
- Landfill cover system – geosynthetics,
- Surveying,
- Documentation,
- Habitat restoration,
- Site security, and
- Demobilization.

Georgia-Pacific selected ARCADIS G&M of Michigan, LLC to provide the design and construction quality assurance services for the construction activities. ARCADIS:

- Documented that the RA was implemented in conformance with the approved RD and EPA-approved design modifications,
- Documented progress towards meeting design objectives,
- Recorded daily work activities,
- Performed construction monitoring,
- Reviewed field and laboratory test results,
- Reviewed health and safety activities, and
- Issued field orders on behalf of Georgia-Pacific.

Throughout the construction activities, ARCADIS worked closely with the onsite EPA oversight representative and participated in weekly or biweekly meetings to discuss construction progress at the WB/A-Site OU with stakeholders. Daily CQA reports and photographic records of the RA are provided in Appendix B and Appendix C of the 2014 RA Report.

8.1 Short-Term Environmental Monitoring

Georgia-Pacific conducted environmental monitoring in the Area East of Davis Creek and Extension Area during the soil excavation to monitor whether the construction activities were impacting air or Davis Creek so that appropriate corrective actions could be implemented. The

environmental monitoring conducted during the excavation activities is summarized in the sections below.

8.1.1 Dust

Dust monitoring was performed during excavation and backfilling activities using visual inspections and a Data-Ram dust monitor PDR-1000. An action level of 150 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of particulate matter (PM) was used for dust monitoring in accordance with the PSVP. Dust monitoring was not conducted when saturated conditions existed across the work area due to a rainfall event.

PM exceeded the action level of 150 $\mu\text{g}/\text{m}^3$ during excavation activities in the Extension Area during one event on August 3, 2012. The PM level was 178 $\mu\text{g}/\text{m}^3$, which required the use of water for dust suppression. All other PM readings recorded in the Extension Area and in the Area East of Davis Creek were below the action level. Also, no visual observations of excessive dust were recorded in these areas. The dust monitoring logs for the excavations are included in Appendix H of the RA Report.

8.1.2 Ambient Air

Air sampling was conducted to monitor the PCB concentrations in outdoor air during the RA. In 2011, the air samples were collected from the King Highway bridge (background location) and at a monitoring location centrally located along the Area East of Davis Creek east fence (AML4). From October 19 through December 8, 2011, a total of 16 air samples were collected and analyzed for PCBs to monitor construction activities in the Area East of Davis Creek. None of the air samples exceeded the PCB action level of 0.2 $\mu\text{g}/\text{m}^3$.

In March 2012, an additional air monitor was installed at the fence along Olmstead Road (AML3) to monitor the PCB concentrations in the air during the construction in the Extension Area and the remaining activities in the Area East of Davis Creek. Weekly sampling was conducted at AML3, AML4, and the background location during the construction and none of the samples exceeded the PCB action level for air.

The results of the PCB air sampling are provided in Tables 5-4 and 6-7 of the RA Report and the air sampling locations are shown in Figure 3-1b of the RA Report.

8.1.3 Turbidity Monitoring

Turbidity monitoring was conducted in the Area East of Davis Creek during construction activities adjacent to the Kalamazoo River using NexSens iSIC (Intelligent Sensor Interface & Control) automated meters with associated telemetry equipment. Between October 17 and 21, 2011, real-time turbidity data were collected from the upstream and downstream locations of the work area in the Kalamazoo River at the north side of the Area East of Davis Creek. During this period, the following issues were observed:

- On October 17, 2011, low turbidity readings were recorded in TML No. 3 (approximately 300 feet downstream) as compared to TML Nos. 1 (approximately 200 feet upstream) and 2 (approximately 200 feet downstream). However, no high readings were recorded in TML No. 2. Therefore, TML No. 2 was recalibrated and monitored closely during excavation activities for high turbidity readings. Since TML No. 2 did not record a high turbidity reading, no alteration of work activities was necessary.
- On October 18 and 21, 2011, low turbidity readings were recorded in TML No. 3 (approximately 300 feet downstream) as compared to TML Nos. 1 (approximately 200 feet upstream) and 2 (approximately 200 feet downstream). Following an inspection, it was concluded that TML No. 3 was not working properly. Therefore, TML No. 3 was removed and TML No. 2 was relocated to the location of TML No. 3 for turbidity monitoring. Turbidity monitoring was not required after October 21 when the construction was completed in this area.

In the Extension Area, turbidity monitoring was performed in Davis Creek on April 2, 2012, to monitor the effects of the excavation activities along the east bank of Davis Creek. During the excavation, hourly turbidity readings were collected from the upstream and downstream locations of the work area using a handheld YSI650R 6920 multi-parameter probe. No issues were identified with the turbidity readings.

The locations of the turbidity monitors are shown in Figure 3-1a of the RA Report and the turbidity monitoring records are provided in Appendix I of the RA Report.

8.1.4 Surface Water Sampling

Two surface water samples (one upstream/downstream pair) and one duplicate sample were collected from the Kalamazoo River on October 21, 2011, during construction activities at the north end of the Area East of Davis Creek. PCBs were not detected in any of these samples. Surface water sampling was not required in Davis Creek during any of the construction activities.

The analytical results of the surface water samples are available in Table 6-8 of the RA Report.

9.0 Operation and Maintenance (O&M)

Georgia-Pacific conducts O&M at the WB/A-Site in accordance with the requirements of the January 5, 2015 O&M Plan. The O&M Plan includes the requirements for monitoring and maintaining the site access controls, final cover system, landfill gas management and monitoring system, erosion control measures, groundwater monitoring system, drainage features, and restored/mitigated areas. The O&M Plan also includes the monitoring procedures for identifying and addressing invasive species in new plantings established across the WB/A-

Site, and the approach for monitoring the wetland areas and the other habitats created or enhanced as part of the RA.

The O&M Plan describes corrective action for unusual conditions, a schedule of O&M tasks, descriptions of potential operating problems, reporting requirements, and record keeping. In addition, the plan includes a safety plan and alternative O&M procedures should systems fail. A periodic assessment of the effectiveness of the institutional controls is also required. The data collected during post-closure monitoring activities is reviewed during the FYRs. Specific O&M activities applicable to the Area East of Davis Creek and Extension Area are summarized in the following sections and include:

- Quarterly inspection of the road, fencing, access gates, signs, locks, and permanent markers for integrity, vandalism, or damage,
- Semiannual inspection of bank stabilization measures along Davis Creek and the Kalamazoo River (spring and fall and after first two-year flood event), and
- Semiannual inspection of the restored wetland and upland areas (spring and fall).

Georgia-Pacific submits reports summarizing the results of the inspections and any conducted or recommended maintenance activities to EPA and EGLE within 30 days after each inspection. The most recent semi-annual reports were submitted on January 16, 2023, and July 28, 2023.

9.1 Restored Bank Stabilization Measures

The restored bank stabilization measures (e.g., riprap, permanent erosion control blankets, habitat stone, vegetation) are inspected semi-annually for signs of instability or damage due to erosion or scour and repaired as needed. The inspection includes visual observations of the banks and adjacent in-channel riverbed conditions for signs of the following:

- Dislodgement or loss of stone armament and permanent erosion control matting,
- Sloughing, erosion rilling, or gulying of bank surface soils,
- Undercutting of the bank toe due to channel flow scour,
- Stressed vegetation, and
- Insufficient growth density or establishment of vegetation.

Minor repair and maintenance work (such as filling and/or reseeding of minor erosion/bare spots in vegetation) is performed promptly, as needed. However, depending on the nature and magnitude of the repair or maintenance work required, proposed activities may require the preparation of individual repair work plans, which will be submitted to EPA for approval. Any work plans will also be provided to EGLE and the Natural Resources Trustees for review and comment prior to implementation.

