Savannah River NUCLEAR SOLUTIONS℠

# Land Use Control Implementation Plan for the Early Construction and Operational Disposal Site L-3 (NBN), L-Area Rubble Pit (131-1L), and L-Area Rubble Pit (131-4L) Operable Unit (U)

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## LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| ~ | approximate, approximately |
| ACM | asbestos containing material |
| BRA | baseline risk assessment |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| ECODS | Early Construction and Operational Disposal Site |
| EPC | exposure point concentration |
| FFA | Federal Facility Agreement |
| ft | feet |
| HH | human health |
| km, $km^2$ | kilometer, square kilometers |
| LRP 131-1L | L-Area Rubble Pit (131-1L) |
| LRP 131-4L | L-Area Rubble Pit (131-4L) |
| LLC | Limited Liability Company |
| LUC | land use controls |
| LUCAP | Land Use Controls Assurance Plan |
| LUCIP | Land Use Controls Implementation Plan |
| m | meter |
| mg/kg | milligrams per kilogram |
| mi, $mi^2$ | mile, square miles |
| OU | operable unit |
| NBN | no building number |
| PCB | polychlorinated biphenyl |
| PTSM | principal threat source material |
| QA | quality assurance |
| RACR | Remedial Action Completion Report |
| RCOC | refined constituents of concern |
| RCRA | Resource Conservation and Recovery Act |
| RFI/RI | RCRA Facility Investigation / Remedial Investigation |
| ROD | Record of Decision |
| SCDES[1] | South Carolina Department of Environmental Services |
| SDC | Site Development Control |
| SE | site evaluation |
| SEMS | Superfund Enterprise Management System |
| SER | site evaluation report |
| SRNS | Savannah River Nuclear Solutions, LLC |
| SRS | Savannah River Site |
| TAL | Target Analyte List |
| TCL | Target Compound List |
| USDOE | United States Department of Energy |
| USEPA | United States Environmental Protection Agency |
| WSRC | Westinghouse Savannah River Company, LLC |

[1] SCDES was known as the South Carolina Department of Health and Environmental Control prior to July 1, 2024.

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## 1.0 INTRODUCTION

This Land Use Control Implementation Plan (LUCIP) has been prepared for the Early Construction and Operational Disposal Site (ECODS) L-3 (no building number [NBN]), L-Area Rubble Pile (LRP 131-1L), and L-Area Rubble Pile (LRP 131-4L) Operable Unit (OU). The purpose of this LUCIP is to describe how the selected land use controls (LUC) established in the *Record of Decision for the Early Construction and Operational Disposal Site (ECODS) L-3 (NBN), L-Area Rubble Pile (131-1L), and L-Area Rubble Pile (131-4L) Operable Unit* (SRNS 2026) will be implemented and maintained. The LUC objectives have been documented in the Record of Decision (ROD) and are listed in Section 3.0.

The selected remedy for the ECODS L-3, LRP 131-1L, and LRP 131-4L OU leaves hazardous substances in place that pose a potential future risk and will require land use restrictions until the concentrations of hazardous substances in the soil and remnant concrete slab are at levels that allow for unrestricted use. As agreed on March 30, 2000, among the United States Department of Energy (USDOE), the United States Environmental Protection Agency (USEPA), and the South Carolina Department of Environmental Services (SCDES), Savannah River Site (SRS) is implementing a Land Use Control Assurance Plan (LUCAP) (WSRC 1999) to ensure that the LUCs required by numerous remedial decisions at SRS are properly maintained and periodically verified. This document, the ECODS L-3, LRP 131-1L, and LRP 131-4L OU LUCIP, contains the detailed and specific measures required to implement and maintain the LUCs selected as part of this particular remedial decision. Approval by USEPA and SCDES is required for any modification or termination of the LUCs.

USDOE is responsible for implementing, maintaining, monitoring, reporting, and enforcing the LUCs in accordance with the approved ECODS L-3, LRP 131-1L, and LRP 131-4L OU LUCIP. Upon final approval, the ECODS L-3, LRP 131-1L, and LRP 131-4L OU LUCIP will be appended to the LUCAP and should be considered incorporated by reference into the ECODS L-3, LRP 131-1L, and LRP 131-4L OU ROD, establishing implementation and maintenance requirements for the LUCs under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the SRS Federal Facility Agreement (FFA) (FFA 1993). The ECODS L-3, LRP 131-1L, and LRP 131-4L OU LUCIP will remain in effect unless and until modifications are

approved by USEPA and SCDES as necessary for protection of human health (HH) and the environment. In accordance with Section 121(c) of CERCLA and National Oil and Hazardous Substances Pollution Contingency Plan §300.430(f)(5)(iii)(c), a statutory review will be conducted within five years of initiation of the remedial action, and every five years thereafter, to ensure that the remedy continues to be protective of HH and the environment. Any approved ECODS L-3, LRP 131-1L, and LRP 131-4L OU LUCIP modification will be appropriately documented for incorporation by reference into the ECODS L-3, LRP 131-1L, and LRP 131-4L OU ROD (SRNS 2026).

## 2.0 OVERVIEW OF REMEDIAL ACTION

### 2.1 General Description and History of the ECODS L-3, LRP 131-1L, and LRP 131-4L OU

SRS occupies approximately (~) 803 $km^2$ (310 $mi^2$) of land adjacent to the Savannah River, principally in Aiken and Barnwell counties of South Carolina (Figure 1). SRS is located ~40.2 km (25 mi) southeast of Augusta, Georgia, and 32 km (20 mi) south of Aiken, South Carolina.

USDOE owns SRS, which historically produced tritium, plutonium, and other special nuclear materials for national defense and the space program. Chemical and radioactive wastes are by-products of nuclear material production processes. Hazardous substances, as defined by the CERCLA, are currently present in the environment at SRS.

The OU consists of the ECODS L-3 subunit, LRP 131-1L subunit, and LRP 131-4L subunit. These three subunits are located in three distinct locations within and near L Area in an area of relatively flat terrain (Figure 2). The OU is ~ 9.7 km (6.0 mi) north of the nearest SRS boundary. The ECODS L-3, LRP 131-1L, and LRP 131-4L OU is located near an industrial area, and the future land use is reasonably anticipated to remain industrial.

Groundwater is not part of the OU and is being addressed under the L-Area Southern Groundwater OU.

### *2.1.1 ECODS L-3 Subunit*

The ECODS L-3 subunit is one of twenty-five ECODS at SRS which were identified during a review of early 1950s aerial photographs. These sites were used during the construction and early operation of SRS for disposal of trash, construction debris and other non-radioactive waste materials, such as rubble and concrete. The ECODS L-3 subunit is estimated to have been in use from November 1953 to June 1954. Prior to its use as a disposal site, the area was used as farmland. Sections of the trenches may have been used as a burn pit for disposal of combustible waste.

The ECODS L-3 subunit is located in the southern portion of the SRS, east of L Area (Figure 2). The ECODS L-3 subunit is located ~ 518 m (1,700 ft) east of the eastern corner of the L Area perimeter fence.

Based on historical photographs and a ground-penetrating radar survey completed in 2002 during a site evaluation (SE) of the subunit, it was estimated that waste disposed of in the ECODS L-3 subunit was buried in two trenches located end-to-end (Figure 3). The original trenches were estimated to be 18 m (60 ft) wide by 30 m (100 ft) long. The 2002 SE effort determined the trench dimensions were ~15 m (50 ft) wide by 27 m (90 ft) long and 4.6 m (15 ft) wide by 27 m (90 ft) long (WSRC 2003).

