Proposed Plan Fact Sheet

OU1/OU2 of the Anniston PCB Superfund Site

Residential and Commercial Properties, Parks and Schools, Industrial Parks, Drainage Corridors and Floodplains in Anniston, Oxford, Hobson City, and parts of Calhoun County, Alabama

March 2017

Introduction

The public is invited to review and comment on this Proposed Plan to determine the remedial actions needed to protect human health and the environment at the Anniston PCB Superfund Site (the Site) located in and around Anniston, Oxford, Hobson City, and parts of Calhoun County, Alabama.

The Proposed Plan presents alternative remedial actions considered to address contamination in Operable Unit 1 (OU1, residential properties) and Operable Unit 2 (OU2, non-residential properties) at the Site. Operable Unit 3 (OU3, the former Monsanto facility and adjacent landfills) was addressed in a separate Proposed Plan and Record of Decision in 2010 and 2011. Operable Unit 4 (OU4, Choccolocco Creek and its floodplain) will be addressed in a future Proposed Plan.

Because long-term management tools, otherwise known as institutional controls, are instrumental to the protectiveness of the cleanup, this document is divided into three sections. *Part One* provides a summary of the Site characteristics, risks, objectives, and alternatives considered for the construction portion of the remedy. *Part Two* discusses the longterm management of PCB residuals, with institutional controls and other management controls. *Part Three* includes a comparative evaluation and summarizes the EPA's preferred alternative.

The EPA is required to issue a Proposed Plan and solicit public comments during a public comment period (March 13 to May 12, 2017) and at public meetings. At the end of the comment period, the EPA will consider and respond to all relevant comments provided. The EPA may then select the preferred alternative, modify it, select another alternative, or develop new alternatives if public comments warrant or if new information is presented. That selection will be presented in a written Record of Decision.

We want your input!

Public comment period:
March 13 to May 12, 2017

During the comment period, the EPA is accepting comments on this Proposed Plan, as well as the supporting documents, including the remedial investigation, feasibility study and human health and ecological risk assessments. Mail or email comments to:

Pam Scully
U.S.EPA Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303
scully.pam@epa.gov

Mark your calendars!

The EPA is hosting two public meetings to present this Proposed Plan and accept public comment:

6-8 p.m. Thursday, March 23, Anniston Meeting Center, 1615 Noble St, Anniston

6-8 p.m. Friday, March 24, Oxford Civic Center, 401 McCullars Lane, Oxford

The EPA will also host a public availability session to answer the community's questions about the Proposed Plan:

10 a.m.-2 p.m. Saturday, March 25, Carver Community Center, 720 W 14th St, Anniston

Part One: Site Characteristics, Risks, Objectives, and Alternatives

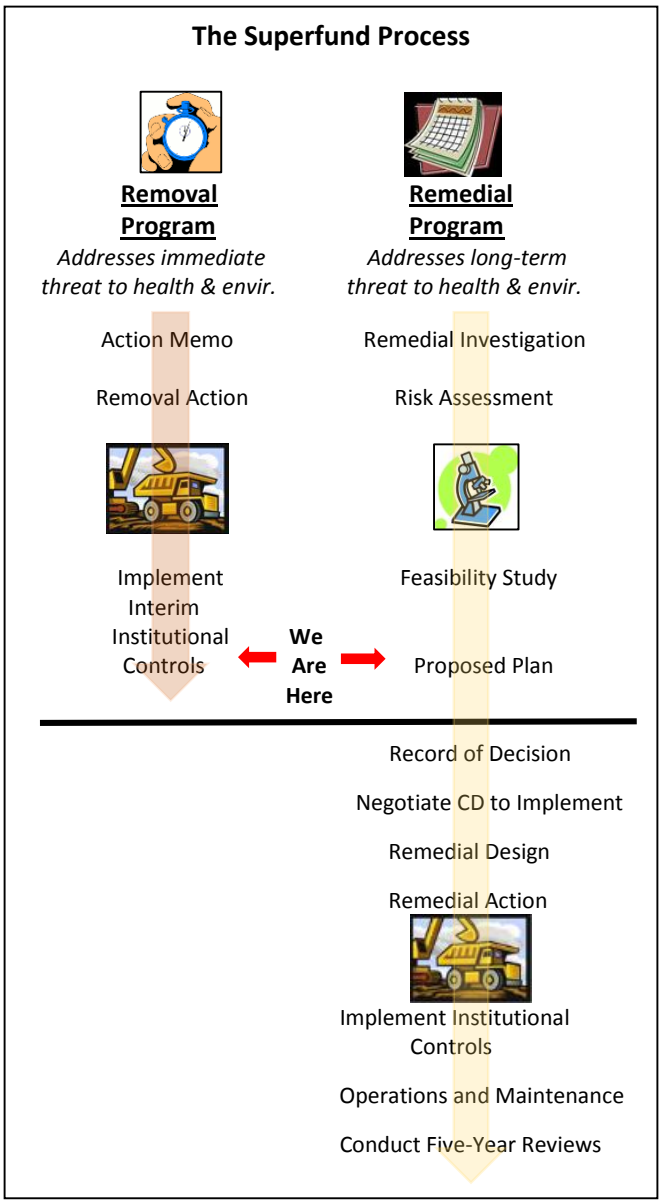
What is the Superfund Process?

The Superfund Process includes the response actions under either the Removal Program or the Remedial Program. The Removal Program is designed to quickly address immediate threats to human health and the environment. The Remedial Program is designed to address long-term threats to human health and the environment.

Removal Work at the Site
Since 2000, the EPA has used removal authority to ensure that the potentially responsible parties (PRPs) focused investigations and removal actions on residential exposure to PCBs. This has allowed immediate reduction of human health risks while more detailed investigations have taken place.

The PRPs have investigated thousands of properties and conducted removals at more than 719 private homes and properties. Removals have also taken place at high activity areas on 14 special use properties, including church and school playgrounds, parks and other public areas. More than 140,000 cubic yards (CY) of PCB impacted soil have been removed. Removal actions will continue as needed until a Record of Decision is signed, remedial design is complete, and remedial action begins.

Remedial Work at the Site
Since 2003, the EPA has also worked under the Remedial Program at the Site. This Proposed Plan is part of a multi-step process that occurs under the EPA's Remedial Program and includes everything from site discovery through deletion. The remedial investigation for OU1/OU2 was completed in 2015. Investigation data from 1999 to 2014 were used in the Site-wide risk assessments and feasibility study.



Note: The graphic above shows the parts of the Superfund Process being implemented at the Site. There are more activities in the Superfund process than shown in this graphic.

Site Background

Eastman Chemical is the current owner of a chemical plant in Anniston, Alabama, formerly owned and operated by the Monsanto Chemical Company. PCBs were manufactured at the plant from 1929 through 1971. Other chemicals were also manufactured at the plant. Eastman currently produces polyphenyl compounds and phosphate ester-based non-flammable hydraulic fluids at the plant.

Surface water containing PCBs from the plant and adjacent landfills discharged to a ditch which flowed into local and downstream waterways. Sediments in waterways leading away from the area, as well as, soils in the floodplains of these waterways, were

investigated to assess the levels of PCBs and other contaminants present. Areas outside of the floodplains were also investigated because the distribution of PCBs may have also occurred through the air pathway and through the use of contaminated soil as fill.

Operations at the plant are regulated by environmental laws implemented by the EPA and the Alabama Department of Environmental Management (ADEM). In 2000, the EPA began taking response actions under the Superfund Program to address residential exposure to PCBs released from the plant. In 2003, a Partial Consent Decree was entered by the Northern District Court of Alabama that allowed for continued removal actions and remedial investigations and feasibility studies to determine what long-term actions are necessary to protect human health and the environment from PCBs and other contaminants found during the investigations.

