

**LUCIP for the**  
**SRL Seepage Basins, 904-51G1, -53G3, -54G, and -55G**  
*Appendix A of Corrective Measures Implementation Report/Post-Construction Report/  
Final Remediation Report for the SRL Seepage Basins, 904-51G1, -53G3, -54G, & -55G*  
(WSRC-RP-2001-4123, Revision 1, February 2002)

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## APPENDIX A

### UNIT-SPECIFIC LAND USE CONTROL IMPLEMENTATION PLAN FOR SRL SEEPAGE BASINS INCLUDING SRLSB SURVEY PLAT

The SRL Seepage Basin (SRLSB) Land Use Control Implementation Plan (LUCIP) will be appended to the Savannah River Site (SRS) Land Use Control Assurance Plan (LUCAP). SRS is responsible for implementing the land use controls (LUCs) (e.g., inspections, maintenance, etc.) outlined in this unit-specific LUCIP.

#### 1.0 REMEDY SELECTION

The SRLSB unit consists of four unlined basins that received low-level radioactive wastewater from SRL until 1982. Basins 1 and 2 were placed in operation in 1954, and Basins 3 and 4 were added in 1958 and 1960, respectively. The basins were used from 1954 to 1982 to dispose of low-level radioactive liquid waste generated in the laboratories located in Buildings 735-A and 773-A. Waste was transferred from the laboratories to the basins via a 900-foot long, 10-inch diameter, clay, process sewer line pipe.

Characterization of the SRLSB revealed that the highest concentrations of contaminants and the contaminants with the highest potential risk were primarily restricted to surface and subsurface soils within the unit. It was determined that the SRLSB does not represent a source of contamination to groundwater.

The remedy for the SRLSB was excavation and off-SRS disposal of all principal threat source material, soil above the  $1 \times 10^{-3}$  industrial worker health risk level. The remedy entailed the following actions:

- a) Excavation of approximately 4 feet of soil from the bottom and 1 foot of soil from the berms of Basin 1
- b) Excavation of approximately 5 feet of soil from the bottom and approximately 1 foot from the berms of Basin 2
- c) Excavation of approximately 1 foot from the bottom and berms of Basin 3
- d) No soil was removed from Basin 4

- e) Removal of the process sewer pipeline and associated soils from Basin 1 to the first manhole
- f) Backfill of all four basins and the process sewer trench with clean soil. The soil cover was then vegetated to prevent erosion. The depth of the clean soil is nominally between 9 to 19 feet
- g) Transportation and disposal of all excavated soil and the pipeline to Envirocare of Utah, Inc., an approved, licensed, off-SRS low-level waste disposal facility

According to the *Savannah River Site Future Use Project Report* (USDOE 1996), “residential uses of SRS land should be prohibited”. The Conceptual Site Model (CSM), Figure A-1, was revised to reflect the implementation of the remedy. Since it shows some remaining residual risk that would preclude unrestricted land use, LUCs are needed to maintain the future land use (industrial) and to ensure continued protection of human health and the environment. The LUCs were developed based on there being some residual risk remaining and that the residual risk is located 10 to 14 feet below the final grade.

## **2.0 LAND USE CONTROLS**

For SRLSB, the LUC objective necessary to ensure protectiveness of the remedy is:

Controlled access to the SRLSB unit in accordance with the current site use/site clearance programs, including signs posted in the area to indicate that soil beneath the unit has been contaminated with radionuclides

