



*River Corridor Closure Project*

# Recovery Act Weekly Report

For the week ending April 4, 2010

Contract DE-AC06-05RL14655

*Protecting the Columbia River*

## 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 66 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.

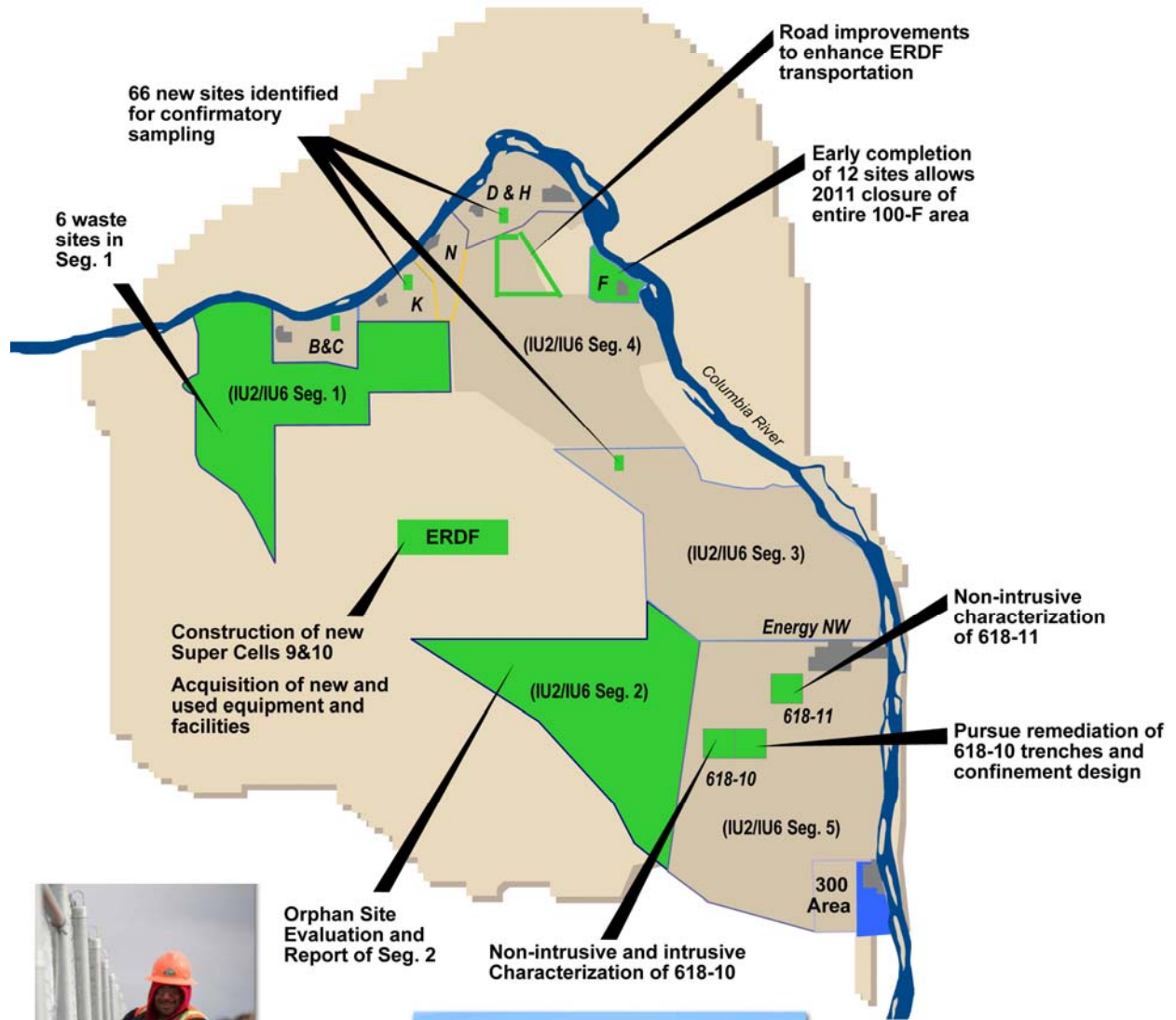


# Overview (Continued)



## River Corridor Cleanup Completion

### ARRA Scope



# Safety

## Safety Accomplishments

As of March 28, 2010, WCH and its subcontractors have worked more 172,460 hours of ARRA scope with no safety incidents.

