

LUCIP for the
P-Area Burning/Rubble Pit, 131-P
Appendix A of Corrective Measures Implementation/Remedial Action Implementation
Plan P-Area Burning/Rubble Pit, 131-P
(WSRC-RP-2002-4216, Revision 1, August 2003)

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APPENDIX B

LAND USE CONTROL IMPLEMENTATION PLAN

for the

P-AREA BURNING RUBBLE PIT (PBRP)

LAND USE CONTROL IMPLEMENTATION PLAN

for the

P-AREA BURNING RUBBLE PIT (PBRP)

This P-Area Burning Rubble Pit (PBRP) Land Use Control Implementation Plan (LUCIP) will be appended to the Savannah River Site (SRS) Land Use Control Assurance Plan (LUCAP). The United States Department of Energy (USDOE) is responsible for implementing the land use controls (LUCs) (e.g., inspections, maintenance, etc.) outlined in this unit-specific LUCIP.

The selected remedy leaves hazardous substances in place that pose a potential future risk and will require land use restrictions for an indefinite period of time. As negotiated with the United States Environmental Protection Agency (USEPA), and in accordance with USEPA Region IV policy (Johnston 1998), SRS has developed a LUCAP (WSRC 2002c) to ensure that land use restrictions are maintained and periodically verified. This LUCIP provides detailed and specific measures required for the LUCs selected as part of this remedy. USDOE is responsible for implementing, maintaining, monitoring, reporting upon, and enforcing the LUCs herein. Upon final approval, the LUCIP will be appended to the LUCAP and is considered incorporated by reference into the Post-Construction Report/Final Remediation Report (PCR/FRR), establishing LUC implementation and maintenance requirements enforceable under the Comprehensive Environmental Response, Compensation, and Recovery Act (CERCLA). The approved LUCIP will establish implementation, monitoring, maintenance, reporting, and enforcement requirements for the unit. The LUCIP will remain in effect until modified as needed to be protective of human health and the environment. LUCIP modification will only occur through another CERCLA document.

SRS will maintain institutional controls in accordance with the LUCAP (WSRC 2002c). The LUCAP states that the land use for the PBRP OU will be maintained for industrial land use only. Institutional controls will remain in place as long as the risk is greater than 1×10^{-6} and there is a threat to the environment.

1.0 REMEDY SELECTION

1.1 PBRP Operable Unit

The PBRP operable unit (OU) is located in the central portion of SRS, west of the P-Reactor facility. The PBRP is in an open area with sparse vegetative cover. The land surface at PBRP slopes gently to the south. Approximately 45.7 m (150 ft) to the south of the unit is a steep embankment of Steel Creek. The embankment drops 7.6 m (25 ft) in elevation over a lateral distance of 30.5 m (100 ft). The embankment is punctuated by a terrace located 3.0 m (10 ft) above the elevation of Steel Creek. The terrace is 7.6 m (25 ft) wide and contains a seep line. Steel Creek is at the base of the embankment. As outlined in the *Savannah River Site Future Use Project Report* (USDOE 1996b), USDOE has taken steps to prohibit residential use of SRS, including land in the vicinity of the P-Reactor Area, through its plan for current and future use of SRS. Therefore, future residential use of the area is not anticipated.

The RFI/RI/BRA determined that there is no problem (there are no refined constituents of concern [RCOCs]) warranting additional or separate action for the small drainage ditch near PBRP, the seepage line located along an embankment of Steel Creek, or the segment of Steel Creek located adjacent to the PBRP OU; therefore, no subunit-specific action(s) were warranted under the ROD for these three areas. The ditch and seepage line subunits do not appear to have been contaminated. Although Steel Creek as a whole is contaminated, no subunit-specific action was warranted under the ROD for the portion of this surface water within the PBRP OU. This contamination did not originate from PBRP and

contamination in Steel Creek is being addressed separately under the integrator operable unit program. Action was found to be warranted only for the PBRP and the groundwater.

The USDOE, USEPA, and South Carolina Department of Health and Environmental Control (SCDHEC) agree that industrial land use restrictions are appropriate for the PBRP OU. Industrial land use restrictions will include LUCs to ensure protection against unrestricted (residential) uses. The future land use of the PBRP OU is anticipated to be the same as the current land use (industrial use and control by the federal government).

A Remedial Action Fact Sheet summarizing project background, environment concerns, and environmental actions and plans is included as Appendix A of the PBRP Corrective Measures Implementation/Remedial Action Implementation Plan (CMI/RAIP).

1.2 Nature and Extent of Contamination in PBRP

Soil

The PBRP unit investigation confirmed that miscellaneous inert debris remains buried in the pit. Soil contaminants within the pit include inorganics, semi-volatile organic constituents (SVOCs), volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs). Soils around the perimeter of the pit are generally uncontaminated. However, there are a few places around the perimeter of the pit where low levels of unit-related contamination are present. "The Human Health RCOCs were limited to polycyclic aromatic hydrocarbons (PAHs) (See note on Table 1 for a specific list of PAHs). No Ecological RCOCs were identified within the PBRP investigation.". There are no RCRA-listed or characteristic wastes at the unit. The volume of contaminated soil is 3,500 cubic yards.

The contaminant fate and transport modeling indicates that nine constituents at PBRP present a contaminant migration (leachability) threat to groundwater. The contaminant migration RCOCs include antimony, chromium, copper, nickel, zinc, dibenzofuran,

tetrachloroethene, trichloroethene, and PCB-1242. These constituents are predicted to exceed MCLs or RBCs within 1,000 years.

"Table 1 lists the final Contaminant Migration and Human Health RCOCs and risks at the OU (WSRC 2002a)." There is no principal threat source material (PTSM) (highly mobile or highly toxic source materials that require a bias toward treatment alternatives) at PBRP. The contamination is largely isolated by backfill with its exposure limited by land use restrictions; the waste is categorized as a low-level threat.

Groundwater

There is no discernable contaminant plume in the groundwater, and detections above maximum contaminant levels (MCLs) are sporadic and limited to the water table aquifer (i.e., shallow unconfined aquifer). The groundwater RCOCs were 1,1-dichloroethene (DCE) and trichloroethene (TCE). DCE was detected above its MCL of 7 micrograms per liter ($\mu\text{g/L}$) in well PRP-6 in one of four sampling events (9.29 $\mu\text{g/L}$ in January 2001) and in well PRP-7 in one of four sampling events (7.13 $\mu\text{g/L}$ in November 1999). TCE was detected above its MCL of 5 $\mu\text{g/L}$ in well PRP-7 in one of four sampling events (15.9 $\mu\text{g/L}$ in November 1999). SK-C-53135 shows the locations of wells at PBRP and the analytical results for DCE and TCE. The volume of contaminated groundwater cannot be defined; there is no discernable contaminant plume. "Table 1 reports the risks associated with the groundwater RCOCs (i.e., DCE and TCE) (WSRC 2002a). There is no PTSM in groundwater. There is no free product (non-aqueous phase liquids)."

