PUGET SOUND ENERGY
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PRELIMINARY
EMERGENCY RESPONSE PLAN

Lower Baker Upstream Fish Trap

Baker River Hydroelectric Project, FERC No. 2150-033, 027
Puget Sound Energy

12 February 2010

CONTENTS

FIGURES

TABLES

1. INTRODUCTION

The Baker River Project FERC License Article 103, Upstream Fish Passage Implementation Plan (UFPIP), stipulates that an emergency response plan (ERP) will be developed for the newly constructed upstream fish trap located at the Baker River Hydroelectric Project (FERC 2150). The UFPIP stipulates the following:

- UFPIP – Upstream Passage Emergency Response Plan. No less than 120 days prior to the initiation of operation of any of the fish passage facilities required by this article, licensee shall file with the Commission a preliminary response plan addressing operational contingencies and emergencies, and shall file a final plan with the Commission within 120 days from startup testing.

The following document is provided by Puget Sound Energy (PSE) to FERC to address operational contingencies and/or emergencies that could potentially arise with operation of the adult fish trap (AFT). The plan was developed with the overriding priority to prevent immediate fish mortality and/or injury from arising given a system failure at the Baker River AFT. Initial response to all general mechanical and operational failures at the trap will be prioritized using the following procedures:

1. Restore water supply and/or stabilize fish presently in the system (back-up water supply/oxygen source) within 15 minutes of outage;
2. Fish transport capability restored within 24 hours of outage;
3. Restore normal fish collection capability within 48 hours, or as soon as possible following outage; and
4. In the event that normal fish collection capability requires more than 48 hours, the Baker River Aquatic Resource Group (ARG) shall be notified/consulted.

The following operational responses and contingencies were identified for failure of critical hydraulic, mechanical, and electrical systems under various scenarios that may ultimately result in fish mortality (Section 2.0). Solutions provided are immediate action responses based on the priorities outlined above. Drawings of the facility, to aid in equipment needs and process identification, are contained within Section 3.0 of this document. Providing long-term maintenance or repair solutions is not within the scope of this document and will be addressed in the operation and maintenance plan for the AFT.

2. EMERGENCY SITUATIONS AND RESPONSES

2.1 INTAKE AND LOWER POOLS WATER SUPPLY

Water supplied to the lower pool of the AFT is screened gravity flow from the Baker River above the barrier dam. Critical components to the water supply for the pools in the lower trap area include the inlet fish screens (and associated cleaner) and the gates regulating flow into the lower trap pools. Also present are the water supply instrumentation at the fish screen inlet including two level transmitters for the forebay level and screened water level. These components combine to provide and regulate water to the lower trap pools (Entrance Pool, Holding Pool 1, Holding Pool 2, and the Transition Pool). Other features associated with flow through the lower trap pools include the barrier dam weirs, and the entrance weirs, however problems with these features would not constitute an emergency condition harmful to fish, but rather may lead to less than optimal fish attraction flow conditions at the trap entrance.

Table 1. Description of water intake structures and equipment with failure plan.

Description	Equipment #	Immediate Failure Plan
Telescoping Arm Screen Cleaner	SCNC-WIKS03-00	Manual cleaning cycle initiated at local control panel
Debris Flume Flush Valve	V-WIKS04-00	Manual switch located in field
Entrance Pool	LDSG-LPOL01-00	Manual Gate – Open
Holding Pool 1	SLDG-LPOL11-00	Open manually to 25%
Holding Pool 2 and Transition Pool	SLDG-LPOL17-00	Open manually to 25%
Level Transmitters	LIT-WIKS01-00 LIT-WIKS02-00	Manually override automatic control if failed.

2.1.1 Issue: Complete loss of primary system power.

Solution: Verify that supply gates are at least 25% open and screen is relatively clean. If gates need to be opened or Screen Cleaner run, then start the standby generator and manually transfer power to the AFT.

2.1.2 Issue: Complete loss of secondary system power.

Solution: If primary backup power is unavailable, bring in portable generator, connect to system and manually transfer power to the AFT. Verify that supply gates are at least 25% open and screen is relatively clean during this operation.

2.1.3 Issue: Screen Cleaner automatic failure.

Solution: Manually initiate a cleaning cycle from the local cleaner panel as needed to keep screen clean (dependant on debris loading in Baker River) and correct control problem.

2.1.4 Issue: Screen Cleaner mechanical failure.

Solution: Manually rake screen as needed and repair mechanical problem.