## Hazard Reductions

The River Corridor Closure Project's "Take 5 for Safety" is used to share safety information and lessons learned with WCH employees. Last week's edition focused on eye injury prevention. The Prevent Blindness America Organization (PBAO) reports that each year more than 700,000 Americans injure their eyes at work, and another 125,000 injure their eyes at home. Industry experts believe that wearing proper eye protection could prevent up to 90% of all eye injuries.

Prescription and non-prescription safety eyewear must conform to a high standard of impact resistance. Wearing commercial sunglasses or prescription glasses can lead to severe injury from eyewear failure. When impacted by an object, commercial eyewear lenses can shatter and the eye can be ruptured.

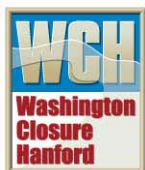
To prevent serious injury, all safety glasses worn at the Hanford Site must have the Z87 stamp to be legally worn in designated personal protective equipment areas. If the glasses do not have the Z87 stamp, they are not acceptable eyewear for construction work. If you are unsure if you have the appropriate safety glasses, check with your safety professional.

The Occupational Safety and Health Administration adopted safety eyewear standards established by the American National Standards Institute (ANSI), a private, non-profit organization that creates quality and safety standards for a wide variety of products. The ANSI standard applying to eye safety includes several types of eye protection devices including eyeglasses, face shields, welding helmets, and full-face respirators.

Testing for safety glasses includes:

- *High mass impact.* A 1-inch diameter steel projectile weighing 17.6 ounces is dropped through a tube from a height of 50 inches onto a safety lens mounted in a frame. The frame is "worn" by an artificial head form. To pass, the frame must fully retain the lens, and no piece can become detached from the inner surface of the frame component that holds the lenses.
- *Durability.* Safety frames also must pass a flammability-resistance test, a corrosion-resistance test, and other durability tests.
- *High velocity impact.* A quarter-inch steel ball is shot at the lens and frame at a velocity of 150 feet per second from a distance of under 10 inches. The test is repeated multiple times (each time with a new frame and lens) at different angles. To pass, the frame must fully retain the lens, and no piece can become detached from the inner surface of the frame component that holds the lenses.

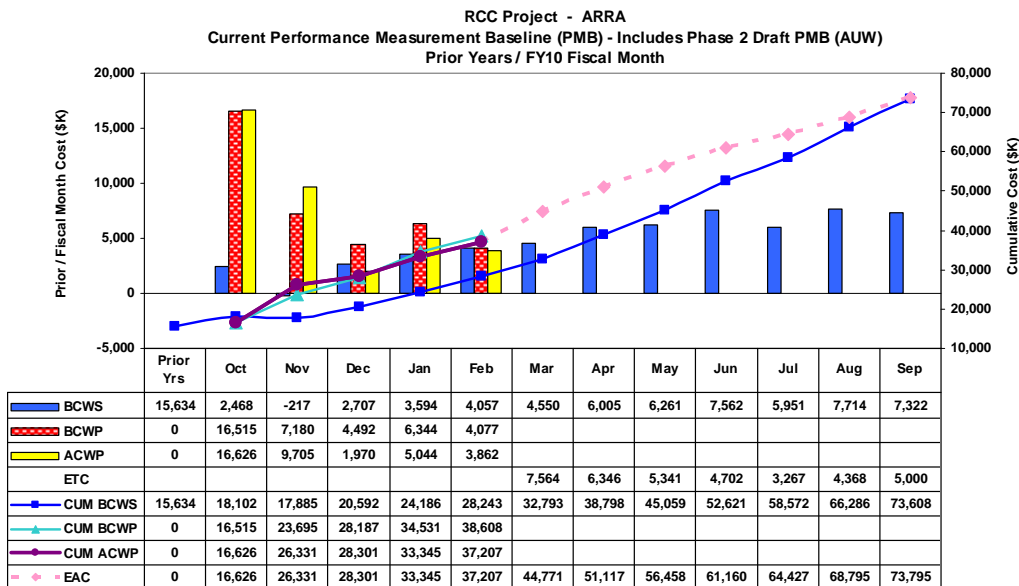
WCH pays for prescription eyewear for employees who are exposed to eye injuries. So the right thing to do is wear your ANSI approved eyewear.