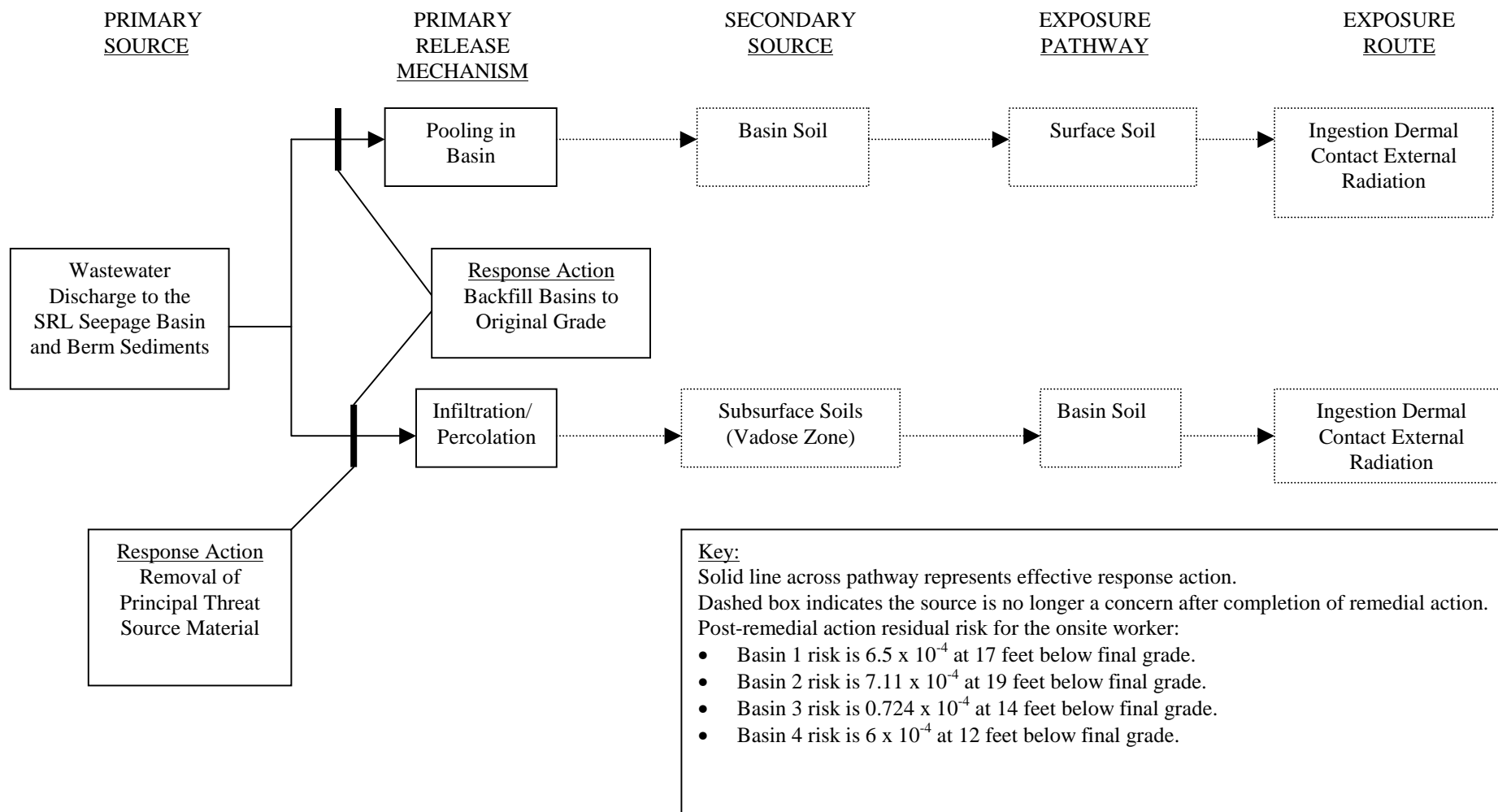


Figure A-1. Conceptual Site Model for the SRL Seepage Basin

The elements of the institutional control corrective action, which consists of land restrictions without any engineering controls, are composed of deed notifications when the parcel is transferred from federal ownership (Section 2.1), access controls that include posting of identification signs (Section 2.2), and field walkdowns for general site conditions (Section 2.3). These LUCs will be implemented in perpetuity for this operable unit.

Each element of the institutional controls corrective action is discussed below.

## **2.1 Deed Notification**

A deed notification shall be filed in the appropriate county records in accordance with CERCLA 120(h), which requires the government to create a deed when land on which any hazardous substance was stored, released, or disposed is transferred to non-federal ownership. In the event the property is transferred, a deed notification will be filed with Aiken County. Per CERCLA 120(h)(3)(A), the deed shall contain, to the extent practical, such information as is available based on the complete search of agency files, including the following:

- A notice of the type and quantity of such hazardous substances;
- Notice of the time at which such storage, release, or disposal took place;
- A description of the remedial action taken, if any.

Per CERCLA 120(h)(3)(B), the deed shall also contain a covenant warranting that

- All remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer.
- Any additional remedial action found to be necessary after the date of such transfer shall be conducted by the United States Government.

- A clause granting the United States Government access to the property in any case in which remedial action or corrective action is found to be necessary after the date of such transfer.

RCRA permit requirements are applicable for this waste unit per the SRS Federal Facility Agreement, Appendix C.

