

# Appendix K

## Cultural Resources

### K.1 Introduction

This appendix provides details regarding known and potential cultural resources in areas in which the Hanford Solid Waste Program activities, as described in Section 3, may take place. These areas are portions (including Low Level Burial Grounds [LLBGs] and the ILAW disposal area near the PUREX Plant) of the 200 East and 200 West Areas (including the Central Waste Complex [CWC] expansion area), Area C containing borrow pit material, access roads, and a stockpile area north of State Route 240 near the 200 West Area.

Cultural resources reviews, in accordance with the National Historic Preservation Act (16 USC 470), are conducted to ensure that potential impacts to cultural resources and historic properties are considered in advance of Federal undertakings. Copies of letters of consultation (for this Hanford Solid Waste Environmental Impact Statement [HSW EIS]) with the State of Washington Office of Archaeology and Historic Preservation for this EIS are attached.

#### K.1.1 200 East and 200 West Areas

Since 1987, a total of 42 cultural resources reviews have been conducted for various projects associated with the LLBGs, surrounding areas in the 200 West and 200 East Areas, and mineral source locations (see Table K.1). New reviews are completed when any change in project scope or location occurs. Thus cultural resources reviews would be initiated for project activities associated with alternatives considered in this EIS to determine whether or not the proposed activities associated with waste management operations would have the potential to cause effects on historic properties [36 CFR 800.3(a)(1)].

The only buildings and structures that are eligible for listing in the National Register of Historic Places and have the potential to be affected by projects associated with the Hanford Solid Waste Program activities in the 200 West and 200 East Areas include certain facilities within the T Plant Complex. Modifications of these facilities, as proposed for all alternatives (except Alternative Group B and the No Action Alternative), may require additional cultural resources reviews.

**Table K.1. Previously Conducted Cultural Resources Reviews<sup>(a)</sup>**

<b>Hanford Cultural Resource Case Number</b>	<b>Title</b>	<b>Activities Reviewed</b>	<b>Cultural Resources</b>
87-200-016	Cultural Resources Survey of the Proposed 200-West 218-W-3A, 218-W-3AE, and 218-W-5 Waste Trenches.	Trench construction in 218 W-5, 218-W-3A, 218-W-3AE.	No archaeological, historic, paleontological, or Native American cultural sites.
87-200-021	Cultural Resources Survey of the Proposed PCB/PU Storage Facility HCRC# 87-200-021 and of the Proposed Hanford Center Waste Complex HCRC# 88-200-005.	200 East and 200 West Areas. Construction of plutonium/ polychlorinated biphenyl storage facility and the steam tie lines and water system upgrade tie lines between areas.	White Bluffs Road.
88-200-005	Cultural Resources Review of the Hanford CWC.	100 ac tract of land bounded on the south by 19 <sup>th</sup> Street, on the east by Dayton Avenue, and on the north by 23 <sup>rd</sup> Street.	White Bluffs Road, 2 isolated finds, and 1 site.
88-600-001	Cultural Resource Review of Barrier Development Program Fine Soil Borrow Pit at McGee Ranch.	McGee Ranch fine soils borrow pit use.	Review not completed numerous archaeological sites.
89-200-005	Cultural Resources Review of the 218-E-12B Special Naval Disposal Trench Expansion.	218-E-12B. Excavation to the west for 80 ft and to a depth of 30 ft below existing ground surface.	No effect on any historic properties.
89-200-006	Cultural Resources Review of the 218-W-2A and 216-T-18 Cleanup.	218-W-2A, 216-T-18, 218 W-3, 218-W-4, borrow area west of 213-W-3.	No known National Register properties.
89-200-008	Cultural Resources Review of the LLBG Permit Application.	218-E-10, 218-12B, 218-W 3A, 218-W-3AE, 218 W-4B, 218-W-4C, 218-W-5, 218-W-6 LLBGs. Maximum depth of excavation: 3 ft.	White Bluffs Road, historic artifacts.
89-200-023	Cultural Resources Review of the Effluent Retention and Treatment Complex (Effluent Retention and Treatment Complex (ERTC).	84.9 ha to develop facilities and a 26 km pipeline corridor to the Columbia River.	White Bluffs Road, 45BN307, HT-89-029, HT-90-002, HT-89-030, HT-89-031, HI-89-016.
91-600-006	Cultural Resources Review of the Privatization Steam Plant.	Gravel Pit 30. 23 acres at northwest corner of the junction between Route 3 and Route 4 South.	HT-99-007 (recorded in 1999).
91-600-012	Cultural Resources Review of the Action Plan for Characterization of McGee Ranch Oil.	McGee Ranch boring and sampling to select and characterize potential borrow locations for fine-textured soils.	Cultural properties present, survey recommended.
93-200-001	Cultural Resources Review of the Environmental Restoration Disposal Facility (ERDF)	A disposal site for waste exhumed during Hanford Site CERCLA and RCRA cleanup actions. Excavations at the site will be extensive and may be up to 12 meters deep.	Four archaeological sites, one paleontologic site, and nine isolated artifacts.