1.3 Remedial Action Overview

Based upon the characterization data and risk assessments in the RCRA Facility Investigation/Remedial Investigation/Baseline Risk Assessment (RFI/RI/BRA) (WSRC 2001a), the RAOs, and the evaluation of alternatives, the ROD (WSRC 2002a) selected remedy for PBRP is Alternative PBRP2 (Engineered Cover System with BaroBallsTM, Natural Biodegradation, and Institutional Controls). The ROD selected remedy for

groundwater is Alternative GW2 (Continued Monitoring and Reporting) (i.e., wells PRP 5, 6 and 7). The conceptual site model (CSM) from the ROD has been revised and is included to illustrate the broken pathways with the OU after implementation of the remedy (Figure 1).

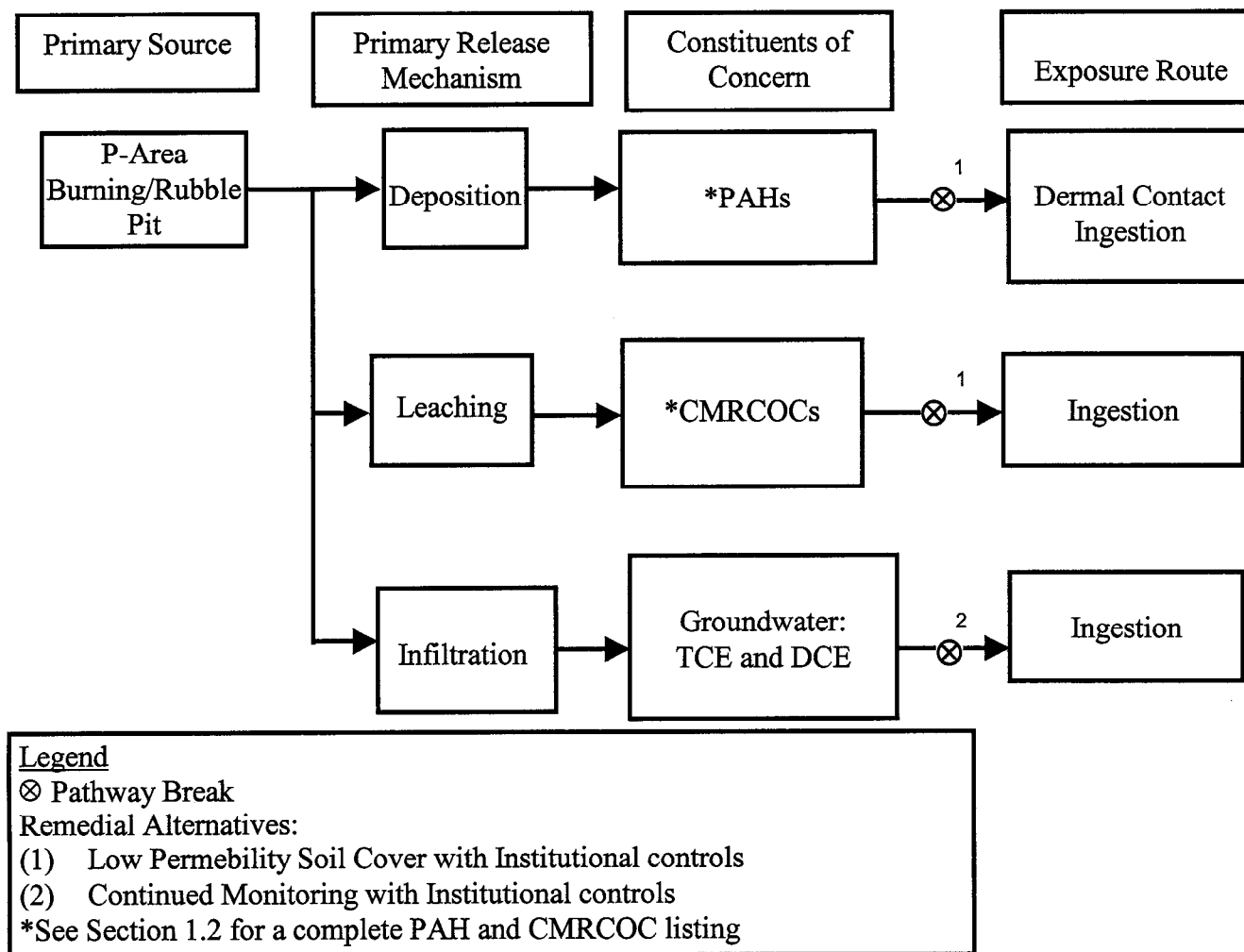


Figure 1. Conceptual Site Model for the PBRP with Remedy Applied

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Table 1. Summary of Risks and Hazards

RCOC	Type of RCOC	Location of Maximum	Depth of Maximum (ft bls)	Summary of Risks
PBRP Soil				
Antimony (Sb)	CM	PBRP-04	6-9	Predicted to exceed MCL in 612 years. Max groundwater concentration (10X MCL) in 800 years
Chromium (Cr)	CM	PBRP-05	6-9	Predicted to exceed MCL in 422 years. Max groundwater concentration (30X MCL) in 830 years
Copper (Cu)	CM	PBRP-05	9-12	Predicted to exceed MCL in 489 years. Max groundwater concentration (5X MCL) in 860 years
Nickel (Ni)	CM	PBRP-01	6-9	Predicted to exceed MCL in 232 years. Max groundwater concentration (3X MCL) in 430 years
Zinc (Zn)	CM	PBRP-01	6-9	Predicted to exceed RBC in 232 years. Max groundwater concentration (4X RBC) in 450 years
Benzo(a)anthracene *	HH _{ind, res}	PBRP-01	0-1	Future Industrial Worker Risk = up to 5×10^{-5} Hypothetical Resident Risk = up to 2×10^{-4}
Benzo(a)pyrene *	HH _{cur, ind, res}	PBRP-01	0-1	Current Worker Risk = up to 1×10^{-6} Future Industrial Worker Risk = up to 5×10^{-4} Hypothetical Resident Risk = up to 2×10^{-3}
Benzo(b)fluoranthene *	HH _{ind, res}	PBRP-01	0-1	Future Industrial Worker Risk = up to 5×10^{-5} Hypothetical Resident Risk = up to 2×10^{-4}
Benzo(k)fluoranthene *	HH _{ind, res}	PBRP-01	0-1	Future Industrial Worker Risk = up to 4×10^{-6} Hypothetical Resident Risk = up to 2×10^{-5}
Chrysene *	HH _{res}	PBRP-01	0-1	Hypothetical Resident Risk = up to 2×10^{-6}
Dibenzo(a,h)anthracene *	HH _{ind, res}	PBRP-01	0-1	Future Industrial Worker Risk = up to 7×10^{-5} Hypothetical Resident Risk = up to 3×10^{-4}
Dibenzofuran	CM	PBRP-01	0-1	Predicted to exceed RBC in 94 years. Max groundwater concentration (19X RBC) in 170 years
Fluoranthene *	HH _{res}	PBRP-01	0-1	Hypothetical Resident Hazard = up to 0.14
Indeno(1,2,3-c,d)pyrene *	HH _{ind, res}	PBRP-01	0-1	Future Industrial Worker Risk = up to 2×10^{-5} Hypothetical Resident Risk = up to 1×10^{-4}
Phenanthrene *	HH _{res}	PBRP-01	0-1	Hypothetical Resident Hazard = up to 0.16
Pyrene *	HH _{res}	PBRP-01	0-1	Hypothetical Resident Hazard = up to 0.16
Tetrachloroethene (PCE)	CM	PBRP-04	15-18	Predicted to exceed MCL in 5 years. Max groundwater concentration (15X MCL) in 6 years
Trichloroethene (TCE)	CM	PBRP-04	15-18	Predicted to exceed MCL in 4 years. Max groundwater concentration (10X MCL) in 4 years
PCB-1242	CM	PBRP-04	12-15	Predicted to exceed MCL in 428 years. Max groundwater concentration (9X MCL) in 500 years
Groundwater				
1,1-Dichloroethene (DCE)	ARAR, HH _{res, ind}	PRP-6	N/A	Exceeds MCL by 1.3X
Trichloroethene (TCE)	ARAR, HH _{res}	PRP-7	N/A	Exceeds MCL by 3X