## **2.2 Access Controls**

### **2.2.1 On-Site Workers**

In accordance with WSRC 1D, *Site Infrastructure and Services Manual*, Procedure 3.02, *Site Real Property Configuration Control*, use of all lands and waters on the SRS shall be coordinated via the Site Use Program. No use of land (i.e., excavation or any other land use) shall be undertaken without prior approval documented by a Site Use Permit. Also, in accordance with Procedure 3.02, all work at SRS that adds to or modifies features or facilities portrayed on the SRS development maps (i.e., plot plans of facilities/utilities at SRS) is authorized by a Site Clearance Permit before any excavation activities. All Site Clearance requests are reviewed to verify that either an approved Site Use Permit has been obtained or that an existing Site Use Permit has sanctioned the request. Verification of USDOE approval for intended land use must be obtained before issuance of a Site Clearance Permit. The Site Use and Site Clearance processes are applicable to all activities and personnel on site (including subcontractors). The processes are controlled within the SRS Quality Assurance Program.

The SRS identifies all buildings and facilities on maps used in the Site Use/Site Clearance Program and includes a 200-foot buffer zone around each facility. This waste unit is identified on these maps as a CERCLA facility.

Any work proposed in these areas will be strictly controlled and workers will be appropriately trained and briefed about health and safety requirements if work is deemed necessary for maintenance. Any changes in the use or disturbance of the SRLSB will be cleared with the USEPA and SCDHEC before disturbance occurs.

To prevent unknowing entry and to ensure that unrestricted use of the waste unit does not occur while under ownership of the government, identification signs will be posted at the unit. The signs will be legible from a distance of at least 25 feet and located around the basin as shown on the SRLSB Remediation Grading Plan As-Built (U) (SK-C-5388, Attachment 2 of this LUCIP). Also provided in this LUCIP is the SRLSB Survey Plat (Attachment 3) which shows only the boundary signs.

The signs will read:

SRL Seepage Basins (904-53G (1&2), -54G, and -55G)  
“Danger – Unauthorized Personnel Keep Out. This unit was used to manage hazardous substances. Do not dig or excavate. Do not enter without contacting the waste site custodian.”  
Custodian: Manager, Post Closure Maintenance  
Phone: (803) 952-6882

### **2.2.2 Trespassers**

Additionally, while under the ownership of the USDOE, access control of the entire SRS will continue to be maintained in accordance with the 1992 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 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.

## **2.3 Field Walkdowns and Maintenance for Institutional Controls**

Monitoring will be performed to verify that LUCIP requirements are being met. Based on the amount of fill placed (9 to 19 feet), that the basins (holes) have been backfilled with clean soils, and the surrounding area being virgin, wooded and well established, once vegetation is established on the backfilled basins, erosion to depths that would expose the residual is not expected. Based on this, annual monitoring of the SRLSB OU will be conducted. These inspections will look for items such as accuracy and legibility of signs, visible subsidence or erosion of the



waste unit, proper vegetative growth, etc. Subsidence or erosion will be corrected by backfilling the affected area with clean soil and seeding the area to prevent further erosion. The results of any events and/or action that could indicate some potential compromise of institutional controls will be documented in the Federal Facility Agreement Annual Progress Report. All other routine maintenance activities will be documented and maintained in files that are subject to USEPA and SCDHEC review and audit. A copy of the completed inspection form is maintained in the Environmental Restoration Division administrative record files.

Inspections at the SRLSB will be performed to ensure that institutional controls remain protective and consistent with all remedial action objectives. Annual inspections will be conducted. The SRL Seepage Basins (904-53G (1 & 2), -54G, and -55G) Inspection Sheet is included in Attachment 1 of this LUCIP.

**ATTACHMENT 1**  
**SRL SEEPAGE BASINS INSPECTION SHEET**  
**SRL SEEPAGE BASINS (904-53G (1 & 2), -54G, and -55G) INSPECTION SHEET**

A = Satisfactory X = Unsatisfactory (Comments required)	A or X	Comments of Corrective Action Taken (See Maintenance Register for Corrected Items)
Check for potential encroachments (Ensure that there is no building on the site).		
Does the site have brush or woody vegetation that needs cutting and disposal?		
Does the site need to have the grass cut?		
Verify that the roads are accessible.		
Verify that the waste unit's signs are correct and legible.		
Does the site show signs of erosion or subsidence? Are there any signs of burrowing animals (holes)?		
Does the site have adequate vegetative cover?		
Check the integrity of drainage ditches (around the area) for the presence of excessive erosion, sediment buildup, and any debris restricting water flow.		
Does the site need general cleanup (housekeeping)?		

