RECORD OF DECISION

KERR-MCGEE CHEMICAL CORP – NAVASSA SUPERFUND SITE OPERABLE UNIT 2

NAVASSA, BRUNSWICK COUNTY, NORTH CAROLINA

EPA ID: NCD980557805

PREPARED BY:
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
SUPERFUND & EMERGENCY MANAGEMENT DIVISION
ATLANTA, GEORGIA

RECORD OF DECISION

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ACRONYMS AND ABBREVIATIONS

%	percent
ARARs	applicable or relevant and appropriate requirements
BaP	benzo(a)pyrene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COCs	Contaminants of Concerns
CSM	Conceptual Site Model
ELCR	Excess Lifetime Cancer Risk
EPA	U.S. Environmental Protection Agency
ERA	Ecological Risk Assessment
FS	Feasibility Study
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	Hazard Quotient
HMW	High molecular weight
Kerr-McGee	Kerr-McGee Chemical Corp.
mg/kg	milligrams per kilogram
Multistate Trust	Multistate Environmental Response Trust
NA	Not Applicable
NCDENR	North Carolina Department of Environment and Natural Resources
NCDEQ	North Carolina Department of Environmental Quality
NCDOT	North Carolina Department of Transportation
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PAHs	Polycyclic Aromatic Hydrocarbons
PCP	Pentachlorophenol
pg/g	picograms per gram
PRG	Preliminary Remediation Goal
PRP	Potentially Responsible Party
RAOs	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
RPM	Remedial Project Manager
SARA	Superfund Amendments and Reauthorization Act
Site	Kerr-McGee Chemical Corp – Navassa Superfund Site
SRI	Supplemental Remedial Investigation
SWAC	Surface-Weighted Average Concentration
TBC	To Be Considered
TCDD	2,3,7,8-tetrachlorodibenzo-para-dioxin
TEQ	Toxicity Equivalent
Tronox	Tronox, LLC

PART 1: DECLARATION

1.0 Site Name and Location

Kerr-McGee Chemical Corp – Navassa Superfund Site
Navassa Road, City of Navassa, Brunswick County, North Carolina
Superfund Site Identification Number NCD980557805

2.0 Statement of Basis and Purpose

This Record of Decision (ROD) presents the Selected Remedy for Operable Unit (OU) 2, at the Kerr-McGee Chemical Corp (Kerr-McGee) – Navassa Superfund Site (Site) located in Navassa, North Carolina (Figure 1). The Selected Remedy (Alternative 3: Removal, On-site Reuse/Consolidation, and Off-site Disposal) was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) 42 U.S.C. Section 9617 of the Superfund and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) as set forth in 40 Code of Federal Regulations (CFR) Part 300.430(f)(2). This decision is based on the Administrative Record for the Site. OU2 consists of a 15.6-acre former wood storage area located south of OU1 and north of OU4.

The State of North Carolina, through the North Carolina Department of Environmental Quality (NCDEQ), concurs with the Selected Remedy (see Appendix A).

3.0 Assessment of the Site

The response action selected in this ROD is necessary to protect the public health, welfare, and the environment from actual or threatened releases of hazardous substances to the environment. About 1.6 acres of surface soils in OU2 are contaminated with dioxin and/or polycyclic aromatic hydrocarbons (PAHs) at concentrations that pose an unacceptable risk to potential future residents and to the environment.

4.0 Description of Selected Remedy

The Selected Remedy for OU2 is Alternative 3: Removal, On-site Reuse/Consolidation, and Off-site Disposal of contaminated soils. Alternative 3 consists of excavating OU2 surface soils that exceed residential or ecological cleanup levels. The U.S. Environmental Protection Agency (EPA) anticipates that all excavated OU2 soils will be stored on-site in OU4 in a temporary stockpile that meets the requirements of a Resource Conservation and Recovery Act (RCRA) "staging pile"[1] until OU2 soils are reused or consolidated into a future OU4 remedy. The OU4 ROD will specify the final deposition of the stockpiled OU2 soils and any additional actions needed to close the temporary stockpile in accordance with the identified applicable or relevant and appropriate requirements (ARARs). Stockpiled soil would be managed to prevent the spread of contamination in OU4 and would be inspected regularly until incorporated into an OU4 remedy.

[1] Regulations for a RCRA staging pile specified under 40 CFR § 264.554 have been identified as applicable or relevant and appropriate requirements (ARARs) for the OU2 remedial action. The area for the temporary stockpile is considered 'on-site' as a suitable area in very close proximity to the contamination and necessary for implementation of the OU2 remedial action.

If OU2 excavations uncover unexpected conditions – such as a septic tank, drums, pipes, or other non-soil-like debris that is physically not suitable for reuse in OU4 – such waste will be disposed of off-site in a RCRA Subtitle C or D landfill, depending on waste characterization. Based on analytical results to date, the EPA does not anticipate OU2 soils will exhibit a characteristic of hazardous waste. There are no RCRA listed hazardous wastes or principal threat wastes known to be present in OU2 soils.

This Selected Remedy supports the EPA's Site strategy, which is to expedite cleanup so that acreage can be available for reuse. The OU2 remedial action will result in about 16 acres being available for unrestricted use with no land use controls required as part of the final remedy. OU2 is just south of OU1, a 20.2-acre portion of the former wood storage area that the EPA determined required no action or land use controls. The EPA deleted OU1 from the National Priorities List (NPL) in 2021. Future remedial actions will address the southern marsh area (OU3), the pond and former process area (OU4) and sitewide groundwater contamination (OU5).

The Selected Remedy for OU2 includes the following key components:

- Excavation and removal of contaminated surface soils that exceed residential or ecological cleanup levels.
    - If OU2 excavation uncovers unexpected conditions – such as a septic tank, drums, pipes, or other non-soil-like debris that is physically not suitable for stockpiling in OU4 – such waste will be disposed of in an off-site permitted RCRA Subtitle C or D landfill, depending on waste characterization
- Stockpiling (i.e., temporary storage) of excavated OU2 soils in a staging pile located in OU4 that meets the RCRA staging pile requirements identified as ARARs.
- On-site reuse/consolidation of excavated OU2 soils in OU4 and off-site disposal of soils not suitable for on-site reuse/consolidation (Depending on the selected remedy for OU4).
    - Excavated OU2 soils suitable for reuse/consolidation would be used as backfill or cover as part of the OU4 remedy. The OU4 ROD will specify the contaminant concentration criteria for reusing or consolidating OU2 soils in the OU4 remedial action.
    - Any stockpiled OU2 soils based on sampling and analysis that are unsuitable for on-site reuse/consolidation in OU4 would be disposed of off-site at an EPA-approved, RCRA Subtitle D or C landfill, depending on waste characterization.
    - Based on analytical results to date, excavated OU2 soils are anticipated not to be hazardous waste based on characteristics and thus suitable for disposal at a RCRA Subtitle D landfill if not suitable for reuse/consolidation in OU4.
- Placement and final grading of imported clean backfill material suitable for residential use in the excavated areas in OU2. Re-vegetation of the disturbed areas as necessary to prevent erosion.
- Regular inspections and five-year reviews for the OU2 soils stockpiled in OU4 until a final remedy is selected and implemented for OU4, which would incorporate the stockpiled soils.
- Five-year reviews would not be required for OU2.
- A 1- to 3-month time frame to implement the remedy.

Sampling indicates that contamination does not extend deeper than 2 feet below ground surface, but excavations could go deeper than 2 feet if needed to achieve the remedial action objectives (RAOs). The RAOs include preventing potential unacceptable risk to future residents from long-term exposure to contaminant concentrations above residential cleanup levels and preventing potential unacceptable risks to songbirds and small mammals due to exposure to contaminant concentrations above the ecological risk cleanup level. This remedy will allow for unlimited use and unrestricted exposure in OU2, so there is no need for long-term operation and maintenance (O&M) or monitoring of OU2 after the OU2 remedy is complete.

5.0 Statutory Determinations

The Selected Remedy meets the requirements for remedial actions set forth in Section 121 of CERCLA, 42 U.S.C. § 9621, and the NCP at 40 CFR § 300.430(f)(1)(ii) because it: 1) is protective of human health and the environment; 2) complies with ARARs; 3) is cost effective; and 4) uses permanent solutions and alternative treatments (or resource recovery) technologies to the maximum extent practicable.

The Selected Remedy will allow for unlimited use and unrestricted exposure in OU2 and thus will not require five-year reviews in OU2 pursuant to CERCLA Section 121(c). However, the OU2 soil stockpiled in OU4 will be subject to a five-year review per the NCP because hazardous substances will be stockpiled in OU4 above levels that allow for unlimited use and unrestricted exposure. The EPA expects the OU2 soil stockpile will be incorporated into an OU4 remedy within five years of the start on-site construction of the OU2 remedy.

The Selected Remedy does not satisfy the statutory preference to use treatment to address principal threats as a principal element of the remedy because OU2 soils pose a relatively low long-term threat and there are no principal threat wastes present. The EPA considered treatment options in the feasibility study (FS), but treatment would either be ineffective for some contaminants of concern or would limit future land use. Consequently, the treatment options were eliminated from further consideration. The Selected Remedy of temporary stockpiling OU2 contaminated soil in OU4 in accordance with the requirements for a RCRA staging pile for incorporation into the OU4 remedy is consistent with the EPA's expectation to use engineering controls for waste that poses a relatively low long-term threat (NCP Section 300.430(a)(1)(iii)(B)).

6.0 Data Certification Checklist

The following information is included in the Decision Summary Section of this ROD. Additional information can be found in the Administrative Record file for this Site.

- Chemicals of concern and their respective concentrations (Section 5)
- Baseline risk represented by the chemicals of concern (Section 7)
- Cleanup levels established for chemicals of concern and the basis for these levels (Section 8)
- How source materials constituting principal threats will be addressed (Section 11)
- Current and reasonably anticipated future land use assumptions (Section 6)
- Potential land use that will be available at the Site as a result of the Selected Remedy (Section 6)
- Estimated capital, annual O&M, and total present worth costs, discount rate, and the number of years over which the remedy cost estimates are projected (Section 10)

- Key factors that led to selecting the remedy (i.e., describe how the Selected Remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decision) (Section 12)

7.0 Authorizing Signature

RANDALL CHAFFINS

Digitally signed by RANDALL CHAFFINS
Date: 2022.09.28 11:42:29 -04'00'

Carol J. Monell, Director
Superfund & Emergency Management Division
U.S. Environmental Protection Agency, Region 4

Date

PART 2: THE DECISION SUMMARY

1.0 Site Name, Location, and Brief Description

The Kerr-McGee Chemical Corp (Kerr-McGee) – Navassa Superfund site (Site), is located along Navassa Road in Navassa, Brunswick County, North Carolina (EPA ID: NCD980557805). The U.S. Environmental Protection Agency (EPA) is the lead agency at the Site. The North Carolina Department of Environmental Quality (NCDEQ) is the support agency. Greenfield Environmental Multistate Trust LLC is the court-appointed Trustee of the Multistate Environmental Response Trust (Multistate Trust) and is responsible for owning, remediating, and effecting the disposition of the property formerly owned by Kerr-McGee using funds earmarked for cleanup of the Site that were provided by the parties responsible for the contamination through the court-approved bankruptcy settlement (see Section 2.2.1 below).

Kerr-McGee and its predecessors operated a wood-treating facility at the Site from 1936 to 1974. Kerr-McGee owned the property as a 244-acre parcel until 1991, when it transferred 92 acres of marsh to the state of North Carolina, after which Kerr-McGee's property totaled about 152 acres. The EPA designated about 100 acres as the Superfund Site when the EPA placed the Site on the National Priorities List (NPL) in 2010. The 100-acre NPL sites consists of the 70-acre former facility and the 30-acre Southern Marsh that were used or contaminated by the former wood-treating process (Figure 1).

The former facility is bounded by Quality Drive and Pacon Manufacturing to the north, Navassa Road to the west, the Southern Marsh and Sturgeon Creek to the south, and the Eastern Upland Area, Eastern Marsh, and Brunswick River to the east. Following closure of the Kerr-McGee facility in 1974, Kerr-McGee decommissioned and dismantled the plant in 1980. Kerr-McGee reforested the area by planting pine trees. Currently, there are building foundations present at the Site. The only intact railroad tracks are a 10-to-15-foot-long segment that is set into a concrete slab in OU2. Kerr-McGee did not coordinate with any state or federal cleanup programs when decommissioning the facility and disposing of the waste.

The EPA divided the Site into five operable units (OUs) to better address the contamination at the Site in discrete actions. OU1 is defined as 20.2 acres of the former wood storage area where no action is required based on unrestricted use and no land use controls, per the April 2021 OU1 Record of Decision (ROD). The EPA deleted OU1 from the NPL in September 2021. OU2 is the subject of this ROD. Future proposed plans will address the southern marsh area (OU3), the pond and former process area (OU4) and sitewide groundwater contamination (OU5).

2.0 Site History and Enforcement Activities

2.1 Site Activities Leading to Current Problems

Gulf States Creosoting Company built the original wood-treating operation at the Site in 1936. American Creosoting purchased the facility in 1958 and sold it to Kerr-McGee in 1965. From 1936 to 1974, Kerr-McGee and its predecessors treated wood for railroad ties, utility poles, and pilings. Facility operations contaminated soil, groundwater, and/or marsh sediments with polycyclic aromatic hydrocarbons (PAHs), pentachlorophenol (PCP), and dioxins. The contaminants that pose the most risk are the carcinogenic PAHs and dioxins (a group of

chemicals that occur as an impurity associated with PCP). Kerr-McGee reported that the facility used only creosote as a preservative. However, PCP and dioxins have also been detected in samples collected from the Site, which suggests wood-treating processes could have used PCP as well as creosote wood preservatives. The EPA has limited information about the wood-treating operations at the facility, and no records related to releases (including spills) of spent preservative, process residuals, preservative drippage, and other materials in OU2. Most information about plant operations comes from a six-page Kerr-McGee letter dated August 14, 1984. It describes plant operations from 1965 to 1974, when operations were discontinued. Kerr-McGee decommissioned and dismantled the plant in 1980.

2.2 History of Investigations and Cleanup Actions

Beginning in the 1980s, several parties led environmental investigations at the Site, including Kerr-McGee, the North Carolina Department of Environment, Health, and Natural Resources (subsequently the North Carolina Department of Environment and Natural Resources [NCDENR], now NCDEQ), the North Carolina Department of Transportation (NCDOT), the EPA, and the Multistate Trust. In March 2003, NCDENR recommended the Site for further evaluation by the EPA. Upon completion in 2005, Kerr-McGee's Expanded Site Inspection Report documented creosote contamination at the Site and recommended more site assessment under CERCLA.

In March 2006, Kerr-McGee created Tronox, LLC (Tronox) as a spin-off corporation, and transferred responsibility for the Site (and many other sites across the country) to Tronox without sufficient funding to address its environmental liabilities. Anadarko Petroleum acquired Kerr-McGee in August 2006. In January 2009, Tronox filed for Chapter 11 bankruptcy protection in federal court. With Tronox unable to conduct the remedial investigation (RI), the EPA formally took over marsh and groundwater sampling activities from Tronox in March 2010 and added the Site to the NPL in April 2010. The EPA completed residential sampling in 2010.

Since 2011, the Multistate Trust has been performing environmental actions at the Site. The Multistate Trust is responsible for implementing environmental actions at the Site, consistent with its fiduciary obligations to the beneficiaries of the Multistate Trust. The beneficiaries for the Site are the United States and the Navassa Trustee Council, consisting of the U.S. Department of the Interior, the National Oceanic and Atmospheric Administration, and NCDEQ.

2.2.1 Creation of Multistate Environmental Response Trust (2011)

The Multistate Trust was created as part of the 2011 Tronox bankruptcy settlement. Responsibilities of the Multistate Trust include owning, managing, remediating, and effecting the safe disposition of sites placed in the Multistate Trust. Because Kerr-McGee and Tronox did not fully investigate the nature and extent of contamination at the Site or complete a final RI Report, the Multistate Trust completed a sitewide RI Report in 2019. It details all site investigations undertaken up to March 2017, including:

- ENSR/AECOM phase 1 RI in 2006.
- ENSR/AECOM phase 2 RI in 2008.
- EPA residential sampling in 2010.
- AECOM supplemental RI (SRI) in 2012.

- CH2M Hill SRI in 2015 and 2016.
- EarthCon SRI in 2016 and 2017.

The 2019 RI Report documented contamination in surface soils, subsurface soils, groundwater, and marsh sediment, as well as the presence of free-phase creosote in the subsurface and in marsh sediments. The 2019 RI Report also documented low levels of PAH and PCP contamination in soils in the northern parts of the treated and untreated wood storage areas. It concluded that groundwater contamination is limited to the southern part of the Site, and to an off-site area southwest of the process and pond areas.

The Multistate Trust conducted investigations from 2017 to 2021 in the northern parts of the treated and untreated wood storage areas:

- EarthCon trench evaluation in 2018.
- EarthCon surface soil study in August and December 2020.
- Ramboll ecological uptake study in June 2020.
- EarthCon and Integral 2021 subsurface soil sampling in May 2021.
- EarthCon and Integral OU2 pre-design investigation in September 2021.
- EarthCon and Integral OU2 Eastern Upland Area soil sampling in September 2021.

In 2018, the Multistate Trust conducted a trenching study to explore subsurface or buried contamination in the wood storage areas based on visual observations and screening with a photoionization detector (PID). The trenching study informed targeted surface and subsurface sampling in 2019 of "worst-case" locations. The Multistate Trust and the EPA updated the risk assessments in 2019 based on community-supported anticipated future commercial, industrial, and recreational land uses. The EPA issued a Proposed Plan for OU1 in 2019 that proposed a "no action" decision for the northernmost 21.6 acres of the Site, assuming future commercial, industrial, and recreational land uses. During the public comment period, the public and the local government expressed interest in residential land uses. The EPA incorporated the community's new input into the EPA's anticipated land use and worked with the Multistate Trust and State to develop a sampling plan. The sampling design divided OU1 and OU2 into exposure units or "parcels" of 0.25 acres or less – the size of a potential future residential parcel, as specified by NCDEQ to meet unrestricted use criteria under North Carolina General Statutes § 143B-279.9(d)(1).

In 2020 and 2021, the Multistate Trust conducted more sampling across OU1 and OU2 to evaluate potential residential risks from potential exposure to PAHs, PCP, and dioxins in surface and subsurface soils. Based on these results, the EPA and NCDEQ re-defined OU1 as 20.2 acres of the former wood storage area where no action is required based on unrestricted use and no land use controls, per the April 2021 OU1 ROD. Further, the EPA and NCDEQ concluded that PAHs, dioxins, and PCP are not present in OU2 subsurface soils (i.e., depths greater than 2 feet below ground surface) at concentrations that would pose an unacceptable risk to future residents.

To evaluate ecological risks in OU1 and OU2, the Multistate Trust conducted a contaminant uptake study in June 2020 to calculate how much contamination was moving from the soil into invertebrates, which form the bottom of the ecological food chain. The uptake study provides site-specific data to estimate potential ecological risk more accurately.

2.3 History of CERCLA enforcement activities

The following is a summary of the regulatory history of the Site:

- In 2004, the EPA and Kerr-McGee entered an Administrative Order on Consent for the performance of an Expanded Site Inspection.
- In July 2006, the EPA and Tronox entered into an Administrative Order on Consent to conduct the Site's RI under the Superfund Alternative Approach.
- In January 2009, Tronox filed for Chapter 11 bankruptcy protection in federal court.
- In February 2011, Tronox resolved its environmental liabilities pursuant to a bankruptcy settlement approved by the Court. The Multistate Trust was established as part of the Tronox bankruptcy settlement and given responsibility for owning and remediating hundreds of former Tronox-owned sites, including the Site.
- The Multistate Trust operates pursuant to the February 14, 2011, Tronox Bankruptcy Consent Decree and Environmental Settlement Agreement and Multistate Environmental Response Trust Agreement.
- In 2014, Anadarko Petroleum Corp. settled with the U.S. Department of Justice to resolve fraudulent conveyance claims related to Kerr-McGee's environmental liabilities. The settlements provided funding for the EPA and the Multistate Trust to continue conducting assessments and cleanup work at the Site.

3.0 Community Participation

3.1 Public Participation Required by CERCLA and the NCP

To keep the community up to date prior to the comment period, the EPA emailed the final OU2 Feasibility Study to stakeholders from the Navassa community, including members of the Navassa Community Economic and Environmental Redevelopment Corporation (NCEERC) and its technical advisor, on April 20, 2022. The EPA Remedial Project Manager (RPM) emailed the Proposed Plan to community stakeholders and the NCEERC's technical advisor on May 26, 2022 (https://semspub.epa.gov/work/04/11139277.pdf). The Proposed Plan and other documents related to OU2 were posted in the online administrative record on May 31, 2022, at: https://semspub.epa.gov/src/collection/04/AR67148. All administrative records for the Site, including OU1 and OU2 are available online at: https://semspub.epa.gov/src/collections/04/AR/NCD980557805.

The EPA held a public comment period from June 1, 2022, to June 30, 2022. The EPA held an in-person public meeting on June 14, 2022, at the Navassa Community Center, with an option to join the meeting via Zoom©, the online service preferred by the community. The public notice was published in the Brunswick Beacon, on June 9, 2022. Comments that were received by the EPA during the public comment period and until September 21, 2022 are summarized and addressed in the Responsiveness Summary (see Part 3 and Appendix B).

3.2 Other Community Engagement Efforts

The EPA, NCDEQ, and the Multistate Trust have held more than 20 community meetings in Navassa since late 2016. The EPA Community Involvement Coordinator conducts community interviews on an ongoing basis to maintain an updated Community Involvement Plan.

The Multistate Trust posts additional information, such as meeting recordings, presentations, and fact sheets on navassa.greenfieldenvironmental.com. The EPA Site profile page also includes site documents at www.epa.gov/superfund/kerr-mcgee-chemical-corp.

The local information repositories provide computer access for the community to access the online administrative records and are located at the Navassa Community Center, 338 Main Street, Navassa, North Carolina, 28451, and Leland Library, 487 Village Road NE, Leland, North Carolina, 28451.

3.3 How the EPA Considered Community Input

Community involvement and input are vital for a successful remedial action. Community input has informed the following aspects of the EPA's Superfund decision making at the Site: the overall Site strategy; the EPA's determination of reasonably anticipated land use; and how the EPA evaluates risk at the Site. This section will summarize the role of community input in the Superfund process.

In the EPA's role as lead beneficiary of the Multistate Trust, the EPA works with the other beneficiaries and the Multistate Trust to ensure that community input, environmental justice considerations, and local control of land use decisions are guiding principles for the Multistate Trust's strategy to market the site property for community-supported reuse.

Since 2006, the Navassa community has helped the EPA's site team understand the history and cultural importance of the property to the community. Historically, the property provided housing, jobs, and recreation opportunities for the community. Historical aerial photos (Figure 2 and Figure 3) show the facility alongside agricultural areas, homes, a baseball field, and footpaths to the marsh. The property's location along the Brunswick River shaped its history and informs future uses. A rice plantation was located on the property before the Civil War. After the Civil War, a rural-industrial economy developed in the area. A bluff next to the property allowed barges to unload freight and became the location for a rail line connecting Wilmington to the rest of the country. The Navassa Guano Company, which imported guano from the Caribbean island of Navassa, used the bluff. Eventually, four fertilizer companies operated in the vicinity of the Site. A railyard developed in Navassa, North Carolina, as did other wood-treating company facilities. The community's entire river frontage consists of three properties: this Site, the active Pacon Manufacturing operation, and a former fertilizer plant, Estech. The Estech plant is vacant and is currently ready for industrial or commercial use following a 2011 cleanup.

Through community meetings in 2010 and 2011, the community explained that economic redevelopment of the Site and public access to the river were higher priorities than the cleanup of the source area. As a result, the EPA and the State agreed to shift the focus of the investigation from the most contaminated areas to the least contaminated areas, which have the highest potential for reuse.

In 2015, an EPA contractor conducted a technical assistance needs assessment and community interviews. In 2016 through 2018, the Multistate Trust engaged the community in regular meetings and a redevelopment planning initiative to understand possible future land uses and inform the risk assessments. The EPA based a 2019 OU1 Proposed Plan on the community's desire to see the Site remain under commercial or industrial uses. In 2019, when the community

decided that residential uses should also be possible in OU1, the EPA updated its anticipated land use to include residential uses. This led the Multistate Trust to collect 228 more samples in OU1 and OU2. In 2020, the EPA issued a revised OU1 Proposed Plan for a smaller OU1 that was acceptable for unrestricted use with no action. The EPA deleted OU1 from the NPL in September 2021, which should reduce barriers to redevelopment.

In 2020 and 2021, during quarterly community meetings, the community expressed concerns about stormwater runoff. The Multistate Trust conducted a detailed analysis of stormwater runoff and included it in the 2021 OU2 feasibility study (FS).

For OU2, the EPA also determined that the reasonably anticipated land use is a mixture of residential, commercial/industrial, and recreational. These future land uses form the basis for the exposure assumptions that are used for the OU2 risk assessments and for the development of remedial objectives and remedial alternatives.

During the June 14, 2022 OU2 Proposed Plan public meeting, a regional stakeholder raised concerns about off-site disposal of the OU2 soils in a Subtitle D (non-hazardous) landfill and recommended coordination with the NCDEQ Title VI and Environmental Justice Coordinator. The EPA, NCDEQ, and Multistate Trust engaged with the NCDEQ Title VI and Environmental Justice Coordinator, which led to additional outreach to local and regional stakeholders. The EPA incorporated this stakeholder input and concerns about environmental justice impacts into the EPA's nine criteria evaluation, leading EPA to re-evaluate five of the nine criteria. Incorporating this new information, this ROD selects Alternative 3 from the proposed plan, rather than Alternative 2, which was the preferred alternative presented in the Proposed Plan for public comment.

4.0 Scope and Role of the Response Action

The EPA's Site strategy is to expedite cleanup so that acreage becomes available for reuse, and to support partial deletions from the NPL as OUs are completed. The EPA manages the Site as five OUs, numbered in order from simplest to most complicated in terms of the extent of contamination and the required cleanup.

- OU1: The northernmost 20.2 acres of the Site, formerly used for treated and untreated wood storage. The boundary of OU1 was selected to only include areas requiring no action and no land use controls. The EPA issued a "no action" ROD in April 2021 and deleted OU1 from the NPL in September 2021.
- OU2: The 15.6-acre area south of OU1 and north of the process area. OU2 was used for treated and untreated wood storage. The extent of OU2 is drawn to include soils that require cleanup under CERCLA, but to exclude the former process area and groundwater contamination. OU2 is the subject of this ROD.
- OU3: The Southern Marsh, which consists of an about 30-acre area of tidally influenced marsh that borders the former facility boundary. OU3 will be addressed in a future action.
- OU4: The pond and former process area consists of a 36-acre area at the southern end of the former facility that includes the former facility pond area, the process area, and an area used for treated wood storage. OU4 will be addressed in a future action.

- OU5: The groundwater affected by former facility operations, including groundwater underlying the southern end of OU4, the northernmost edge of OU3, and the area immediately southwest of OU4. OU5 will be addressed in a future action.

The scope of this OU2 ROD is surface soil (up to 2 feet below the ground surface) from the 15.6-acre former wood storage area north of the former process area. About 1.6 acres of soils in OU2 pose an unacceptable risk to future residents and to ecological receptors. The OU2 remedial action will remove contaminated surface soils from the 1.6 acres that are contaminated above cleanup levels.

5.0 Site Characteristics and Conceptual Site Model

A Conceptual Site Model (CSM) summarizes the following information: Where did contamination come from? Where is it now? How is it moving? What harm is the release causing? More formally stated, the CSM describes contaminant sources, contaminated media, release mechanisms, routes of migration, and known or potential human and ecological receptors. The CSM also shows the physical, chemical, and biological relationships between contaminant sources and affected receptors. The 2021 OU2 FS includes diagrams that summarize how contamination moves from sources to environmental media and to potential human receptors and ecological receptors. These diagrams are provided as Figure 4, Figure 5, and Figure 6 in this ROD.

The CSM for OU2 is based on sampling conducted between 2004 and 2021 totaling more than 400 samples from OU2. The main feature of the sampling strategy is to divide OU2 into exposure units or "parcels" of 0.25 acres or less – the size of a potential future residential parcel, as specified by NCDEQ. Figure 7 shows the division of OU2 into 91 "parcels" of 0.25 acres or less.

5.1 Physical Setting

The Site in its entirety consists of about 100 acres; OU2 is about 15.6 acres of wooded uplands. The Site's main topographic and geographic feature is its location along the marshes of the Brunswick River and Sturgeon Creek.

5.2 Known or Suspected Sources of Contamination

Based on historical aerial photos, Kerr-McGee used OU2 for wood storage (Figure 2 and Figure 3). Because facility decommissioning removed most of the surface features (e.g., buildings, rail lines, railroad timbers) and possibly moved or removed soil, it is not possible to confirm the original source of contamination, which is not clustered in any specific part of OU2. The EPA determined that contamination in OU2 likely originated from some combination of finished, treated wood products stored prior to sale, decommissioned rail line timbers, buried treated timbers, and/or transport from other portions of the Site by movement of personnel and vehicles. Based upon the limited information available, the contamination across OU2 does not appear to be a direct result of wood treating operations (including drying treated wood) or releases of Resource Conservation and Recovery Act (RCRA) Listed hazardous wastes F032 and F034. If present, soils that are contaminated with RCRA Listed wastes would be considered to contain the waste unless the EPA determines that it no longer contains such wastes consistent with its written policy. Due to the limited information on the nature of the releases and soil contamination in OU2, the EPA does not consider the soil contamination to have originated from

Listed wastes[2]. However, contaminants present in the soil are identified as RCRA hazardous waste constituents. Analytical data collected to date on soil contamination also supports that the soil would not fail the Toxicity Characteristic Leaching Procedure (TCLP) regulatory levels for RCRA Toxicity Characteristic Waste specified in 40 CFR 261.24.

5.3 Contaminants

The contaminants of concerns (COCs, or just "contaminants") that pose the most risk are the carcinogenic PAHs and dioxins and furans (a group of chemicals that occur as an impurity associated with PCP). Because carcinogenic PAHs and dioxins and furans are groups of compounds with varying amounts of toxicity and similar modes of toxicity, the concentrations are expressed as toxicity equivalent (TEQ) concentrations. To calculate a TEQ, the concentration of each chemical in a group is first adjusted to reflect its toxicity relative to the most toxic member of that group. The TEQ is the sum of these adjusted concentrations. The most toxic carcinogenic PAH is benzo[a]pyrene (BaP), so PAH concentrations are expressed as BaP TEQ. The most toxic of the dioxins is 2,3,7,8-tetrachlorodibenzo-para-dioxin (TCDD), so concentrations of dioxins and furans are expressed as TCDD TEQ. In this ROD, the term "dioxins" refers to TCDD plus 17 dioxin/furan congeners. Final OU2 COCs are listed in Table 6.

5.4 Nature and Extent of Contamination in OU2

Facility operations contaminated soil, groundwater, and/or marsh sediments with PAHs, PCP, and dioxins. In OU2, the EPA concluded that contamination is limited to the top 1 or 2 feet of soil based on observations from about 1,800 linear feet of trenches in OU2, and more than 100 subsurface soil samples collected in OU2. The subsurface sampling includes 77 subsurface soil samples for PAHs and PCP, and 62 subsurface samples for dioxins. Subsurface soil sampling for dioxins was conducted under every surface soil sample location where dioxin concentrations exceeded the preliminary remediation goal (PRG) for the TCDD TEQ of 50 picograms per gram (pg/g).

The sampling results for PAHs and dioxins are shown in Figure 8 and Figure 9, respectively (expressed in terms of BaP TEQ and TCDD TEQ). The sample locations shown in blue or light blue are below the cleanup levels selected in this ROD. The extent of contamination above residential cleanup levels is about 1.6 acres of OU2 as shown in Figure 10. The cleanup of this 1.6 acres will also address unacceptable ecological risks. About 14 acres of OU2, not shaded in Figure 10, do not pose an unacceptable risk to human health under CERCLA, based on residential land use assumptions, and meet unrestricted use criteria under North Carolina General Statutes § 143B-279.9(d)(1).