(a) Note that some reviews include areas that are not considered in this HSW EIS, for example the McGee Ranch, which is now within the Hanford Reach National Monument.

**Table K.1. (contd)**

<b>Hanford Cultural Resource Case Number</b>	<b>Title</b>	<b>Activities Reviewed</b>	<b>Cultural Resources</b>
93-200-004	Cultural Resources Review of 200-BP-1 Hanford Prototype.	Vernita Basalt Quarry. Total potential volume of McGee Ranch silt - 80,000 yd <sup>3</sup> , basalt riprap - 115,000 yd <sup>3</sup> , and batch plant - 180,000 yd <sup>3</sup> .	No known cultural resources or historic properties in quarry boundary.
93-200-008	Cultural Resources Review of the Transuranic (TRU) Waste Retrieval/Characterization Pilot Program.	LLBG trenches T01, 4C; T04, 4C; T07, 4B; T20, 4C; T24, 4C.	No known cultural resources or historic properties.
93-200-074	Cultural Resources Review of the Solid Waste Retrieval Complex, Phase I (W-113) and Enhanced Radioactive and Mixed waste Storage Facility Project.	200 West Area. Phase I Retrieval complex for retrieving transuranic solid waste including support buildings and facilities. Construction of Phase V Facility for storage of waste containers.	White Bluffs Road, 2 isolated finds, and 1 historic site.
93-200-137	Cultural Resources Review of the W-026, Waste Receiving and Processing 1 Facility (WRAP) Project.	200 West Area. Construction of the WRAP 1 facility in the CWC located southwest of the intersection of 23 <sup>rd</sup> Street and Dayton Avenue.	No known cultural resources or historic properties.
93-200-154	Cultural Resources Review of the CWC and TRU Storage and Assay Facility (TRUSAF) Paving Project.	200 West Area. Paving of 4 gravel and dirt areas.	No known cultural resources or historic properties.
93-600-002	Cultural Resources Review for the Expansion of Gravel Pits 23 and 30 Project.	Gravel Pits 30 and 23 expansion.	No known cultural resources.
94-200-018	Cultural Resources Review of the Geologic Testing of Mixed Waste Trench Project.	218-W-5. Maximum size of excavation: 4 test pits, 17 ft deep.	No known cultural resources or historic properties.
94-200-068	Cultural Resources Review of the 200/Solid Waste/CWC Facility Project.	200 West Area. Service pole holes adjacent to 2403-WB facility. Maximum size of excavation: 2 ft in diameter and 6 ft deep.	No known cultural resources or historic properties.
94-200-077	Cultural Resources Review of the Burial Ground Increase Trench #33 Project.	218-W-4C. Maximum size of excavation: trench enlarged from 6 ft deep to 24 ft deep with base widened to 24 ft.	No known cultural resources or historic properties.
94-200-200	Cultural Resources Review of the Storage of Long Length Radioactive Mixed Waste Project.	200 West Area. 24,000 ft <sup>2</sup> for 2 structures, storage for a crane and rails near the intersection of 19 <sup>th</sup> Street and Dayton Avenue.	No known cultural resources or historic properties.
94-200-097	Cultural Resources Review of the W-236A, Multi-Function Waste Tank Facility, 1994 Project.	Adjacent to Gravel Pit 30. Project modification from previous 93-600-004 cultural review.	HT-99-007 (recorded in 1999).
94-600-001	Cultural Resources Review of the Spent Nuclear Fuel Storage Facility Project.	Survey adjacent to Gravel Pit 30 (northern and eastern boundary).	HI-94-003.