2.1.5 Issue: Level Transmitter failure.

Solution: A Level Transmitter failure may result in loss of automatic level control. Manually position gates such that the Entrance Pool Supply Gate is fully open, the Holding Pool 1 gate is 50% open, and the Holding Pool 2/Transition Pool Gate is 10% Open. Replace failed Level Transmitter, verify signal, and restore automatic operation.

2.1.6 Issue: Supply Gate failure.

Solution: Manually position gates such that the Entrance Pool Supply Gate is fully open, the Holding Pool 1 gate is 50% open, and the Holding Pool 2/Transition Pool Gate is 10% Open. Repair gate.

2.1.7 Issue: General water system failure.

Solution: If penstock is out of service see Section 2.2.4. Remove fish if failure is greater than 15 minutes, use air stone for backup oxygenation and transfer fish to truck.

2.2 SORTING AND STRESS RELIEF PONDS WATER SUPPLY

The water supply for the sorting area includes supplying; the Fish Lock, Sorting Flumes, Sorting Pools, Loading Hopper, and Stress Relief Ponds. This supply is typically gravity supply from the Lower Baker Penstock.

Table 2. Description of sorting and stress relief pond water supply structures and equipment with failure plan.

Description	Equipment #	Immediate Failure Plan
Filter Bank	SCN-PWT01-00 SCN-PWT02-00 SCN-PWT03-00	Manually flush if clogged or remove screen and clean if badly clogged.
Pressure Reducing Valve	V-PWTR04-00	Manually Position if needed.
Entrance Pool	LDSG-LPOL01-00	Manual Gate – Open
Low Head / High Flow Backup	P-SWTR01-00	Backup Low Pressure Supply

Pump		
High Head / Low Flow Backup Pump	P-WIKS05-00	Backup High Pressure Supply
Pressure Transmitter	PIT-PWTR10-00	Manually override automatic control if failed.

2.2.1 Issue: Complete loss of system power.

Solution: Start the standby generator and manually transfer power to the AFT to allow the Pressure Reducing Valve to modulate during sorting operations. If flow demand is steady then the valve can be left in an appropriate position without power.

2.2.2 Issue: Filter Bank becomes clogged.

Solution: Manually flush each filter or remove screen from filter housing (after isolating a filter with the valves) and clean filter screen. Clean as needed.

2.2.3 Issue: Pressure Reducing Valve failure.

Solution: Close the 16 inch gate valve (V-PWTR08) in the valve vault, open the Stress Relief Pond Flush Valve (V-SRPD04-00) to insure a minimum 1 cfs of flow, and manually operate the Low Head / High Flow Backup Pump (P-SWTR01-00) as needed. Repair Pressure Reducing Valve.

2.2.4 Issue: Penstock out of service.

Solution: Close the 16 inch gate valve (V-PWTR08) and the 4" gate valve in the valve vault, open the Stress Relief Pond Flush Valve (V-SRPD04-00) to insure a minimum 1 cfs of flow, and manually operate the Low Head / High Flow Backup Pump (P-SWTR01-00) as needed until gravity flow can be restored.

2.3 ENTRANCE POOL

The AFT control features associated with the entrance pool are entrance weirs (with hoists), and entrance bulkheads (Table 2). The entrance weirs are set to optimize fish attraction to the trap and settings are not critical to fish survival.

Table 3. Description of entrance pool structures and equipment with failure plan.

Description	Equipment #	Immediate Failure Plan
Main Entrance Weir Hoist	H-LPOL02-00	Manual operation possible
Auxiliary Entrance Weir Hoist	H-LPOL03-00	Manual operation possible

Portable Stop Log Hoist	H-CRNH01-00	Equipment is backup

2.3.1 Issue: Complete loss of system power.

Solution: Automatic or manual engagement of backup power supply.

2.3.2 Issue: Hoist at fish entrance pool fails.

Solution: A mechanical failure of the hoist will prevent the stop log, fish exclusion screen inserts from being installed. Use the portable hoists with cable attachments to position weir.

2.4 HOLDING POOLS

The trap features associated with the holding pools are the swinging Vee Barrier leading into Holding Pool 2 and the crowder for Holding Pool 2, (Table 3). Although fish will volitionally pass into the transition pool from Holding Pool 2, the Holding Pool 2 crowder is integral to assuring all fish entering the trap are transported. The Holding Pool 2 Crowder includes both a horizontal crowding action and a vertical action of the foot crowder.