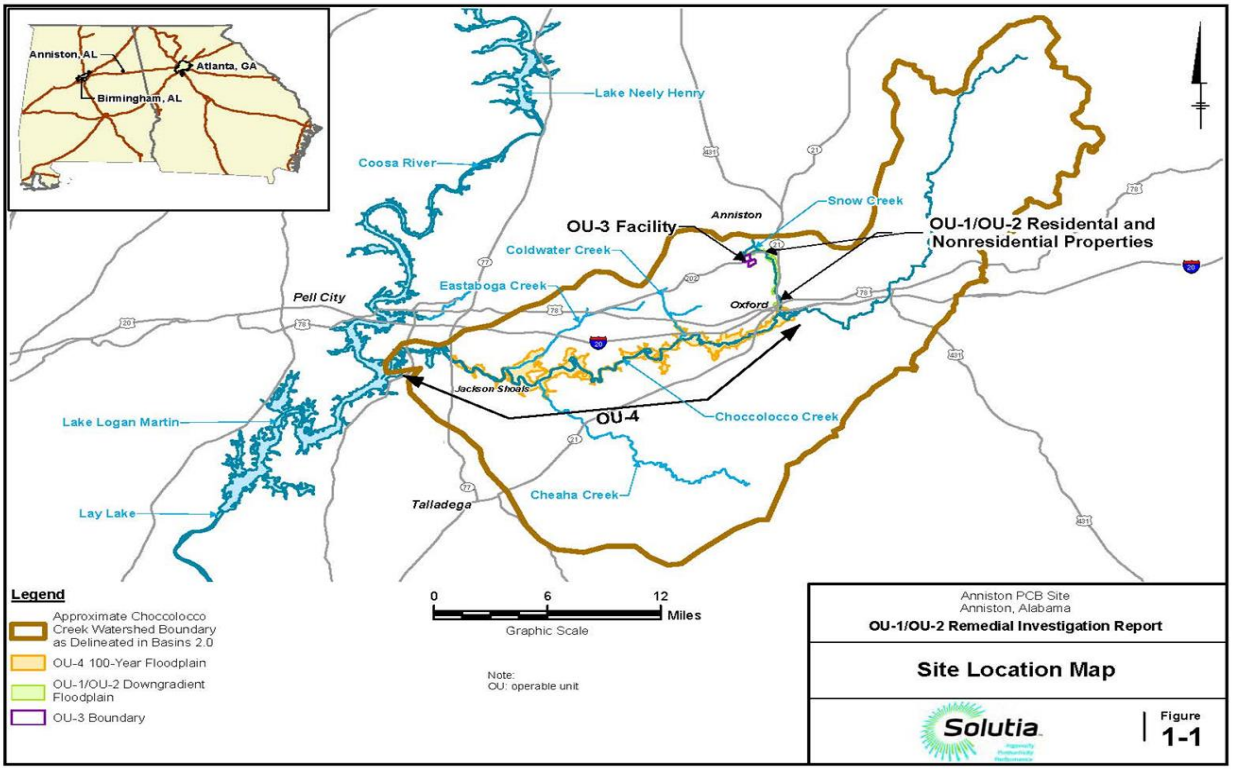
A long-term remedy has been implemented at the plant (OU3). This Proposed Plan describes the proposed long-term remedy for residential and non-residential areas (OU1/OU2) around the plant and downstream along the Snow Creek drainage way.

Site Characteristics

OU1/OU2 covers approximately 813 acres in Anniston, Hobson City, Oxford, and Calhoun County, Alabama. Surface and subsurface soil, sediment, surface water, and air were all investigated for PCB contamination. Other contaminants were investigated to a lesser extent to help assess risk.

Although residences and businesses in the study area are on municipal water supplies for their potable water needs, groundwater resources are potential drinking water sources in the State of Alabama that must be restored for possible future use. Groundwater was primarily evaluated in the investigation of OU3 and qualitatively evaluated again in OU1/OU2.

Ecological receptors of contaminants in sediment and surface water were evaluated, but terrestrial receptors were not. Terrestrial areas were determined to be extremely disturbed and offered limited suitable habitat. A more complete and complex baseline assessment of ecological risk is being conducted for the downstream waterway, Choccolocco Creek (OU4), which is located in a more rural, less developed setting.



What are the Sources of PCBs?

In the United States, Monsanto Company was the only manufacturer of PCBs. Other companies purchased the PCBs and used them in dielectric and coolant fluids in electrical equipment, fluids for machining operations, heat transfer fluids, and in a number of consumer products. Monsanto manufactured PCBs at two locations: Sauget, Illinois, and Anniston, Alabama.

The EPA determined that the majority of the PCBs released into the environment at the Anniston PCB Site are from the former Monsanto PCB manufacturing operation.

The EPA further determined that other industrial operations in the area may have contributed a less significant amount of PCB contamination to the same environmental receptors. The EPA signed a "de minimus" settlement agreement with eleven industrial parties for the cleanup of PCBs that were co-located with high concentrations of lead contamination in residential soils that the eleven industrial parties were cleaning up. Any residual PCBs on properties cleaned up by the eleven industrial parties remain as part of the Anniston PCB Site and are impacted by this Proposed Plan.

Who is Exposed and How?

Residents, commercial and industrial workers, commercial visitors, workers and children at schools and daycares, adolescent trespassers, recreational users, and construction and utility workers may be exposed through:

- unprotected skin contact with contaminated soil;
- inadvertently eating contaminated soil that has not been removed from hands; and
- breathing in contaminated dust when contaminated soil is disturbed.

Additionally, fish, birds, mammals, reptiles, amphibians, aquatics plants, and macro-invertebrates (e.g., bottom-dwelling animals such as crustaceans, worms, and aquatic insects) may be exposed through direct contact or ingestion of contaminants in soil, sediment, surface water, or aquatic prey.

Assessing Risks to Human Health

Cancer risks and hazard quotients are used to identify risk to human health. They are determined by the estimated concentration of the contaminants, standard exposure parameters, and chemical-specific toxicity values.

For cancer, the EPA has defined the acceptable risk within a range from 1 additional cancer in 1,000,000 exposed individuals ($1x10^{-6}$) to 1 in 10,000 ($1x10^{-4}$). Calculated risks that are greater than the upper limit of this cancer risk range ($1x10^{-4}$) are evaluated further to determine the need for remediation.

For non-cancer effects, the EPA calculates a value known as a hazard quotient. The sum of the quotients from multiple pathways is known as the hazard index (HI). If the cumulative HI is less than or equal to 1, remedial action is generally not needed to protect human health and the environment.

For PCBs in soils on residential properties:

- there were multiple properties with cancer risks above the upper limit for adult and child residents; and
- there were multiple properties with non-cancer HIs greater than 1, for adult and child residents.

For PCBs in surface soil on non-residential properties:

- there was one area with cancer risks above the upper limit for the industrial/commercial worker (adult);
- there were fourteen other areas with risk within the acceptable cancer risk range; and
- seven areas were identified with non-cancer HIs greater than 1, creating a risk for specific exposure pathways occurring in those area.

For PCBs in subsurface soil on all properties:

- there is little unacceptable risk to any receptors on residential properties;
- there are potential risks to utility and construction workers from PCBs in isolated industrial areas, though not from the larger OU1/OU2 area; and
- there are many areas where PCBs residuals are present that require management.

Though PCBs were identified as the primary contaminant of concern for the Site, an evaluation of the Site-wide exposure to other contaminants found in industrial areas of the Site determined that arsenic, chromium, benzo(a)pyrene equivalent (BaPE) concentrations, and total dioxin equivalent concentrations:

- could lead to unacceptable cancer and non-cancer risks and hazards; and
- the highest concentrations of these non-PCB constituents are isolated occurrences (hot spot, not a Site-wide issues).

Assessing Risk to Ecological Receptors

The ecological risk assessment conducted for the OU1/OU2 portion of Snow Creek indicates that there are some risks to benthic invertebrates from exposure to PCBs and some metals in localized area sediments and surface water. For benthic invertebrates as well as the avian and mammalian receptors, several sediment samples exceeded the Site-specific risk-based concentrations for PCBs and several metals. The highest sediment exceedances are generally located near the confluence of the 11th Street Ditch and Snow Creek and near the culverts at the Highway 202 underpass.