ARAR = applicable or relevant and appropriate requirement (ARAR) RCOC

CM = Contaminant Migration RCOC

HH_{cur} = Human health RCOC for the current on-unit worker

HH_{ind} = Human health RCOC for the future industrial worker

HH_{res} = Human health RCOC for the future on-unit resident

RBC = Risk Based Concentration

MCL = maximum contaminant level

bls = below land surface

Ecological:

No RCOCs.

PTSM: No PTSM.

* Note: All HH RCOCs listed above are hereafter referred to as polycyclic aromatic hydrocarbons (PAHS)

Site maintenance will consist of repair of erosion damage, maintenance of drainage features, maintenance of wells PRP 5, 6 and 7 and maintenance of the soil cover integrity to maintain the effectiveness of the cover at mitigating infiltration and leaching. Site maintenance will also include maintenance of signs around the unit.

2.0 LAND USE CONTROLS

To ensure the protectiveness of the remedy described above, the PBRP OU land-use control objective is to:

- prevent contact, removal, or excavation of buried waste in the OU areas designated in the LUCIP and preclude future residential or agricultural use of the area.
- maintain the use of the site for industrial activities only.

Current access controls and a deed notification needed to maintain the future LUCs are described in the following sections of this LUCIP.

2.1 Access Controls

2.1.1 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 SRS shall be coordinated via the Site Use Program. All employees, contractors, and visitors to SRS require adherence to the Site Use Program. This program ensures that all work performed on the SRS that adds, modifies, or removes features portrayed on the SRS development maps is authorized. No use of land (i.e., excavation or any other land use) shall be undertaken without prior approval documented by a Site Use Permit. This authorization is obtained through the completion of a Site Clearance Request Form. Also, in accordance with WSRC 1D, Procedure 3.02, all work at SRS that adds to or modifies

features or facilities portrayed on SRS development maps (i.e., plot plans of facilities/utilities at SRS) will be authorized by a Site Clearance Permit before any excavation activities are conducted. All Site Clearance requests will be reviewed to verify that either an approved Site Use Permit has been obtained or that an existing Site Use Permit has sanctioned the request.

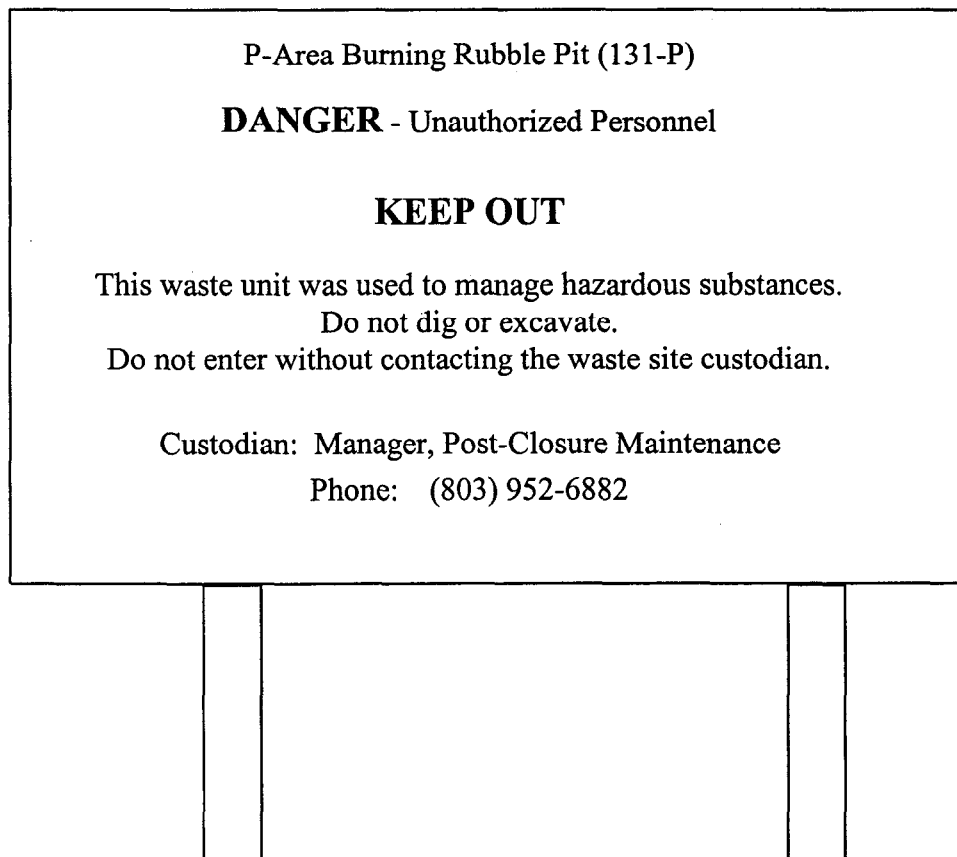
The SRS, specifically the Site Development, Planning, and Mapping Department, is responsible for updating, maintaining, and reviewing site maps, including FFA OU identifications. If a site clearance request is made that may impact an FFA OU, the Site Clearance Request Form is sent to an FFA OU reviewer, who is in the Soil and Groundwater Closure Projects (SGCP), for either approval or disapproval. The roles and responsibilities of each individual are detailed in WSRC 1D, Procedure 3.02. 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 (QA) Program. The SRS QA Program is the governing QA Program for all SRS activities, including those in the SGCP. The activities that are performed in the SGCP must comply with SRS QA Program procedures as well as SGCP-specific procedures.

SRS identifies all buildings and facilities on maps used in the Site Use/Site Clearance Program. 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. No major change in land use or excavation at the PBRP OU shall be undertaken without USEPA and SCDHEC approval. To prevent unknowing entry and to ensure that unrestricted use of the waste unit does not occur while it is under ownership of the government, access control warning signs will be posted at the unit.