9.2 Restored Wetland and Upland Areas

Georgia-Pacific monitors the restored wetland areas (i.e., emergent and forested wetlands) and upland areas (i.e., riparian corridor and forested upland) semi-annually in spring and fall. The monitoring will be conducted for 30 years, or until the performance standards (listed below) are achieved.

The monitoring includes field inspections to evaluate the health and progress of the seeded and planted vegetation and to address maintenance issues, as required. Monitoring for signs of erosion and bank failure is also conducted concurrently with the vegetation inspections.

The performance standards for the restored and mitigated areas are:

- Replace dead trees or shrubs to maintain approximately 85% of the initially planted density of the woody plants with native, non-invasive species.
- Reseed or replant vegetation to maintain a minimum of 80% cover by non-invasive species.

For the restored wetland area in the Area East of Davis Creek, it is recognized that this area will be subjected to periodic inundation by flood water and that the extent and duration of these inundation periods will vary from season to season and year to year. As a result, the ratio of established wetland habitats (i.e., open water and submergent/emergent vegetation) will fluctuate annually. This ratio fluctuation is viewed as a normal response to changing conditions and reflective of the adaptive nature of the wetland vegetation. To accommodate this variability, wetland vegetation in the restored areas will be inspected on the basis of observed health (e.g., robust growth habitat, stressed growth habitat) and cover percentage of non-invasive species as described above.

Surface soils within the restored/mitigation areas were protected against the erosional forces associated with stormwater runoff/flood inundation through the establishment of forb and grass type vegetation. For these areas, the inspection of forbs and grasses and an assessment of their effectiveness in mitigating surface soil erosion will be determined based on visual observations for evidence of erosion such as surface rilling and gullying.

In cases where erosion is clearly not occurring and where vegetation appears to be less dense than in surrounding areas, it will be concluded that the vegetation in these areas is adequate for protection of the soil and that actions to further densify the growth will not be required. In cases where erosion of the surface soil is occurring, regardless of the density of the vegetation, these areas will be addressed by filling of the erosional features and reseeding. Where necessary, eroded areas may be further protected through the use of erosion control products (e.g., temporary or permeant erosion control mat).

As part of the monitoring of the restored and mitigated areas, inspection personnel observe and document invasive species including Common Reed (*Phragmites australis*), Purple Loosestrife (*Lythrum salicaria*), Reed Canary Grass (*Phalaris arundinacea*), Buckthorn (*Rhamnus frangula*), and tree of heaven (*Ailanthus altissima*). Maintenance activities will be performed if more than 20% cover by invasive species is observed during the monitoring inspection. Maintenance activities will include mowing, physical removal, and restricted use of herbicides (i.e., limited quantity) by hand application methods.

The density of woody plants in the restored wetland and upland habitats is evaluated during the spring monitoring event. All surviving woody plantings and naturally recruited native woody species are tallied during a reconnaissance of each restoration area. The number of woody plants observed is compared to the original number of woody plants planted to determine if the 85% stem density performance standard is met. If the performance standard is not met, supplemental planting may be initiated using adaptive management techniques where species and/or sizes of plants that are better adapted to site conditions are selected for replacement plantings.

The percent cover by herbaceous species in restored wetland habitats is evaluated during the fall monitoring inspection as described in SOP W-1 in Appendix B of the O&M Plan. Acceptable growth condition is determined based on a visual assessment of the vegetated areas. The criteria to be considered for this assessment include evidence of stressed vegetation, areas lacking in vegetation, clumped growth, and average stem density. If the observed percent cover is less than the performance standard (i.e., minimum 80% cover by non-invasive species), supplemental seeding may be implemented to attain a minimum 80% cover by the end of an initial five-year monitoring period.

The restoration components of the design (i.e., restored and created wetlands) will be visually inspected for 30-years. This program will be evaluated during the FYR and during each subsequent review.

10.0 Five Year Reviews (FYRs)

EPA conducts FYRs at sites to determine whether a cleanup remains protective of human health and the environment over the long-term or whether additional investigations or cleanup actions may be warranted. The review methods, findings, and conclusions are documented in FYR reports. EPA identifies any site issues found during the review in the FYR report with recommendations to address the issues.

EPA and EGLE have conducted four FYRs of the remedial actions implemented at the Allied Paper Site, including the WB/A-Site. These reviews are statutory reviews and are required because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use/unrestricted exposure (UU/UE). EPA completed the most recent, fourth FYR for the Site on October 13, 2022.

The FYR site inspection for the WB/A-Site was conducted on April 27, 2022, and did not identify any issues associated with the Area East of Davis Creek or the Extension Area. The inspection found that the OU2 landfill cover overall was in very good condition and appeared to be well-maintained. The inspection noted that there was slight erosion on the southeast side of the Willow Boulevard Landfill portion of the OU and that one of the smaller surface water runoff structures was cracked, but indicated that these would be addressed during regular O&M.

The inspection confirmed that the gas monitoring probes and passive gas vents installed around the landfill portions of the OU were in good condition, properly secured, and functioning properly. The locked gates and chain-link fence surrounding the OU were found to be effective in restricting public access to the OU, and land and groundwater use, including in the Area East of Davis Creek and the Extension Area, were determined to be consistent with the requirements of the DRC. The vegetative covering was also found to be adequate.

The FYR determined that the WB/A-Site OU2 remedy was protective and did not identify any issues or recommendations for the areas proposed for deletion. The FYR noted that PFAS compounds have been detected in groundwater at OU1, OU2, and OU3 of the Site, and indicated that EPA will consider sampling for site-related PFAS at all of the landfill OUs. However, the groundwater portion of the WB/A-Site is not being proposed for deletion and will remain on the NPL.

EPA will complete the next FYR for the Site on or before October 2027.

11.0 Determination that Site Meets Criteria for Partial Deletion

The land/soil portion of the Area East of Davis Creek and Non-Easement Extension Area of the WB/A-Site of the Allied Paper Site (see Figures 2 and 3), meets all of the site completion requirements specified in OLEM Directive 9320.2-23, Close Out Procedures for National Priorities List Sites. All cleanup actions and RAOs for the land/soil portion of these areas set forth in the September 27, 2006 ROD have been implemented for all pathways of exposure for this media. The RAOs, selected remedial action, and cleanup levels for these areas are consistent with EPA policy and guidance.

The remaining portions of the WB/A-Site, including the landfill areas, drainageways, groundwater, and the sewer and unfenced phone line easements in the Extension Area (see Figures 3 and 3-1), will remain on the NPL as EPA and EGLE continue to monitor the integrity and effectiveness of the landfill containment system remedy and evaluate the easements. All other OUs of the Allied Paper Site will also remain on the NPL.

Section 300.425(e) of the NCP, 40 C.F.R. § 300.425(e), states that a Superfund site or a portion of a site may be deleted from the NPL when no further response action is appropriate. EPA, in consultation with the State of Michigan, has determined that all required response actions have been implemented for the land/soil portion of the Area East of Davis Creek and Non-Easement

Extension Area, and that no further response action is appropriate for these areas other than periodic inspection and maintenance of the restored vegetation, continued monitoring and maintenance of the land and groundwater use restrictions in the DRC, and FYRs.

EGLE sent EPA a letter concurring with EPA's proposed deletion of the land/soil portion of the Area East of Davis Creek and Non-Easement Extension Area on November 20, 2023. A copy of EGLE's concurrence letter is in Attachment B.