Table 4. Description of holding pool structures and equipment with failure plan.

Description	Equipment #	Immediate Failure Plan
Dewatering Pump	P-LPOL06-00	Substitute with manual pump
Holding Pool 2 Swinging Vee Barrier	MME-LPOL14-00	Manually adjust from control panel
Holding Pool 2 Crowder and Fish Foot Crowder	CRWD-LPOL15-00 CRWD-LPOL16-00	Manual operation is possible

2.4.1 Issue: Complete loss of system power.

Solution: Start the standby generator and manually transfer power to the AFT to allow Crowder operation.

2.4.2 Issue: Crowder jams on rocks or debris in the pool.

Solution: Use a diver to remove obstruction or deploy the stoplogs at the AFT entrance and dewater the trap, rescue the fish and place the trap back in operation**.**

2.4.3 Issue: Crowder motor failure.

Solution: Repair or replace motor(s). The SEW drive motors have a next day replacement service for replacement motors. If the horizontal drive motor fails the crowder carriage could be pulled back and forth manually (using chain hoist) after releasing the brake on the drive motor.

2.4.4 Issue: Vee Barrier loses pneumatic pressure (unable to close).

Solution: Use portable compressor to supply pressure to close Vee barrier.

2.5 TRANSITION POOL

The transition pool includes a fish sensor that meters fish into the transition pool from Holding Pool 2. The sensor is a rectangular opening that the fish must pass through to enter the transition pool. This opening is raised out of the water with a hoist when the desired number of fish have entered the transition pool. The Transition Pool Crowder is a vertical action crowder with a sloping floor to force fish into the Fish Lock. This is driven by a fabricated drum hoist.

Table 5. Description of transition pool structures and equipment with failure plan.

Description	Equipment #	Immediate Failure Plan
Fish Sensor and Positioner	UJ-LPOL19-00 H-LPOL19-01	Manual chain hoist actuation
Transition Pool Vertical Crowder	CRWD-LPOL20-00	Actuation with the boom truck
Fish Lock Entrance Gate	SLDG-FLOK01-00	Manual Chain Hoist actuation

2.5.1 Issue: Complete loss of system power.

Solution: Start the standby generator and manually transfer power to the AFT to allow operation.

2.5.2 Issue: Fish Sensor failure.

Solution: Conservatively estimate the number of fish and manually raise the sensor to prevent overcrowding in the Transition Pool / Fish Lock.

2.5.3 Issue: Fish Sensor Hoist failure.

Solution: Replace or repair hoist and use temporary manual hoist.

2.5.4 Issue: Roll up Barriers failure.

Solution: Move as many fish into the Fish Lock as possible and transport through the sorting facility. Close barrier to Holding Pool 2. Remove barrier holder and repair. Dewater trap and rescue fish from beneath the Transition Pool crowder if needed. Access is available to haul out fish by boom truck to waiting fish trailer (see Figure 3.6). Restore operation.

2.5.5 Issue: Transition Pool Crowder failure.

Solution: Transfer cable from hoist to a lifting yoke to raise and lower with the boom truck.

2.5.6 Issue: Fish Lock becomes blocked.

Solution: See Section 2.6.2.

2.6 FISH LOCK

The fish lock receives fish from the transition pool. Fish pass through the Entrance Gate into the Fish Lock. After the gate is closed the Fish Lock is filled with water. When the water depth is sufficient the Vertical Crowder can be raised to crowd fish into the Sorting Flume. A hydraulically actuated False Weir and rubber Exit Gate manage fish into the Sorting Flume.

Table 6. Description of Fish Lock structures and equipment with failure plan.

Description	Equipment #	Immediate Failure Plan
Fish Lock Entrance Gate	SLDG-FLOK07-00	Manual chain hoist actuation
Fish Lock Crowder	CRWD-FLOK02-00	Actuation with the boom truck
Fish Lock Fill Valve	V-FLOK06-00	Manual Hand wheel actuation
Fish Lock Drain Valve	SLDG-FLOK07-00	Manual Hand wheel actuation
False Weir	MME-FSRT-01	Bypass Operation
Rubber Fish Lock Exit Gate		Bypass Operation

2.6.1 Issue: Complete loss of system power.

Solution: Start the standby generator and manually transfer power to the AFT to allow operation.

2.6.2 Issue: Fish Lock Entrance Gate failure.

Solution: Replace Hoist (possibly with a manual hoist) repair existing hoist or use boom truck to connect to existing chain and lift gate until repaired. Place back in operation.

