



River Corridor Closure Project

Recovery Act Weekly Report

For the week ending September 5, 2010

Contract DE-AC06-05RL14655

Overview

Background Summary of Projects that Washington Closure Hanford (WCH) will accomplish using ARRA funds (pending definitization of scope and contract modifications).

A. The Environmental Restoration Disposal Facility (ERDF)

ERDF is the hub of the WCH scope of work and supports a major portion of other Hanford contractor (OHC) waste disposal. Wastes collected from sites around the Hanford complex are brought to ERDF for treatment and disposal. WCH operates the ERDF and is currently using ARRA funds to upgrade and expand its capabilities to meet the needs of Hanford's accelerating mission.

B. The 618-10 Burial Grounds

The trenches at 618-10 have long been regarded as some of Hanford's worst waste sites. Using ARRA funds, WCH will characterize the site. Intrusive and non-intrusive techniques will be used, and the subsequent analysis of data will enable the project to pursue remediation of the site safely and effectively.

C. The 618-11 Burial Grounds

Along with 618-10, the 618-11 Burial Grounds are among the biggest challenges faced by WCH using ARRA funds. The 618-11 characterization work will require special care because of its proximity to the Energy Northwest Generating Facility, north of the 300 Area.

D. Waste Site Remediation

WCH is employing ARRA funds to clean up many failed waste sites not originally part of its contract. Sites in the 100-F and IU 2&6 segments 1&2 are proposed for waste site remediation in the two year period starting in October 2009.

E. Confirmatory Sampling of other new sites

WCH is proposing to complete the early sampling process of 67 potential waste sites using ARRA funds. Confirmatory sampling is performed for sites that require additional information for determining if the site requires remediation.

This weekly report will provide evidence of these activities as they occur in support of ARRA.

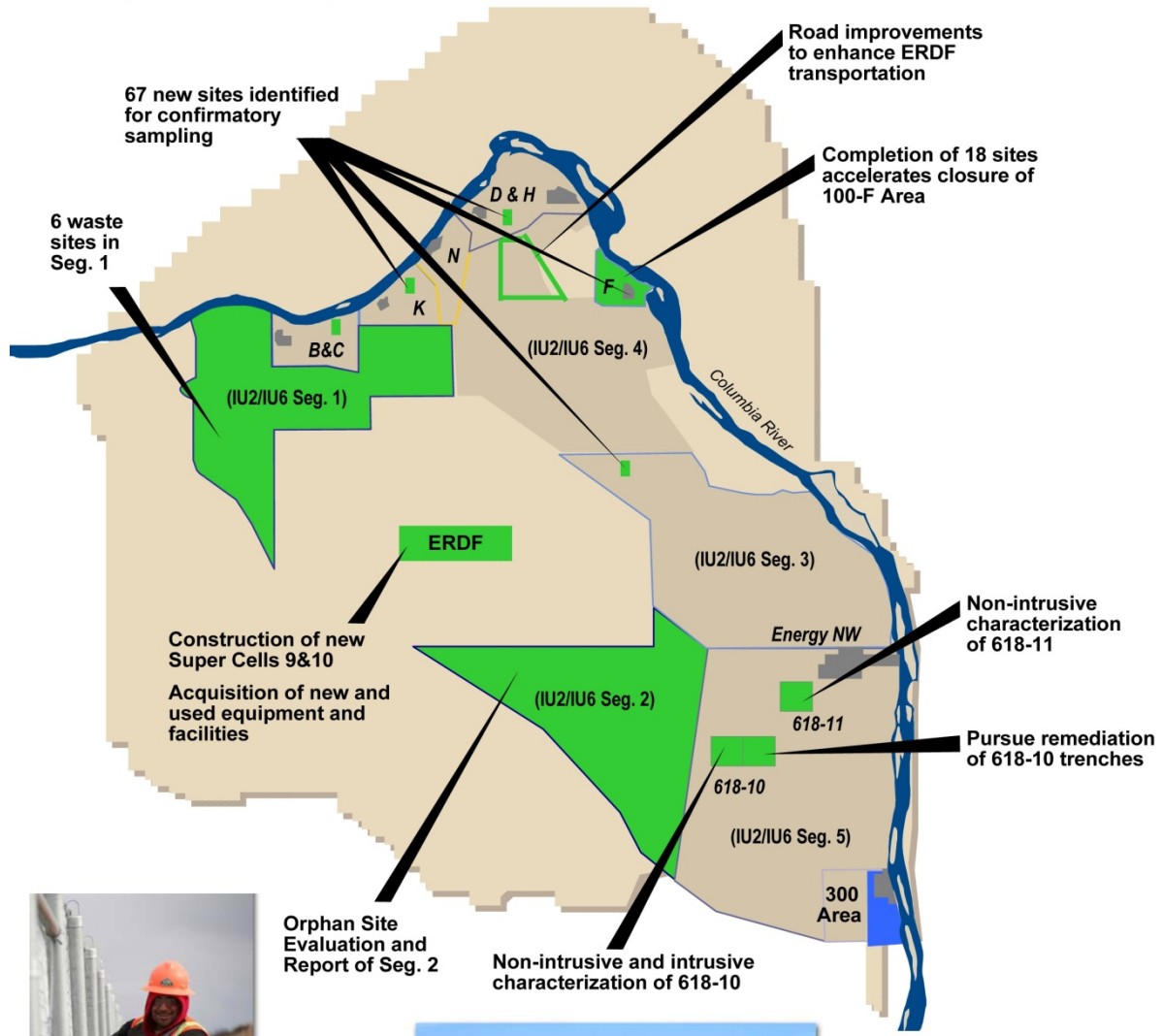
The following figure illustrates the overall scope of WCH's ARRA projects.