**Table K.1. (contd)**

<b>Hanford Cultural Resource Case Number</b>	<b>Title</b>	<b>Activities Reviewed</b>	<b>Cultural Resources</b>
94-600-032	Survey Narrative for the Topographic Survey of a portion of the ERDF Project	Topographic survey of project area by 4-wheeled off road vehicles that will drive over the entire area; most of which was previously surveyed for ERDF	No known cultural resources or historic properties.
94-600-034	Cultural Resources Review of the ERDF Project W-296, NE Portion Project	Additional 1.126 km <sup>2</sup> added to the original 11.0 km <sup>2</sup> of area surveyed for ERDF.	Two isolated artifacts: an Army (Camp Hanford era) communication line and round metal can.
95-200-066	Cultural Resources Review of the 218-E-12B Trench 94 Project.	218-E-12B. Excavation in bottom of trench to maximum depth of 3 ft.	No known cultural resources or historic properties.
95-200-124	Cultural Resources Review of Removal of Contaminated Soils in and around 218-W-4B Burial Grounds.	218-W-4B.	No known cultural resources or historic properties.
95-200-065	Cultural Resources Review of the 218-W-4C Trench 14 - High Integrity Containers Project.	218-W-4C. Maximum excavation size: 6 holes 36 inches in diameter and 19 ft deep in bottom of trench.	No known cultural resources or historic properties.
95-200-104	Cultural Resources Review of the Solid Waste Retrieval complex, Enhanced Radioactive and Mixed Waste Storage Facility, Infrastructure Upgrades, and Central Waste Support Complex.	200 West Area. Entire area previously reviewed except for future drain field.	White Bluffs Road, 1 site, 2 isolated finds.
96-200-058	200 Area Block Survey.	Remainder of undisturbed ground within 200 East and West Areas not previously surveyed.	HI-96-002, HI-96-003, HI-96-004, HI 96 005, HI-96-006, HI-96-007, HT-96-002, HT-96-010.
96-200-059	Cultural Resources Review of the 218-W-4C Trench 14 - Culvert Containers.	218-W-4C. Maximum excavation size: 25 ft wide by 25 ft long by 8 ft deep.	No known cultural resources or historic properties.
96-200-076	Cultural Resources Review of the Routine Operation of Grouting in the 200 West Burial Grounds.	218-W-5, 218-W-3A, 218-W-3AE, 218-W-4C. Maximum depth of excavation: up to 8 ft below trench floor.	No known cultural resources or historic properties.
96-200-102	Cultural Resources Review of the Widening and Deepening of Trench 36, 218-E-12B	218-E-12B. Maximum size of excavation: 80 ft wide at top, 20 ft wide at bottom, and 20 ft deep.	No known cultural resources or historic properties.
97-200-023	Cultural Resources Review of the Burial Ground 218-W-5 Trench 33 Expansion.	218-W-5. Maximum size of excavation: trench widening to 40 ft for length of trench (1160 ft), excavation to 20 ft.	No known cultural resources or historic properties.
97-200-062	Cultural Resources Review of the Burial Ground 218-W-5 Trench 34 Rain Curtain.	218-W-5. Maximum size of excavation: 1 to 2 ft deep trenches around Trench 34 and down inner edge of truck ramp.	No known cultural resources or historic properties.