2.6.3 Issue: Fish Lock Vertical Crowder Hoist failure.

Solution: Remove rope from hoist. Attach the crowder rope to the boom truck (75' required). Raise and lower crowder with the boom truck. Repair normal Fish Lock Crowder Hoist.

2.6.4 Issue: Fish Lock Vertical Crowder Jams.

Solution: Remove rope from hoist. Remove upper Fish Lock grating platform with boom truck. Attach the crowder rope to the boom truck and attempt to raise, then remove Crowder and repair. If remains jammed dewater trap and enter Fish Lock and repair Crowder. Dewater trap if needed. Rescue fish by utilizing the Transition Pool Crowder as a location for dewatering, handling and loading of fish. Access is provided for fish removal using a boom truck (see Figure 3.6).

2.6.5 Issue: Fish Lock Fill Valve failure.

Solution: Operate manually with hand wheel and repair actuator.

2.6.6 Issue: Fish Lock Drain Valve fails.

Solution: Operate manually with hand wheel and repair actuator.

2.6.7 Issue: Fish Lock Rubber Exit Gate fails.

Solution: Bypass normal sorting and route all fish through sampling area if needed. Repair gate or hydraulic system. Note there is a spare hydraulic motor and control valve.

2.6.8 Issue: Fish Lock False Weir fails.

Solution: Bypass normal sorting and route all fish through sampling area if needed. Repair gate or hydraulic system. Note there is a spare hydraulic motor and control valve.

2.7 SORTING AREA

The fish leaving the Fish Lock enter the Sorting Flume and can be routed into one of four sorting pools, the pre-anesthesia pool, or the fish Loading Hopper. The flume consists of a viewing section, a PIT Tag detector, and pneumatically actuated sorting gates. The sorting pools include horizontal crowders and picket barriers. Fish are moved from the sorting pools into a loading pool, through a Loading Pool Gate, and into the Loading Hopper.

Table 7. Description of sorting area structures and equipment with failure plan.

Description	Equipment #	Immediate Failure Plan
Sorting Area Crowders	CRWD-FSRT25-00 Through GATE-FSRT34-00	Manually pushing crowders or using a manual hoist for barrier
Sorting Area Picket Barriers	MME-FSRT21-00 Through MME-FSRT24-00	Manual hoist actuation
Loading Pool Gate	SLDG-FSRT70-00	Manual hoist actuation
Loading Hopper	H-FSRT71-00	Manual hoist actuation or bypass operation

2.7.1 Issue: Complete loss of system power.

Solution: Start the standby generator and manually transfer power to the AFT to allow operation.

2.7.2 Issue: General water system failure.

Solution: If penstock is out of service see Section 2.2.4. Remove fish if failure is greater than 15 minutes, use air stone for backup oxygenation and transfer fish to truck.

2.7.3 Issue: Sorting Crowder Failure.

Solution: Remove pool from operation if possible. Release brake on drive and manually push or pull crowder if needed with chain hoist. Replace hoist with manual chain hoist. Repair or replace motor, hoist, or failed component.

2.7.4 Issue: Picket Barrier failure.

Solution: Operate manually with chain hoist and repair or replace hoist.

2.7.5 Issue: Loading Pool Gate failure.

Solution: Operate manually with chain hoist and repair or replace hoist.

2.7.6 Issue: Loading Hopper Bellows failure.

Solution: Operate manually with chain hoist and repair or replace hoist. If bellow fails route fish though the Sampling Area and transport Fish with Transport Tanks. Repair or replace hoist or bellows.

2.8 SAMPLING AREA

The sampling area receives fish from the pre-anesthesia pool after being crowded into the Anesthesia Tank. After fish are anesthetized, they are loaded onto a sampling table and routed into one of six return pipes that go to the sorting pools and two transport tanks.

Table 8. Description of sampling area structures and equipment with failure plan.

Description	Equipment #	Immediate Failure Plan
Anesthesia System	MME-FSRT38-00	Use manual hoist or bypass operation defer to visual sorting only
Sampling Control Failure	LCP-FSRT43-00	Manually record fish data
Transport Tank Hoists	H-FSRT73-00 & H-FSRT74-00	Manual hoist actuation

2.8.1 Issue: Complete loss of system power.

Solution: Start the standby generator and manually transfer power to the AFT to allow operation.