Soil samples were collected and analyzed during the 2002 SE of the ECODS L-3 subunit and results were reported in the *Site Evaluation Report for the Early Construction and Operational Disposal Site (ECODS) L-3 (NBN) (U)* (WSRC 2003). All samples were analyzed for the complete list of Target Analyte List (TAL) and Target Compound List (TCL) constituents. Based on the site evaluation report (SER) results, the ECODS L-3 subunit was placed in Appendix C, RCRA/CERCLA Units (FFA 1993) for further assessment.

An asbestos survey was not completed for the ECODS L-3 subunit during the 2002 SE. Based on the disposal history of similar SRS ECODS and the dates of operation of the ECODS L-3 subunit, asbestos containing material (ACM) may be present in soils at the ECODS L-3 subunit.

### *2.1.2 LRP 131-1L Subunit*

The LRP 131-1L subunit is located in the southern portion of the SRS, east of L Area (Figure 2). The LRP 131-1L subunit is a former waste disposal area reportedly used for various construction

debris and operated from 1973 to 1982 (DuPont 1983a). However, the term "pit" may be a misnomer as the 2022 characterization activities did not indicate that a pit was constructed or that waste was placed below ground surface. There is no record of hazardous or radioactive material disposed of at the subunit.

The subunit is a rectangular area approximately 12 m (40 ft) by 46 m (150 ft) with the four corners marked by orange ball markers.

A preliminary screening was performed at the LRP 131-1L subunit in 1991, which included a soil-gas survey to determine if hazardous waste may be present in the subsurface soils and to identify potential areas of contamination within the subunit. The survey results determined that volatile organic compounds from methane through hexane are likely to be present in the subunit soils. The LRP 131-1L subunit was placed in Appendix C of the Federal Facility Agreement (FFA), RCRA/CERCLA Units (FFA 1993) for further assessment. No other characterization was performed at the LRP 131-1L subunit prior to the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI)/Remedial Investigation (RI) characterization in 2022 (SRNS 2025).

The LRP 131-1L subunit was characterized in 2022 to support RFI/RI/Baseline Risk Assessment (BRA) of the subunit and for remedial decision making. Based on observation of soil cores during sampling activities, it was determined no waste material was placed below ground surface at the LRP 131-1L subunit. Construction debris was encountered at only one soil boring in the 0.3 to 1.2 m (1 to 4 ft) interval and appeared to be a railroad tie or other creosote wooden material. No potential ACM was observed in any soil borings. All samples collected in the 2022 characterization were analyzed for the complete list of TAL and TCL constituents, as well as radiological screening for gross alpha and nonvolatile beta.

### *2.1.3 LRP 131-4L Subunit*

The LRP 131-4L subunit is located north of the L-Area fence and just north of the rail line (Figure 2). Records indicate the LRP 131-4L subunit received inert rubble from the L-Area Powerhouse Stack and Silo demolition (Dupont 1983a and DuPont 1983b). The rubble consisted primarily of concrete and asphalt material with some metal. The unlined pit was reported to have operated from 1973 to 1983 before it was filled and seeded in 1983. Operating procedures indicate

it was to receive inert, non-hazardous materials, and there are no records indicating any disposal of hazardous or radioactive materials.

Orange ball markers are present to designate the subunit boundaries, an area ~30.5 m by 30.5 m (100 ft by 100 ft) (Figure 4). However, during site walkdowns to support a 1994 SE effort, the subunit size was questioned due to land disturbance on the northwestern side of the subunit, outside of the orange ball markers. Additionally, during site walkdowns in 2021, in preparation of the RFI/RI Work Plan for the LRP 131-4L subunit, surface disturbance and debris (e.g., rebar, concrete, asphalt) were observed on the northeastern side of the subunit outside of the orange ball markers. Therefore, the LRP 131-4L subunit area to be investigated was expanded to approximately 36.6 m by 36.6 m (120 ft by 120 ft) to include the disturbed land and observed debris (Figure 4).

A SE of the LRP 131-4L subunit was conducted from 1992 to 1994, and results were reported in the *Site Evaluation Report for the L-Area Rubble Pit (131-4L) (U)* (WSRC 1994). Based on the SER results, the LRP 131-4L subunit was placed in Appendix C, RCRA/CERCLA Units (FFA 1993), for further assessment.

The LRP 131-4L subunit was characterized in 2022 to support RFI/RI/BRA of the subunit and for remedial decision making. Characterization activities included soil boring, observation of core for waste material, and soil sampling. Estimation of the pit boundary and depth was determined through sampling activities. Although the extent of waste was not defined to the northwest by sampling, the extent of contamination was conservatively estimated by extending the waste unit boundary to a ditch feature northwest of the subunit (Figure 4). This feature incises the ground surface ~0.9-1.2 m (3-4 ft) below ground surface and shows no evidence of buried waste present. This feature acts as a maximum subunit boundary in lieu of confirmatory borings to define the exact extent of buried waste.

ACM was identified at one location at the LRP 131-4L subunit, which is consistent with expected building materials and the time period that the LRP 131-4L subunit was in operation.

## 2.2 Nature and Extent of Contamination

Results of the ecological risk assessment identified no contaminants that pose a risk to ecological receptors (SRNS 2025). The contaminant migration evaluation indicated the contaminants at the ECODS L-3, LRP 131-1L, and LRP 131-4L OU are not a potential source for groundwater contamination (SRNS 2025). Additionally, the principal threat source material (PTSM) assessment concluded that there are no contaminants that constitute PTSM.

The primary contaminants associated with the ECODS L-3 subunit is the following:

- Aroclor 1254 is present in surface soil (0 to 0.3 m [0 to 1 ft]) (exposure point concentration [EPC] = 1.28 mg/kg) exceeding 1E-06 risk level for the resident (risk = 5.4E-06). Aroclor 1254 was identified as a HH refined constituents of concern in soil media for the future resident scenario. No constituents were identified as HH refined constituents of concern (RCOCs) in soil for the future industrial worker; and

- Aroclor 1260 is present in surface soil (0 to 0.3 m [0 to 1 ft]) (EPC = 0.365 mg/kg) exceeding 1E-06 risk level for the resident (risk = 1.5E-06). Aroclor 1260 was identified as a HH refined constituents of concern in soil media for the future resident scenario. No constituents were identified as HH RCOCs in soil for the future industrial worker.

- There were no RCOCs identified at the LRP 131-1L subunit.

The primary contaminants associated with the LRP 131-4L subunit are the following:

- Benzo[a]pyrene is present in surface soil (0 to 0.3 m [0 to 1 ft]) (EPC = 0.164 mg/kg) exceeding 1E-06 risk level for the resident (risk = 1.4E-06). Benzo[a]pyrene was identified as a HH RCOC in soil media for the future resident scenario. No constituents were identified as HH RCOCs in soil for the future industrial worker.

## 2.3 Remedial Actions Selected

As stated in the ROD for the ECODS L-3, LRP 131-1L, and 131-4L OU (SRNS 2026):

The selected remedy for the ECODS L-3 subunit is LUCs to prevent human exposure to ACM that is likely present in unit soils and to polychlorinated biphenyls (Aroclor 1254 and Aroclor 1260)

that are present in surface soils that would present an unacceptable risk to a hypothetical future resident.

