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Rev. 0

River Corridor Closure Contract

100 Area D4 Project Building Completion Report

January 1, 2013, to December 31, 2013

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For Public Release

Washington Closure Hanford

Prepared for the U.S. Department of Energy, Richland Operations Office
Office of Assistant Manager for River Corridor

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EXECUTIVE SUMMARY

This report documents the final status of buildings after the completion of deactivation, decontamination, decommissioning, and demolition (D4) activities by Washington Closure Hanford at the U.S. Department of Energy's Hanford Site in the 100 Area from January 1, 2013, to December 31, 2013. The following buildings are included in this report:

- 105-B Wash Pad Annex Building
- 151-B Switch House Building
- 151-D Switch House Building
- 183-D Water Treatment Plant
- 1724-N Nitrogen Electrical Controls Facility
- 1904-N Sewage Lagoon
- 1904-NA Lift Station #1.

Demolition debris and soil associated with completion of these building closures were disposed at the Environmental Restoration Disposal Facility located on the Hanford Site. Post-demolition direct-hand instrument surveys and Global Positioning Environmental Radiological Surveyor surveys were not performed on these facilities, other than the 105-B Wash Pad Annex and 1724-N, as they were radiological clean facilities.

The 100 Area D4/Interim Safe Storage Project personnel worked 109,300 hours (manual and non-manual, not including subcontractors) from January 1, 2013, to December 31, 2013. During this time, there were two Occupational Safety and Health Administration first aid cases and zero recordable injuries.

No clothing contamination and no skin contamination incidents occurred during demolition of the 100 Area buildings discussed in this Building Completion Report. Workers received 1.1 person-mrem of radiological exposure from January 1, 2013, to December 31, 2013, during their support of D4 activities associated with the buildings discussed in this report. All boundary air sample results were below procedural action levels for the duration of the work performed.

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METRIC CONVERSION CHART

Into Metric Units			Out of Metric Units		
If You Know	*Multiply By*	*To Get*	*If You Know*	*Multiply By*	*To Get*
Length			**Length**		
Inches	25.4	millimeters	Millimeters	0.039	Inches
Inches	2.54	centimeters	Centimeters	0.394	Inches
Feet	0.305	Meters	Meters	3.281	Feet
Yards	0.914	Meters	Meters	1.094	Yards
Miles	1.609	kilometers	Kilometers	0.621	Miles
Area			**Area**		
sq. inches	6.452	sq. centimeters	sq. centimeters	0.155	sq. inches
sq. feet	0.093	sq. meters	sq. meters	10.76	sq. feet
sq. yards	0.836	sq. meters	sq. meters	1.196	sq. yards
sq. miles	2.6	sq. kilometers	sq. kilometers	0.4	sq. miles
Acres	0.405	Hectares	Hectares	2.47	Acres
Mass (weight)			**Mass (weight)**		
Ounces	28.35	Grams	Grams	0.035	Ounces
Pounds	0.454	Kilograms	Kilograms	2.205	Pounds
Ton	0.907	metric ton	metric ton	1.102	Ton
Volume			**Volume**		
teaspoons	5	Milliliters	Milliliters	0.033	fluid ounces
tablespoons	15	Milliliters	Liters	2.1	Pints
Fluid ounces	30	Milliliters	Liters	1.057	Quarts
Cups	0.24	Liters	Liters	0.264	Gallons
Pints	0.47	Liters	cubic meters	35.315	cubic feet
Quarts	0.95	Liters	cubic meters	1.308	cubic yards
Gallons	3.8	Liters			
cubic feet	0.028	cubic meters			
cubic yards	0.765	cubic meters			
Temperature			**Temperature**		
Fahrenheit	subtract 32, then multiply by 5/9	Celsius	Celsius	multiply by 9/5, then add 32	Fahrenheit
Radioactivity			**Radioactivity**		
Picocuries	37	Millibecquerels	Millibecquerels	0.027	Picocuries

1.0 SCOPE

This report summarizes the deactivation, decontamination, decommissioning, and demolition (D4) activities performed by Washington Closure Hanford (WCH) in the 100 Area of the Hanford Site in calendar year (CY) 2013.