2.8.2 Issue: Anesthesia System failure.

Solution: Revise sorting protocol to visually sort fish only. Repair anesthesia unit. Use carbon dioxide temporarily if necessary or work fish without anesthesia. Use manual hoist if hoist fails and repair or replace hoist.

2.8.3 Issue: Sampling Control Failure.

Solution: If input panel, PLC or PC program fails, then resort to manual data recording and sorting until system is corrected.

2.8.4 Issue: Transport Tank Hoists fails.

Solution: Operate manually with chain hoist and repair or replace hoist.

2.9 STRESS RELIEF PONDS

The stress relief ponds consist of pools that water flows into the banks side end through a manual butterfly valve through the pool and out a weir gate, down the outfall pipe and outfall and into the Baker River. Fish are typically held for one to three days after transport.

Table 9. Description of stress relief ponds structures and equipment with failure plan.

Description	Equipment #	Immediate Failure Plan
Water supply	V-SRPD01-00 through V-SRPD02-00	Drain pond and release fish into the river
Pond Drain Gates	SLDG-SRPD05-00 Through SLDG-SRPD07-00	Manually actuate to lower gate with handwheel

2.9.1 Issue: Complete loss of system power.

Solution: Start the standby generator and manually transfer power to the stress relief ponds to allow operation.

2.9.2 Issue: Water Supply fails.

Solution: Revert to backup pump water supply and or immediately release fish into the river.

2.9.3 Issue: Pond Drain Gate fails

Solution: Manually operate hand wheel on actuator to lower the gate.