Overview (Continued)



ARRA Scope



Orphan Site Evaluation and Report of Seg. 2



Non-intrusive and intrusive characterization of 618-10

E1004062 07/08/10



Safety

Safety Accomplishments

As of July 25, 2010, WCH and its subcontractors have worked 239,115 hours of ARRA scope with no safety incidents.

Hazard Reductions

WCH shared safety information with employees in a *Do it Right the First Time*, where it was discussed that all employees should review controls of unfamiliar equipment before proceeding with a task.

Employees were reminded to do the following before beginning work:

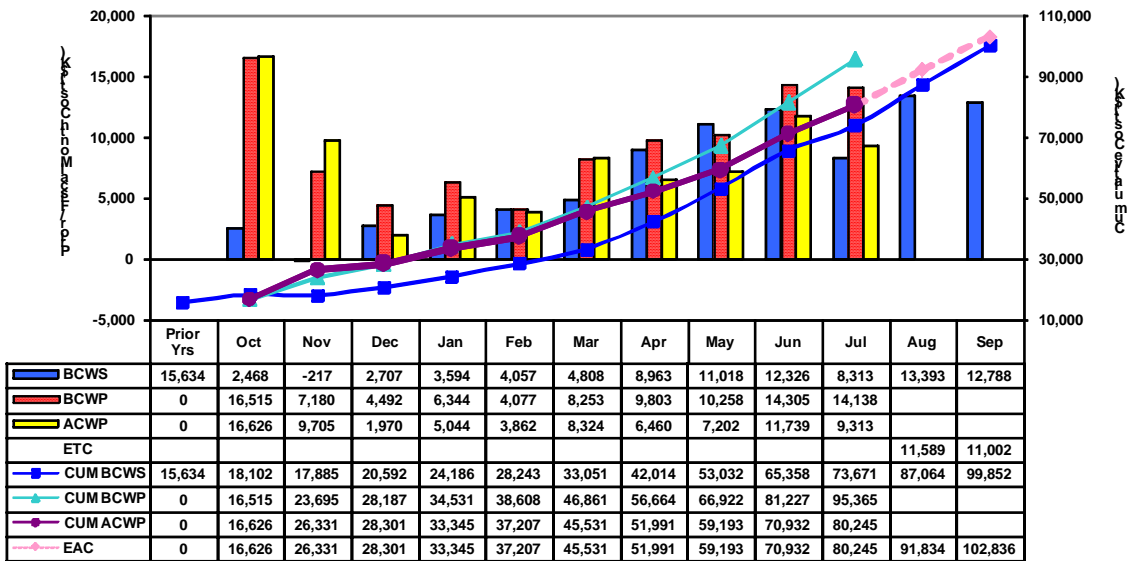
- Inspect hoist cable systems on trucks.
- Make sure controls are clearly labeled.
- Evaluate training requirements for operating equipment.
- Ensure communication with all employees.