The activities at these facilities generally included utility disconnection; planning; characterization; engineering; removal of hazardous and radiological-contaminated materials; removal of equipment; demolition of the above-grade structure; removal of the remaining slabs and foundation elements; "load-out" of debris to Hanford's Environmental Restoration Disposal Facility (ERDF); and, backfill. The backfill material for the 183-D Water Treatment Plant will be placed by the WCH Field Remediation Project.

As reference, previous D4 Building Completion Reports include the following:

- WCH-102, *100 Area D4 Project Semi-Annual 2006 Building Completion Report – August 2005 to April 2006*
- WCH-185, *100 Area D4 Project Building Completion Report – May 2006 to June 2007*
- WCH-319, *100 Area D4 Project Building Completion Report – July 2007 to December 2008*
- WCH-410, *100 Area D4 Project Building Completion Report – December 2008 to December 2009*
- WCH-473, *100 Area D4 Project Building Completion Report – January 1, 2010, to December 31, 2010*
- WCH-523, *100 Area/400 Area D4 Project Building Completion Report – January 1, 2011, to December 31, 2011*
- WCH-551100 Area/400 Area D4 Project Building Completion Report – January 1, 2012, to December 31, 2012.

2.0 FACILITY DESCRIPTION AND CONDITIONS

The buildings detailed in this report were located in the 100 Area of the Hanford Site. The Hanford Site was constructed and operated for the production of plutonium.

2.1 105-B WASH PAD ANNEX BUILDING

The original 105-B Wash Pad Annex was upgraded in 1950 to decontaminate used fuel dummies and fuel spacers with oxalic acid. In 1961, the Wash Pad Annex was modified to utilize cold nitric acid in the decontamination process.

The Wash Pad Annex, constructed out of concrete masonry units on a concrete slab, was attached to the east end of the 105-B Fuel Storage Basin and was15- by 25-ft. The roof was a wood framed structure with a built up roof and gravel-roofing surface (Figure 1).

The wood framed roof was deteriorating and beginning to collapse. Due to potential damage to the adjacent 105-B Fuel Storage Basins, only the above-grade portion of Wash Pad Annex was demolished by WCH D4, in May, 2013. The concrete slab was left in place. The Fuel Storage Basin roof was repaired and flashing installed where the Wash Pad Annex attached to the Fuel Storage Basin Roof.

Final D4 documentation includes a radiological "down post" survey, post-demolition global positioning system (GPS) survey, and sample data. This data and other information are available in CCN 171675, "Post-Demolition Summary Report for the 105-B Wash Pad Annex."

Figure 1. 105-B Wash Pad Annex Building.

2.2 151B SWITCH HOUSE BUILDING

The original 151-B Switch House was the primary source of electrical power for all facilities in the 100-B Area and later expanded to support the 100-C Area. The 151-B Switch House, constructed in 1944, consisted of a 30- by 85-ft one-story reinforced concrete and cinderblock building on the north side of the 151-B switching yard. The roof consisted of lightweight concrete panels covered with roofing felt, tar, and gravel. The 151-B Switch House had a sub-level cable pit that consisted of a completely enclosed reinforced concrete pit 12-ft below-grade. The main floor comprised a switch room, a fan room, a battery room, and a restroom at the west end. Partitions within the building were constructed of concrete block. Switchgear equipment was located on the main floor directly above the cable pit (Figure 2).

In 1952, a 30- by 60-ft concrete building was added to the east end of the original Switch House to support the "C" Reactor. The top of the concrete slab roof was 12.3-ft above the first floor level, and the structure included an 11-ft deep basement level. The cable pit in the original portion of the building connected directly into the basement of the addition. The first floor of the addition was used primarily to house switchgear equipment, while the basement level provided access to the electrical ducts.

The 151-B Switch House Building was demolished by WCH D4 to 1-m below grade in May 2013. Portions of the below-grade structure greater than 1-m below-grade were left in place. No backfill of the excavation was performed as that scope of work will be performed following remediation of adjacent Waste Information Data System site 100-B-35. A GPS survey was performed at the site following D4 activities to delineate the extent of removal and identify below grade structures left in place. There are no radiological or Industrial Hygiene postings. The area is currently posted with an open-excavation boundary for the open basement/excavation.

Final D4 documentation includes a post-demolition GPS survey. This data and other information are available in CCN 172227, "Post-Demolition Summary Report for 151B Switch House Building."

Figure 2. 151-B Switch House Building.