12.0 Approval

Approved by:

Douglas Ballotti, Director
Superfund & Emergency Management Division
U.S. EPA, Region 5

FIGURE 1: Allied Paper/Kalamazoo River/Portage Creek Site

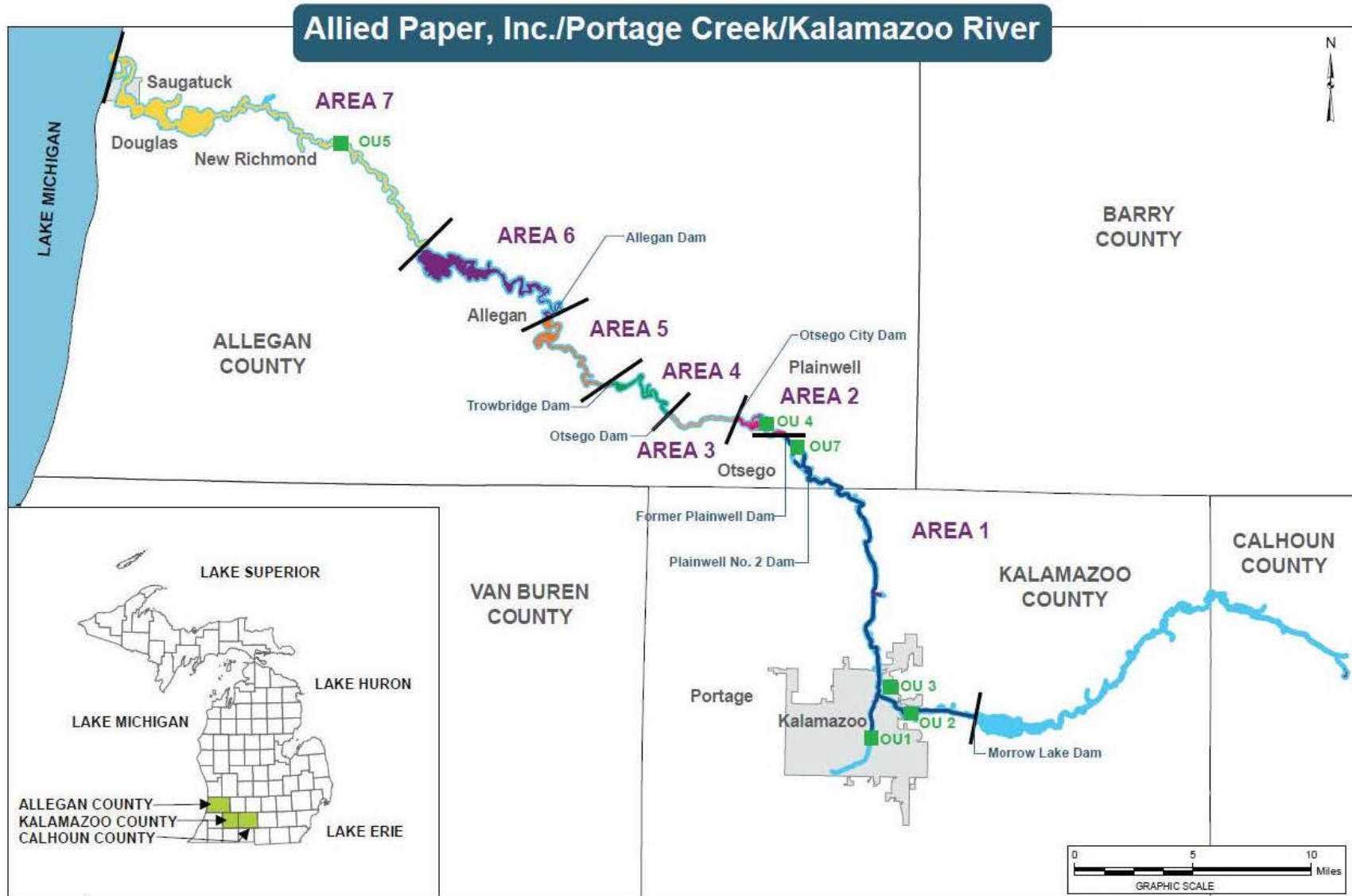


FIGURE 2: Willow Boulevard/A-Site OU2 and Areas Proposed for Deletion

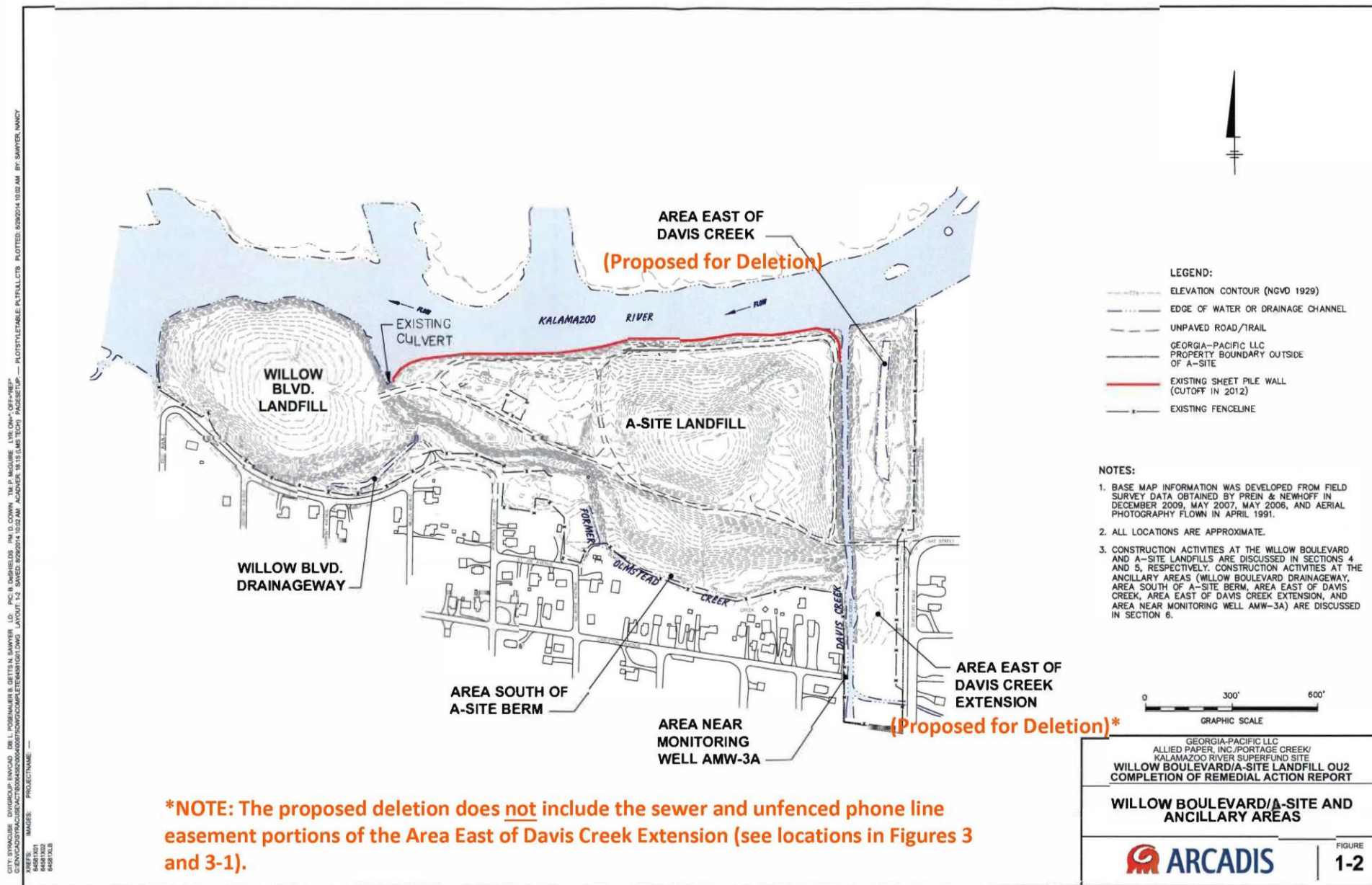


FIGURE 3: Location of Extension Area Sewer and Unfenced Phone Line Easements (Not Included in Proposed Deletion)

