
United States Department of Energy

Savannah River Site



**Land Use Control Assurance Plan
for the Savannah River Site**

WSRC-RP-98-4125

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Aiken, SC 29808

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LIST OF ACRONYMS AND ABBREVIATIONS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
USDOE	United States Department of Energy
USEPA	United States Environmental Protection Agency
ER	Environmental Restoration
FFA	Federal Facility Agreement for the Savannah River Site
LUC	Land Use Control
LUCAP	Land Use Control Assurance Plan
LUCIP	Land Use Control Implementation Plan
MOA	Memorandum of Agreement
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SCDHEC	South Carolina Department of Health and Environmental Control
SROO	Savannah River Operations Office
SRNS	Savannah River Nuclear Solutions
SRS	Savannah River Site
WSRC	Washington Savannah River Company

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1.0 INTRODUCTION

On April 21, 1998, the United States Environmental Protection Agency (USEPA) Region IV Federal Facilities Branch issued a memorandum entitled *Assuring Land Use Controls at Federal Facilities* (Johnston, 1998). By implementing this policy, USEPA Region IV sought development of Land Use Control Assurance Plans (LUCAPs) by federal facilities that utilize land use controls (LUCs) as components of Resource Conservation and Recovery Act (RCRA)/Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remedies. The United States Department of Energy (USDOE)-Savannah River Operations Office (SROO) recognizes the memorandum as setting forth policy guidance that does not carry the force of law as is established through rulemaking. Thus, as a matter of comity and cooperation and, most importantly, for the purpose of advancing the goal of protecting human health and the environment at the Savannah River Site (SRS), this LUCAP has been developed as a means to facilitate accomplishment of this shared objective.

The USDOE-SROO, the USEPA, and the South Carolina Department of Health and Environmental Control (SCDHEC) are herein after referred to as “the Parties”. Definitions for terms used in this document are provided in Appendix A.

2.0 SITE DESCRIPTION

2.1 Savannah River Site Description

The SRS covers 310 square miles, encompasses parts of Aiken, Barnwell, and Allendale counties in western South Carolina, and borders the Savannah River. The SROO manages SRS as a controlled area with limited public access. Open fields and pine and hardwood forests comprise 73 percent of the SRS; wetlands, streams, and two large reservoirs cover approximately 22 percent; and production and support areas, roads, and utility corridors account for the remaining 5 percent. Land adjacent to the SRS is used mainly for forest and agricultural purposes.

2.2 SRS Land Use Planning Process

SRS utilizes a comprehensive planning process. This entails a systematic method for ensuring a site-wide approach to moving the site from the present into the future based on SRS strategic planning. A comprehensive plan is developed that addresses such things as land use, facilities, infrastructure, cultural resources, and natural resources. A site procedure (SRIP 430.2) is in place to ensure that proposed land and facility activities are considered for consistency with the comprehensive plan. This process, along with the Site Use Permit system, ensures that sites selected for an activity are the most appropriate and that any potential conflicts or problems are identified and solved prior to approval.

2.3 Environmental Restoration Program Description

The goal of the SRS Environmental Restoration (ER) Program is to investigate, and if needed, remediate releases of hazardous substances to minimize or eliminate potential risks to human health and the environment. SRS personnel began inventorying waste units in 1981 and have identified 515 inactive waste and groundwater units to date. Waste units range in size from a few square feet to tens of acres and include basins, pits, piles, burial grounds, landfills, tanks, and groundwater contamination. Soil, groundwater, and surface water have been contaminated with radionuclides and hazardous chemicals as a result of 40 years of site operations (WSRC, 1998).

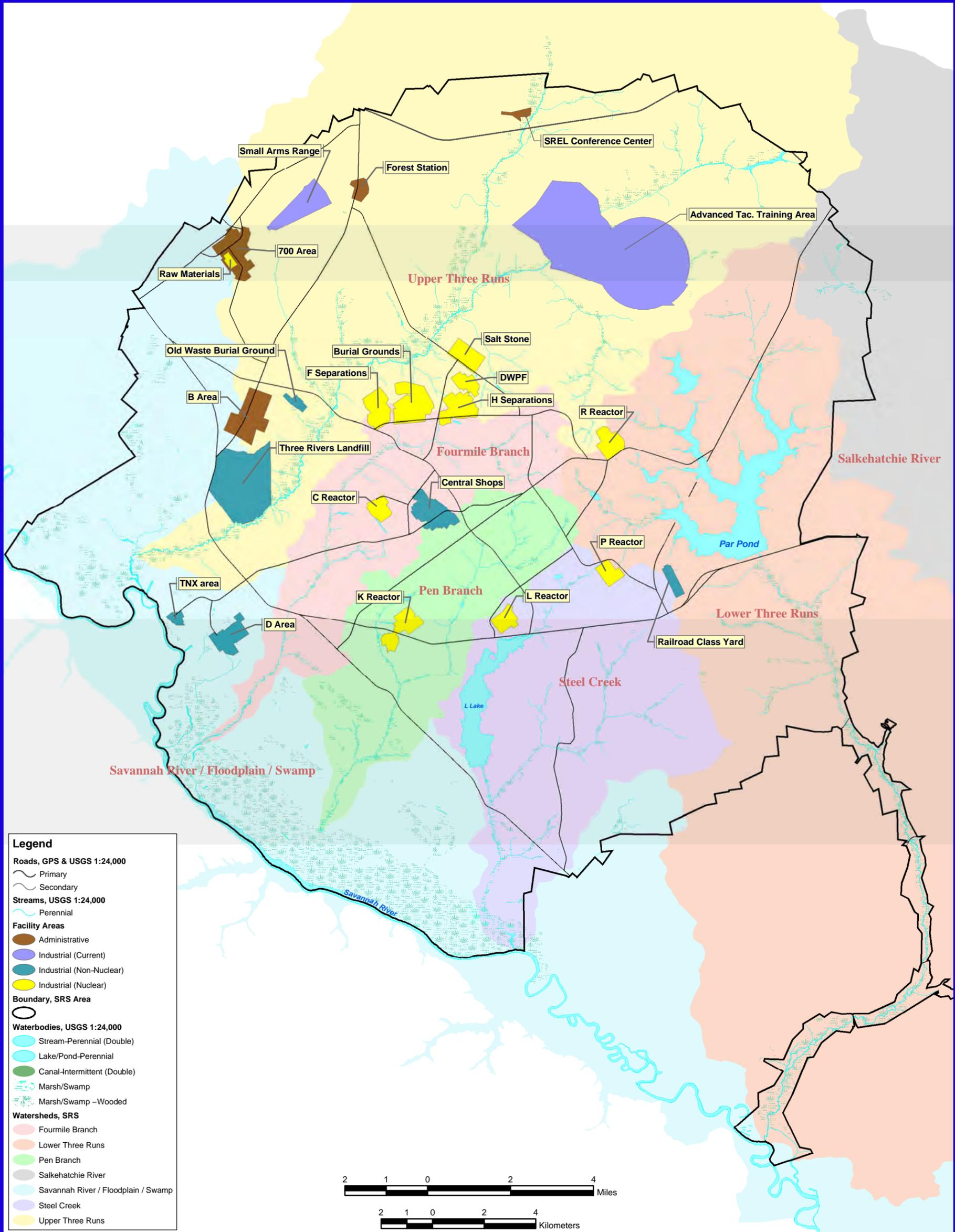
Remediation of the waste units is regulated under the RCRA 3004 (u), 3004 (v), 3005, and CERCLA. In 1993, SRS entered into a Federal Facility Agreement (FFA) with the USEPA and the SCDHEC to ensure that the environmental impacts associated with past and present activities at SRS were thoroughly investigated, and that appropriate corrective/remedial action would be taken to protect public health and welfare and the environment. Figure 1 depicts the watersheds within the SRS. The current industrial areas with buffers, heavy industrial (nuclear facility) areas, heavy industrial (non-nuclear facility) areas, and administrative facility areas are also shown on Figure 1. Figures 2 through 7 show the ER waste units that have been, are currently undergoing, or are planned for investigation and remediation, if needed, within each watershed. Tables 1 through 6 provide a list of the waste units within each watershed that have land use controls/institutional controls as part of the selected remedy. As the three Parties agree upon remedial decisions, the figures and table will be updated to highlight those waste units that require LUCs as part of the remedial decision. Appendix C provides a more comprehensive listing of the waste units in each watershed.

Because the SRS is currently and will likely remain under Federal ownership, the SROO desires future site remedy decisions that take land use into account. The Parties agree that when LUCs are necessary to assure the reliability of land use assumptions, a plan is needed to ensure that LUCs will be maintained for as long as necessary to keep the selected remedy fully protective of human health and the environment.

LUCs include, but are not limited to, institutional controls, and are defined in Appendix A of this document. Institutional controls are actions that may be used to supplement engineering controls to prevent or limit exposure to contaminants at a site to ensure protection of human health. Institutional controls may be applied to limit or prevent exposures to contaminants and to ensure that selected land uses are maintained. The advantage of these administrative mechanisms is that they can be employed to provide flexibility in the risk decision-making process. Institutional controls also mitigate health risks by physically restricting land use at a waste unit. These controls may include fences, security guards, warning signs, deed restrictions, and land-use restrictions.

Savannah River Site

Land Use Map - LUCAP



Legend

Roads, GPS & USGS 1:24,000

- Primary
- Secondary

Streams, USGS 1:24,000

- Perennial

Facility Areas

- Administrative
- Industrial (Current)
- Industrial (Non-Nuclear)
- Industrial (Nuclear)

Boundary, SRS Area

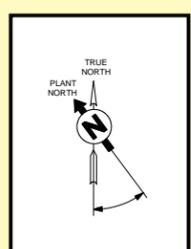
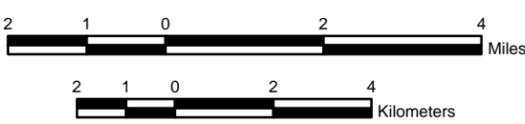
- SRS Area Boundary

Waterbodies, USGS 1:24,000

- Stream-Perennial (Double)
- Lake/Pond-Perennial
- Canal-Intermittent (Double)
- Marsh/Swamp
- Marsh/Swamp -Wooded

Watersheds, SRS

- Fourmile Branch
- Lower Three Runs
- Pen Branch
- Salkehatchie River
- Savannah River / Floodplain / Swamp
- Steel Creek
- Upper Three Runs



Projection: Universal Transverse Mercator
 Datum: North American Datum 1927
 Zone: 17

To place on the North American Datum 1983, move the projection lines 13 meters south and 15 meters west.