There is uncertainty regarding potential risks to populations of avian and mammalian species that could reside or forage within this area, as habitat constraints may limit exposure to large numbers of these receptors for extended periods of time. Some level of risk to birds is possible from exposure to PCBs, chromium, lead, manganese, mercury, nickel, and vanadium. Some level of risk to mammals is also possible from exposure to PCBs, chromium, manganese, and nickel.

Prior Response Actions

As discussed in the Site Background section, the EPA began taking response actions at the Site in 2000. Prior to that a number of actions were taken under the oversight of ADEM. A description of prior response actions in the eight categories of properties that have been used in the feasibility study evaluations is as follows:

- **Residential Soil.** PCB samples were collected in soils on more than 7,600 residential properties. PCB concentrations were detected in soils at concentrations greater than or equal to 1.0 milligram per kilogram (mg/kg) on 783 residential properties and non-time-critical (NTC) removal actions were conducted on 719 of these properties. Sixty- four (64) residential properties with PCB concentrations greater than 1 mg/kg in surface soils have not been cleaned up: 43 are wooded lots where no exposure is currently occurring; and 21 are properties where access has been denied by the property owner. Residual PCB contamination between 1 mg/kg and 10 mg/kg remains on 104 properties below the 1-ft thick layer of clean backfill installed during the removal action. Four hundred thirty three (433) properties have the potential to have PCBs greater than 1 mg/kg under the current structures (houses, driveways, sidewalks, garages, sheds). These residual PCBs were evaluated in the feasibility study.
- **Special Use Properties.** Special use properties are a subset of non-residential properties where children may congregate. The high activity areas (HAA) of schools, churches, day-care centers, community centers, playgrounds, and parks (i.e., special use properties) were sampled and cleaned up in accordance with residential standards under the NTC removal action.

Low activity areas (LAA) on these properties have not yet been addressed. Forty-one (41) special use properties were sampled. PCB concentrations were detected in soils at concentrations greater than 1.0 mg/kg on 23 properties and removals were conducted in high activity areas on 15 properties. PCB concentrations greater than 1.0 mg/kg are present in low activity areas on 19 properties that have not been addressed. Residual contamination between 1 mg/kg and 10 mg/kg remains on three (3) special use properties below the 1-ft thick layer of clean backfill. Fourteen (14) special use properties have the potential to have PCBs greater than 1 mg/kg under structures. These residual PCBs were evaluated in the feasibility study.

- **Interim Measures**. Interim Measures have been taken to reduce the potential for migration of PCBs to areas downstream. These interim measures have been implemented on non-residential properties under the jurisdiction of ADEM. The measures primarily involve capping and drainage improvements. The areas where they have been implemented are known as: the Northside Area, the Eastside Area, the Eastside Drainage Way (through the former Miller Property), the Alabama Power Company (APCO) Drainage Ditch, the Quintard Mall, the 11th Street Ditch, and the Hall Street Properties. The effectiveness of the interim measures at preventing exposure was evaluated in the feasibility study to determine if additional actions are needed.

- **Dredge Spoil Piles.** Dredging activities previously performed in Snow Creek by the City of Anniston resulted in a series of dredge spoil piles being placed along the nearby banks of the creek. Four (4) of 8 piles have been removed. One (1) labeled SC-3 was removed during a residential removal and 3 labeled SC-4, SC-5 and SC-6 were removed during sediment removal activities. The condition of the remaining 4 piles labeled SC-1, SC-2, SC-7, and SC-8 was evaluated in the feasibility study.

- **Unapproved Waste Disposal Areas.** Two waste disposal areas were found during the course of the remedial investigation. The areas are substantially auto fluff disposal areas. No prior response actions have taken place on these properties. Alternatives to address the longterm human health risks from these areas were evaluated separately in the feasibility study.

- **Non-Residential Properties (i.e., commercial/industrial properties).** Large areas of non-residential, commercial/industrial, properties are present in the Snow Creek floodplain. No prior response actions have been undertaken on these properties as related to this Site. There may have been actions taken by property owners that are not relevant to this investigation. These properties were evaluated in the feasibility study.

- **Groundwater at T-11.** The only groundwater contamination found away from OU3, the former Monsanto facility and adjacent landfills, was at monitoring well T-11, located on a relatively isolated property across from where the 11th Street Ditch discharges into Snow Creek. The triangular area bounded by the railroad and Snow Creek has never been addressed by prior response actions, and soil and groundwater in the T-11 area were evaluated in the feasibility study.

- **Snow Creek Sediment and Creek Banks**. In November 2009, the City of Anniston conducted sediment removal activities in Snow Creek to improve stream flow and reduce flooding potential in the Glen Addie area. Sediment along the north and south sides of the creek were targeted for removal. The excavated sediments were above the water line, and de-watering was not necessary. The sediments were transported to the Three Corners Landfill in Piedmont, Alabama. Following the removal activities, the disturbed areas were restored with seeding and mulching. In conjunction with the sediment removal activities, three dredge spoil piles were removed. Approximately 405 tons of soil/sediment containing less than 50 mg/kg of PCBs was

transported to Three Corners Landfill for disposal. Approximately 12 tons of soil from the removed dredge spoil piles containing PCB concentrations greater than 50 mg/kg were disposed of at Chemical Waste Management's Toxic Substance Control Act (TSCA) - approved landfill in Emelle, Alabama. Following completion of the removal activities, disturbed areas were either seeded and mulched or covered with gravel. Contamination in the remaining sediments in Snow Creek were evaluated in the feasibility study.

Remedial Action Objectives

Remedial action objectives (RAOs) provide a general description of what a cleanup will accomplish, and were used to develop the cleanup options described in the next sections. Objectives were established for soil, sediment, groundwater and surface water.

Soil Remedial Action Objectives:

- Reduce risks to residents, school children, and other users from direct contact with, inhalation of, or incidental ingestion of PCBs in surface soil to levels that are protective.
- Reduce risks to industrial and commercial workers, commercial visitors, trespassers and recreational activities associated with direct contact with, inhalation of, or incidental ingestion of contaminants of concern in surface soil to levels that are protective.
- Reduce risks to construction and utility workers from direct contact with, inhalation of, or incidental ingestion of contaminants of concern in surface and subsurface soil to levels that are protective.
- Reduce migration of contaminants of concern from surface soil to surface water.
- Prevent migration and leaching of PCBs in surface and subsurface soils to groundwater above levels that are protective of beneficial use (i.e., drinking water standards).

Sediment Remedial Action Objectives:

- Reduce risks to ecological receptors from exposures to contaminants of concern in sediments in Snow Creek to levels that are protective.
- Minimize creek bank soils as a potential source of PCBs to Snow Creek and OU4.

Groundwater Remedial Action Objectives:

- Prevent exposure to groundwater from direct contact with, inhalation of, or ingestion of PCBs in groundwater above acceptable levels that are protective of beneficial use (i.e., drinking water standards).
- Restore contaminated groundwater throughout the plume, or at and beyond the edge of designated area to levels that are protective of beneficial use (i.e., drinking water standards).

Surface Water Remedial Action Objectives:

- Reduce contaminants of concern concentrations in surface water to meet Ambient Water Quality Criteria.

Preliminary Remedial Goals

To achieve the remedial action objectives identified above, preliminary remedial goals (PRGs) for soils and sediment were established based on the human health and ecological risk assessments. A range of goals were considered that provide different degrees of protection.

PRGs for groundwater and surface water were established based on regulations referred to as Applicable or Relevant and Appropriate Requirements (ARARs).