[2] Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations is considered a RCRA Listed Hazardous waste (F034) under RCRA regulations at 40 CFR 261.31 Hazardous wastes from non-specific sources. Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (such as PCP) is considered a RCRA Listed Hazardous waste (F032) under 40 CFR 261.31. These listings do not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or PCP.

5.5 Contaminant Fate and Transport in OU2

When the facility was operating, a variety of natural and man-made processes probably helped move contaminants around the Site. When the facility was decommissioned, most of the surface features like buildings, rail lines, and railroad timbers were removed. Kerr-McGee also moved soil, evidenced by the filled wastewater ponds and the lack of surface features like rail lines and railroad timbers. Therefore, the EPA cannot confirm the original source of contamination nor the transport mechanisms that led to the current distribution of contamination in OU2.

At present, the transport of contaminants in OU2 is driven by physical and chemical processes, including on-site activities. The contaminants have very low solubility in water and low volatility in air. The contaminants are strongly associated with soils and organic matter and the transport of the OU2 contaminants is tied to the transport of soils. The following transport mechanisms were evaluated to understand how contaminants in OU2 might move in the environment.

Leaching to Groundwater

In general, contaminants can leach from soil into groundwater as a result of rainfall or stormwater. In OU2, the contaminants are at concentrations that do not leach to groundwater due to their high affinity to soils and organic matter. Further, no site-related contaminants were detected in groundwater samples from OU2, as documented in the 2019 Human Health Risk Assessment (HHRA).

Airborne Transport

Airborne transport includes windblown dust, air emissions associated with burning, and volatilization. The 2021 OU2 HHRA found that inhalation of volatiles and particulates (i.e., outdoor dust) emitted from surface soil and present in outdoor air did not pose an unacceptable risk in OU2 under current Site conditions or under any the reasonably anticipated future land uses.

Vehicular Traffic

There is minimal traffic within OU2, and vehicular movement is unlikely to be a mechanism for contaminant transport. The 2021 OU2 HHRA found that inhalation of volatiles and particulates (i.e., outdoor dust) emitted from surface soil and in outdoor air did not pose an unacceptable risk in OU2 under current Site conditions or under the reasonably anticipated future land uses. Future site remedial actions will include best management practices to prevent transport of OU2 COCs with fugitive dust and vehicle track out. This ROD identifies ARARs that remedial action must meet that relate to controlling fugitive dust emissions.

Stormwater Runoff

Stormwater runoff could result in the erosion of Site soils with flowing stormwater. At present, OU2 is heavily vegetated and there is minimal stormwater runoff or transport of soils with stormwater. The community expressed concerns about stormwater runoff towards Navassa Road during quarterly community meetings. The Multistate Trust included a detailed analysis of stormwater runoff in the 2021 OU2 FS. The analysis showed that the areas of the Site that drain toward Navassa Road are not contaminated. The 1.6 acres of OU2 shown in Figure 10 that require cleanup drain to the east or southeast and flow into the marshes bordering the Brunswick River and Sturgeon Creek. This ROD identifies Clean Water Act ARARs that the remedial action must meet that relate to managing stormwater runoff from land-disturbing activities, such as when removing the contaminated soil and backfilling those areas.

5.6 Quantity/volume of waste that needs to be addressed

The 2021 OU2 FS estimated that about 2,526 cubic yards of surface soil (0-1 foot below ground surface) pose an unacceptable risk to human health and/or ecological receptors. In addition, about 295 cubic yards of subsurface soils (1-2 feet below ground surface) would pose an unacceptable risk to human health and/or ecological receptors if these soils were brought to the surface.

5.7 Concentrations of COCs in each medium

Minimum and maximum concentrations of BaP TEQ, TCDD TEQ, and high molecular weight (HMW) PAHs found in the 1.6 acres requiring remedial action are shown in Table 1. Based on analytical results to date, excavated OU2 soils are anticipated to be nonhazardous and thus suitable for either stockpiling in OU4 without treatment or for disposal at a permitted RCRA Subtitle D solid waste landfill.

Table 1: Minimum and Maximum Exposure Point Concentrations of BaP TEQ, TCDD TEQ and HMW PAHs in OU2 Surface Soils

Contaminant	Cleanup Level	Minimum Concentration	Maximum Concentration
BaP TEQ	1.1 mg/kg	0.0265 mg/kg	107 mg/kg
TCDD TEQ	50 pg/g	0.766 pg/g	275 pg/g
HMW PAHs	22 mg/kg surface-weighted average concentration (SWAC)	0.343 mg/kg	2,020 mg/kg

Notes:

mg/kg: milligrams per kilogram and known as parts per million
pg/g: picograms per gram, which is the same as nanogram/kilogram and known as parts per trillion
BaP TEQ: Benzo(a)pyrene toxicity equivalent
HMW PAHs: high molecular weight Polycyclic Aromatic Hydrocarbons
TCDD TEQ: 2,3,7,8-tetrachlorodibenzo-para-dioxin toxicity equivalent
SWAC – surface-weighted average concentration

The sources for these values are:

- Table 3-2. "Surface Soil EPCs for Individual Parcels" of the 2021 OU2 HHRA https://semspub.epa.gov/work/04/11139237.pdf
- Table 2-1. "Revised Final Surface Soil EPCs for Individual Parcels Including OU2 PDI Composite Data" of the 2021 OU2 HHRA Addendum https://semspub.epa.gov/work/04/11139268.pdf
- Table 3-1A. "OU2 Representative Soil PAH Data Used for Ecological Risk Assessment" of the 2021 OU2 ERA https://semspub.epa.gov/work/04/11139269.pdf

6.0 Current and Potential Future Land Uses

Land use in the Navassa area of Brunswick County is largely rural residential and industrial with a small amount of commercial use. The residential areas are west of the Site, across Navassa Road. The Pacon Manufacturing facility is immediately northeast of the Site. Most of the area further north consists of undeveloped industrial land and undeveloped coastal forest or low-lying marsh. South of Sturgeon Creek, the waterfront land uses are single-family residential and recreational.

Most of the former wood-treating facility property is zoned for heavy industrial use, except for two former residential properties in the Eastern Upland Area that are zoned R-10 (Moderate Density Single Family Residential) (Figure 1). However, the current zoning does not reflect the town's desired land uses for the area, which are a mixture of land uses. The town's rezoning process will determine the area's future zoning designation.

Land use immediately around OU2 is not restricted due to site-related contamination to the west, north, or east (Navassa Road, the now-deleted OU1, and the Eastern Upland Area, respectively). The former process and pond areas (OU4) are south of OU2. They are vacant and under investigation by the Multistate Trust. After the remedial action, the Multistate Trust intends to make OU2 available for community-supported redevelopment by selling the property to a developer or end user, along with OU1 and a portion of the Eastern Uplands Area. The sale will be contingent on the buyer securing Town approval to rezone the Property consistent with the buyer's development plan, Town ordinances, regulations, and land use plans.

The EPA determined that the reasonably anticipated land use for OU2 is a mixture of residential, commercial/industrial, and recreational. These reasonably anticipated future land uses form the basis for the exposure assumptions that are used for the OU2 risk assessments, are considered in the development of remedial objectives, and are considered in the selection of the appropriate remedial action.

7.0 Summary of Site Risks

As part of the RI/FS, the Multistate Trust conducted baseline risk assessments to estimate the current and future effects of contaminants on human health and the environment. The baseline risk assessments include an HHRA and an ecological risk assessment (ERA). The risk assessments evaluated exposure scenarios based on the reasonably anticipated future land uses. They provide the basis for taking remedial action under CERCLA and identify the contaminants and the exposure pathways that need to be addressed by the remedial action. This section of the ROD summarizes the results of the baseline risk assessments for the Site. Details of the risk assessments conducted for OU2 are presented in the following human health and ecological risk reports:

- The 2019 HHRA Addendum
- The September 2021 OU2 Soil Sampling Results and HHRA (2021 OU2 HHRA)
- The December 2021 OU2 HHRA Addendum (2021 OU2 HHRA Addendum)
- The 2021 OU2 ERA Technical Memorandum (2021 OU2 ERA)
- The 2021 Ecological Risk Reduction as a Result of Remediating OU2 Parcels Memorandum (Eco Risk Reduction Memo)

7.1 Human Health Risk Assessment

The HHRA uses a four-step process to assess site-related human health risks:

- Hazard Identification uses the analytical data collected to identify the chemicals of potential concern at the site for each medium, with consideration of several factors explained below.
- Exposure Assessment estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways by which humans are potentially exposed.
- Toxicity Assessment determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response).

- Risk Characterization summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks. The likelihood of cancer resulting from a Superfund site exposure is generally expressed as an upper bound probability. For example, a "1 in 10,000 chance", which is also expressed as 1×10^{-4}. For noncancer health effects, a hazard index (HI) – a ratio of estimated exposure to an exposure unlikely to cause harm – is calculated. The risk characterization identifies risks that exceed acceptable levels, defined by the NCP as an excess lifetime cancer risk (ELCR) is greater than 1.0×10^{-4} or a noncancer HI is greater than 1.0.

7.1.1 2022 Summary of Human Health Risks in OU2

The HHRA evaluated both cancer risk and noncancer risk for the COCs identified at the Site. Under CERCLA, potential risk to human health is considered unacceptable if the ELCR is greater than 1.0×10^{-4} or if the noncancer HI is greater than 1.0.

The 2019 HHRA used data collected between 2003 and 2017. The 2019 HHRA defined exposure areas based on historical site uses and did not evaluate risks specific to OU2, though OU2 includes portions of the treated and untreated wood storage areas that were evaluated in the 2019 HHRA. Findings from the 2019 HHRA that form the basis for this ROD include:

No unacceptable risk to construction workers exists due to exposure to PAHs and PCP in the surface and subsurface soils in the treated and untreated storage areas, including in OU2.
No site-related contaminants were detected in groundwater samples from OU2.
Sediment and surface water are not present in OU2. Therefore, potential exposures to these media were not evaluated for OU2.

The September 2021 OU2 HHRA and the December 2021 OU2 HHRA Addendum evaluated risks due to potential exposure to Site-related chemicals under residential and non-residential exposure scenarios. In addition, the 2021 HHRAs evaluated potential risks associated with dioxins, which were not considered in the 2019 HHRA. The following potential human receptors were evaluated for OU2 based on input from the town of Navassa:

- Residents
- Commercial/industrial workers
- Construction workers
- Trespassers
- Youth sports players
- Site visitors/trail walkers

7.1.2 2021 OU2 HHRA and 2021 OU2 HHRA Addendum Summary

As described further in the September 2021 OU2 HHRA, the 15.6-acre OU2 was divided into exposure areas of different sizes for different exposure scenarios:

- Exposure areas (called parcels) no greater than 0.25 acres for residential exposure.
- Exposure areas no greater than 2 acres for evaluating potential exposure to commercial/industrial workers, construction workers, trespassers, and recreational youth sports players.

- Exposure areas no greater than 6 acres for evaluating potential exposure to site visitors/trail walkers.

The September 2021 OU2 HHRA identified additional data needs for nine parcels. These data needs led to the Multistate Trust's September/October 2021 soil sampling events and to the December 2021 OU2 HHRA Addendum. The September 2021 OU2 HHRA and December 2021 OU2 HHRA Addendum identified a total of 12 of 91 parcels with chemicals present in surface soils (0 to 1 foot below ground surface) that represent a potential unacceptable risk to future residents. The public may find all residential risk estimates for OU2 in Table 3-2 of the December 2021 OU2 HHRA Addendum.

The September 2021 OU2 HHRA did not find unacceptable risks for humans under any of the non-residential exposure scenarios considered, including potential exposure to: commercial/industrial workers, construction workers, trespassers, recreational youth sports players, or site visitor/trail walkers. Table 4-2 and Table 4-3 of the September 2021 OU2 HHRA summarize these results. The September 2021 OU2 HHRA also estimated potential risks to construction workers from exposure to dioxins (as TCDD TEQ) in subsurface soils using the maximum dioxin concentration detected in OU2 subsurface soils (0.18 parts per billion [ppb] at location SB-136-C). This conservative analysis found no unacceptable risk to construction workers from exposure to dioxins in subsurface soils.

7.1.3 HHRA Conclusions

The risk assessments concluded that, in OU2, 12 parcels pose a potential unacceptable risk for future residential uses and 79 parcels do not pose an unacceptable risk. For the 12 parcels with a potential unacceptable risk for residential uses, the OU2 risk assessments estimated ELCR ranging from 5.3×10^{-7} at parcel RISB07 to 9.5×10^{-4} at parcel TB-16. Eight parcels in OU2 had a cancer risk greater than 1.0×10^{-4} (the EPA's unacceptable risk threshold), as shown in Table 2, which is Table 3-3 from the December 2021 OU2 HHRA Addendum. The total noncancer child HI ranged from 0.023 at parcels CS-61 and TB-10 to 5.7 at parcel SS-115. Seven parcels had an HI that exceeded 1 (the EPA's threshold of unacceptable noncancer risk).

Table 2: Summary of OU2 Parcels with ELCR Greater than 1.0 x 10-4 and/or HIs Greater than 1.0 under a Residential Use Scenario

Parcel	Total Excess Lifetime Cancer Risk	Total Noncancer HI (child)	Notes
CS-56	7.5x10-5	4.1	
RISB05	1.8x10-5	1.7	
SB-136	3.5x10-5	2.6	
SB-148	1.8x10-5	1.4	
SS-108	1.5x10-4	0.64	
SS-115	1.3x10-4	5.7	
SS-117	2.9x10-4	1.4	
TB-05	2.5x10-4	1.2	Parcel evaluated in OU2 HHRA Addendum; endpoint-specific HIs are less than 1.0
TB-16	9.5x10-4	4.7	
TB-16C	1.7x10-4	1.0	
TB-16F	1.3x10-4	0.88	
TB-17	1.6x10-4	0.77	Parcel evaluated in OU2 HHRA Addendum

Notes:
ELCR = excess lifetime cancer risk
HI = hazard index
NCDEQ = North Carolina Department of Environmental Quality

At the direction of NCDEQ, ELCRs and HIs are presented to two significant figures. Total ELCR greater than $1.0x10^{-4}$ and/or total HI greater than 1.0 are shaded.

Risk calculations for parcels evaluated as part of this OU2 HHRA addendum are presented in Table 3-1. Table 3-10 of the 2021 OU2 HHRA presents the risk calculations for those parcels not evaluated as part of the OU2 HHRA Addendum.

7.2 Ecological Risk Assessment

The 2021 OU2 ERA evaluated two different land use scenarios:

1. The entire land surface is developed for residential, commercial/industrial, and/or recreational (sports field) use. This land use scenario would limit the quality and amount of wildlife habitat at OU2, so the ERA focused on evaluating the potential for ecological risks to select off-site wildlife species that may forage at OU2 in the future. Songbirds were used as a representative receptor group for this scenario. Figure 5 presents the Ecological Conceptual Site Exposure Model for this scenario.
2. The land is used for recreational nature trails and remains largely undisturbed. Therefore, the risk evaluation included songbirds, mammals and soil invertebrates that may live and forage at OU2 under that scenario. Figure 6 presents the Ecological Conceptual Site Exposure Model for this more natural scenario.

The 2021 OU2 ERA evaluated potential risks associated with PAHs and dioxins to a representative range of songbird and mammal receptors under a range of diet and home range scenarios. In addition, the ERA evaluated potential risks to soil invertebrates. The ERA identified hazard quotients (HQs) greater than 1 for the American robin (HQ up to 20), American woodcock, and the short-tailed shrew due to HMW PAHs in OU2 soils—indicating potentially unacceptable risks. The highest concentrations of HMW PAHs (and thus the greatest

contribution to ecological risk) are limited to a small number of OU2 "parcels", totaling about 0.5 acres — several of which also pose unacceptable risks to future residents.

The December 2021 OU2 Eco Risk Reduction Memo estimated that a cleanup to make OU2 acceptable for residential use would also reduce the unacceptable ecological risks to a range that would be protective for ecological receptors.

7.3 Basis for Action

The response action selected in this ROD is necessary to protect the public health or welfare and the environment from actual releases of hazardous substances into the environment. The December 2021 OU2 HHRA Addendum identified about 1.6 acres in OU2 with an ELCR greater than 1.0×10^{-4} and/or a noncancer HI greater than 1.0 based on potential exposures to a future resident. The highest potential risks to a future resident were estimated as an ELCR of 9.5×10^{-4} at "parcel" TB-16 and an HI of 5.7 at "parcel" SS-115. Seventy-nine OU2 "parcels" did not pose an unacceptable risk to human health and meet the EPA's criteria for a No Action remedial decision. The 2021 OU2 ERA Report found unacceptable ecological risks, including HQs up to 20 for the American robin. The cleanup to make OU2 acceptable for residential use will also reduce the ecological risks to a range that would be protective for ecological receptors.

8.0 Remedial Action Objectives (RAOs)

Before developing cleanup alternatives for a Superfund site, the EPA develops Remedial Action Objectives, or RAOs. RAOs should describe, in general terms, what a remedial action should accomplish to protect human health and the environment. Draft RAOs are included in the FS and presented in the Proposed Plan for public input. RAOs are typically narrative statements that specify:

- Contaminants
- Environmental media of concern
- Potential exposure pathways to be addressed by remedial actions
- Exposed populations and environmental receptors to be protected
- Acceptable contaminant concentrations or concentration ranges (remediation goals) in each environmental medium

The RAOs for this ROD are:

- Prevent potential unacceptable risk to future child and adult residents from long-term exposure through incidental ingestion of, dermal contact with, and/or inhalation of surface soils (up to 1 foot below ground surface) with contaminant concentrations above the residential cleanup levels for BaP TEQ, TCDD TEQ, naphthalene, and PCP.
- Prevent potential unacceptable risk to future child and adult residents from long-term exposure through incidental ingestion of, dermal contact with, and/or inhalation of subsurface soils, with dioxin/furan concentrations above the residential cleanup levels for TCDD TEQ should the subsurface soils be brought to the surface in the future.
- Prevent potential unacceptable risks to songbirds and small mammals due to exposure through the food chain, incidental ingestion of, or direct contact with surface soils (up to 1 foot below ground surface), with a surface-weighted average concentration (SWAC) of the sum of HMW PAHs above the ecological risk cleanup level across a 2-acre area.

Cleanup levels to achieve the RAOs are identified in Table 3. There is one change from the proposed cleanup levels presented in the Proposed Plan for public comment. This ROD selects site-specific, risk-based cleanup levels because there were no chemical-specific ARARs or to-be-considered (TBC) guidance available for the COCs in soil.

Based on the EPA's determination of the reasonably anticipated future land uses, the EPA is using residential and ecological cleanup levels for OU2. The EPA's selected residential cleanup levels will achieve an HI less than 1 and will reduce the ECLR to or below 1 x 10^{-5}, which is within the EPA's target risk range of 1 x 10^{-4} to 1 x 10^{-6} and are consistent with the residual contamination in the "no action" OU1 area. The EPA's selected ecological cleanup level will reduce the ecological risks to a Hazard Quotient less than 4.3 under diet Scenario 1 and a Hazard Quotient of 2.4 or less under diet Scenario 3, which the EPA finds will be protective of ecological receptors at this Site.

Table 3: Cleanup Levels for Site COCs

Surface Soil COCs and Cleanup Levels for Residential Land Use				
Receptor	COC	Cleanup Levels	Units	Basis
Future residents	BaP TEQ	1.1	mg/kg	Cancer (ELCR) = 1.0 x 10^{-5}
Future residents	Naphthalene	17	mg/kg	Cancer (ELCR) = 1.0 x 10^{-5}
Future residents	PCP	10	mg/kg	Cancer (ELCR) = 1.0 x 10^{-5}
Future residents	TCDD TEQ	50	pg/g	Noncancer, HI = 1.0
Ecological receptors	HMW PAHs	22	mg/kg	2-acre SWAC

Notes:

COC: Contaminant of concern
BaP TEQ: Benzo(a)pyrene toxicity equivalent
ELCR: Excess lifetime cancer risk
PCP: Pentachlorophenol
TCDD TEQ: 2,3,7,8-tetrachlorodibenzo-para-dioxin toxicity equivalent
HI: Hazard index
HMW PAHs: High molecular weight polycyclic aromatic hydrocarbons
SWAC: Surface-weighted average concentration
mg/kg: milligrams per kilogram, and known as parts per million
pg/g: picograms per gram, which is the same as nanogram/kilogram and known as parts per trillion

9.0 Description of Alternatives

The 2022 OU2 FS Report evaluated four remedial action alternatives:

- Alternative 1: No Action – No action provides an assessment of the "as is" condition as a baseline for evaluating active remedial alternatives.
- Alternative 2: Removal and Off-site Disposal – This alternative includes the following main elements: excavation of contaminated OU2 soils, placement of clean backfill, and off-site disposal of excavated soils.

- Alternative 3: Removal, On-site Reuse/Consolidation, and Off-site Disposal – This alternative includes the following main elements: excavation of contaminated OU2 soils, placement of clean backfill, storing excavated soils in OU4 in a temporary stockpile that meets the requirements for a RCRA staging pile located until they are reused or consolidated into a future OU4 remedy, and disposal of OU2 soils or debris that are unsuitable for on-site reuse/consolidation, if any, in an off-site, EPA-approved, RCRA Subtitle D or C landfill, depending on waste characterization.
- Alternative 4: Cover and Institutional Controls – This alternative leaves waste in place and isolates contaminated soil with placement of a 1-foot-thick soil cover. This alternative would require long-term monitoring and maintenance, five-year reviews, and institutional controls to prevent exposure to contaminated soil.

Terminology used to describe and differentiate the alternatives are described further below:

- Capital costs are those expenditures that are required to construct a remedial alternative.
- Operational and Maintenance (O&M) costs are those post-construction costs necessary to ensure or verify the continued effectiveness of a remedial alternative and are estimated on an annual basis.
- Indirect costs are the project and construction management costs necessary for the management of the remedial action as well as costs associated with institutional controls.
- Present value represents the amount of money which, if invested in the current year, would be sufficient to cover all the costs over time associated with a project, calculated using a discount rate of seven percent and a 30-year time interval. This discount rate is based on OMB Circular No. A-94, which states that constant-dollar benefit-cost analyses of proposed investments and regulations should report net present value and other outcomes determined using a real discount rate of 7 percent, because it approximates the marginal pretax rate of return on an average investment in the private sector.
- Construction timeframe is the time required to construct and implement the alternative and does not include the time required to design the remedy, negotiate performance of the remedy with the responsible parties, or procure contracts for design and construction.

9.1 Alternative 1 – No Action

Estimated Capital Cost: $0
Estimated Total Operation and Maintenance Cost: $90,000
Indirect Costs: $0
Net Present Value: $32,000
Estimated Construction Timeframe: 0 year
Estimated Time to Achieve RAOs: RAOs would not be met

The NCP requires that a “No Action” alternative be developed as a baseline for comparing other remedial alternatives. No remedial action or monitoring would be performed under this alternative. The No Action alternative provides for an assessment of the environmental conditions if no remedial actions are implemented. There are no capital costs associated with Alternative 1, though the comparative analysis includes a cost estimate for five-year reviews.

9.2 Alternative 2 – Removal and Off-site Disposal

Estimated Capital Cost: $1,318,000
Estimated Annual Operation and Maintenance Cost: NA
Indirect Costs: $269,000
Net Present Value: $1,587,000
Estimated Construction Timeframe: 1 to 3 months
Estimated Time to Achieve RAOs: 1 to 3 months

Alternative 2 consists of excavating OU2 surface soils with dioxin concentrations and/or PAH concentrations exceeding the residential cleanup levels. Sampling indicates that contamination does not extend deeper than 2 feet below ground surface, but excavations could go deeper than 2 feet if needed to achieve the RAOs. Excavated material will be disposed of in an off-site, EPA-approved (per the CERCLA Off-Site Rule), RCRA Subtitle C or D landfill, depending on waste characterization. Clean backfill material suitable for residential use will be placed in excavated areas, graded, and vegetated. Because this alternative involves removal of contaminated soils from OU2 to allow for unlimited use and unrestricted exposure, there are no long-term O&M or post-remedy monitoring requirements. The estimated timeframe for construction completion is one to three months.

Alternative 2 includes the following elements:

- Excavation and removal of contaminated surface soils that exceed cleanup levels.
- Characterization of the excavated soil to determine if it is considered RCRA characteristic hazardous waste.
- Off-site disposal of the soil at an EPA-approved RCRA Subtitle C or D permitted landfill (depending on waste characterization). All data to date shows that OU2 soils are not a RCRA toxicity characteristic hazardous waste.
- Placement of clean backfill materials suitable for residential use in the excavated areas.
- Grading of backfilled material followed by vegetation to prevent erosion.
- No long-term O&M or post-remedy monitoring.
- Five-year reviews would not be required.
- A 1- to 3-month time frame to implement the remedy.

Removal of soils with concentrations exceeding cleanup levels would be a highly effective and permanent remedy and would meet most of the CERCLA criteria, as is summarized in Section 10, the Comparative Analysis of Alternatives, below.

Key ARARs associated with Alternative 2 include Clean Water Act regulations for control of erosion and turbidity in any nearby surface water due to stormwater runoff while conducting land disturbing activities, and RCRA requirements for characterization of contaminated soil, temporary staging, and transportation/disposal.

9.3 Alternative 3 – Removal, On-site Reuse/Consolidation, and Off-site Disposal

Estimated Capital Cost: $1,166,000
Estimated Annual Operation and Maintenance Cost: $40,000
Indirect Costs: $258,000
Net Present Value: $1,455,000
Estimated Construction Timeframe: 1 to 3 months
Estimated Time to Achieve RAOs: 1 to 3 months

Alternative 3 consists of excavating OU2 surface soils that exceed residential or ecological cleanup levels. Sampling indicates that contamination does not extend deeper than 2 feet below ground surface, but excavations could go deeper than 2 feet if needed to achieve the RAOs. The EPA anticipates that all excavated OU2 soils will be temporarily stockpiled on-site in OU4 until OU2 soils are reused or consolidated into a future OU4 remedy. Stockpiled soil will be managed in accordance with identified ARARs such as the RCRA staging pile regulations to prevent the potential spread of contamination in OU4. The area in OU4 for temporary storage is on-site and in very close proximity to the OU2 excavation areas and is necessary for implementing the OU2 remedy. The OU4 ROD will specify the final deposition of the stockpiled OU2 soils and any additional actions needed to close the temporary stockpile in accordance with identified ARARs.

If OU2 excavation uncovers unexpected conditions – such as a septic tank, drums, pipes, or other non-soil-like debris that is physically not suitable for stockpiling in OU4 – such waste will be disposed of in an off-site, permitted RCRA Subtitle C or D landfill, depending on waste characterization. Vegetative debris may be processed and reused on-site for erosion control measures and/or sent off-site to manufacture topsoil. Based on analytical results to date, the EPA does not anticipate OU2 soils will exhibit a characteristic of hazardous waste. There are no RCRA listed hazardous wastes or principal threat wastes known to be present in OU2 soils.

Clean backfill material suitable for residential use will be placed in excavated areas and graded and disturbed areas re-vegetated. This remedy will allow for unlimited use and unrestricted exposure in OU2, so there is no need for long-term operation and maintenance (O&M) or monitoring. Regular inspections and five-year reviews would be required for OU2 soils stockpiled on OU4 until the selection of a final remedy for OU4 that includes the stockpiled soils. The EPA and NCDEQ will establish the contaminant concentration criteria for reusing or consolidating OU2 soils in a future OU4 ROD.

The estimated timeframe for construction completion is one to three months.

Alternative 3 includes the following elements:

- Excavation and removal of contaminated surface soils that exceed residential or ecological cleanup levels.
    - If OU2 excavation uncovers unexpected conditions – such as a septic tank, drums, pipes, or other non-soil-like debris that is physically not suitable for stockpiling in OU4 – such waste will be disposed of in an off-site, permitted RCRA Subtitle C or D landfill, depending on waste characterization
- Stockpiling (i.e., temporary storage) of excavated OU2 soils in a staging pile located in OU4 that meets the RCRA staging pile requirements identified as ARARs.

- On-site reuse/consolidation of excavated soils in OU4 and off-site disposal of soils not suitable for on-site reuse/consolidation (depending on the selected remedy for OU4).
    - Excavated OU2 soils suitable for reuse/consolidation would be used as backfill or cover as part of the OU4 remedy. The OU4 ROD will specify the contaminant concentration criteria for reusing or consolidating OU2 soils in the OU4 remedial action.
    - Any stockpiled OU2 soils that, based upon sampling and analysis, are unsuitable for on-site reuse/consolidation in OU4 would be disposed of off-site at an EPA-approved, RCRA Subtitle D or C landfill, depending on waste characterization.
    - Based on analytical results to date, excavated OU2 soils are anticipated not to be hazardous waste based on characteristics and thus suitable for disposal at a RCRA Subtitle D landfill if not suitable for reuse/consolidation in OU4.
- Placement and final grading of imported clean backfill material suitable for residential use in the excavated areas on OU2. Re-vegetation of the disturbed areas as necessary to prevent erosion.
- Regular inspections and five-year reviews for OU2 soils stockpiled in OU4 until a final remedy is selected and implemented for OU4, which would incorporate the stockpiled soils.
- Five-year reviews would not be required for OU2.
- A 1- to 3-month time frame to implement the remedy.

Removal of soils with concentrations exceeding the cleanup levels would be a highly effective and permanent remedy for OU2 soils and would meet all the CERCLA criteria, as is summarized in Section 10, the Comparative Analysis of Alternatives, below.

Key ARARs associated with Alternative 3 include Clean Water Act regulations for control of erosion due to stormwater runoff while conducting land disturbing activities, and RCRA requirements for characterization of contaminated soil, temporary staging, and disposal.

9.4 Alternative 4 – Cover and Institutional Controls

Estimated Capital Cost: $591,000
Estimated Annual Operation and Maintenance Cost: $510,000
Indirect Costs: $316,000
Net Present Value: $1,107,000
Estimated Construction Timeframe: 1 to 2 months
Estimated Time to Achieve RAOs: 3 to 5 months

Alternative 4 consists of covering the soil contamination with 1 foot of clean fill material suitable for residential use and planting of appropriate ground cover, such as local grasses, to prevent erosion. This alternative requires routine monitoring of the vegetated soil cover's integrity and maintenance, as needed, as well as implementation of institutional controls to limit site activity or use that could disturb the soil cover. Five-year reviews would be required for parts of OU2 indefinitely since waste would remain in place with contaminant concentrations exceeding levels suitable for unlimited use and unrestricted exposure. The estimated timeframe for construction completion is one to two months.

Alternative 4 includes the following elements:

- Placement of a 1-foot-thick soil cover consisting of imported clean fill material suitable for residential use that also includes appropriate vegetation such as local grasses.
- Routine monitoring of the vegetated soil cover integrity and maintenance, as required.
- Implementation of institutional controls to limit activity/use that could disturb the soil cover.
- A 1- to 2-month implementation time frame is anticipated for placement of the soil cover.
- Five-year reviews would be required indefinitely since contamination left in place above levels suitable for unlimited use and unrestricted exposure.

Placement of a soil cover would be effective at eliminating direct exposure to OU2 soils and thus eliminating the associated unacceptable risks. However, institutional controls would be required because the contamination would be left in place and Alternative 4 would not meet NCDEQ's requirements for unrestricted use with no land-use restrictions, as defined under North Carolina General Statute § 143B-279.9(d)(1). The long-term effectiveness and permanence of the cover requires that the cover integrity be maintained. Further, a soil cover remedy would result in conditions that are likely to be viewed unfavorably by potential future property owners and would limit the future use of the property.

Key ARARs associated with Alternative 4 include Clean Water Act regulations for control of erosion due to stormwater runoff while conducting land disturbing activities.

10.0 Comparative Analysis of Alternatives

In selecting a remedy, the EPA considered the factors set out in Section 121 of CERCLA, 42 U.S.C.§ 9621, by conducting a detailed analysis of the viable remedial response measures pursuant to the NCP, 40 CFR §300.430(e)(9), and Office of Solid Waste and Emergency Response Directive 9355.3-01. The detailed analysis consisted of an assessment of each of the individual response measures per remedy component against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each response measure against the criteria. This section of the ROD describes the relative performance of each alternative against seven of the nine criteria, noting how each compare to the other options under consideration. A detailed analysis of the alternatives can be found in the 2022 OU2 FS Report and the 2022 OU2 Proposed Plan.