Cost/Contract Status

Contract Mod #	Date	Scope	Obligated (\$M) (Inception to Date)	Not to Exceed (\$M) (Inception to Date)
099	4/9/09	ERDF Cell Expansion & Upgrades; 618-10 NIC	\$203.0	\$28.0
105	4/30/09	ERDF Cell Expansion & Upgrades; 618-10 NIC	\$203.0	\$44.5
126	7/23/09	H.37 Clause - Reporting Requirements	N/A	N/A
139	9/3/09	ERDF Cell Expansion & Upgrades; 618-10 NIC	\$253.6	\$44.5
142	9/30/09	ERDF Cell Expansion & Upgrades; 618-10 NIC; Phase 2 Scope	\$253.6	\$123.8
174	2/22/10	ERDF Cell Expansion & Upgrades; 618-10 NIC; Phase 2 Scope	\$248.2	\$123.8
182	3/25/10	ERDF Cell Expansion & Upgrades; 618-10 NIC; Phase 2 Scope	\$248.2	\$155.8
185	4/19/10	Phase 1 and Phase 2 Scope	\$248.2	\$178.0
192	4/27/10	Phase 1 and Phase 2 Scope	\$253.6	\$178.0
205	5/26/10	Reallocate Funds for Equipment and GPPs	\$253.6	\$178.0
210	6/23/10	Funding deobligation	\$229.3	\$178.0
217	8/4/10	Funding re-obligation	\$233.6	\$178.0

RCC Project - ARRA
Current Performance Measurement Baseline (PMB)
Prior Years / FY10 Fiscal Month



ARRA Proposals 1, 2 and 3 Actuals (\$K)

Apportionment Number	Apportionment Title		July 2010	Inception To Date	Cost Authority
RL-0041.R1.2	ERDF Cell Expansion	PMB	7,169	58,474	139,072
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	PMB	2,144	21,771	38,907
Sub Total		PMB	9,313	80,245	177,979
Fee			2,496	8,780	
Total			11,809	89,025	

* PMB is the Performance Measurement Baseline.



ERDF

Super Cells 9 and 10 Construction

WCH continues to construct the liner and leachate collection systems for super cells 9 and 10. The liner system consists of a 3-foot layer of admix, two layers of high-density polyethylene (HDPE), a 1-foot layer of gravel with a 12-inch perforated drainage pipe, a geocomposite layer, and two geotextile layers. Admix is a 3-foot low-permeability compacted soil layer of the liner system that is manufactured by mixing excavated soil with imported bentonite.

The project team continues to place rock for the gravel drainage layer in super cell 9. About 70% of the gravel needed for super cell 9 has been placed. More than 40,000 cubic yards of gravel, enough for both super cells, was manufactured at an onsite screening plant.

WCH has installed more than 85% of the primary HDPE layer, and the geocomposite layer in super cell 9 was completed. The secondary HDPE liner was completed earlier this month. In super cell 10, about 75% of the secondary HDPE layer has been installed.



The installation of the geocomposite layer for super cell 9 was completed last week at the Environmental Restoration Disposal Facility.

ERDF (Continued)

The project team also continues work on the new leachate holding tank. The tank will measure 100 feet in diameter with a capacity of 425,000 gallons. The tank will replace the facility's original leachate storage tank, which is being removed. Removal of the original tank is expected to be completed next week.

The sixth and final section of the leachate transmission line has been installed, tested, and backfilled. The integrated transmission line was tested and backfilled, completing the project. Work continues on the crest pad building for the super cells. Work also continues on the crest pad buildings for super cells 9 and 10.



One of the original leachate collection tanks for ERDF is being demolished to make way for a new, larger leachate collection tank. ERDF produces about 100,000 gallons of leachate a month.

ERDF (Continued)

Facility and Equipment Upgrades

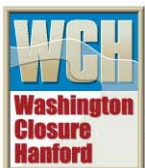
ELRFowler is incorporating WCH's comments on the 90% design of the new maintenance facilities and operations center. ELRFowler will submit a final design by late September.