Preliminary Remedial Goals

MEDIA	CONTAMINANTS	PRELIMINARY REMEDIAL GOAL[1]	BASIS
Soil - Residential			
Surface	PCBs	1 mg/kg	Human Health Risk Assessment (HHRA)
Subsurface	PCBs	10 mg/kg	PCB Guidance
Soil – Non-Residential			
Surface	PCBs	21 mg/kg or 9 mg/kg	HHRA
	Arsenic	382 mg/kg	HHRA
	Chromium VI	568 mg/kg	HHRA
	PAHs	21 mg/kg	HHRA
	Dioxins Equivalents	730 ng/kg	Regional Screening Level (RSL)
Subsurface	PCBs	97 mg/kg	HHRA
	Arsenic	596 mg/kg	HHRA
	Chromium VI	6936 mg/kg	HHRA
	PAHs	534 mg/kg	HHRA
	Dioxins TEQ	730 ng/kg	RSL
Sediment	PCBs	3 mg/kg or 1 mg/kg	Streamlined Ecological Risk Assessment (SERA)
	Barium	322 mg/kg	SERA
	Chromium	111 mg/kg	SERA
	Cobalt	59 mg/kg	SERA
	Lead	128 mg/kg	SERA
	Manganese	1,100 mg/kg	SERA
	Mercury	1 mg/kg	SERA
	Nickel	46 mg/kg	SERA
	Vanadium	41 mg/kg	SERA
Groundwater	PCBs	0.5 µg/L	ARAR
Surface Water	PCBs	0.014 µg/L	ARAR
	Chromium VI / III	11 µg/L / 74 µg/L	ARAR
	Lead	2.5 µg/L	ARAR

[1] Verify during remedial design that Preliminary Remedial Goals for Non-PCB contaminants in soils are protective of groundwater.

Alternatives Considered for Remedial Action

The EPA evaluated a variety of remedial technologies and process options to develop remedial alternatives for the eight categories of remedies. These evaluations are described in the feasibility study. Between 3 and 6 alternatives were compared in each of the categories of remedies and was assessed to determine its ability to protect human health and the environment by overall effectiveness, implementability, and cost. The remaining alternatives were retained for detailed analysis, including no action/no further action which is required as a baseline for comparison.

Most of the alternatives result in residual PCB contamination remaining that require institutional controls to ensure that human activity does not cause damage to the remedy and to restrict uses or activities that could pose an unacceptable exposure. Institutional controls and other management controls will be discussed in more detail in Part Two of this Proposed Plan. Available institutional controls will be documented in the Record of Decision or the remedial design in consultation with the EPA, ADEM, Calhoun County, the Cities of Anniston and Oxford, the Town of Hobson City, and the public. Operation and maintenance activities are also required to ensure the long-term effectiveness of the remedy.

The tables that follow summarize the similarities and differences between the alternatives. Cost estimates are presented for comparison of the alternatives. Actual costs may range from 30 percent lower to 50 percent higher than costs developed for the feasibility study.

How Do Remedial Alternatives for Residential Soil Compare to One Another?

Considerations:	RS-1 No Action	RS-2 Complete Non-Time-Critical Removal and Manage PCB Residuals	RS-3 Excavate PCBs ≥ 1 mg/kg at all depths and Manage PCB Residuals
Excavation	None.	Excavate soil with PCBs ≥ 1 mg/kg in top foot and PCBs ≥ 10 mg/kg below top foot - 18,400 Cubic Yards (CY).	Excavate all accessible soils[1] ≥ 1 mg/kg at all depths - 56,000 CY.
Covers	None.	Structures and clean backfill.	Structures.
Exceptions	None.	Where structures or tree roots prevent complete removal at depth.	
Relocation	None.	Residents offered temporary relocation during excavation.	
Disposal	None.	Soils with PCBs concentrations < 10 mg/kg can be disposed onsite; soils with PCBs concentrations ≥ 10 mg/kg must be disposed offsite at approved landfills.	
Treatment	None.	None; volume and sporadic implementation rate of remaining work and concentrations too low to justify.	
Re-vegetation	None.	Re-vegetated or otherwise restored to pre-remediation condition if possible.	
Institutional Controls (ICs)	None.	Use ICs if available to protect the remedy, manage contaminated soil when it becomes accessible, and provide awareness of risks from exposure.	
Monitoring and Maintenance	None.	Contact residents about residual PCBs present in subsurface and work with local governments about demolitions and excavation on impacted properties. Voluntary deed notices should be implemented.	
Cost Estimate[2]	$ 0	$ 7,300,000	$ 15,700,000
Timeframe	None.	64 properties remain.[3] Access and development issues control construction timeframe. Management of residuals at 433 properties until no longer a concern.[4] Costs reflect 30 years to manage PCB residuals.	168 properties impacted.[5] Access and development issues control construction timeframe. Management of residuals at 429 properties until no longer a concern.[6] Costs reflect 30 years to manage PCB residuals.

[1] Accessible soils are soils not under structures (i.e., houses, driveways, sidewalks, garages, sheds).
[2] Cost estimates do not include the cost to manage PCB residuals at properties cleaned up by the Anniston Lead Site (5 with structures and PCBs > 1 mg/kg at depth, 4 with only PCBs > 1 mg/kg at depth, and 48 with structures and no PCBs at depth).
[3] Properties remaining for cleanup in RS-2 include 21 with access issues and 43 that are wooded/overgrown with little accessibility.
[4] Properties with structures that require longterm controls or soil management in RS-2 to ensure no unacceptable exposure occurs total 433 (380 from the Anniston PCB Site and 53 from the Anniston Lead Site).
[5] Properties remaining for cleanup in RS-3 include 21 with access issues, 43 that are wooded/overgrown with little accessibility and 104 with PCBs > 1 mg/kg at depth.(95 left by the Anniston PCB Site PRPs and 9 left by the Anniston Lead Site PRPs).
[6] Properties with structures that require longterm controls or soil management to ensure no unacceptable exposure occurs total 429 (380 from the Anniston PCB Site and 49 from the Anniston Lead Site).

How Do Remedial Alternatives for Special Use Properties Compare to One Another?

Considerations:	SU-1 No Action	SU-2 Excavate Low Activity Areas to Non-Residential Goal and Manage PCB Residuals	SU-3 Excavate Low Activity Areas to Residential Goal and Manage PCB Residuals	SU-4 Excavate PCBs ≥ 1 mg/kg in High and Low Activity Areas and Manage PCB Residuals
Excavation	None.	Excavate 1,000 CY from Low Activity Areas when property use changes.[1]	Excavate 10,600 CY from Low Activity Areas if PCBs in soils ≥ 1 mg/kg in surface soil.	Excavate 14,400 CY (in High and Low Activity Areas if PCBs in soils ≥ 1 mg/kg at all depths).
Covers	None.	Structures and clean backfill.	Structures and clean backfill.	Structures.
Exceptions	None.	Where structures prevent complete removal.		
Relocation	None.	No temporary or permanent relocation required.		
Disposal?	None.	Soils with PCBs concentrations < 10 mg/kg disposed onsite; soils with PCBs concentrations ≥ 10 mg/kg disposed offsite at approved landfills.		
Treatment	None.	None. Volume and sporadic implementation rate of remaining work and concentrations too low to justify treatment.		
Re-vegetation	None.	Re-vegetated or otherwise restored to pre-remediation condition if possible.		
Institutional Controls (ICs)	None.	Use ICs if available to protect the remedy, manage contaminated soil when it becomes accessible, and provide awareness of risks from exposure. Voluntary deed notices should be implemented.		
Monitoring and Maintenance	None.	Contact owners about residual PCBs present in surface and/or subsurface soils and work with local governments about high activity area changes, demolitions and excavations on impacted properties.		
Cost Estimate	$ 0	$ 500,000	$ 3,100,000	$ 3,900,000
Timeframe	None.	No low-activity areas require removal to meet non-residential goal. Management of residuals at surface, subsurface and under structures is required. Costs reflect 30 years to manage PCB residuals in soils.	19 properties impacted. Access issues control construction timeframe. Management of residuals at subsurface and under structures is required. Costs reflect 30 years to manage PCB residuals in soils.	22 properties impacted. Access issues control construction timeframe. Management of residuals under structures is required. Costs reflect 30 years to manage PCB residuals in soils.

How Do Remedial Alternatives for Interim Measures Compare to One Another?