10.1 THRESHOLD CRITERIA

The first two criteria are known as "threshold criteria" because they are the minimum requirements that each response measure must meet in order to be eligible for selection as a remedy.

Overall Protection of Human Health and the Environment

Overall protection of human health and the environment addresses whether each alternative provides adequate protection of human health and the environment and describes how risks posed through exposure pathway are eliminated, reduced, or controlled, through treatment, engineering controls, and/or institutional controls.

All alternatives evaluated in the FS except for Alternative 1 (No Action) would be protective of human health and the environment. The current condition of surface soils for a portion of OU2 represents a potentially unacceptable risk and does not meet the RAOs. Without engineering controls and/or institutional controls, there is a potential for exposure to PAHs and dioxins in OU2 soils for current and future site users. Therefore, Alternative 1 (No Action) does not meet the threshold criteria and will not be assessed further in these comparative analyses.

Alternatives 2 and 3 will meet this threshold criteria by removing OU2 soils with COC concentrations above cleanup levels and replacing those soils with clean backfill. Under these alternatives, excavated soils would be transported off the Site to a RCRA-permitted landfill that is approved by the EPA per the CERCLA Off-Site Rule for disposal, or stockpiled in OU4 for reuse/on-site consolidation as part of the final OU4 remedy.

Alternative 4 will meet this threshold criteria by isolating OU2 soils with COC concentrations above cleanup levels beneath a soil cover, thereby eliminating/limiting potential exposure. However, land use controls in the form of deed restrictions and long-term monitoring would be required to ensure the cover integrity is maintained.

Compliance with ARARs

Section 121(d) of CERCLA and NCP §300.430(f)(1)(ii)(B) require that remedial actions at CERCLA sites attain legally applicable or relevant and appropriate Federal and more stringent state requirements, standards, criteria, and limitations which are collectively referred to as "ARARs," unless such ARARs are waived under CERCLA section 121(d)(4). Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA Site. Relevant and appropriate requirements, are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA Site address problems or situations sufficiently similar to those encountered at the CERCLA Site that their use is well-suited to the particular Site. This criterion assesses whether an alternative attains ARARs or provides grounds for invoking one of the ARAR waivers.

For purposes of ease of identification, the EPA has created three categories of ARARs: Chemical-, Location- and Action-Specific. Under 40 C.F.R. § 300.400(g)(5), the lead and support agencies shall identify their specific ARARs for a particular site and notify each other in a timely manner as described in 40 C.F.R. § 300.515(d). Chemical-, and Location–---Specific ARARs should be identified as early as scoping phase of the Remedial Investigation, while Action-Specific ARARs are identified as part of the Feasibility Study for each remedial alternative. See 40 C.F.R. §§ 300.430(b)(9) & 300.430(d)(3).

Chemical-Specific ARARs - Requirements that establish health- or risk-based numerical concentration limits or assessment methodologies for chemical contaminants in environmental media. No Chemical-Specific ARARs were identified for this remedial action.

Location-Specific ARARs - Requirements that can restrict, or limit response action based upon specific locations (e.g., wetlands, floodplains, historic places, or sensitive habitats). No location-specific ARARs were identified for this remedial action.

Action-Specific ARARs - Requirements that set controls or restrictions on the design, implementation, and performance levels of activities related to the management of hazardous substances, pollutants, or contaminants. Action-specific ARARs are presented in Table 7.

Alternatives 2, 3, and 4 can meet the Action-Specific ARARs identified in the 2022 OU2 FS Report. There are no Chemical-Specific or Location-Specific ARARs.

10.2 BALANCING CRITERIA

The next five criteria, criteria 3 through 7, are known as "primary balancing criteria". These criteria are factors by which tradeoffs between response measures are assessed so that the best options will be chosen, given site-specific data and conditions. The EPA's Proposed Plan considered Alternative 2 to be superior to Alternative 3 in terms of long-term effectiveness and implementability, inferior to Alternative 3 in terms of short-term effectiveness, and slightly more expensive in terms of cost effectiveness.

Based on public input, the EPA re-evaluated the balancing criteria and concludes that Alternative 3 is equal to Alternative 2 in terms of long-term effectiveness and superior to Alternative 2 in terms of short-term effectiveness, implementability, and cost effectiveness.

Long-Term Effectiveness and Permanence

Long-term effectiveness and permanence refer to the expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time once clean-up levels have been met. This criterion includes the consideration of residual risk that will remain on-site following remediation, the adequacy and reliability of controls, sustainability, and resilience to climate change.

Alternatives 2 and 3 both reduce risk in OU2 by removing OU2 surface soils with COC concentrations above cleanup levels and backfilling the excavated areas with clean fill. Removing contaminated soils from OU2 would also prevent potential migration of contamination.

Alternative 2 and Alternative 3 differ in the disposition of the excavated OU2 soils. Under Alternative 2, all excavated soils would be transported off the Site for disposal in an appropriately permitted RCRA Subtitle D (non-hazardous) solid waste landfill. This approach would be highly effective and permanent with a high degree of confidence because all OU2 soils exceeding the cleanup levels would be removed from the Site. No long-term management is required for OU2 under Alternative 2, as long-term management would be conducted by the landfill. Under Alternative 2, there is almost no likelihood of needing to adjust the OU2 remedy in the future.

Alternative 3 involves temporary storage of contaminated soil in OU4 and, depending on the remedy selected for OU4, the eventual reuse/consolidation of suitable OU2 soils as backfill or

cover in OU4. Any OU2 soils or debris that are unsuitable for reuse/consolidation in OU4, would be transported off the Site for disposal in an appropriately permitted RCRA landfill.

Alternative 3 requires more long-term management than Alternative 2 because it requires temporary storage in a staging pile, maintenance, and inspections until OU2 soils are incorporated into a future OU4 cleanup. Once incorporated into an OU4 remedy, the OU2 soils would not create additional long-term management requirements above and beyond those likely needed for OU4. There is some uncertainty as to how OU2 soils will be used in OU4. The EPA and NCDEQ will decide exactly how the OU2 soils would be used in OU4 (and the concentration levels for determining those uses) in the OU4 ROD. There is some potential that the OU2 soils would require alternative disposal in the future.

Alternative 4 would meet the criterion of long-term effectiveness and permanence through isolation of OU2 soils with COC concentrations above cleanup levels, but it would require indefinite inspection and maintenance of the soil cover and indefinite monitoring of restrictive covenants. As a result, Alternative 4 is clearly less effective in terms of degree of long-term management and the confidence in controls than Alternative 2 and Alternative 3.

Sustainability and climate change were evaluated as a component of long-term effectiveness and permanence. The main considerations regarding sustainability are the use of fuel, emission of greenhouse gases, use of landfill space, and limitations on future use of OU2. Physical impacts of sea level rise are not a factor in the long-term effectiveness and permanence for the OU2 remedial alternatives because of the distance of OU2 from the 100-year floodplain and the elevation of OU2 (being about 20 feet above sea level).

In terms of sustainability, Alternative 2 compares poorly to the other alternatives due to the transport of the soils to an off-site landfill and the use of landfill space. Alternative 2 requires between 20,000 and 56,000 truck-miles for off-site disposal, assuming 140 trucks making round trips of 140 to 400 miles to the nearby Subtitle D (non-hazardous) solid waste landfills. Alternative 3 is much more sustainable than Alternative 2 because less or no soil would be transported to a landfill, and less soil would be imported for backfill or cover for a future OU4 remedy. Alternative 3 uses much less fuel and produces fewer emissions than Alternative 2. Partially offsetting this is uncertainty about the number of times soil would be moved under Alternative 3, depending on the future OU4 remedy. Alternative 4 has the lowest impacts related to fuel and emissions but would place limitations on the beneficial use of OU2. Community input included the following considerations related to long-term sustainability: fuel consumption, emissions, and preserving landfill space.

Overall, Alternatives 2, 3, and 4 are considered good in terms of Long-Term Effectiveness and Permanence, though they each present very different relative strengths and weaknesses.

Short-Term Effectiveness

Short-term effectiveness addresses the period needed to implement the remedy and any adverse impacts that may be posed to workers, the community, and the environment during construction and operation of the remedy until cleanup levels are achieved.

Alternatives 2, 3, and 4 use conventional construction techniques and would be effective immediately upon completion. The potential for short-term exposures to workers and the community could be addressed though proper design and execution of the remedial action, including the use of well-established best management practices. Many of the potential short-term exposures associated with the remedial actions are related to the transport of contaminated soils and clean backfill materials.

Alternative 2 poses the greatest risks to the community and to workers and would create the most short-term environmental impacts of the four alternatives. The environmental impacts of Alternative 2 are not much greater than conventional construction activities and typical non-hazardous solid waste disposal. The environmental impacts of Alternative 2 are much greater than either Alternative 3 or 4. The EPA received community comments asserting that the EPA had underestimated the short-term impacts of landfill disposal. Other community input related to short-term effectiveness included: impacts due to transportation (dust, odors, accidents, emissions), fear of waste from a Superfund Site, and adding to the cumulative impacts on an overburdened community. Alternative 2 was ranked lowest because it would involve considerably more off-site truck traffic and thus represents a higher risk to workers and potentially impacted residents and would be a greater nuisance to potentially impacted communities.

Alternative 3 poses about the same amount of risk from excavation activities, much less risk from transportation, and slightly more risk due to the construction of a temporary stockpile meeting RCRA staging pile requirements in OU4. Alternative 3 requires between 20,000 and 56,000 fewer truck-miles than Alternative 2 based on the assumption of 140 trucks travelling between 140 to 400-mile round trips to the nearest available Subtitle D (non-hazardous) solid waste landfills. Using the EPA's EJScreen tool, the EPA estimated the population living 0.25 mile from the transportation route is no less than 4,000 people. Due to the lack of resolution of EJScreen demographic data, the EPA could not consider demographic data in this analysis.

Alternative 4 (cover and institutional controls) poses the least short-term risk of Alternatives 2, 3, and 4 because there is no excavation of contaminated soils. Alternative 2 was assigned the lowest relative ranking of these three alternatives because this alternative would involve considerably more off-site truck traffic and thus represents a higher risk to workers and the community and would be a greater nuisance to the community.

Overall, Alternative 2 is considered fair, Alternative 3 is considered good, and Alternative 4 is considered excellent in terms of Short-Term Effectiveness.

Reduction of Toxicity, Mobility, and Volume through Treatment

Reduction of toxicity, mobility, or volume through treatment addresses the degree to which alternatives employ recycling or treatment that reduces toxicity, mobility, or volume, including how treatment is used to address the principal threats posed by the site. There are no principal threat wastes in OU2. Contamination in OU2 poses a relatively low long-term threat. Alternatives 2, 3, and 4 all prevent exposure and mobility of COCs through engineering controls, not through treatment.

All Alternatives were considered equal for this criterion.

Implementability

Implementability addresses the technical and administrative feasibility of a remedy from design through construction and operation. Factors such as availability of services and materials, administrative feasibility, and coordination with other governmental entities are also considered. Alternative 2 requires careful coordination with stakeholders to identify and mitigate impacts related to the off-site transportation and disposal of about 2,800 cubic yards of contaminated soil that is expected to be appropriate for disposal in a Subtitle D solid waste (non-hazardous) landfill. However, the implementability of Alternative 2 is far more complicated than anticipated in the proposed plan. Most of the feared impacts from disposal are not related to the Site and cannot be addressed by the Multistate Trust or the EPA. The effort to identify and mitigate transportation and disposal impacts is substantial. Alternative 3 requires stockpiling soils in accordance with the substantive requirements for a RCRA staging pile to meet ARARs and future coordination with the OU4 remedy. Alternative 4 requires institutional controls that prevent disturbance of the cover, including legally binding restrictions that apply in the event the property is transferred or sold. As a result, Alternative 4 is more difficult to implement than Alternative 2 and Alternative 3.

Community input included the following considerations related to implementability: concerns about impacts to communities due to transport and disposal of CERCLA waste in a local Subtitle D landfill; concerns about using limited landfill space for material that could be managed on the site; and concerns regarding disposal, separate from site activities.

Overall, Alternative 2 is considered fair, Alternative 3 is considered good, and Alternative 4 is considered poor in terms of implementability.

Cost

Cost estimates, including capital costs, long-term operating costs, and net present value, were prepared for each remedial alternative, and are summarized below. Alternative 4 has the lowest construction costs, but the administrative costs of land use controls and five-year reviews increase the total costs significantly. Alternative 2 is $132,000 more expensive than Alternative 3. Because of public comments that all OU2 soils should be managed on the Site, the EPA reviewed the cost estimate in Table B1 of the FS more closely. The unit cost of "Soil Transport and Disposal" is $104 per cubic yard and Alternative 3's cost estimate assumes 1,710 cubic yards would be sent for off-site disposal at a cost of $178,000. The EPA notes that Alternative 3 would be about $300,000 less than Alternative 2 with different assumptions. The uncertainty in the cost estimate is within the expected accuracy of a cost estimate at the ROD stage of -30% to +50% per the USACE/EPA guidance "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study"[3]. There is no need to revise the cost estimate in the FS.

[3] https://semspub.epa.gov/work/HQ/174890.pdf.

Table 4: Summary of Estimated Costs for Each Alternative

Cost Category	Alternative 1 No Action	Alternative 2 Removal and Off-site Disposal	Alternative 3 Removal, On-site Reuse/Consolidation, and Off-site Disposal	Alternative 4 Cover and Institutional Controls
Direct Capital Costs	$0	$1,318,000	$1,166,000	$591,000
Indirect Capital Costs	$0	$269,000	$258,000	$316,000
Total O&M Costs	$90,000	$0	$40,000	$510,000
Totals (net present value)	$32,000	$1,587,000	$1,455,000	$1,107,000

10.3 MODIFYING CRITERIA

The final two evaluation criteria, State Agency Acceptance and Community Acceptance, are called "modifying criteria" because new information or comments from the state or the community on the Proposed Plan may modify the preferred response measure or cause another response measure to be considered.

10.3.1 State Acceptance

The State has expressed its support for Alternative 3. The State has reviewed the public comments received and accepts the preferred alternative (Appendix A).

10.3.2 Community Acceptance

During the public comment period, community members and regional stakeholders expressed concerns about Alternative 2 and did not express concerns about Alternative 3 and 4. Following the community meeting, the EPA, NCDEQ, and Multistate Trust engaged with the NCDEQ Title VI and Environmental Justice Advisory Board Coordinator, which led to additional outreach to local and regional stakeholders. Based on community input, including environmental justice considerations, the EPA re-evaluated Alternatives 2 and 3. On August 25, 2022, the RPM emailed points of contact for local and regional stakeholders[4] to let them know that the EPA was assessing the acceptability of Alternative 3 (on-site reuse/consolidation, and off-site disposal of excavated OU2 soils in OU4) as the potential selected remedy for Kerr-McGee Navassa OU2 and to solicit input and feedback. The EPA answered questions from NCEERC's technical advisor on August 27th and from the Mayor of Navassa on August 31st. The EPA also sent an email update with the recommendation for Alternative 3 as the OU2 remedy, to a broader list of Navassa stakeholders on September 15, 2022.

As of September 21, 2022, the RPM received six comments by email and has documented several verbal comments provided by telephone. Several commenters, as shown in the

[4] Recipients included: Mayor of Navassa, Navassa Town Council, leaders of the NCEERC, the Technical Advisor for the NCEERC, the Southern Environmental Law Center (SELC advises the NCEERC), residents of Navassa, participants in the Multistate Trust's Reuse Advisory Committee, members of the NCDEQ EJ Advisory Board.

responsiveness summary are in favor of Alternative 3. There have only been comments against Alternative 2. No commenter indicated support for Alternative 2.

11.0 Principal Threat Waste

The NCP establishes an expectation that the EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430(a)(1)(iii)(A)) and to use engineering controls for waste that poses a relatively low long-term threat (NCP Section 300.430(a)(1)(iii)(B)). The "principal threat waste" concept is applied to the characterization of "source materials" at a Superfund site. Source material is waste or material that includes or contains hazardous substances, pollutants, or contaminants that act as a reservoir for migration of contamination to groundwater, surface water, or air, or acts as a source for direct exposure. There are no principal threat wastes known to be present in OU2 soils. The contaminated soils in OU2 are a relatively low long-term threat and off-site disposal at an appropriately permitted RCRA landfill approved by the EPA under the CERCLA Off-Site Rule is consistent with the EPA's expectation to use engineering controls for such wastes. Future remedial action in other OUs will address the statutory preference for treatment to address principal threats, if present.

12.0 Selected Remedy

Based upon the above information, public comments, and the record in the administrative record file, the EPA's Selected Remedy for OU2 of the Site is **Alternative 3 – Removal, On-site Reuse/Consolidation, and Off-site Disposal**. The estimated net present value for the Preferred Alternative is $1,455,000.

12.1 Summary of the Rationale for the Selected Remedy

Based on the site investigations, the requirements of CERCLA, the detailed analysis of the remedial alternatives, consideration of public comments, and NCDEQ concurrence, the EPA determined that Alternative 3 meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing criteria.

The decisive balancing factors that led to the selection of Alternative 3 are its short-term effectiveness, implementability, and cost effectiveness. Alternative 3 is also more acceptable to the State and regional community stakeholders. The Navassa Town Council used the September 5, 2022 agenda meeting to hear input from the community and the NCEERC technical advisor. After a discussion of the technical details about the proposed plan and answering questions, Navassa Mayor Willis asked if Town Council members had an opinion about Alternatives 2 and 3. Two Councilmembers and the Mayor concurred with Alternative 3. Three Councilmembers did not state an opinion. Stakeholders in the Navassa community have expressed urgency for the cleanup to begin.

Alternative 3 is more effective than Alternative 2 in the short-term because about 2,800 cubic yards of OU2 soils will be managed on the Site in OU4, resulting in far less potential for impacts to the Navassa and broader, regional communities. Alternative 3 is the most readily implementable alternative because managing the OU2 soils in OU4 will be easier to implement than Alternative 2 and because no land use restrictions are required, as in Alternative 4.

12.2 Detailed Description of the Selected Remedy

Alternative 3 consists of excavating OU2 surface soils that exceed residential or ecological cleanup levels. The EPA anticipates that all excavated OU2 soils will be temporarily stockpiled on-site in OU4 until OU2 soils are reused or consolidated into a future OU4 remedy. Stockpiled soil would be managed in accordance with identified ARARs such as the RCRA staging pile regulations to prevent the potential spread of contamination in OU4. The OU4 ROD will specify the final deposition of the stockpiled OU2 soils and any additional actions needed to close the temporary stockpile in accordance with identified ARARs.

If OU2 excavation uncovers unexpected conditions – such as a septic tank, drums, pipes, or other non-soil-like debris that is not suitable for reuse in OU4 – such waste will be disposed of in an off-site, permitted RCRA Subtitle C or D landfill, depending on waste characterization. Based on analytical results to date, the EPA does not anticipate OU2 soils will exhibit a characteristic of hazardous waste. There are no RCRA Listed hazardous wastes or principal threat wastes known to be present in OU2 soils.

Sampling indicates that contamination does not extend deeper than 2 feet below ground surface, but excavations could go deeper than 2 feet if needed to achieve the RAOs. Clean backfill material suitable for residential use will be placed in excavated areas and graded. This remedy will allow for unlimited use and unrestricted exposure in OU2, so there is no need for long-term O&M or monitoring. Regular inspections and five-year reviews would be required for OU2 soils stockpiled on OU4 until the selection of a final remedy for OU4 that includes the stockpiled soils. The EPA and NCDEQ will establish the contaminant concentration criteria for reusing or consolidating OU2 soils in a future OU4 ROD.

The estimated timeframe for construction completion is one to three months.

The selected remedy includes the following components:

- Excavation and removal of contaminated surface soils that exceed residential or ecological cleanup levels.
    - If OU2 excavation uncovers unexpected conditions – such as a septic tank, drums, pipes, or other non-soil-like debris that is physically not suitable for stockpiling in OU4 – such waste will be disposed of in an off-site, permitted RCRA Subtitle C or D landfill, depending on waste characterization.
- Stockpiling (i.e., temporary storage) of excavated OU2 soils in a staging pile located in OU4 that meets the RCRA staging pile requirements identified as ARARs.
- On-site reuse/consolidation of OU2 soils in OU4, as determined in the OU4 selected remedy.
    - Excavated OU2 soils suitable for reuse/consolidation would be used as backfill or cover as part of the OU4 remedy. The OU4 ROD will specify the contaminant concentration criteria for reusing or consolidating OU2 soils in the OU4 remedial action.
    - Any stockpiled OU2 soils based upon sampling and analysis that are unsuitable for on-site reuse/consolidation in OU4 would be disposed of at an EPA-approved, permitted, off-site RCRA Subtitle D or C landfill, depending on waste characterization.

    - Analytical results to date suggest OU2 soils to be excavated are not characteristic hazardous wastes and thus suitable for disposal at a RCRA Subtitle D landfill if not suitable for reuse/consolidation in OU4.
- Placement and final grading of imported clean backfill material suitable for residential use in the excavated areas of OU2. Re-vegetation of the disturbed areas as necessary to prevent erosion.
- Regular inspections and five-year reviews for OU2 soils stockpiled in OU4 until a final remedy is selected and implemented for OU4, which would incorporate the stockpiled soils.
- Five-year reviews would not be required for OU2.
- A 1- to 3-month time frame to implement the remedy.

Removal of soils with concentrations exceeding the cleanup levels would be a highly effective and permanent remedy for OU2 soils and would meet all the CERCLA criteria, as is summarized in Section 10, the Comparative Analysis of Alternatives.

Key ARARs associated with Alternative 3 include Clean Water Act regulations for control of erosion due to stormwater runoff while conducting land disturbing activities, and RCRA requirements for characterization of contaminated soil, temporary staging, and disposal.

In addition to management of excavated OU2 soils, other waste streams generated by the remedial action will require appropriate, off-site disposal. The remedial action under Alternative 3 is expected to generate waste, such as metal or concrete from OU2 excavation areas that may be decontaminated and/or recycled, as well as normal "trash" unrelated to contamination in OU2, but typical of any construction work site. Also, if the remedial action uncovers something unexpected, as is common during cleanups, that waste will be characterized and managed appropriately in accordance with ARARs. Common surprises at wood treating sites include buried drums, disposal areas, tanks, pipes, or an unknown hot spot of soil contamination. Vegetative debris may be processed and reused on-site for erosion control measures and/or sent off-site to manufacture topsoil.

Further, the Multistate Trust is planning to address waste materials unrelated to the OU2 soil contamination with the Multistate Trust's remedial action contractors. These are not CERCLA wastes and are outside of the scope of the OU2 ROD. These materials include non-CERCLA debris, like concrete and slabs, outside of the OU2 excavation areas; piles of household and construction waste that were dumped in the woods over the decades; and about a pickup truck load of asbestos roofing material of unknown origin that must be packaged and disposed of in accordance with Clean Air Act asbestos disposal regulations. The EPA, NCDEQ, and Multistate Trust will work with communities to ensure clear communication about how all waste streams are managed and the remedial action report may include amounts and destinations for both CERCLA and non-CERCLA wastes.

12.3 Cost Estimate for the Selected Remedy

The information in the cost estimate summary table below is based on the best available information regarding the anticipated scope of the remedial alternative. Changes in the cost elements are likely to occur because of new information and data collected during the engineering design of the remedial alternative. Major changes may be documented in the form of

a memorandum, in the Administrative Record file, an Explanation of Significant Differences, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within +50% to -30% of the actual project cost per the EPA guidance 540-R-00-002.

Table 5: Estimated Costs of Selected Remedy

Activity	Alternative #3
Estimated Capital Cost	$1,166,000
Indirect Cost	$258,000
Estimated O&M Costs	$40,000
Net Present Value	$1,455,000
Estimated Time to Achieve RAOs	1 to 3 months

12.4 Estimated Outcomes of the Selected Remedy

The Selected Remedy will protect human health and the environment by eliminating, reducing, or controlling human health and ecological risks at OU2 through physical removal of contaminated soil. Future land use of OU2 will be able to include residential, commercial/industrial and/or recreational uses. The Selected Remedy will achieve the final cleanup levels and accomplish the RAOs for OU2. The EPA is using risk-based residential and ecological cleanup levels for cleanup of OU2 which ensure the remedy will be protective for both humans and ecological receptors.

13.0 Statutory Determinations

Under CERCLA §121 and the NCP, the lead agency must select remedies that are protective of human health and the environment, comply with applicable or relevant and appropriate requirements (unless a statutory waiver is justified), are cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In addition, CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous wastes as a principal element and a bias against off-site disposal of untreated wastes. The following sections discuss how the Selected Remedy meets these statutory requirements.

13.1 Protection of Human Health and the Environment

The Selected Remedy, Alternative 3, will protect human health and the environment by excavating and removing contaminated soil exceeding the cleanup levels and placing it in a temporary stockpile located on-site in OU4 that will be managed in accordance with the requirements for a RCRA staging pile until the soil is reused or consolidated, as appropriate, into a future OU4 remedy. This Selected Remedy will reduce the Hazard Index to less than 1 and reduce the cancer risks to or below 1×10^{-5}, which is within the EPA's target risk range of 1×10^{-4} to 1×10^{-6}. The Selected Remedy will reduce the ecological risks to a Hazard Quotient less than 4.3 under diet Scenario 1 and a Hazard Quotient of 2.4 or less under diet Scenario 3.

There are no short-term threats associated with the Selected Remedy that cannot be readily controlled. In addition, no adverse cross-media impacts are expected from the Selected Remedy.

13.2 Compliance with ARARs

CERCLA section 121(d)(2) and the NCP at 40 CFR 300.430(f)(ii)(B) require that remedial actions at CERCLA Sites attain legally applicable or relevant and appropriate federal and more stringent state requirements, standards, criteria, and limitations which are collectively referred to as "ARARs," unless such ARARs are waived under CERCLA section 121(d)(4). In addition to ARARs, the lead and support agencies may, as appropriate, identify other advisories, criteria, or guidance to-be-considered for a particular release. In accordance with 40 CFR § 300.400(g), the EPA and NCDEQ have identified the ARARs for the Selected Remedy.

The Selected Remedy will comply with all identified ARARs and To Be Considered guidance presented in Table 7. The general categories of the Action-Specific ARARs for the Selected Remedy are presented below and in more detail in Table 7.

- General Construction Standards – All land-disturbing activities (i.e., excavation, trenching, grading, etc.)
- Waste Characterization – Primary Wastes (contaminated soil and debris) and Secondary Wastes (contaminated personal protective equipment [PPE] and equipment, etc.)
- Temporary Waste Storage – Primary Wastes (contaminated soil and debris) and Secondary Wastes (contaminated PPE and equipment, etc.)
- Treatment/Disposal of Wastes – Primary (contaminated soil and debris) and Secondary Wastes (contaminated PPE or equipment)
- Transportation of Wastes – Primary and Secondary

In addition, CERCLA Section 121(d)(3) provides that the off-site transfer of any hazardous substance, pollutant, or contaminant generated during CERCLA response actions be sent to a treatment, storage, or disposal facility that is in compliance with applicable federal and state laws and has been approved by the EPA for acceptance of CERCLA waste. *See also* the NCP at 40 C.F.R. § 300.440 (so called "Off-Site Rule").

13.3 Cost Effectiveness

In the EPA's judgment, the Selected Remedy is cost-effective and represents a reasonable value for the money to be spent. Under the NCP[5], the EPA evaluated the "overall effectiveness" based on three of the balancing criteria:

- long-term effectiveness and permanence;
- reduction in toxicity, mobility, and volume through treatment; and
- short-term effectiveness.

Alternatives 2, 3, and 4 are considered about equal in terms of Long-Term Effectiveness and Permanence, though they each present very different relative strengths. Alternative 4 requires indefinite inspection and maintenance of an OU2 soil cover, indefinite monitoring of restrictive

[5] NCP §300.430(f)(1)(ii)(D)

covenants, and indefinite Five-Year Reviews. None of the alternatives use treatment to reduce toxicity, mobility, and volume, but use engineering controls to prevent exposure, consistent with NCP's expectations for relatively low long-term threats. In terms of short-term effectiveness, the Selected Remedy, Alternative 3, provides better short-term effectiveness than Alternative 2, but less short-term effectiveness than Alternative 4.

Alternative 3 costs at least $132,000 less than Alternative 2 and provides more overall effectiveness. Alternative 3 also creates the option to use OU2 soils in OU4 in a way that may reduce the overall cost of the OU4 remedy (though this will be determined in the OU4 ROD). Alternative 3 costs about $340,000 more than Alternative 4. However, because Alternative 3 achieves unrestricted use and unlimited exposure, it requires no inspections, maintenance, land use controls, or Five-Year Reviews. This is a clear advantage of Alternative 3 over Alternative 4 because of the lower costs over the long term, more flexibility for beneficial use, less stigma for reuse, greater economic value of the property for the Multistate Trust, and greater local tax revenue. Overall, the EPA's decision is that the selected remedy, Alternative 3, is the most cost-effective Alternative.

13.4 Use of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable

The EPA has determined that the Selected Remedy represents the maximum extent to which permanent solutions can be utilized in a practicable manner at the Site. As described earlier, removal of the contaminated soil from the identified OU2 parcels will achieve the RAOs and thereby permanently prevent any unacceptable risk to human health but no treatment or resource recovery technologies are utilized.

The Selected Remedy does not present short-term risks different from the other alternatives. There are no special implementability issues that set the Selected Remedy apart from any of the other alternatives evaluated.

13.5 Preference for Treatment as a Principal Element

The Selected Remedy does not satisfy the statutory preference in CERCLA to use treatment to address principal threats as a principal element of the remedy because OU2 soils pose a relatively low long-term threat and there are no principal threat wastes present. The Selected Remedy of placing OU2 soils in a temporary stockpile that meets the requirements for a RCRA staging pile is consistent with the NCP's[6] expectation that the EPA use engineering controls for waste that poses a relatively low long-term threat.

13.6 Five-Year Review Requirements

The Selected Remedy will allow for unlimited use and unrestricted exposure in OU2 and thus will not require five-year reviews in OU2 pursuant to CERCLA Section 121(c).

The OU2 soil stockpiled in OU4 will be subject to a five-year review per the NCP[7] because hazardous substances will be stockpiled in OU4 above levels that allow for unlimited use and

[6] NCP Section 300.430(a)(1)(iii)(B)
[7] 40 CFR Part 300.430(f)(4)(ii)

unrestricted exposure. The date "remedial action on-site construction" starts is the trigger date for a statutory five-year review. EPA expects the OU2 soil stockpile will be incorporated into an OU4 remedy within five years of the start on-site construction of the OU2 remedy.

13.7 Documentation of Significant Changes

Pursuant to CERCLA Section 117(b) and NCP §300.430(f)(3)(ii), the ROD must document any significant changes made to the Preferred Alternative discussed in the Proposed Plan. The Proposed Plan was released for public comment in May 2022. The Proposed Plan identified Alternative 2: Removal and Off-Site Disposal, as the Preferred Alternative for OU2 soils.

During the public comment period, community members expressed concerns about Alternative 2 and did not express concerns about Alternative 3 and 4. After the Proposed Plan public meeting and as follow up to public comments, the EPA, NCDEQ, and Multistate Trust engaged with the NCDEQ Title VI and Environmental Justice Coordinator. This led to additional outreach to local and regional stakeholders to understand the concerns related to Alternative 2. Based on community input, including environmental justice considerations, and as reflected in the comparative analysis of alternatives, the EPA re-evaluated Alternatives 2 and 3. As part of the EPA's assessment of the acceptability of Alternative 3 (on-site reuse/consolidation of OU2 soils in OU4) as the potential selected remedy, the EPA conducted additional stakeholder outreach as discussed in the Community Acceptance section of this ROD. As a result of this additional community input, and the EPA's re-evaluation of the balancing criteria, the EPA has decided to select Alternative 3 instead of Alternative 2 as the final remedy for OU2. This is consistent with the NCP remedy selection process, which contemplates that either State and/or community input may modify the Preferred Alternative.