ELRFowler is a joint venture between local companies ELR Consulting and Fowler General Construction. The upgraded transportation truck maintenance facility will include two additional truck bays, a large concrete pad, an exterior awning that will cover two smaller concrete pads, and a conference room. The new container maintenance facility will include a large container repair line, a maintenance shop, a weld area, a lunch area, and an exterior awning over a concrete pad. The new equipment maintenance facility will include two service lines, an operational storage facility, a large concrete pad, and an exterior awning over a smaller concrete pad.

Pacific Northwest National Laboratory (PNNL) continues work on a new waste container tracking system for ERDF. The system will accurately track waste shipments and equipment, and generate real-time reports. PNNL has begun electrical and reader software development. Development of the firmware began this week. Development of the mechanical is expected in September.

WCH expects to receive bids for construction of ERDF's new septic system this week and will begin the review process next week. The septic system was designed by Columbia Engineers and Constructors, a small business based in Richland, Washington.

WCH received delivery of two Genie articulating boom man lifts from Powers Equipment Company last week, and completed receipt inspections this week. The man lifts are now in service. The man lifts will be used for elevated work such as installing rigging, washing out hazardous waste containers, applying fixatives, and adjusting lights. Powers Equipment Company is based in Pasco, Washington.



ERDF (Continued)



Use of two new man lifts at ERDF will significantly increase workers' flexibility in completing elevated work in a timely fashion.

Mission Support Alliance (MSA) subcontractor Fowler General Construction continued work on three Hanford Site roads – Routes 1, 2, and 4. Fowler completed prep work on Route 1 and began paving. About 70% of the prep work on Route 2 has been completed. The roads are used to transport waste material for disposal at ERDF.

ERDF (Continued)



Work began on paving of Route 1. Almost 10 miles of Hanford Site roads are being repaved to allow safe travel for waste haul trucks to and from ERDF.

WCH subcontractor George A. Grant has completed construction of a new lighting system at ERDF's transportation yard. Tie-in of the electrical system was completed this week, completing the project. A total of 15 light posts were installed. The transportation yard is used for truck-and-trailer combinations and other equipment. The truck-and-trailer combinations are used to transport non-regulated soil for disposal at ERDF.

Fowler General Construction continues civil work for construction of ERDF's onsite fueling station. The fueling station was designed by Sage Tech and WHPacific. Sage Tech is based in Richland, Washington. WHPacific is an Alaska-based company with an office in Richland, Washington. It specializes in all facets of building engineering, land development, water resources, survey, architecture, and transportation.

A request for quotes was issued for construction of a new batch plant at ERDF. The batch plant will manufacture concrete used to mix with debris, ensuring no void space during disposal operations. In support of the batch plant, WCH purchased two concrete mixer trucks and a

ERDF (Continued)

pump truck from Peters and Keatts Equipment Inc. Peters and Keatts is based in Lewiston, Idaho.

WCH completed evaluation of bids for construction of weather enclosures for the crest pad buildings for cells 1 and 2. A partial notice to proceed with design is expected next week.

Upcoming Activities

- Continue construction of the liner and leachate collection system for super cells 9 and 10.
- Perform test on leachate transmission line.
- Review bids for construction of new septic system.

Video

[Click here to view the video showing how ARRA funded upgrades prepared ERDF for hot cell disposal.](#)



618-10 Burial Ground

618-10 Intrusive Characterization/Trench Remediation Project

WCH began backfilling the cross-trenches that were dug through the main trenches in support of intrusive characterization at the 618-10 Burial Ground. The project team dug test pits through a subset of disposal trenches and unearthed a limited number of drums to verify the condition and types of wastes that were disposed. Several drums containing radioactive waste, a shipping cast and miscellaneous waste were discovered. The drums are believed to contain depleted uranium and uranium oxide. In addition, "concreted" 55-gallon drums believed to contain liquid radioactive waste were also discovered.

Initial indications were that the burial ground may contain up to 700 drums of waste. However, based on the finds during intrusive characterization, the estimate of the number of drums the burial ground may contain has been revised to 4,000. That includes an estimated 800 concreted drums, which were used to dispose of highly radioactive waste nested inside a pipe surrounded by concrete. The pipe provides containment for the waste and the concrete provides radiation shielding for its contents. Workers also found a cask with unknown contents, bollards, bottles, metal pieces, and other miscellaneous debris.