Considerations	IM-1 No Action	IM-2 Expand Existing Interim Measures (IMs) to Meet Non-Residential Goal; Excavate any Principal Threat Waste (PTW) found within IMs if Leaching to Groundwater	IM-3 Expand Existing IMs to meet Non-Residential Goal; Excavate Potential PTW at Railroad (RR) and McDaniel; and Excavate any PTW found within IMs if Leaching to Groundwater	IM-4 Excavate around Existing IMs to Meet Non-Residential Goals; Excavate any PTW found within IMs if Leaching to Groundwater
Excavation	None.	None. Assume no additional PTW within IMs (confirm with design).	Excavate 67 CY at RR and McDaniel. Assume no additional PTW within IMs (confirm with design).	Excavate 4,200 CY soils outside measures to meet non-residential goals. Assume no additional PTW within IMs (confirm with design).
Covers	None.	Expand IM caps using 1-ft of soil over a 12,100 Square Yard (SY) area and geomembrane over a 300 SY area.	Expand IM caps using 1-ft of soil over a 12,100 SY area.	No new caps.
Exceptions	None.	Allowance for modifications in or near railroad easement.		
Relocation	None.	Purchase inaccessible private property within eastside area when available and incorporate into IM cap.		
Disposal	None.	None.	Dispose of excavated soils offsite (100% > 50 mg/kg).	Dispose of excavated soils offsite (20% > 50 mg/kg).
Treatment	None.	None. PWT considered effectively contained unless design sampling indicates otherwise.		
Re-vegetation	None.	Re-vegetate or otherwise restored to pre-remediation condition if possible.		
Institutional Controls (ICs)	None.	Environmental easements/covenants following state requirements should be put in place.		
Monitoring and Maintenance	None.	Contact owners about covers present; maintain caps as necessary to protect remedy.		
Cost Estimate	$ 0	$ 2,600,000	$ 2,600,000	$ 4,300,000
Timeframe	None.	3 months to implement. Management of residuals required. Costs reflect 30 years of management.		

How Do Remedial Alternatives for Dredge Spoil Piles Compare to One Another?

Considerations:	DSP-1 No Action	DSP-2 Excavate to Non-Residential Goal and Offsite Disposal	DSP-3 Excavate to Non-Residential Goal and Onsite Disposal	DSP-4 Excavate All Dredge Spoil Piles and Offsite Disposal	DSP-5 Excavate All Dredge Spoil Piles and Onsite Disposal
Excavation	None.	Excavate pile labeled SC-8 (4,900 CY).	Excavate pile labeled SC-8 (4,900 CY).	Excavate piles labeled SC-1, SC-2, SC-7, and SC-8 (7,300 CY).	Excavate piles labeled SC-1, SC-2, SC-7, and SC-8 (7,300 CY).
Covers	None.	None.	None.	None.	None.
Exceptions	None.	Allowance for modifications in or near railroad easement.			
Relocation	None.	No temporary or permanent relocation required.			
Disposal	None.	Offsite disposal.	Onsite disposal (Offsite disposal only if PCBs ≥ 50 mg/kg detected).	Offsite disposal.	Onsite disposal (Offsite disposal only if PCBs ≥ 50 mg/kg detected).
Treatment	None.	None; concentrations too low to justify.			
Re-vegetation	None.	Re-vegetate as needed to prevent erosion and match existing land use.			
Institutional Controls	None.	Remaining spoil piles will be treated as part of the non-residential property where they are located.		None.	
Monitoring and Maintenance	None.	Remaining spoil piles will be treated as part of the non-residential property where they are located.		None.	
Cost Estimate	$ 0	$ 900,000	$ 500,000	$ 1,400,000	$ 700,000
Timeframe	None.	One month to implement.			

How Do Remedial Alternatives for Unapproved Waste Disposal Areas Compare to One Another?

Considerations	UWDA-1 No Action	UWDA-2 Soil Cap with Marker Layer	UWDA-3 RCRA Subtitle-D Cap	UWDA-4 Excavate Waste and Offsite Disposal
Excavation	None.	None.	None.	Excavate 101,700 CY of waste.
Covers	None.	4.5 acres covered with marker layer, 1 foot of soil and vegetation.	4.5 acres covered with geo-membrane and geocomposite drainage layers, 18-inches of soil backfill and vegetation.	None.
Exceptions	None.	Owners are individual landowners who should be onboard with remedy, able to maintain and agree to use restrictions that might be relevant.		
Relocation	None.	No temporary or permanent relocation required.		
Disposal	None.	None.		Dispose offsite. Assume 50% of PCBs ≥ 50 mg/kg.
Treatment	None.	None.		Stabilization required if leaching of metals detected.
Re-vegetation	None.	Re-vegetate as needed to prevent erosion.		
Institutional Controls	None.	Environmental easements/covenants following state requirements should be put in place.		None.
Monitoring and Maintenance	None.	Maintain caps as necessary to protect remedy.		None.
Cost Estimate	$0	$ 1,600,000	$ 2,800,000	$ 41,200,000
Timeframe	None.	Construction 2 months. O&M of caps required. Costs reflect 30 years of O&M.	Construction 3 months. O&M of caps required. Costs reflect 30 years of O&M.	Implementation 9 months.

How Do Remedial Alternatives for Non-Residential Soil Compare to One Another?

Considerations: a) goal 21 mg/kg b) goal 9 mg/kg	NRS-1 No Action	NRS-2 a) and b) Combination Capping and Excavation; Onsite and Offsite Disposal; and Management of PCB Residuals	NRS-3 a) and b) Excavate Soil; Onsite and Offsite Disposal; and Manage PCB Residuals	NRS-4 a) and b) Excavate; Offsite Disposal; and Manage PCB Residuals	NRS-5 a) and b) Excavate, Offsite Treatment of Soils and Manage of PCB Residuals	NRS-6 a) and b) Excavate, Onsite Thermal Desorption of Soils and Manage PCB Residuals
Excavation[1]	None.	Excavate a) 3,500 CY for goal of 21 mg/kg or b) 8,600 CY for goal of 9 mg/kg).	Excavate a) 9,700 CY for non-residential goal of 21 mg/kg or b) 26,700 CY for non-residential goal of 9 mg/kg.			
Covers	None.	Install 12-inch (or more if required) clean soil backfill in excavated areas. Structures may also cover contamination in floodplain.				
		Area is a) 7,100 SY for goal 21 mg/kg or b) 22,600 SY for goal 9 mg/kg.	Area is a) 9,700 SY for non-residential goal of 21 mg/kg or b) 15,800 SY for non-residential goal of 9 mg/kg.			
Exceptions	None.	Exception may be made where structures prevent complete removal. Owners are individual landowners who should be onboard with remedy, able to maintain the remedy, and agree to use restrictions that might be relevant.				
Relocation	None.	No temporary or permanent relocation anticipated.				
Disposal	None.	Onsite disposal if PCBs < 50 mg/kg (assume 38%), offsite if PCBs ≥ 50 mg/kg (assume 62%).	Onsite disposal if PCBs < 50 mg/kg (assume 37%), offsite if PCBs ≥ 50 mg/kg (assume 63%).	100% disposal to offsite to landfills.	100% disposal to offsite treatment facility.	PCB concentrate from treatment disposed offsite. Treated soils disposed onsite.
Treatment	None.	None.	None.	None.	Ship soils offsite for treatment of PCBs.	Treat onsite with Thermal Desorption.
Re-vegetation	None.	Re-vegetate as needed to prevent erosion.				
Institutional Controls (ICs)	None.	Use ICs if available to protect the remedy, manage contaminated soil when it becomes accessible, and provide awareness of risks from exposure. Voluntary deed notices should be implemented.				
Monitoring and Maintenance	None.	Contact owners about residual PCBs present in subsurface soils or under structures. Owners should maintain				
Cost Estimate	$0	a)$7,900,000(21mg/kg) b)$10,100,000(9mg/kg)	a)$10,000,000(21mg/kg) b) $12,700,000(9mg/kg)	a)$10,400,000(21mg/kg) b) $14,600,000(9mg/kg)	a)$21,000,000(21mg/kg) b)$36,600,000(9mg/kg)	a)$19,100,000(21mg/kg) b)$46,200,000(9mg/kg)
Timeframe	None.	Construction 5 months. Management of PCB residuals required. Costs reflect 30 years of management.	Construction 5 months. Management of PCB residuals required. Costs reflect 30 years of management.	Construction 5 months. Management of PCB residuals required. Costs reflect 30 years of management.	Construction 5 months.	Construction 5 months.