They will be posted at each entrance to the restricted portion of the unit and at other appropriate locations in sufficient numbers to be seen from any approach. Custodial responsibilities for maintenance and inspection of the PBRP OU will be maintained by the Post-Closure Maintenance group within the SGCP. The access control warning signs for the soil cover will be legible from a distance of at least 25 feet. The soil cover signs will read as follows:



2.1.2 Trespassers

While under the ownership of USDOE, access control of the entire SRS will continue to be maintained in accordance with the 1992 Resource Conservation Recovery Act (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.

2.1.3 Groundwater Institutional Controls

Groundwater institutional controls will be implemented as long as concentrations exceed MCLs. Institutional controls will be implemented by:

- Performing environmental monitoring of wells PRP-5, 6 and 7.
- Providing access controls for on-site workers via the Site Use/Site Clearance Program, work control, worker training, worker briefing of health and safety requirements, and identification.
- The posting of signs at the waste unit access points to provide a visible indication of the presence of hazardous materials.
- Preventing unauthorized groundwater usage via the Site Use/Site Clearance Program land use restrictions.
- Notifying the USEPA and SCDHEC of any changes in use or disturbance of waste observed during site inspections.
- Providing access controls against trespassers per Section 2.1.2.

2.2 Deed Notification

In the long-term, if the property is ever transferred to non-federal ownership, the U.S. Government will take those actions necessary pursuant to Section 120(h) of CERCLA. Those actions will include a deed notification disclosing former waste management and disposal activities as well as remedial actions taken on the site. The contract for sale and the deed will contain the notification required by CERCLA Section 120(h). The deed

notification shall, in perpetuity, notify any potential purchaser that the property has been used for the management and disposal of waste. These requirements are also consistent with the intent of the RCRA deed notification requirements at final closure of a RCRA facility if contamination will remain at the unit.

The deed shall also include deed restrictions precluding residential use of the property. However, the need for these deed restrictions may be re-evaluated 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 re-evaluation of the need for the deed restrictions will be done through an amended ROD with USEPA and SCDHEC review and approval.

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

2.3 Field Walkdowns and Maintenance for Institutional Controls

After the remediation of the PBRP, only well monitoring and maintenance activities, outlined in the PBRP ROD (WSRC 2002a), will be required per this remedial action. No operations other than well monitoring will be required.

The results of any events and or actions that indicate some potential compromise of institutional controls will be documented in the FFA Annual Progress Report. All other routine maintenance activities will be documented and maintained in files subject to USEPA and SCDHEC review and audit. A copy of the completed inspection form is maintained in the SGCP Administrative Record Files.

The following steps will be implemented to maintain the low permeability soil cover:

- Perform periodic (annual) visual inspections for evidence of damage to the soil cover due to erosion or intrusion by burrowing animals. The inspection will also address upkeep of the vegetative cover and access control barriers (e.g., the warning signs). (Attachment A provides a unit-specific inspection data sheet for the PBRP OU).
- Perform necessary repairs (when required as identified during inspection) to maintain the functional integrity of the soil cover, selected wells, and the warning signs.
- Enforce SRS institutional controls by restricting access to the closed waste unit. Institutional controls will be maintained as long as the waste remains a threat to human health or the environment.
- As required by the National Oil and Hazardous Substance Contingency Plan (NCP), a five-year review of the remedy for the PBRP unit will be performed as long as the waste remains a threat to human health or the environment.

The waste site inspectors are to be trained in Hazardous Waste Operations and Emergency Response (i.e., HAZWOPER), RCRA Well Inspections, RCRA Waste Unit Inspections, Radiological Workers, 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. No single person will conduct all of the inspections or grass cutting operations over the years.

This unit-specific LUCIP, including the checklist, will be appended to the SRS LUCAP.

Per Section 3.6 of the LUCAP, this LUCIP identifies the area under land-use restriction via a survey plat. Note: Drawing # SK-C-53135 (Attachment B), includes a line marked "AREA SUBJECT TO LAND USE CONTROLS" to define the area subject to LUCs.

If the OU is ever transferred to non-federal ownership, a survey plat of the area, prepared by a certified professional land surveyor, will be recorded with the county recording agency.

APPENDIX B

ATTACHMENT A

SGCP INSPECTION DATA SHEET FOR P-AREA BURNING RUBBLE PIT

SGCP ANNUAL INSPECTION DATA SHEET

FOR P-AREA BURNING RUBBLE PIT

Page 1 of 2

A = Satisfactory X = Unsatisfactory (Explanation required)	A or X	Comments or Corrective Action Taken (See Maintenance Register for Corrected Items)
Verify there is no unauthorized digging, excavation, or construction activities on the soil cover.		
Remove or verify there is no woody vegetation growing on the soil cover.		
Check the vegetative cover for density. Verify there are no bare spots greater than 9 ft ² in area. The height of the vegetative cover should not impair the visual inspection of the soil cover. This will be determined by the inspector.		
Verify that the wells and roads are accessible.		
Inspect monitoring wells PRP-5, 6 and 7.		

Note: All monitoring wells associated with this waste unit are inspected using Monitoring Well Inspection Procedure SOP-011 in compliance with South Carolina Hazardous Waste Management Regulations R.61-79: Subpart F, Groundwater Monitoring.

SGCP ANNUAL INSPECTION DATA SHEET

FOR P-AREA BURNING RUBBLE PIT (Continued)

Page 2 of 2

A = Satisfactory X = Unsatisfactory (Explanation required)	A or X	Comments or Corrective Action Taken (See Maintenance Register for Corrected Items)
Verify that the waste unit signs have the correct information and they are legible from at least 25 feet and remove vegetation blocking the sign.		
Check the unit for evidence of erosion or subsidence (depressions).		
Check for evidence of burrowing animals (holes).		
Check OU boundary for presence of excessive erosion, carrying material outside the monument marker boundaries.		
Comments:		

Inspected by: _____ / _____ Date: _____ Time: _____
(Print Name) (Signature)

Reviewed by: _____ / _____ Date: _____ Time: _____
Post-Closure Manager or Designee

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

APPENDIX B

ATTACHMENT B

LUCIP DRAWING

SK-C-53135, Rev. 0, Land Use Control Implementation Plan (U)

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2Q. 98. ND. ND
4Q. 98. ND. ND
1Q. 01. ND. ND

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1" = 20'

P-AREA BURNING RUBBLE PIT
(PBRP) OPERABLE UNIT CLOSURE (131-P)

LAND USE CONTROL
IMPLEMENTATION PLAN DRAWING (U)

SK-C-53135, REV. 0

333334444444455555555556666
456789012345678901234567890123

PSC= 20

PLOT DATE 01/10/03 TIME

DRAWN BY (ORIG): T.HICKMAN

LAST CADD REV. BY: T.HICKMAN

DATE: 01/10/03

ATTACHMENT A


DRAWINGS

SK-C-53133 - PBRP (131-P) Grading Plan (U)

and

SK-C-53134 - PBRP (131-P) Sections and Details (U)

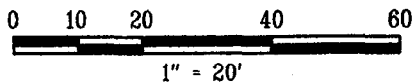
BOUNDARY MARKERS SHALL BE 36 INCHES LONG WITH THE LOCATION COORDINATES AND ELEVATION ENGRAVED ON A 2-INCH DIAMETER BRASS PLATE. THE TOP OF THE INSTALLED BOUNDARY MARKER SHALL NOT BE MORE THAN 2 INCHES ABOVE THE SURROUNDING GRADE.