The LRP 131-1L subunit poses no unacceptable risk based on unlimited exposure and unrestricted land use scenario.

The selected remedy for the LRP 131-4L subunit is LUCs to prevent human exposure to presumed ACM that is present in unit soils and to benzo[a]pyrene that is present in surface soils that would be an unacceptable risk to a hypothetical future resident.

LUCs for the ECODS L-3 subunit and LRP 131-4L subunit will be in effect until concentrations of hazardous substances are at levels that allow for unrestricted use and exposure and include the following:

- Warning signs posted at the ECODS L-3 and LRP 131-4L subunits around the waste unit boundaries/areas, including operations and maintenance of the signage.

- Administrative/Worker Access Controls: Includes SRS administrative controls and land use restrictions for onsite workers as implemented under the Site Use/Site Clearance Program and other controls that are in place to ensure worker safety, including work controls/work packages that include worker training, and health and safety requirements, and pre-work briefings.

- Engineering Controls: SRS access controls that limit and inform SRS workers and inadvertent trespassers as described in the 2023 RCRA Permit Renewal Application, Volume I, Section F.1, which describes the security procedures and equipment, 24-hour surveillance system, artificial or natural barriers, control entry systems, and warning signs in place at the SRS boundary.

This remedy was selected because it meets the remedial action objectives, provides overall protection of human health and the environment, complies with Applicable or Relevant and Appropriate Requirements, and is cost-effective. The remedy provides a high level of long-term protection from the hazardous constituents that remain in place.

The RCRA permit will be revised to reflect selection of the final remedy using the procedures under 40 Code of Federal Regulations Part 270, and South Carolina Hazardous Waste Management Regulations R.61-79.264.101; 270.

Current access controls and land transfer requirements needed to maintain the future land use are described in Section 4.1.

## 3.0 LAND USE CONTROL OBJECTIVES

The following LUC objectives have been identified for the ECODS L-3 and LRP 131-4L subunits to ensure protectiveness of the remedy described above.

ECODS L-3 subunit

- Prevent contact, removal, or excavation of soil within the ECODS L-3 subunit; and
- Prohibit the development and use of property for residential housing, elementary/secondary schools, childcare facilities, and playgrounds.

LRP 131-4L subunit

- Prevent contact, removal, or excavation of soil within the LRP 131-4L subunit; and
- Prohibit the development and use of property for residential housing, elementary/secondary schools, childcare facilities, and playgrounds.

Current access controls and land transfer requirements needed to maintain the future land use are described in the following sections of this LUCIP.

## 4.0 IMPLEMENTATION OF LAND USE CONTROLS

This section describes the remedial actions prescribed by the ROD to achieve the LUC objectives stated in Section 3.0. A summary of the types of LUCs is provided in Table 1. USDOE is responsible for implementing, maintaining, reporting on and enforcing the LUCs. The LUCIP will become enforceable and will be implemented when approved by USEPA and SCDES following the completion of the remedial actions prescribed by the ROD. USDOE shall notify USEPA and

SCDES 60 days in advance of any proposed land use changes that are inconsistent with LUC objectives or the selected remedy.

The affected area will be maintained as an industrial use area by implementation of the property record notices and restrictions (Section 4.1) and the LUC boundary map (Section 4.2). The Site Use Program (Section 4.3) will be implemented to prevent onsite worker exposure to contamination left in place. Other existing measures (i.e., Site Clearance Program, worker training, health and safety requirements, work controls) will also be used to ensure worker safety. Physical access controls (Section 4.4) are implemented at the SRS boundary to control and restrict public and trespasser access.

Access control warning signs will be maintained to alert onsite workers to the presence of hazardous substances. The signs will also convey the restrictions of unauthorized personnel. Access control warning signs will be placed at the approximate locations shown in Figures 3 and 4 and will be maintained to prevent unknown entry and unrestricted use.

### 4.1 Property Record Notices and Restrictions

In the long term, if the property, or any portion thereof, is ever transferred from USDOE, the U.S. Government and/or USDOE will take those actions necessary pursuant to Section 120(h)(1) of CERCLA. Those actions will include in any contract, deed, or other transfer document, notice of the type and quantity of any hazardous substances that were known to have been stored (for more than one year), released, or disposed of on the property. The notice will also include the time at which the storage, release, or disposal took place to the extent such information is available.

In addition, if the property, or any portion thereof, is ever transferred by deed, the U.S. Government will also satisfy the requirements of CERCLA 120(h)(3). The requirements include: a description of the remedial action taken, a covenant, and an access class. These requirements are also consistent with the intent of the RCRA deed notification requirements at final closure of a RCRA facility if contamination remains at the unit.

LUCs will be implemented through the following:

- The contract, deed, or other transfer document shall also include restrictions precluding residential use of the property. However, the need for these restrictions may be reevaluated at the time of transfer in the event that exposure assumptions differ and/or the residual contamination no longer poses an unacceptable risk under residential use. Any reevaluation of the LUCs will be done through an amended ROD with USEPA and SCDES review and approval; and

- In addition, if the site is ever transferred to nonfederal ownership, a survey plat of the OU will be prepared, certified by a professional land surveyor, and recorded with the appropriate county recording agency.

In the event of a property lease or interagency agreement, the equivalent restrictions will be implemented as required by CERCLA Section 120(h).

USDOE shall provide USEPA and SCDES with at least a six-month notice prior to transfer or sale of property subject to LUCs to ensure that USEPA and SCDES can be involved in discussions to ensure that appropriate provisions are included in the transfer documents to maintain effective LUCs. If it is not possible for USDOE to notify USEPA and SCDES at least six months prior to the transfer or sale, then the facility will notify USEPA and SCDES as soon as possible but no later than 60 days prior to the transfer or sale of any property subject to LUCs. In addition to the land transfer notice and discussion provisions above, USDOE further agrees to provide USEPA and SCDES with similar notice within the same time frames as to federal-to-federal transfer of property.

## 4.2 LUC Boundary Maps

This ECODS L-3, LRP 131-1L, and LRP 131-4L OU LUCIP identifies the proposed areas under land use restrictions in Figures 3 and 4. Following field implementation of the remedial action, a final (as-built) survey will be developed. This survey will include the boundary coordinates for the area subject to land use restrictions and locations of access control warning signs. The final as-built survey of the ECODS L-3 and LRP 131-4L subunits will be submitted to USEPA and SCDES in the final action ECODS L-3, LRP 131-1L, and LRP 131-4L OU Remedial Action Completion

Report (RACR). For a LUC only remedy, a Post-Construction Report is not required and therefore will not be submitted for the ECODS L-3, LRP 131-1L, and LRP 131-4L OU.

In addition, if the site is ever transferred to non-federal ownership, a certified survey plat of the OU will be prepared at or near the time of conveyance to support the ECODS L-3, LRP 131-1L, and LRP 131-4L OU LUCIP required restrictive covenants on land use and will be recorded with the appropriate county recording agency.