[1] Non-PCB contaminants included in total excavation volume. PAHs (as BaPE) in surface soil exceed the PRG in three locations with an estimated volume of 103 CY. Chromium in surface soil exceeds the PRG in two locations with an estimated volume of 368 CY. The Dioxin Toxic Equivalency Quotient (TEQ) in surface soil exceeded the PRG in two locations at an estimated volume of 133 CY. Total non-PCBs included in the excavation totals is 604 CY.

How Do Remedial Alternatives for Groundwater at T-11 Compare to One Another?

Considerations:	GW-1 No Action	GW-2 Excavate High Concentrations and Surface Soils, Offsite Disposal, Soil Cap and Monitor Groundwater	GW-3 Excavate of High Concentrations and Surface Soil, Offsite Disposal, Low-permeability Cap, Monitor Groundwater and Operations and Maintenance (O&M)	GW-4 Excavate High Concentrations and Surface Soil, Offsite Disposal, Low-permeability Cap, Pump and Treat Groundwater, Monitor Groundwater and O&M
Excavation	None.	Excavate 3,000 CY.	Excavate 4,400 CY.	Excavate 4,500 CY.
Covers	None.	1.7 acres covered with geotextile marker and 12-inches soil backfill.	1.7 acres covered with geomembrane and geocomposite drainage layers, and 18-inches of soil backfill.	
Exceptions	None.	Allowance for modifications in or near railroad easement.		
Relocation	None.	No temporary or permanent relocation required.		
Disposal	None.	Offsite Disposal. Assume 76% of soil have PCBs concentrations ≥ 50 mg/kg.		
Treatment	None.	None.	None.	Treat GW with skid mounted carbon unit.
Re-vegetation	None.	Low maintenance vegetative cover that supports pollinators.		
Institutional Controls	None.	Environmental easements/covenants following state requirements should be put in place. Groundwater use would be restricted.		
Monitoring and Maintenance	None.	Maintain caps as necessary to protect remedy. Monitor groundwater and surface water.		Maintain caps, and pump and treat equipment as necessary to protect remedy.
Cost Estimate	$ 0	$ 2,200,000	$ 3,300,000	$ 4,200,000
Timeframe	None.	Construction 3 months. O&M of caps required. Costs reflect 30 years of O&M.	Construction 6 months. O&M of caps required. Costs reflect 30 years of O&M.	Construction 6 months. Pump and treat assumed for 5 years. O&M of caps required. Costs reflect 30 years of O&M.

How Do Remedial Alternatives for Snow Creek Sediment and Creek Banks Compare to One Another?

Considerations: a) goal 3 mg/kg b) goal 1 mg/kg	SED-1 No Action	SED-2 a) Combination Excavate, Onsite and Offsite Disposal, and Monitored Natural Attenuation (MNA)	SED-3 a) and b) Excavate and Onsite and Offsite Disposal	SED-4 a) and b) Excavate and Offsite Disposal
Excavation[1, 2]	None.	Excavate 2300 CY of sediment with PCBs > 10 mg/kg.	Excavate a) 2500 CY sediment with PCBs > 3 mg/kg or b) excavate 4000 CY with PCBs > 1 mg/kg.	Excavate a) 2500 CY sediment with PCBs > 3 mg/kg or b) excavate 4000 CY with PCBs > 1 mg/kg.
Covers	None.	Cover from natural attenuation of sediment in Snow Creek System.	None.	None.
Exceptions	None.	Where structural stability prevents complete removal.		
Relocation	None.	No temporary or permanent relocation anticipated.		
Disposal	None.	Dispose sediment with PCBs < 50 mg/kg onsite (84%) and dispose sediment with PCBs ≥ 50 mg/kg offsite (16%).	Dispose sediment with PCBs < 50 mg/kg onsite (85%) and dispose sediment with PCBs ≥ 50 mg/kg offsite (15%).	All sediment disposed offsite.
Treatment	None.	As needed to dewater and stabilize sediment for transport.		
Re-vegetation	None.	Re-vegetate banks as needed to prevent erosion / stabilize 13,800 square feet of banks.		
Institutional Controls	None.	Work with county and Cities of Anniston and Oxford to protect the sediment and bank remedy.		
Monitoring and Maintenance	None.	Monitor and maintain banks where needed; monitor natural sedimentation until 3 mg/kg maintained; and monitor sediment to ensure recontamination not occurring.	Monitor and maintain banks where needed; monitor sediment to ensure recontamination not occurring	Monitor and maintain banks where needed; monitor sediment to ensure recontamination not occurring
Cost Estimate	$0	a) $2,700,000 (3 mg/kg)	a) $2,900,000 (3 mg/kg) b) $4,100,000 (1 mg/kg)	a) $3,100,000 (3 mg/kg) b) $4,500,000 (1 mg/kg)
Timeframe	None.	Construction 5 months; Monitoring of natural attenuation and effectiveness evaluated every 5 years.	Construction 5 months. Effectiveness evaluated every 5 years.	Construction 5 months. Effectiveness evaluated every 5 years.

[1] The volume of sediment in the Highway 202 culverts dominates the overall removal volume (1,600 cubic yards).

[2] There were only two sediment deposits identified as candidate remedial areas based on the exceedance of non-PCB PRGs. Sediment deposit S-5-04 is a candidate remedial area as the PRG for manganese is exceeded (estimated at 250 CY). The sediment deposit associated with sample PECON-020 is also a candidate remedial area for sediment as the PRGs for chromium, lead, manganese, and nickel are exceeded (estimated at 2 CY).

Part Two: Long-Term Management of PCB Residuals

Long-term management of residual PCBs is an important part of the remedy and is required with all alternatives, except the ones that require complete removal of PCB concentrations in soil ≥ 1 mg/kg.

Objectives of the PCB Residual Management

To ensure that the remedy remains protective and that risks remain below the EPA's level of concern, the objectives of the PCB residual management are to:

1. Prevent PCB remediation waste (i.e., soils contaminated with PCB concentrations ≥ 1 mg/kg) beneath soil covers, structures, or on undeveloped properties from becoming a source of unacceptable exposure.
2. Ensure proper disposal of PCB remediation waste.
3. Track changes in land use and develop a notification system to ensure that property owners, prospective property owners and workers are aware of remaining or potential PCB remediation waste.
4. Identify and incorporate institutional controls made available by local government bodies that help protect the remedy.

Institutional Controls and Other Management Controls

Some of the activities described below have already been implemented at the Site by the PRP to manage potential encounters with PCBs. EPA recognizes that there may be institutional controls that could be useful at the Site. We encourage local input to develop a comprehensive program of controls that will work best for the impacted communities.

Possible Institutional Controls Under Consideration for the Anniston PCB Site		
Institutional Control	**Purpose**	**Additional Information**
Dept. of Transportation permit.	Prevent exposures in transportation corridors in flood plains and impacted areas by requiring permits for construction or maintenance of highway rights-of-way.	Would properly manage and dispose of PCB remediation waste encountered on, over, or under the right-of way in the Snow Creek floodplain or near the facility.
Permit for disturbance of soil or demolition of structures *(not currently available in impacted areas)*	A permit to manage disturbance of contaminated soil or the demolition of structures in specific properties that are part of the Site.	Would provide access to information and potential resources such as clean fill and free disposal.
Easement or Covenants	Environmental easements or covenants on property; would prevent land use changes and disturbance of PCB remediation waste in impacted areas.	Requires state monitoring and enforcement to be effective.
Property notices	Alert record searchers of property cleanup status by placing documentation in public land records.	Would be used to flag properties where investigation or cleanup has not been completed. Would be voluntary, so not as effective as other types of institutional controls.
Zoning	Prohibit certain activities based on the property location and contamination status.	Could be changed over time, so not as effective as other types of institutional controls.