# 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

Contract Modification #174 de-obligated \$5.4M from the 618-10 NIC scope. A re-obligation contract modification of equal value is in process for ERDF Cell Expansion & Upgrades. Contract Modification #182 increased the Not to Exceed amount by \$32M.



ARRA Actuals (includes PMB and Proposal 2)

Apportionment Number	Apportionment Title	PMB or Balance *	Feb 2010	Inception To Date	NTE Amount
RL-0041.R1.2	ERDF Cell Expansion	PMB	2,190	25,205	
		Balance	482	2,438	12,000
RL-0041.R2	River Corridor Soil & Groundwater (618-10)	PMB	926	8,050	
		Balance	265	1,515	5,000
<b>Sub Total</b>		PMB	3,116	33,255	
		Balance	747	3,953	17,000
<b>Fee</b>			204	2,249	
<b>Total</b>			4,067	39,457	

\* PMB is the Phase 1 Performance Measurement Baseline. Balance is Proposal 2 Not to Exceed draft PM (AUW)



## ERDF

### Super Cells 9 and 10 Construction

TradeWind Services and its prime subcontractor, DelHur Industries, continue work on super cell 10. To date, 838,744 cubic yards of an estimated 1.675 million cubic yards of soil have been removed.



*DelHur Industries continues work on super cell 10 at the Environmental Restoration Disposal Facility.*

The pug mill at the Environmental Restoration Disposal Facility (ERDF) is operational. The mill is used to manufacture the soil bentonite (admix) material for the low permeability compacted soil liner for super cells 9 and 10. The liner system collects and removes liquid, or leachate, as it drains through the waste materials. The system will consist of the admix layer, a leachate collection layer, a leak detection layer and two high-density polyethylene (HDPE) liners covered with a 3-foot protective soil layer.

Preparations are being made for a series of in situ hydraulic conductivity tests, otherwise known as two-stage borehole (Boutwell) field permeability tests. To conduct the tests, a bentonite clay/soil admixture test pad is being constructed. Plastic measuring tubes are then sunk into six boreholes to measure the drop in water levels within the pipes as water penetrates into the liner.

## ERDF (Continued)



*DelHur Industries has completed setup of the pug mill at the Environmental Restoration Disposal Facility.*

### **Facilities and Equipment Upgrades**

The back road to ERDF is open to traffic and the wireless communication system at the new scale and reader board is operational. The system allows waste shipments to be entered real-time into the Waste Management Information System (WMIS). The back road helps accommodate increased traffic caused by the accelerated amount of waste material generated by WCH and other Hanford contractors.

WCH has completed reviewing proposals for the design and expansion of the truck maintenance facility, and the design and build of new equipment and container maintenance facilities. The subcontract is expected to be awarded next week.

Upgrades to the transportation truck maintenance facility includes two additional truck bays, a large concrete pad, an exterior awning that will cover two smaller concrete pads, and a conference room. Upgrades to the container maintenance facility include a large container repair line, a maintenance shop, a weld area, a lunch area, and an exterior awning over a concrete pad. Upgrades to the equipment maintenance facility include two service lines, an

## ERDF (Continued)

operational storage facility, a large concrete pad, and an exterior awning over a smaller concrete pad.

WCH is reviewing Sage Tech's 90% design of the new fueling station. Columbia Engineers and Constructors continue to work on the 90% design of ERDF's new septic system. Both companies are based in Richland, Washington.

Pacific Northwest National Laboratory (PNNL) scientists and engineers continue to prepare for a proof-of-concept demonstration of a new container tracking system to be used at ERDF. The onsite demonstration is scheduled for April 7. The system would allow for operations personnel to identify how many full and empty containers are available at ERDF and the generator sites. WCH also issued an expression of interest to other companies for the container tracking system.

TradeWind and DelHur completed civil work to expand and upgrade the transportation yard, and WCH is preparing to shift truck-and-pup operations to the new site. WCH also has issued a change notice for electrical work at the site. Lighting is scheduled to be installed later this spring.

Indian Eyes, a Pasco, Washington-based company, is scheduled to deliver a front-end loader to ERDF on April 5. WCH has awarded the subcontract for a heavy-duty forklift to Powers Equipment Company of Pasco, Washington.

### Upcoming Activities

- Continue removal of soil from super cell 10.
- Continue Boutwell field permeability test.
- Review proposals for new maintenance facilities.