### 4.3 Site Use Program

Under USDOE Order 430.1A, *Life Cycle Management* (USDOE 1998), SRS is required to implement an asset management program for the use, maintenance, and disposal of physical assets, including real estate. SRS complies with this USDOE Order through the Site Use Program which is administered by Site Development Control (SDC) in accordance with SRS Manual 1D, *Site Infrastructure and Services Manual*, Procedure 3.02, "Site Real Property Configuration Control" (SRS 2024). Use of all lands and waters on the SRS are coordinated via the Site Use Program. No use of land (i.e., excavation or any other land use) shall be undertaken without prior approval by USDOE and documented by a Site Use Permit.

SRS identifies all buildings, facilities, and FFA waste units on SRS site development maps that are maintained by SDC in accordance with SRS Manual 1D. If LUCs are required for an FFA waste unit, the unit-specific LUC boundaries are identified on the SRS site development maps. SDC must verify that any proposed work to be performed on a site is sanctioned by a Site Use Permit and verify that the proposed activity does not conflict with any previously approved land use.

In addition to the management of the use of SRS lands and waters through the Site Use Program, the SDC also administers the Site Clearance Program to control the construction, alteration, or demolition activities at SRS. Before any work that adds or modifies features or facilities portrayed on the SRS site development maps is conducted, a Site Clearance Permit is required. USDOE approval of the intended land via a Site Use Permit must be verified before a Site Clearance Permit is issued. If a Site Clearance request potentially impacts a FFA waste unit, the Site Clearance Request Form is sent to the appropriate FFA reviewer for approval. The FFA reviewer will

evaluate the proposed activity to identify any conflicts with the waste unit and to verify that waste unit-specific LUCs are not compromised. The roles and responsibilities of the individuals responsible for review and approval of Site Use and Site Clearance Permits are detailed in SRS 1D, Procedure 3.02 (SRS 2024). All employees, contractors, and visitors at SRS are required to adhere to the Site Use Program and the Site Clearance Program.

USDOE will notify USEPA and SCDES in advance of any change to any internal procedure, including the Site Use Program, which would affect implementing or maintaining the LUCs. Approval by USEPA and SCDES is required for any modification or termination of the LUCs and implementation actions, and USDOE must obtain prior approval from USEPA and SCDES before taking any anticipated action that may disrupt the effectiveness of the LUCs or alter or negate the need for LUCs. The Site Use Permit and site development maps must be amended when the geographic configuration or buffer zone used to establish the permit boundary changes or there is a change to the land use. The processes are controlled within the SRS Quality Assurance (QA) Program in accordance with SRS 1Q Manual, *Quality Assurance* (SRS 2021). The SRS QA program governs all SRS activities.

### 4.4 Physical Access Controls

There are no physical access controls required at the ECODS L-3, LRP 131-1L, and LRP 131-4L OU; however, physical access controls are provided at the SRS boundary as mentioned in Table 1, Item 5.

### 4.5 Warning Signs

To prevent unknowing entry and to ensure that unrestricted use of the waste unit does not occur while the unit is under ownership of USDOE, access control warning signs, as worded in Appendix A, will be posted at the unit. A total of six signs at ECODS L-3 subunit and four signs at the LRP 131-4L subunit will be approximately located as depicted in Figures 3 and 4. The final placement of the signage will be documented in the final RACR. The signs will be legible from a distance of at least 7.6 m (25 ft). Custodial responsibilities for maintenance and inspection will be performed by the SRS Post-Closure Maintenance Group.

### 4.6 Other Access Controls and Security/Surveillance Measures

While under the ownership of USDOE, access control of the entire SRS will be maintained in accordance with the 2023 RCRA Part B Permit Renewal Application, Volume I, Section F.1. This section describes the 24-hour surveillance system (R.61-79.264.14(b)(1)), artificial or natural barriers (R.61-79.264.14(b)(2)(i)), control entry systems (R.61-79.264.14(b)(2)(ii)), and access control warning signs (R.61-79.264.14(c)) in place at the SRS boundary to comply with the security requirements for a RCRA-permitted facility.

### 4.7 Field Inspection and Maintenance for Land Use Controls

After remediation, only inspection and maintenance activities will be required by this remedial action. Inspections will be performed annually per the Field Inspection Checklist in Appendix B. Additional inspections may be necessary in the event of unusual weather or any other condition warranting inspection.

Any activity that is inconsistent with the LUC objectives or use restrictions, or any other action that may interfere with the effectiveness of the LUCs, will be addressed by USDOE as soon as practicable, but in no case will the process be initiated later than 10 business days after USDOE becomes aware of the breach. The USDOE will notify USEPA and SCDES as soon as practicable but no longer than 10 business days after discovery of any activity that is inconsistent with the LUC objectives or use restrictions, or any other action that may interfere with the effectiveness of the LUCs. USDOE will notify USEPA and SCDES regarding how USDOE has addressed or will address the breach within 10 business days of sending USEPA and SCDES notification of the breach.

The FFA Annual Progress Report, submitted to the regulatory agencies by USDOE, will provide the status of the LUCs and describe how any LUC deficiencies or inconsistent uses have been addressed. In the event of property transfer or lease, the FFA Annual Report will cite findings on the following: whether the use restrictions and controls referenced above were communicated in the deed(s) or lease restrictions; whether property use conforms with the deed or lease restrictions and controls; and whether the owners and state/local agencies have been notified regarding the deed or lease restrictions and controls. The FFA Annual Progress Report(s) will be used in the preparation of the Five-Year Remedy Review Report.

All other routine maintenance activities will be documented and maintained in files subject to USEPA and SCDES review and audit. A copy of the completed inspection form is maintained in SRS records. The LUCs shall be maintained until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use.

The waste unit inspectors are to be trained in Hazardous Waste Operations and Emergency Response, RCRA Well Inspections, RCRA Waste Unit Inspections, Radiological Worker Training, etc., as applicable for the specific inspection. They will also be trained based on the individual requirements of the regulatory approved closure documents for each waste unit. In addition, the inspectors are to attend yearly refresher courses. Over the years, different personnel may conduct inspections and maintenance activities.

This unit-specific LUCIP, including the checklist (Appendix B), will be appended to the SRS LUCAP upon final regulatory approval. After completion of the final RACR, the preliminary checklist in the LUCAP will be replaced with the final approved checklist.

