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DOE Savannah River Site Record of Decision

Remedial Alternative Selection for the Early Construction and Operational Disposal Site N-1 (NBN), Central Shops Scrap Lumber Pile (631-2G), and Process Heat Exchanger Repair Facility (aka Ford Building, Building 690-N) Operable Unit

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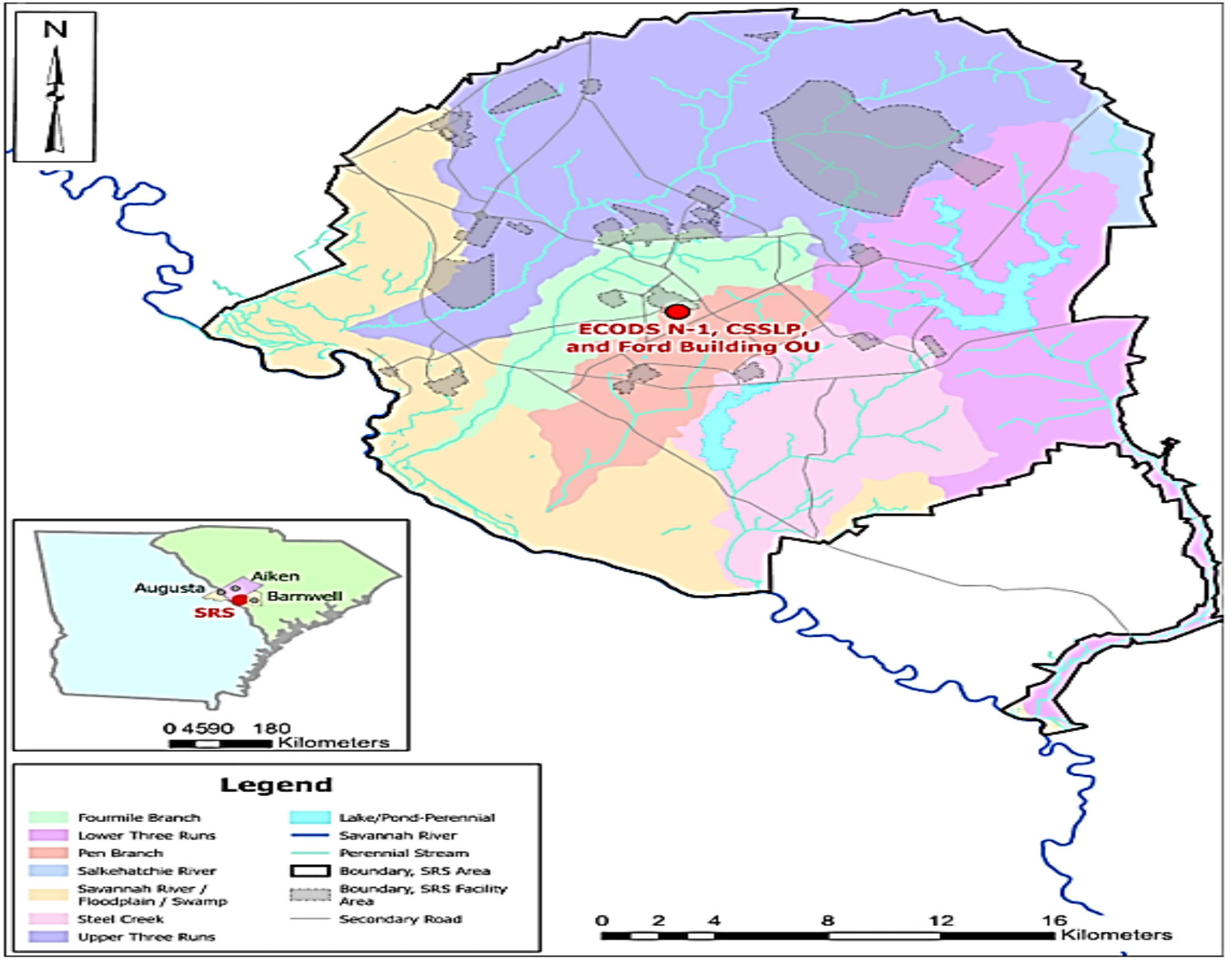
Site Description