2.3 151-D SWITCH HOUSE BUILDING

151-D Switch House Building was a one-story building with a sub-level cable pit equipped with a sump pump. All underground duct lines in the adjacent fenced switchyard terminated at the Switch House. The main floor was comprised of a switch room, with a fan room, battery room, and restroom at one end. A cable pit, a completely enclosed reinforced concrete pit with floor slab, extended to a depth of 12-ft below-grade. Partitions within the building were constructed of concrete block. All switchgear equipment was located on the main floor directly above the cable pit (Figure 3).

In 1956, the 151-D Switch House received a 35- by 50.5-ft addition to house new circuit breakers and other electrical equipment. The addition included both a main floor level as well as a partial 12-ft deep basement that connected into the cable pit in the existing portion of the building. The north and east walls of the addition were corrugated asbestos cement siding, while the west and south walls were concrete block. The concrete slab roof was covered with built-up roofing.

The 151-D Switch House Building was demolished by WCH D4 to 1-m below-grade in April 2013.

Final D4 documentation includes a post-demolition GPS survey. This data and other information are available in CCN 169434, "Post-Demolition Summary Report for 151-B Switch House Building."

Figure 3. 151-D Switch House Building.

2.4 183-D WATER TREATMENT PLANT

The 183-D Water Treatment Plant was located approximately 1,500 ft west of the 105-D Reactor Building. The Water Treatment Plant consisted of the Head House (a.k.a. Chemical Storage and Mixing Building), 16 Flocculation Basins, 16 Subsidence Basins, 16 filters housed in the Filter House, 2 Clearwells, the Pump House, and 4 small valve structures located immediately east of the Clearwells (Figure 4).

2.4.1 Head House

The 183-D Head House consisted of a three-story, 36- by 140-ft steel-framed reinforced concrete and concrete block enclosed structure, including a 28- by 40-ft covered railcar shed.

Water pumped from the Columbia River entered the Head House, where it was mixed with various reagents to promote the flocculation and precipitation of undesired constituents that could possibly foul piping in the 105-D and 105-DR Reactors. Water from the Head House was discharged to the flocculation basins via a flume.

2.4.2 Flocculation/Sedimentation Basins

The sixteen parallel concrete flocculation basins received raw water mixed with reagents from the Head House. Each contained slow-turning mixing paddle wheels, and was connected in series to a 500,000-gal concrete sedimentation basin. Water from the downstream end (east) of each sedimentation basin discharged via an overflow trough into gravity filters located in the adjacent Filter House.

2.4.3 Filter House

The Filter House measured approximately 45- by 850 ft, and consisted of concrete and cinderblock walls. The roof was made of concrete panels and covered with a built-up roofing system. Large portions of the concrete roof panels had collapsed by 2013, rendering the facility unsafe to enter.

Inside the Filter House Building were a series of 16 two-section filter beds. Along one side of the row of filter beds was a concrete slab on which were located various metering devices, valves, and controls for the filter beds. Underneath this slab was a pipe gallery and underneath the pipe gallery were two parallel flumes, one for effluent process water and the other for process wastewater.

In 1950, the 183-D Water Treatment Plant was expanded with 3 additional units, bringing the total to 16. Each unit consists of one flocculation basin, one sedimentation basin, and one filter system. One of the new units was located at the north end of the plant, while the other two were located at the south end. The existing intake flumes to the flocculation basins were extended the full width of the plant. The flume at the outlet end of the filters was not extended; instead, effluent and waste from the new filters was piped into existing flumes. In general, these new units were duplicates of the originals.

2.4.4 Pump House

The 183-D Pump House, located between the North Clearwell and the South Clearwells measured approximately 45- by 135-ft. The Pump House consisted of largely below-grade reinforced concrete walls and a concrete roof covered with tar and gravel. Two small cinderblock structures on the Pump House roof comprised the Battery House and the Chlorine Room.

The Pump House originally contained 10 electric pumps and 6 steam turbine pumps. Two of these pumps were used for backwashing the filter beds and four pumps were connected to the combined sanitary and fire protection system. The remaining 10 pumps handled the distribution of filtered water.

Overflow trenches of 20,000-gpm capacity ran along both walls of the Pump Room below floor level, paralleling the two Clearwells. An electric switchgear room containing the various electric meters and controls for the Pump Room was located in the Filter Building at the level of the Pump House roof. The electrical switchgear room was a steel frame, reinforced concrete and concrete block structure with a precast concrete roof covered with tar and gravel.