618-10 Burial Ground (Continued)



With the trenching portion of the intrusive characterization phase of the 618-10 Burial Ground completed, backfill began last week and will be completed in early September.

Before being removed from the trench, the drums were observed for any reactions, and radiological surveys are conducted with instrumentation mounted on the excavator. The temperature of the drums also is checked using an infrared thermometer. Once the exposed drums were cleared, they were removed from the excavation face and placed in salvage containers (85-gallon drums) and moved to a drum inspection area.

All exhumed drums pass through a characterization process. Radiological surveys are performed on the drums with a gamma spectrometer and a neutron detector before being moved to a storage area on site.

Solid waste will be disposed at ERDF. Drums containing oil and depleted uranium chips will likely be shipped to an offsite treatment facility where the oil, which may contain heavy metals and PCBs, will be drained and incinerated. The shavings will be stabilized and sent to ERDF for disposal.

618-10 Burial Ground (Continued)

The exhumed drums and other waste will be thoroughly examined. The results will be used by WCH, along with DOE and Hanford Site regulators, to determine the safest and most efficient way to clean up the burial ground, including how to safely dispose of the high-dose-rate waste in the concreted drums. Full-scale remediation of the 618-10 Burial Ground trenches is scheduled to start in April 2011.



Representatives of the U.S. Department of Energy's Richland Operations Office and Washington Closure Hanford brief local reporters on intrusive characterization activities at the 618-10 Burial Ground.

The 618-10 Burial Ground operated from 1954 to 1963, receiving low- and high-level radioactive waste from 300 Area laboratories and fuel development facilities. Low-activity wastes were primarily disposed in 23 trenches, while the moderate- and high-activity wastes were disposed in 94 vertical pipe units (VPUs). The VPUs were constructed by welding five bottomless drums together and buried vertically about 10 feet apart.

Available records indicate that the burial ground was used to dispose of cardboard boxes of low-level waste and miscellaneous laboratory debris including bottles, boxes, filters, aluminum

618-10 Burial Ground (Continued)

cuttings, spent fuel fragments in small juice cans, radiologically contaminated equipment and laboratory instruments, and high-level liquid waste sealed in drums.

In early July, WCH awarded a subcontract worth nearly \$3.7 million to install water, electricity, roads, office trailers, and waste container transfer areas for remediation at the 618-10 Burial Ground. White Shield/Apollo is a small, disadvantaged joint venture between White Shield Inc. of Pasco, Washington, and Apollo Inc. of Kennewick, Washington. White Shield/Apollo will begin work at the burial ground this fall and is scheduled to complete infrastructure work by February 2011.

Work continues to develop the non-intrusive characterization report. The scope of activities carried out as part of non-intrusive characterization included geophysical delineation, in situ characterization using a multi-detector probe, and soil sampling from below a selection of 10 VPUs.

During in situ characterization, measurements were collected for 100 cone penetrometers in the trench area and 375 cone penetrometers in the VPU area. Data collected during non-intrusive characterization activities are being used to develop and evaluate safe and effective strategies for intrusive characterization (if required) and/or remediation.

Upcoming Activities

- Complete backfill and cover of trenches from intrusive characterization field operations.
- Continue with processing submittals for site upgrades (water lines, civil site expansion, trailer locations).
- Continue procurements for various subcontracts.
- Continue development of non-intrusive characterization report.

100-F Area

WCH continues to prepare for remediation of the 18 remaining waste sites at 100-F Area. Ojeda Business Ventures, which earlier this summer was awarded a subcontract worth \$3.8 million to remediate the waste sites, continues mobilization activities. Subcontractor trailers are being set up and subcontractor personnel are beginning to mobilize. Also, WCH continues to review subcontractor submittals.



An excavator is delivered to 100-F Area as Washington Closure Hanford subcontractor Ojeda Business Ventures continues mobilization activities.

F Reactor operated from 1945 to 1965 as one of Hanford's nine surplus plutonium production reactors for the nation's nuclear weapons program. The reactor was cocooned in 2003. During reactor construction and operations, waste was disposed in unlined pits and trenches throughout the site.