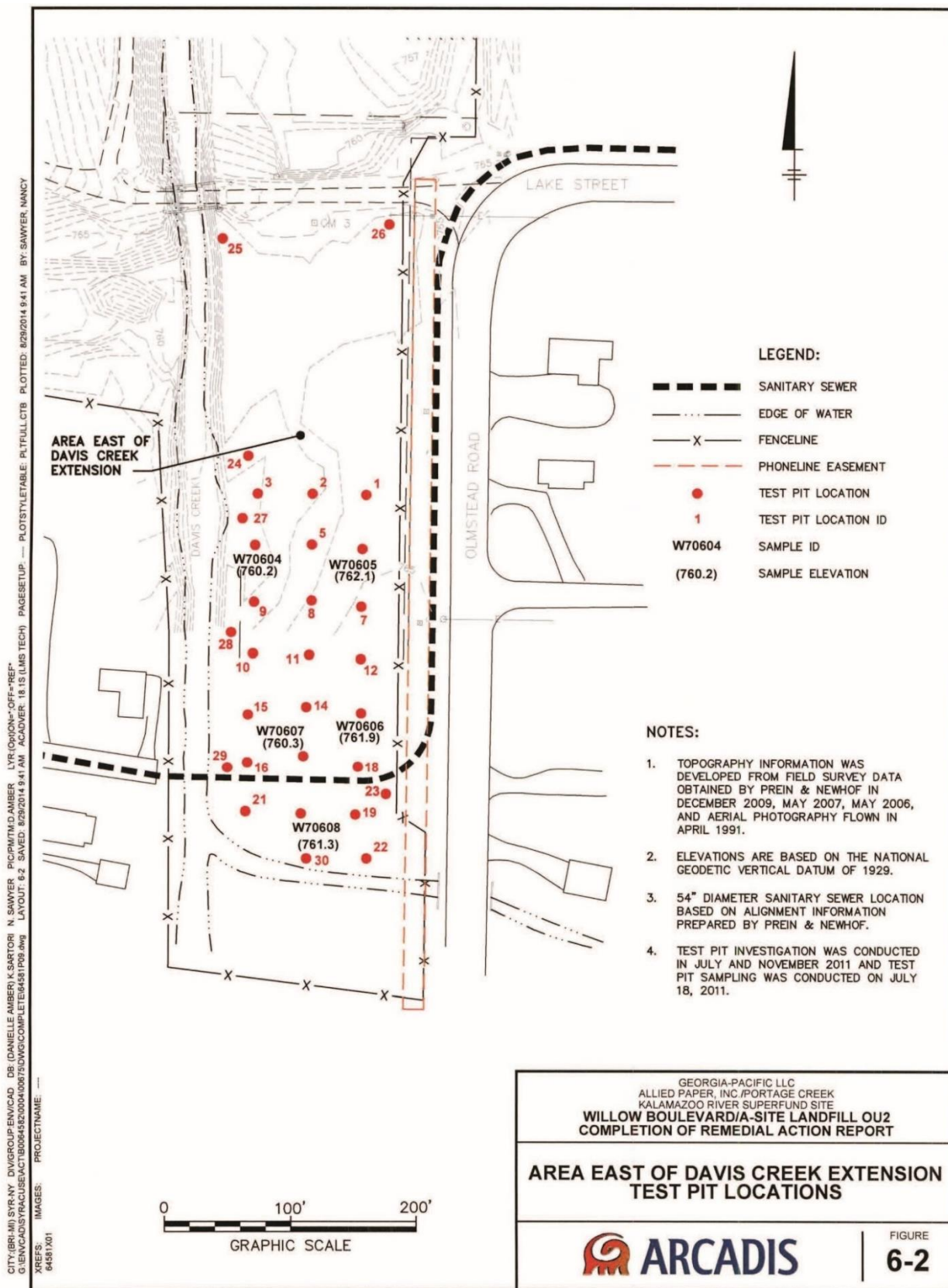


FIGURE 3-1: Excavation Record Drawing

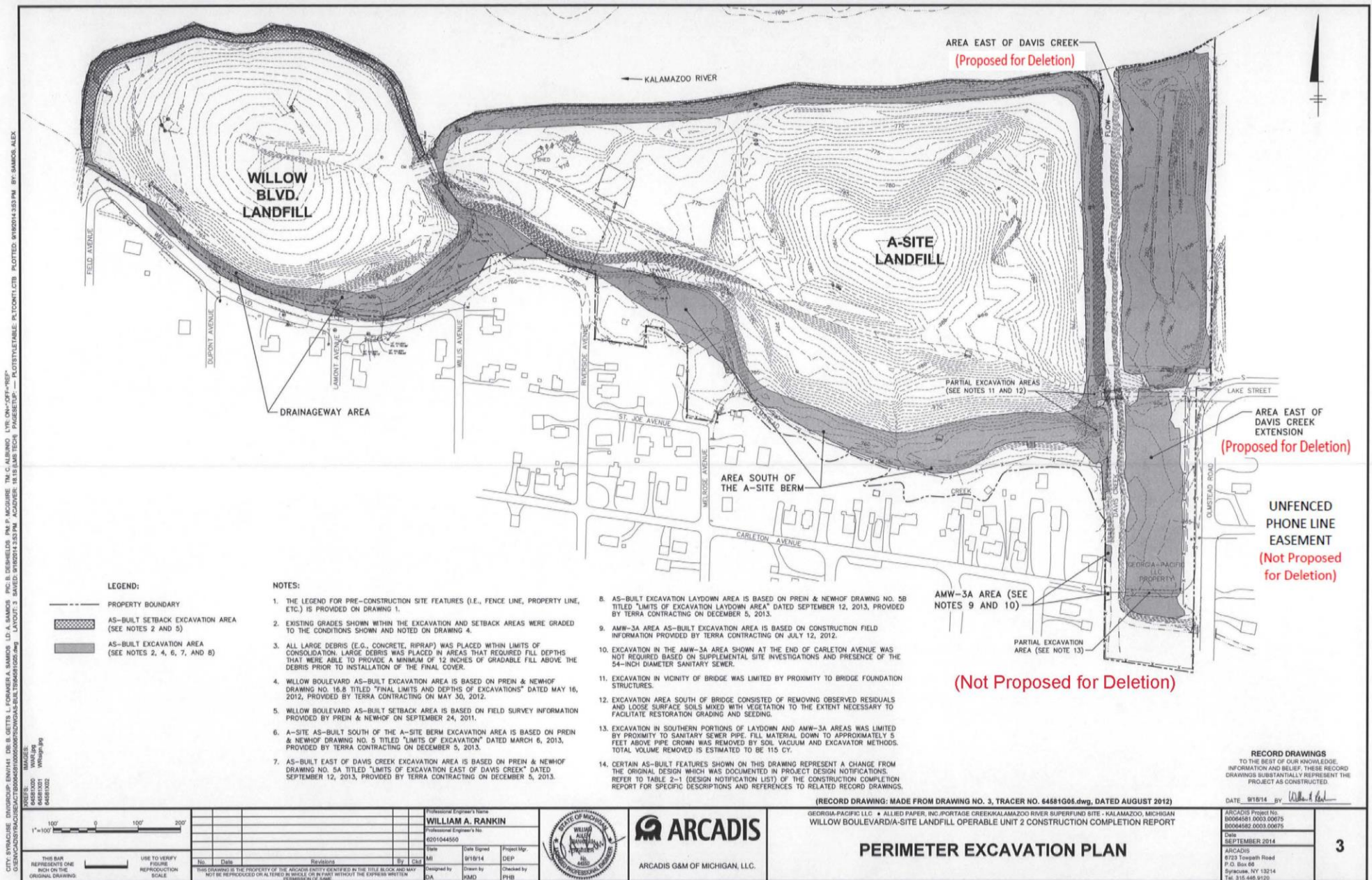


FIGURE 4: Extension Area Final Confirmation Sampling Locations