2.4.5 Clearwells and Valve Houses

The 183-D Clearwells (a.k.a. Clear Water Reservoirs) consisted of two (north and south) 5,000,000-gal reinforced concrete, completely enclosed, reservoirs between which was the Pump House. Each reservoir had a concrete slab roof supported by concrete pillars, and a tar and gravel covered surface. The North Clearwell was retained, along with the below-grade flumes west of the Clearwells, as habitat for bats.

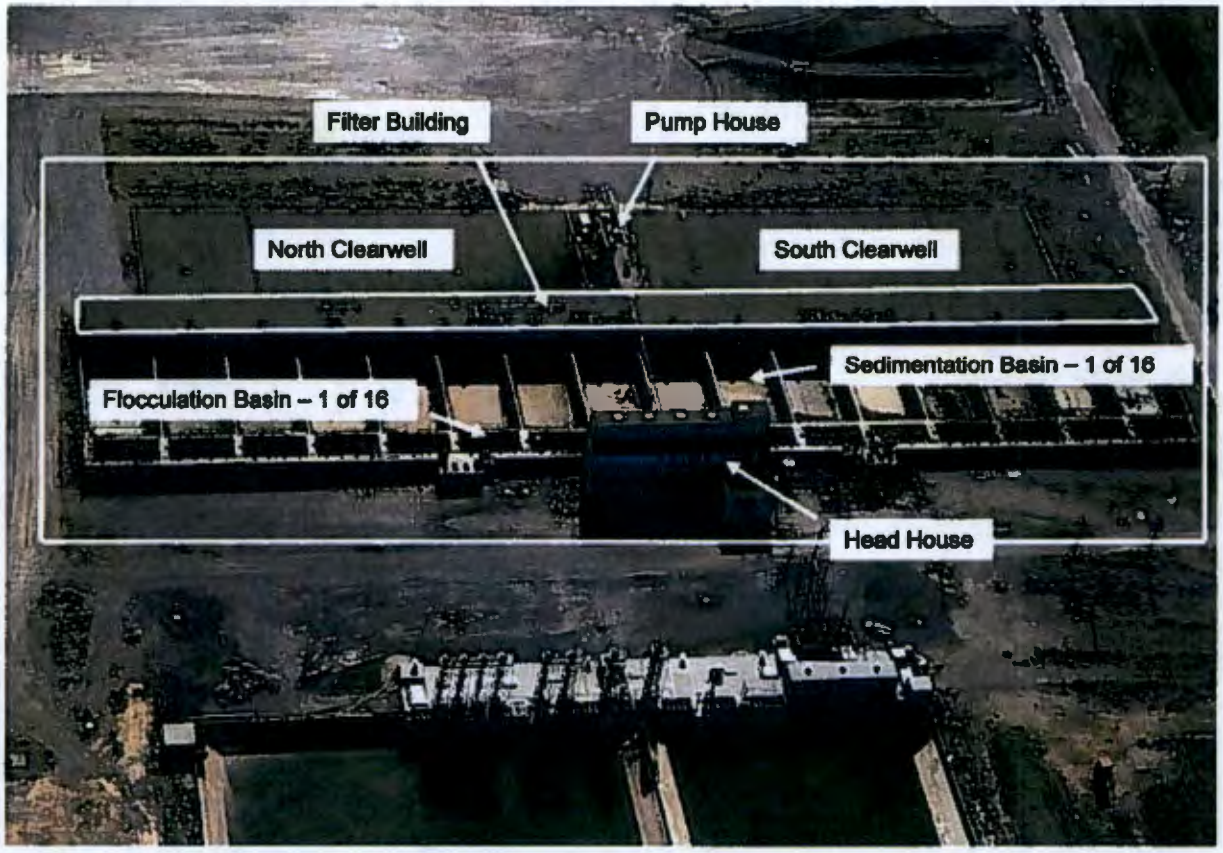
Suction wells on either side of the Pump House, approximately 5-ft lower than the bottom of the two reservoirs, received water by gravity flow from their respective Clearwells. Water from the suction wells was pumped to the 105-D and 105-DR Reactors by the pumps housed in the Pump House.