Because the public was aware that Alternative 2, 3, or 4 each met the threshold criteria and might be selected as the remedy, the public had adequate opportunity to review and comment on Alternative 3. In addition, the EPA's additional public outreach after the close of the comment period (June 30, 2022) provided ample opportunity to provide input. Accordingly, the EPA is documenting this change in the OU2 ROD without issuing a revised Proposed Plan or an additional public comment period.

14.0 References

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PART 3: RESPONSIVENESS SUMMARY

1.0 Public Review Process

1.1 Introduction

This Responsiveness Summary provides a summary of comments and concerns received during the public comment period related to the Kerr-McGee Chemical Corp (Kerr-McGee) – Navassa Superfund Site, Operable Unit (OU) 2 Proposed Plan, and provides the responses of the U.S. Environmental Protection Agency (EPA) to those comments and concerns.

A Responsiveness Summary serves two functions: first, it provides the decision maker with information about the views of the public, government agencies, and potentially responsible parties (PRPs) regarding the proposed remedial action and other alternatives; and second, it documents the way in which public comments have been considered during the decision-making process and provides answers to significant comments.

Public involvement in the review of Proposed Plans is stipulated in Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, and Sections 300.430(f)(3)(i)(F) and 300.430(f)(5)(iii)(B) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). These regulations provide for active solicitation of public comment.

All public comments received are addressed in this Responsiveness Summary. The Responsiveness Summary was prepared following guidance provided by the EPA in the 1992 *Community Relations in Superfund: A Handbook* and the 1988 *Community Relations during Enforcement Activities and Development of the Administrative Record*. The comments presented in this document have been considered in the EPA's decision in the selection of a remedy to address contaminated soils at OU2 of the Site.

The text of this Responsiveness Summary explains the public review process and how comments were responded to. Appendix B provides the Comment and Response Index, which contains summaries of every comment received during the public comment period and the EPA's response.

1.2 Public Review Process

The EPA relies on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, the EPA made the Proposed Plan for OU2 of the Kerr-McGee Chemical Corp – Navassa Superfund Site, Navassa, North Carolina available to the community on May 26, 2022.

The complete Administrative Record file, which contains the RI/FS report and risk assessments, upon which the Selected Interim Remedy is based, is available at the locations listed below.

Administrative records for the Site are available at: semspub.epa.gov/src/collections/04/AR/NCD980557805. The Administrative Record for OU2 is available at: semspub.epa.gov/src/collection/04/AR66131. The EPA established a local

Information Repository at two locations where the public may access and review the Site's Administrative Record online.

- Navassa Community Center, 338 Main Street, Navassa, North Carolina, 28451.
- Leland Library, 487 Village Road NE, Leland, North Carolina, 28451.

1.3 Public Comment Period, Public Meeting and Availability Sessions

The public comment period is intended to gather information about the views of the public regarding both the remedial alternatives and general concerns about the site. The EPA emailed the Proposed Plan to community stakeholders on May 26, 2022, and included: notice that the public comment period would start on June 1, 2022, notice of the public meeting date, the preferred remedy, contact information, and the availability of above-referenced documents in the online administrative record, which was available on May 31, 2022. The public notice was published in the Brunswick Beacon, on June 9, 2022.

The public comment period for the Site's OU2 Proposed Plan started on June 1, 2022 and continued until June 30, 2022. The EPA continued to accept comments until September 21, 2022.

1.4 Comments and EPA Responses

Public comments on the Proposed Plan and the EPA Region 4 responses were received as written comments submitted to the EPA Region 4 via e-mail, oral comments made at the public meeting, and oral comments provided outside of the public meeting.

The Comment and Response Index (Appendix B) contains a complete listing of all comments received and responses from the EPA. The Comment and Response Index is organized as follows:

- Responses 1 – 5: Oral Comments provided at the public meeting.
- Response 6: Written comment received during the comment period.
- Responses 7 – 9: Verbal comments.
- Responses 10 – 22: Written comments received after the comment period.

TABLES

Table 6: Final COCs for OU2
(Table 3-4 from the 2021 OU2 HHRA Addendum)

Table 3-4. Revised Final Constituents of Concern by OU2 Residential Parcel

	Endpoint		COPC ("X" if Identified as COC)								
Parcel	ELCR > 1.0x10-4	Endpoint-Specific Noncancer HI > 1.0	BaP TEQ	BaP	Fluoranthene	Naphthalene	PCP	Phenanthrene	Pyrene	TCDD TEQ	Notes
CS-56		X								X	
RISB05		X								X	
SB-136		X								X	
SB-148		X								X	
SS-108	X		X								
SS-115	X	X	X							X	
SS-117	X	X	X	X						X	
TB-05	X		X							X	Parcel with OU2 PDI data and evaluated in OU2 HHRA Addendum
TB-16	X	X	X	X		X	X			X	
TB-16C	X		X							X	
TB-16F	X		X			X				X	
TB-17	X		X							X	Parcel with OU2 PDI data and evaluated in OU2 HHRA Addendum

Notes:

BaP = benzo[*a*]pyrene
COC = constituent of concern
COPC = constituent of potential concern
ELCR = excess lifetime cancer risk
HI = hazard index
PCP = pentachlorophenol
TCDD = 2,3,7,8-tetrachlorodibenzo-*p*-dioxin
TEQ = toxic equivalency

COCs for parcels with OU2 PDI data and evaluated in this OU2 HHRA Addendum are based on the risks presented in Table 3-1. For all other parcels, COCs were originally presented in Table 3-17 of the 2021 OU2 HHRA, and are unchanged.

Table 7: Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
General Construction Standards – All land–disturbing activities (i.e., excavation, trenching, grading etc.)			
Managing storm water runoff from land-disturbing activities	Shall install erosion and sedimentation control devices and practices sufficient to retain the sediment generated by the land-disturbing activity within the boundaries of the tract during construction.	Land-disturbing activity (as defined in N.C.G.S. Ch. 113A-53) of more than 1 acre of land – **applicable**	N.C.G.S. Ch.113A-157(3) *Mandatory standards for land-disturbing activity*
	Shall plant or otherwise provide permanent ground cover sufficient to restrain erosion after completion of construction.		N.C.G.S. Ch.113A-157(3)
	The land-disturbing activity shall be conducted in accordance with the approved erosion and sedimentation control plan. *NOTE:* Plan which meets the objectives of 15A NCAC 4B.0106 would be included in the CERCLA Remedial Design or Remedial Action Work Plan		N.C.G.S. Ch.113A-157(5)
	Shall take all reasonable measures to protect all public and private property from damage caused by such activities.	Land-disturbing activity (as defined in N.C.G.S. Ch. 113A-52) of more than 1 acre of land – **applicable**	15A NCAC 4B.0105
Managing storm water runoff from land-disturbing activities cont.	Erosion and sedimentation control plan must address the following basic control objectives: (1) Identify areas subject to severe erosion, and off-site areas especially vulnerable to damage from erosion and sedimentation. (2) Limit the size of the area exposed at any one time. (3) Limit exposure to the shortest feasible time. (4) Control surface water run-off originating upgrade of exposed areas (5) Plan and conduct land-disturbing activity so as to prevent off-site sedimentation damage. (6) Include measures to control velocity of storm water runoff to the point of discharge.		15A NCAC 4B.0106
Managing storm water runoff from land-disturbing activities cont.	Erosion and sedimentation control measures, structures, and devices shall be planned, designed, and constructed to provide protection from the run-off of 10-year storm.	Land-disturbing activity (as defined in N.C.G.S. Ch. 113A-52) of more than 1 acre of land – **applicable**	15A NCAC 4B.0108
	Shall conduct activity so that the post-construction velocity of the 10-year storm run-off in the receiving watercourse to the discharge point does not exceed the parameters provided in this Rule.		15A NCAC 4B.0109

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
	Shall install and maintain all temporary and permanent erosion and sedimentation control measures.		15A NCAC 4B.0113
Control of fugitive dust emissions	The owner/operator of a facility shall not cause fugitive dust emissions to cause or contribute to the substantive complaints or visible emissions.	Activities potentially generating fugitive dust as defined in 15A NCAC 02D .0540 (a)(2) – **relevant and appropriate**	15A NCAC 02D .0540
Waste Characterization – Primary Wastes (contaminated soil and debris) and Secondary Wastes (contaminated PPE and equipment, etc.)			
Characterization of *solid waste* (all primary and secondary wastes) and Listed hazardous waste determination	Must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA regulations. A hazardous waste determination is made using the following steps: • The hazardous waste determination for each solid waste must be made at the point of waste generation, before any dilution, mixing, or other alteration of the waste occurs, and at any time in the course of its management that it has, or may have, changed its properties as a result of exposure to the environment or other factors that may change the properties of the waste such that the RCRA classification of the waste may change. • Must determine whether the waste is excluded from regulation under 40 CFR 261.4; and • Must use the knowledge of the waste to determine whether waste meets any of the listing descriptions under subpart D of 40 CFR Part 261. Acceptable knowledge that may be used in making an accurate determination as to whether the waste is listed may include waste origin, composition, the process producing the waste, feedstock, and other reliable and relevant information. •	Generation of solid waste as defined in 40 CFR § 261.2 – **applicable**	40 CFR § 262.11(a), (b) and (c) 15A NCAC 13A .107(a)
Determination of characteristic hazardous waste	The person then must also determine whether the waste exhibits one or more hazardous characteristics as identified in subpart C of 40 CFR part 261 by following the procedures in paragraph (d)(1) or (2) of this section, or a combination of both.	Generation of solid waste which is not excluded under 40 CFR 261.4(a) – **applicable**	40 CFR § 262.11(d) 15A NCAC 13A .0107

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
Determination of characteristic hazardous waste through knowledge	The person must apply knowledge of the hazard characteristic of the waste in light of the materials or the processes used to generate the waste. Acceptable knowledge may include process knowledge (e.g., information about chemical feedstocks and other inputs to the production process); knowledge of products, by-products, and intermediates produced by the manufacturing process; chemical or physical characterization of wastes; information on the chemical and physical properties of the chemicals used or produced by the process or otherwise contained in the waste; testing that illustrates the properties of the waste; or other reliable and relevant information about the properties of the waste or its constituents. A test other than a test method set forth in subpart C of 40 CFR part 261, or an equivalent test method approved by the Administrator under 40 CFR 260.21, may be used as part of a person's knowledge to determine whether a solid waste exhibits a characteristic of hazardous waste. However, such tests do not, by themselves, provide definitive results. Persons testing their waste must obtain a representative sample of the waste for the testing, as defined at 40 CFR 260.10.		40 CFR 262.11(d)(1) 15A NCAC 13A .0107
Determination of characteristic hazardous waste through testing	When available knowledge is inadequate to make an accurate determination, the person must test the waste according to the applicable methods set forth in subpart C of 40 CFR part 261 or according to an equivalent method approved by the Administrator under 40 CFR 260.21; or and in accordance with the following: (i) Persons testing their waste must obtain a representative sample of the waste for the testing, as defined at 40 CFR 260.10. (ii) Where a test method is specified in subpart C of 40 CFR part 261, the results of the regulatory test, when properly performed, are definitive for determining the regulatory status of the waste.	Generation of solid waste which is not excluded under 40 CFR 261.4(a) – **applicable**	40 CFR 262.11(d)(2) 15A NCAC 13A .0107
	Must refer to Parts 261, 262, 264, 265, 266, 268, and 273 of Chapter 40 for possible exclusions or restrictions pertaining to management of the specific waste	Generation of solid waste which is determined to be hazardous – **applicable**	40 CFR § 262.11(e); 15A NCAC 13A .0107
Identifying hazardous waste numbers for small and large quantity generators	Must identify all applicable EPA hazardous waste numbers (EPA hazardous waste codes) in subparts C and D of part 261 of this chapter. Prior to shipping the waste off site, the generator also must mark its containers with all applicable EPA hazardous waste numbers (EPA hazardous waste codes) according to § 262.32.		40 CFR 262.11(g) 15A NCAC 13A .0107
General Waste Analysis	Must obtain a detailed chemical and physical analysis on a representative sample of the waste(s), which at a minimum contains all the information that must be known to treat, store, or dispose of the waste in accordance with pertinent sections of 40 CFR 264 and 268.	Generation of RCRA-hazardous waste or nonhazardous wastes if applicable under Section 264.113(d) for storage, treatment, or disposal – **applicable**	40 CFR § 264.13(a)(1) 15A NCAC 13A .0109(c)

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
Determinations for management of hazardous waste	Must determine if the waste has to be treated before it can be land disposed. This is done by determining if the hazardous waste meets the treatment standards in §268.40, 268.45, or §268.49. This determination can be made concurrently with the hazardous waste determination required in §262.11 of this chapter, in either of two ways: testing the waste or using knowledge of the waste. If the generator tests the waste, testing would normally determine the total concentration of hazardous constituents, or the concentration of hazardous constituents in an extract of the waste obtained using test method 1311 in ‘‘Test Methods of Evaluating Solid Waste, Physical/Chemical Methods,’’ EPA Publication SW–846, (incorporated by reference, see §260.11 of this chapter), depending on whether the treatment standard for the waste is expressed as a total concentration or concentration of hazardous constituent in the waste’s extract. (Alternatively, the generator must send the waste to a RCRA-permitted hazardous waste treatment facility, where the waste treatment facility must comply with the requirements of §264.13 of this chapter and paragraph (b) of this section.)	Generation of RCRA hazardous waste for storage, treatment, or disposal – **applicable**	40 CFR § 268.7(a) 15A NCAC 13A .0112(a)
	Must comply with the special requirements of 40 CFR § 268.9 in addition to any applicable requirements in 40 CFR § 268.7.	Generation of waste or soil that displays a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity for storage, treatment, or disposal **– applicable**	40 CFR § 268.7(a)(1) 15A NCAC 13A .0112(a)
Special rules for characteristic hazardous waste	Must determine each EPA Hazardous Waste Number (waste code) applicable to the waste in order to determine the applicable treatment standards under subpart D of this part. This determination may be made concurrently with the hazardous waste determination required in § 262.11 of this chapter. For purposes of part 268, the waste will carry the waste code for any applicable listed waste (40 CFR part 261, subpart D). In addition, where the waste exhibits a characteristic, the waste will carry one or more of the characteristic waste codes (40 CFR part 261, subpart C), except when the treatment standard for the listed waste operates in lieu of the treatment standard for the characteristic waste, as specified in paragraph (b) of this section.	Generation of RCRA characteristic hazardous waste for storage, treatment, or disposal – **applicable**	40 CFR § 268.9(a) 15A NCAC 13A .0112(a)
	Must determine the underlying hazardous constituents [as defined in 40 CFR § 268.2(i)] in the characteristic waste.	Generation of RCRA characteristic hazardous waste (and is not D001 non–wastewaters treated by CMBST, RORGS, or POLYM of Section 268.42 Table 1) for storage, treatment, or disposal **– applicable**	40 CFR § 268.9(a) 15A NCAC 13A .0112(a)

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
Waste Storage – Primary Wastes (contaminated soil and debris) and Secondary Wastes (contaminated PPE and equipment, etc.)			
Storage of solid waste	All solid waste shall be stored in such a manner as to prevent the creation of a nuisance, unsanitary conditions, or a potential public health hazard.	Generation of solid waste which is determined *not* to be hazardous – **relevant and appropriate**	15A NCAC 13B .0104(d)
Temporary on–site accumulation of hazardous waste in containers	A small quantity generator may accumulate hazardous waste on site without a permit or interim status, and without complying with the requirements of parts 124, 264 through 267, and 270 of this chapter, or the notification requirements of section 3010 of RCRA, provided that all the substantive conditions for exemption listed in this section are met.	Accumulation of RCRA hazardous waste on site as defined in 40 CFR 260.10 **– applicable**	40 CFR 262.16(a)
Condition of containers	If a container holding hazardous waste is not in good condition, or if it begins to leak, the small quantity generator must immediately transfer the hazardous waste from this container to a container that is in good condition, or immediately manage the waste in some other way that complies with the conditions for exemption of this section.		40 CFR 262.16(b)(2)(i)
Compatibility of waste with container	Must use a container made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be accumulated, so that the ability of the container to contain the waste is not impaired.		40 CFR 262.16(b)(2)(ii)
Management of containers	(A) A container holding hazardous waste must always be closed during accumulation, except when it is necessary to add or remove waste. (B) A container holding hazardous waste must not be opened, handled, or accumulated in a manner that may rupture the container or cause it to leak.		40 CFR 262.16(b)(2)(iii)
Special conditions for accumulation of incompatible wastes	(A) Incompatible wastes, or incompatible wastes and materials, (see appendix V of part 265 for examples) must not be placed in the same container, unless § 265.17(b) of this chapter is complied with. (B) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see appendix V of part 265 for examples), unless § 265.17(b) of this chapter is complied with. (C) A container accumulating hazardous waste that is incompatible with any waste or other materials accumulated or stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.	Accumulation of incompatible wastes, or incompatible wastes and materials on site – **applicable**	40 CFR 262.16(b)(2)(v)

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
Labeling and marking of containers	A small quantity generator must mark or label its containers with the following: (A) The words "Hazardous Waste"; (B) An indication of the hazards of the contents (examples include, but are not limited to, the applicable hazardous waste characteristic(s) (*i.e.,* ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at 49 CFR part 172 subpart E (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at 29 CFR 1910.1200; or a chemical hazard label consistent with the National Fire Protection Association code 704); and (C) The date upon which each period of accumulation begins clearly visible for inspection on each container.	Accumulation of RCRA hazardous waste on site as defined in 40 CFR 260.10 – **applicable**	40 CFR 262.16(b)(6)(i) 15A NCAC 13A .0106, .0107
Condition of container	If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this part.	Storage of RCRA hazardous waste in containers – **applicable**	40 CFR 265.171
Compatibility of waste with container	Must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.		40 CFR 265.172
Management of containers	Containers must be closed during storage, except when necessary to add/remove waste. Container must not be opened, handled and stored in a manner that may rupture the container or cause it to leak.		40 CFR 265.173(a) and (b)
Storage of hazardous waste in container area	Area must have a containment system designed and operated in accordance with 40 CFR §264.175(b).	Storage of RCRA–hazardous waste in containers with *free liquids* – **applicable**	40 CFR §264.175(a) 15A NCAC 13A .0109(j)
	Area must be sloped or otherwise designed and operated to drain liquid from precipitation, or Containers must be elevated or otherwise protected from contact with accumulated liquid.	Storage of RCRA–hazardous waste in containers that *do not contain free liquids* (other than F020, F021, F022, F023,F026 and F027) – **applicable**	40 CFR § 264.175(c)(1) and (2) 15A NCAC 13A .0109(j)

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
Closure performance standard for RCRA container storage unit	Must close the facility (e.g., container storage unit) in a manner that: • Minimizes the need for further maintenance; • Controls minimizes or eliminates to the extent necessary to protect human health and the environment, post–closure escape of hazardous waste, hazardous constituents, leachate, contaminated run –off, or hazardous waste decomposition products to the ground or surface waters or the atmosphere; and • Complies with the closure requirements of subpart, but not limited to, the requirements of 40 CFR § 264.178 for containers.	Storage of RCRA hazardous waste in containers – **applicable**	40 CFR § 264.111 15A NCAC 13A .0109(h)
Closure of RCRA container storage unit	At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, bases, and soils containing or contaminated with hazardous waste and hazardous waste residues must be decontaminated or removed. [Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with40 CFR § 261.3(d) of this chapter that the solid waste removed from the containment system is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262 through 266 of this chapter].	Storage of RCRA hazardous waste in containers in a unit with a containment system – **applicable**	40 CFR § 264.178 15A NCAC 13A .0109(j)
Storage of remediation waste in a Staging Pile			
Temporary on–site storage of remediation waste in RCRA staging pile (e.g., excavated soils)	Must be located within the contiguous property under the control of the owner/operator where the wastes are to be managed in the staging pile originated. For purposes of this section, storage includes mixing, sizing, blending or other similar physical operations so long as intended to prepare the wastes for subsequent management or treatment.	Accumulation of ***solid non–flowing hazardous remediation waste*** (or remediation waste otherwise subject to land disposal restrictions) as defined in 40 CFR § 260.10 – **relevant and appropriate**	40 CFR § 264.554(a)(1)
	Staging piles may be used to store hazardous remediation waste (or remediation waste otherwise subject to land disposal restrictions) based on approved standards and design criteria designated for that staging pile. *NOTE*: Design and standards of the staging pile should be included in CERCLA Remedial Design document approved or issued by EPA.		40 CFR § 264.554(b)

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
Performance criteria for RCRA staging pile	Staging pile must be designed to: • facilitate a reliable, effective and protective remedy; • must be designed to prevent or minimize releases of hazardous wastes and constituents into the environment, and minimize or adequately control cross–media transfer as necessary to protect human health and the environment (e.g., use of liners, covers, run–off/run–on controls).	Storage of remediation waste in a staging pile – **relevant and appropriate**	40 CFR § 264.554(d)(1)(i) and (ii)
Design criteria for RCRA staging pile	In setting standards and design criteria must consider the following factors: • Length of time pile will be in operation; • Volumes of waste you intend to store in the pile; • Physical and chemical characteristics of the wastes to be stored in the unit; • Potential for releases from the unit; • Hydrogeological and other relevant environmental conditions at the facility that may influence the migration of any potential releases; and • Potential for human and environmental exposure to potential releases from the unit.	Storage of remediation waste in a staging pile – **relevant and appropriate**	40 CFR § 264.554(d)(2)(i) – (vi)
Waste Limitations	Must not place ignitable or reactive remediation waste in a staging pile unless the remediation waste has been treated, rendered, or mixed before placed in the staging pile so that: • The remediation waste no longer meets the definition of ignitable or reactive under 40 CFR § 261.21 or 40 CFR § 261.23; and • You have complied with 40 CFR § 264.17(b); or Must manage the remediation waste to protect it from exposure to any material or condition that may cause it to ignite or react.	Storage of ignitable or reactive remediation waste in staging pile – applicable	40 CFR § 264.554(e) 40 CFR § 264.554(e)(1)(i) and (ii) 40 CFR §264.554(e)(2)
Operation of a RCRA staging pile	Must not place in the same staging pile unless you have complied with 40 CFR § 264.17(b).	Storage of "incompatible" remediation waste (as defined in 40 CFR § 260.10) in staging pile – **relevant and appropriate**	40 CFR § 264.554(f)(1)
	Must separate the incompatible waste or materials, or protect them from one another by using a dike, berm, wall, or other device.	Staging pile of remediation waste stored nearby to incompatible wastes or materials in containers, other piles, open tanks, or land disposal units – **relevant and appropriate**	40 CFR § 264.554(f)(2)
	Must not pile remediation waste on same base where incompatible wastes or materials were previously piled unless you have sufficiently decontaminated the base to comply with 40 CFR 2§64.17(b).		40 CFR § 264.554(f)(3)

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
Closure of RCRA staging pile of remediation waste	Must be closed within 180 days after the operating term by removing or decontaminating all remediation waste, contaminated containment system components, and structures and equipment contaminated with waste and leachate. Must decontaminate contaminated sub-soils in a manner that EPA determines will protect human and the environment.	Storage of remediation waste in staging pile in ***previously contaminated area*** – **relevant and appropriate**	40 CFR § 264.554(j)(1) and (2)
	Must be closed within 180 days after the operating term according to 40 CFR § 264.258(a) and § 264.111 or § 265.258(a) and § 265.111.	Storage of remediation waste in staging pile ***in uncontaminated area*** – **relevant and appropriate**	40 CFR § 264.554(k)(1)
Operational limits of a RCRA staging pile	Must not operate for more than 2 years, except when an operating term extension under 40 CFR § 264.554(i) is granted. *NOTE:* Must measure the 2-year limit (or other operating term specified) from first time remediation waste placed in staging pile	Storage of remediation waste in a staging pile – **relevant and appropriate**	40 CFR § 264.554(d)(1)(iii)
	The Director may allow a staging pile to operate for up to two years after the hazardous waste is first placed into the pile. Must not use staging pile longer than the length of time designated by the Director in the permit, closure plan, or order ("operating term"), except as provided in paragraph (i) of this section. NOTE: Additional time limits for storage will be justified and documented in an ESD or ROD Amendment issued by EPA.		40 CFR § 264.554(h)
	The Director may grant one operating term extension of up to 180 days beyond the operating term limit contained in the permit, closure plan, or order. To justify to the Director the need for the extension, you must provide sufficient and accurate information to enable the Director to determine that continued use of the staging pile: (i) Will not pose a threat to human health and the environment; and (ii) Is necessary to ensure timely and efficient implementation of the remedial actions at the facility. NOTE: Additional time limits for storage will be justified and documented in an ESD or ROD Amendment issued by EPA.		40 CFR § 264.554(i)(1)
Treatment/Disposal of Wastes – Primary (contaminated soil and debris) and Secondary Wastes (contaminated PPE or equipment)			
Disposal of solid waste	Shall ensure that waste is disposed of at a site or facility which is permitted to receive the waste.	Generation of solid waste intended for off-site disposal – **relevant and appropriate**	15A NCAC 13B .0106(b)

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
Disposal of RCRA–hazardous waste in a land–based unit	May be land disposed if it meets the requirements in the table "Treatment Standards for Hazardous Waste" at 40 CFR § 268.40 before land disposal.	Land disposal, as defined in 40 CFR268.2, of restricted RCRA waste – **applicable**	40 CFR § 268.40(a) 15A NCAC 13A .0112
	All underlying hazardous constituents [as defined in 40 CFR § 268.2(i)] must meet the Universal Treatment Standards, found in 40 CFR § 268.48 Table UTS prior to land disposal.	Land disposal of restricted RCRA characteristic wastes (D001 –D043) that are not managed in a wastewater treatment system that is regulated under the Clean Water Act, that is Clean Water Act equivalent, or that is injected into a Class I nonhazardous injection well – **applicable**	40 CFR § 268.40(e) 15A NCAC 13A .0112
Disposal of RCRA–hazardous waste in a land–based unit	To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards of 40 CFR § 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentration in the waste extract or waste, or the generator may use knowledge of the waste. If the waste contains constituents (including UHCs in the characteristic wastes) in excess of the applicable UTS levels in 40 CFR § 268.48, the waste is prohibited from land disposal, and all requirements of part 268 are applicable, except as otherwise specified.	Land disposal of RCRA toxicity characteristic wastes (D004 –D011) that are newly identified (i.e., wastes, soil, or debris identified by the TCLP but not the Extraction Procedure) – **applicable**	40 CFR § 268.34(f) 15A NCAC 13A .0112
Disposal of RCRA–*hazardous waste soil* in a land–based unit	Must be treated according to the alternative treatment standards of 40 CFR § 268.49(c) or according to the UTSs [specified in 40 CFR § 268.48 Table UTS] applicable to the listed and/or characteristic waste contaminating the soil prior to land disposal.	Land disposal, as defined in 40 CFR § 268.2, of restricted hazardous *soils* **– applicable**	40 CFR § 268.49(b) 15A NCAC 13A .0112
Treatment of RCRA *hazardous waste soil*	Prior to land disposal, all "constituents subject to treatment" as defined in 40 CFR § 268.49(d) must be treated as follows:	Treatment of restricted hazardous waste soils – **applicable**	40 CFR § 268.49(c)(1)

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
	• **For non –metals** (except carbon disulfide, cyclohexanone, and methanol), treatment must achieve a 90 percent reduction in total constituent concentrations, except as provided in 40 CFR § 268.49(c)(1)(C) • **For metals** and carbon disulfide, cyclohexanone, and methanol,), treatment must achieve a 90 percent reduction in total constituent concentrations as measured in leachate from the treated media (tested according to TCLP) or 90 percent reduction in total constituent concentrations (when a metal removal technology is used), except as provided in 40 CFR § 268.49(c)(1)(C) • When treatment of any constituent subject to treatment to a 90 percent reduction standard would result in a concentration less than 10 times the Universal Treatment Standard for that constituent, treatment to achieve constituent concentrations less than 10 times the universal treatment standard is not required. [Universal Treatment Standards are identified in 40 CFR § 268.48 Table UTS]		40 CFR § 268.49(c)(1)(A)-(C)
	In addition to the treatment requirement required by paragraph (c)(1) of this section, soils must be treated to eliminate these characteristics	Soils that exhibit the characteristic of ignitability, corrosivity or reactivity intended for land disposal – **applicable**	40 CFR § 268.49(c)(2)
	Provides methods on how to demonstrate compliance with the alternative treatment standards for contaminated soils that will be land disposed.	On-site treatment of restricted hazardous waste soils following alternative soil treatment of 40 CFR 268.49(c) – **To Be Considered**	*Guidance on Demonstrating Compliance with the LDR Alternative Soil Treatment Standards* [EPA 530 –R –02 –003, July 2002]
Disposal of RCRA *hazardous waste debris* in a land–based unit (i.e., landfill)	Must be treated prior to land disposal as provided in 40 CFR § 268.45(a)(1)–(5) unless EPA determines under 40 CFR § 261.3(f)(2) that the debris is no longer contaminated with hazardous waste or the debris is treated to the waste –specific treatment standard provided in 40 CFR § 268.40 for the waste contaminating the debris.	Land disposal, as defined in 40 CFR 268.2, of restricted RCRA–hazardous debris – **applicable**	40 CFR § 268.45(a)
Transportation of Wastes – Primary and Secondary			
Transportation of hazardous materials	Shall be subject to and must comply with all applicable provisions of the HMTA and DOT HMR at 49 CFR §§ 171-180.	Any person who, under contract with a department or agency of the federal government, transports "in commerce," or causes to be transported or shipped, a hazardous material **– applicable**	49 CFR § 171.1(c)

Action-Specific ARARs and TBCs for Kerr-McGee Chemical Corp. Navassa Superfund Site, North Carolina, Operable Unit 2			
Action	**Requirements**	**Prerequisite**	**Citation(s)**
Transportation of hazardous waste *off site*	Must comply with the generator requirements of 40 CFR Sect. 262.20–23 for manifesting, Sect. 262.30 for packaging, Sect. 262.31 for labeling, Sect. 262.32 for marking, Sect. 262.33 for placarding and Sect. 262.40, 262.41(a) for record keeping requirements and Sect. 262.12 to obtain EPA ID number.	Preparation and initiation of shipment of RCRA hazardous waste off site **– applicable**	40 CFR § 262.10(h) 15A NCAC 13A .0108
Transportation of hazardous waste *on–site*	The generator manifesting requirements of 40 CFR Sections 262.20-262.32(b) do not apply. Generator or transporter must comply with the requirements set forth in 40 CFR § 263.30 and § 263.31 in the event of a discharge of hazardous waste on a private or public right-of-way.	Transportation of hazardous wastes on a public or private right–of–way within or along the border of contiguous property under the control of the same person, even if such contiguous property is divided by a public or private right-of-way – **applicable**	40 CFR § 262.20(f) 15A NCAC 13A .0108
Management of samples (i.e., contaminated soils and wastewaters)	Are not subject to any requirements of 40 CFR Parts 261 through 268 or 270 when: • The sample is being transported to a laboratory for the purpose of testing; • The sample is being transported back to the sample collector after testing; and • The sample collector ships samples to a laboratory in compliance with U.S.DOT, U.S. Postal Service, or any other applicable shipping requirements, including packing the sample so that it does not leak, spill, or vaporize from its packaging.	Generation of samples of hazardous waste for purpose of conducting testing to determine its characteristics or composition – **applicable**	40 CFR § 261.4(d)(1)(i) and (ii) 15A NCAC 13A .0108 40 CFR § 261.4(d)(2) 15A NCAC 13A .0108

ARAR = applicable or relevant and appropriate requirement
CFR = *Code of Federal Regulations*
CWA = Clean Water Act of 1972
DOT = U.S. Department of Transportation
EPA = U.S. Environmental Protection Agency
HMR = Hazardous Materials Regulations
HMTA = Hazardous Materials Transportation Act
MSWF = Municipal solid waste landfill
NCAC = *North Carolina Administrative Code*
N.C.G.S. = North Carolina General Statutes
PPE = personal protective equipment
RCRA = Resource Conservation and Recovery Act of 1976
SWDS = Solid waste Disposal Site
TBC = to be considered
U.S. = United States
UTS = Universal Treatment Standard