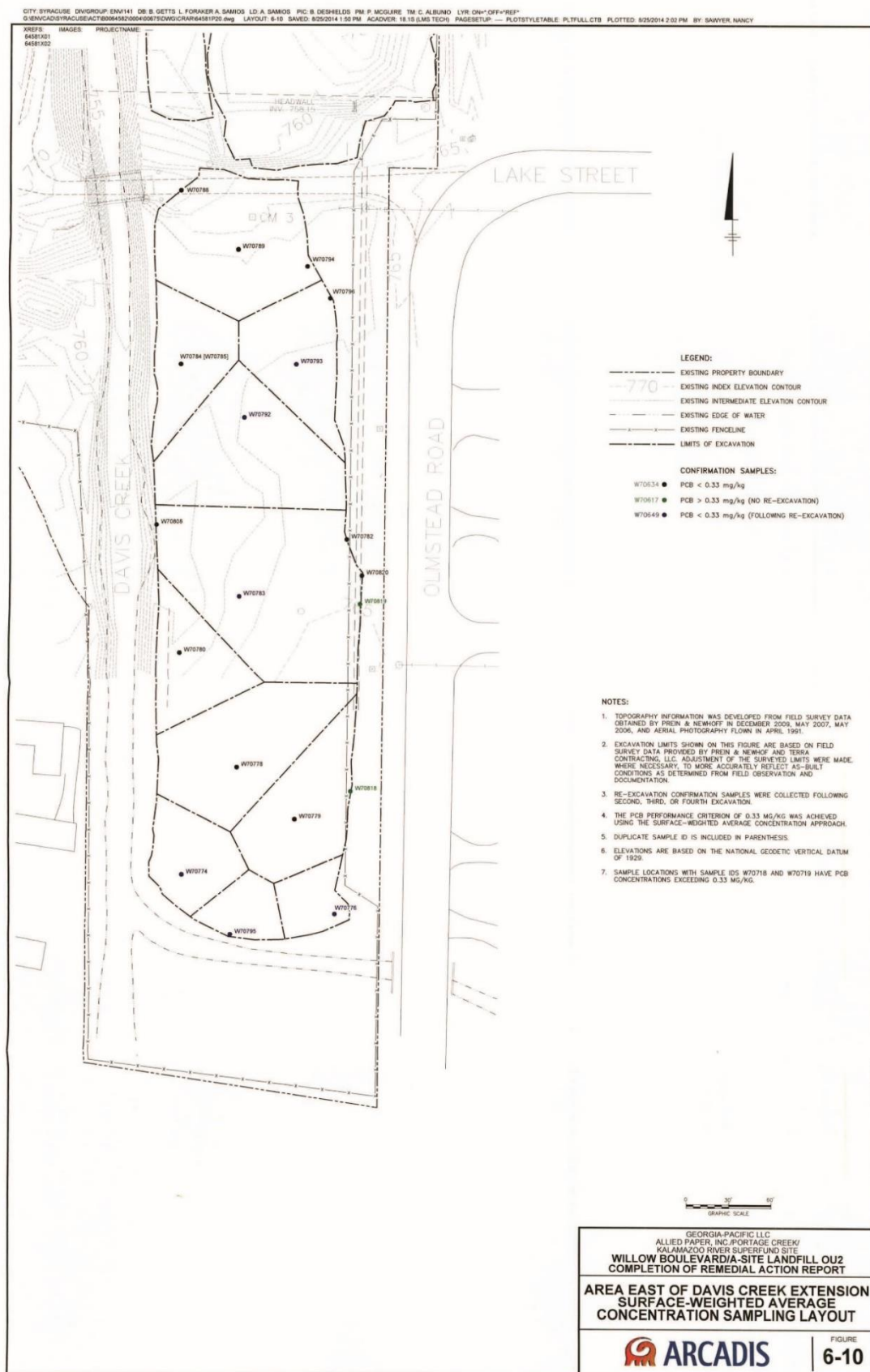


FIGURE 5: Cleanup Criteria

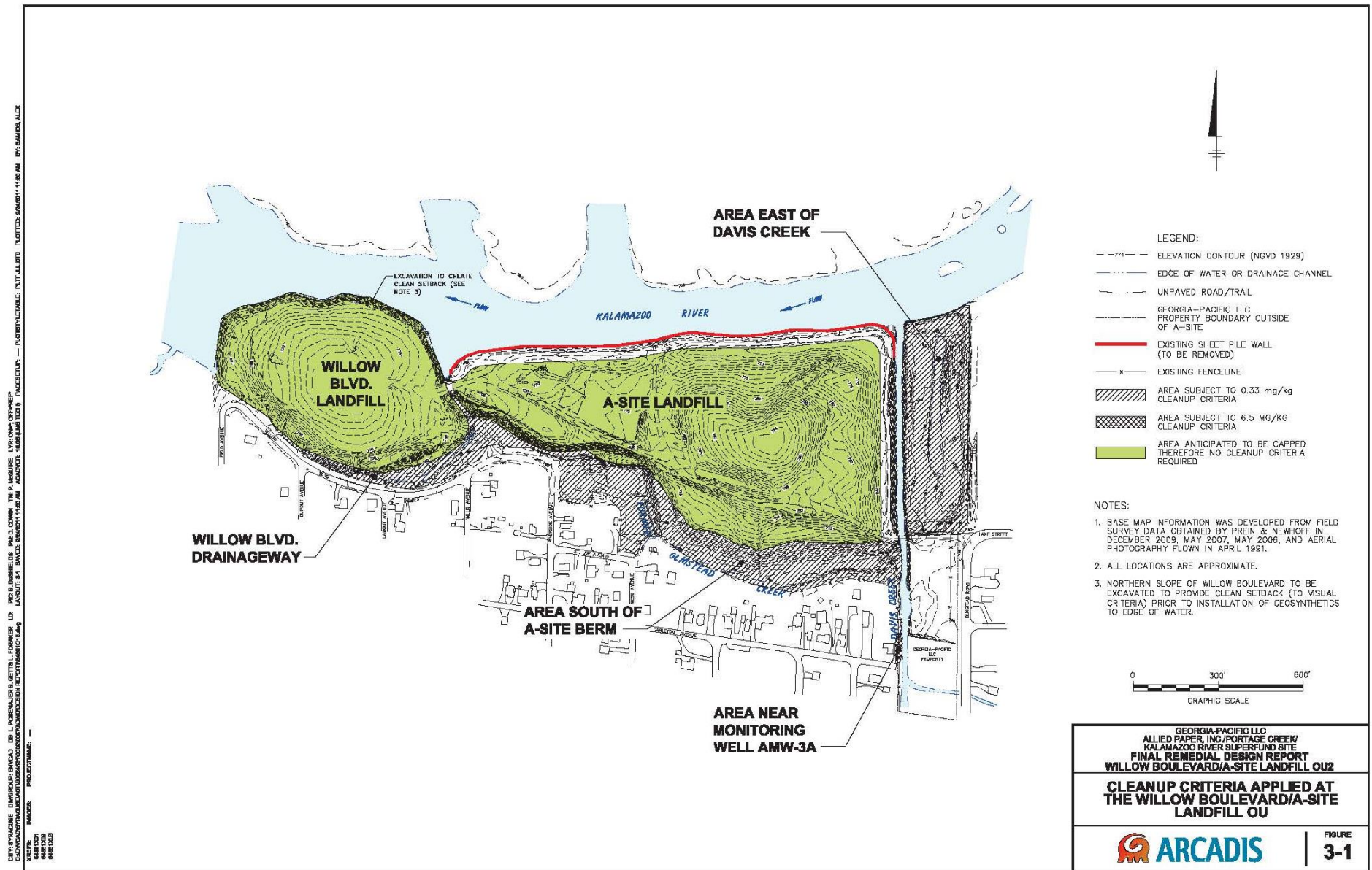
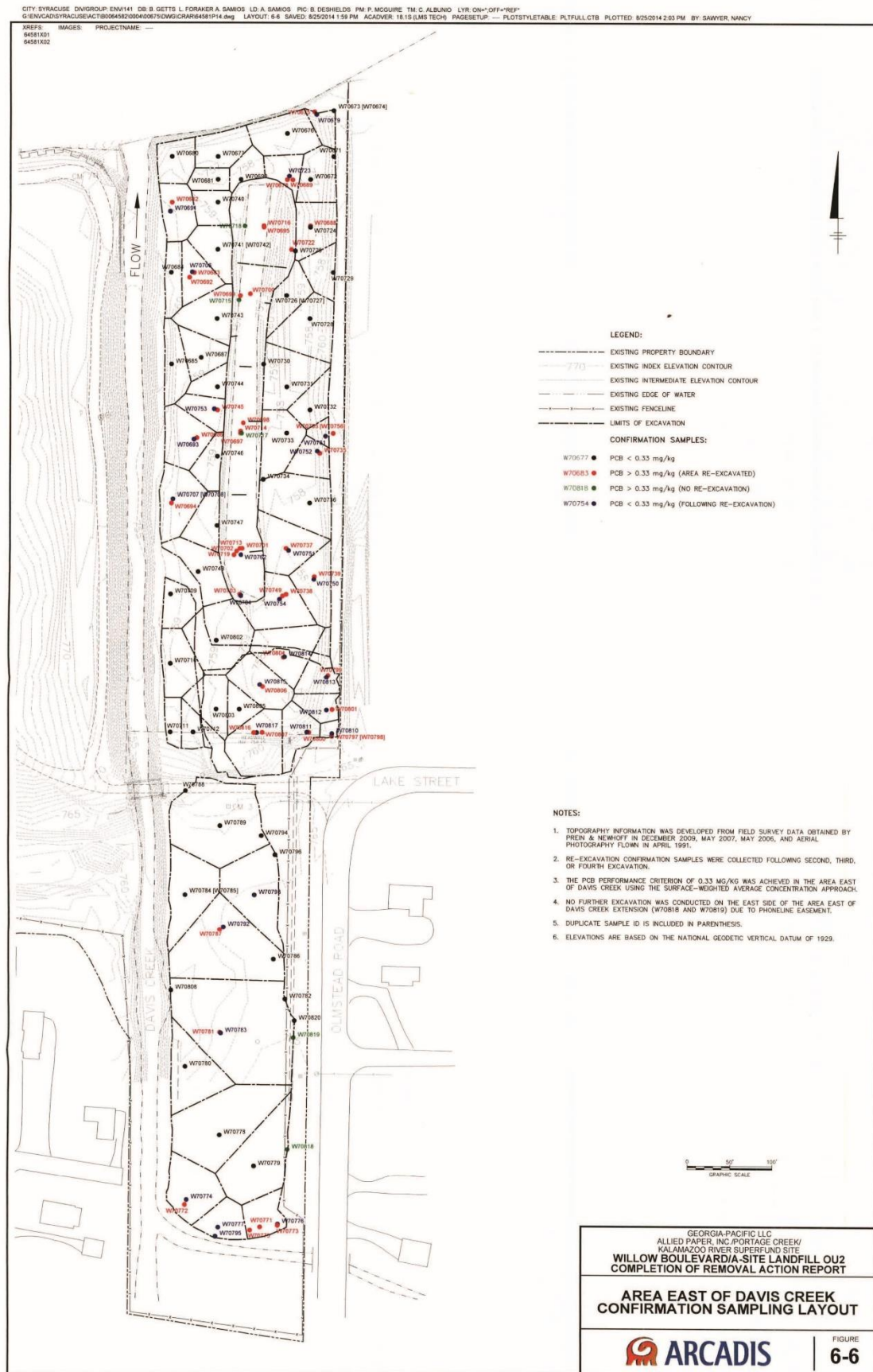