Four small valve houses were located 20-ft to 30-ft east of the North Clearwell and the South Clearwell. The three northern-most structures consisted of small (less than 100 ft^2) wood structures with dirt floors, in which were large valve stems. The southern-most valve structure consisted of concrete walls with a wood roof.

The 183-D Water Filter Plant was demolished by WCH D4, and debris was loaded out and disposed at ERDF. Work was completed in November 2013.

Final D4 documentation includes a post-demolition GPS survey. This data and other information are available in CCN 174009, "Post-Demolition Summary Report for the 183D Water Treatment Plant."

Figure 4. 183-D Water Treatment Plant.



2.5 1724-N NITROGEN ELECTRICAL CONTROLS FACILITY

Following the accident at the Chernobyl, Ukraine, Nuclear Power Station in 1986, several independent reviews were conducted to consider potential safety issues at the 105-N Reactor. The hydrogen mitigation and control system design effort was initiated to mitigate the potential safety issues. The selected hydrogen mitigation system utilized a combination of forced mixing, venting, and post-inerting with nitrogen. In addition to multiple fans and vents, nitrogen vapor would be pumped into potentially dangerous areas, displacing the oxygen. Without sufficient levels of oxygen in a confined area, an explosion would not occur. The 1724-N Nitrogen Electrical Controls Facility was intended to store and vaporize nitrogen that would have been used in the system (Figure 5). The system was designed to lower the oxygen level in the confinement areas to less than 5% within 3 hours at the maximum flow rate of 40,000 ft^3/min.

The 1724-N consisted of two reinforced concrete structures and a below grade electrical vault. The eastern most structure (Nitrogen Tank Foundation) was a 36- by 42-ft reinforced concrete slab with a pedestal to support the east end of two nitrogen tanks. The western structure was a reinforced concrete slab that had a pedestal to support the west end of the nitrogen tanks, and an at–grade 25- by 42-ft vaporizer pad. The entire western structure was 42- by 58-ft and varied in thickness from 1.8- to 3.8-ft. Only the tank pedestals and vaporizer pad were above grade.

The 1724-N Nitrogen Electrical Controls Facility was demolished by WCH D4. Debris was loaded out and disposed at ERDF. Work was completed in January 2013.

Final D4 documentation includes a radiological "down post" survey and a GPS survey. This data and other information are available in CCN 169436, "Post-Demolition Summary Report for 1724-N Nitrogen Electrical Controls Facility."

Figure 5. 1724-N Nitrogen Electrical Controls Facility.

2.6 1904-N AND 1904-NA SEWAGE LAGOON AND LIFT STATION #1

The 1904-N Sewage Lagoon received waste from two sources: wastewater from more than 30 N-Area facilities was pumped directly to the lagoon, and waste was transported in from more than 75 septic tanks and holding tanks located in the 100, 200, 300, 400 and 600 Areas. Actual flow volumes were approximately 5,290 gal/day from the N-Area and approximately 13,210 gal/day from the rest of the Hanford Site. Only one documented sludge removal from the aeration pond occurred in the late 1990s.