10. WELL SHOWN AS  ARE NOT SUBJECT TO ONGOING MAINTENANCE, MONITORING, OR SAMPLING.
11. INSTALL CLOSED OPERABLE UNIT SIGN AT APPROXIMATE LOCATIONS SHOWN ON THE DRAWING.

P-AREA BURNING RUBBLE PIT
(PBRP) OPERABLE UNIT CLOSURE (131-P)

GRADING PLAN (U)

SK-C-53133, REV. 0



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6789012345678901234567890123

PSC = 20
PLOT DATE 01/13/03 TIME

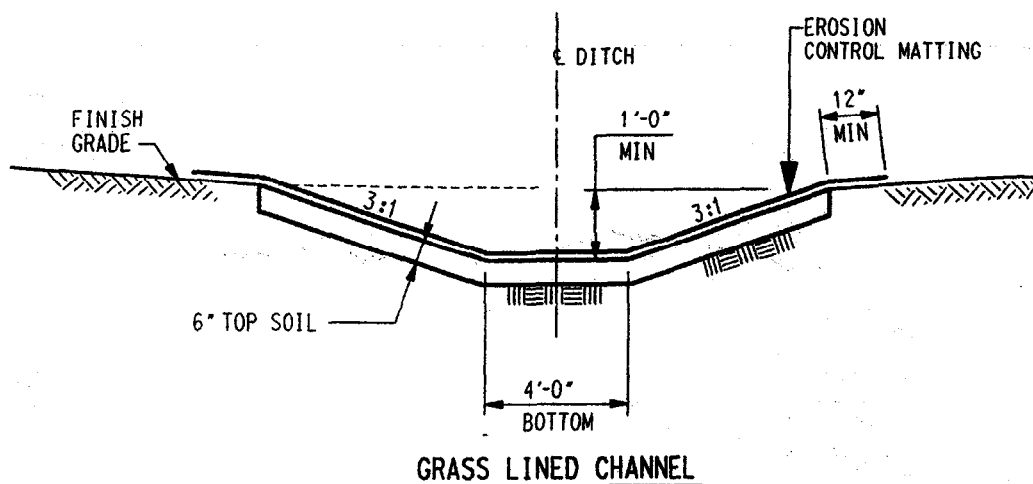
DRAWN BY (ORIG): T.HICKMAN
DATE: 01/13/03

LAST CADD REV. BY: T.HICKMAN
DATE: 01/13/03

CONNECT AND BAND
AS REQUIRED

[L 2
LE
CHANNEL)

DETAIL 3
NOT TO SCALE SK-C-53133



DETAIL 5
NOT TO SCALE SK-C-53134
(EAST-WEST CHANNEL)

P-AREA BURNING RUBBLE PIT
(PBRP) OPERABLE UNIT CLOSURE (131-P)

SECTION AND DETAILS (U)

SK-C-53134, RIV. 0

33333444444444445555555555556666
156789012345678901234567890123

PSC= 20 DRAWN BY (ORIG):
PLOT DATE 01/08/03 TIME

LAST CADD REV. BY: T.HICKMAN
DATE: 01/08/03

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ATTACHMENT B

STORMWATER MANAGEMENT AND SEDIMENT REDUCTION PLAN /
POLLUTION PREVENTION PLAN (SMSRP/PPP)

(For Reference Only)

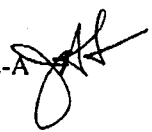


WESTINGHOUSE SAVANNAH RIVER COMPANY
INTEROFFICE MEMORANDUM

November 27, 2002

ESH-ECS-2002-00516

TO: J. K. PRICE, 730-2B

FROM: J. A. LINTERN, 742-A 

APPROVED GRADING PERMIT # 02-19-P-1.25 FOR LAND DISTURBING ACTIVITIES ASSOCIATED WITH THE P-AREA BURNING RUBBLE PIT (PBRP) OPERABLE UNIT (131-P) CLOSURE

Grading Permit #02-19-P-1.25 has been issued for land disturbing activities associated with the PBRP closure project, which includes tree removal, the installation of soil cover layers, and the placement of off-site topsoil over the unit totaling (1.25 acres). Enclosed is one (1) copy of the approved Stormwater Management & Sediment Reduction Plan (SMSRP), and one (1) copy of the Grading Permit. This information is to be maintained on the construction site.

Controls and sequences, as dictated in the approved SMSRP, are required to be maintained and inspected at intervals noted in the plan. Any changes to this plan must be reviewed and approved by EPD prior to implementation.

Upon completion of project and establishment of a perennial vegetative cover, close out of this Grading Permit is required. If this project is delayed or suspended after land disturbing activities have commenced, the area should be properly stabilized per plan requirements and notification made to EPD.

Please call me at 5-9003, if you have any questions.

jal/aeo

Att.*

c: L. Anderson, 730-2B
T. R. Bland, 730-2B
H. L. Davis, 703-A
D. E. Haley, 730-2B
N. J. Lowry, 742-A
B. D. McGee, 772-1G*
S. M. Mead, 730-2B
M. K. Patel, 730-2B
S. L. Stinson, 742-A
EPD Files, 742-A
Records Processing, 773-52A*

FILE INFO.

Stormwater; PBRP
10040;
DOE 1-8.a(1);
Permanent

**GRADING PERMIT APPLICATION FOR LAND DISTURBING ACTIVITIES
AT THE SAVANNAH RIVER SITE**

SECTION 1

PAGE 1 OF 3

DATE: 11/6/2002 FILE NUMBER: 02-19-P-1.25 A (To be assigned by EPD)

1. FACILITY NAME OR PROJECT NAME: P-Area Burning Rubble Pit (PBRP) Operable Unit Closure (131-P)
SIZE, TOTAL (ACRES): 1.25 SURFACE AREA OF LAND DISTURBANCE (ACRES): 1.25
SRS AREA: P-Area COUNTY: Barnwell START DATE: 11/03 COMPLETION DATE: 5/04
LOCATION: PBRP is located northwest of the intersection of the P-Area Reactor and south of the intersection of Road F and Road 7.
CATEGORY B
2. FOR LAND DISTURBANCES GREATER THAN OR EQUAL TO 1/4 ACRES: Savannah River Company
Environmental Protection Department
SIC CODE: _____ LATITUDE: _____ LONGITUDE: _____
USGS QUADNAME: _____ File# 02-19-P-1.25
Date Issued 11/26/02
By: [Signature]
3. NEAREST RECEIVING WATER BODY: Steel Creek
DISTANCE TO NEAREST RECEIVING WATER BODY: 1000 feet
ULTIMATE RECEIVING WATER BODY: "Atlantic Ocean"
4. LIST NPDES OUTFALLS DOWNSTREAM OF THIS ACTIVITY: None
5. ARE FRESHWATER WETLANDS LOCATED ON PROPERTY? ☐ YES ☒ NO
If Yes, Have The Wetlands Been Delineated? ☐ YES ☒ NO