FIGURE 6: All Soil Confirmation Sampling Locations



CITY: SYRACUSE DIV: GROUP: ENV141 DB & GETTS L FORAKER A & ASSOCIATES LD A SAMIOS PIC B DERHELDOS PM P MCQUIRE TM C ALBUINO LVR ONY OFF REP
 G:\ENV\CA28\SYRACUSE\ACT\800645\0004\0007\DWG\CRAP\4581P18.dwg LAYOUT: 8-9 SAVED: 8/25/2014 1:52 PM ACADVER: 18.15 (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLT\FULL.CTB PLOTTED: 8/25/2014 2:04 PM BY: SAWYER, NANCY
 XREFS: 64581X31 64581X32

LEGEND:

- EXISTING PROPERTY BOUNDARY
- EXISTING INDEX ELEVATION CONTOUR
- EXISTING INTERMEDIATE ELEVATION CONTOUR
- EXISTING EDGE OF WATER
- EXISTING FENCELINE
- LIMITS OF EXCAVATION

CONFIRMATION SAMPLES:

- W70731 ● PCB < 0.33 mg/kg
- W70715 ● PCB > 0.33 mg/kg (NO RE-EXCAVATION)
- W70706 ● PCB < 0.33 mg/kg (FOLLOWING RE-EXCAVATION)

NOTES:

- TOPOGRAPHY INFORMATION WAS DEVELOPED FROM FIELD SURVEY DATA OBTAINED BY PREIN & NEWHOFF IN DECEMBER 2009, MAY 2007, MAY 2006, AND AERIAL PHOTOGRAPHY FLOWIN IN APRIL 1991.
- EXCAVATION LIMITS SHOWN ON THIS FIGURE ARE BASED ON FIELD SURVEY DATA PROVIDED BY PREIN & NEWHOFF AND TERRA CONTRACTING, LLC. ADJUSTMENT OF THE SURVEYED LIMITS WERE MADE, WHERE NECESSARY, TO MORE ACCURATELY REFLECT AS-BUILT CONDITIONS AS DETERMINED FROM FIELD OBSERVATION AND DOCUMENTATION.
- RE-EXCAVATION CONFIRMATION SAMPLES WERE COLLECTED FOLLOWING SECOND, THIRD, OR FOURTH EXCAVATION.
- THE PCB PERFORMANCE CRITERION OF 0.33 MG/KG WAS ACHIEVED USING THE SURFACE-WEIGHTED AVERAGE CONCENTRATION APPROACH.
- DUPLICATE SAMPLE ID IS INCLUDED IN PARENTHESIS.
- ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
- SAMPLE LOCATIONS WITH SAMPLE IDS W70715, W70717 AND W70718 HAVE PCB CONCENTRATIONS EXCEEDING 0.33 MG/KG.

FIGURE 6-9

AREA EAST OF DAVIS CREEK SURFACE-WEIGHTED AVERAGE CONCENTRATION SAMPLING LAYOUT

GEORGIA-PACIFIC LLC
 ALLIED PAPER, INC./PORTAGE CREEK/
 KALAMAZOO RIVER SUPERFUND SITE
 WILLOW BOULEVARD/A-SITE LANDFILL OU2
 COMPLETION OF REMEDIAL ACTION REPORT

ARCADIS

ATTACHMENT A: TABLES

Georgia-Pacific LLC
Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site
Willow Boulevard/A-Site Operable Unit Remedial Construction
Completion of Remedial Action Report