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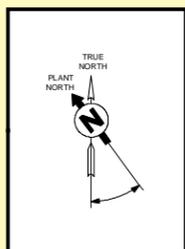
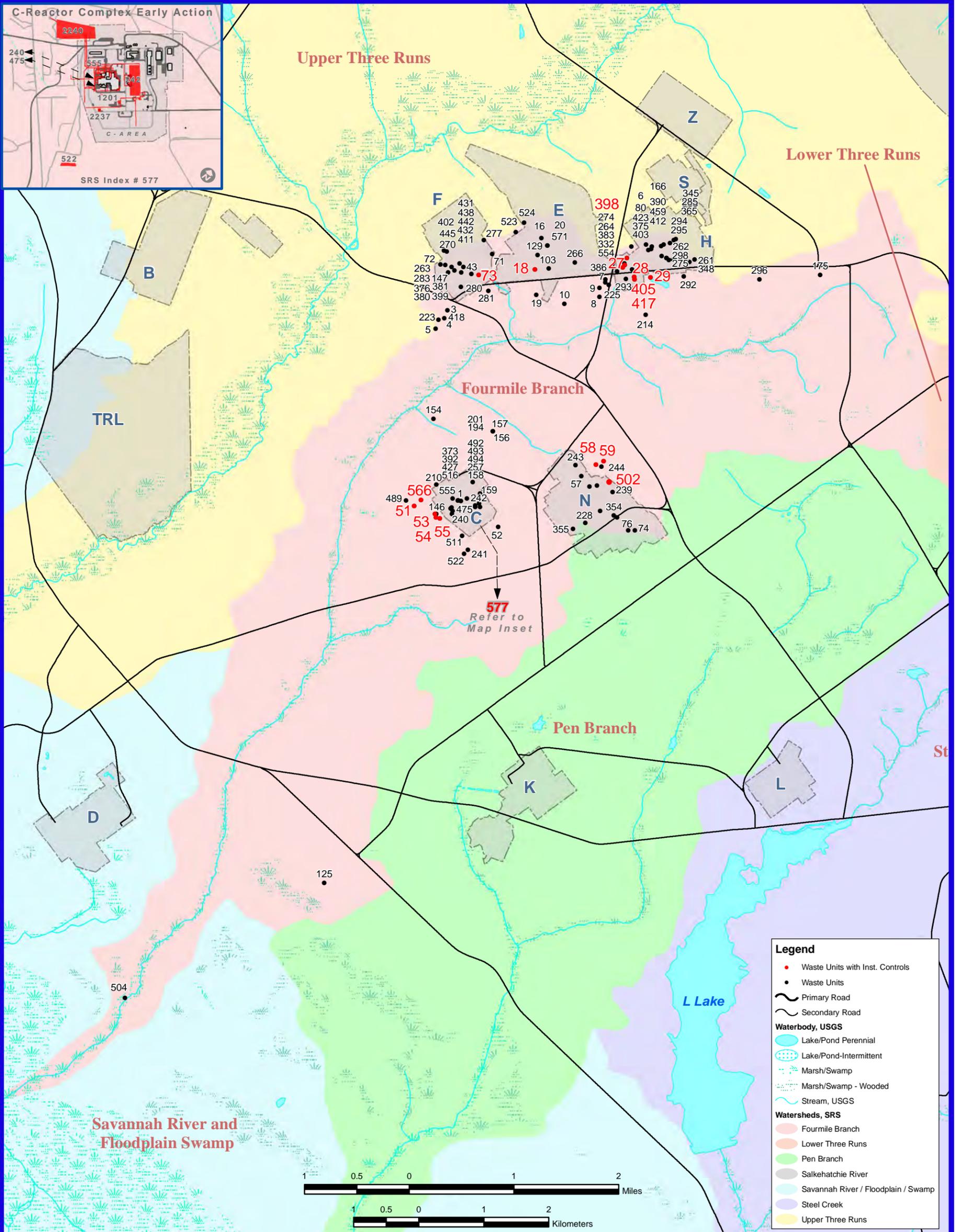
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EGIS	S-G	
Land Use Map - LUCAP		
CREATED BY: Chris Shanks	DATE: 05/01/03	APPROVED BY: Gary Stejskal
		DATE: 05/01/03

Savannah River Site

Map of Fourmile Branch Waste Units - LUCAP



Projection: Universal Transverse Mercator
 Datum: North American Datum 1927
 Zone: 17

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Savannah River Site
 Aiken, South Carolina



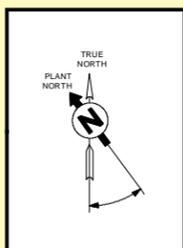
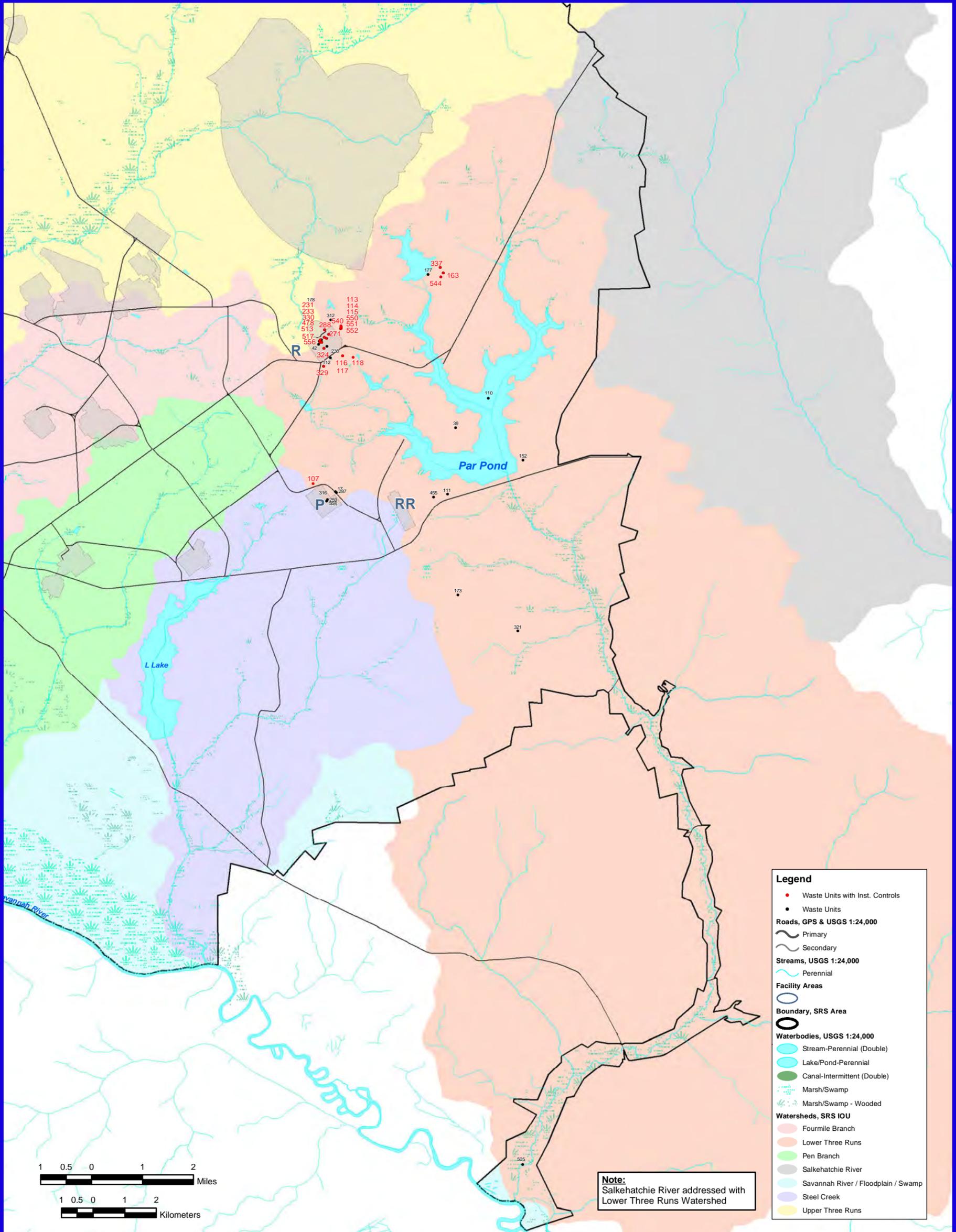
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Map of Fourmile Branch Waste Units - LUCAP			
Created by: Andrew Watson	Date: Feb. 2011	Approved by: John Cook	Date: Feb. 2011

Table 1. Fourmile Branch Watershed Waste Units That Have Land Use Controls/Institutional Controls As A Component of the Selected Remedy

Unit No.	Unit Name
18, 29, 28, 417, 27, 405, & 398	General Separations Area Consolidation Unit (Consisting of Old Radioactive Waste Burial Ground (Including Solvent Tanks), 643-E, HP-52 Ponds, H-Area Retention Basin, 281-3H, Spill on 05/01/1956 of Unknown of Retention Basin Pipe Leak, NBN, Warner's Pond, 685-23G, Spill on 03/08/1978 of Unknown Seepage Basin Pipe Leak in H-Area Seepage Basin, NBN, and Spill on 02/08/1978 of Unknown of H-Area Process Sewer Line Cave-in, NBN)
51	C-Area Burning/Rubble Pit Operable Unit, 131-C
53	C-Area Reactor Seepage Basin, 904-66G
54	C-Area Reactor Seepage Basin, 904-67G
55	C-Area Reactor Seepage Basin, 904-68G
577	C-Reactor Complex Early Action
58	Central Shops Burning/Rubble Pit, 631-1G
59	Central Shops Burning/Rubble Pit, 631-3G
73	F-Area Retention Basin, 281-3F
502	Heavy Equipment Wash Basin, NBN
566	Old C-Area Burning/Rubble Pit , NBN