SECTION 2

Provide Applicable Information as Requested Below: (List name, address, and phone/pager #)

6. RESPONSIBLE ORG.: Environmental Restoration
PROJECT MANAGER: Terry R. Bland, 730-2B-2124, 2-6387, Pager 17911
ENVIR. COMPLIANCE AUTHORITY: Price, Joe K., 730-2B-2127, (2-6708, B-17718)
7. DESIGN AGENCY: PE&CD/ER
RESPONSIBLE ENGINEER: Stephen M. Mead, 730-2B-2037, 2-6768
8. CONSTRUCTION ENGR.: N/A
SUBCONTRACT TEC. REP. (STR): Larry Anderson, 730-2B-2096, 2-6700/14471
9. CONTRACTOR: Subcontractor
RESPONSIBLE SUPT.: _____
SUBCONTRACTOR/CO-PERMITTEES: _____

SIC CODES:

- 15 General Building Contractors __ 1541-Industrial buildings and Warehouses
16 Heavy Const. __ 1611-Hwy and str. const., 1622-Bridge, tunnel, & elev. hwy. 1623-Water sewer, and utility lines, 1629 Heavy const., nec.
17 Special Trade Contractors __ 1794-Excavation work, 1795-Wrecking and demolition work

**GRADING PERMIT APPLICATION FOR LAND DISTURBING ACTIVITIES
AT THE SAVANNAH RIVER SITE**

SECTION 3

PAGE 2 OF 3

10.a

[Signature] 11-21-02
Environmental Coordinator Signature / Date

10.b

[Signature] 11-18-2002
Design Agency Rep. Signature / Date

11. I HEREBY CERTIFY THAT ALL LAND DISTURBING CONSTRUCTION AND ASSOCIATED ACTIVITY PERTAINING TO THIS SITE SHALL BE ACCOMPLISHED PURSUANT TO AND IN KEEPING WITH THE TERMS AND CONDITIONS OF THE APPROVED PLANS. I ALSO CERTIFY THAT A RESPONSIBLE PERSON WILL BE ASSIGNED TO THE PROJECT FOR DAY-TO-DAY CONTROL. I ALSO GRANT AUTHORIZATION TO THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL AND/OR THE IMPLEMENTING AGENCY THE RIGHT OF ACCESS TO THE SITE AT ALL TIMES FOR THE PURPOSE OF ON SITE INSPECTIONS DURING THE COURSE OF CONSTRUCTION AND TO PERFORM MAINTENANCE INSPECTIONS FOLLOWING THE COMPLETION OF THE LAND DISTURBING ACTIVITY.

T. R. BLAND
Printed Name

[Signature] 11/21/02
Signature / Date

12. I HEREBY CERTIFY THAT ALL LAND DISTURBING CONSTRUCTION AND ASSOCIATED ACTIVITY PERTAINING TO THIS SITE SHALL BE ACCOMPLISHED PURSUANT TO AND IN KEEPING WITH THE TERMS AND CONDITIONS OF THE APPROVED PLANS. I ALSO CERTIFY THAT A RESPONSIBLE PERSON WILL BE ASSIGNED TO THE PROJECT FOR DAY-TO-DAY CONTROL. I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS. I ALSO GRANT AUTHORIZATION TO THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL AND/OR THE IMPLEMENTING AGENCY THE RIGHT OF ACCESS TO THE SITE AT ALL TIMES FOR THE PURPOSE OF ON SITE INSPECTIONS DURING THE COURSE OF CONSTRUCTION AND TO PERFORM MAINTENANCE INSPECTIONS FOLLOWING THE COMPLETION OF THE LAND DISTURBING ACTIVITY.

Printed Name*

Signature / Date

*Owner / Person Financially Responsible or Authorized Representative of DOE (corporate officer or their delegate)

13. DESIGNER CERTIFICATION: FOUR COPIES OF THE PLANS, ALL SPECIFICATIONS AND SUPPORTING CALCULATIONS, FORMS, AND REPORTS ARE HEREWITH SUBMITTED AND MADE A PART OF THIS APPLICATION. I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENT SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS OF SC, 1976 AS AMENDED, AND PURSUANT REGULATION 72-300.

S.C. Registration Number

ENGINEER ☐

TIER B, LAND SURVEYOR ☐

LANDSCAPE ARCHITECT ☐

Signature / Date

LAND DISTURBANCE

☐ 1/2 ACRES

☐ 2 ACRES

☐ > 2 ACRES

REQUIRED SIGNATURE (S)

ENVIRONMENTAL COORDINATOR (EC)

EC, DESIGN AGENCY, & Owner or person financially responsible (Block 11)

EC, OWNER/PERSON FINANCIALLY RESPONSIBLE (BLOCK 12)

DESIGNER CERTIFICATION (BLOCK 13)

**GRADING PERMIT APPLICATION FOR LAND DISTURBING ACTIVITIES
AT THE SAVANNAH RIVER SITE**

SECTION 4

PAGE 3 OF 3

FOR INTERNAL USE ONLY:

1. I HEREBY CERTIFY THAT I HAVE THOROUGHLY REVIEWED THE APPLICATION, PLANS AND SUPPORTING DOCUMENTS AND FOUND THEM TO BE IN COMPLIANCE WITH THE LETTER AND THE INTENT OF THE LAW. THIS STAMP OF APPROVAL ON THE PLANS IS SOLELY AN ACKNOWLEDGEMENT OF SATISFACTORY COMPLIANCE WITH THE REQUIREMENTS OF THESE REGULATIONS. THE APPROVAL STAMP DOES NOT CONSTITUTE A REPRESENTATION OF WARRANTY TO THE APPLICANT OR ANY OTHER PERSON CONCERNING THE SAFETY, APPROPRIATENESS OF EFFECTIVENESS OF ANY PROVISIONS, OR OMISSION FROM THE STORMWATER AND SEDIMENT PLAN. I HAVE STAMPED 6 SETS OF APPROVED PLANS.

I HAVE FILED ONE SET AND DISTRIBUTED

☐ Grading Permit Application only to SCDHEC - Aiken, SC

[Signature] 11/26/02
PLAN REVIEWER

- 2A. WILL SITE MONITORING/INSPECTION BY A SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER RESPONSIBLE FOR CONSTRUCTION BE REQUIRED? ☐ YES ☒ NO
(TO BE SPECIFIED BY REVIEWER)

IF YES, LIST REASON: CATEGORY A PROJECT _____

OTHER _____

CAN APPROVED SITE INSPECTOR (ASI) OPTION BE UTILIZED IN LIEU OF SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER?