Other Management Controls That May Be Useful		
Management Control	**Purpose**	**Additional Information**
Written Advisories	Warn potential land users of existing or pending risk associated with PCB remediation waste in subsurface soils or beneath structures.	Letters are currently mailed annually by PRP to impacted residential property owners. Non-residential properties in the floodplain have not yet been advised.
Property status database	Identify and track cleanup status of properties and known areas of contamination; also identify land use.	Searchable database[1] – currently maintained by PRP. EPA maintains residential database.
Educational program for managing exposure	Provide educational tools to help the public avoid exposure and cross contamination with an emphasis on best management practices when potentially encountering PCBs.	Examples include a handbook, school programs, external education and tools for newcomers, ads, materials for those who obtain hunting/fishing licenses and/or city workers conducting excavation.
Property transaction disclosures	Ensure that information about PCB remediation waste associated with a particular property is shared with a prospective purchaser during a property transaction.	Property notices listed above may achieve a similar result.
Green shading indicates the control is already implemented at the Site. White indicates that the control has not been implemented at the Site.		

[1] The Community Advisory Group has expressed interest in this database being made more readily available in some way other than through the EPA or the PRPs.

Part Three: Comparative Evaluation and EPA's Preferred Alternative

Evaluation

The remedial alternatives were evaluated in detail against seven of nine evaluation criteria mandated by the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The nine criteria fall into three groups: threshold, primary balancing, and modifying. Each alternative must meet the threshold criteria to move forward. The primary balancing criteria are then used to weigh major differences in alternatives.

Modifying criteria (state and public acceptance) are generally considered after comments are received on the Proposed Plan. The EPA has involved the State of Alabama in the selection of the preferred alternative as part of the development of the Proposed Plan by seeking and incorporating any comments provided in the Proposed Plan.

NCP Evaluation Criteria

Threshold Criteria	**Overall protection of human health and the environment**
	Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)
Primary Balancing Criteria	**Long-term effectiveness and permanence**
	Reduction of toxicity, mobility, or volume (TMV) by treatment
	Short-term effectiveness
	Implementability
	Cost
Modifying Criteria	**State acceptance**
	Community acceptance

The table below presents the comparative analysis of alternatives against the threshold and primary balancing criteria. In general, alternatives that rely primarily on excavation or removal are more expensive and disruptive, but they offer relatively high long-term effectiveness and permanence. The complete Proposed Plan, category-specific fact sheet (i.e., fact sheets for Residential Soil, Special Use Properties, Interim Measures, Dredge Spoil Piles, Unapproved Waste Disposal Areas, Non-Residential Soils, Groundwater at T-11, and Sediment), and the feasibility study provide a detailed summary of the results of the comparison of alternatives.

Comparative Analysis of Alternatives[1]

Alternative Number and Abbreviated Description		Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-term Effective and Permanence	Reduction TMV by Treatment	Short-term Effectiveness	Implement-ability	Cost Present Value In $ (M=millions)
Residential Soil		0 = does not meet criteria/ 5 = best meets criteria						
RS-1	No Action	No	-	-	-	-	-	0.0
RS-2	Complete NTC Removal and Manage PCB Residuals	Yes	Yes	4	0	5	5	7.3M
RS-3	Excavate PCBs > 1 mg/kg at All Depths and Manage PCB Residuals	Yes	Yes	5	0	4	5	15.7M
Special Use Properties		0 = does not meet criteria/ 5 = best meets criteria						
SU-1	No Action	No	-	-	-	-	-	0.0
SU-2	Excavate LAA to Non-Residential Goal and Manage PCB Residuals	Yes	Yes	3	0	5	5	0.5M
SU-3	Excavate LAA to Residential Goal and Manage Residuals	Yes	Yes	4	0	4	5	3.1M
SU-4	Excavate PCBs > 1 mg/kg at All Depths, and Manage PCB Residuals	Yes	Yes	5	0	4	5	3.9M
Interim Measures (IMs)		0 = does not meet criteria/ 5 = best meets criteria						
IM-1	No Action	No	-	-	-	-	-	0.0

Alternative Number and Abbreviated Description		Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-term Effective and Permanence	Reduction TMV by Treatment	Short-term Effectiveness	Implement-ability	Cost Present Value In $ (M=millions)	
IM-2	Expand Existing IMs to Meet Non-Residential Goal	Yes	Yes	3	0	5	5	2.6 M	
IM-3	Expand Existing IMs to Meet Non-Residential Goal, Excavate at RR, and Offsite Disposal	Yes	Yes	4	0	4	5	2.6 M	
IM-4	Excavate to Non-Residential Goal, and Offsite Disposal	Yes	Yes	5	0	4	5	4.3 M	
Dredge Spoil Piles		0 = does not meet criteria/ 5 = best meets criteria							
DSP-1	No Action	No	-	-	-	-	-	0.0	
DSP-2	Excavate to Non-Residential Goal and Offsite Disposal	Yes	Yes	3	0	5	5	0.9 M	
DSP-3	Excavate to Non-Residential Goal and Onsite Disposal	Yes	Yes	2	0	5	5	0.5 M	
DSP-4	Excavate All Piles and Offsite Disposal	Yes	Yes	5	0	4	5	1.4 M	
DSP-5	Excavate All Piles and Onsite Disposal	Yes	Yes	4	0	4	5	0.7 M	
Unapproved Waste Disposal Areas		0 = does not meet criteria/ 5 = best meets criteria							
UWDA-1	No Action	No	-	-	-	-	-		
UWDA-2	Soil Cap and Marker Layer	Yes	Yes	3	0	5	5	1.6M	
UWDA-3	RCRA Subtitle-D Cap	Yes	Yes	4	0	5	5	2.8M	
UWDA-4	Excavate and Offsite Disposal	Yes	Yes	5	0	1	3	41.2M	
Non-Residential Soil		0 = does not meet criteria/ 5 = best meets criteria						21mg/kg / 9 mg/kg	
NRS-1	No Action	No	-	-	-	-	-	0.0	0.0
NRS-2	Cap and Excavate with Onsite/Offsite Disposal	Yes	Yes	3	0	5	5	7.9M	10.1 M
NRS-3	Excavation with Onsite/Offsite Disposal	Yes	Yes	4	0	5	5	10.0M	12.7 M
NRS-4	Excavation with Offsite Disposal	Yes	Yes	5	0	5	5	10.4M	14.6 M
NRS-5	Excavation with Offsite Treatment	Yes	Yes	5	5	5	3	21.0M	46.2 M
NRS-6	Excavation with Onsite Treatment	Yes	Yes	5	5	2	3	19.1M	36.6 M
Groundwater and PTW at T-11		0 = does not meet criteria/ 5 = best meets criteria							
GW-1	No Action	No	-	-	-	-	-	0.0	
GW-2	Excavate and Soil Cap	Yes	Yes	4	0	5	5	2.2M	
GW-3	Excavate and Low Permeability Cap	Yes	Yes	4	0	5	5	3.3M	
GW-4	Excavate and Low Permeability Cap and Pump and Treat Groundwater	Yes	Yes	5	3	5	5	4.2M	
Snow Creek Sediment and Creek Banks		0 = does not meet criteria/ 5 = best meets criteria						3mg/kg / 1mg/kg	
SED-1	No Action	No	-	-	-	-	-	0.0	0.0
SED-2	Combination Excavation & MNA	Yes	Yes	2	0	3	5	2.7 M	-
SED-3	Excavate and Onsite and Offsite Disposal	Yes	Yes	5	0	3	5	2.9 M	4.1 M
SED-4	Excavate and Offsite Disposal	Yes	Yes	5	0	3	5	3.1 M	4.5 M

[1] A more descriptive comparison is available in the Proposed Plan and Feasibility Study.