The 100-F Area also was the home of the experimental animal farm (EAF), which operated from 1945 to 1976 adjacent to the reactor site. The EAF used animals for studying the potential effects of ionizing radiation exposure to humans in the occupational setting. Reactor and EAF

100-F Area (Continued)

sites in the 100-F Area contributed to the discharge of contaminated cooling water, other liquids, and solid wastes.

WCH completed cleanup of 53 waste sites at F Area in 2008, loading out more than 408,000 tons of waste. However, during the course of cleanup, 18 additional waste sites were discovered. The 18 sites that require remediation are:

- 100-F-26:4 (process sewer pipeline section)
- 100-F-26:7 (sodium dichromate and sodium silicate pipelines)
- 100-F-44:8 (fuel oil pipelines)
- 100-F-44:9 (process sewer pipeline)
- 100-F-45 (buried riverbank effluent pipeline)
- 100-F-47 (electrical substation foundation)
- 100-F-48 (coal-pit debris)
- 100-F-49 (maintenance garage lube pit foundation, pipelines, drywells)
- 100-F-51 (fish laboratory footprint, pipelines)
- 100-F-55 (contaminated ash layer)
- 100-F-56 (scattered surface debris, stains)
- 100-F-57 (buried pipeline cradle debris)
- 100-F-58 (asbestos-containing surface debris)
- 100-F-60 (pipeline)
- 100-F-61 (stained soil site)
- 100-F-8 (French drains)
- 100-F-62 (animal farm septic lines)
- 100-F-63 (animal farm radioactive effluent lines).

Upcoming Activities

- Continue subcontractor civil surveying.
- Complete subcontractor trailer installation.
- Begin preparing remediation work packages.
- Continue remediation project startup review activities.



IU 2 & 6 Segment 1

Remaining work instructions for waste site-specific verification closeout sample plans have been reviewed and approved by the U.S. Department of Energy, Richland Operations Office (RL) and the U.S. Environmental Protection Agency. Verification closeout samples for sites 600-341 and 600-344 have been collected for laboratory analysis.

Additional remediation of the southeast quadrant of waste site 600-345 was performed in early August in order to remove the remaining TPH contaminated soil. Closeout samples were collected for laboratory analysis.

Remediation of five IU 2 & 6 Segment 1 waste sites discovered during the 2008 orphan site evaluation was completed in April. The remediation sites are as follows:

- 600-341 (four areas that contained dry cell battery remnants and/or battery debris)
- 600-343 (residual ash from burned material and dumped asphalt in excavation trench)
- 600-344 (stained area)
- 600-345 (stained area with oil filters)
- 600-346 (four small fly-ash dump areas with metal debris).

Earlier this year a global positioning environmental radiological survey indicated that an additional site, 600-342, did not require additional remediation.

IU 2 & 6 Segment 1 encompasses about 23 square miles of the northwestern portion of the Hanford Site, away from the nine surplus plutonium production reactor areas. Segment 1 sites were unique because they were primarily used for housing and support areas.

Remediation of these waste sites will contribute to RL's Vision 2015 goal of completing regulatory closure work in IU 2 & 6 Segment 1 by the end of 2010.



Confirmatory Sampling

Confirmatory sampling of 41 sites near the Columbia River continues at 100-D Area. Sampling is performed for waste sites that require additional information for determining the need for site remediation.

The campaign is scheduled to take place over the next four months and will be performed in the 100-D, 100-F, 100-K, and 100-IU Areas. Terranear PMC (TPMC) is performing sampling in accordance with the regulator approved work instructions that were completed earlier this year.

Sites that pass the confirmatory sampling process will be closed out and no further action will be required under the existing interim record of decision. Those that fail will be recommended for remediation to meet regulatory standards.

TPMC is a small disadvantaged business based in Irving, Texas, with an office in Richland, Washington. It provides environmental remediation and compliance, radiological waste management, engineering design, and construction management.



General

Mentoring/Training

No significant mentoring/training events this week.

Media, Visits, Press Releases

- Last week, legislative staff members from the offices of Senators Maria Cantwell, Washington, and Jeff Markey, Oregon, visited ERDF and other River Corridor Closure Project locations.

Contracting Actions

- Design/build subcontract for the left-hand turn lane onto North Landfill Road awarded to Fowler General Construction.