☒ YES ☐ NO IF NO, GIVE REASON _____

SIGNATURE / DATE

- 2B. WILL AS BUILT CERTIFICATION BY A REGISTERED PROFESSIONAL RESPONSIBLE FOR CONSTRUCTION BE REQUIRED FOR THIS PROJECT FOR FINAL APPROVAL? ☐ YES ☒ NO
(TO BE SPECIFIED BY REVIEWER)

IF YES

PRIOR TO FINAL APPROVAL, I WILL SUBMIT A STATEMENT CERTIFYING THAT CONSTRUCTION IS COMPLETE AND IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. THIS WILL BE BASED UPON PERIODIC OBSERVATIONS OF CONSTRUCTION AND FINAL INSPECTION FOR DESIGN COMPLIANCE BY ME OR A REPRESENTATIVE OF MY OFFICE WHO IS UNDER MY SUPERVISION.

(To be signed by a registered professional responsible for construction)

SIGNATURE / DATE

3. Records: Please ensure that this document is included with the official Project Files and is handled per SCD4 requirements. EPD will maintain "Information Only" copies of this document.

4. CATEGORY B PROJECT OPTION FOR ASI:

I, _____ (NAME AND TITLE)
REQUEST THAT THIS PROJECT BE INSPECTED BY AN APPROVED SITE INSPECTOR.

STORMWATER MANAGEMENT & SEDIMENT REDUCTION PLAN /
POLLUTION PREVENTION PLAN
(SMSRP/PPP)

P-AREA BURNING RUBBLE PIT (I31-P) CLOSURE (U)

Document No. ERD-SMP-2002-00008

REVISION 0

CA-1221

Westinghouse Savannah River Company
Environmental Protection Department

File# 02-19-P-1,25
Date Issued 11/26/02
By: Jeff Hinton

Originator Stephen M. Mead
Stephen M. Mead

Date: 11-15-2002

Verifier/
Checker M. K. Patel
M. K. Patel

Date: 11/18/02

Approval D. E. Haley
D. E. Haley

Date: 11/18/02

[illegible]

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1.0 INTRODUCTION

This Stormwater Management & Sediment Reduction Plan/Pollution Prevention Plan (SMSRP/PPP) is prepared for closure of the P-Area Burning Rubble Pit (PBRP) Operable Unit (131-P).

The PBRP Operable Unit will be closed using a low permeability soil cover. Prior to work under this plan, the PBRP Operable Unit will be cleared of marketable timber by Forest Services. The project scope and key activities include the following:

- Installation and maintenance of temporary erosion and sediment reduction measures.
- Site work including surveys, earthwork, and clearing and grubbing.
- Clearing all trees and vegetation from within the PBRP operable unit limits and disposal to an off unit area.
- Grinding all stumps to a minimum of 6" below existing grade and disposal of grindings beneath the low permeability soil layer. Chipping of uprooted stumps and roots, and placement under the low permeability soil layer.
- Removal of perimeter fence posts, signs and orange ball and disposal into an inert landfill.
- Removal and distribution of soil from high areas including rough grading of the PBRP operable unit area per the project drawings and specification.
- Installation of soil cover layers atop the PBRP operable unit area per the project drawings and specification.
- Installation and maintenance of drainage channels and stormwater management structures per the project drawings and specification.
- Placement of topsoil from an off-site source.
- Installation of gravel access ramp for the PBRP cover.
- Seeding and fertilization of soil cover area including all disturbed areas.
- Installation of markers (signs) along the perimeter of soil cover area.
- Installation of waste unit boundary monuments.
- Installation of monitoring wells.

1.1 LOCATION & ORIENTATION

The PBRP operable unit is located northwest of the P-Reactor and south of the intersection of Road F and Road 7. (See attached drawing C-CV-G-0098). The PRBP operable unit closure area is approximately 265 ft long by 95 ft wide and encompasses a single inactive burial pit approximately 200 ft long by 30 ft. wide. At present, the project area gently slopes southward and is well vegetated. There is a fair growth of pine trees within the operable unit limits.

At the west side of the site, there is a steep embankment with a drainage swale at the embankment's toe. There is a compacted gravel/soil perimeter road located at the north and east sides of the unit. The land surface at PBRP slopes gently to the south towards the embankment of Steel Creek. The drainage from the operable unit closure area is intercepted by a drainage swale south of the unit, which intercepts and conveys the stormwater westward towards a 18-inch diameter corrugated plastic pipe (CPP) culvert.

At present, site stormwater runoff primarily sheet flows and becomes shallow concentrated flow as it flows into the swale located to the south of the unit. The PBRP is relatively flat and contributes very little runoff. The surrounding areas outside of the PBRP operable unit are the major contributors of runoff to the south and west side swales. Stormwater runoff from areas outside the operable unit closure area does not sheet flow over the unit, but flows around the unit in swales.

1.2 OBJECTIVES OF SMSRP/PPP

This SMSRP/PPP specifies the stormwater management and sediment reduction measures that will be utilized during the project construction activities to prevent off-site sediment migration beyond the limits of disturbance. The SMSRP/PPP complies with:

- South Carolina Department of Health and Environmental Control (SCDHEC) Stormwater Management and Sedimentation Control Handbook for Land Disturbance Activities.

The SMSRP/PPP incorporates the following criteria as a means of satisfying the regulations referenced above:

- The smallest practical area will be cleared and grubbed.
- Where feasible, natural vegetation will be retained and protected from damage.
- Temporary plant cover and mulching to control runoff will be used to protect areas that are exposed to erosion during periods of development.
- Wire-backed silt fence check dams will be utilized to remove sediment from runoff prior to release of the stormwater from the disturbed area.
- The long-term re-vegetation activities will begin no later than 14 days after construction completion.
- An 18-inch CPP elbow riser will be utilized at the existing 18-inch CPP culvert to detain water and settle out sediment.

2.0 SOIL EROSION CHARACTERISTICS & RUNOFF DETERMINATION

To assist in the existing site evaluation, a topographic survey (see attached drawing C-CV-G-0098) was used to accurately establish land slopes and to predict stormwater runoff rates. Also, a walk down of the project site and adjacent surrounding areas was conducted during August 2002. The purpose of the walk down was to determine and evaluate drainage patterns at the project site, surrounding area drainage patterns, and the extent and condition of existing ground cover.

Approximately 0.90 acres will be covered with a low permeability soil cover and an 18-inch thick vegetative layer placed atop the low perm layer. Construction activities will disturb 1.25 acres. The proposed finished cover grades are from 3 to 5 percent with 4:1 side slopes. The proposed ground cover is a well-established dense grass that will receive regular maintenance. Therefore, the site hydrology between the pre and post conditions for a 10-year 24-hour storm will not change significantly. Based on these facts and that the site is very small, a formal calculation for the runoff determination and sediment volume predictions was not prepared. Given the site topography and size, proposed disturbance area, and construction duration, temporary sediment and erosion control measures were selected.

3.0 STORMWATER MANAGEMENT & SEDIMENT REDUCTION PLAN/POLLUTION PREVENTION PLAN

Materials used for erosion and sediment reduction will conform to the project specification sections listed in the references of this SMSRP/PPP plan. Inspection of erosion and sediment reduction measures will be performed per Section 5.0 of this SMSRP/PPP. Any damages shall be repaired immediately.