Inspected By: \_\_\_\_\_ / \_\_\_\_\_ Date/Time: \_\_\_\_\_ / \_\_\_\_\_

(Print Name) (Signature)

Post Closure Manager: \_\_\_\_\_ / \_\_\_\_\_ Date/Time: \_\_\_\_\_ / \_\_\_\_\_

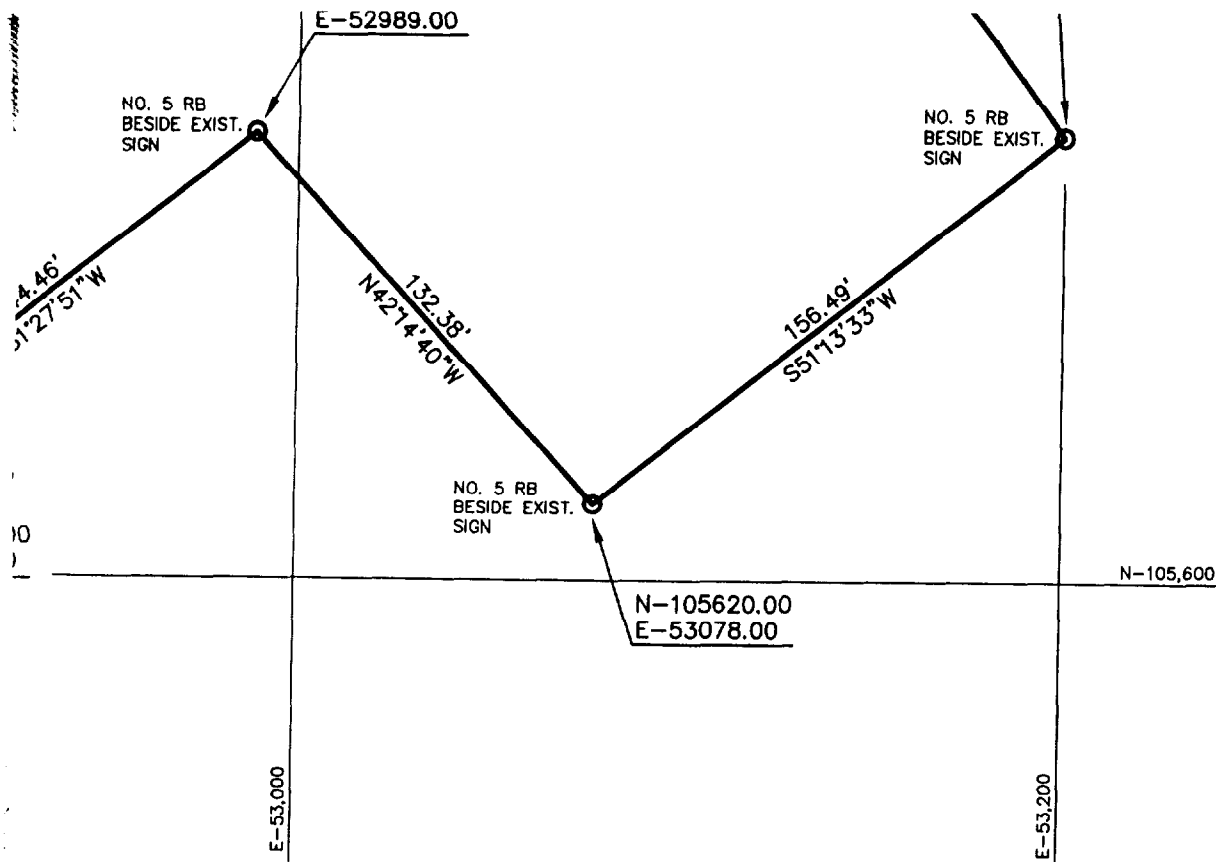
(Print Name) (Signature)

Note: USEPA and SCDHEC must be notified within 30 days of identification of any area where any breach or compromise of restrictions place on this institutional control operable unit has occurred

**ATTACHMENT 2**



**ATTACHMENT 3**



## BOUNDARY SURVEY

OF

## SRL SEEPAGE BASIN AREA

PROPERTY LOCATED AT SAVANNAH RIVER SITE

PREPARED FOR

## ESTINGHOUSE SAVANNAH RIVER COMPANY

BUILDING 730-2B RM. 3007 AIKEN, S. C. 29808

C/O MARK CRIST (803)952-6021

OF: AIKEN STATE OF: S. CAROLINA

SCALE: 1" = 50' DWN. BY: JMB DATE: 25 JULY 2001

PREPARED BY

John M. Bailey & Associates, P.C.

PROFESSIONAL LAND SURVEYORS  
110 WILDE DRIVE, BELVEDERE, S.C. 29841  
(803)278-0721

Attachment 3  
SRLSB Survey Plat