3. FACILITY DRAWINGS

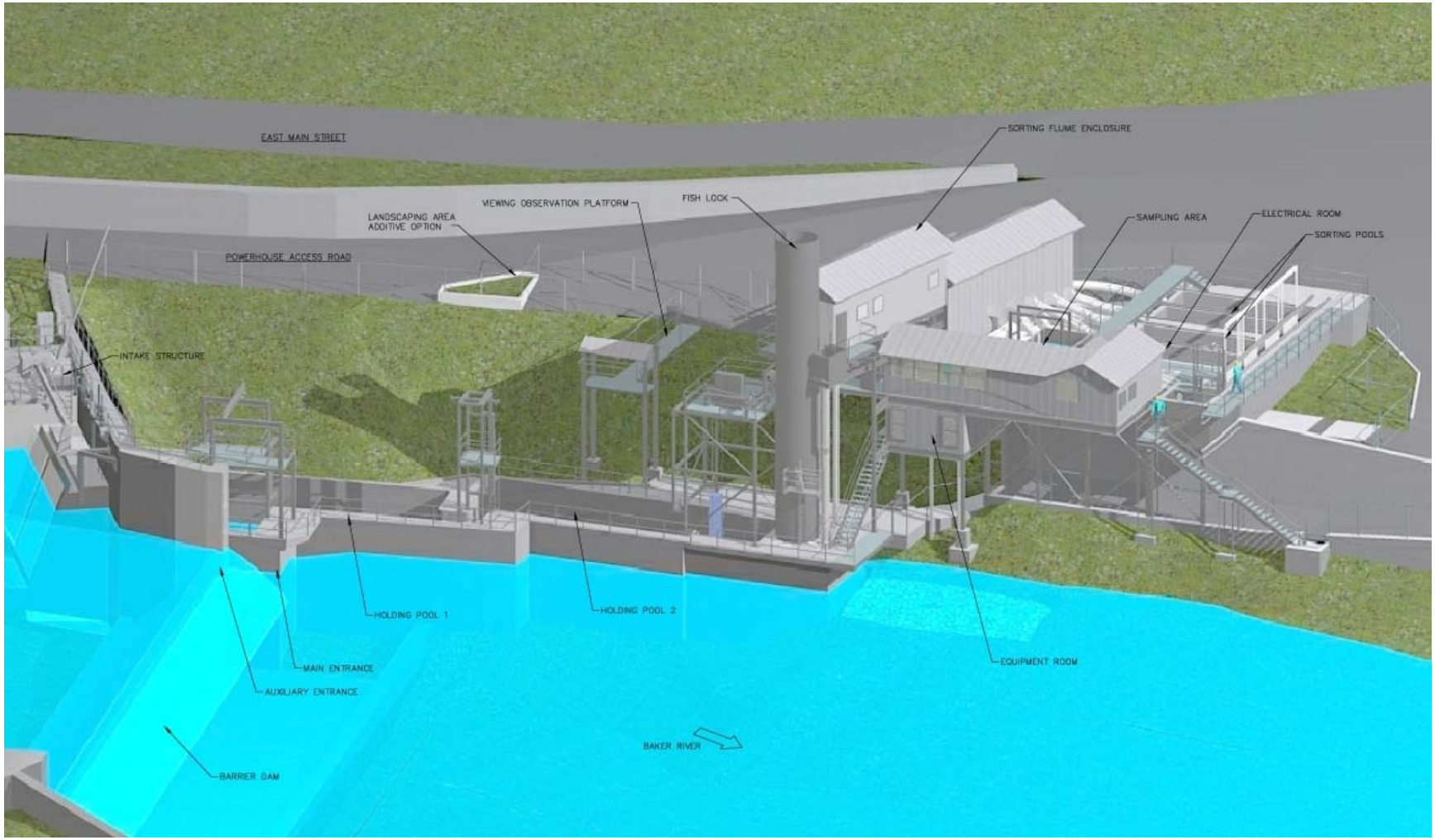

Figure 3.1. Adult Fish Trap facility site rendering. Created by R2 Resource Consultants, Inc., 15 Oct 2008.