Savannah River Site

Map of Lower Three Runs Waste Units - LUCAP



Projection: Universal Transverse Mercator
Datum: North American Datum 1927
Zone: 17

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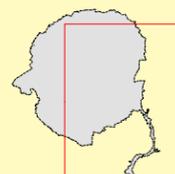
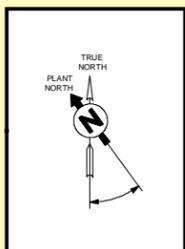
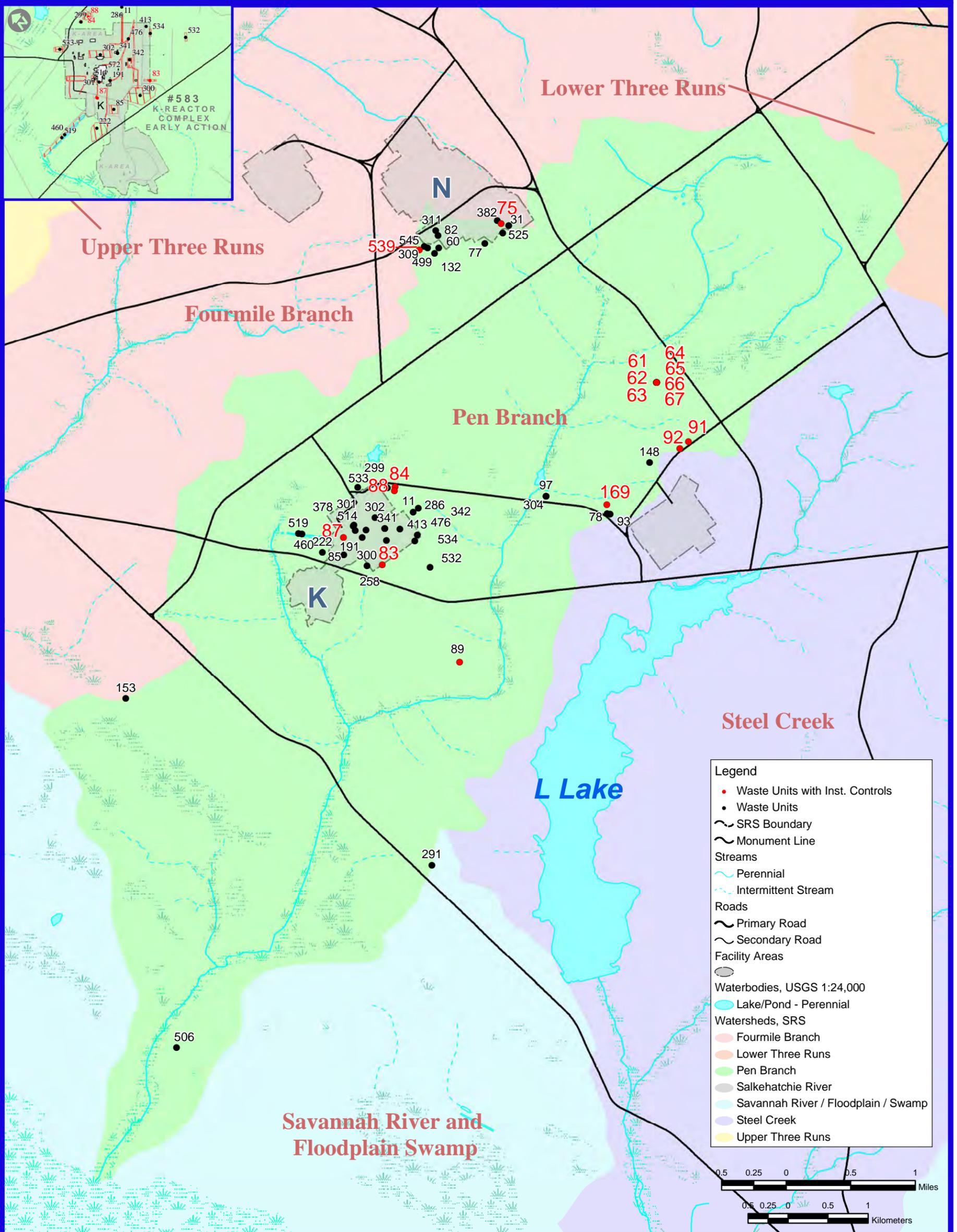


Table 2. Lower Three Runs Watershed Waste Units That Have Land Use Controls/Institutional Controls As A Component of the Selected Remedy

Unit No.	Unit Name
540	ECODS R-1A, -1B, -1C
163, 337, 544	Gunsite 012 Operable Unit (consisting of Gunsite 012 Rubble Pile, NBN, Rubble Pile Across from Gunsite 012, NBN, and ECODS G-3 Adjacent to Gunsite 012, NBN)
107	P-Area Bingham Pump Outage Pit, 643-4G
113	R-Area Bingham Pump Outage Pits, 643-10G
114	R-Area Bingham Pump Outage Pits, 643-8G
115	R-Area Bingham Pump Outage Pits, 643-9G
116	R-Area Burning/Rubble Pit, 131-1R
117	R-Area Burning/Rubble Pit, 131-R
118	R-Area Rubble Pile, 631-25G
550	R-Area Unknown Pit #1 (RUNK-1), NBN
551	R- Area Unknown Pit #2 (RUNK-2), NBN
552	R- Area Unknown Pit #3 (RUNK-3), NBN
231, 233, 271, 288, 324, 329, 330, 478, 513, 517, 556	R Area Operable Unit (including Area on the North Side of Building 105-R, Laydown Area North of 105-R, and Release from the Decontamination of R-Area Reactor Disassembly Basin, NBN, Combined Spills North of Building 105-R, NBN, Cooling Water Effluent Sump, 107-R, Potential Release from R-Area Disassembly Basin, NBN, Potential Release of NaOH/H2SO4 from 183-2R, NBN, R-Area Ash Basin, 188-0R, R-Area Groundwater, R-Area Process Sewer Lines as Abandoned, NBN, R-Area Reactor Area Cask Car Railroad Tracks as Abandoned, NBN)

Savannah River Site

Map of Pen Branch Waste Units - LUCAP



Projection: Universal Transverse Mercator
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Map Overview



SAVANNAH RIVER SITE
 AIKEN, SC

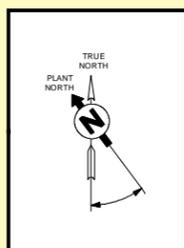
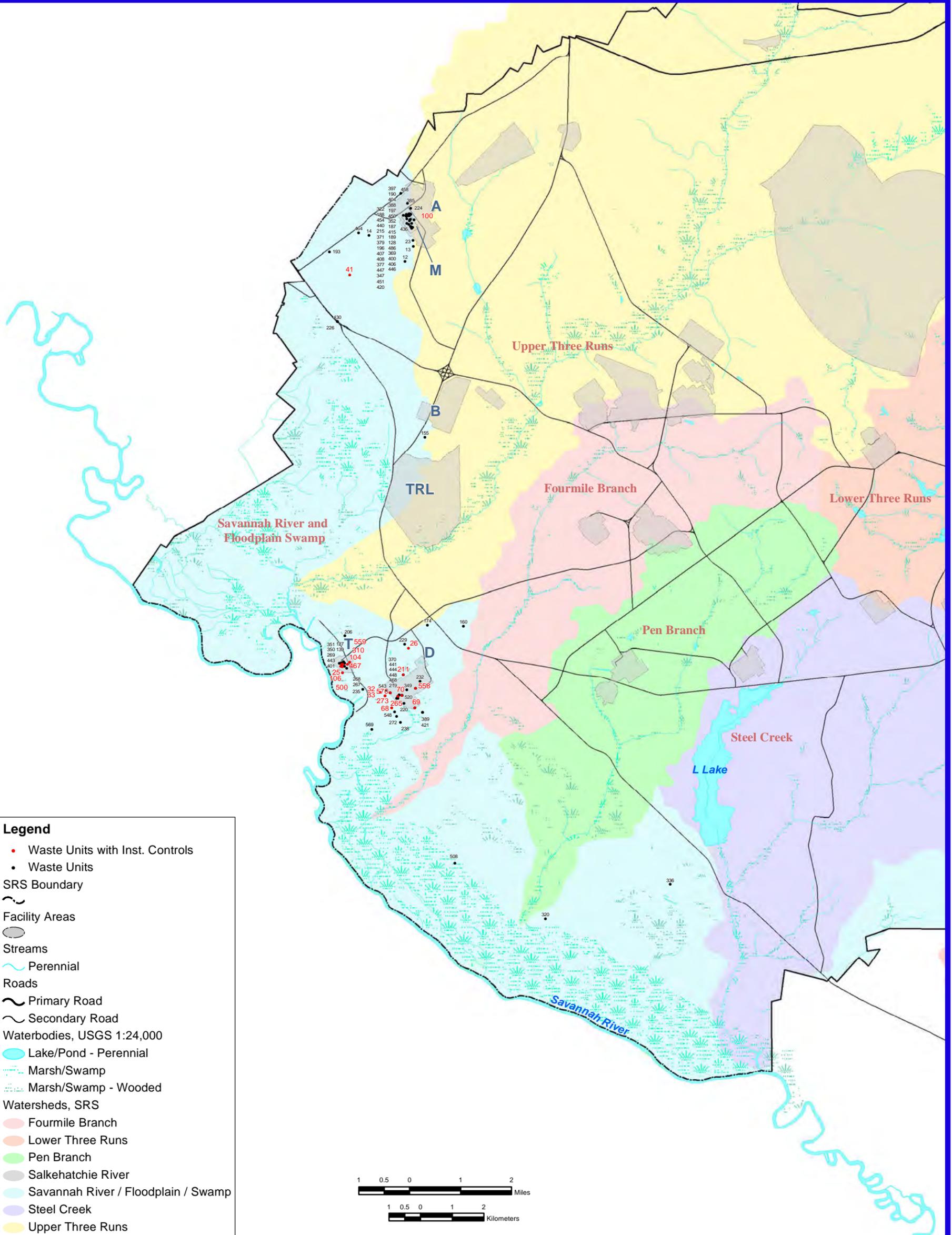
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Map of Pen Branch Waste Units - LUCAP			
Andrew Watson	Feb. 2011	John Cook	Feb. 2011