- The Savannah River Site (SRS) is an approximately 310 square mile Department of Energy facility on the Savannah River near Aiken, South Carolina and Augusta, Georgia
- SRS was added to the NPL on December 21, 1989
- In accordance with Section 120 of CERCLA, Federal Facility Agreement was signed by EPA, DOE and SCDHEC in 1993
- Under the FFA, EPA, DOE and SCDHEC coordinate remedial activities with Core Team Protocols
- **This N Area ROD is for 3 individual units within the same OU, with 2 proposed as LUCs only and the other an excavation. This ROD milestone was originally 12/23, but being signed early to help meet Targets for FY23.**


N
ECODS N-1, CSSLP,
and Ford Building OU
Aiken
Augusta
Barnwell
SRS
0 4590 180
Kilometers
Legend
Fourmile Branch
Lower Three Runs
Pen Branch
Salkehatchie River
Savannah River / Floodplain / Swamp
Steel Creek
Upper Three Runs
Lake/Pond-Perennial
Savannah River
Perennial Stream
Boundary, SRS Area
Boundary, SRS Facility Area
Secondary Road
0 2 4 8 12 16
Kilometers

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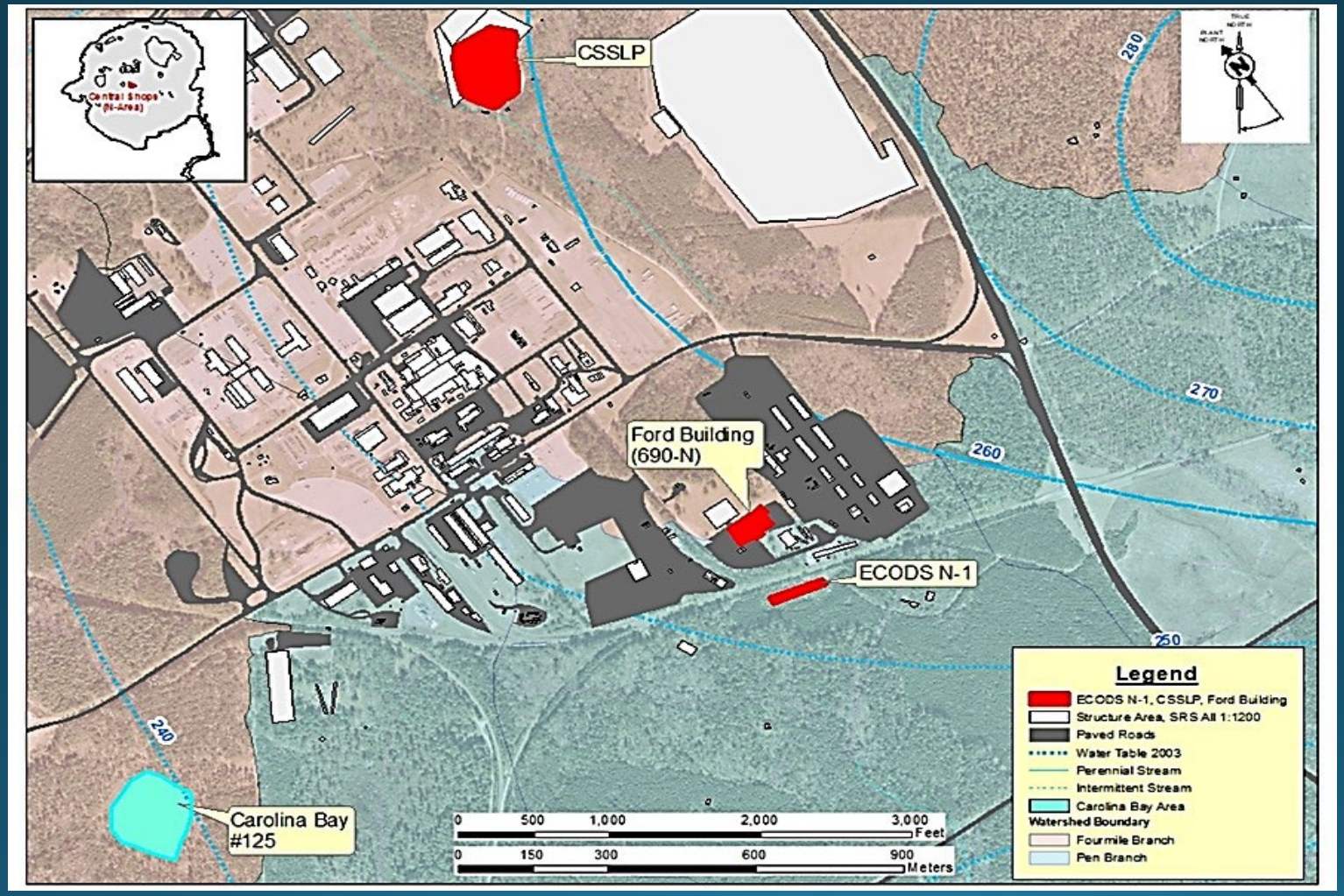
SRS - N Area