FIGURES

Figure 1: Detailed Site Map with Historical Features

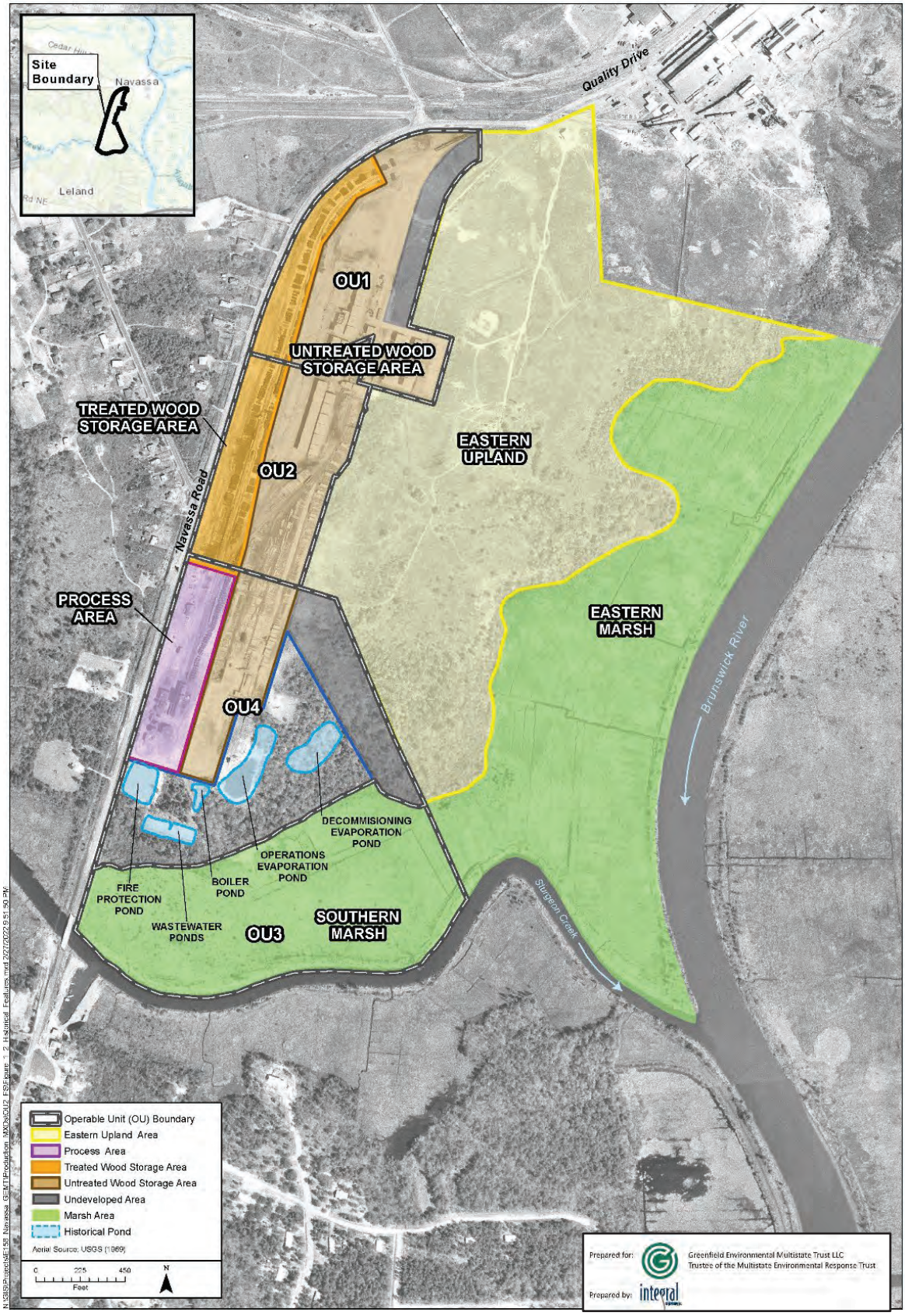


Figure 2: Historical Aerial Photographs (1938 and 1951)

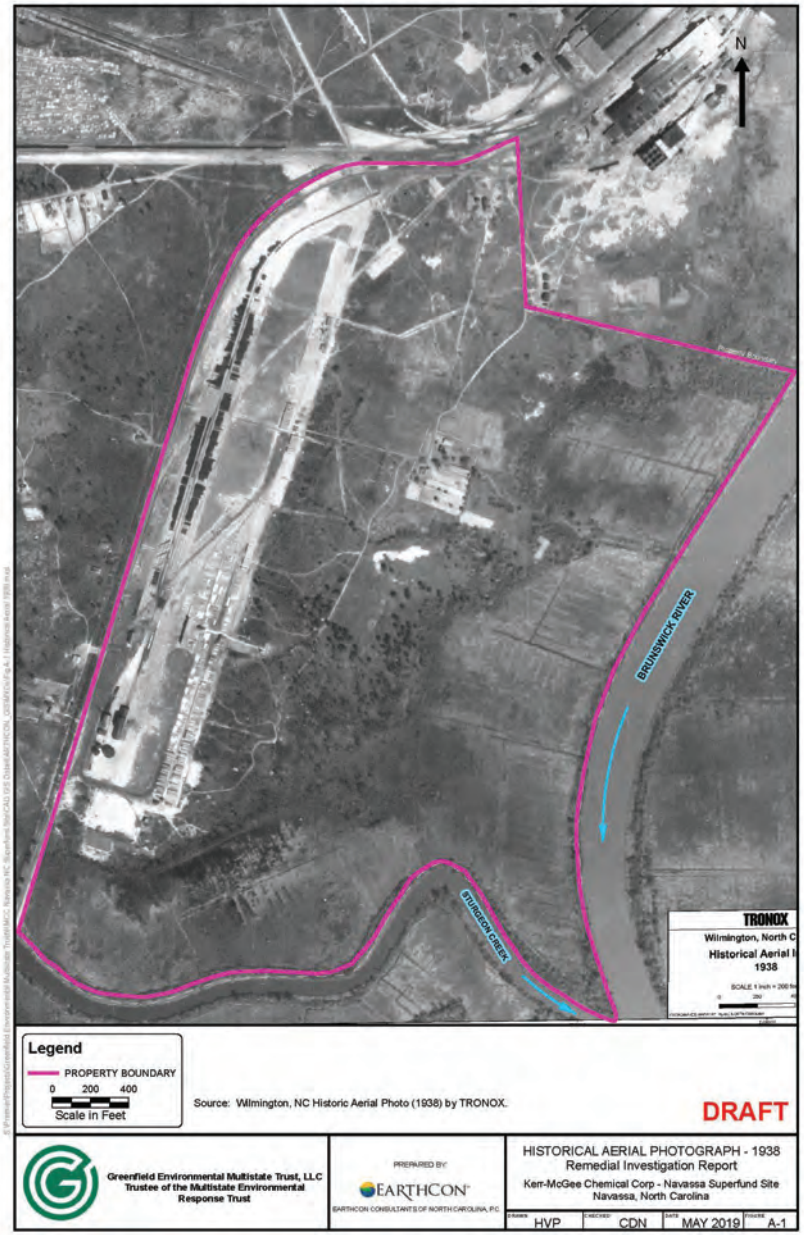
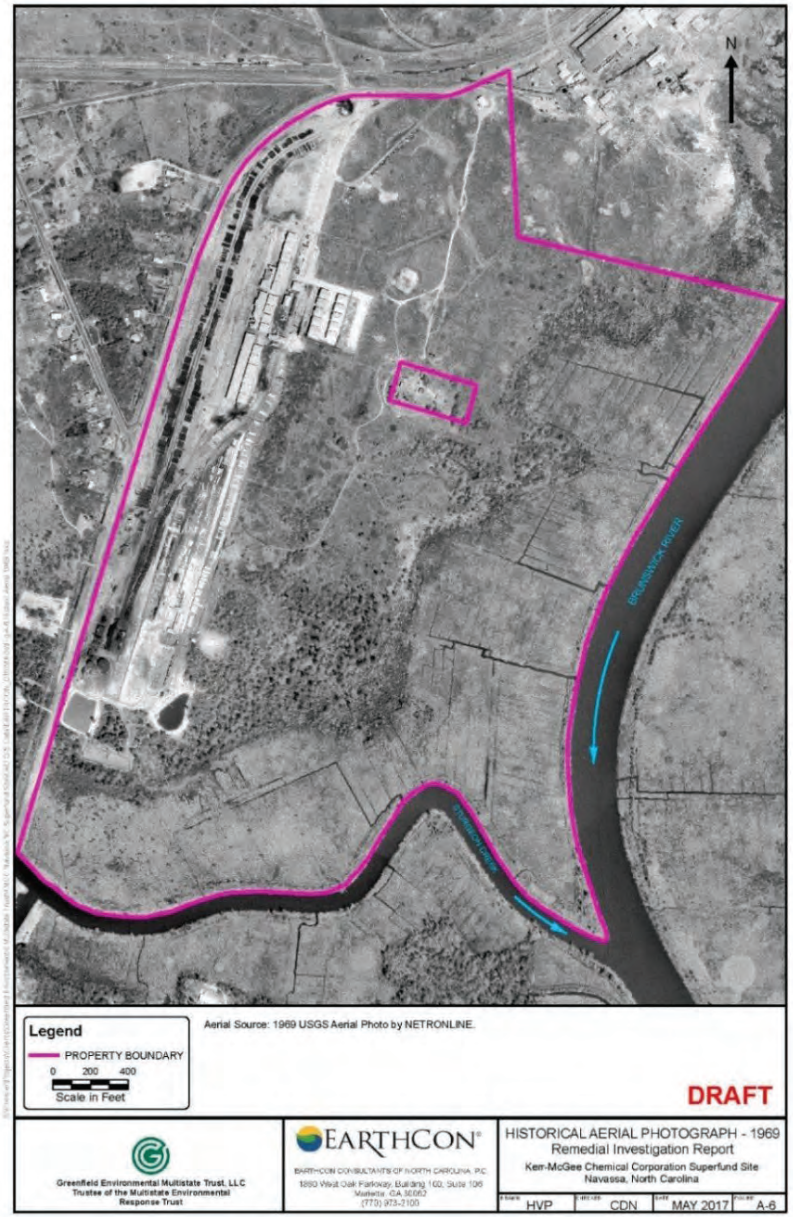


Figure 3: Historical Aerial Photographs (1969 and 1975)



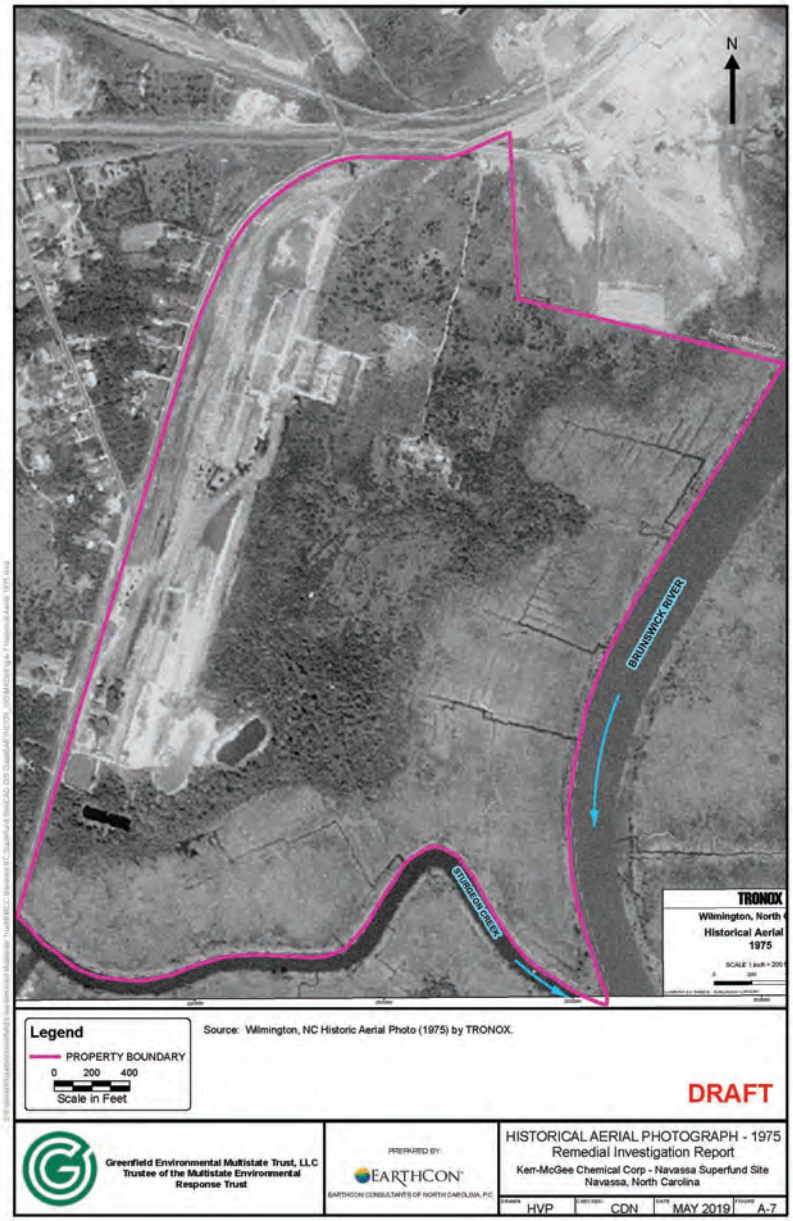


Figure 4: OU2 Human Health Conceptual Site Exposure Model

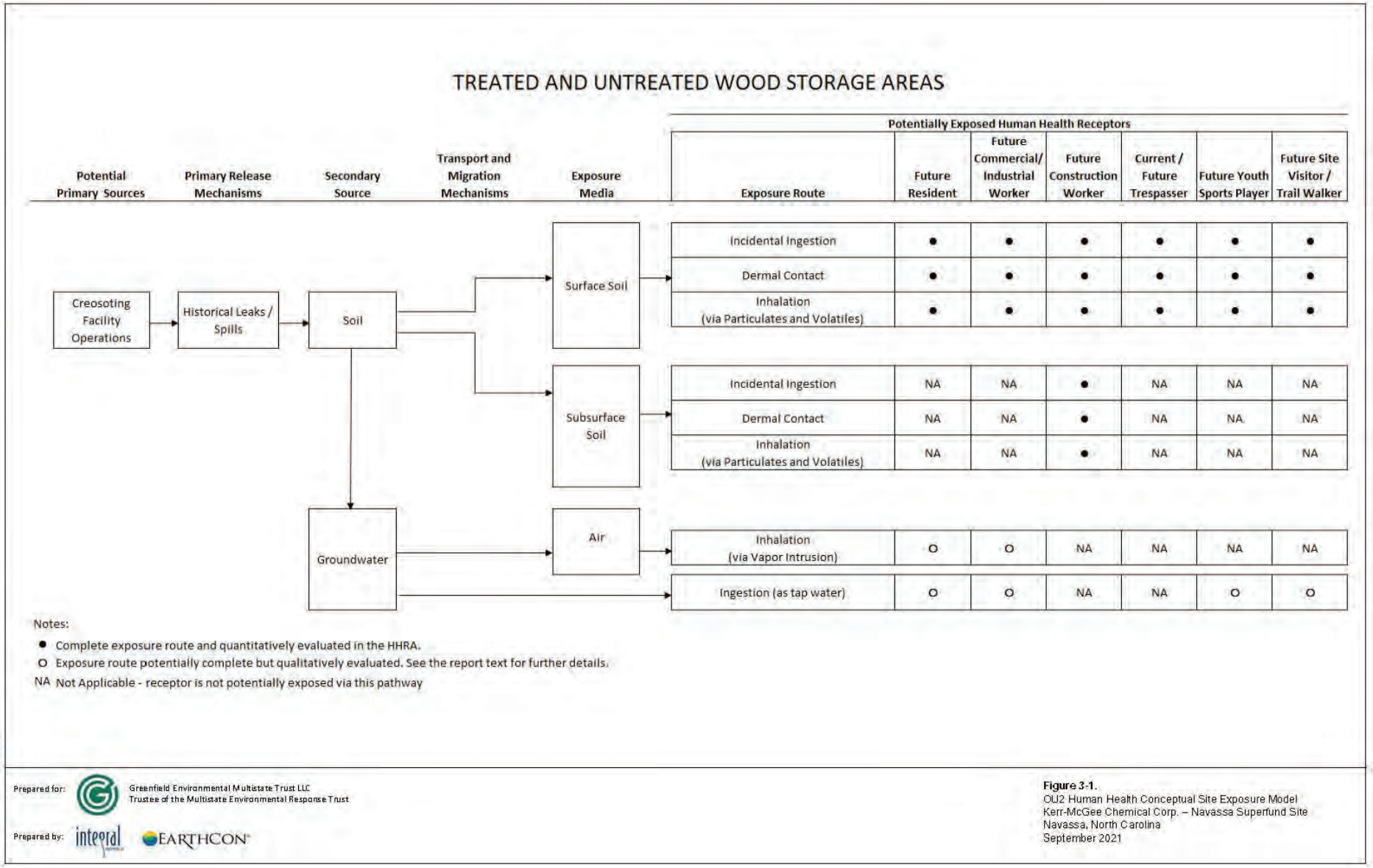


Figure 5: OU2 Ecological Conceptual Site Exposure Model for Residential, Commercial/Industrial, and/or Sports Field Land Use

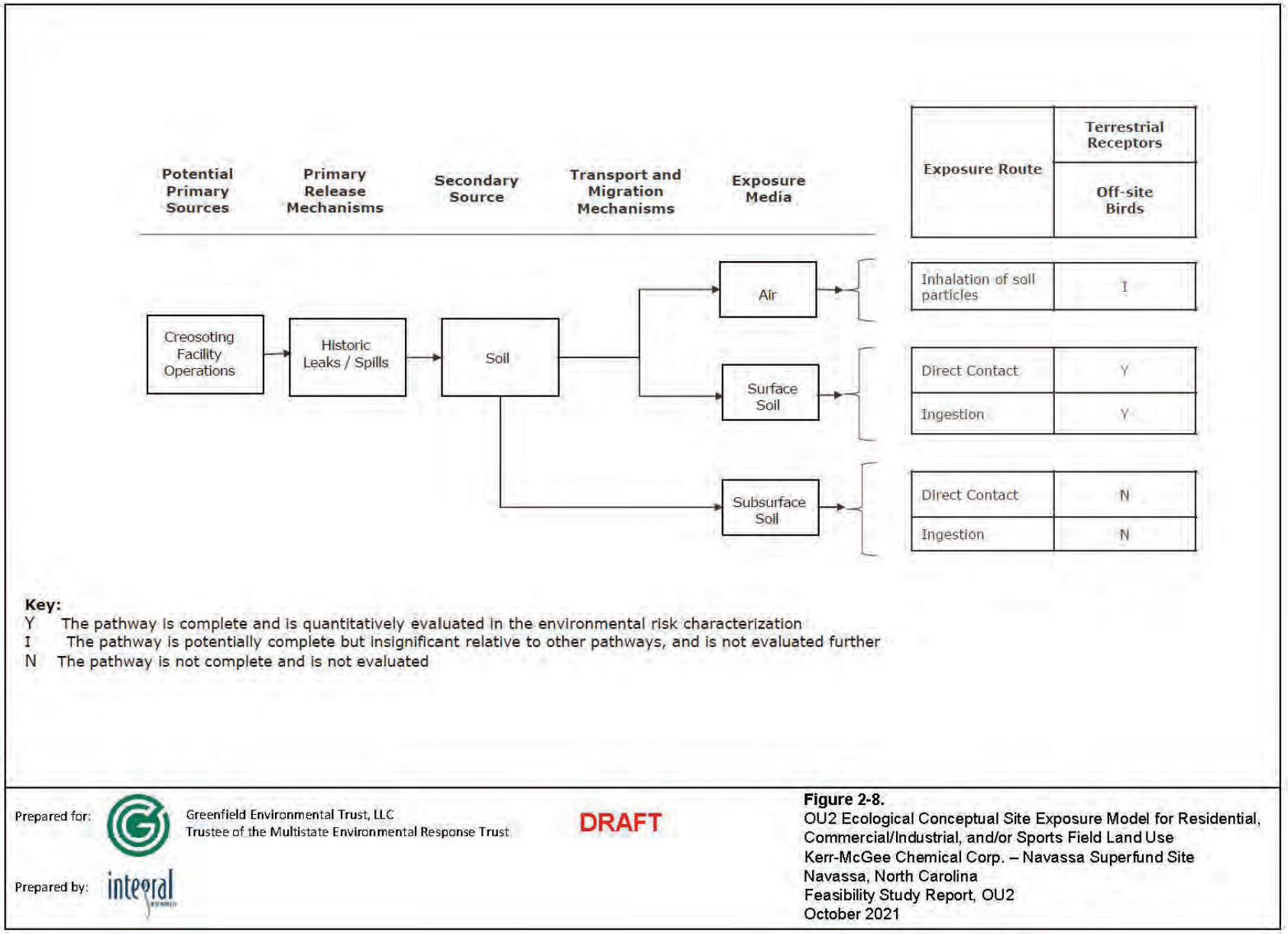
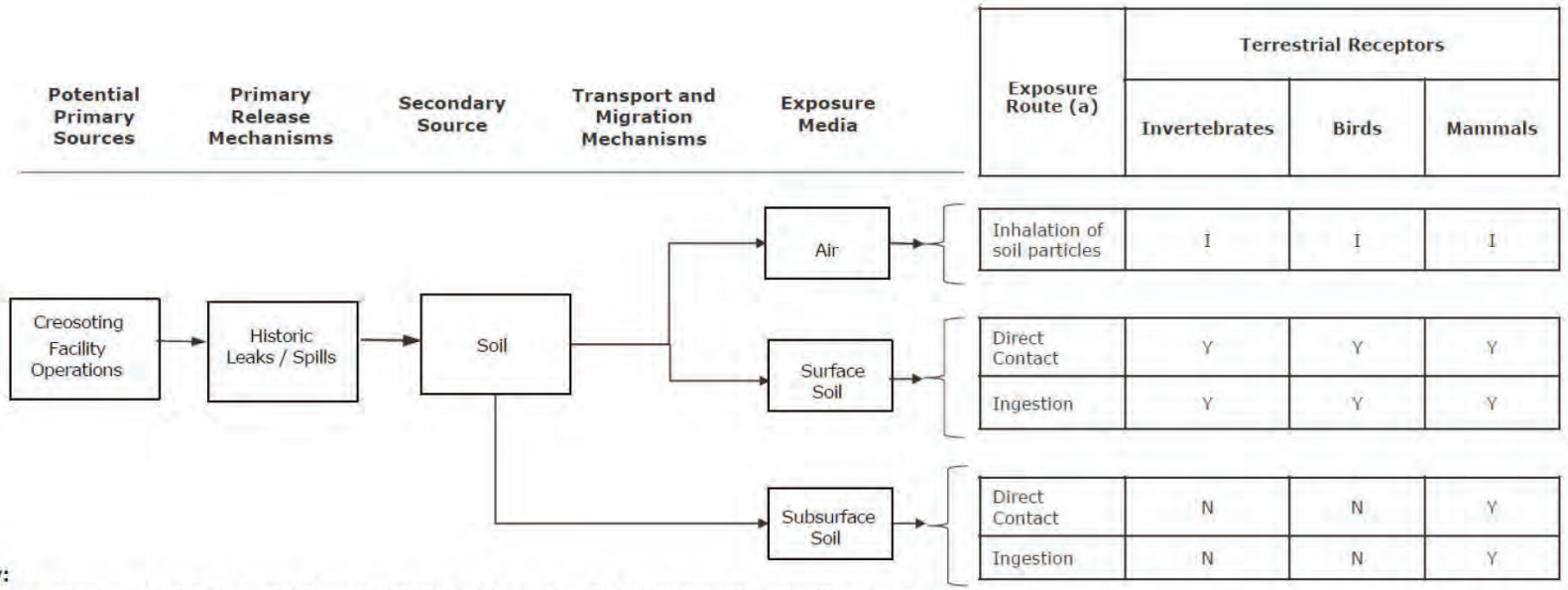


Figure 6: OU2 Ecological Conceptual Site Exposure Model for Hiking Trails and/or Other Natural Recreation Use Land Use



Exposure Route (a)	Terrestrial Receptors		
	Invertebrates	Birds	Mammals
Inhalation of soil particles	I	I	I
Direct Contact	Y	Y	Y
Ingestion	Y	Y	Y
Direct Contact	N	N	Y
Ingestion	N	N	Y

Key:

Y The pathway is complete and is quantitatively evaluated in the environmental risk characterization

I The pathway is potentially complete but insignificant relative to other pathways, and is not evaluated further

N The pathway is not complete and is not evaluated

(a) For Exposure Route, "Direct Contact" and "Ingestion" includes direct contact, direct soil ingestion, and ingestion of prey that has been in contact with the media (soil) from the OU.

Prepared for: Greenfield Environmental Trust, LLC
Trustee of the Multistate Environmental Response Trust

Prepared by: integral

DRAFT

Figure 2-9.
OU2 Ecological Conceptual Site Exposure Model for Hiking Trails and/or Other Natural Recreation Use Land Use
Kerr-McGee Chemical Corp. – Navassa Superfund Site
Navassa, North Carolina
Feasibility Study Report, OU2
October 2021

Figure 7: OU1 and OU2 – Divided into 91 Exposure Units or "Parcels" of 0.25 Acres or Less

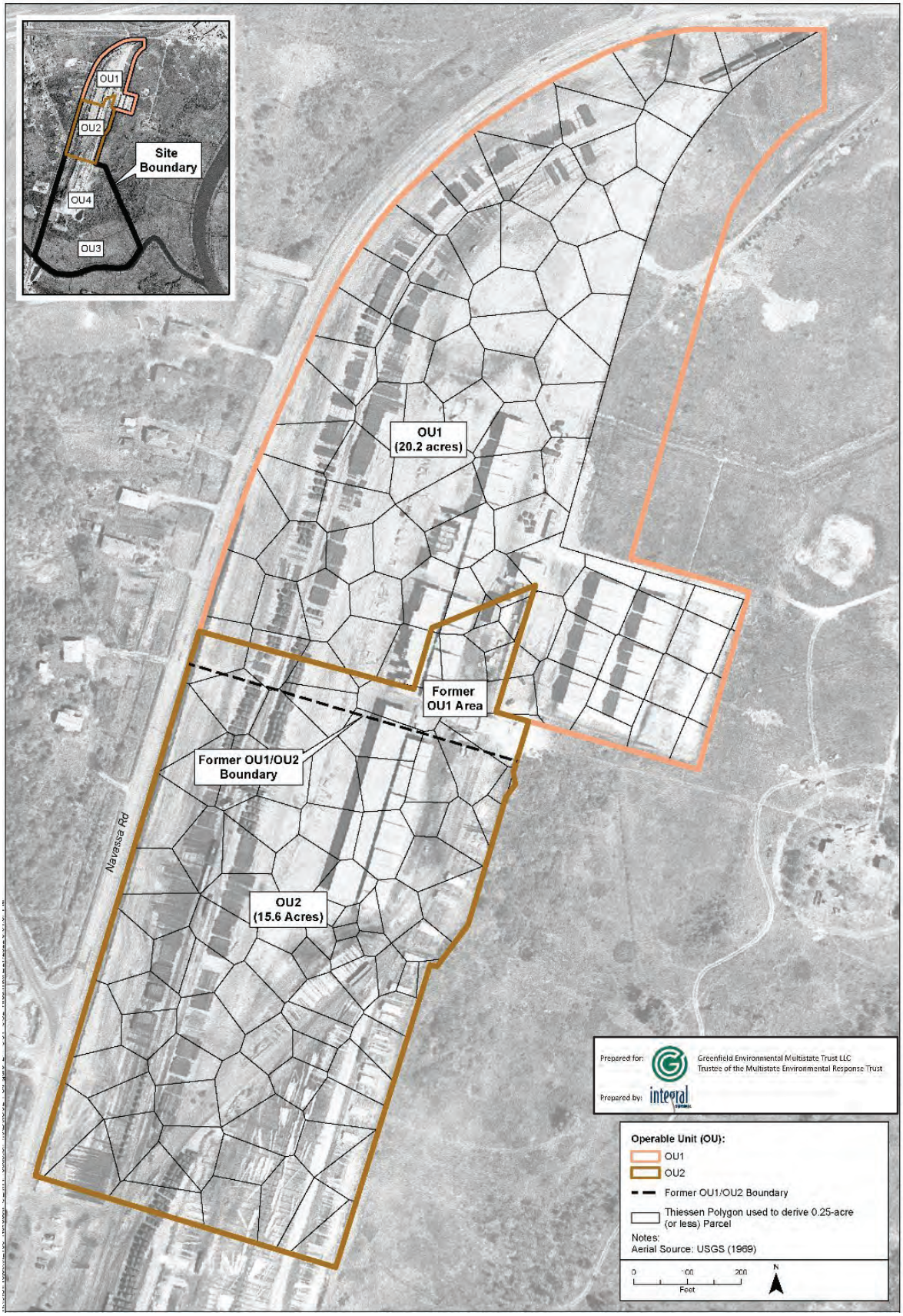


Figure 8: OU2 Surface Soil BaP TEQ Concentrations (2022 OU2 FS Report)

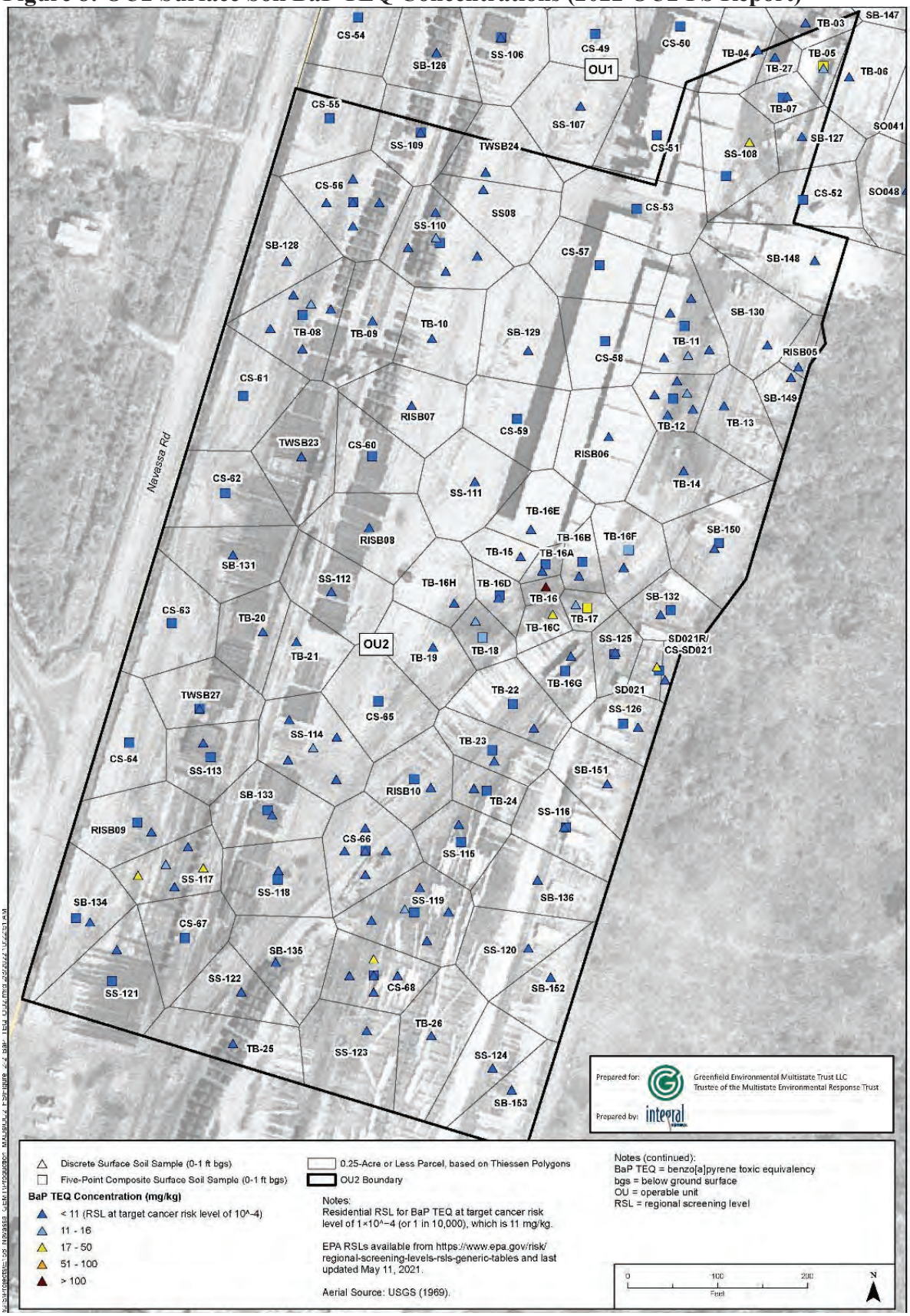


Figure 9: OU2 – Surface and Subsurface Soil TCDD TEQ Concentrations (2022 OU2 FS Report)