Table 6-4 -- Area East of Davis Creek Averaging Calculations

Base Samples Sample ID	Area (square feet)	Actual PCB Concentration (mg/kg)	Qualifier	PCB Concentration ¹	Area x PCB Concentration
W70673 [W70674]	1,050.48	0.02	J	0.02	16.28
W70676	3,319.78	0.07		0.07	235.70
W70680	2,156.51	0.09		0.09	191.93
W70677	2,471.98	0.04		0.04	106.30
W70681	1,240.68	0.13		0.13	161.29
W70690	1,336.74	0.09		0.09	122.98
W70723	1,519.61	0.33	U	0.17	250.74
W70672	2,617.66	0.07		0.07	185.85
W70691	2,393.85	0.09		0.09	210.66
W70740	1,707.88	0.08		0.08	129.80
W70718	5,771.23	3.10		3.10	17,890.81
W70724	2,724.09	0.33	U	0.17	449.47
W70741 [W70742]	2,303.84	0.10		0.10	237.30
W70684	1,656.74	0.05	J	0.05	74.55
W70706	2,166.15	0.03	U	0.01	29.24
W70729	1,789.55	0.02	U	0.01	18.79
W70715	3,662.44	1.00		1.00	3,662.44
W70726 [W70727]	2,195.74	0.16		0.16	351.32
W70687	2,210.92	0.22		0.22	486.40
W70743	3,077.63	0.08		0.08	230.82
W70728	3,940.74	0.16		0.16	630.52
W70685	2,315.66	0.02	U	0.01	22.00
W70744	1,229.57	0.02	U	0.01	13.53
W70731	3,969.78	0.04		0.04	146.88
W70753	1,615.46	0.14		0.14	226.16
W70732	1,869.03	0.02	U	0.01	22.43
W70693	3,048.59	0.03	U	0.02	47.25
W70717	2,255.65	5.40	JN	5.40	12,180.51
W70733	3,105.61	0.13	J	0.13	403.73
W70761	561.81	0.29		0.29	162.92
W70746	1,596.38	0.02	U	0.01	15.17
W70752	1,744.26	0.08	J	0.08	139.54
W70707 [W70708]	3,408.39	0.02	U	0.01	37.49
W70736	4,778.20	0.02		0.02	95.56
W70747	2,071.76	0.01	J	0.01	24.86
W70762	1,947.46	0.31		0.31	603.71
W70751	3,709.22	0.11		0.11	408.01
W70748	2,940.69	0.03	U	0.01	42.64
W70709	1,797.93	0.07		0.07	129.45
W70754	3,577.07	0.30		0.30	1,073.12
W70750	2,942.85	0.04		0.04	117.71
W70802	5,061.08	0.05	U	0.02	113.87
W70814	3,814.65	0.28		0.28	1,068.10
W70710	2,929.11	0.04	J	0.04	114.24
W70813	2,232.58	0.02	U	0.01	20.09
W70815	2,957.61	0.10		0.10	295.76
W70803	2,528.09	0.04	U	0.02	55.62
W70805	1,421.12	0.07		0.07	103.74

Georgia-Pacific LLC
Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site
Willow Boulevard/A-Site Operable Unit Remedial Construction
Completion of Remedial Action Report

Table 6-4 -- Area East of Davis Creek Averaging Calculations

Base Samples Sample ID	Area (square feet)	Actual PCB Concentration (mg/kg)	Qualifier	PCB Concentration ¹	Area x PCB Concentration
W70812	1,376.00	0.04		0.04	59.17
W70817	4,221.27	0.18		0.18	759.83
W70811	2,165.46	0.02	U	0.01	20.57
W70810	383.56	0.15		0.15	57.53
W70711	1,084.20	0.07	U	0.03	35.78
W70712	2,438.40	0.05	U	0.02	56.08

Sidewall Samples Sample ID	Vertical Sidewall Area (square feet)	Actual PCB Concentration (mg/kg)	Qualifier	PCB Concentration ¹	Area x PCB Concentration
W70679	315.71	0.29		0.29	91.56
W70671	210.76	0.13		0.13	27.40
W70725	1,297.75	0.02	J	0.02	31.15
W70730	584.60	0.01	J	0.01	6.43
W70734	490.39	0.12		0.12	58.85
W70704	1,316.57	0.33	U	0.17	217.23
Surface-Weighted Average Concentration					0.32

Notes:

1. Non-detect values are presented as half the detection limit of 0.33 mg/kg
2. Average PCB concentration for the Area x PCB concentration column is calculated by dividing the sum of this column by the sum of areas attributed to each sample.
3. Final sample collected at each excavation area are the only results presented in this table to calculate the surface-weighted average concentration of PCB.
4. Sidewall length values shown represent the average of the sidewall top and bottom lengths. Sidewall length is determined by measuring the length of the sidewall midpoint to the next adjacent sidewall samples in both sides of the sampling location.
5. Top and bottom sidewall elevation values shown represent the average of the sidewall elevations along the top and bottom lengths of the sidewall excavations.
6. Excavation depth values shown represent the difference between the average excavation top and bottom sidewall elevations.

J = Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

JN = The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

mg/kg = milligrams per kilogram

U = Indicates the analyte was analyzed for but not detected.

Georgia-Pacific LLC
Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site
Willow Boulevard/A-Site Operable Unit 2
Completion of Remedial Action Report

Table 6-5 -- Area East of Davis Creek Extension Averaging Calculations

Base Samples Sample ID	Area (square feet)	Actual PCB Concentration (mg/kg)	Qualifier	PCB Concentration ¹	Area x PCB Concentration
W70784 [W70785]	4,557.6	0.021	U	0.011	47.9
W70780	4,434.9	0.194	J	0.194	860.4
W70774	3,673.4	0.33	U	0.165	606.1
W70778	8,370.5	0.33	U	0.165	1,381.1
W70783	14,251.5	0.33	U	0.165	2,351.5
W70792	9,102.8	0.33	U	0.165	1,502.0
W70789	9,014.3	0.33	U	0.165	1,487.4
W70793	5,299.4	0.33	U	0.165	874.4
W70779	6,019.7	0.33	U	0.165	993.3
W70776	2,025.6	0.33	U	0.165	334.2
W70795	2,042.8	0.33	U	0.165	337.1

Sidewall Samples Sample ID	Vertical Sidewall Area (square feet)	Actual PCB Concentration (mg/kg)	Qualifier	PCB Concentration ¹	Area x PCB Concentration
W70788	861.8	0.33	U	0.165	142.2
W70782	226.1	0.334		0.334	75.5
W70794	385.0	0.33	U	0.165	63.5
W70796	240.7	0.018	U	0.009	2.2
W70808	871.0	0.018	U	0.009	7.8
W70818 ²	998.2	230		230	229,587.9
W70819 ²	264.8	148		148	39,197.0
W70820	69.0	0.018	J	0.018	1.2
Surface-Weighted Average Concentration					3.85

Notes:

1. Non-detect values are presented as half the detection limit of 0.33 mg/kg
2. No further excavation was conducted in these areas, due to the location of the phoneline easement. The PCB concentration at the remainder area is below 0.33 mg/kg.
3. Average PCB concentration for the Area x PCB concentration column is calculated by dividing the sum of this column by the sum of areas attributed to each sample.
4. Final sample collected at each excavation area are the only results presented in this table to calculate the surface-weighted average concentration of PCB.
5. Sidewall length values shown represent the average of the sidewall top and bottom lengths. Sidewall length is determined by measuring the length of the sidewall midpoint to the next adjacent sidewall samples in both sides of the sampling location.
6. Top and bottom sidewall elevation values shown represent the average of the sidewall elevations along the top and bottom lengths of the sidewall excavations.
7. Excavation depth values shown represent the difference between the average excavation top and bottom sidewall elevations.

J = Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

mg/kg = milligrams per kilogram

U = Indicates the analyte was analyzed for but not detected.

ATTACHMENT B: MICHIGAN STATE LETTER OF CONCURRENCE



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING



PHILLIP D. ROOS
DIRECTOR

November 20, 2023

VIA EMAIL AND U.S. MAIL

Douglas E. Ballotti, Director
Superfund and Emergency Management Division
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (S-6J)
Chicago, Illinois 60604-3507

Dear Douglas E. Ballotti:

SUBJECT: Concurrence with the Proposed Draft Partial Deletion Justification to Delete a
Portion of Operable Unit 2, Allied Paper, Inc./Portage Creek/Kalamazoo River
Superfund Site from the National Priorities List

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) has received the Draft Partial Deletion Justification to delete a portion of Operable Unit (OU) 2 of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site in Kalamazoo Township, Michigan, from the National Priorities List (NPL). This proposes deleting from the NPL a portion of OU2 referred to as the Area East of Davis Creek and the Non-Easement Portion of the Area East of Davis Creek Extension.