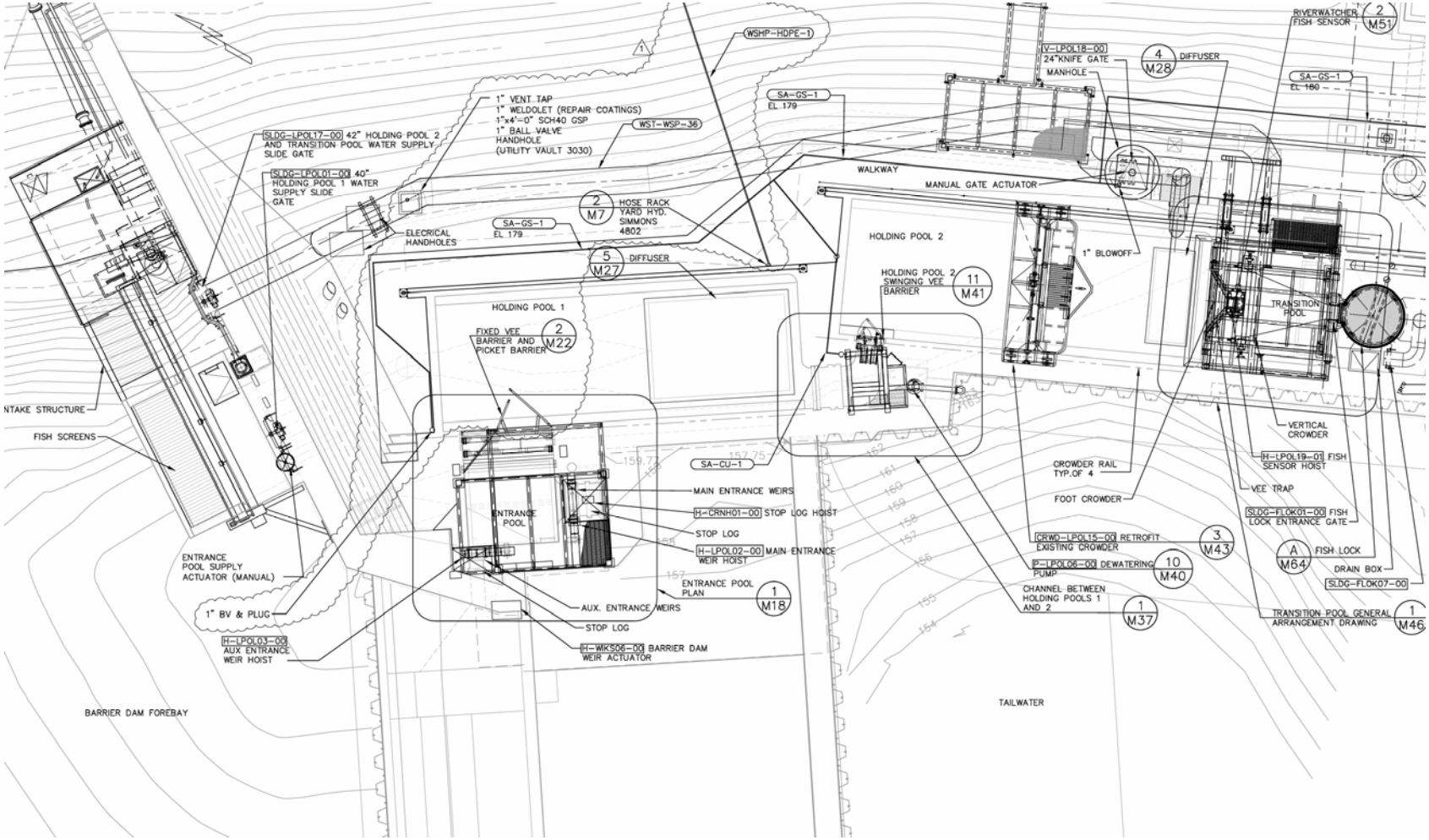

Figure 3.2. Adult Fish Trap facility site plan. Created by R2 Resource Consultants, Inc., 15 Oct. 2008.

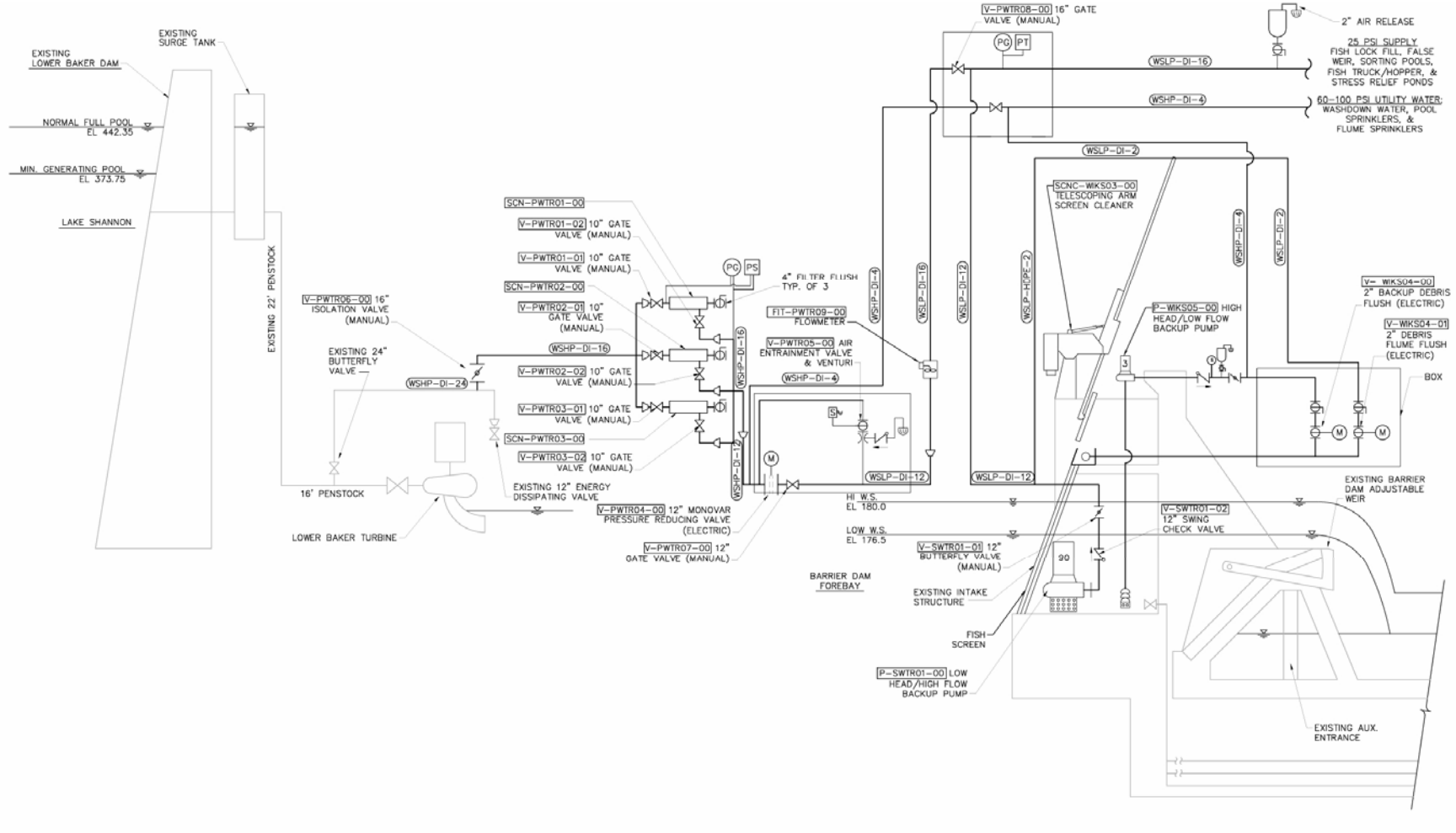

Figure 3.3. Baker Adult Fish Trap water supply piping schematic 1. Created by R2 Resource Consultants, Inc., 15 Oct. 2008.