### Video

[\*\*Super Cell 10 Excavation Progress at the Environmental Restoration Disposal Facility\*\*](#)





## Profile

Paul Bellesen traded a lot of sun for a lot of dirt, and he's thrilled about it.

A few short months ago, Bellesen was in a master's program studying renewable energy at Arizona State University's Polytechnic campus. Bellesen, a father of four, actually was attending graduate school on a backup plan. His real desire was to work, but after graduating from Washington State University in December 2008 with a mechanical engineering degree, he had come up empty in his job search.

"I was applying for just about anything I could find, but I wasn't getting any calls," said Bellesen, who worked a minimum-wage job in his hometown of Yakima, Washington, during his job search. "My school loans were coming due, so I decided to defer them and go to grad school."

Not long after sending his resume to TradeWind Services on the advice of a relative, Bellesen caught a long-awaited break. TradeWind president Jeff Hertzell called and offered him the position of planning engineer at the Environmental Restoration Disposal Facility (ERDF).



*Paul Bellesen was hired by TradeWind Services as a planning engineer to work at the Environmental Restoration Disposal Facility. TradeWind was awarded a subcontract worth up to \$30 million to expand the disposal facility by 50%.*

## Profile (Continued)

“Grad school is on hold,” said Bellesen, who began his new job February 17. “Right now, I’m just glad to be working for such a great company.”

TradeWind Services is a service-disabled veteran-owned business based in Richland, Washington, that provides clients with a broad range of engineering and technical support. Earlier this year, TradeWind and its prime subcontractor, DelHur Industries, began work to remove the soil from super cell 10 and construct the liner and leachate collection systems for super cells 9 and 10 at ERDF. The project is supported by the American Recovery and Restoration Act (ARRA).

Like most first-time visitors to ERDF, Bellesen was a little surprised when he first saw the disposal facility. “I didn’t realize how massive it was. It’s incredible,” he said.

Bellesen said part of his job as a planning engineer is to help make sure all procedures relating to construction of the two super cells are followed.

“Everything here is new to me, but I’m learning every day,” Bellesen said. “The people working on the project have been great. I’m impressed how everything is so well-coordinated and how everybody pulls together to get the job done. I’m glad to be a part of the team.”

Bellesen also is grateful for Recovery Act funding. “It helped get me out of a tough spot,” he said. “It gave me a start.”



## 618-10 Burial Ground

### 618-10 Non-Intrusive Characterization/Trench Remediation Project

Nonintrusive characterization activities continue at the 618-10 Burial Ground. The site operated from 1954 to 1963 and received low- and high-level radioactive waste from 300 Area laboratories and fuel development facilities. Measurements have been collected for 70 cone penetrometers in the trench area and 154 in the vertical pipe unit (VPU) area.

The 618-10 Burial Ground consists of 23 trenches grouped into six areas and 94 VPUs. The VPUs were constructed by welding five bottomless drums together and buried vertically about 10 feet apart. WCH is obtaining radiological characterization data of the VPUs and trenches using a multi-detector probe (MDP), designed for measuring a wide range of radiation sources. The MDP is inserted into the cone penetrometers to measure radiation sources.

Meanwhile, preparations are being made for soil sampling. The purpose of collecting and analyzing soil samples is to assess the vertical distribution of contaminants in the soils adjacent to and below the VPUs. A mock-up is scheduled for the week of April 5, and a senior management review of sampling procedures as well as an emergency drill will be conducted before sampling begins.

Meanwhile, project start-up activities continue for intrusive characterization, which will provide information on the actual form, level of contamination, and the condition of various waste types. The bid for the NDA procurement is in review, and a review of submittals has been completed.

The project team continues to investigate a propane tank discovered outside the northeast side of the site fence and two soil sampling pipes found off the northwest corner of the site fence. The discoveries made last week affected the construction of a road around the site. However, a workaround has been developed, and sections of the road will be modified for the short term while the investigations conclude.

Work also continues to develop procurement packages for trench remediation labor and equipment. Remediation of the burial ground will include excavation, handling, packaging, and sampling of buried radioactive and chemical materials in a variety of forms including drums, debris, and soil.

### Upcoming Activities

- Continue trench radiological characterization activities.
- Continue soil sampling project start-up review activities.
- Continue work on the project start-up for intrusive characterization.
- Continue roadwork, fence relocation, and construction of drum processing areas and firebreaks.