EGLE concurs with the deletion of the portion of OU2 of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site as proposed.

If you need further information, please contact Mike Neller, Director, Remediation and Redevelopment Division, at 517-512-5859; NellerM@Michigan.gov; or EGLE, P.O. Box 30426, Lansing, Michigan 48909-7926; or you may contact me.

Sincerely,

Phillip D. Roos
Director
517-284-6700

cc: Jim Saric, United States Environmental Protection Agency, Region 5
Lisa Williams, United States Fish and Wildlife Service
Megen Miller, Michigan Department of Attorney General
Aaron B. Keatley, Chief Deputy Director, EGLE
Mike Neller, EGLE
Kalan Briggs, EGLE
Erik Martinson, EGLE
Daniel Peabody, EGLE

**ATTACHMENT C: NPL PARTIAL DELETION DOCKET REPORTS INDEX FOR AREA EAST OF DAVIS CREEK AND
NON-EASEMENT EXTENSION AREA PORTION OF WILLOW BOULEVARD/A-SITE (OU2) OF THE ALLIED
PAPER/KALAMAZOO RIVER/PORTAGE CREEK SUPERFUND SITE**

NPL Partial Deletion Docket Reports Index: Initial - 11/20/2023 Area East of Davis Creek and Non-Easement Extension Area Portion of Willow Boulevard/A-Site (OU2) of the Allied Paper/Kalamazoo River/Portage Creek Superfund Site, Kalamazoo, Michigan EPA-HQ-OLEM-2023-0470 EPA SEMS Collection ID No. 05-42453					
EPA Document Region	Document ID	Document Date	Document Title	Pages	SEMS-Public Document URL
05	2005658	11/20/2023	EGLE LETTER RE: CONCURRENCE WITH THE PROPOSED DRAFT PARTIAL DELETION JUSTIFICATION TO DELETE A PORTION OF OPERABLE UNIT 2, ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SITE	1	https://semspub.epa.gov/src/document/05/2005658
05	978128	10/13/2022	FOURTH FIVE-YEAR REVIEW REPORT (SIGNED) - ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER	262	https://semspub.epa.gov/src/document/05/978128
05	541631	10/17/2017	THIRD FIVE-YEAR REVIEW REPORT (SIGNED) - ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER	326	https://semspub.epa.gov/src/document/05/541631
05	985315	01/05/2015	ARCADIS - WILLOW BOULEVARD/A-SITE LANDFILL OPERABLE UNIT 2 - OPERATION AND MAINTENANCE PLAN	678	https://semspub.epa.gov/src/document/05/985315
05	2005651	09/25/2014	APPROVAL OF CERTIFICATION OF COMPLETION OF THE OU2 REMEDIAL ACTION COMPLETION REPORT, KALAMAZOO RIVER SUPERFUND SITE OPERABLE UNIT #02, KALAMAZOO COUNTY, MICHIGAN	1	https://semspub.epa.gov/src/document/05/2005651

NPL Partial Deletion Docket Reports Index: Initial - 11/20/2023 Area East of Davis Creek and Non-Easement Extension Area Portion of Willow Boulevard/A-Site (OU2) of the Allied Paper/Kalamazoo River/Portage Creek Superfund Site, Kalamazoo, Michigan EPA-HQ-OLEM-2023-0470 EPA SEMS Collection ID No. 05-42453					
EPA Document Region	Document ID	Document Date	Document Title	Pages	SEMS-Public Document URL
05	491109	09/01/2014	ARCADIS - COMPLETION OF REMEDIAL ACTION REPORT	352	https://semspub.epa.gov/src/document/05/491109
05	517515	09/01/2014	ARCADIS - RECORD DRAWINGS WILLOW BOULEVARD / A-SITE LANDFILL OPERABLE UNIT 2 CONSTRUCTION COMPLETION REPORT	26	https://semspub.epa.gov/src/document/05/517515
05	985833	09/01/2014	[REDACTED] ARCADIS - COMPLETION OF REMEDIAL ACTION REPORT APPENDICES [ZIP FILE]	1	https://semspub.epa.gov/src/document/05/985833
05	474139	12/14/2012	ARCADIS LETTER RE: GROUNDWATER MONITORING PROGRAM - WILLOW BOULEVARD/A-SITE OPERABLE UNIT 02	19	https://semspub.epa.gov/src/document/05/474139
05	442317	10/18/2012	SECOND FIVE-YEAR REVIEW REPORT (SIGNED) - ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER	298	https://semspub.epa.gov/src/document/05/442317
05	417661	09/07/2011	EPA EMAIL RE: DESIGN NOTIFICATION 12 - AIR MONITORING FREQUENCY - WILLOW BOULEVARD/A-SITE LANDFILL, OPERABLE UNIT #02	5	https://semspub.epa.gov/src/document/05/417661

NPL Partial Deletion Docket Reports Index: Initial - 11/20/2023 Area East of Davis Creek and Non-Easement Extension Area Portion of Willow Boulevard/A-Site (OU2) of the Allied Paper/Kalamazoo River/Portage Creek Superfund Site, Kalamazoo, Michigan EPA-HQ-OLEM-2023-0470 EPA SEMS Collection ID No. 05-42453					
EPA Document Region	Document ID	Document Date	Document Title	Pages	SEMS-Public Document URL
05	517517	05/01/2011	ARCADIS - FINAL REMEDIAL DESIGN REPORT	1046	https://semspub.epa.gov/src/document/05/517517
05	517516	05/01/2011	ARCADIS - CONSTRUCTION DRAWINGS WILLOW BOULEVARD / A-SITE LANDFILL OPERABLE UNIT 2 FINAL REMEDIAL DESIGN	21	https://semspub.epa.gov/src/document/05/517516
05	444049	07/22/2010	DECLARATION OF RESTRICTIVE COVENANTS AND ENVIRONMENTAL PROTECTION EASEMENT	22	https://semspub.epa.gov/src/document/05/444049
05	310023	05/18/2009	CONSENT DECREE (CD) (SIGNED) - DESIGN & IMPLEMENTATION OF CERTAIN RESPONSE ACTIONS AT OPERABLE UNIT 2 OF ALLIED PAPER INC/PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE - CIVIL ACTION NO 1-09-CV-429	175	https://semspub.epa.gov/src/document/05/310023
05	281599	10/18/2007	FIRST FIVE-YEAR REVIEW REPORT (SIGNED) - 2007	174	https://semspub.epa.gov/src/document/05/281599
05	249483	09/27/2006	RECORD OF DECISION FOR WILLOW BOULEVARD/A-SITE OPERABLE UNIT #2	125	https://semspub.epa.gov/src/document/05/249483

NPL Partial Deletion Docket Reports Index: Initial - 11/20/2023 Area East of Davis Creek and Non-Easement Extension Area Portion of Willow Boulevard/A-Site (OU2) of the Allied Paper/Kalamazoo River/Portage Creek Superfund Site, Kalamazoo, Michigan EPA-HQ-OLEM-2023-0470 EPA SEMS Collection ID No. 05-42453					
EPA Document Region	Document ID	Document Date	Document Title	Pages	SEMS-Public Document URL
05	294918	08/03/2005	EPA - ALLIED PAPER/PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE AGENDA - PROPOSED PLAN FOR WILLOW BLVD/A-SITE	2	https://semspub.epa.gov/src/document/05/294918
05	235551	07/14/2005	ADMINISTRATIVE RECORD SITE INDEX - OPERABLE UNIT 2 (WILLOW BOULEVARD / SITE)	6	https://semspub.epa.gov/src/document/05/235551
05	985832	12/02/2004	[REDACTED] REMEDIAL INVESTIGATION/FOCUSED FEASIBILITY STUDY REPORT	1803	https://semspub.epa.gov/src/document/05/985832