Table 3. Pen Branch Watershed Waste Units That Have Land Use Controls/Institutional Controls As A Component of the Selected Remedy

Unit No.	Unit Name
539	ECODS N-2
75	Ford Building Seepage Basin, 904-91G
83	K-Area Bingham Pump Outage Pit, 643-1G
84	K-Area Burning/Rubble Pit, 131-K
87	K-Area Reactor Seepage Basin, 904-65G
88	K-Area Rubble Pile, 631-20G
583	K-Reactor Complex Early Action
91	L-Area Bingham Pump Outage Pit, 643-2G
92	L-Area Bingham Pump Outage Pit, 643-3G
169	L-Area Rubble Pile, 131-3L
61	CMP Pits, 80-170G
62	CMP Pits, 80-171G
63	CMP Pits, 80-180G
64	CMP Pits, 80-181G
65	CMP Pits, 80-182G
66	CMP Pits, 80-183G
67	CMP Pits, 80-190G

Savannah River Site

Map of Savannah River and Floodplain Swamp Waste Units - LUCAP



Projection: Universal Transverse Mercator
 Datum: North American Datum 1927
 Zone: 17

To place on the North American Datum 1983, move the projection lines 13 meters south and 15 meters west.

Disclaimer:
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Savannah River Site
 Aiken, South Carolina



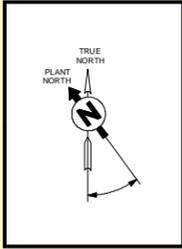
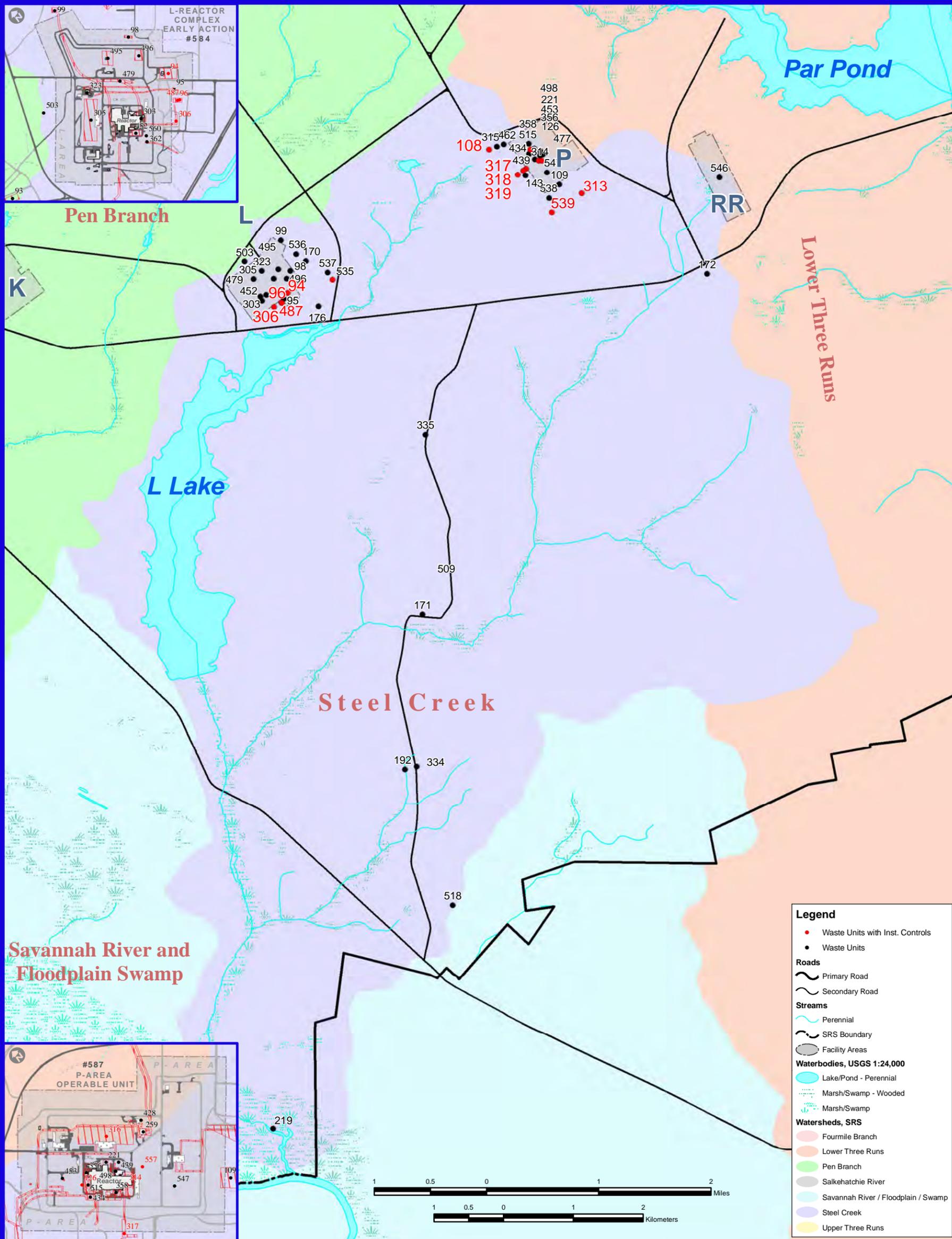
United States Department of Energy			
PROJECT NO.	REV. NO.	DATE	SCALE
ERWU3036_Rev1	1	09/27/2011	SRS
Map of Savannah River / Floodplain / Swamp Waste Units - LUCAP			
DESIGNED BY	DATE	APPROVED BY	DATE
Kent Weymouth	08/27/11	NA	NA

Table 4. Savannah River Flood Plain Swamp Watershed Waste Units That Have Land Use Controls/Institutional Controls As A Component of the Selected Remedy

Unit No.	Unit Name
25, 106, 104	TNX Area Operable Unit (Consisting of TNX Groundwater , 082-G, Old TNX Seepage Basin, 904-076G, and New TNX Seepage Basin, 904-102G)
26	D-Area Oil Seepage Basin, 631-G
32	D-Area Burning/Rubble Pits, 431-1D
33	D-Area Burning/Rubble Pits, 431-D
41	Silverton Road Waste Site, 731-3A
68 & 273	D-Area Expanded Operable Unit (Consisting of D-Area Rubble Pit, 431-2D & D-Area Ash Basin, 488-D)
69, 70, 211, 265, 558, 570	D Area Operable Unit Early Action (including Combined Spills from 483-D and Associated Areas, NBN, D-Area Asbestos Pit, 080-20G, D-Area Coal Pile Runoff Basin, 489-D, D-Area Process Sewer Lines as Abandoned, NBN, D-Area Waste Oil Facility, 484-10D, D-006 Petroleum Release Site, NBN)
100 & 234	M-Area Inactive Process Sewer Lines Operable Unit, 081-M (Including 313-M and 320-M Inactive Clay Process Sewers to Tims Branch, NBN)
310, 467, 500, & 559	T Area Operable Unit (Consisting of Neutralization Sump, 678-T; X-001 Outfall Drainage Ditch, NBN; TNX Outfall Delta, Lower Discharge Gully, and Swamp, NBN; & TNX-Area Process Sewer Lines and Tile Fields as Abandoned, NBN)

Savannah River Site

Map of Steel Creek Waste Units - LUCAP



Projection: Universal Transverse Mercator
 Datum: North American Datum 1927
 Zone: 17

To place on the North American Datum 1983, move the projection lines 13 meters south and 15 meters west.

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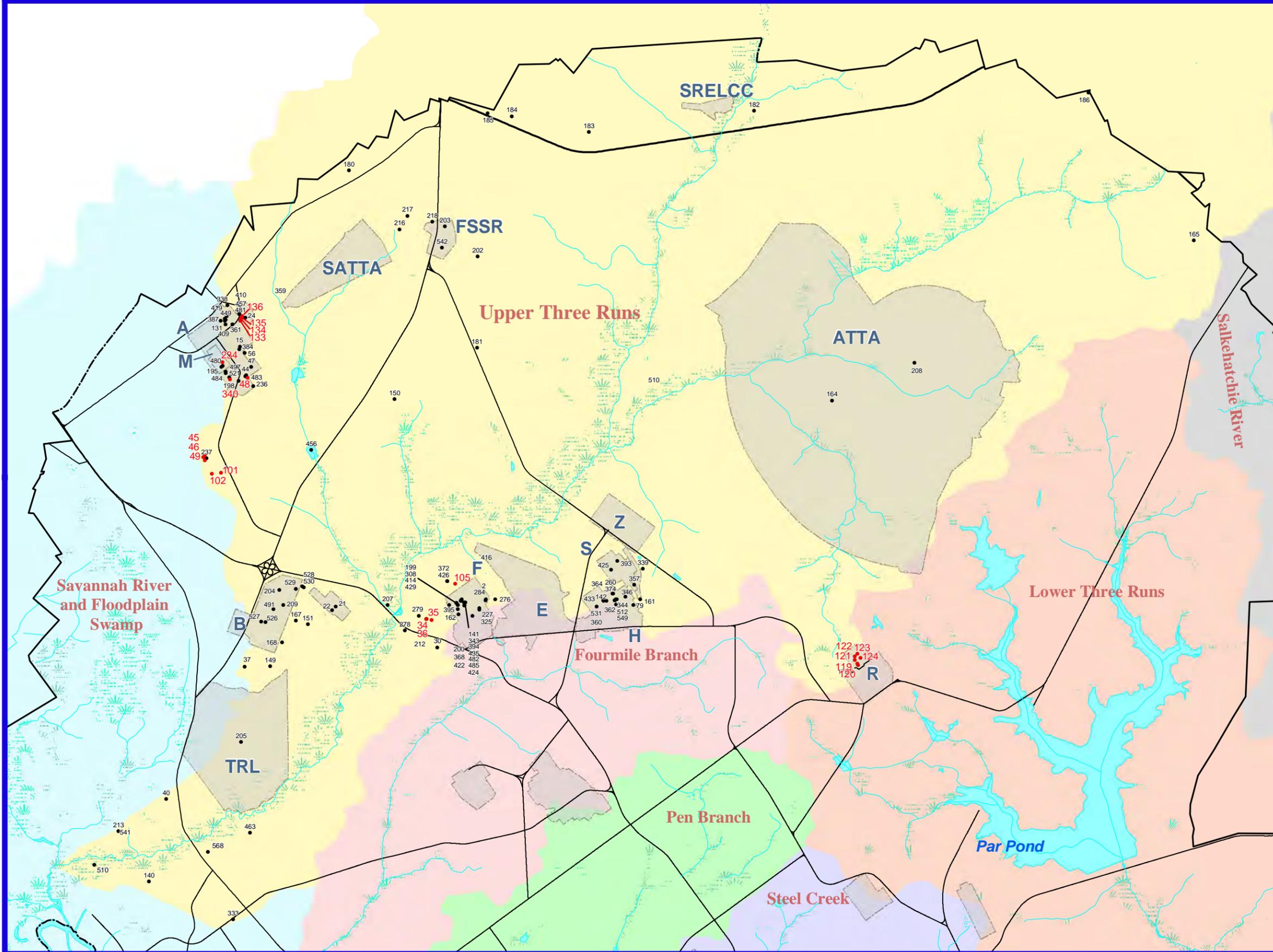