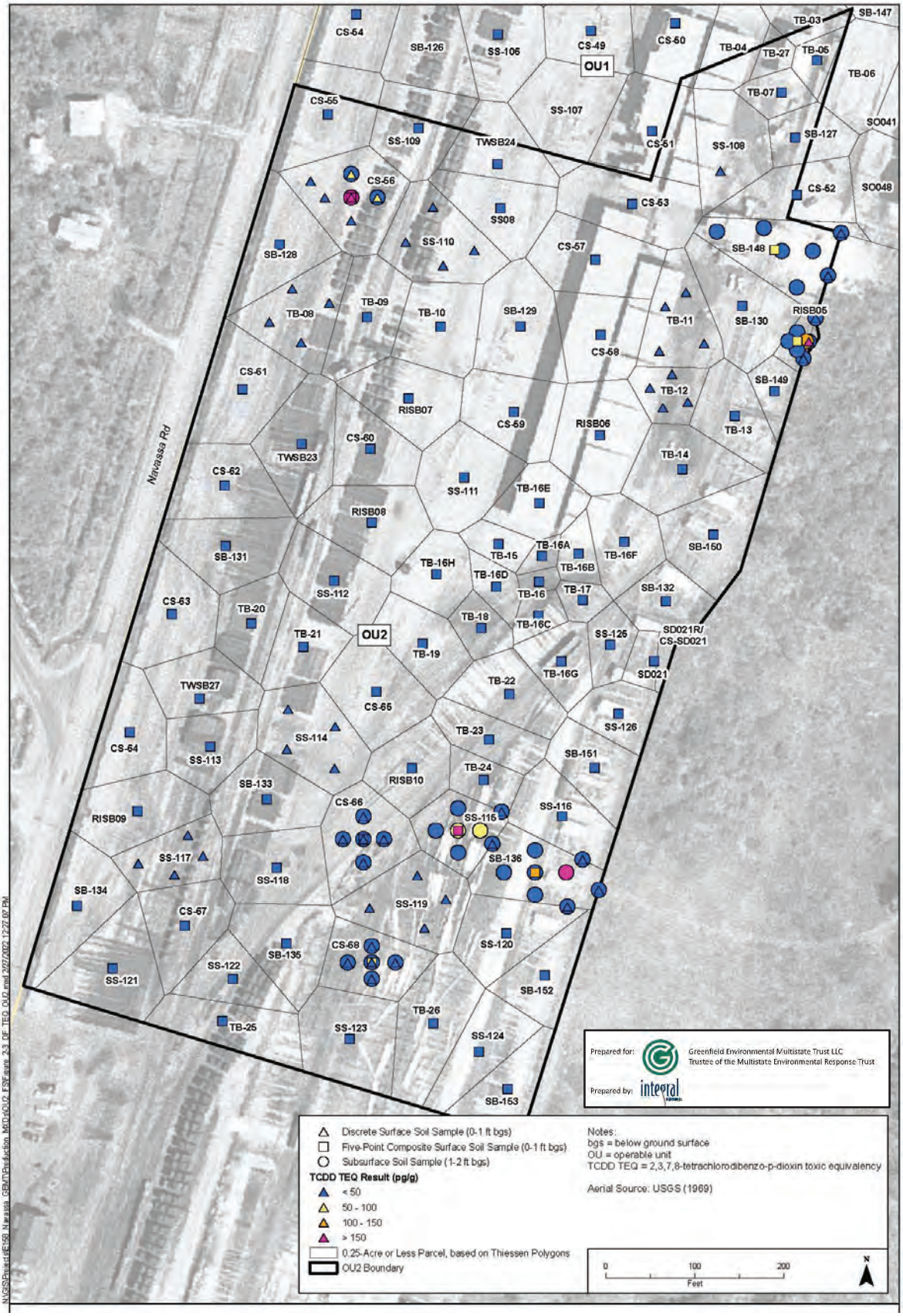


Figure 10: Map Summarizing OU2 Areas Requiring Remedial Action to Achieve RAOs (2022 OU2 FS)

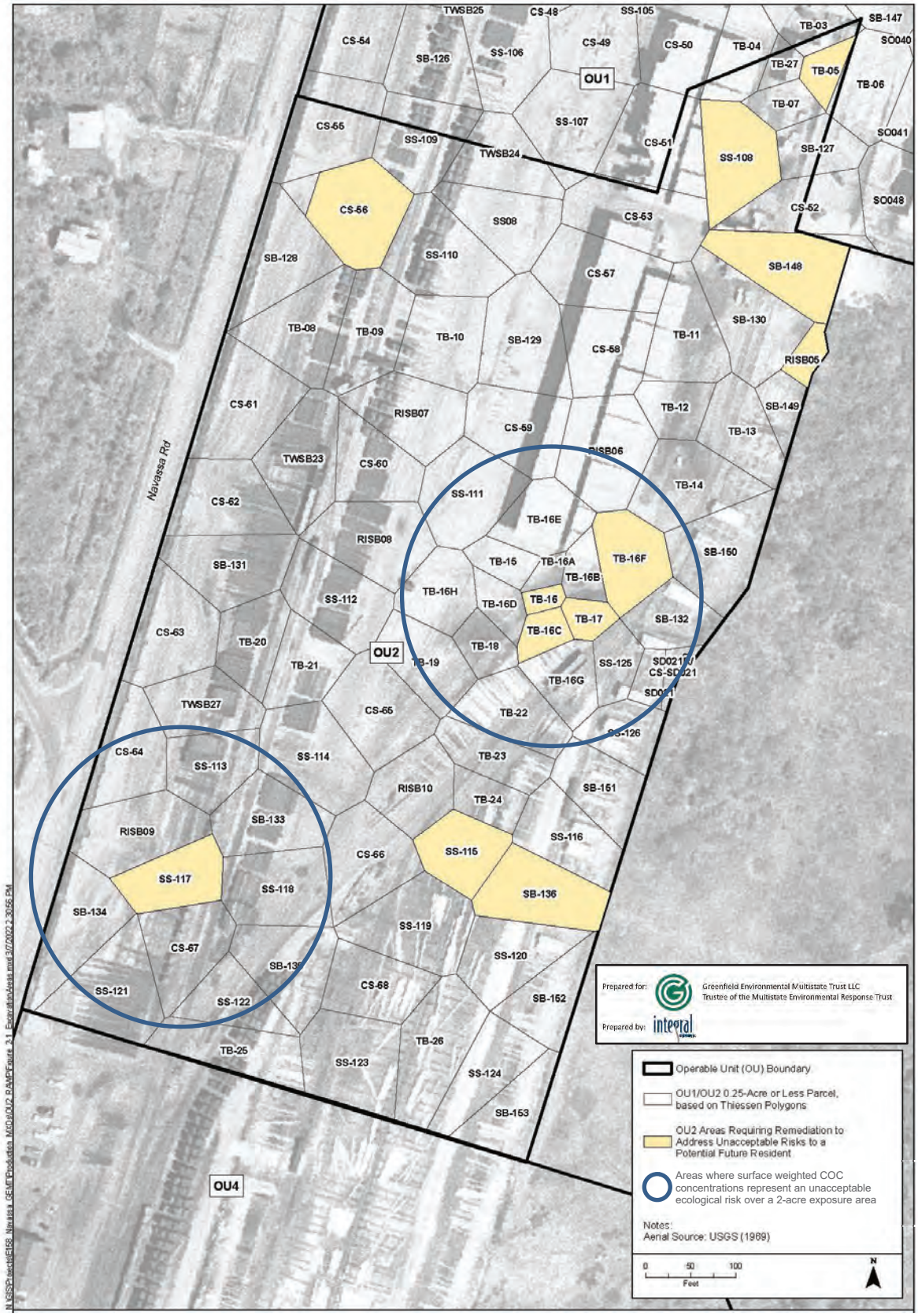
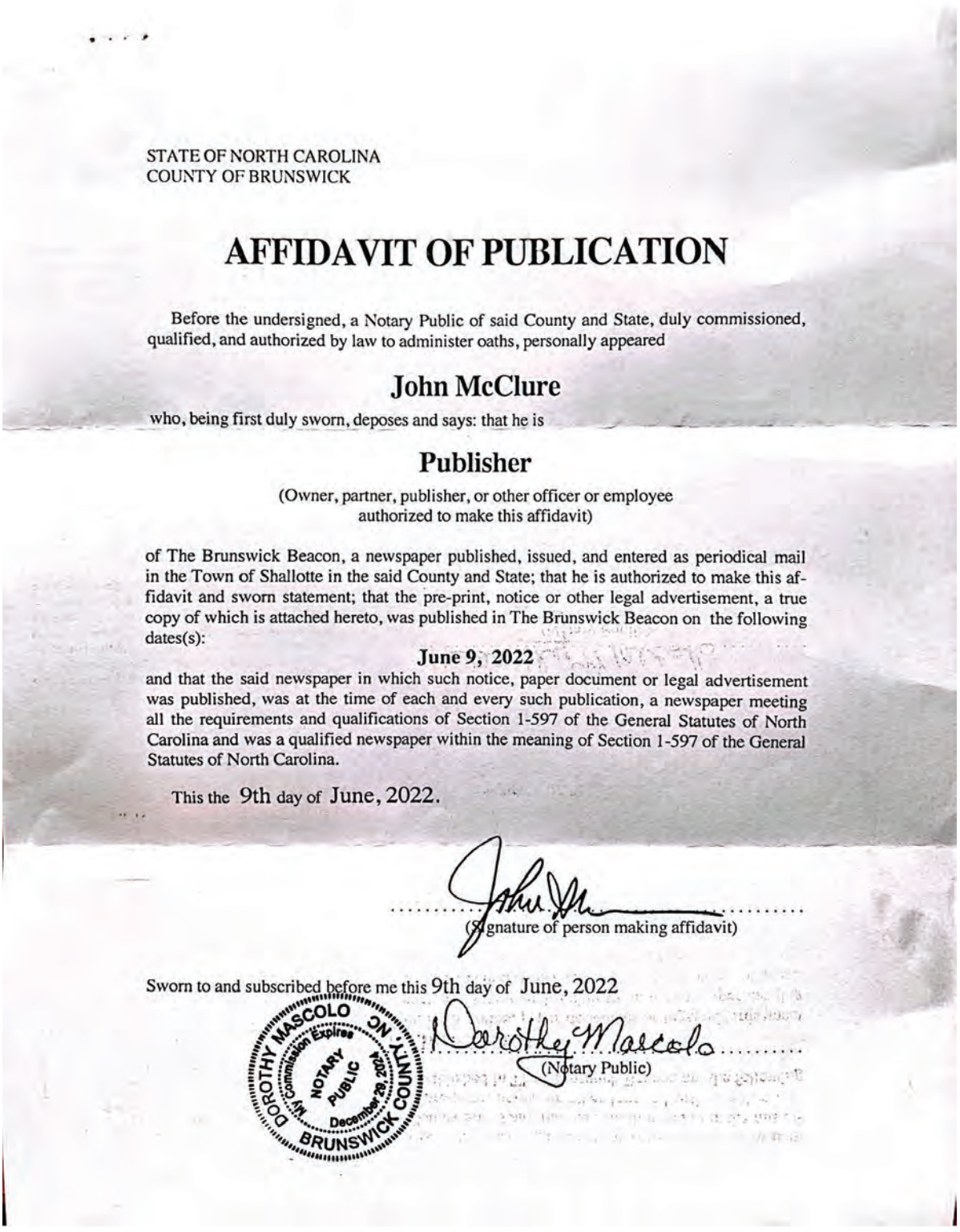


Figure 11: Public Notice Affidavit of Publication



STATE OF NORTH CAROLINA
COUNTY OF BRUNSWICK

AFFIDAVIT OF PUBLICATION

Before the undersigned, a Notary Public of said County and State, duly commissioned, qualified, and authorized by law to administer oaths, personally appeared

John McClure

who, being first duly sworn, deposes and says: that he is

Publisher

(Owner, partner, publisher, or other officer or employee authorized to make this affidavit)

of The Brunswick Beacon, a newspaper published, issued, and entered as periodical mail in the Town of Shallotte in the said County and State; that he is authorized to make this affidavit and sworn statement; that the pre-print, notice or other legal advertisement, a true copy of which is attached hereto, was published in The Brunswick Beacon on the following dates(s):

June 9, 2022

and that the said newspaper in which such notice, paper document or legal advertisement was published, was at the time of each and every such publication, a newspaper meeting all the requirements and qualifications of Section 1-597 of the General Statutes of North Carolina and was a qualified newspaper within the meaning of Section 1-597 of the General Statutes of North Carolina.

This the 9th day of June, 2022.

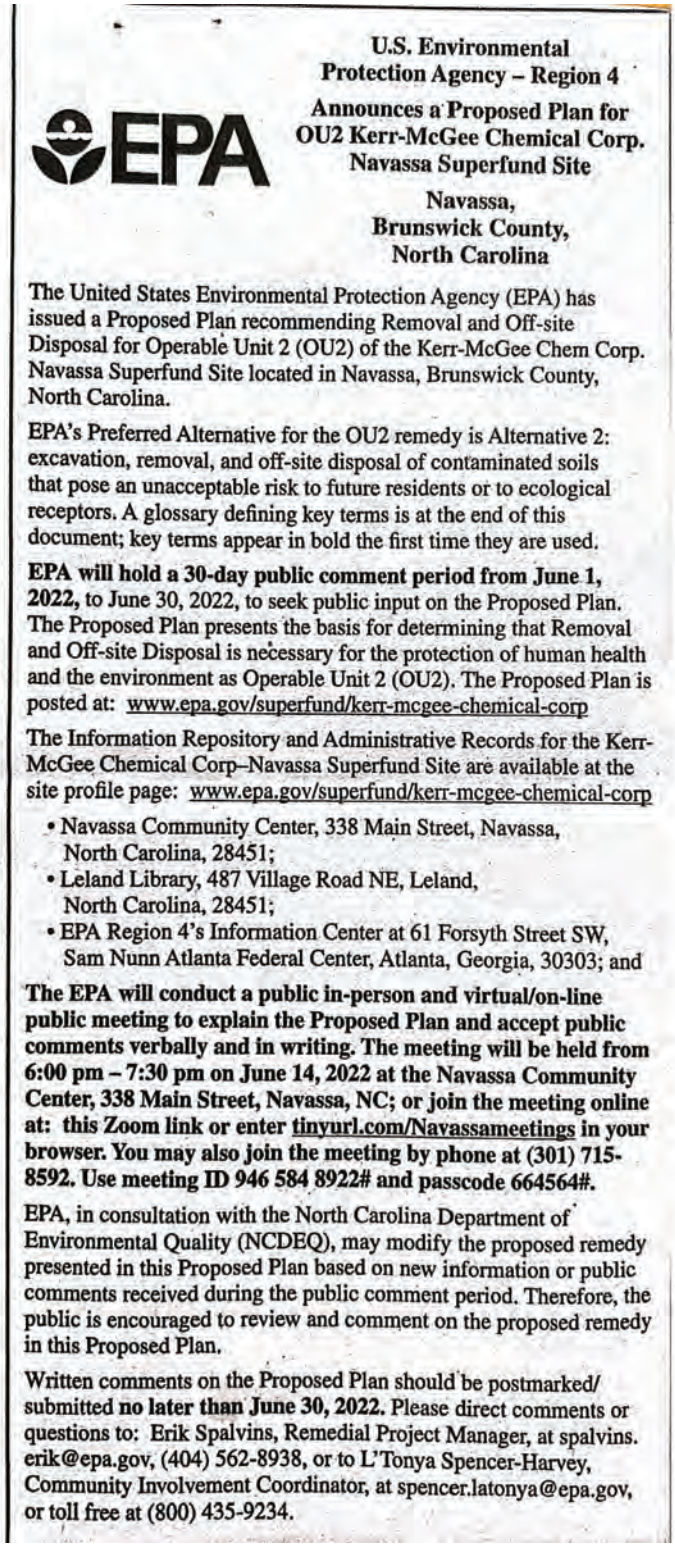
.....
(Signature of person making affidavit)

Sworn to and subscribed before me this 9th day of June, 2022

DOROTHY MASCOLO NOTARY PUBLIC BRUNSWICK COUNTY, NC My Commission Expires December 29, 2024

.....
(Notary Public)

Figure 12: Public Notice



U.S. Environmental Protection Agency – Region 4

Announces a Proposed Plan for OU2 Kerr-McGee Chemical Corp. Navassa Superfund Site

Navassa, Brunswick County, North Carolina

The United States Environmental Protection Agency (EPA) has issued a Proposed Plan recommending Removal and Off-site Disposal for Operable Unit 2 (OU2) of the Kerr-McGee Chem Corp. Navassa Superfund Site located in Navassa, Brunswick County, North Carolina.

EPA's Preferred Alternative for the OU2 remedy is Alternative 2: excavation, removal, and off-site disposal of contaminated soils that pose an unacceptable risk to future residents or to ecological receptors. A glossary defining key terms is at the end of this document; key terms appear in bold the first time they are used.

EPA will hold a 30-day public comment period from June 1, 2022, to June 30, 2022, to seek public input on the Proposed Plan. The Proposed Plan presents the basis for determining that Removal and Off-site Disposal is necessary for the protection of human health and the environment as Operable Unit 2 (OU2). The Proposed Plan is posted at: www.epa.gov/superfund/kerr-mcgee-chemical-corp

The Information Repository and Administrative Records for the Kerr-McGee Chemical Corp–Navassa Superfund Site are available at the site profile page: www.epa.gov/superfund/kerr-mcgee-chemical-corp

- Navassa Community Center, 338 Main Street, Navassa, North Carolina, 28451;
- Leland Library, 487 Village Road NE, Leland, North Carolina, 28451;
- EPA Region 4's Information Center at 61 Forsyth Street SW, Sam Nunn Atlanta Federal Center, Atlanta, Georgia, 30303; and

The EPA will conduct a public in-person and virtual/on-line public meeting to explain the Proposed Plan and accept public comments verbally and in writing. The meeting will be held from 6:00 pm – 7:30 pm on June 14, 2022 at the Navassa Community Center, 338 Main Street, Navassa, NC; or join the meeting online at: this Zoom link or enter tinyurl.com/Navassameetings in your browser. You may also join the meeting by phone at (301) 715-8592. Use meeting ID 946 584 8922# and passcode 664564#.

EPA, in consultation with the North Carolina Department of Environmental Quality (NCDEQ), may modify the proposed remedy presented in this Proposed Plan based on new information or public comments received during the public comment period. Therefore, the public is encouraged to review and comment on the proposed remedy in this Proposed Plan.

Written comments on the Proposed Plan should be postmarked/ submitted **no later than June 30, 2022.** Please direct comments or questions to: Erik Spalvins, Remedial Project Manager, at spalvins.erik@epa.gov, (404) 562-8938, or to L'Tonya Spencer-Harvey, Community Involvement Coordinator, at spencer.latonya@epa.gov, or toll free at (800) 435-9234.

APPENDIX A. STATE OF NORTH CAROLINA CONCURRENCE

The State letter of concurrence was not received prior to the signing of the ROD and is therefore not included.

APPENDIX B. COMMENT AND RESPONSE INDEX

A. Summary of Stakeholder Issues and Lead Agency Responses

The EPA received six comments from stakeholders during the Proposed Plan public comment period (June 1, 2002 to June 30, 2022) and through September 14, 2022. The EPA also received verbal comments in June, July, and August, 2022. This document summarizes these questions and comments as well as the EPA's responses.

Verbal Comments (provided at the public meeting).

1. **Question**: Where is the contaminated soil from OU2 going to be disposed?

   EPA Response: This ROD selected Alternative 3 as the remedy rather than Alternative 2. Under the Selected Remedy, OU2 soils will be stockpiled (temporarily stored in a staging pile that is managed in accordance with RCRA ARARs) in OU4 until they can be incorporated into the OU4 remedy, to be determined in the ROD for OU4.

2. **Question**: Who decides what the remedial action will be?

   EPA Response: EPA Region 4 is the lead agency as defined in 40 C.F.R. 300.5. The Region 4 Superfund Emergency Management Division Director, Carol J. Monell is the delegated agency official and will sign this ROD. Pursuant to 40 CFR § 300.120(f)(2), the Remedial Project Manager shall recommend action for decisions by lead agency officials.

3. **Question**: Who decides what landfill is selected?

   EPA Response: The Multistate Trust is responsible for implementing the remedial action, including disposing or recycling materials from the Site. The Multistate Trust must follow all federal and state laws and regulations, including the "CERCLA Off-Site Rule" in the National Contingency Plan at 40 CFR 300.440 that requires EPA approval of any landfill facility based on a review of its acceptability under the rule.

4. **Comment**: I suggest EPA consult with the NCDEQ EJ Equity Board.

   EPA Response: As discussed in more detail in section 13.7, the EPA, NCDEQ, and Multistate Trust engaged with the NCDEQ Title VI and Environmental Justice Coordinator.

5. **Question**: Will the OU2 area be included in the Trust's marketing effort for the Eastern Upland and OU1?

   EPA Response: EPA supports the Multistate Trust including the OU2 area in marketing efforts. This is in support of EPA's Site strategy, developed with community input, to expedite the property becoming ready for reuse.

Written Comment Submitted during Comment Period

6. **Comment**: Hiring an outside contractor would not aid in the broader restoration the community deserves.

   EPA Response: The EPA supports the efforts by the Multistate Trust to use qualified local contractors to the extent possible to implement the remedial action in Navassa. The Multistate Trust has used local and nearby contractors for some of the investigations. The EPA expects the Multistate Trust to expand local hiring in the future.

Verbal Comments Received after Comment Period

7. **Comment**: It is morally wrong to take waste from Navassa to another community that is having issues with the landfill in their community.

   EPA Response: The EPA has incorporated community input from local and regional stakeholders into the EPA's nine criteria analysis. The selected remedy minimizes the amount of material that may require off-site disposal.

   EPA will continue to determine the suitability of landfills according to Section 121(d)(3) of CERCLA and 40 CFR 300.440 of the NCP, known as the "CERCLA Off-Site Rule". The purpose of the CERCLA Off-Site Rule is to prevent CERCLA wastes from creating future environmental problems after disposal. The CERCLA Off-Site Rule requires that wastes from a CERCLA cleanup may be placed only in a facility that EPA has determined is operating in compliance with federal and state requirements, including RCRA.

   EPA's Remedial Project Manager and Community Involvement Coordinator requested the Region 4 Office of Environmental Justice conduct outreach to the Sampson community leaders and community to determine where Regional Environmental Justice Representatives can assist.

8. **Comment**: Some of the concerns from the community around the Sampson County Landfill include animal feeding operations, landfill gas, odors, PFAS, the safety of groundwater, and high level of death and disease in the community. The community would like a broader conversation about their concerns. There was recently a fire at landfill and there was no community notification. The community feels deep distrust and sees a lack of transparency. The community does not think DEQ is doing a good job with inspections.

   EPA Response: EPA's Superfund Remedial Project Manager and Community Involvement Coordinator recognizes the community's concerns on these issues and has discussed the concerns with the EPA Region 4 Office of Environmental Justice and with NCDEQ for follow up.

9. **Comment**: Additional verbal comments from Veronica Carter:

   Soil should be managed on site, if possible, which minimizes impacts to other EJ communities.
   The likeliest use is industrial/commercial, not residential (based on zoning, public comments, signals from Trust regarding redevelopment).
   If land use is industrial/commercial, then there is no need for action and no need to add to disproportionate impacts in Sampson County.
   It is not moral to move waste from one EJ community to another EJ community.

   EPA Response: These comments are addressed in the responses to comment 7 and 14.

Written Comments Received after Comment Period

10. **Comment**: Alternative 3 sounds like a perfect solution to the concerns that the Sampson County community has raised. We support the proposal to keep the soil on-site in Navassa. We enthusiastically support this alternative to the disposal of the soil. We look forward to a final decision that will protect our citizens and their health.

11. **Comment**: The subject plan states that the Preferred Alternative 2 meets the threshold criteria and provides the best balance of tradeoffs among the alternatives evaluated. With that, a detailed discussion of the "best balance of tradeoffs" could not be found in the plan. Furthermore, in Section G. Summary of Remedial Alternatives, it states Alternatives 2 and 3 as having "thresholds" "to-be-determined". This is contradictory to a statement in the plan that the Preferred Alternative 2 "meets the threshold criteria."

    EPA Response: The discussion in Section G of the Proposed Plan refers to a concentration-based threshold for determining how soils can be incorporated into the OU4 remedy. Because OU4 is not within the scope of the OU2 Proposed Plan, EPA cannot select the details of the OU4 remedy. The "threshold criteria" discussed in Section H and in the table on page 28 refers to two of the nine criteria in the NCP, which must be met by any remedial alternative. The threshold criteria are "overall protectiveness of human health and the environment" and "compliance with ARARs."

12. **Comment**: The transporters (contractors) of these contaminated materials are subject to several regulations under RCRA, outlined in Title 40 of the Code of Federal Regulations (CFR) part 263. We could find no such reference or requirement in the subject plan.

    EPA Response: The Proposed Plan refers the reader to the 2022 OU2 Feasibility Study Report for the table of Action-specific ARARs. The ARARs for Transportation of Wastes is on page 14 of Table 3-1. The ARARs table includes a citation of 40 CFR § 263.30 and § 263.31. This ROD includes an updated version of the ARARs as Table 7.

13. **Comment**: The Preferred Alternative 2 recommends off-site disposal for the contaminate[d] soils. It is our position that any consideration for off-site disposal of RCRA Subtitle C contaminated materials is unacceptable, especially if these materials could be potentially shipped from one EJ Community to another. Furthermore, we are deeply concerned about the safe transport of hazardous materials through neighborhoods on public roads and highways.

    EPA Response: The comment "any consideration for off-site disposal of RCRA Subtitle C contaminated materials is unacceptable, especially if these materials could be potentially shipped from one EJ Community to another" may be in reference to Alternative 2 only or it may in reference to off-site disposal in any cleanup situation.

    EPA is committed to advancing environmental justice in all communities involved in a Superfund cleanup, including the communities potentially impacted by transportation and disposal of wastes generated through cleanup activities. The NCP requires EPA to consider nine criteria in evaluating alternatives, including short-term impacts, such as transportation, and long-term protectiveness, such as the proper disposal of wastes. EPA balances these criteria in proposing a preferred alternative and presents the analysis for public comment. In this case, EPA considered public comment and re-evaluated the nine criteria based on community input.

    This ROD selects a remedy that minimizes off-site disposal by stockpiling OU2 soils in a RCRA staging pile in OU4 for reuse/consolidation in OU4 depending on the remedy selected. This remedial action will create several waste streams that must be managed appropriately and in compliance with state and federal laws and regulations, identified as ARARs. This ROD does not select a remedy of zero off-site disposal because not all waste streams generated in conducting the remedial action can safely or legally be stockpiled in OU4. EPA disagrees that off-site disposal of contaminated media is universally unacceptable.

    EPA acknowledges the concern about transportation of contaminated materials through communities. Any off-site transportation of material from the Site will be subject to federal and state laws and regulations to ensure safety. The regulations that apply will depend on the type of waste being transported.

14. **Question**: It is unclear what the final use of this property will be, i.e., residential, industrial, recreational which represents a level of uncertainty that will, in our opinion, greatly impact the successful execution of this plan. It is our understanding that if land use was deemed to be industrial, there would be absolutely no need to excavate and remove any OU 2 soils.

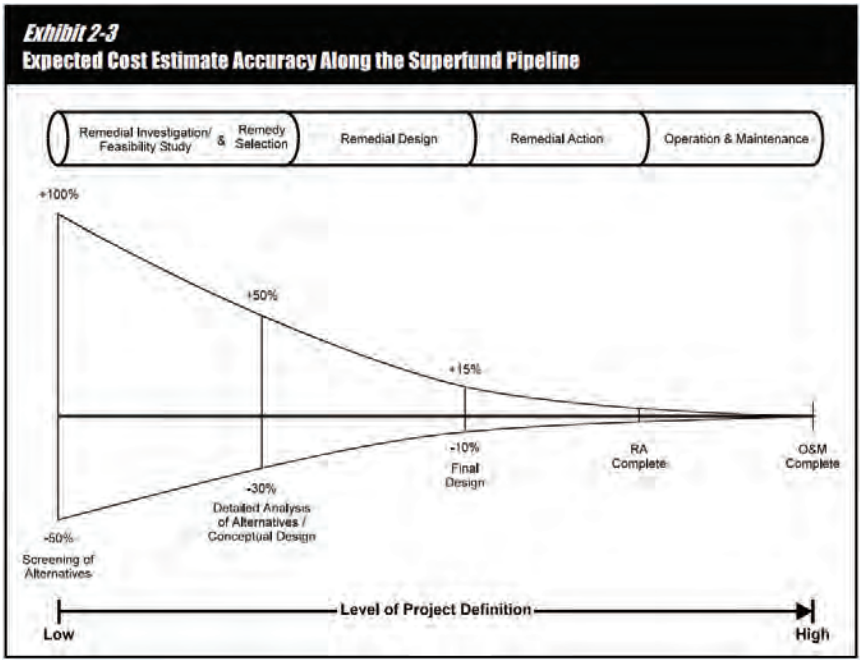
    EPA Response: While there is uncertainty about the future land use in OU2, there is a clear community interest in some types of residential uses. This is discussed in the Feasibility Study and Proposed Plan. As a result, the Risk Assessments evaluated a broad range of uses for both human and ecological risks.

EPA decided it was reasonable to anticipate residential land use may be desired for OU2. By anticipating possible residential land uses, the cleanup will not limit the local government's zoning and land use decision-making, nor unduly burden the community, which has not benefited from the use of OU2 for fifty years.

Contrary to the comment, EPA concluded that there is unacceptable risk to ecological receptors due to soil contamination. Even under non-residential land use, at least 0.5 acres requires cleanup to protect the American robin, American woodcock, and the short-tailed shrew.

15. **Comment**: The subject plan depicts a cost estimate accuracy range of +50% to -30%. In cost engineering jargon, this range of cost uncertainty is nothing more than a "ballpark" preliminary estimate, and in our opinion is speculative at best and is a questionable basis for correctly predicting what any Preferred Alternative would or should eventually be. If the stated accuracy range is correct, that that would mean that the project scope has only been defined to roughly around 1 to 15%. We would expect that with the amount of time and energy spent developing this project, that an accuracy range of +20% to -15% could have easily been achieved at this stage.

EPA Response: The amount of uncertainty in Superfund cleanups is greater than typical construction projects. The uncertainty in the cost estimate is within the expected accuracy of a cost estimate at the remedy selection stage of -30% to +50% per the USACE/EPA guidance "A Guide to Developing and Documenting Cost Estimates During the Feasibility Study", https://semspub.epa.gov/work/HQ/174890.pdf. Below, Exhibit 2-3 shows the expected improvement in accuracy along the cleanup process. Once the final design is completed, the expected accuracy is -10% to +15%.