## 618-10 Burial Ground (Continued)



*Radiological characterization in the trench area continues at the 618-10 Burial Ground.*

## 100-F Area

WCH is reviewing questions from potential bidders for remediation of the 12 remaining 100-F Area waste sites. Company bids are due to WCH on April 15. Remediation will involve the excavation of radioactive and hazardous soil and debris and the packaging of this material into shipping containers. Miscellaneous waste such as drums, bottles, tanks, or vessels may require repackaging and special handling prior to shipping. Oversized debris may require size reduction to facilitate waste loading.



*F Reactor operated from February 1945 to June 1965. In 2003, it became the third Hanford plutonium production reactor to be placed in interim safe storage. Most of the cleanup work at F Area has been completed. However, during the course of cleanup, the 12 additional waste sites were discovered.*

The remediation sites 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 fuel pipeline section; 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; and 100-F-58 asbestos containing surface debris.

## F-Area (Continued)



*Waste site 100-F-47 is the foundation for a former electrical substation.*

## F-Area (Continued)



*Waste site 100-F-45 is the closest site to the Columbia River. It consists of buried riverbank effluent pipeline.*

## IU 2 & 6 Segment 1

Remediation is complete at three of the six waste sites discovered at IU 2&6 Segment 1 during the 2008 orphan site evaluation. Remediation of sites 600-343, 600-345, and 600-346 is complete. Some remediation work also was completed at site 600-341, which consists of four areas. Completion of remediation of 600-341 and 600-344 will proceed after the historical and cultural review.

Last month, a global positioning environmental radiological survey indicated that site 600-342 did not require additional remediation. Closeout documentation for this waste site is under way and consists of a waste site reclassification form (WSRF) with attached documentation. The waste site will be officially completed (interim closed out) upon review and approval of the WSRF by the U.S. Department of Energy, Richland Operations Office (RL) and the Environmental Protection Agency (EPA).

The three fully excavated sites are relatively small and contain mostly surface debris. Site 600-343 consisted of residual ash from burned material and dumped asphalt in an excavated trench, site 600-345 was a stained area with oil filters, site 600-346 consisted of four small fly ash dump areas with metal debris, and site 600-341 consists of four areas that contain dry cell battery remnants and/or battery debris.

Work instructions (waste site specific verification closeout sample plans) are being prepared to determine the number and location of waste site closeout samples including field quality control samples, sampling methodologies, analyte list, and analytical methods. Once the work instructions are reviewed and approved by RL and EPA, verification closeout samples will be collected for laboratory analysis.

Planning has been initiated to complete excavation and loadout activities at the two remaining 600-341 locations and waste site 600-344 pending completion of the cultural resource review process. Cultural resource documentation and recommendations prepared for this remaining scope have been transmitted by RL to the State Historic Preservation Office for review.





## Confirmatory Sampling

The team continues to develop sampling instructions for waste sites at the 100-D, 100-K, and 100 IU 2&6 Areas. Their efforts include conducting historical research and consulting regulatory documents, developing a list of contaminants of potential concern to be sampled, and determining potential sample locations for review by DOE and Hanford Site regulators. To date, approximately 25% of the confirmatory work instructions have been issued, which includes DOE and regulator approval.

The team is also developing Remove, Treat, and Dispose (RTD) memos for 22 sites that have been determined to require waste site remediation. The memos provide a basis for developing the design for waste site cleanup. Eleven of the memos have been issued and the remaining 11 will be issued in April.

WCH is completing a final review of the Confirmatory Sampling RFP. The scope of the RFP is to support implementation of the sampling work instructions (e.g., excavation and sampling). The RFP will be issued during the week of April 5, 2010. 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.



## General

### Mentoring/Training

No significant mentoring/training events this week.

### Media, Visits, Press Releases

Wyatt King, a new legislative assistant for U.S. Senator Maria Cantwell, and David Reeploeg, the Central Washington Outreach Director for Cantwell, toured the Hanford Site on March 31. The tour stopped at ERDF, where WCH Waste Operations Manager Jeff Armatrout gave a briefing of the facility.



*Jeff Armatrout, left, the Operations Manager at the Environmental Restoration Disposal Facility, gives Sen. Maria Cantwell representatives Wyatt King, left, and David Reeploeg a briefing of the facility*

### Contracting Actions

No significant contracting actions this week.