United States Department of Energy			
ORIG. DATE	REV. DATE	REV. DATE	REV. DATE
02/01/11	02/01/11	02/01/11	02/01/11
02/01/11	02/01/11	02/01/11	02/01/11
TITLE Map of Steel Creek Waste Units - LUCAP			
CREATED BY	DATE	APPROVED BY	DATE
Andrew Wilson	Feb. 2011	John Cook	Feb. 2011

Table 5. Steel Creek Watershed Waste Units That Have Land Use Controls/Institutional Controls As A Component of the Selected Remedy

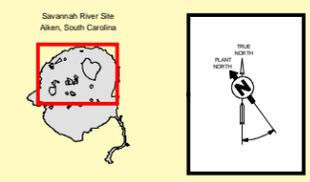
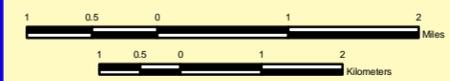
Unit No.	Unit Name
94	L-Area Hot Shop (Including Sandblast Area CML-003, NBN), 717-G
96	L-Area Oil/Chemical Basin, 904-83G
584	L-Reactor Complex Early Action
108	P-Area Burning/Rubble Pit, 131-P
306	L-Area Reactor Seepage Basin, 904-064G
126, 313, 314, 316, 477, 557	P Area Operable Unit (including P-Area Ash Basin (Including Outfall P-007), 188-0P; P-Area Process Sewer Lines as Abandoned, NBN and Spill on 03/15/79 of 5500 Gallons of Contaminated Water, NBN; P-Area Reactor Area Cask Car Railroad Tracks as Abandoned, NBN; Potential Release from P-Area Disassembly Basin, NBN; Potential Release from P-Area Reactor Cooling Water System, 186/190-P)
317	P-Area Reactor Seepage Basin, 904-061G
318	P-Area Reactor Seepage Basin, 904-062G
319	P-Area Reactor Seepage Basin, 904-063G
487	L-Area Southern Groundwater

Savannah River Site
Map of Upper Three Runs Waste Units - LUCAP



Legend

- Waste Units with Inst. Controls
- Waste Units
- SRS Boundary
- Streams**
- Perennial
- Roads**
- Primary Road
- Secondary Road
- Facility Areas
- Waterbodies, USGS 1:24,000**
- Lake/Pond - Perennial
- Lake/Pond-Intermittent
- ▨ Marsh/Swamp
- ▨ Marsh/Swamp - Wooded
- Watersheds, SRS**
- Fourmile Branch
- Lower Three Runs
- Pen Branch
- Salkehatchie River
- Savannah River / Floodplain / Swamp
- Steel Creek
- Upper Three Runs



Projection: Universal Transverse Mercator
 Datum: North American Datum 1927
 Zone: 17

To place on the North American Datum 1983, move the projection lines 13 meters south and 15 meters west.

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United States Department of Energy

www.doe.gov 5 Feb. 2011 SRS

Map of Upper Three Runs Waste Units
 - LUCAP

Author: Andrew Watson Date: Feb. 2011 Processor: JPH/Cook Date: Feb. 2011

Table 6. Upper Three Runs Watershed Waste Units That Have Land Use Controls /Institutional Controls As A Component of the Selected Remedy

Unit No.	Unit Name
45, 46, 49, 101, 102, 237	A-Area Burning/Rubble Pits, 731-A, -1A and Rubble Pit, 731-2A & the Miscellaneous Chemical Basin/Metals Burning Pit, 731-4A & -5A, Operable Unit
45	A-Area Burning/Rubble Pit, 731-1A
46	A-Area Burning/Rubble Pit, 731-A
48	A-Area Miscellaneous Rubble Pile, 731-6A
49	A-Area Rubble Pit, 731-2A
34	F-Area Burning/Rubble Pits, 231-1F
35	F-Area Burning/Rubble Pits, 231-2F
36	F-Area Burning/Rubble Pits, 231-F
100, 326, & 234	M-Area Inactive Process Sewer Lines Operable Unit, 081-M (Including Potential Release of TCT, TET, TCE, HN03, U, Heavy Metals from 321-M Abandoned Sewer Line, NBN, and 313-M and 320-M Inactive Clay Process Sewers to Tims Branch, NBN)
465, 466, 340, 326	M Area Operable Unit (Consisting of Underground Sump 321 M #001, Underground Sump 321 M #002, Salvage Yard, 741-A, and Potential Release of TCT, TET TCE, HNO ₃ , U, Heavy Metals from 321-M Abandoned Sewer Line, NBN)
102	Metals Burning Pit, 731-5A
101	Miscellaneous Chemical Basin, 731-4A
105	Old F-Area Seepage Basin, 904-49G
119	R-Area Reactor Seepage Basin, 904-103G
120	R-Area Reactor Seepage Basin, 904-104G
121	R-Area Reactor Seepage Basin, 904-57G
122	R-Area Reactor Seepage Basin, 904-58G
123	R-Area Reactor Seepage Basin, 904-59G
124	R-Area Reactor Seepage Basin, 904-60G
133	SRL Seepage Basin, 904-51G1
134	SRL Seepage Basin, 904-53G2
135	SRL Seepage Basin, 904-54G
136	SRL Seepage Basin, 904-55G

3.0 LAND USE CONTROL GOALS, OBJECTIVES, AND STRATEGIES

3.1 Purpose

This LUCAP was developed to assure the effectiveness and reliability of the required LUCs for as long as any LUCs continue to be required in order for the response action to remain protective. The requirements described herein are only applicable to those waste units listed in the Federal Facility Agreement (FFA, 1993) Appendices C and H, for which LUCs were selected as part of the corrective/remedial action.

For the units in Appendix H, the LUC requirements are discussed and approved as part of the closure/post-closure/permit application process for these waste units.

As the corrective/remedial action that includes LUCs is selected for individual waste units, a unit-specific Land Use Control Implementation Plan (LUCIP) will be developed. Appendix B of this LUCAP contains the unit-specific LUCIPs. As LUCIPs are finalized and appended to this LUCAP, Appendix B will be updated to reflect any additions or deletions of units that require LUCs as part of the selected remedy. Table B-1 provides a list of all LUCIPs that are a part of this LUCAP. Copies of all updates will be distributed to the USEPA and the SCDHEC for inclusion in their copies of the LUCAP.

3.2 Access Controls

3.2.1 On-Site Workers

In accordance with procedures in place and maintained at SRS, 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 procedures, all work at SRS that adds 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 execution. 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 the 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. Each waste unit is identified on these maps.

Any work proposed at the waste units 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 waste units will require advance notification to the USEPA and the SCDHEC before the disturbance occurs. To prevent unknowing entry and to ensure that unrestricted use of the waste units do not occur while under the ownership of the government, identification signs will be

posted at the waste unit access points. Figures will be included in the unit-specific LUCIPs that indicate where the signs will be posted. The signs will be legible from a distance of at least 25 feet. The signs will read:

Waste Unit Name and Building Number
“Danger – Unauthorized Personnel Keep Out.
This waste 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) 725-PAGE (19192)

3.2.2 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 security procedures and equipment (R.61-79.264.14; 270.14(b)(4)), 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.

3.3 Federal Facility Program and Point-of-Contact

The person responsible for ensuring that unit-specific LUCIPs and the LUCAP are monitored, maintained, and enforced is the Manager of the SROO. The SROO Assistant Manager for Closure Project is the point-of-contact and can be reached as follows:

US Department of Energy
Assistant Manager for Closure Project
Soils and Groundwater Closure Project
P. O. Box A
Aiken, SC 29802

Phone: (803) 952-9611

3.4 Funding

The Parties expect that all obligations of the SROO arising under the LUCAP will be fully funded through congressional appropriations. Consistent with congressional limitations on future funding, the USDOE SROO will use its best efforts to request timely funding to meet its obligations under this plan.

If appropriate funds are not available to fulfill SROO’s obligations, USEPA and SCDHEC will be notified as soon as the SROO is aware of the potential shortfall.

3.5 Decision Documents

The Parties agree when unit-specific LUCs are to be implemented, an adequate description of the LUCs along with conditions for their use should be included in the appropriate decision documents (i.e., proposed plan, record of decision (ROD), RCRA permit, as appropriate, etc.) that reflects the selected remedy for a unit. Additionally, Appendix D of this document contains a sample of the standard language for inclusion in such decision documents.