## 5.0 REFERENCES

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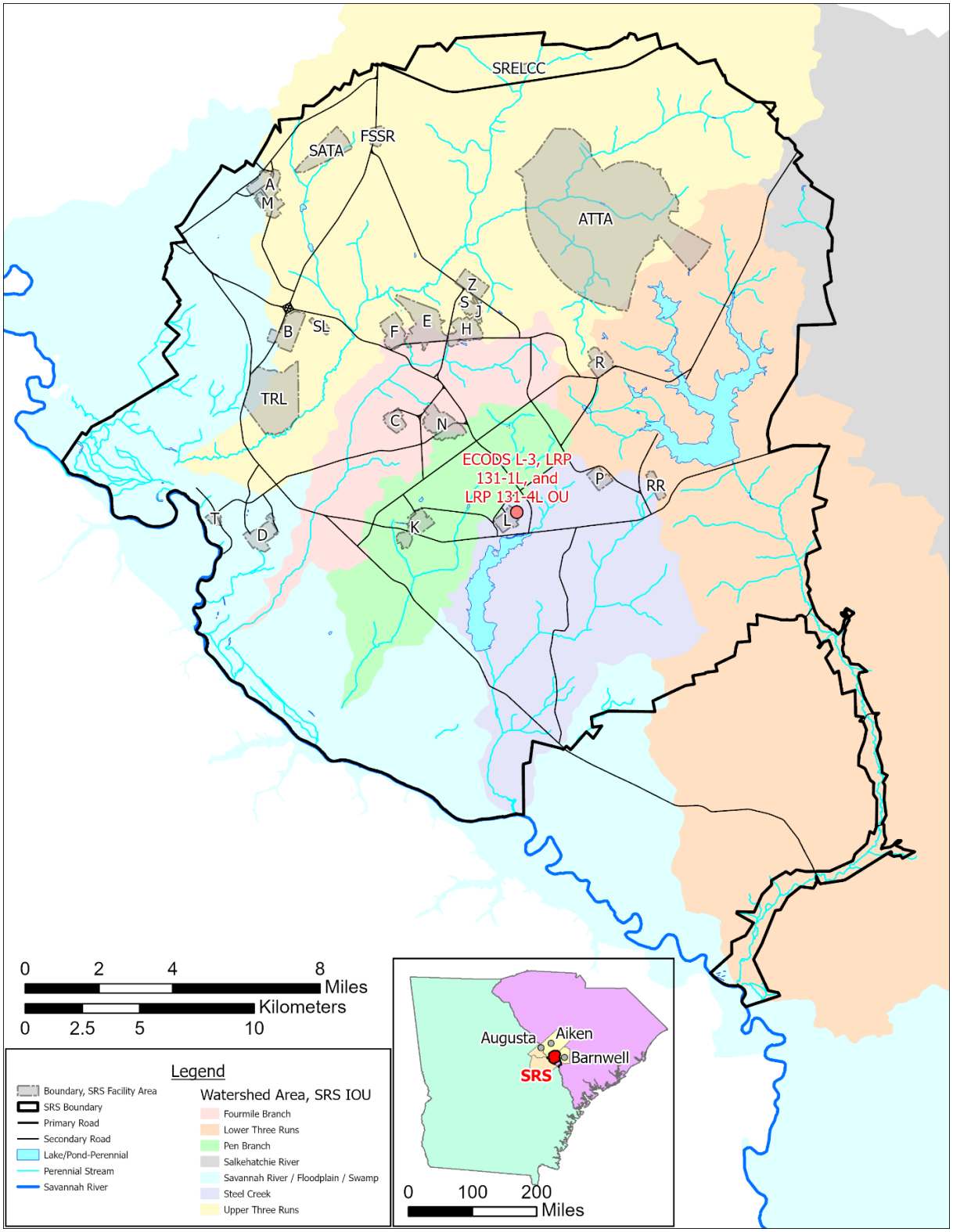



**Figure 1. Location of the ECODS L-3, LRP 131-1L, and LRP 131-4L OU at the Savannah River Site**

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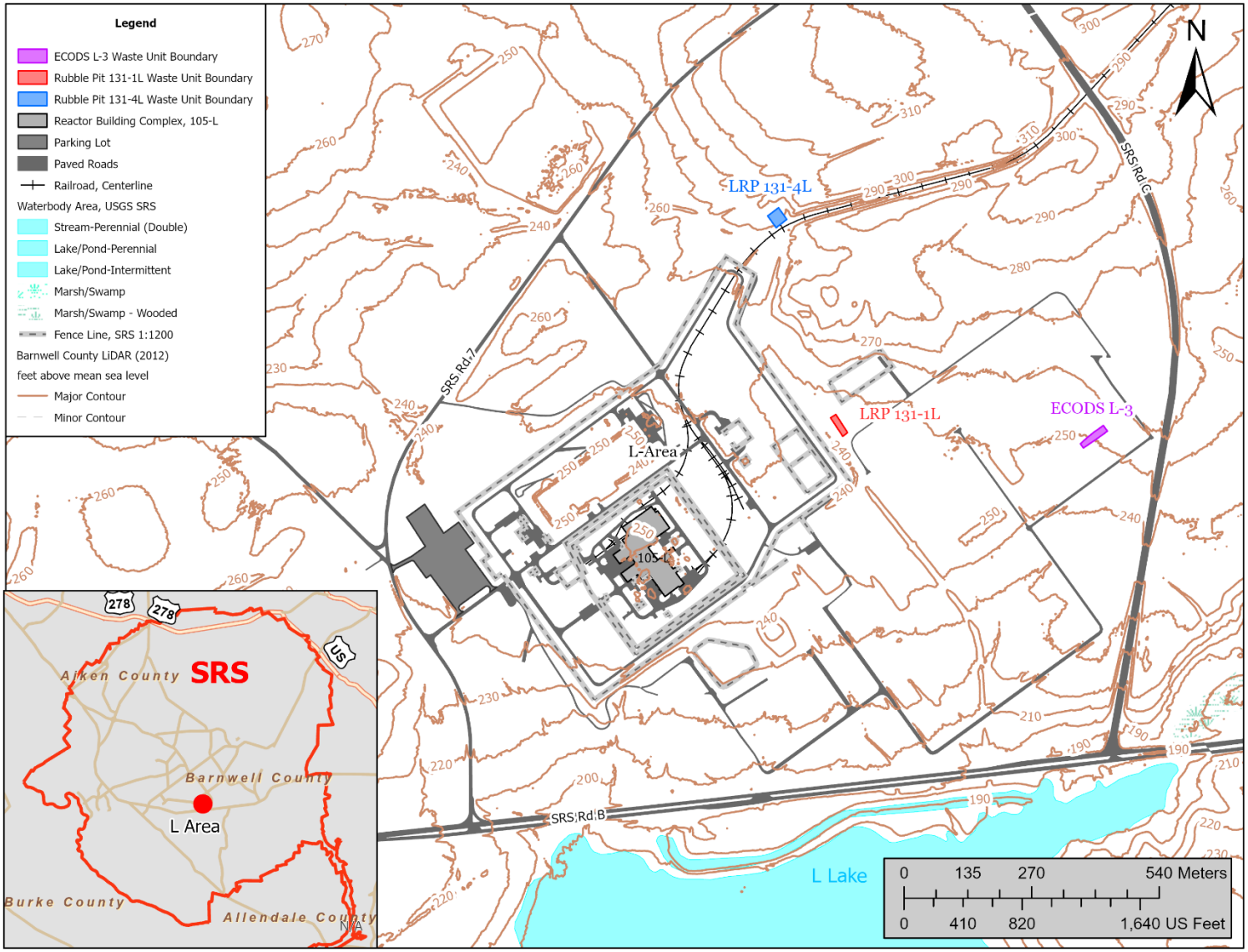