16. **Comment**: Referring to the table titled "Evaluation of Criteria for Superfund Remedial Action Alternative", on page 29 of the subject report, we could not distinguish which criteria might be of a higher-ranking value or if all are equally ranked in value. If all of the criteria are of equal value, then we conclude that this decision model is purely subjective. We believe that when decisions become more complex, particularly where predictions about future outcomes in cleanup options that involve public health and well-being, "instinctive" decision making can lead to potentially serious, damaging, or expensive consequences.

    EPA Response: The evaluation of remedial alternatives is not a simple quantitative process, nor an informal process of "instinctive" decision making. The table referred to by the comment is to help summarize the narrative discussion, not to suggest a simple numerical evaluation. The summary of the detailed analysis of the alternatives is in section 10 of this ROD and was performed pursuant to the NCP (40 CFR §300.430(e)(9)) and considered the appropriate EPA guidance, "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" https://semspub.epa.gov/work/06/901141.pdf.

17. **Comment**: We have also taken the time to review several other similarly contaminated site plans from around the country and, based upon that, make the following comments for your consideration:

    If the Preferred Alternative 2 persists, this plan should make strict reference to all regulations pertaining to the off-site transportation of contaminated materials that are subject to the RCRA regulations, e.g. EPA 40 CFR 261 Identification and Listing of Hazardous Waste, EPA 40 CFR 262 Standards Applicable to Generators of Hazardous Waste, EPA 40 CFR 263 Standard Applicable to Transporters of Hazardous Waste, OSHA 29 CFR 1910 Subpart z Toxic and Hazardous Substances and OSHA 29 CFR 1910 Subpart h Hazardous Materials. The subject plan should, at a minimum, address some of the more important responsibilities for the Prime Contractor such as the preparation of:

    - A Construction Management Plan,
    - Quality Control (QC) Plan with 3-phase inspection process and an on-site testing plan,
    - Health and Safety Plan,
    - Pre-Notice to Proceed Equipment Inspection Plan and
    - List of all proposed subcontractors.
    - Full time site Health and Safety officer, QC officer, and Environmental Monitoring Officer.

    EPA Response: This ROD selected Alternative 3 as the remedy rather than Alternative 2.

    The comment regarding regulations is addressed in this ROD in section 13.2 "Compliance with ARARs" and in Table 7 of this ROD. Per CERCLA section 121(d)(2), on-site response actions need only comply with ARARs, which can

include substantive pre-transportation requirements specified in the RCRA regulations. Once waste is transferred "off site" then generator and transporter must comply with all legal requirements related to transportation of hazardous materials and/or hazardous waste.

The plans for the remedial action will be produced by the Multistate Trust and their contractors. These plans will likely include, but will not be limited to:

- Stormwater Pollution Prevention Plan
- Erosion and Sediment Control Plan
- Traffic Control Plan
- Health and Safety Plan
- Construction Survey Plan
- Spill Prevention Control and Countermeasures Plan
- Site Security Plan
- Site Preparation Plan
- Excavation and Backfill Plan
- Truck and Equipment Decontamination Plan
- Restoration Plan
- Construction Reporting
- Construction Schedule
- Contingency Plan

18. **Comment**: With that, we strongly recommend Alternative 3. This alternative would allow the stockpiling OU-2 contaminated soils in segregated piles somewhere in OU-4 until such time as the OU-4 is addressed in a future Proposed Plan. There are significant benefits in this approach such as:
    1. OU 4 would be an excellent "placeholder" site for the OU 2 soils until a decision is made with regards to the appropriate land use for OU 4.
    2. Moving OU 2 excavated soils for eventual disposal at OU 4 would eliminate the need for all off-site disposal requirements. All wastes could be appropriately characterized, strategically placed, and capped in place.
    3. Simply moving OU 2 excavated soils to OU 4 would eliminate any negative impacts to EJ communities near or far.

    EPA Response: This ROD selected Alternative 3 as the remedy rather than Alternative 2 based on community input and EPA's re-evaluation of these alternatives using the criteria in 40 CFR §300.430(e)(9).

19. **Comment**: I have been concerned about the disposition of the contaminated soils and materials, since another EJ community in Sampson County had appeared during one of the EJ and Equity Board's Public Comment period, asking for help with their landfill. I asked if a landfill had been identified for potential disposal and mentioned that I would not support moving contaminated materials from "one EJ community to another EJ community."

    EPA Response: This ROD selected Alternative 3 as the remedy rather than

Alternative 2 based on community input and EPA's re-evaluation of these alternatives using the criteria in 40 CFR §300.430(e)(9) .

20. **Comment**: Alternative 2 recommends "off-site" disposal. The Greenfield Multistate Trust has proposed meetings with community members in the EJ community of Sampson County to discuss moving the materials from Navassa to the landfill in their community. This action by the Trust, has caused consternation and concern throughout the already troubled Sampson County community. It is my understanding that no actual landfill had been selected. If that is the case, why is this community being singled out by the Multistate Trust for proposed meetings? Are any other landfills being considered? Are they also in EJ communities? The inequity of environmental injustice is highlighted by the very fact that landfills are sited in communities of "least resistance" throughout our state. While that landfill may legally be able to accept RCRA Subtitle C contaminated materials, it goes the spirit of our Charter to "move" this "problem" from one EJ community to another. Residents of Sampson County have appeared before the EJ and Equity Board asking for support and assurance that they receive the same "fair and equal treatment" and "meaningful engagement" that the residents of the Town of Navassa are receiving. There have been enough complaints that need to be investigated and addressed within Sampson County, that moving this material to their site may be legal but is not ethical or moral.

    EPA Response: This ROD selected Alternative 3 as the remedy rather than Alternative 2 based on community input and EPA's re-evaluation of these alternatives using the criteria in 40 CFR §300.430(e)(9).

21. **Comment**: While this plan states that Alternative 2 is the "shortest time frame" I do not find any means within the plan to compare it to other alternatives.

    EPA Response: The Proposed Plan included an estimated timeframe for construction completion of one to three months for Alternative 2 and 3 and one to two months for Alternative 4. The Proposed Plan should have been clearer about the estimates for construction versus the time to achieve Remedial Action Objectives (RAOs). Construction completion refers to the active construction phase and does not include placing institutional controls, long-term monitoring, or five-year reviews. Alternative 2 is the shortest time frame because it would meet the RAOs fastest. Alternative 4 would require institutional controls (at least one year) before the RAOs would be met. Alternative 3 would require monitoring of the staging pile until the OU4 remedy is completed.

    It would me more accurate to describe Alternative 4 as the shortest time frame to reach construction completion within OU2, followed by Alternative 2, and then Alternative 3. The fastest to achieve RAOs is Alternative 2, then Alternative 3, then Alternative 4.

22. **Comment**: Frankly, I question whether Alternative 3 would be a shorter timeframe (at least for this section) since the materials would be moved to OU4 and "held in place" until the Remedial Plan for that Section is fully investigated.

Although there has not been an investigation for the remediation of OU4 yet, it is one of the most heavily contaminated sections on site. It is very likely that materials from that site will need to be contained in place. If that is the outcome, moving the contamination from OU2, literally "next door" to OU4 would be the most cost effective and safest outcome for residents of both the Town of Navassa and Sampson County. The need to transport hazardous materials throughout neighborhoods and public roads in several counties in the state would no longer exist. While I understand Operational Unit 4 has not been investigated nor vetted, and there remains a possibility that materials "stored temporarily' may still be moved once that occurs, simply moving the contaminated soils there now would provide an acceptable alternative until the OU4 site is investigated. I ask that you reconsider your proposed Alternative 2 and adopt Alternative 3; moving OU 2 excavated soils to OU 4 would eliminate any negative impacts to both EJ communities at this time. If after careful investigation of OU 4 it is determined that the soils need to be moved to an off-site disposal area, I respectfully ask that you consider our concerns and comments noted above.

EPA Response: EPA largely agrees with the commenter regarding the advantages of Alternative 3 versus the other Alternatives. Additional details of EPA's evaluation are in the ROD. This ROD documents EPA's effort to view the community input and environmental justice concerns through the lens of the NCP's nine criteria for evaluating alternatives.

Comment Emails (received after the comment period)

Spalvins, Erik

From: Sherri White-Williamson <swhitewilliamson@ejcan.org>
Sent: Friday, August 26, 2022 4:19 PM
To: Spalvins, Erik
Subject: Re: EPA assessing Alternative 3 (on-site reuse/consolidation of OU2 soils in OU4) for Kerr-McGee Navassa OU2

Erik,

Thank you for your work on this matter and listening to the concerns of Sampson County citizens. Alternative 3 sounds like a perfect solution to the concerns that the Sampson County community has raised. We support the proposal to keep the soil on-site in Navassa. We enthusiastically support this alternative to the disposal of the soil. We look forward to a final decision that will protect our citizens and their health.

Best regards,
Sherri

Sherri White-Williamson
Co-Founder
Environmental Justice Community Action Network
P O Box 616
Clinton, NC 28329
(910) 299-9118

Spalvins, Erik

From: Shew, Roger D. <shewr@uncw.edu>
Sent: Wednesday, September 7, 2022 8:29 AM
To: Spalvins, Erik; Spencer, L'Tonya; King, Charles
Subject: RE: Issuing Proposed Plan for OU2 of Kerr-McGee Navassa Superfund Site

Good morning,
I wanted to formally say I support the Alternative 3 proposal following your comments in reply to my questions. I believe, as long as we can guarantee no harm from runoff or atmospheric loss of the OU2 contaminated soils from the OU4 site, that this is a reasonable approach that eliminates transport, landfilling, and fuel use (all good sustainability goals) while also reducing the total costs of movement/treatment. And of course, as is mentioned in the explanation, once we know more of OU4 plans/contaminant level/remediation etc., we will be able to judge the wisest use for the OU2 soils for treatment or incorporation with the OU4 area.
I'm in favor of Alternative 3.

Thanks,
Roger

Roger D. Shew
Dept. of Earth and Ocean Sciences
Dept. of Environmental Sciences
UNCWilmington
shewr@uncw.edu

Spalvins, Erik

From: Eulis Willis <mayor@townofnavassa.org>
Sent: Wednesday, September 14, 2022 1:59 PM
To: Spalvins, Erik
Cc: Michelyn Alston
Subject: RE: Kerr-McGee OU2

Based upon my request to you about "pausing" action on the OU2 proposed plan. The Navassa Town Council scheduled a Zoom meeting with the NCEERC and their technical Advisor (Roger Shew) at its agenda meeting which was scheduled for 9-5-22@ 6:00 pm. Dr. Shew explained the technical details about the proposed plan to us and answered our questions to our satisfaction.

Upon the conclusion of that meeting, I requested that Council provide an "opinion" about Alternates 2 & 3 and/or whether they preferred if the EPA chose "either plan" for the OU2 action. 2 Councilmen responded with a concurrence to Dr. Shew's recommendation that favored using Alternate 3..... **Three of Navassa's Councilmembers did not answer at all.** You can choose If that's a Consensus or not, or EVEN if that is a no comment.

I personally am in favor of Dr. Shew's recommendation for using Alternate 3 which would mean that 3 governing body members answered in the affirmative for Alternate 3.

I hope this helps.

Mayor Eulis A Willis
Navassa

From: Spalvins, Erik <Spalvins.Erik@epa.gov>
Sent: Wednesday, September 14, 2022 11:52 AM
To: Eulis Willis <mayor@townofnavassa.org>; Michelyn Alston <malston@townofnavassa.org>
Cc: King, Charles <King.CharlesL@epa.gov>; Spencer, L'Tonya <Spencer.LaTonya@epa.gov>
Subject: Kerr-McGee OU2

Mayor Willis, Town Council,

I'm trying to make sure EPA has all comments regarding the Kerr-McGee Navassa OU2 Proposed Plan. I understand if the Town doesn't want to provide any or if there is not a consensus. I just want to email to make sure I haven't missed them.

Thank you,
Erik

Erik Spalvins
Remedial Project Manager
Superfund Division, U.S. Environmental Protection Agency, Region 4
61 Forsyth Street SW, Atlanta, Georgia 30303
(404) 562-8938 office
(404) 909-0345 cellular phone

Comment Letter (received during the comment period)

Carl L.Parker Sr., President
1st Vice Bernest Hewett

Anne S. Parker, Secretary
Assistant Jerelyn McMillan

Carl's Email Address: pooker@atmc.net

Phone Number 910-619-4974

Problems become opportunities when the right people join and take on the task to find the solution.

June 29, 2022

EPA Remedial Project Manger
Erik Spalvins
U.S. EPA
Superfund & Emergency Management Division
61 Forsyth Street, SW, 11th Floor
Atlanta, GA 30303

Dear Mr. Spalvins:

Thank you for allowing us the opportunity to submit public comments. I have read the many Superfund success stories.The EPA Region 4 story was quite outstanding and significant. The Jacksonville Ash Site was remarkably handled by the Superfund infrastructure of contractors. Then there are those that give me pause for concern.

I read about the Tennessee Valley Authority (TVA) Kingston Site at the operation power plant in Kingston, Tennessee. It appears that the "neighborhood" did not benefit economically, socially or educationally from this experience. Hotel chains and restaurant chains benefited but the core infrastructure of those communities appeared to receive some benefit. What did appear to occur were the roots of gentrification being established to displace the current inhabitants in an effort to attract vacationers? The $1.2 billion from that project could have gone to protect neighborhoods from financial instability, environmental health concerns and trades creation amongst those newly entering the workforce. Money was spent for grand Community Events to attract vacationers while the neighborhood inhabitants remain too poor to enjoy the benefits.

The Savannah River Site in contrast epitomized administering training to the neighborhood and showing good will by employing those that completed the classes to various positions. I believe with this type of action, the local economy benefits educationally, socially, and economically. Extending equal rights to all persons and aiding to eliminate racial hatred.

As we approach Navassa Superfund Site Navassa, North Carolina 0U2 Site for cleanup construction, we have an opportunity to replicate the outstanding efforts of those in Savannah. As a United States Small Business Administration, Washington D.C. Section 8(a) Business residing one mile from the proposed site cleanup, I offer a unique opportunity for the Superfund to establish quality site cleanup inclusive of community infrastructure restoration. The local community has suffered from plant closures and local contamination and would greatly benefit from this injection of economic and environmental prosperity. Housing an outside contractor in neighboring counties where the local inhabitants do not benefit from that commerce hotels from outside contractors and employment does not aid in the proper restoration the community deserves. I recommend that clean water (maybe Reverse Osmosis) be restored to the Navassa neighborhood households as well as hiring as many Navassa inhabitants as possible to do the work at OU2 to bolster the local economy. These actions will go a long way in repairing a community that has been environmentally and economically shattered. As Victor Hugo stated in Les Miserable's, "There is always more misery among the lower classes than there is humanity in the higher."It is my opinion that there is a great leadership team within the Kerr-McGee Superfund organization inclusive of but not limited to:

Ngozi Lbe: Senior Project Manager and Environmental Justice Specialist
Greenfield Environmental Multistate Trust LLC
Trust of the Multistate Environmental Response Trust
Greenfield Environmental Trust Group, Inc, Member
Claire Woods:
Directors of Environmental Justice Polices and Programs and Senior Attorney
Greenfield Environmental Multistate Trust LLC,
Trust of the Multistate Environmental Response Trust
Greenfield Environmental Trust Group, Inc, Member,

With the right community partners a special relationship can be formed to build a stronger for viable Navassa.

Sincerely,

Carl L. Parker Sr.
Brunswick County NAACP Branch Unit#5452, President

WHERE THE SPIRIT OF GOD IS, THERE IS FREEDOM, LET FREEDOM RING

"Forward Together, Not One Step Back"

Comment Letters (received after the comment period)

NAACP
North Carolina
STATE CONFERENCE

Deborah Dicks Maxwell
President

September 5, 2022

Carol Monell, Director
Superfund Emergency & Management Division
61 Forsyth Street SW
Atlanta, Georgia 30303

Subject: Proposed Plan Kerr-McGee Chemical Corp – Navassa Superfund Site Operable - Unit 2 Navassa, Brunswick County, North Carolina - EPA Site ID: NCD980557805

Dear Ms. Monell,

As President of the North Carolina NAACP State Conference, thank you for allowing me and my Environmental and Climate Justice (EJ) committee members the opportunity to comment on the subject plan. Please know that the NAACP constantly works to address the many practices that are harming our communities locally, nationally, and worldwide. We fight for the policies needed to rectify these impacts and advance a society that fosters sustainable, cooperative, regenerative communities that uphold all rights for all people in harmony with the earth.

Since this site was placed on the EPA Superfund site list in 2010, many of our members have taken a special interest in the activities and actions to clean up contamination at the subject site, albeit moving at a glacial pace. In support of the citizens of Navassa, long considered an EJ community, we have reviewed the subject plan and it is our opinion that the selection of Alternative 2 as the Preferred Alternative is unacceptable for the following reasons:

- While this plan recommends Alternative 2 because EPA thinks that it achieves the Remedial Action Objectives in the shortest time frame, we could not find any schedule features in this plan that reflects even the modest detail that would support or allow a balanced, reasonable comparison of alternatives.
- The subject plan states that the Preferred Alternative 2 meets the threshold criteria and provides the best balance of tradeoffs among the alternatives evaluated. With that, a detailed discussion of the "best balance of tradeoffs" could not be found in the plan. Furthermore, in Section G. Summary of Remedial Alternatives, it states Alternatives 2 and 3 as having "thresholds" "to-be-determined". This is contradictory to a statement in the plan that the Preferred Alternative 2 "meets the threshold criteria."
- The Preferred Alternative 2 recommends off-site disposal for the contaminate soils. It is our position that any consideration for off-site disposal of RCRA Subtitle C contaminated materials is unacceptable, especially if these materials could be potentially shipped from one EJ Community to another. Furthermore, we are deeply concerned about the safe transport of hazardous materials through neighborhoods on public roads and highways. The transporters (contractors) of these contaminated materials are subject to several regulations under RCRA,

North Carolina State Conference *of the* National Association *for the* Advancement *of* Colored People
P.O. Box 27392 • Raleigh, NC 27611 • www.naacpnc.org

outlined in Title 40 of the Code of Federal Regulations (CFR) part 263. We could find no such reference or requirement in the subject plan.

- It is unclear what the final use of this property will be, i.e., residential, industrial, recreational which represents a level of uncertainty that will, in our opinion, greatly impact the successful execution of this plan. It is our understanding that if land use was deemed to be industrial, there would be absolutely no need to excavate and remove any OU 2 soils.
- The subject plan depicts a cost estimate accuracy range of +50% to -30%. In cost engineering jargon, this range of cost uncertainty is nothing more than a "ballpark" preliminary estimate, and in our opinion is speculative at best and is a questionable basis for correctly predicting what any Preferred Alternative would or should eventually be. If the stated accuracy range is correct, that that would mean that the project scope has only been defined to roughly around 1 to 15%. We would expect that with the amount of time and energy spent developing this project, that an accuracy range of +20% to -15% could have easily been achieved at this stage.
- While the subject plan considers some risks and uncertainties, we could not find a risk register or any Monti Carlo simulation that could provide a more realistic predictor of how long this project will take to complete and its likely effect on the cost estimates for each alternative.
- Referring to the table titled "Evaluation of Criteria for Superfund Remedial Action Alternative", on page 29 of the subject report, we could not distinguish which criteria might be of a higher-ranking value or if all are equally ranked in value. If all of the criteria are of equal value, then we conclude that this decision model is purely subjective. We believe that when decisions become more complex, particularly where predictions about future outcomes in cleanup options that involve public health and well-being, "instinctive" decision making can lead to potentially serious, damaging, or expensive consequences.

We have also taken the time to review several other similarly contaminated site plans from around the country and, based upon that, make the following comments for your consideration:

- If the Preferred Alternative 2 persists, this plan should make strict reference to all regulations pertaining to the off-site transportation of contaminated materials that are subject to the RCRA regulations, e.g. EPA 40 CFR 261 Identification and Listing of Hazardous Waste, EPA 40 CFR 262 Standards Applicable to Generators of Hazardous Waste, EPA 40 CFR 263 Standard Applicable to Transporters of Hazardous Waste, OSHA 29 CFR 1910 Subpart z Toxic and Hazardous Substances and OSHA 29 CFR 1910 Subpart h Hazardous Materials
- The subject plan should, at a minimum, address some of the more important responsibilities for the Prime Contractor such as the preparation of:
  - A Construction Management Plan,
  - Quality Control (QC) Plan with 3-phase inspection process and an on-site testing plan,
  - Health and Safety Plan,
  - Pre-Notice to Proceed Equipment Inspection Plan and
  - List of all proposed subcontractors.
  - Full time site Health and Safety officer, QC officer, and Environmental Monitoring Officer.

Again, without these basic requirements being fulfilled prior to the start of construction, it will raise the specter that additional risk and uncertainty will be realized and jeopardize the successful completion of the project on time and within budget.

Finally, as I stated at the beginning of this letter, it is our opinion that the selection of Alternative 2 as the Preferred Alternative is totally unacceptable.

With that, we strongly recommend Alternative 3. This alternative would allow the stockpiling OU-2 contaminated soils in segregated piles somewhere in OU-4 until such time as the OU-4 is addressed in a future Proposed Plan. There are significant benefits in this approach such as:

1. OU 4 would be an excellent "placeholder" site for the OU 2 soils until a decision is made with regards to the appropriate land use for OU 4.
2. Moving OU 2 excavated soils for eventual disposal at OU 4 would eliminate the need for all off-site disposal requirements. All wastes could be appropriately characterized, strategically placed, and capped in place.
3. Simply moving OU 2 excavated soils to OU 4 would eliminate any negative impacts to EJ communities near or far.

As you consider our concerns and comments we look forward to the next steps in the process.

Sincerely

Deborah Dicks Maxwell
Deborah Dicks Maxwell, President
NAACP North Carolina State Conference

Tina Katsanos
Tina Katsanos
Chair, NC NAACP EJ Committee

Brayton Willis
Secretary, NC NAACP EJ Committee

Email CC: Erik Spalvins Spalvins.Erik@epa.gov
Remedial Project Manager
Superfund Division
U.S. Environmental Protection Agency, Region 4

North Carolina State Conference *of the* National Association *for the* Advancement *of* Colored People
P.O. Box 27392 • Raleigh, NC 27611 • www.naacpnc.org

Subject: Proposed Plan Kerr-McGee Chemical Corp – Navassa Superfund Site Operable - Unit 2
Navassa, Brunswick County, North Carolina - EPA Site ID: NCD980557805

As a member of the North Carolina Department of Environmental Quality (DEQ) Secretary's Environmental Justice (EJ) and Equity Advisory Board and a member of the Board of Directors of the North Carolina Coastal Federation, I would like to take this opportunity to comment on the plan to remediate the Kerr-McGee Superfund Site, located in Navassa, in Brunswick County, in the State of North Carolina.

I have followed the planned remediation of the Kerr-McGee Creosote Site in Navassa, North Carolina for more than a decade. As a concerned neighbor and friend of the community, I was originally asked by Mayor Eulis Willis to help ensure that there the community received "Environmental Justice" throughout this process. As a retired Army Officer, I gave my word to the Mayor and members of the Town that I would try to ensure they received "justice for all."

I was asked to serve on the NC DEQ Secretary's EJ and Equity Advisory Board, first by the former Secretary (and now EPA Administrator) Michael Regan. The purpose of the EJ and Equity Advisory Board "is to assist the Department in achieving and maintaining the fair and equal treatment and meaningful involvement of North Carolinians regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Consistent engagement between communities, industry, and the Department will advance the State's mission of protection of human health and the environment. The Board will advise on vulnerable, at risk, limited English proficiency, North Carolinians with disabilities and American Indian Tribes."

The Town of Navassa meets the definition of an Environmental Justice Community. Former DEQ Secretary Michael Regan traveled to Navassa to learn and see the detrimental physical and economic adverse effects and cumulative impacts those years of industrial waste and contamination had on this community.

Since the Boards inception (2018) and visit to this Town (2019), other members have also taken a special interest in the activities and actions to clean up contamination at this EPA Superfund site (first listed in 2010). Living in the neighboring community (Leland), I have attended many of the meetings regarding this clean-up effort, long before the Board's existence. I have been concerned about the disposition of the contaminated soils and materials, since another EJ community in Sampson County had appeared during one of the EJ and Equity Board's Public Comment period, asking for help with their landfill. I asked if a landfill had been identified for potential disposal and mentioned that I would not support moving contaminated materials from "one EJ community to another EJ community." Because Navassa is an EJ community, I have reviewed the subject plan and it is my opinion that the selection of Alternative 2 as the Preferred Alternative is unacceptable for the following reasons:

- Alternative 2 recommends "off-site disposal. The Greenfield Multistate Trust has proposed meetings with community members in the EJ community of Sampson County to discuss moving the materials from Navassa to the landfill in their community. This action by the Trust, has caused consternation and concern throughout the already troubled Sampson County community. It is my understanding that no actual landfill had been selected. If that is the case, why is this community being singled out by the Multistate Trust for proposed meetings? Are any other landfills being considered? Are they also in EJ communities? The inequity of environmental injustice is highlighted by the very fact that landfills are sited in communities of "least resistance" throughout our state. While that landfill may legally be able to accept RCRA Subtitle C contaminated materials, it goes the spirit of our Charter to "move" this "problem" from one EJ community to another. Residents of Sampson County have appeared before the EJ and Equity Board asking for support and assurance that they receive the same "fair and equal treatment" and "meaningful engagement" that the residents of the Town of Navassa are receiving. There have been enough complaints that need to be investigated and addressed within Sampson County, that moving this material to their site may be legal but is not ethical or moral.

- While this plan states that Alternative 2 is the "shortest time frame" I do not find any means within the plan to compare it to other alternatives.

- Frankly, I question whether Alternative 3 would be a shorter timeframe (at least for this section) since the materials would be moved to OU4 and "held in place" until the Remedial Plan for that Section is fully investigated. Although there has not been an investigation for the remediation of OU4 yet, it is one of the most heavily contaminated sections on site. It is very likely that materials from that site will need to be contained in place. If that is the outcome, moving the contamination from OU2, literally "next door" to OU4 would be the most cost effective and safest outcome for residents of both the Town of Navassa and Sampson County. The need to transport hazardous materials throughout neighborhoods and public roads in several counties in the state would no longer exist. While I understand Operational Unit 4 has not been investigated nor vetted, and there remains a possibility that materials "stored temporarily' may still be moved once that occurs, simply moving the contaminated soils there now would provide an acceptable alternative until the OU4 site is investigated.

I ask that you reconsider your proposed Alternative 2 and adopt Alternative 3; moving OU 2 excavated soils to OU 4 would eliminate any negative impacts to both EJ communities at this

time. If after careful investigation of OU 4 it is determined that the soils need to be moved to an off-site disposal area, I respectfully ask that you consider our concerns and comments noted above.

Respectfully,

Veronica A. Carter

B. Public Meeting Transcript

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PUBLIC MEETING

KERR-McGEE CHEMICAL CORP - NAVASSA SUPERFUND SITE

OPERABLE UNIT 2 - PROPOSED PLAN CLEANUP SUMMARY

- - -

PRESENTATION CONDUCTED BY CHARLES KING

PUBLIC MEETING

NAVASSA, NC

DATE TAKEN: Tuesday, June 14, 2022

TIME BEGAN: 6:06 p.m.

TIME ENDED: 6:59 p.m.

LOCATION: Navassa Community Center
338 Main Street
Navassa, North Carolina

REPORTED BY: Cherie J. Anderson, RMR, RPR, CRR
Huseby
1230 West Morehead Street, Suite 408
Charlotte, North Carolina 28208
800-333-2082

APPEARANCES:

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CHARLES KING, EPA Region 4

NGOZI IBE, Multistate Trust

CLAIRE WOODS, Multistate Trust

I N D E X

LaTONYA SPENCER: Good evening, everyone online and here in person. My name is LaTonya Spencer, and I'm the community involvement coordinator for the Environmental Protection Agency, Region 4, in Atlanta, Georgia.

We want to let you know that this meeting tonight is being recorded, so when you ask questions or when you speak, you are being recorded, and so you consent, by participating in this meeting, that you are being recorded.

For those of you who are here for this meeting, this is the Kerr-McGee Chemical Corporation, Operable Unit 2, Proposed Planned Meeting.

Just so you will know, we do have a transcriptionist that's also recording this meeting. So when we get to the question-and-answer section, whether you're online or whether you're here in person, we ask that you state your name; and if it's a difficult name, please spell it for us so that we can have it on file.

For those people who are on the phone on the Zoom call, please press star 6 -- because I said star 69, but it's star 6 -- to unmute your line if you want to speak.

Also, your phones will be on mute for the Zoom call until Charles finishes his presentation, and then we will open it up for questions and discussions.

So I've introduced myself. I'm LaTonya Spencer, community involvement coordinator with the EPA. Your presenter for this evening will be Charles King. He is the remedial project manager standing in for Erik Spalvins. And we also have Multistate Trust representatives here. We have Ngozi Ibe. We also have Claire Woods.

We also have -- I thought I saw the Mayor -- yeah, Mayor Willis is here. And we also have Representative Chris Brown with the North Carolina -- well, the NCEERC.

And we also have NDEQ [sic] -- North Carolina DEQ -- Dave Mattison.

And we may have another representative on the Zoom call. Yes? No?

Also, do we have any media representatives in the room or on the Zoom call?

Okay. Do we have any State representatives on the Zoom call or in the room that we need to recognize?

Okay. Well --

JOSHUA LOWMAN: Yeah. I just wanted to represent the North Carolina Department of Health and Human Services. We're just listening in here and to answer any questions.

THE COURT REPORTER: I'm sorry. Who is speaking?

JOSHUA LOWMAN: I'm sorry. Joshua Lowman with the North Carolina Department of Health and Human Services.

LaTONYA SPENCER: Is there anyone else that we may have missed that's on the Zoom call?

WAYNE SPOO: Yeah. This is Wayne Spoo -- S-P-O-O. I'm also with the North Carolina Department of Health and Human Services.

LaTONYA SPENCER: Okay. Anyone else on the Zoom call that we missed?

KURT CONNER: Hey. I'm Kurt Conner, K-U-R-T, C-O-N-N-E-R. And I work for the Southern Environmental Law Center, and we represent NCEERC, so we're also here today.

LaTONYA SPENCER: Okay. Thank you. Is there anybody else that we may have missed?

ASHLEY GRAHAM: This is Ashley Graham. I work with Josh and Wayne at the North Carolina Department of Health and Human Services.

LaTONYA SPENCER: Okay. Last call, anybody else? Media? State reps? Anybody else? Going once, going twice.

All right. So what we're going to do is we're going to turn the presentation over to Charles King. He's going to do his presentation. And if you can, try to hold your questions until the end. If not, we will still take your questions during the presentation, but we try to get through the presentation because some of your questions may be answered as he goes through it.

Okay. Charles?

CHARLES KING: Thank you, Tonya.

Good evening, everyone.

MULTIPLE SPEAKERS: Good evening.

CHARLES KING: Just trying to make sure I'm in the right spot. This is a little bit new for me doing it this way. Everybody say I'm good?

LaTONYA SPENCER: You're good.

CHARLES KING: Perfect.

I am Charles King. I'm a remedial project manager out of Atlanta, Georgia. I'm the acting interim project manager for this site. Erik Spalvins is the project manager. Erik is on detail at headquarters. I am new to this site, not new to

the program. I've been with EPA for -- this is year 34, so like I said, I'm new to the site, but not new to the program.

So we'll be able to get through this. I'm here to help us get -- talk about the remedy, talk about the opportunities that we have, and give you the EPA's preferred decision.

The Kerr-McGee chemical site in Navassa is work out there with Operable Unit 2 and, of course, date of June 22nd.

Okay. This slide just lists the documents that we use in order to help get the proposed plan. These are things that are in the administrative record. I'm not going to necessarily read this to you. This tells where you can get things. Administrative record is located physically in the Navassa Community Center and in the Leland Library, but there's also a link where you can gain access to those materials.

Proposed plan overview: This is one of the fundamental slides that, if you don't get anything else, this is what -- I want you to take a hard look at this one. This is where we're going to propose excavation of about 12 areas that we need to remove to make sure that human health and

environment are protected. This was allowed for unrestricted use and unrestricted exposure, and it will require no long-term monitoring or maintenance after it's done.