During the 5-year ROD reviews or RCRA permit renewals, the need for LUCIPs for decision documents approved prior to April 21, 1998, in which LUCs were selected as part of the remedy, will be decided. A LUCIP will then be developed as agreed to by the three Parties.

3.6 Land Use Control Implementation Plan

As a component of the post-ROD documentation for waste units that require LUCs as part of the corrective measure/remedial action, a unit-specific LUCIP must be developed and approved following remedy selection through the unit-specific ROD and permit modification. The LUCIP should:

- a) identify the area that is under restriction via a survey plat that is certified by a professional land surveyor. In the case of LUCs and groundwater, an appropriate survey will be prepared to delineate the groundwater under LUCs;
- b) identify each LUC objective for the waste unit (e.g., prohibit residential use, etc.); and
- c) specify the specific controls and mechanisms required to achieve each identified objective (e.g., install/maintain a fence, post warning signs, etc.).

For waste units where the corrective measure/remedial action is institutional controls only, a single post-ROD document identifying the LUCs will be developed. For waste units where institutional controls are combined with an active corrective measure/remedial action, the LUCIP will be developed as an appendix to the agreed upon post-ROD document (i.e., the Corrective Measures/Remedial Design Work Plan, the Corrective Measures/Remedial Design Report, the Corrective Measures/Remedial Action Work Plan, post-Construction Report, etc., or any combination of the listed documents). Upon approval, each unit-specific LUCIP will be appended to this LUCAP to serve as a single source for documenting all LUCs.

If a 5-year ROD review or RCRA permit renewal analysis determines that a LUCIP should be required for any LUC selected in a decision document approved prior to April 21, 1998, that LUCIP will be developed and included in Appendix B.

3.7 Monitoring and Field Inspections

For waste units that require LUCs, quarterly on-unit monitoring will be performed throughout the remediation period, unless the Parties, in the unit-specific LUCIP, approve another monitoring frequency. Justification for a different monitoring frequency will be provided in the unit-specific LUCIP, where appropriate. In addition, field inspections will be conducted at least annually to assess the conditions of all units subject to LUCs. These inspections are to be conducted to determine whether the current land use remains protective and consistent with all corrective measure/remedial action objectives outlined in the unit-specific decision documents (e.g., engineering controls remain in place, etc.). The mechanisms and methodology for the monitoring and field inspections will be established in the unit-specific LUCIPs.

3.8 Notifications

3.8.1 Major Land Use Changes

In the event that SROO anticipates any “major changes in land use” for the waste units subject to LUCs, the SROO shall determine whether the contemplated changes will or will not necessitate the need for re-evaluation of the selected response action or implementation of specific measures to ensure continued protection of human health and the environment. The SROO shall evaluate such changes that impact RODs pursuant to 40 CFR 300.430(f)(3)(ii) and 40 CFR 300.435(c)(2). The SROO will notify the USEPA and the SCDHEC in writing of such changes at least sixty (60) days prior to the initiation of such changes to obtain USEPA and SCDHEC positions on the proposed changes. Each notification shall include:

- a) an evaluation of whether the anticipated land use change will pose unacceptable risks to human health and the environment or negatively impact the effectiveness of the remedy;
- b) an evaluation of the need for any additional remedial action(s) resulting from the anticipated land use changes; and
- c) a proposal for any necessary changes to the selected remedial action and identification of documentation requirements (e.g., ROD amendments, ROD Explanation of Significant Differences, RCRA permit modification, etc.) for the proposed changes.

Upon notification by the SROO of an anticipated major land use change, the US EPA and the SCDHEC shall evaluate the information provided and shall issue comments within sixty (60) days so as to minimize any potential adverse impacts to the SRS activities or operations. Together with such comments, the USEPA and SCDHEC will each indicate their agreement or disagreement with USDOE’s determinations as to whether the anticipated change in use, considering any changes to the selected remedial action(s) and/or implementation of additional measures proposed by USDOE, will ensure continued protection of human health and the environment. In the event USDOE proceeds with a major land use change that USEPA and/or SCDHEC determine will render a selected remedial action no longer protective of human health and the

environment, USEPA and/or SCDHEC may take any action consistent with their respective authorities under applicable laws to ensure continued protection of human health and the environment.

The Parties agree that “major changes in land use” are defined as:

- a) a change in land use that is inconsistent with the exposure assumptions in the risk assessment that was the basis for the LUCs (either human health or ecological risk assessment). Examples include: the human health risk assessment assumed that a unit is in “caretaker” status with a worker visiting the waste unit once a week for 2 hours, and the proposed change would have the worker at the waste unit for 8 hours a day, 5 days a week; any change from industrial, commercial, or recreational land use to a more sensitive land use, such as housing, schools, hospitals, and/or daycare centers is a major land use change; any change from industrial or commercial land use to recreational land use; any change in a land use that has been prohibited in order to protect the environment;
- b) any action that may disrupt the effectiveness of the remedial action. For example, excavation at a landfill, groundwater pumping that may impact a groundwater pump and treat system, or a construction project that may result in unacceptable exposure to an ecological habitat protected by the remedy; and
- c) any other action that might alter or negate the need for the LUC. For example, any plan to actively remediate a waste unit subject to LUCs in order to allow for unrestricted land use.

In addition, the SROO will immediately notify the USEPA and the SCDHEC upon discovery of any activity inconsistent with any LUCIP. This notification will provide all pertinent information as to the nature and extent of the change and describe any measures implemented or to be implemented (to include a timetable for future completion) to reduce or prevent human health or ecological impacts.

3.8.2 Property Transfer

In the event that the SROO determines to enter into any contract for the sale or transfer of any of the SRS, the SROO will comply with the requirements of Section 120(h) of CERCLA, 42 United States Code § 9620(h), in effectuating that sale or transfer, including all notice requirements. In addition, the SROO will include notice of the FFA in any document transferring ownership or operation of the SRS to any subsequent owner and/or operator of any portion of the SRS and will notify USEPA and SCDHEC of any such sale or transfer at least ninety (90) days prior to such sale or transfer while the FFA is in effect. No property transfer of the SRS or any portion thereof or notice pursuant to Section 120(h) of CERCLA, 42 United States Code § 9620(h), will relieve the SROO of its obligation to perform remediation pursuant to the FFA. No property transfer of the SRS or any portion thereof will be consummated by the SROO without provision for continued maintenance of any containment system, treatment system, or other response

action(s) installed or implemented pursuant to the FFA. In the event of any property transfer of the SROO or any portion thereof, USDOE will consider the need for measures to ensure continued maintenance of any LUCs selected as part of a response action associated with the unit subject to transfer. The USDOE will include in the above-referenced notice of transfer a discussion of its conclusions regarding the need for any such measures and any specific measures to be employed attendant to the transfer.

3.9 Certification

The Manager, SROO, will annually certify that SRS is in compliance with all unit-specific LUCIP requirements in the FFA Annual Progress Report. The annual report will also serve to notify the USEPA and the SCDHEC of any change in the designated officials or of land use changes that are not considered major as described in Section 3.8.1 of this document.

3.10 Change in Applicable or Relevant and Appropriate Standards

Nothing included in this LUCAP should be construed to preclude SRS from proposing at any time or from the Parties otherwise agreeing to effect the deletion of any unit from coverage under the terms of this LUCAP on account of either:

- a) a post-remedy implementation change to applicable or relevant and appropriate Federal or State cleanup standards; or
- b) a change in previously documented contaminant concentration levels allowing for unrestricted use.

3.11 Future Communications

In accordance with FFA Section XXVIII, the FFA Project Managers shall receive all correspondence and communications on behalf of the Parties pertaining to all matters falling under the terms of this LUCAP.

3.12 Site Access

All Parties agree to use the procedures set forth in the FFA, Section XXX. Access/Data/Document Availability, regarding site access and data and document availability with regards to this LUCAP.

3.13 Reservation of Rights

It is agreed and understood that the USEPA and SCDHEC reserve all rights and authorities each agency may currently have or hereafter acquire by law to require SRS to comply with those Federal and State laws and regulations applicable to the investigation, cleanup, and near- and long-term maintenance of those waste units to be covered by this LUCAP. It is also understood that the SROO herein reserves those rights and authorities granted to the SROO by Federal or State law, regulation, or executive order. The SROO further reserves the right to put all property under its domain to those uses deemed

necessary for mission accomplishment or otherwise deemed necessary by appropriate authority to meet the needs of the SROO.

3.14 Anti-Deficiency Act

No provision in this document shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act (31 United States Code §1341).

3.15 Amendments

Any minor modifications to the LUCAP Memorandum of Agreement (MOA) and/or this LUCAP incorporated herein shall be made effective upon written approval of the Parties' FFA Project Managers. Any major modification shall be made effective upon the written approval by each of the signatories to the MOA (or their successors). A modification will be considered major if so determined by any of the three Parties hereto.

3.16 Effective Date

The LUCAP shall become effective on the date that the last of the authorized representatives of the Parties signs the MOA incorporating this LUCAP. The LUCAP requirements shall then apply to LUCs in any corrective measure/remedial action for which the decision document was approved on or after April 21, 1998.

4.0 REFERENCES

Federal Facility Agreement (FFA), 1993. *Federal Facility Agreement for the Savannah River Site*, Administrative Docket Number 89-05-FF, Effective Date: August 16, 1993, WSRC-OS-94-42.

Johnston, J. D. (EPA-Region IV), 1998. *EPA Region IV Policy, Assuring Land Use Controls at Federal Facilities*, Letter to T. Heenan (DOE-SR) (April 21).

WSRC, 1998. *Management Action Plan*, WSRC-MS-95-0054, Revision 5.0, Westinghouse Savannah River Company, Aiken, SC (May).

5.0 APPENDICES

Appendix A - Definitions

Appendix B - Waste Unit-Specific Land Use Control Implementation Plans

Appendix C - Maps and Tables of Waste Units Within Each Watershed

Appendix D - Sample Land Use Control Language for Inclusion in Decision Documents

Appendix E - Memorandum of Understanding

Appendix F - Modification Record

Appendix G - Annual Land Use Certification Required Under Section 3.9

APPENDIX A

DEFINITIONS

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CERCLA, as defined in the NCP, is the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986.