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**Table K.1. (contd)**

Hanford Cultural Resource Case Number	Title	Activities Reviewed	Cultural Resources
98-200-031	Cultural Resources Review of the Subsidence Repair and Maintenance in the Low Level Burial Grounds.	218-E-10, 218-E-12B, 218 W-3A, 218-W-3AE, 218-W-4B, 218-W-4C, 218-W-5, 218-W-6.	No known National Register properties.
99-200-008	Cultural Resources Review for Widening Trench 36 218-E-12B Burial Ground.	218-E-12B. Maximum size of excavation: 900 ft long, 16 ft deep, and 25 width added.	No known National Register properties.
01-200-006	Cultural Resources Review for the Storage of K Basin Sludge at the 221-T and the 271-T Facilities	221-T and 271-T Facility upgrades to safety and security systems, 221-T modifications to hot cells.	No effect on facility characteristics that make them eligible for National Register.
02-200-050	Cultural Resources Review of Immobilized Low-Activity Waste (ILAW) Disposal Facility	Low-activity waste to be disposed of in six lined trenches southwest of the PUREX Plant in the 200 East Area.	No effect on historic properties.
02-200-051	Cultural Resources Review of Melter Trench	Disposal of melters into a specifically designed trench in 3 alternative locations in the 200 East Area.	No effect on historic properties.
02-200-054	Cultural Resources Review of Groundwater Well Installation	Four groundwater wells to be installed in several locations in the 200 West Area.	No effect on historic properties.

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**K.1.2 Central Waste Complex Expansion Area**

6 Under the No Action Alternative, the CWC in the 200 West Area would continue to receive and store  
7 newly generated wastes. With existing storage capacity reaching its limit, the CWC would be expanded.  
8 Expansion would occur in a 36-ha (89-ac) area south of the existing CWC and a 30-ha (74-ac) area west  
9 of the CWC and south 218-W-5 expansion area. Depth of excavation would be 0.9 m (3 ft) for CWC  
10 buildings.

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12 Staff of the Hanford Cultural Resources Laboratory (HCRL) conducted a records and literature search  
13 that revealed the project area has been previously surveyed for cultural resources. Cultural resources  
14 identified within the project area are provided in Table K.2

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16 The cultural resources surveys of the project area concluded that no known historic properties are  
17 located within the CWC expansion area.

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**K.1.3 New Waste Processing Facility**

21 The location of the new waste processing facility that would be constructed, if Alternative Group B  
22 were to be implemented, is directly west of WRAP in the 200 West Area. The previous cultural resources  
23 surveys conducted in the CWC expansion area concluded that no known historic properties are located  
24 within the footprint of the new waste processing facility.  
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**Table K.2. Cultural Resources Identified in Project Area**

Survey number/name	Cultural Resources Identified in the Project Area	Eligible to the National Register
HCRC# 88-200-038, Archaeological Survey of the 200 East and 200 West Areas.	HT-88-009, 1920s/1930s can and bottle scatter - possible shepherd/cowboy camp.	Determined not eligible.
HCRC# 96-200-058, 200 Area Block Survey.	HT-96-002: sparse scatter of cryptocrystalline silica (ccs) flakes and historic debris. HI-96-004: ccs utilized flake. HI-96-005: ccs flake.	Determined not eligible.
HCRC# 95-200-104, Solid Waste Retrieval Complex (Infrastructure). <sup>(a)</sup>	No cultural resources located.	N/A
HCRC# 2000-600-023, White Bluffs Road Survey.	H3-121, White Bluffs Road and associated features.	Determined eligible to the National Register. The section that runs through the 200 West Area and through the project area, however, has been determined to be non-contributing due to lack of physical integrity.
(a) HCRC = Hanford Cultural Resources Case; see Appendix L for details on source.		

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## K.2 Area C – Borrow Pits, Stockpile Area, and Access Roads

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Area C borrow pits would be used for excavation of basalt and fine textured material, such as silt loam, gravel, or sand, for the construction of closure covers to be placed over low-level waste (LLW) trenches in Alternative Groups A through E and MLLW trenches in all alternatives. The HCRL conducted a cultural resources review of the 926-ha (2287-ac) Area C borrow pit in February 2002 (see Figure K.1).

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### K.2.1 Literature and Record Search – Previous Cultural Resources Surveys

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Staff of HCRL conducted a records and literature search that revealed a small section of Area C has been previously surveyed in 1994 for cultural resources (Bard et al. 1994). The survey was conducted in the northwestern portion of Area C. Three isolated finds were recorded in the project area:

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#### ISOLATE NUMBER

#### DESCRIPTION

HI-94-032

Two white cryptocrystalline silica (css) flakes.

HI-94-036

A historic “fence jack”—a rock pile with remains of a split rail.

HI-94-037

A large historic riveted metal collared cylinder.