**Figure 2. Location of the ECODS L-3, LRP 131-1L, and LRP 131-4L OU (L Area)**




**Figure 3. Approximate Area of Land Use Control Boundary for the ECODS L-3 Subunit**

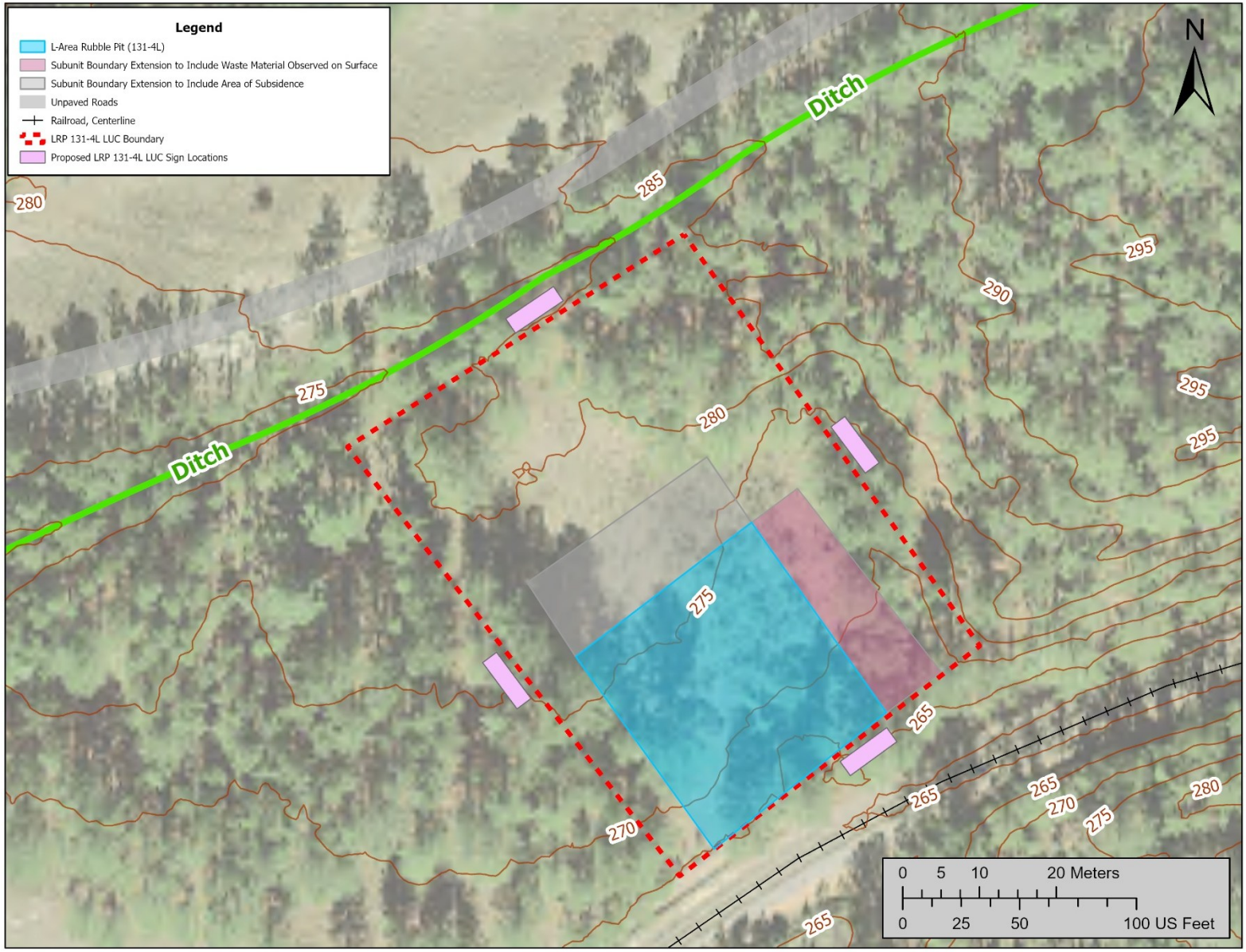
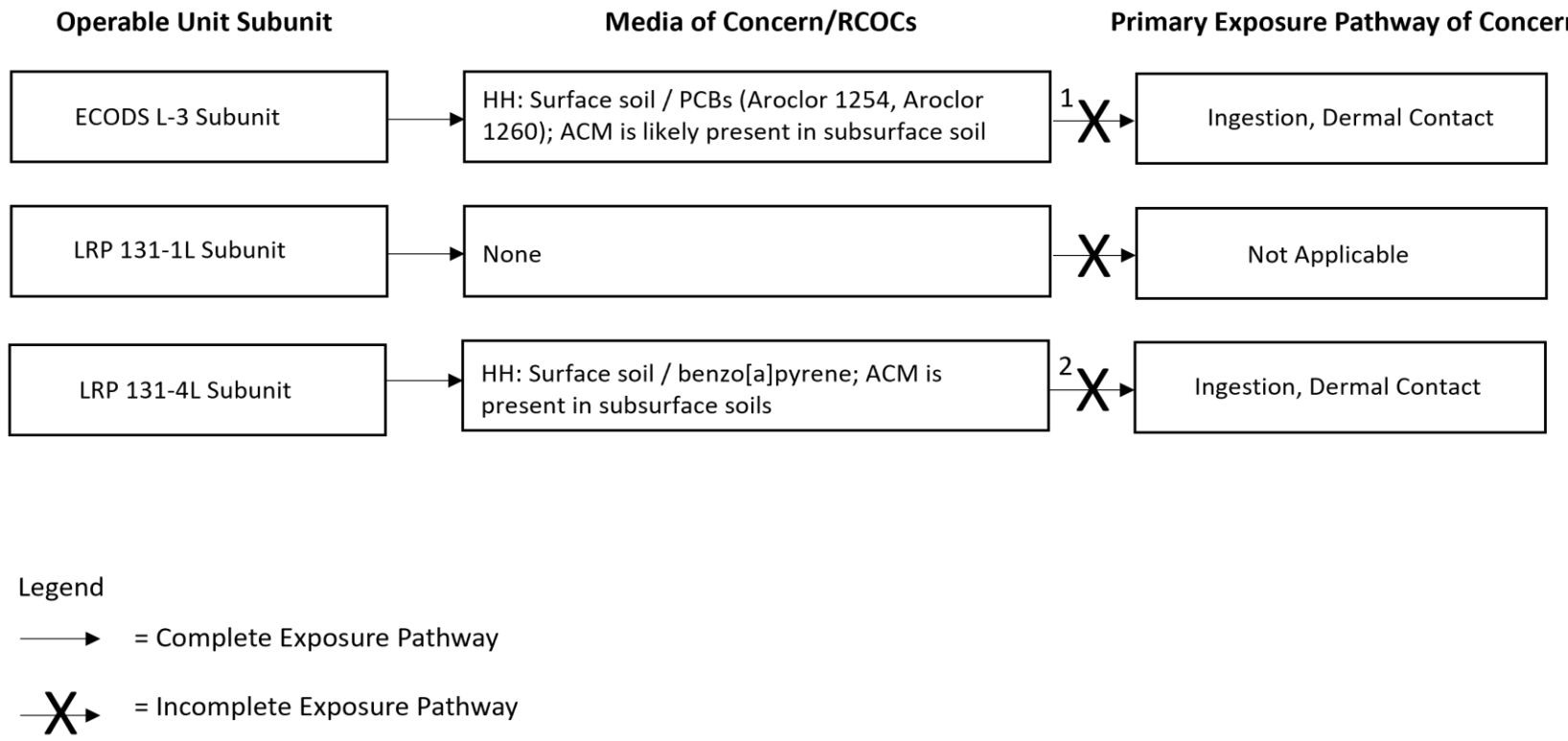



**Figure 4. Approximate Area of Land Use Control Boundary for the LRP 131-4L Subunit**




HH – Human health
ACM – Asbestos Containing Material
PCBs – Polychlorinated Biphenyls
RCOCs – Refined Constituents of Concerns

1. Alternative A-2, LUCs, prevents exposure of PCBs and ACM that is likely present in unit soils.
2. Alternative B-2, LUCs, prevents exposure to benzo[a]pyrene and ACM that is likely present in unit soils.