Decision Document, as defined in the EPA Region IV Policy, refers to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Records of Decision, Resource Conservation and Recovery Act (RCRA) Statement of Basis/Notices of Decision, and RCRA Permit Modifications.

Facility, as defined in the EPA Region IV Policy, refers to a military base or other entire federal installation.

Land Use Control (LUC), as defined in the EPA Region IV Policy and in regard to real property on federal facilities, means any restriction or control that limits the use of and/or exposure to any portion of that property, including water resources, arising from the need to protect human health and the environment. The term encompasses “institutional controls”, such as those involved in real estate interests, governmental permitting, zoning, public advisories, deed notices, and other “legal” restrictions. The term may also include restrictions on access, whether achieved by means of engineered barriers (e.g., fence or concrete pad) or by human means (e.g., the presence of security guards). Additionally, the term may involve both affirmative measures to achieve the desired restrictions (e.g., night lighting of an area) and prohibitive directives (e.g., no drilling of drinking water wells). Considered altogether, the LUCs for a facility will provide a tool for how its property should be used in order to maintain the level of protectiveness that one or more remedial/corrective actions were designed to achieve.

Land Use Control Assurance Plan (LUCAP), as defined in the EPA Region IV Policy, is a written facility-wide plan that sets out the procedure to assure LUCs remain effective over the long-term for all areas at the particular facility where they are required.

Land Use Control Implementation Plan (LUCIP), as defined in the EPA Region IV Policy, is a written plan, normally developed after a decision document has required one or more LUCs for some particular area (e.g., operable unit, contaminated unit, and/or solid waste management unit), that

- (1) identifies each LUC objective for that area (e.g., to restrict public access to the area for recreational use) and
- (2) specifies those actions required to achieve each identified objective (e.g., install/maintain a fence, post warning signs, record notice in deed records).

LUCIPs specify what must be done to impose and maintain the required LUCs, and are therefore analogous to design and/or operation and maintenance plans developed for active remedies.

Monitoring, as defined in the EPA Region IV Policy, is used to indicate a variety of investigative activities, ranging from “drive-by” visual observations to detailed scientific sampling and testing. The nature of the particular LUCs being implemented will determine the type(s) and extent of any “monitoring” activities provided at an operable unit.

Proposed Plan(s), as defined in the FFA, mean the report(s) describing the corrective/remedial action(s) recommended for a waste unit, Section 117(a) of CERCLA, 42 USC § 9617.

RCRA is the Resource Conservation and Recovery Act, 1976, a Federal law that established a regulatory system to track hazardous substances from their generation to disposal. The law requires safe and secure procedures to be used in treating, transporting, storing, and disposing of hazardous substances. RCRA is designed to prevent the creation of new, uncontrolled hazardous waste units.

Record(s) of Decision (RODs), as defined in the FFA, mean the document(s) issued as the final corrective/remedial action plan for a waste unit, Section 117(b) of CERCLA, 42 USC § 9617

Statement(s) of Basis, as defined in the FFA, mean the report(s) describing the corrective measure(s)/remedial action(s) being conducted pursuant to South Carolina Hazardous Waste Management Regulations, as amended.

Waste Unit refers to a particular area (such as an “operable unit”) that makes up only a portion of the facility.

APPENDIX B

WASTE UNIT-SPECIFIC LAND USE CONTROL IMPLEMENTATION PLANS

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Table B- 1 Unit-Specific LUCIPs

Unit Name	Document Title	Issuance Date ¹	Watershed Figure ²
A-Area Burning/Rubble Pits, 731-A and -1A and A-Area Rubble Pit, 731-2A	Appendix A of <i>Post-Construction Report for the A-Area Burning/Rubble Pits, 731-A and -1A and A-Area Rubble Pit, 731-2A</i> , WSRC-RP-2003-4019, Revision.1, July 2003	09/12/2003	7
A-Area Burning/Rubble Pits (731-A, -1A) and Rubble Pit (731-2A) & the Miscellaneous Chemical Basin/Metals Burning Pit (731-4A & -5A) Operable Unit	<i>Land Use Control Implementation Plan for the A-Area Burning/Rubble Pits (731-A, -1A) and Rubble Pit (731-2A) & the Miscellaneous Chemical Basin/Metals Burning Pit (731-4A & -5A) Operable Unit</i> , WSRC-RP-2006-4073, Rev.1, September 2007	2/7/2008	7
A-Area Miscellaneous Rubble Pile, 731-6A	Appendix A of <i>Corrective Measures Implementation/ Remedial Action Implementation Plan for A-Area Miscellaneous Rubble Pile, 731-6A</i> , WSRC-RP-2002-4067, Revision.1, July 2003	08/07/2003	7
C-, K-, and K-Reactor Complexes Early Action	<i>Early Action Land Use Control Implementation Plan for the C-, K-, and K-Reactor Complexes Early Action</i> , SRNS-RP-2009-01470, Rev.1, May 2010	7/1/2010	2, 6
C-Area Burning/Rubble Pit Operable Unit (131-C) and Old C-Area Burning/Rubble Pit (NBN)	<i>Land Use Control Implementation Plan for the C-Burning/Rubble Pit Operable Unit (131-C) and Old C-Area Burning/Rubble Pit (NBN)</i> , WSRC-RP-2008-4050, Revision.1.1, April 2009	06/11/2009	2
C-Area Reactor Seepage Basins, 904-66G, -67G, and -68G	Appendix A of <i>Post-Construction Report/Final Remediation Report for C-Area Reactor Seepage Basins, 904-66G, -67G, and 68G</i> , WSRC-RP-2002-4219, Revision.1, January 2003	03/19/2003	2

Unit Name	Document Title	Issuance Date ¹	Watershed Figure ²
Central Shops Burning/Rubble Pits, 631-1G and 631-3G	Appendix A of <i>Corrective Measures Implementation/ Remedial Action Implementation Plan for Central Shops Burning/Rubble Pits, 631-1G and 631-3G</i> , WSRC-RP-2003-4018, Revision.1, August 2003	09/12/2003	2
CMP Pits, 80-70G, -171G, -180G, -181G, -182G, -183G, and -190G	<i>Land Use Control Implementation Plan for the Chemical, Metals, and Pesticides Pits Operable Unit, 080-170G, 080-180G, 080-181G, 080-182G, 080-183G, and 080-190Gt</i>), WSRC-RP-2005-4078, Revision.1.2, July 2007	08/09/2007	3
D-Area Burning/Rubble Pits, 431-D & -1D)	Section 2.0 of <i>Final Remediation Report for the D-Area Burning/Rubble Pits (431-D and 431-ID)</i> WSRC-RP-97-406, Revision 1.1, March 1998	04/22/1998	4
D-Area Expanded Operable Unit (consisting of D-Area Ash Basin, 488-D and D-Area Rubble Pit, 431-2D)	<i>Land Use Control Implementation Plan for the D-Area Expanded Operable Unit</i> WSRC-RP-2004-4065, Revision.1, June 2005	08/03/2005	4
D-Area Oil Seepage Basin, 631-G	Appendix B of <i>Corrective Measures Implementation/ Remedial Design/Remedial Design Report/Remedial Action Workplan for the D-Area Oil Seepage Basin, 631-G</i> , WSRC-RP-99-4006, Revision.1, August 1999	08/16/1999	5
D Area Operable Unit Early Action (including Combined Spills from 483-D and Associated Areas (NBN), D-Area Asbestos Pit, 080-20G, D-Area Coal Pile Runoff Basin, 489-D, D-Area Process Sewer Lines as Abandoned, NBN, D-Area Waste Oil Facility, 484-10D, D-006 Petroleum Release Site, NBN)	<i>Early Action Land Use Control Implementation Plan for the D Area Operable Unit</i> SRNS-RP-2011-01166, Revision 0, July 2011	08/25/2011	5

Unit Name	Document Title	Issuance Date ¹	Watershed Figure ²
Early Construction and Operational Disposal Site (ECODS) L-1, N-2, P-2, & R-1A, -1B, -1C	<i>Land Use Control Implementation Plan for the Early Construction and Operational Disposal Site (ECODS) L-1, N-2, P-2, & R-1A, -1B, -1C, SRNS-RP-2009-01373, Rev.1. April 2010</i>	6/9/2010	3, 4, 6
F-Area Burning/Rubble Pits, 231-F, -1F, & -2F	Section 2.0 of <i>Final Remediation Report for the F-Area Burning/Rubble Pits (231-F, 231-1F, and 231-2F), WSRC-RP-97-193 Revision 1.1, March 1998</i>	04/23/1998	6
F-Area Retention Basin, 281-3F	Appendix A of <i>Corrective Measures Implementation/ Post-Construction Report/ Final Remediation Report for the F-Area Retention Basin, 281-3F, WSRC-RP-2001-4049, Revision.1, September 2001</i>	10/15/2001	2
Ford Building Seepage Basin, 904-91G	Appendix A of <i>Post-Construction Report/ Corrective Measures Implementation Report/Final Remediation Report for the Ford Building Seepage Basin, 904-91G, WSRC-RP-2003-4038, Revision.1, October 2003</i>	09/17/2003	4

Table B-1. Unit-Specific LUCIPs (Continued)