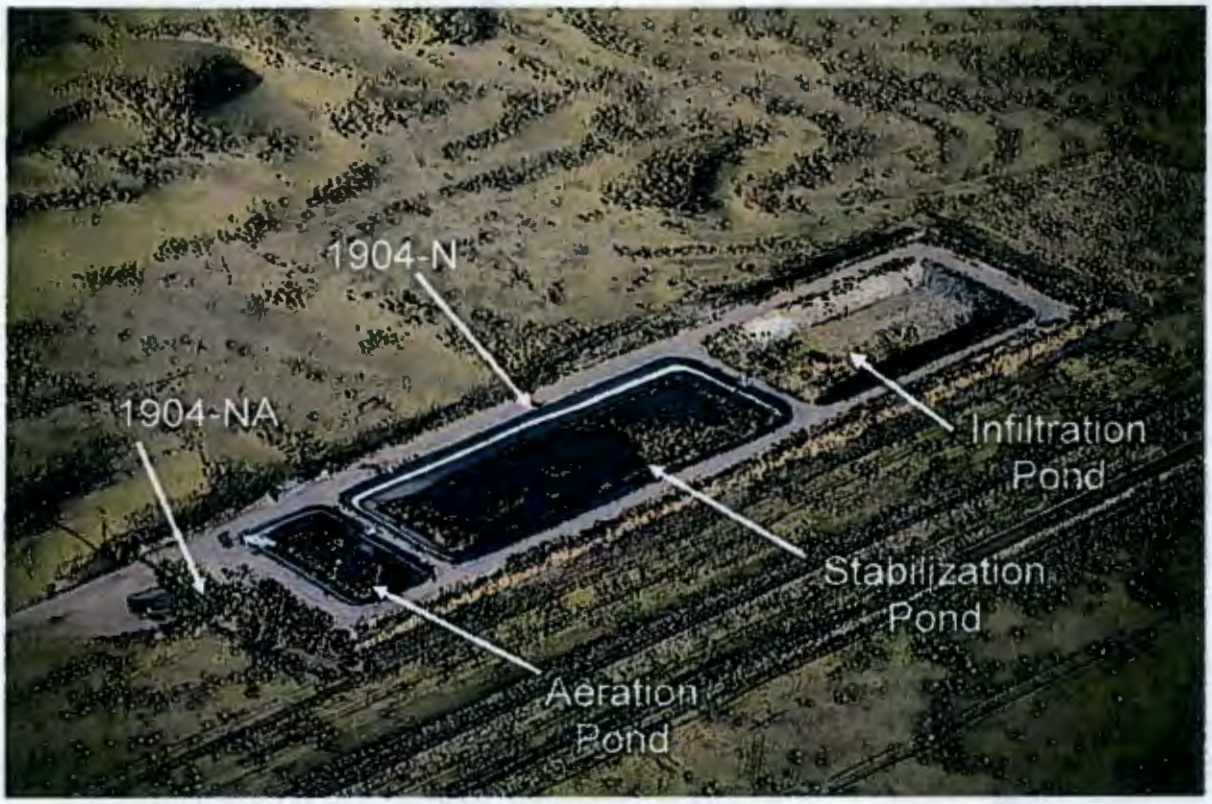
The 1904-N Sewage Lagoon consisted of three separate, interconnected ponds: the aeration pond, the stabilization pond, and the infiltration pond (Figure 6). Waste was introduced into the aeration pond, flowed via a weir to the stabilization pond, and from there over another weir to the infiltration pond where it percolated into the soil. The aeration pond and stabilization pond were lined with a geo-synthetic liner. There were two aerators in the aeration pond and one aerator in the stabilization pond. The overall dimensions of the lagoon were 220- by 825-ft.

The 1904-NA Sewage Lagoon Lift Station #1 was used as part of the piping system that transferred wastewater from the various facilities in the 100-N Area to the 1904-N Sewage Lagoon. The 1904-NA Lift Station consisted of two below-grade concrete structures - a wet well and a valve pit.

The 1904-N Sewage Lagoon and 1904-NA Sewage Lagoon Lift Station #1 were demolished by WCH D4 and load out was completed in April 2013.

Final D4 documentation includes a post-demolition GPS survey. This data and other information are available in CCN 169431, "Post-Demolition Summary Report for the 904-N Sewage Lagoon and 1904-NA Lift Station."

Figure 6. 1904-N and NA Sewage Lagoon and Lift Station #1.



3.0 PROJECT ACTIVITIES

3.1 ENGINEERING AND PERMITS

The Removal Action Work Plan for 100-N Area Ancillary Facilities (100-N RAWP) (DOE/RL 2002-70) and the *Removal Action Work Plan for River Corridor General Decommissioning Activities* (River Corridor RAWP) (DOE/RL-2010-34) were prepared to satisfy the requirements of the action memorandums (Ecology et al. 1999 and DOE/RL-2010-22), outlining how compliance with and enforcement of applicable regulations will be achieved for cleanup of 100 Area facilities. Additionally, the 100-N and River Corridor RAWPs, and the *Environmental Control Plan for 100-N D4/ISS Activities* (WCH-79) and the *Environmental Control Plan for River Corridor General Decommissioning Activities* (WCH-402), serve as the decommissioning and project management plans, respectively, for the 100 Area project. The 100-N and River Corridor RAWPs were prepared in accordance with the Tri-Party Agreement (Ecology et al. 1989) and were approved by the U.S. Department of Energy, Richland Operations Office and the appropriate lead regulatory agencies.