3.1 STORMWATER MANAGEMENT MEASURES

On-site stormwater runoff will sheet flow southward from the construction site. There is no off-site stormwater run-on to the disturbed area. The existing site grading will be maintained until construction of the low-permeability soil cover system begins. The final grading of the site will sheet flow towards the east, west and south into the same drainage swales that existed prior to construction. The existing west and south side swales will be regraded and improved to increase hydraulic performance. A riprap apron will be installed at the inlet of the 18-inch diameter CPP to minimize erosion.

The temporary erosion and sediment control measures will remain in place until it has been determined that there is a 70 percent vegetation coverage. Once 70 percent vegetation coverage is confirmed, the ERD Post Closure Maintenance organization will assume all responsibility for ensuring that a 70% long-term cover is established. Also, this same group shall dismantle and remove all temporary sediment control measures such as silt fences, riser, etc.

3.2 EROSION AND SEDIMENT REDUCTION MEASURES

3.2.1 Wire-backed temporary silt fence will be located along the south and east sides of the construction site and will be relocated as required to facilitate grading activities during the construction phases. Wire backed silt fence check dams will be installed in the regraded channels upstream of the riprap apron to capture transported sediments from the disturbed areas. Also, a temporary riser will be installed at the inlet end of existing 18 inch diameter corrugated plastic pipe (CPP) culvert to detain the stormwater during construction activities. These temporary measures will be located as indicated on drawing C-CV-G-0099 and -0100 and installed to conform to the requirements of drawing C-CV-G-0102.

3.2.2 Attempts to vegetate disturbed areas will begin immediately whenever each phase has temporarily or permanently ceased.

If it is determined that construction activity will be temporarily delayed for more than 21 days, temporary vegetative cover or extensive mulching shall be provided within 14 days of the construction termination.

4.0 CONSTRUCTION SCHEDULE AND SEQUENCING

Listed below is a forecast of the construction schedule for the PRBP Closure Project. The proposed construction duration is subject to change based on funding and regulatory constraints.

Construction Task	Approximate Duration
Install erosion and sediment reduction measures	½ month
Vegetation removal and rough grading	1 month
Install low-permeability soil cover	5 months
Vegetate final grade and disturbed areas	½ month
Remove temporary stormwater management and sediment reduction measures	Upon acceptance of long term vegetation

5.0 INSPECTION AND MAINTENANCE

Inspections shall be performed on all stormwater management and sediment reduction measures. The inspection frequency shall be once every seven days and/or after any storm event of greater than 0.5 inches of precipitation during any 24-hour period. These inspections will be performed and documented as required by the project specification document. This SMSRP/PPP will be retained at the construction site with the inspection log containing completed Inspection Reports until construction is completed and until site ownership is transferred to the permanent site custodian.

6.0 POST CONSTRUCTION SITE CONDITION

The receiving waters from stormwater runoff of this site will remain unchanged after construction. Site stormwater presently is intercepted by Steel Creek and conveyed to L Lake. L Lake impounds Steel Creek but eventually discharges water downgradient to Steel Creek once again. Steel Creek flows southward and joins Pen Branch. The Pen Branch waters are received by the Savannah River.

Post construction ground surfaces will be well vegetated with established long-term vegetation. All temporary stormwater management and sediment reduction measures will be inspected and maintained until stabilization of the disturbed areas is confirmed.

7.0 PLAN AMENDMENT

This SMSRP/PPP will be revised and amended as required to properly reflect any proposed changes. The revised SMSRP/PPP shall receive EPD approval prior to implementation of any proposed changes.

8.0 SUMMARY AND CONCLUSION

This sediment reduction plan is prepared in compliance with the provisions of SCDHEC Stormwater Management and Sediment Control Handbook for Land Disturbance Activities. The plan recognizes the importance of sediment migration. The high degree of abatement is accomplished through the use of the following:

- Minimizing the size of the disturbed areas;
- Filtering the runoff from the disturbed areas; and,
- Stabilizing all disturbed areas as soon as possible

It is imperative that stormwater management and erosion reduction structures be maintained during construction activities and for the entire project duration. The structures are specifically designed to minimize the amount of soil that may migrate from the site. It is concluded that the plan, as developed, will be an effective means of controlling erosion.

9.0 ATTACHMENTS

C-CV-G-0098	Existing Topographic Map and Drawing Index (U)
C-CV-G-0099	Top of Low Permeability Soil Layer Grading Plan (U)
C-CV-G-0100	Top of Vegetative Layer Grading Plan (U)
C-CV-G-0101	Sections and Details (U)
C-CV-G-0102	Erosion and Sediment Reduction Notes and Details (U)

10.0 REFERENCES

- South Carolina Regulation 72-300 Standards for Stormwater Management and Sediment Reduction, 1998
- South Carolina Stormwater Management and Sedimentation Control Handbook for Land Disturbance Activities, SCDHEC.
- Manual No. WSRC-IM-91-69, SRS Environmental Permitting, "HOW" Manual, Sections 1.9 and 1.13.
- DOE/SR-5000-29, Handbook for Erosion and Sediment Control on the Savannah River Site.
- Permit No. SCR100000 - SCDHEC NPDES General Permit for Stormwater Discharge from Construction Activities that are Classified as "Associated with Industrial Activity" by EPA Regulation, Issue Date: January 15, 1998, Expiration Date: January 31, 2003.
- Specification C-SPP-P-00001, Section 02230 Clearing and Grubbing
- Specification C-SPP-P-00001, Section 02300 Earthwork
- Specification C-SPP-P-00001, Section 02374 Erosion Control
- Specification C-SPP-P-00001, Section 02924 Seeding, Fertilizing and Mulching

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INFORMATION ONLY

DRAWING INDEX

TOPOGRAPHIC MAP AND DRAWING INDEX
PERMEABILITY SOIL LAYER GRADING PLAN
ATIVE LAYER GRADING PLAN
DETAILS
SEDIMENT REDUCTION NOTES AND DETAILS

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RIVER SITE

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C-CV-G-0099, Rev.0
Top of Low Permeability
Soil Layer Grading Plan (U)

INFORMATION ONLY

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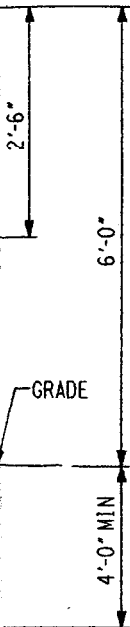
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C-CV-G-0100 Rev.0
TOP OF VEGETABLE SOIL
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POST AND FASTENING
HARDWARE BY SUBCONTRACTOR



INFORMATION ONLY

SIGN

LOCATION.

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DEPARTMENT OF ENERGY

RIVER SITE

DESIGN AREA NO. P-AREA	DESIGN GROUP PE&CD/ER
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ING RUBBLE PIT
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TURBANCE WILL REQUIRE A MODIFICATION
MSRP/PPP BY EPD AND BSRI ENGINEERING

FOR LOCATION PLAN, GENERAL NOTES,
WINGS.

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