EPA's Preferred Alternative

The Proposed Remedy for the eight categories of alternatives presented previously are as follows:

- Residential Soil: RS-2 Complete Non-Time-Critical Removal and Manage PCB Residuals.
- Special Use Properties: SU-3 Excavate of Low Activity Areas to Residential Goal and Manage PCB Residuals.
- Interim Measures Areas: IM-4 Excavate around Existing Interim Measures to Meet Non-Residential Goals; Excavate any Principal Threat Waste found within Interim Measures if Leaching to Groundwater.
- Dredge Spoil Piles: DSP-4 Excavate All Dredge Spoil Piles and Offsite Disposal.
- Unapproved Waste Disposal Areas: UWDA-3 RCRA Subtitle D Cap.
- Non-Residential Soil: NRS-4 a) Excavate Soils (PRG 21 mg/kg), Offsite Disposal, and Manage PCB Residuals.
- Groundwater at T-11: GW-4 Excavate High Concentrations and Surface Soil, Offsite Disposal, Low-permeability Cap, and Pump and Treat Groundwater.
- Snow Creek Sediment and Creek Bank Soils: SED-4 a) Excavate (PRG 3 mg/kg) and Offsite Disposal.

These remedial alternatives include removal of soils exceeding the cleanup goals on residential and special use properties with both onsite and offsite disposal. Additionally, soils and sediments exceeding the cleanup goals from Interim Measures, Non-residential Soil, and Snow Creek area will be excavated and disposed of offsite. All of the former sediments in the Dredge Spoil Piles will be excavated and disposed of offsite. The Unapproved Waste Disposal Areas will be capped with low-permeability caps. The contaminated groundwater at T-11 will be remediated through removal of highly contaminated soils and surface soils that exceed the cleanup goals, extracting contaminated groundwater, and constructing a low-permeability cap over the area. Environmental easements/covenants will be placed on the Interim Measures, Unapproved Waste Disposal Areas, and T-11 Area properties to ensure the caps are not disturbed and contaminated groundwater is not accessed until restoration to drinking water standards is achieved.

These remedial actions were selected for a number of reasons:

1. Onsite treatment of non-residential soils was not recommended because this is already a heavily impacted community.
2. Offsite treatment was not selected because the cost is twice the offsite disposal cost, and it is an expense that would not provide additional protection to the community, but might threaten other communities during extended transit.
3. Offsite disposal of excavated soils (from IM, DSP, NRS, GW, and SED alternatives) was selected because the community has expressed concern about additional waste streams being allowed to be disposed of in the community (at the Facility); only low level PCB contaminated soils (i.e., [tPCB] < 10 mg/kg) from the residential and special use properties are currently managed onsite.
4. Removal of all dredge spoil piles and impacted sediment provides the most protection for the downstream waterways.

5. Groundwater extraction in addition to soil excavation and capping will result in attainment of PCB drinking water standards in groundwater much more quickly.

A soil management program would be implemented by the PRP, as part of the remedial alternative for Residential Soil and Special Use Properties where PCB concentrations between 1 mg/kg and 10 mg/kg will remain in subsurface soil underlying areas that were previously remediated or structures. The soil management program would extent to dealing with property owners, local government agencies, and utilities on nonresidential properties, transportation corridors, and waterways where PCBs concentrations exceed 1 mg/kg in surface and subsurface soils. Soil management activities would include interactive outreach with local landowners or local municipalities regarding any plans to remove the current access constraints such as granting permission to access the property, clearing of land, demolition of buildings/structures, new construction etc.

Institutional controls are required as part of the Preferred Alternatives. A Final Institutional Controls Implementation Plan will be developed during the remedial design and will identify the institutional controls available to help protect the remedies. Current institutional controls are limited to, the following:

- Formalizing covenants/easements to prohibit excavation within the capped areas at the Interim Measure Areas, UWDAs, and the area surrounding T-11.

- Requesting property owners with residual PCB remediation waste concentrations greater than 1 mg/kg in surface or subsurface soils to voluntarily place a notice on their deed for prospective purchasers.

Five-year reviews would be conducted to evaluate the implementation and performance of the Preferred Alternatives and to determine if the remedies continues to be protective of human health and the environment. Five year reviews will be conducted as required under CERCLA and the NCP.

The estimated total present worth cost for the proposed remedy is $36.6 million. For cost estimation purposes it was assumed that $756,000 for annual O&M and $16.7 million for capital costs is needed to implement the Proposed Remedy. Five-year reviews will be performed at the site because PCBs remediation waste is being left in the area. Total costs are based on a 7% discount rate applied to all costs incurred after the first year to find the present worth cost of the Selected Remedy.

Conclusion

These alternatives:

- Provide protection to children, trespassers, and recreational users at home and on special use properties.

- Provide protection to trespassers, industrial and commercial workers and visitors at businesses in the floodplain.

- Provide for stabilization of creek banks, removal of sediments from culverts and creek, and removal of dredge spoil piles near the creek.

- Provide for offsite disposal of soils (except residential and special use soils with PCB concentrations < 10 mg/kg).

Site Documents

Community members can access the Information Repository and Administrative Record containing all documents that support this Proposed Plan at the following locations:

Main Branch Calhoun County Public Library East 10th Street, Anniston. *Hours: Mon-Thur. 8:30am to 6:00pm; Fri 8:30am to 5:00pm; Saturday 10:00am to 5:00pm; Sunday 1:00pm to 5:00pm.*

Carver Branch of the Calhoun County Public Library West 14th Street, Anniston. *Hours: call (256)237-7271.*

If you have any questions about the site or would like more information, please contact either:

Pam Scully
U.S. EPA, Region 4
61 Forsyth Street S.W.
Atlanta, Georgia 30303
(404) 562-8935
scully.pam@epa.gov

Regional Freedom of Information Officer
U.S. EPA, Region 4
61 Forsyth Street S.W.
Atlanta, Georgia 30303
(404) 562-9891
Online Request Form: http://www.epa.gov/foia/requestform.html.

We Want Your Input

Your input is important to the EPA. Public comment helps us select a final cleanup decision. The EPA is accepting comments between March 13 and May 12, 2017 on this Proposed Plan and all supporting documents in the Administrative Record, including the remedial investigation, feasibility study, human health risk assessment, and stream-lined ecological risk assessment.

Three ways to submit written comments:

1) Place comments in a comment box at the public meetings.
2) Mail comments to the Pam Scully, EPA Region 4, 61 Forsyth St S.W., Atlanta, Georgia 30303.
3) Email comments to scully.pam@epa.gov.

Public Meeting for the Proposed Plan

The EPA is hosting two public meetings to present this Proposed Plan. Please join us!

Thursday, March 23, 6-8 p.m.
Anniston Meeting Center
1615 Noble St, Anniston

Friday, March 24, 6-8 p.m.
Oxford Civic Center
401 McCullars Lane, Oxford

Public comment period is March 13 to May 12, 2017.

The EPA is taking comments on this Proposed Plan and all supporting documents in the Administrative Record, including the remedial investigation, feasibility study, human health risk assessment, and streamlined ecological risk assessment, during this period.

The EPA will also host a public availability session in conjunction with the Anniston Technical Advisor and Community Advisory Group to help the community understand the Proposed Plan on Saturday, March 25, from 10 a.m.- 2 p.m. at the Carver Community Center, 720 W 14th St, Anniston, Alabama.

Site Contacts for the Anniston PCB Site

Organization	Name	Mailing Address	Phone	Email
U.S. Environmental Protection Agency	Pam Scully, Project Manager	U.S.EPA, Region 4 61 Forsyth St, S.W. Atlanta, GA 30303	(404)562-8935	scully.pam@epa.gov
	Stephanie Brown, Community Involvement Coordinator		(404)562-8450	brown.stephaniey@epa.gov
	EPA website	http://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0400123		
Alabama Department of Environmental Management	Metz Duites, Project Manager	1400 Coliseum Blvd. Montgomery, AL 36110	(334) 270-5679	MPD@adem.alabama.gov
Technical Advisory Group	Bertrand Thomas, WAF Technical Advisor	2138 Harmony Lakes Cir. Lithonia, Ga. 30058	Office (256)238-9900 Cell (678) 772-1146	bertrandthomas10@att.net
Community Advisory Group	Cindy Calix, Administrator	1812 Wilmer Ave. Suite B Anniston, AL 36201	(256) 741-1429	ccalix@annistoncag.org
PRP Group	Gayle Macolly, Project Manager	702 Clydesdale Ave. Anniston, AL 36201	(256) 831-8404	egmaco@eastman.com
Northern District Court	Tom Dahl, Technical Special Master			todahl@comcast.net