**Figure 5. ECODS L-3, LRP 131-1L, and 131-4L OU Generic Conceptual Site Model after Completion of Final Remedial Action**

**Table 1. Land Use Controls for ECODS L-3 and 131-4L Subunits**

| Type of Control | Purpose of Control | Duration | Implementation | Affected Areas[a] |
|---|---|---|---|---|
| 1. Property Record Notices[b] | Provide notice to anyone searching for records about the existence and location of contaminated areas. | Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use. | Notice recorded by USDOE in accordance with state laws at County Register of Deeds office if the property or any portion thereof is ever transferred to non-federal ownership. | ECODS L-3 and LRP 131-4L subunits as identified in this LUCIP where hazardous substances are left in place at levels requiring land use restrictions |
| 2. Property record restrictions[c]<br>A. Land Use | A. Restrict use of property by imposing limitations. | Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use. | Drafted and implemented by USDOE upon any transfer of affected areas. Recorded by USDOE in accordance with state law at County Register of Deeds office. | ECODS L-3 and LRP 131-4L subunits as identified in this LUCIP where hazardous substances are left in place at levels requiring land use restrictions. |
| 3. Other Notices[d] | Provide notice to city &/or county about the existence and location of waste disposal and residual contamination areas for zoning/planning purposes. | Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use. | Notice recorded by USDOE in accordance with state laws at County Register of Deeds office if the property or any portion thereof is ever transferred to non-federal ownership. | ECODS L-3 and LRP 131-4L subunits as identified in this LUCIP where hazardous substances are left in place at levels requiring land use restrictions. |
| 4. Site Use Program[e] | Provide notice to worker/ developer (i.e., permit requestor) on extent of contamination and prohibit or limit excavation/ penetration activity. | As long as property remains under USDOE control | Implemented by USDOE and site contractors.<br>Initiated by permit request | ECODS L-3 and LRP 131-4L subunits as identified in this LUCIP where hazardous substances are left in place at levels requiring land use restrictions. |

**Table 1. Land Use Controls for the ECODS L-3 and LRP 131-4L Subunits *(continued/end)***

| Type of Control | Purpose of Control | Duration | Implementation | Affected Areas[a] |
|---|---|---|---|---|
| 5. Physical Access Controls[f] (e.g., fences, gates, portals) | Control and restrict access to workers and the public to prevent unauthorized access. | Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use. | Controls maintained by USDOE. | Security is provided at site boundaries in accordance with SRS procedures. |
| 6. Warning Signs[g] | Provide notice or warning to prevent unauthorized uses. | Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use. | Signage maintained by USDOE. | Warning signs will be posted in accordance with applicable site procedures and will be placed at perimeter of the ECODS L-3 and LRP 131-4L subunits where hazardous substances are left in place at levels requiring land use restrictions. |
| 7. Security Surveillance Measures | Control and monitor access by workers/public. | Until the concentration of hazardous substances associated with the unit have been reduced to levels that allow for unlimited exposure and unrestricted use. | Established and maintained by USDOE.<br>Necessity of patrols evaluated upon completion of remedial actions or property transfer. | Not required at ECODS L-3 and LRP 131-4L subunits. |

a Affected areas – Specific locations for the ECODS L-3 and LRP 131-4L subunits will be identified in the OU-specific LUCIP or subsequent post-ROD documents. Unit boundaries are shown in Figure 4 for the ECODS L-3 subunits and Figure 4 for the LRP 131-4L subunit.
b Property Record Notices – Refers to any non-enforceable, purely informational document recorded along with the original property acquisition records of USDOE and its predecessor agencies that alerts anyone searching property records to important information about residual contamination, waste disposal areas in the property.
c Property Record Restrictions – Includes conditions and/or covenants that restrict or prohibit certain uses of real property and are recorded along with original property acquisition records of USDOE and its predecessor agencies.
d Other Notices – Includes information on the location of waste disposal areas and residual contamination depicted on a survey plat, which is provided to a zoning authority (i.e., city planning commission) for consideration in appropriate zoning decisions for non-USDOE property.
e Site Use Program – Refers to the internal USDOE/USDOE contractor administrative program(s) that requires the permit requestor to obtain authorization, usually in the form of a permit, before beginning any excavation/penetration activity (e.g., well drilling) for the purpose of ensuring that the proposed activity will not affect underground utilities/structures, or in the case contaminated soil or groundwater, will not disturb the affected areas without the appropriate precautions and safeguards.
f Physical Access Controls – Physical barriers or restrictions to entry.
g Signs – Posted command, warning or direction.

# APPENDIX A -

# ACCESS CONTROL WARNING SIGNS

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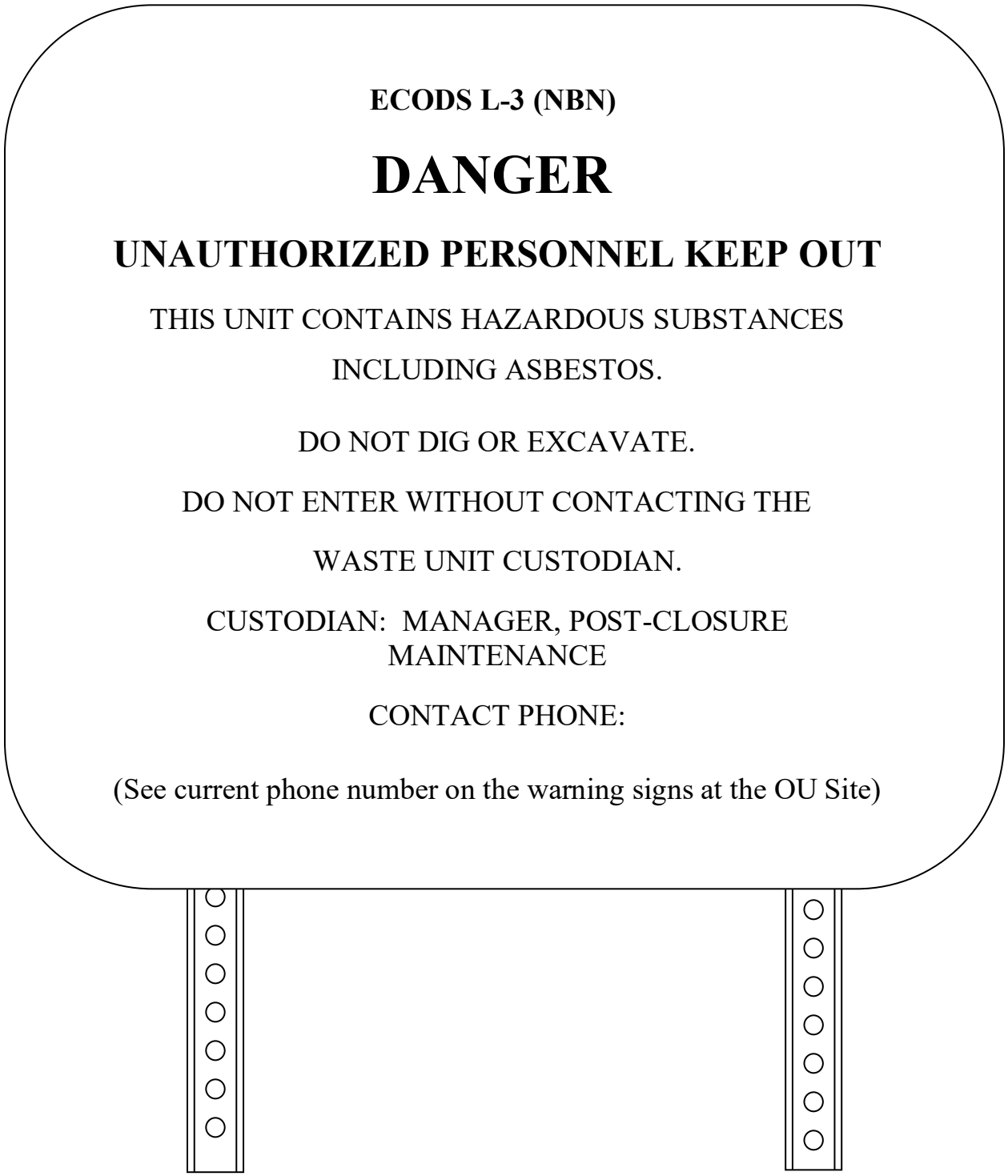