Operable Unit Background

- The OU consists of the Early Construction & Operational Disposal [ECODS] N-1 subunit, Central Scraps Shot Lumber Pile (CSSLP) subunit, and the Ford Building subunit
- **ECODS N-1** is one of 25 ECODS at SRS that were used during the construction and early operation of SRS [early 50s] for disposal of construction debris and other non-radioactive waste materials
- *Note: Groundwater is not part of the OU and will be addressed under the Central Shops Groundwater OU*

OU background cont.

- **The CSSLP subunit** is segregated into two areas, 1] the Upland Area and 2] the Surface Water Impoundment Area. Operating procedures called for the CSSLP to receive inert, nonhazardous materials, including items such as nails, hinges, scrap lumber, poles, crates, pallets, and unsalvageable wood products.

- **The Ford Building (690-N**) was a one-story metal frame structure on a concrete pad, covering 900 square meters.
- The primary area of the building consisted of a machine shop with offices, storage rooms, restrooms, and a service area.

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OU Background cont.

- In early 1960s, the Ford Building was converted from a testing facility to a location for heat exchanger repair/rework.
- In the 1980s, the Ford Building (690-N) served the dual purpose of housing construction crews and storage of miscellaneous equipment and supplies.
- The last use for the Ford Building (690-N) was to store excess equipment, which was chemically and/or radiologically contaminated, in waste containers.
- The repair work performed in the Ford Building (690-N) generated wastewater contaminated with low levels of radioactivity and trace quantities of non-radioactive organic and inorganic compounds.

Conceptual Site Model and COCs

- **There has been a release of contaminants at all three subunits of the ECODS N-1, CSSLP, and Ford Building OU, at levels that pose an unacceptable risk to human health and the environment**:

  - **Asbestos:** subsurface soils at the ECODS N-1 subunit,
  - **Arsenic** : surface soil and sediment at the CSSLP subunit,
  - **Cobalt-60** (Co-60): surface soils at the Ford Building subunit.
  - **Cesium-137** (Cs-137) and polychlorinated biphenyls (PCBs): remnant concrete slab at the Ford Building beneath a concrete cover system installed during deactivation and decommissioning activities in 2021.