It was determined that the *Davis-Bacon Act of 1931* prevailing wage rates for 105-B Wash Pad Annex, 151-B, 151-D, 183-D, 1724-N, 1904-N, and 1904-NA were not applicable and the work was performed by Hanford Atomic Metal Trades Council plant forces. Additionally, it was

determined that the Davis-Bacon Act prevailing wage rates for the 105-B roof repair and the 183-D backfill were applicable and this work was performed by the building trades.

The Plant Force Work Reviews (PFWR), the Initial/Final Hazard Categorizations (IHC/FHC), PDSRs, and Excavation Permits for each building are listed in Table 1.

Table 1. Building Documentation.

Building	PFWR	IHC/FHC	PDSR	Excavation Permit
105-B Wash Pad Annex	8850-011-12 8850-012-12	N/A	171675	N/A
151-B	8850-010-12	IHC-2013-0001	172227	DAN12-0158
151-D	8850-011-12	IHC-2013-0001	169434	DAN12-0096
183-D	8850-002-12 8850-001-14	IHC-2013-0001	174009	DAN12-0030
1724-N	8850-009-08	CCN 095435	169436	DAN12-0144
1904N &NA	8850-009-08	IHC-2006-0036	169431	DAN12-0144

N/A = Not Applicable

3.2 HAZARDOUS MATERIAL REMOVAL

The scope of the demolition project included removing and properly disposing of hazardous materials (e.g., oils, grease, asbestos-containing material, mercury, lead, and polychlorinated biphenyls [PCBs]). All known hazardous materials were removed from inside and outside of the buildings prior to demolition except for some asbestos-containing material within the 183-D Head House and Filter House. Entry into portions 183-D for asbestos abatement was prohibited due to structural instability of the building. With approval from the U.S. Environmental Protection Agency, asbestos was removed from accessible portions of the facility and was left in-place during demolition of unsafe portions (CCN 169017).

3.3 UTILITY AND DRAIN ISOLATION

All electrical, water, and telecommunications services were disconnected from the buildings prior to hazardous material removal operations. Floor drains were inspected for mercury and then sealed to provide isolation. Sanitary sewers to the building were disconnected during early deactivation activities and all drains were grouted.

3.4 DEMOLITION OF STRUCTURES

After the utilities were isolated, hazardous materials and equipment were removed and the above-grade structures were deemed ready for demolition. The building structures were then demolished using excavator-mounted hydraulic shears, hydraulic hammers, and bucket-and-thumb combination shovels. The foundations for these facilities were likewise removed or

demolished to one-meter below-grade. The debris was segregated for load-out and disposal. Standard ERDF roll-off containers, with 6-mil liners, were used to package and ship debris.

3.5 SITE RESTORATION

The remaining condition and posting of the aforementioned buildings are listed in Table 2.

Table 2. Site Conditions.

Building	Remaining Conditions	Postings
105-B Wash Pad Annex	The slab remains.	The slab is posted as a "Fixed Contamination Area." There are no Industrial Hygiene postings.
151-B	Portions of the structure greater than 1-m below-grade and the basement floor remain.	No radiological or Industrial Hygiene postings remain.
151-D	Portions of the structure greater than 1-m below-grade and the basement floor remain.	No radiological or Industrial Hygiene postings remain.
183-D	Most of the structure was completely demolished. The North Clearwell and flumes were left intact for bat habitat. The South Clearwell walls were demolished 1-m below-grade; the floor was perforated to ensure drainage, and left in place. The far eastern portion of the below-grade Filter Building, adjacent to the entire length of the flumes, below 1-m below-grade, was left intact.	No radiological or Industrial Hygiene postings remain.
1724-N	All portions were demolished except for that part of the Electrical Vault No. 3 that was greater than 1-m below-grade.	No radiological or Industrial Hygiene postings remain.
1904-N & NA	All above and below grade components of both facilities were demolished.	No radiological or Industrial Hygiene postings remain.

4.0 COST AND COMPLETION

Building completion costs and dates are shown in Table 3.

Table 3. Cost and Completion Data.