**Figure A-1. *EXAMPLE* — Access Control Warning Sign for the ECODS L-3 Subunit**

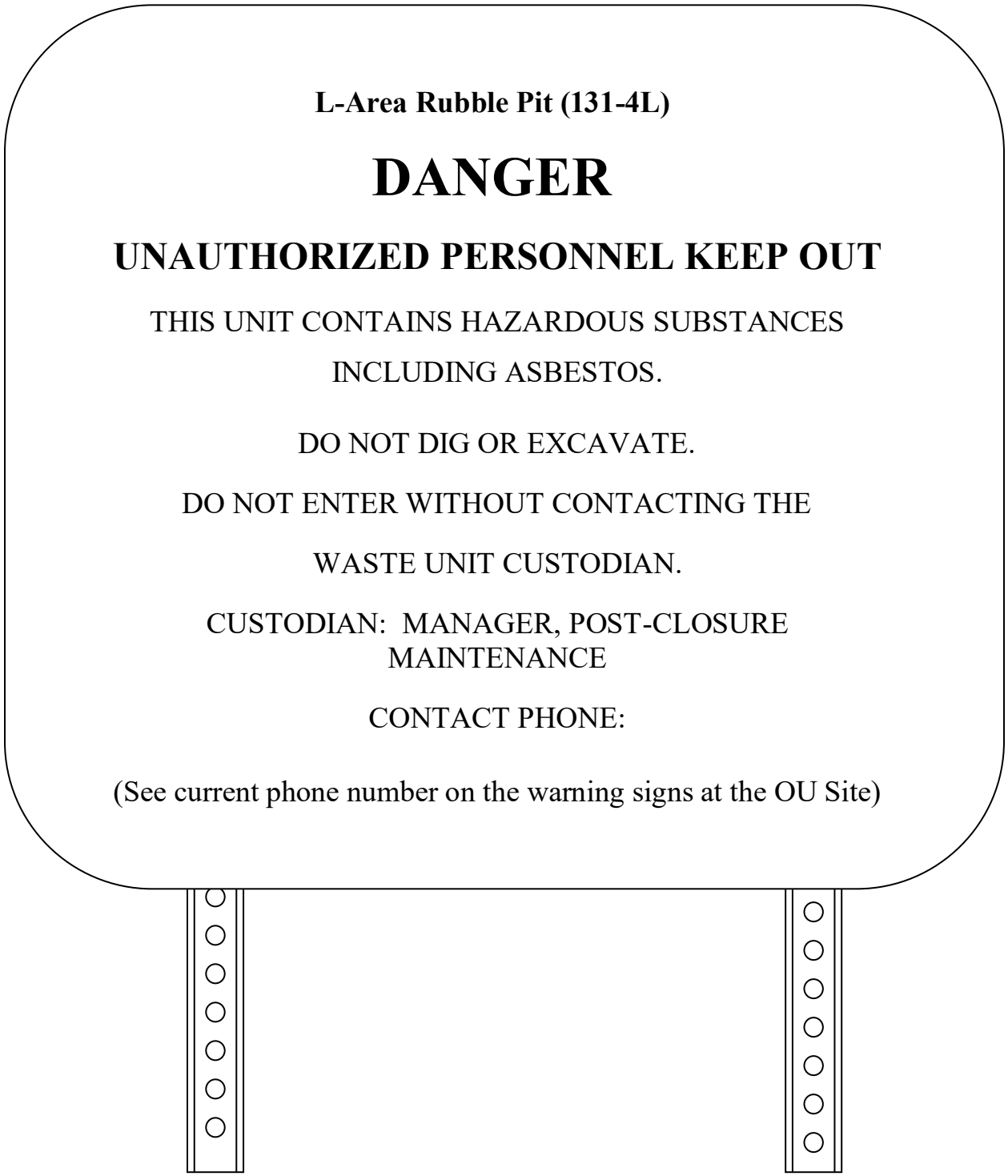



**Figure A-2. *EXAMPLE* — Access Control Warning Sign for the LRP 131-4L Subunit**

# APPENDIX B -
# FIELD INSPECTION CHECKLIST

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## ANNUAL FIELD INSPECTION CHECKLIST FOR ECODS L-3 SUBUNIT

☐ **SCHEDULED** ☐ **UNSCHEDULED**

| **A** = Satisfactory<br>**X** = Unsatisfactory (Explanation required) | **A or X** | Observation of Corrective Action Taken |
|---|---|---|
| 1. VERIFY that the roads are accessible for authorized maintenance and inspections. | | |
| 2. VERIFY that the waste unit signs (6) are in acceptable condition, have the correct information, and are legible from a distance of 25 feet. | | |
| 3. VERIFY that there are no unauthorized excavation, digging, or construction activities within the Land Use Control Boundaries. | | |

Inspected by:

_____/_____ Date:_____
(Print Name) (Signature)

Post-Closure Manager:

_____/_____ Date:_____
(Print Name) (Signature)

**CAUTION**: The inspector shall notify the Post-Closure Manager (PCM) and Environmental Compliance Authority (ECA) **IMMEDIATELY** if there has been a breach or compromise of the land use controls of this waste unit. The notification shall be in accordance with SRS post-closure inspection procedures.

**ANNUAL FIELD INSPECTION CHECKLIST**
**FOR L-AREA RUBBLE PIT SUBUNIT (131-4L)**

❑ **SCHEDULED** ❑ **UNSCHEDULED**

| **A** = Satisfactory<br>**X** = Unsatisfactory (Explanation required) | **A or X** | Observation of Corrective Action Taken |
|---|---|---|
| 1. VERIFY area is accessible for authorized maintenance and inspections. | | |
| 2. VERIFY waste unit warning signs (4) are in acceptable condition, have correct information, and are legible from a distance of 25 feet. | | |
| 3. VERIFY that there are no unauthorized excavation, digging, or construction activities within the Land Use Control Boundaries. | | |

Inspected by:

_____/_____ Date:_____
(Print Name) (Signature)

Post-Closure Manager:

_____/_____ Date:_____
(Print Name) (Signature)

**CAUTION**: The inspector shall notify the Post-Closure Manager (PCM) and Environmental Compliance Authority (ECA) **IMMEDIATELY** if there has been a breach or compromise of the land use controls of this waste unit. The notification shall be in accordance with SRS post-closure inspection procedures.

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