Unit Name	Document Title	Issuance Date¹	Watershed Figure²
General Separations Area (Consisting of Old Radioactive Waste Burial Ground (Including Solvent Tanks), 643-E, HP-52 Ponds, H-Area Retention Basin, 281-3H, Spill on 05/01/1956 of Unknown of Retention Basin Pipe Leak, NBN, Warner's Pond, 685-23G, Spill on 03/08/1978 of Unknown Seepage Basin Pipe Leak in H-Area Seepage Basin, NBN, and Spill on 02/08/1978 of Unknown of H-Area Process Sewer Line Cave-in, NBN)	Appendix A of <i>Corrective Measures Implementation/ Remedial Action Implementation Plan for the General Separations Area Consolidation Unit</i> , WSRC-RP-2003-4053, Revision.1.1, November 2003	12/12/2003	2
Gunsite 012 Operable Unit (consisting of Gunsite 012 Rubble Pile, NBN, Rubble Pile Across from Gunsite 012, NBN, and ECODS G-3 (Adjacent to Gunsite 012), NBN)	<i>Land Use Control Implementation Plan for the Gunsite 012 Operable Unit</i> SRNS-RP-2011-00293, Revision 1, August 2011	09/07/2011	3
Heavy Equipment Wash Basin, NBN	<i>Land Use Control Implementation Plan for the Heavy Equipment Wash Basin and Central Shops Burning Rubble Pit (631-5G)</i> , WSRC-RP-2005-4015, Revision.1, July 2005	09/01/2005	1
K-Area Bingham Pump Outage Pit, 643-1G	Section 2 of <i>Final Remediation Report for the K-Area Bingham Pump Outage Pit, 643-1G</i> , WSRC-RP-98-4003, Revision.1, August 1998	10/05/1998	4
K-Area Burning/Rubble Pit, 131-K and K-Area Rubble Pile, 631-20G	Appendix D of <i>Post-Construction Report for the K-Area Burning/Rubble Pit and K-Area Rubble Pile Operable Unit</i> , WSRC-RP-2002-4095, Revision.1, October 2002	11/22/2002	4

Unit Name	Document Title	Issuance Date¹	Watershed Figure²
K-Area Reactor Seepage Basin, 904-65G	Appendix A of <i>Post-Construction Report for the K-Area Reactor Seepage Basin</i> , WSRC-RP-2002-4030, Revision.1, July 2002	09/30/2002	4
L-Area Bingham Pump Outage Pits, 643-2G and – 3G	Section 2.0 of <i>Final Remediation Report</i> , WSRC-RP-2000-4030, Revision.0, March 2000	06/13/2000	4
L-Area Hot Shop, 717-G (Including the CML-003 Sandblast Area)	Appendix A of <i>Corrective Measures Implementation/ Remedial Action Implementation Plan for the L-Area Hot Shop, 717-G (Including the CML-003 Sandblast Area) Operable Unit</i> , WSRC-RP-2003-4021, Revision.1, June 2003	10/27/2003	6
L-Area Oil and Chemical Basin, 904-83G	Appendix A of <i>Post-Construction Report/Final Remediation Report for the L-Area Oil and Chemical Basin, 904-83G</i> , WSRC-RP-2001-4078, Revision.1, September 2001	11/05/2001	6
L-Area Reactor Seepage Basin, 904-064G	Appendix A of <i>Post-Construction Report/Final Remediation Report for the L-Area Reactor Seepage Basin</i> , WSRC-RP-2003-4118, Revision.1, February 2004	03/19/2004	6
L-Area Rubble Pile, 131-3L and Groundwater Plume Operable Unit	Appendix A of <i>Post-Construction Report for the L-Area Burning/Rubble Pit (131-L), Gas Cylinder Disposal Facility (131-2L) and L-Area Rubble Pit (131-3L)</i> , WSRC-RP-2003-4126, Revision.1, February 2004	03/29/2004	4
L-Area Southern Groundwater Operable Unit	<i>Land Use Control Implementation Plan for L-Area Southern Groundwater Operable Unit</i> , WSRC-RP-2007-4049, Revision.1, April 2009	05/08/2009	5

Unit Name	Document Title	Issuance Date¹	Watershed Figure²
M Area Operable Unit (Consisting of Underground Sump 321 M #001, Underground Sump 321 M #002, Salvage Yard, 741-A, and Potential Release of TCT, TET TCE, HNO ₃ , U, Heavy Metals from 321-M Abandoned Sewer Line, NBN)	<i>Land Use Control Implementation Plan for the M Area Operable Unit (MAOU), WSRC-RP-2008-4067, Revision.1, April 2009</i>	05/08/2009	5
M-Area Inactive Process Sewer Lines Operable Unit, 081-M (Including 313-M and 320-M Inactive Clay Process Sewers to Tims Branch, NBN)	<i>Land Use Control Implementation Plan for the M-Area Inactive Sewer Lines Operable Unit, WSRC-RP-2006-4068, Revision.1, April 2007</i>	05/17/2007	5
Miscellaneous Chemical Basin/Metals Burning Pit, 731-4A and 731-5A	Appendix A of <i>Interim Post-Construction Report for the Miscellaneous Chemical Basin/Metals Burning Pit, 731-4A and 731-5A, WSRC-RP-2002-4038, Revision.1.1, December 2002</i>	03/13/2003	7
Old F-Area Seepage Basin, 904-49G	Appendix A of <i>Post-Construction Report for the Old F-Area Seepage Basin, 904-49G, WSRC-RP-2000-4100, Revision.1, August 2001</i>	08/01/2001	7
P-Area Bingham Pump Outage Pit, 643-4G	Section 2.0 of <i>Final Remediation Report, WSRC-RP-2000-4030, Revision.0, March 2000</i>	06/13/2000	3
P-Area Burning/Rubble Pit, 131-P	Appendix A of <i>Corrective Measures Implementation /Remedial Action Implementation Plan P-Area Burning /Rubble Pit, 131-P, WSRC-RP-2002-4216, Revision.1, August 2003</i>	09/26/2003	6

Unit Name	Document Title	Issuance Date¹	Watershed Figure²
P Area Operable Unit (including P-Area Ash Basin (Including Outfall P-007), 188-0P; P-Area Process Sewer Lines as Abandoned, NBN and Spill on 03/15/79 of 5500 Gallons of Contaminated Water, NBN; P-Area Reactor Area Cask Car Railroad Tracks as Abandoned, NBN; Potential Release from P-Area Disassembly Basin, NBN; Potential Release from P-Area Reactor Cooling Water System, 186/190-P)	<i>Land Use Control Implementation Plan for the P Area Operable Unit, SRNS-RP-2010-00619, Rev.1, October 2010</i>	11/29/2010	6
P-Area Reactor Seepage Basins, 904-61G, -62G, and -63G	<i>Land Use Control Implementation Plan for P-Area Reactor Seepage Basins, 904-61G, -62G, and -63G, WSRC-RP-2003-4139, Revision.1, January 2004</i>	03/03/2004	6
P-Area Reactor Seepage Basins, 904-61G, -62G, and -63G	<i>Land Use Control Implementation Plan for P-Area Reactor Seepage Basins, 904-61G, -62G, and -63G, WSRC-RP-2003-4139, Revision.1, January 2004</i>	03/03/2004	6
R-Area Bingham Pump Outage Pits, 643-8G, -9G, and -10G and R-Area Unknown Pits #1, #2, and #3, RUNKS-1, -2, and -3	<i>Appendix B of Final Remediation Report for the R-Area Bingham Pump Outage Pits, 643-8G, -9G, and -10G and R-Area Unknown Pits #1, #2, and #3, RUNKS-1, -2, and -3, WSRC-RP-2003-4061, Revision.1, July 2003</i>	08/29/2003	3
R-Area Burning/Rubble Pits (131-R and -1R) and R-Area Rubble Pile (631-25G)	<i>Land Use Control Implementation Plan for R-Area Burning/Rubble Pits (131-R and 131-1R) and R-Area Rubble Pile (631-25G) Operable Unit, WSRC-RP-2004-4119, Revision.0, January 2005</i>	03/16/2005	2

Unit Name	Document Title	Issuance Date ¹	Watershed Figure ²
R Area Operable Unit (including Area on the North Side of Building 105-R, Laydown Area North of 105-R, and Release from the Decontamination of R-Area Reactor Disassembly Basin, NBN, Combined Spills North of Building 105-R, NBN, Cooling Water Effluent Sump, 107-R, Potential Release from R-Area Disassembly Basin, NBN, Potential Release of NaOH/H ₂ SO ₄ from 183-2R, NBN, R-Area Ash Basin, 188-0R, R-Area Groundwater, R-Area Process Sewer Lines as Abandoned, NBN, R-Area Reactor Area Cask Car Railroad Tracks as Abandoned, NBN)	<i>Land Use Control Implementation Plan for the R Area Operable Unit</i> SRNS-RP-2010-01208, Revision 1, February 2011	03/07/2011	3
R-Area Reactor Seepage Basins, 904-57G, -58G, -59G, -60G, -103G, and -1-4G	<i>Land Use Control Implementation Plan for R-Area Reactor Seepage Basins, 904-57G, -58G, -59G, -60G, -103G, and -104G,</i> WSRC-RP-2004-4032, Revision.1, September 2004	11/16/2004	7
Silverton Road Waste Site, 731-3A	Section 2.0 of <i>Final Remediation Report for the Silverton Road Waste Unit (731-3A)</i> , WSRC-RP-97-153 Revision 1.1, March 1998	04/23/1998	4
SRL Seepage Basins, 904-51G1, -53G2, -54G, and -55G	Appendix A of <i>Corrective Measures Implementation Report/Post-Construction Report/ Final Remediation Report for the SRL Seepage Basins, 904-51G1, -53G3, -54G, and -55G</i> , WSRC-RP-2001-4123, Revision.1, February 2002	04/04/2002	7

Unit Name	Document Title	Issuance Date ¹	Watershed Figure ²
T Area Operable Unit (Consisting of Neutralization Sump, 678-T; X-001 Outfall Drainage Ditch, NBN; TNX Outfall Delta, Lower Discharge Gully, and Swamp, NBN; and TNX-Area Process Sewer Lines and Tile Fields as Abandoned, NBN)	<i>Land Use Control Implementation Plan for T Area Operable Unit, WSRC-RP-2005-4029, Revision.1, July 2006</i>	10/10/2006	5
TNX Groundwater (082-G), Old TNX Seepage Basin (904-076G), and New TNX Seepage Basin (904-102G)	<i>Land Use Control Implementation Plan for TNX Operable Unit, WSRC-RP-2003-4173, Revision.1, April 2004</i>	05/04/2004	5

¹ Date of the latest regulatory approval received.

² This refers to the location of the unit on the watershed figures in the LUCAP