Building	Total Cost ($)	Completion Date
105-B Wash Pad Annex	163,600	May 28, 2013
151-B	184,300	May 5, 2013
151-D	184,210	April 16, 2013
183-D	3,783,060	November 8, 2013
1724-N	134,250	January 22, 2013
1904-N	529,122	April 18, 2013
1904-NA	23,627	April 18, 2013

5.0 RECYCLED MATERIAL AND WASTE DISPOSAL

One of the objectives of the 100 Area demolition project is to support recycling and waste minimization. However, radiological contamination, primarily due to biological vectors (i.e., mud daubers and wasps), is prevalent throughout the site reducing the amount of materials available for recycling. In CY 2013, 93.8 tons of scrap metal were recycled from the 183-D Water Treatment Plant and approximately 1,400 linear feet of cyclone fencing material from the 1904-N Sewage Lagoon. Everything else was loaded-out and sent to ERDF.

The waste volume transferred to ERDF from the 100 Area Building demolition project is listed in Table 4.

Table 4. 100-N Demolition Project Waste Transferred to ERDF.

Building	Number of ERDF Containers	Waste Volume (ft^3)	Net Weight (tons)
105-B	3	928	19
151-B	82	41,146	1,187
151-D	83	41,035	1,182
183-D	4,959	2,450,838	80,048
1724-N	118	58,340	2,107
1904-N	1,872	938,749	38,698
1904-NA	28	14,041	451

ERDF = Environmental Restoration Disposal Facility

6.0 OCCUPATIONAL EXPOSURES

6.1 PERSONNEL INJURIES

WCH 100-Area D4 Project personnel worked 109,300 hours (manual and non-manual, not including subcontractors) from January 1, 2013, to December 31, 2013. There were no Occupational Safety and Health Administration recordable injuries or lost work incidents, and there were two first aid cases during this period.

6.2 PERSONNEL RADIOLOGICAL EXPOSURES

No clothing contamination or skin contamination incidents occurred during demolition of the 100 Area buildings addressed in this report. Workers received 1.1 person-mrem of radiological exposure from January 1, 2013, to December 31, 2013, during their support of WCH D4 activities associated with the buildings addressed in this report. All boundary air sample results were below procedural action levels during this time-period.

7.0 LESSONS LEARNED

The following are lessons learned during the D4 project:

- 151-B Primary Substation Demolition - Access Across Active Water Lines Requires Advanced Planning and U.S. Department of Energy (DOE) Contractor Approval: Crossing active water lines requires approval from Mission Support Alliance, the site infrastructure contractor. While planning the 151-B Facility demolition, a detailed engineering calculation was required to assure damage to a large diameter, high pressure, water line would not occur by driving heavy equipment on top of it. Schedule lead-time was required to complete the calculation and receive the required approval, to avoid impacting the project start date.

- 151-B Primary Substation Demolition - Open Communication with DOE Produces Additional Work Scope and Efficient Hanford Site Clean-up: Open communication with DOE, during the planning phase of the 151-B Substation, resulted in the addition of work-scope to demolish the adjacent 151-B Switchyard via a Request for Equitable Adjustment (REA). DOE agreed the Switch Yard should be demolished while WCH D4 crews were mobilized to remove the adjacent 151-B Substation building, thereby generating efficiencies. The 100-D Area 151-D Switch Yard was also added to the WCH contract as new work scope with an REA.

- 183-D Water Treatment Plant Demolition - Prepare for Ecological Impacts by Migratory Birds: Demolition of structures creates habitat for migratory birds. During the planning phase, there were no mud swallow nests on the 183-D facility. During building demolition, mud swallows built nests on the structure when convenient nesting locations, and ample water and mud were inadvertently made available from dust-

suppression water application. Where possible, conduct demolition actives in a manner that doesn't create opportunities for nesting. Remove nests prior to the birds laying their eggs (swallow nests need to be removed three to four times daily - once established, as many as three sets of eggs may be laid by one bird). Additionally, apply dust suppression water conservatively.

- 183-D Water Treatment Plant Demolition - Prepare for Ecological Impacts by Migratory Bats: Demolition of "maternity roost" bat habitat may not commence between March and October - plan work activities accordingly. 183-D demolition activities at the Head House were conducted to prevent impacts to bats in the building between March and October.

8.0 REFERENCES

CCN 165742, 2012, "Historical Site Assessment for the 183D Water Treatment Plant", May 23, 2012, Washington Closure Hanford, Richland, Washington

CCN 167673, 2012, "Asbestos Inspection and Sampling Report for the 151-B Switch House Building", January 3, 2012, Washington Closure Hanford, Richland, Washington

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