You see the yellow spots. Those are areas that are targeted to be removed to make sure that what I just mentioned will be able to happen without any problems.

This map just shows the location of the site in proximity to the Navassa/Wilmington area.

Operational background: The creosote wood treater started in 1936. Purchased by Kerr-McGee in 1965. Ceased its operations in 1974. It was dismantled in 1980. And Kerr-McGee reported that they only used creosote.

And I'm going through this. Because I see a lot of familiar faces here, this is not new to most of you guys.

This photo here is from 1975. It was of the area after the facility had to be decommissioned.

EPA's site strategy: We basically have broken the site up into five operable units. This is a very familiar photo to many of you-all. You've seen it a lot of times. Operable unit 1, 2, 3, and 4 are different land areas. Operable unit 5

addresses groundwater, and as you see, it kind of overlaps OUs 4 and 5. These are approximate area locations, but this is our strategy for cleaning the site. Today we're here to talk about Operable Unit 2.

We're going to talk about the typical Superfund process. We're going to spend a little bit of time here just so people can -- this may be a little new to some people. Once a site is listed on the national priorities list, or the NPL, as they call it, the first phase is to do a remedial investigation.

People call it the RI. What the RI does is wants you to determine the nature and extent of contamination. It's where we conduct sampling, collect samples to find out what's there, how much of it's there, and where it's located.

After you get the sampling information back, something called a risk assessment is done. There's a human health risk assessment, and there's an ecological risk assessment. But basically, after we got the results from the sampling, what that risk assessment does is it determines the sample results that we got, will it cause a problem for humans or the birds or bunnies or other

animals. That's what a human health risk assessment does. That's the basic version of what they do. Human health says, after we got the results from the sampling, will it affect humans in an unacceptable way? Will it affect the animals in an unacceptable way?

And then the feasibility study. Feasibility, or the FS, says, once we determine that there's an unacceptable risk, that it will affect humans in an unacceptable way or the animals in an unacceptable way, then we have to develop options to address what we found.

And actually, in OU2, this is where we are now. We have found that there's some unacceptable risk; we're going to be talking about options for addressing those unacceptable risks.

Proposed plan: Proposed plan is what was mailed out to you. It was -- it was -- the proposed plan summarized where it was sampled, what we found, what the unacceptable risks were, and it also included the alternatives for addressing what we found.

Now, as a part of proposed plan, there's a 30-day comment period. And I'm trying to get a little bit ahead of myself, but I'll go over it.

It started on June 1st, it will end on June 30th, where citizens get an opportunity to provide comments to us on what was in the proposed plan.

After that 30-days permit period is over, we write what's called a record of decision. That's our document. The EPA's document will support -- from the State of North Carolina, it will contain our alternatives that we looked at; it will talk about what was in the proposed plan; it will talk about the public comments that were received; and then it will have EPA's selected decision at that time.

Then the RD is remedial design. We're just going to design the remedy that we said we're going to implement in the ROD, the ROD.

The meeting -- did somebody have something?

THE COURT REPORTER: I think somebody is just not muted.

LaTONYA SPENCER: It's somebody online.

CHARLES KING: I'm sorry. I thought it was a question. I'm sorry.

Remedial action is where we actually implement -- hold on one second.

CLAIRE WOODS: So if you're on Zoom, can you

please mute yourself. And Chris, if you would just step in and mute all of the users that are unmuted until it's time for question and answer. Thank you.

CHARLES KING: Thank you, Claire. Thank you, Chris. I apologize for the interruption.

So the remedial action is where we implement the remedy that was designed, and that's where you actually do the work. That's where you actually dig in the dirt, where you're actually hauling the materials off, or whatever that remedy is. It's where you actually execute that remedy.

Once the remedy is executed, you determine that it's clean and there's unrestricted use, then those parts can be -- get ready to be deleted. So I just took you through the process from a site being discovered to when it's deleted. It doesn't happen as quick as this conversation, but that's the process that we use on our Superfund.

And the key thing that I want you to remember out of this is we -- I probably won't spend as much time on other slides as I've done here, but I want to make sure that you guys understand that right now we're at the proposed plan stage. It's where you summarize all of the things that -- we

summarize all of the sampling activities; we identify an unacceptable risk to humans or animals; and then we talk about what are the remedies to address that; and then we recommend one, waiting on comments from the citizens and the State.

Everybody got that? Anybody don't understand at this time?

EULIS WILLIS: I guess the thing -- probably make sure they understand: This is just for OU2.

CHARLES KING: Just for OU2. Thank you.

EULIS WILLIS: [Inaudible] entire project. It's just for OU2.

CHARLES KING: Thank you, Mayor.

This is where we are expecting -- or we are requesting comments for Operable Unit 2, which is what you should have gotten on the fact sheet, but it will definitely be what we will talk about for the rest of the presentation.

Okay. We have a technical difficulty. I'll just turn around and do it. Hold on. I could do it here. Let's see. It won't let me advance it here.

CLAIRE WOODS: I can --

NGOZI IBE: It's advanced for me.

LaTONYA SPENCER: It's on the screen.

CHARLES KING: We're working through some technical difficulties. I've got some great support here. If it was me by myself, we'd have to shut it down (laughter). See you-all next week.

If we need to, I can just do it from the back.

THE COURT REPORTER: You can have this iPad if you want.

CHARLES KING: Okay. Thank you. Thanks.

So history of the remedial investigation: This just lists the years -- well, talks about how there were investigation in the 1990s, 2002. State refers the site to EPA in 2003. Kerr-McGee conducted investigation between 2004 and 2006. Tronox conducts an investigation between 2006 and 2009. Listed on NPL in 2010 and then Multistate Trust investigations from 2011 to current.

And keep in mind, we talked about that the remedial investigation is where we determine nature and extent of contamination. So the point of this slide is to make sure that you understand that there's been a lot of samples that have been collected and analyzed.

Okay. It didn't do it. It's fine. Let me just turn this way. I'll do it here.

LaTONYA SPENCER: There it is.

CHARLES KING: It went the wrong way.

NGOZI IBE: Yep. That's where we --

CHARLES KING: Supporting documents in the administrative record: This is a list of documents that's in the administrative record. The human health risk assessment. Looked like all of these are related to human health and ecological risk assessment documents. There's a link for them, and it tells where they are. These documents were used to help us make our decisions and our recommendations.

OU2 summary: The OU2 area was divided into 91 units of approximately a 1/4 acre each. There were more than 400 samples collected. About a little bit more than 1 1/2 acres of OU2 proposed unacceptable risk to a potential future cleanup. About 14 acres of OU2 do not contain unacceptable risk. And keep in mind, that was the whole point of the remedial investigation: To determine if there are any unacceptable risk to humans or animals.

OU2 results sample summary: The whole point of this slide -- I know it's really busy; it has a lot of samples on it. We just want you to see that

there were an awful lot of samples collected, but don't worry about what -- this is just trying to show a lot of samples collected and go over our overall analysis of what we're going to get to here.

Summary of the human health risks: There was some contaminants of concern. We call them COCs sometimes or if they include creosote-related products, PAHs and dioxins. Human health risk assessment evaluated exposure to potential residents, commercial and industrial workers, construction workers, trespassers, youth sports players. There were 12 parcels that posed unacceptable risk for future resident uses. 79 did not pose unacceptable risk. There are no unacceptable risks for just commercial/industrial workers, construction workers, trespassers, youth sports players, or site visitors.

This looks familiar to one of the first slides I showed you. These are the 12 parcels. Those yellow locations are 12 -- are the 12 parcels where there's some additional work that will be required and are to ensure that human health and environment is protected and that there's unrestricted use. And there's -- 79 of them do not

require any additional work.

Remedial action objectives: We want to prevent potential unacceptable risk to future child and adult residents from long-term exposure through incidental ingestion, dermal contact, and inhalation of surface soils to the list of contaminants there.

Let me just say this: As you're looking at the routes of exposure, it's basically ingestion: you smell it, you taste it; inhalation is smelling it; dermal contact is it gets on your skin. Those are the three primary ways anything will get in there. So all of our remedial actions -- our objectives are going to deal with those areas.

Next, present unacceptable risk to future child and adult residents from long-term exposure through the same ways: ingestion, dermal contact, or inhalation of surface soils.

The last one is to present unacceptable risks to songbirds, small mammals. So we had two for humans, and this would be for the birds and bunnies, as I call them, due to exposure through the food chain, incidental ingestion, or direct contact with surface soils up to 1 foot. With the bird, it deals with, say, a SWAC or a surface --

surface SWAC average concentration -- the bird that they're using that we use in the risk assessment has a two -- has a 2-acre span in terms of which it normally flies. So when you do that calculation, you do it based on how far that bird would normally fly or it's normal feeding pattern.

Comparison of remedial alternatives: So under Superfunds, there are three main criteria -- well, there's nine criteria, but it's three major categories. There's a threshold criteria which absolutely must be met by any remedy that would not -- threshold criteria means that it must have overall protection of human health and environment, and it must comply with -- with other laws and regulations.

Evaluation criteria is the long-term effectiveness and permanence, reduction of toxicity, mobility, or volume concentrations through treatment, short-term effectiveness, implementability, and cost.

The modifying criteria are State support and community acceptance, which is what we're here tonight for: to get community acceptance or community input.

So the remedial alternatives that are being

considered to address the unacceptable risk -- and keep in mind, the unacceptable risks were those 12 spots, the 12 yellow spots. No action, which is required under CERCLA. We have to consider a no-action alternative just as a requirement under our CERCLA law.

Alternative number 2 is removal -- well, of course, no action meaning we do nothing. So if there was a -- if there was no unacceptable risk, then no action would be appropriate. But anytime there's unacceptable risk, most times you're going to have to take some kind of action to address the unacceptable risk.

Alternative number 2 that we're looking at is removal and off-site disposal. That means everything is excavated, the soil will be sent off to a CERCLA-approved land- -- landfill.

Alternative number 3: Removal, on-site reuse, consolidation, and off-site disposal. So some of the excavated soils sent off-site for disposal and approved facility, and then it looks like some can be used on-site to backfill or subsurface soil in an area to be used for commercial/industrial use.

Alternative number 4 is to cover it and

institutional controls. So the areas posing unacceptable risk would be covered with clean fill material to make sure that it wasn't at the surface so that nobody could accidentally ingest it, get into your skin, or inhale it. So the three routes: ingestion, dermal contact -- touching -- or inhalation.

So you would just cover those areas, and then you have to put institutional controls, as we call them. But the only thing that that means is, you would have to have provisions in place to make sure that those areas stay covered, you know. If you cover them and it eroded or you have to -- you would have to make sure that it stays covered so no one could have access to them.

So this figure shows the four alternatives that we are considering and the costs that are associated with each alternative. If you look at the no action, looks like that's -- looks like it's maybe 30,000. I think that's the number, because these are in meetings. Alternate number 2 looks like that 1.59 million for the removal and off-site disposal. The one that has the combination of on-site reuse and off-site disposal, looks like that's 1.46 million. And the cover with

institutional controls is 1.1 -- well, yeah, about 1.1 million. So those -- those are the costs of the four alternatives that we are considering to address unacceptable risk.

EPA's preferred alternative is excavation and removal of contaminant surface soils that exceed the cleanup levels, characterization of excavated soil to determine if it's considered RCRA characteristic waste, off-site disposal to an approved EPA RCRA Subtitle D or C landfill, depending on the waste characteristics.

So whatever we excavate, we have to sample to see if it's required to go to a Subtitle C or Subtitle D. Whatever we send off, we'll make sure it's going to the right landfill that's in compliance under EPA's RCRA program.

Placement of clean soil material back suitable for residential use in the excavated areas, grading of backfilled material followed by vegetation to prevent erosion.

And as I stated earlier and somebody mentioned -- told me I needed to make sure that I mentioned this: Once it's excavated, it will be available for unrestricted use; no problems on it.

This just talks about the comment period. As

I mentioned, the comment period started June 1st. It will end on June 30th, the scheduled end. Please submit the comments. You can mail them to EPA Region 4 at the address there. You can email them to Erik Spalvins, spalvins.erik@epa.gov or spencer.latonya@epa.gov. And I'll spell that: S-P-E-N-C-E-R, dot, L-A-T-O-N-Y-A, @, E-P-A, dot, G-O-V. Then there's a phone number for Erik Spalvins. It's (404) 562-8938 or LaTonya Spencer-Harvey at (800) 435-9234.

There are links for the proposed plan, administrative record, and the EPA's site profile page.

We're going to run the questions. I'll let LaTonya say something before we go into questions, and then I'll take questions.

LaTONYA SPENCER: Okay. We're going to go into questions and discussions. I did not get a chance to change this, so for those people that are online, it is not star 69; it's star 6, if you need to come off mute. If you have a comment or if you have a question, it is star 6 to come off mute, if you're on the phone and you decide to speak.

I want to state again that, if you have any questions, whether you're online or in the room,

please state your name. If you know your name is a difficult name, please spell it, because not only is it being recorded, we also have a transcriptionist that's transcribing the meeting.

And also, if there's someone online, on Zoom, and you don't want to speak, you can also type your questions or comments in the chat, and Ngozi will get them to Charles.

So we'll open it up now for questions and/or discussion.

CHARLES KING: Should we go from the floor -- how you want to run that part? Because --

LaTONYA SPENCER: You can start in the room, and then we can go online. That will give them a chance to get off mute and stuff.

CHARLES KING: Let's start in the room. And if we have questions in the room, I'll take those, and then we'll go to the online.

Any --

CARL PARKER: You mentioned about.

LaTONYA SPENCER: State your name, please.

CHARLES KING: State your name.

CARL PARKER: Carl Parker, Carl & Son Construction Company.

CHARLES KING: Yes, sir.

CARL PARKER: You mentioned about sampling excavation work. Now, how are you going to sample the truck? Are you sampling the bucket?

CHARLES KING: So it won't be either -- well, the first part is, that will -- that will be sampling -- I mean, that will be worked out in the remedial design. But the samples that I was talking about, just -- I'm going to answer your question, but I want to make sure that I don't confuse anybody if I try and answer it.

The samples that I talked about as far as were done here were to determine the nature and extent of what happened, help us to identify those 12 areas that need to be excavated.

But I think I did say something about it will be sampled to determine which landfill it goes to.

So going to the remedial design, which is the document that will identify how we're going to implement what we -- whatever we decide in the record of decision, it will have a work plan that will be very specific on how the sample will be done.

That won't be -- if there's a contractor that's doing work, you don't have to worry about what the samples are. If a contractor comes, they

will have a certain pile or a certain area that they'll be hauling to whichever landfill. You won't have to worry about whether the truck or the bucket -- that contractor would just come to an area, and maybe that whole area -- maybe there's one staging area that would be going to Subtitle C; another staging area would be going to Subtitle D.

During the design, the sample will be done, and that soil will already be segregated, or separated, so it won't be a matter of sampling a bucket and waiting, because when you get sample results, most times you're going to have to send that to the lab, and nobody has enough money to pay for waiting on the bucket.

So by the time the trucks are running, we'll have the soil segregated and --

(An item on the podium falls to the floor.)

CHARLES KING: Oh, my god.

CLAIRE WOODS: It's okay. It's okay.

CHARLES KING: We'll have it -- I didn't even touch it. Was I talking that loud that I made it move with my voice? "Segregated, part the sea."

But, basically, the soils will already be separated and segregated by the time a contractor ran the trucks. You'll just know that the soils

from this area goes to whatever landfill. So that -- but that was a good question. And I apologize if I made that a little more difficult than it really was.

NGOZI IBE: Charles, I just --

CHARLES KING: Go ahead.

NGOZI IBE: I was just going to add on to what you said. So my name is Ngozi Ibe. I'm the senior project manager with Greenfield, and I'll be overseeing the work at OU2. And so, as far as sampling, with what Charles has said, so the -- during excavation, samples will be collected just for the waste-disposal purposes. It's not something that the actual contractor is going to do. That's actually going to be done by a different party.

So the contractor will not be responsible for collecting the -- at a local -- waste samples for waste disposal, just to clarify that.

CHARLES KING: Right.

Yes, ma'am?

VERONICA CARTER: My name is Veronica Carter. I have two questions. One, you mentioned excavation was the choice by EPA, and I applaud you for that since it's the most expensive one, but

where is that soil going to that obviously has been contaminated? Who makes that choice?

Because there are other EJ communities within the State of North Carolina who are, right now, going to the benefactor, DEQ, and complaining that they are getting dumped on by having hazardous waste put in their landfill. So that's the first question.

The second question is, we're getting public comments until the end of the month, and you've made -- EPA has made their recommendations. Who makes the final decision on which choice gets selected?

CHARLES KING: Well, EPA makes the final decision, but it's after carefully considering all of the comments that come from the meeting, or there may be people that don't -- I'm answering the second one first. But whether they come to the meeting, whether it's online or somebody just received a fact sheet and didn't come to the meeting, we will take all of those under consideration; and then the project manager will make a recommendation, and it goes up -- but the ultimate decision is going to be the waste division director.

LaTONYA SPENCER: Superfund.

CHARLES KING: Superfund waste division director. Thank you. It used to be waste division.

VERONICA CARTER: Who chooses the landfill where the waste --

CHARLES KING: Okay. On the landfill, it has to be a landfill that is in compliance, and the Trust would make a recommendation to EPA and the State; and if it's a landfill that's in compliance that meets all the requirements, you know, what we would do in terms of EJ considerations, we would -- if there are things that can be done -- I'll give you an example.

Let's say there's an EPA area -- and I'm making this up, but I want it to be a good example. But let's say there's some kind of a sports area -- I mean kids outside, running and playing, at a certain time of the evening. Then you wouldn't want 100 trucks going by when everybody is out and doing that if you can minimize that.

But I think it would have -- we -- once it's a CERCLA-approved landfill that's acceptable to receive the waste, then we look at -- we take all considerations, but final choice is EPA. The Trust

makes a recommendation; EPA receives recommendations from the State; we would -- we would look at the recommendation that the Trust gives, and we're probably not going to change it unless there's something wrong with the recommendation that we gave.

NGOZI IBE: And I wanted to add to that as far as the landfill situation goes. Thank you for that question. So the Trust is -- we've done extensive research on landfill options, because we are very aware of the Environmental Justice issue with some of these communities, and we wanted to make sure that we are being responsible in that regard.

And so we actually had a list of probably over 20 landfills that we started with, and then we eliminated them just based on, you know, various criteria. Some of them, for example, will not accept waste outside their County so, really, there's nothing we can do. Some of them were not, you know, Subtitle D landfills or they didn't have the proper certification.

So we -- using that criteria, we narrowed our list down of landfills to a very small list of options. And then we actually ran an Environmental

Justice screen, which is a way of sort of determining the impact -- EJ impact -- to communities; and looking at that, that helped us to make a determination as to which landfill would be the most appropriate to take the waste to, to minimize that impact, but be able to utilize a landfill that can actually accept the waste.

So a lot of thought went into that; a lot of research went into that. We're still looking at that, and we want to make sure that we remain sensitive to the EJ concerns of the community.

VERONICA CARTER: I'm a member of the DEQ, Secretary, EJ's Equity Board. I would suggest you go to DEQ. They each -- secretary-level cabinet now has an EJ coordinator, and go through them, because their president -- at our quarterly meetings with the secretary of communities, that has come up in public comments: that specific EJ landfill community.

So Mr. Mattison, here, is a benefactor. He can help you with that and connect with that and make sure. Renee Kramer is one of the points of contact for that. And we can assure that there aren't any conflicts, because I would hate to be sitting on that board and hear a community

complaint about the waste that came from the Town of Navassa in Brunswick County.

CHARLES KING: Thank you for that information. And I know we have been working with David, but we'll follow through to make sure that we're coordinating with the right people.

But I think, at the end of the day, the thing that everybody needs to know, that we are going to be extremely sensitive about EJ and try to do everything we can do to minimize the impact to any -- I mean to any community, especially EJ, though.

LaTONYA SPENCER: Any other questions from the room right now?

CHARLES KING: Mayor, is that a question or --

EULIS WILLIS: No. So --

THE COURT REPORTER: I'm sorry. Your name, please.

EULIS WILLIS: Eulis Willis, Mayor.

So what I saw, I saw four alternatives.

CHARLES KING: Yes, sir.

EULIS WILLIS: Four main alternatives.

CHARLES KING: Yes, sir.

EULIS WILLIS: Categories of alternatives.

And then you told me that we had 12 different areas or sections that was a problem.

CHARLES KING: Yes, sir.

EULIS WILLIS: Now, I guess what I was trying to determine is, how do we determine the fix for each one of those areas, for each area having an assigned fix? You understand what I'm saying? So the categories --

CHARLES KING: I think you're asking the -- like the size of each?

EULIS WILLIS: No. I'm not as much concerned with the size as to see the four alternatives, number one. I guess the first question would be, did you assign just one alternative --

CHARLES KING: Yes, sir.

EULIS WILLIS: -- or a combination of all alternatives?

THE COURT REPORTER: I'm sorry. I'm sorry.

EULIS WILLIS: Go ahead and answer.

CHARLES KING: It's just one alternative that we are recommending, and it's excavation and off-site disposal.

LaTONYA SPENCER: For all --

EULIS WILLIS: So right now, that's the fix.

CHARLES KING: Yes, sir. That's what --

that's what EPA's preferred alternative is. And the way it works is we're going to -- yeah. We'll pick one alternative, one of the four. Now, alternative number 3 did have a combination of excavation and on-site reuse. But if you're talking about taking it off-site, there's only one alternative, and that's alternative number 2. That's the excavation.

EULIS WILLIS: So all 15 of these areas --

CHARLES KING: All 12 --

EULIS WILLIS: 12 of these areas will be off-site?

CHARLES KING: Yes, sir.

EULIS WILLIS: Okay. So that leads me right to my second question.

CHARLES KING: Yes, sir.

EULIS WILLIS: Thank you for that. Let me see if I can remember what my second question was.

After the comment period -- 30th of June is the comment period?

CHARLES KING: Yes, sir.

EULIS WILLIS: Then I guess I need to -- I would like to understand what happens after that? The public gets a chance, and they beat you up.

CHARLES KING: Yep.

EULIS WILLIS: What's the process we go through before we decide on -- I guess that will be the period that will become the ROD?

CHARLES KING: Yes, sir. So after the comment period, EPA gets -- we get the comments in; we review the comments; and if the comments are generally acceptable of the remedy, then that makes it probably a shorter time to when the ROD is -- when the record of decision is done, and we call it ROD, when the ROD is issued.

I think -- I think, some years passed, maybe one of the other alternatives, there was a -- the local citizens did not agree with the remedy and -- not on this site; this happened at other sites -- but when you get comments that --

EULIS WILLIS: Some of that happened on OU1. But go ahead.

CHARLES KING: I'm just saying: On OU1. But when it happens at any site where we get significant comments, if it's something new that EPA didn't know about or if there are significant comments where they disagree with our preferred alternative and we look at it and we talk to the State and if we decide that maybe we need to change it, we need to do something different, then it

takes a little bit longer oftentimes to do that.

If it's one of the alternatives that were listed, you know, then we can still issue a record of decision; but if it's something that would be totally different or that a citizen or a rational person would not expect us to do based on what we listed here, then we might have to come back and have another meeting.

But we would hope that, in this case, when you're looking at four alternatives, although the alternative number 2 is the most expensive of the alternatives, it's the one that gets you unrestricted use; it gets you down to residential; and it's not significantly more costly than the next alternative that does some partial excavation.

So over 30-some years that I've been a project manager, you don't usually get opposition to excavation and taking away.

EULIS WILLIS: So is it one person that makes that decision, that record of decision, or is it a group?

CHARLES KING: At the end of the day, it's the record of Superfund and Emergency Response.

LaTONYA SPENCER: Uh-huh.

CHARLES KING: But there's a recommendation

that would go up that would be a briefing process. But basically what they want to know is, what you put out in the fact sheet, how -- how were the -- what kind of comments did you get at the public meeting, in person, online, and the written comments.

All of those things are factored in. What does the State say? Did you get any new information that caused you to change your mind from the original preferred alternative? If you didn't, if you didn't get any real new information, things like that, most times that remedy gets issued like it was preferred.

If you get information that would cause us to change our minds about something, then there are times when you get different -- different alternatives.

But like I said, over the years --

EULIS WILLIS: I heard the answer, but I don't know whether you answered my question. My question was, does one person make it or does --

CHARLES KING: One person signs it. One person signs it, and that's the record of the Superfund and the Emergency Response Division. However, they sign it, but it's recommended through

a whole chain of -- I mean, it's one person that signs it. Yes.

EULIS WILLIS: Okay. Thank you. I'm okay.

CHARLES KING: You sure? Okay.

EULIS WILLIS: I just wanted to understand.

CHARLES KING: Anybody else in the room?

Okay. Online, you unmute by star 6, right?

LaTONYA SPENCER: Yes.

CHARLES KING: Anybody online that has a question, I'll be happy to take it.

Or in the chat? Anything in the chat?

LaTONYA SPENCER: Nothing in the chat.

CHARLES KING: Nothing is in the chat so far. If you want to put your question in the chat, you can feel free to do that.

You guys hear me online? I want to make sure that -- I guess it's a sad time to ask that again.

CHRISTINE AMRHINE: We can hear you.

CHARLES KING: Okay. Good. Thanks.

CHRISTINE AMRHINE: Thank you, Charles.

CHARLES KING: Any questions online? Going once, going twice.

Any questions in the room?

NGOZI IBE: All right. We have one question that's coming online. This is from Jim Shannon,

S-H-A-N-N-O-N, and he says, "Has the contractor for OU2 been selected yet?"

CHARLES KING: No. No. The gentleman has not been selected yet, has it?

CLAIRE WOODS: No.

CHARLES KING: I'm assuming there's a follow-up question. We're going to give you time to type the second question, Jim.

NGOZI IBE: All right. So Jim has a follow-up question. He says, "When is the expected date?" I'm guessing of the selection -- of the contractor selection.

CHARLES KING: You're going to -- well, so EPA doesn't make that selection; EPA is not in charge of that. That would be the Multistate Trust. And Ngozi, you want to take that one on?

NGOZI IBE: Sure. Yes, I'll take that. Again, this is Ngozi Ibe.

So the contractor selection process is currently in progress. We have received bids from prospective contractors, so the window for submitting a proposal has closed, and the Trust is currently evaluating and reviewing the different proposals that have been received.

We don't have a hard date yet for selecting a

contractor, but it is in -- it is in progress.

CLAIRE WOODS: And there was a question about when you expect to break --

EULIS WILLIS: She might have answered it a little bit. I'm not sure. My question was, how long before we actually can get up there and get the work done, get some work done?

NGOZI IBE: So, right now, the way things are, we're anticipating that we will be in the field early fall. So I think early to mid-September. We're on track for that right now. You know, barring any unexpected developments, that is the goal is to be in the field by early to mid-September.

CHARLES KING: I think -- and I probably shouldn't put these words in our mouth, but I think I heard somebody say before, "definitely on track," the time period that she said, but something that could change that would be if the record of decision did not get issued.

Right now, there were -- they, meaning the Trust, were trying to make an extra-special effort to expedite the field process, but you can understand why somebody would not want to issue a contract without a record -- until the ROD is kind

of finalized. So us getting a ROD in place, signed, is going to be key, at least in my mind, in terms of the Trust being comfortable to issue a contract.

Anyone with questions in the room?

EULIS WILLIS: Any projections on scheduling? From the time we start, how long we expect to be out there doing it?

CHARLES KING: That's --

NGOZI IBE: We expect that it's going to take about two months. I'd say two to three months. You know, we are going to be in the middle of hurricane season, I understand, out here as well, so there may be some weather delays. You know, but we kind of build that into the schedule as well.

So the expectation right now is two to three months to complete the work.

EULIS WILLIS: [Inaudible].

THE COURT REPORTER: I'm sorry. I can't hear.

EULIS WILLIS: I said, you were here yesterday, and one of the [indiscernible] that was making the presentation was that we didn't know whether -- when they market -- to try to market the land, whether OU2 would be ready for that process.

CHARLES KING: Okay. Yep.

EULIS WILLIS: Right now, the thought process is that we will finish OU2 work before it's ready for that process. Is that the thought?

CLAIRE WOODS: So --

EULIS WILLIS: Maybe a bad question. I don't know.

CLAIRE WOODS: No, no, not a bad question.

This is Claire Woods. I'm with the Multistate Trust. I'm the director of the Environmental Justice policies and also the site attorney, and I was at the meeting yesterday sharing information about our plans for redevelopment. And it's a good question.

Originally, when we initiated the property sale and marketing strategy, we included only Operable Unit 1 and eastern upland area, but when we started seeing the timeline for the OU2 work, and the fact that we thought it was going to be initiated this fall, we thought we could fold it into the sale, and it still looks like we can.

You know, under the schedule that Ngozi just described, we're looking to be done by the end of this year -- you know, a little before the end of this year -- with the OU2 work, and that should

work out with the property sale schedule.

It may be that we're issuing the bid document, the notice of participation in the bid, before OU2 is officially complete with the cleanup, but we'll make assumptions -- one option is to make assumptions in that bid document that OU2 remedy will be achieved as accepted, if that makes sense.

EULIS WILLIS: Yes.

LaTONYA SPENCER: So, before we go, the people online wanted to know what the question was that the Mayor asked.

CLAIRE WOODS: The question that the Mayor asked was whether OU2 -- under the schedule that Ngozi described, whether OU2 can really be included in the property sale and marketing strategy for OU1 and the eastern upland area that we talked about in the meeting yesterday.

And if -- we haven't talked at all about that property sale strategy at the meeting today. That's not the purpose of this meeting. But if folks have questions, either in person or online, they can reach out to the Multistate Trust. I'm Claire Woods, cw@g-etg.com.

CHARLES KING: Thanks, Claire.

Any more questions in the room or online?

Anything else in the chat box?

NGOZI IBE: Nothing in the chat box yet.

LaTONYA SPENCER: Star 6.

CHARLES KING: Remember star 6 if you want to --

LaTONYA SPENCER: Speak.

CHARLES KING: -- ask a question or speak, if you're on the phone or on your computer. I'm sorry.

Going once, twice.

Thank you all so much. We really appreciate it. Remember that the comment period -- June 1st through June 30th. Get your -- get your comments in if you have them. Even if they're comments where you support the remedy, we'd like to hear that as well.

Thank you, guys. We appreciate it.

LaTonya, anything you want to say?

LaTONYA SPENCER: I just wanted to say thank you for coming out, and please remember, if there's additional information that you need, you have the Multistate Trust's website; there's EPA's website as well as the State's website to get additional information.

So we have the much larger documents. If you

want to delve into that, feel free to do so online.

But thank you guys for taking the time to come out tonight. We appreciate it.

CHARLES KING: Thank you. Good evening, everyone.

CLAIRE WOODS: And thank you to the Town of Navassa for letting us use this space even during a closure.

CHARLES KING: Yes.

CLAIRE WOODS: It's really valuable for us to be able to be here in person.

CHARLES KING: Yes. We appreciate it. Thank you so much to the Mayor and the Council.

(Meeting adjourned at 6:59 p.m.)

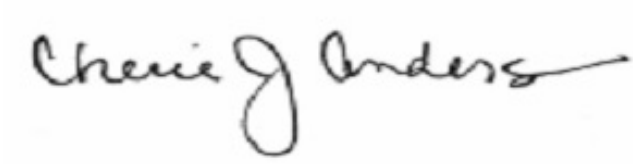
CERTIFICATE OF REPORTER

I, Cherie J. Anderson, Registered Merit Reporter, Registered Professional Reporter, Certified Realtime Reporter, and Notary Public for the State of North Carolina at Large, do hereby certify:

That the foregoing public hearing was taken before me on the date and at the time and location stated on page 1 of this transcript; that the statements of the presenters and questions and comments from the attendees were recorded stenographically by me and were thereafter transcribed; that the foregoing transcript as typed is a true, accurate, and complete record of the hearing and of all statements made at the time of the hearing to the best of my ability.

I further certify that I am neither related to nor counsel for any party to the cause pending or interested in the events thereof.

Witness my hand, I have hereunto affixed my official seal on this 14th day of June 2022, at Wilmington, New Hanover County, North Carolina.



Cherie J. Anderson, RMR, CRR
My Commission expires
December 22, 2026