ECODs, CSSLP, Ford Risk summary

RCOCs	ECODS N-1[1]	CSSLP			Ford Building
	Soil	Soil	Sediment	Surface Water	Soil
CM RCOCs	All depths None	All depths None	All depths None	NA	All depths None
HH RCOCs	0-1 ft None	0-1 ft Arsenic Res risk = 2.41E-05 IW risk = 5.46E-06	0-1 ft Arsenic Res risk = 1.22E-05 IW risk = 2.76E-06	None	0-1 ft Cobalt-60 Res risk = 1.65E-05 IW risk = 1.13E-05
ECO RCOCs	0-1 and 1-4 ft None	0-1 and 1-4 ft None	0-1 ft None	None	0-1 and 1-4 ft None
PTSM RCOCs	All depths None	All depths None	All depths None	NA	All depths None

Summary of Ecological Risk Assessment

Note: No ecological problems warranting action for the ECODS N-1, CSSLP, and Ford Building OU, including soil, sediment and surface water media, were identified.

Remedial Action Objectives

ECODS N-1 subunit:

- **Prevent residential and industrial exposure** to asbestos that is present in the subsurface. The primary route of exposure is the inhalation pathway.

CSSLP subunit:

- **Prevent residential and industrial exposure** to arsenic in surface soils at levels exceeding 1E-06 risk and/or SRS background concentration. The primary route of exposure is the incidental ingestion pathway.
- **Prevent residential and industrial exposure** to arsenic in surface sediments in the Surface Water Impoundment Area at levels exceeding 1E-06 risk and/or SRS background concentration. The primary route of exposure is the incidental ingestion pathway.

Ford Building subunit:

- **Prevent residential and industrial exposure** to Co-60 in surface soils at levels exceeding 1E-06 risk. The primary route of exposure is the incidental ingestion pathway.
- **Prevent residential and industrial exposure** to PCBs and Cs-137 at the Ford Building (690-N) remnant concrete slab at levels exceeding 1E-06 risk and PCB ARAR of 1 mg/kg for free release.

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Alternatives Considered

ECODS N-1 Subunit (Alternatives A-1 and A-2)

- Alternative A-1: No Action
- **Alternative A-2: Land Use Controls [$271k]**

CSSLP Subunit (Alternatives B-1 through B-4)

- Alternative B-1: No Action
- Alternative B-2: Land Use Controls [$345k]
- Alternative B-3: Soil Cover with Land Use Controls [$3M]
- **Alternative B-4: Excavation (Hot Spot Removal) and Disposal [$900k]**

Ford Building Subunit (Alternatives C-1 through C-3)

- Alternative C-1: No Action
- **Alternative C-2: Land Use Controls [$300k]**
- Alternative C-3: Excavation (Hot Spot Removal) and Disposal with LUCs [$713k]

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Preferred Alternatives Chosen

- For the ECODS N-1 subunit, Alternative A-2, Land Use Controls is the preferred alternative because it is effective in preventing human exposure to asbestos that is present in the subsurface and will achieve the RAO provided **LUCs remain in place**

- For the CSSLP subunit, Alternative B-4, Excavation (Hot Spot Removal) and Disposal of is the preferred alternative because it is effective in eliminating human exposure to arsenic-contaminated surface soil in the Upland Area and arsenic-contaminated surface sediments in the Surface Water Impoundment Area. **Alternative B-4 achieves the RAOs**. **No LUCs are needed**, and the **land use** for the CSSLP subunit is expected to be **unrestricted** following implementation of the remedial action

- For the Ford Building subunit, Alternative C-2, Land Use Controls is the selected alternative because it is effective in preventing human exposure to Cs-137 and PCBs remaining on the remnant slab beneath the concrete cover system, and Co-60 in surface soils beneath the gravel apron surrounding the concrete cover system. **Alternative C-2 achieves the RAOs**. **The land use at the Ford Building** subunit will **remain industrial**.

Cost of Preferred Alternative

Remedy	**Total Estimated Cost**
Alternative A-2, LUCs	$271,396
Alternative B-4, Excavation (Hot Spot Removal) and Disposal	$900,928
Alternative C-2, LUCs	$677,613
total =	$1,849,937

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Questions?

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