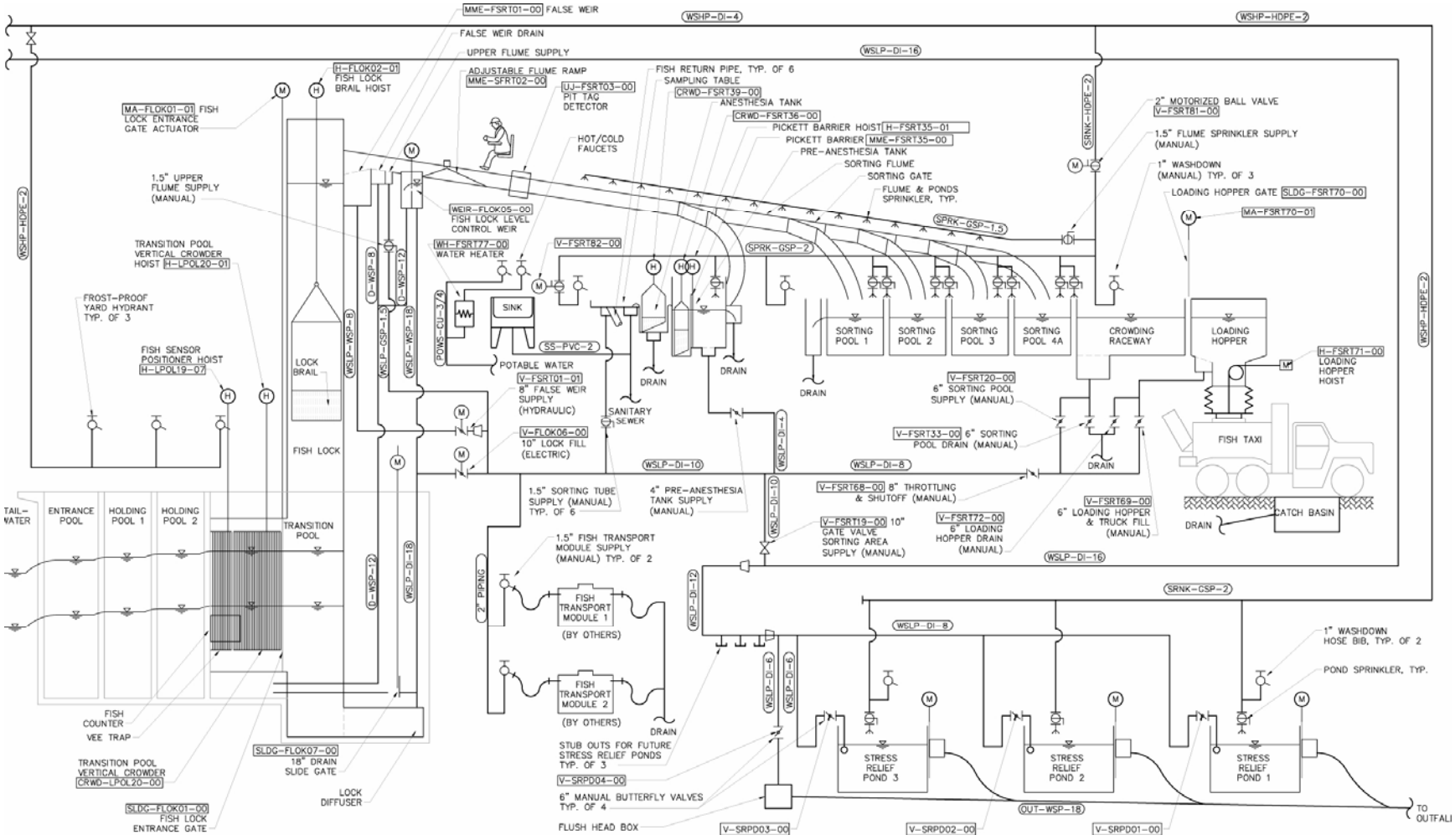

Figure 3.4. Baker Adult Fish Trap water supply piping schematic 2. Created by R2 Resource Consultants, Inc., 15 Oct. 2008.

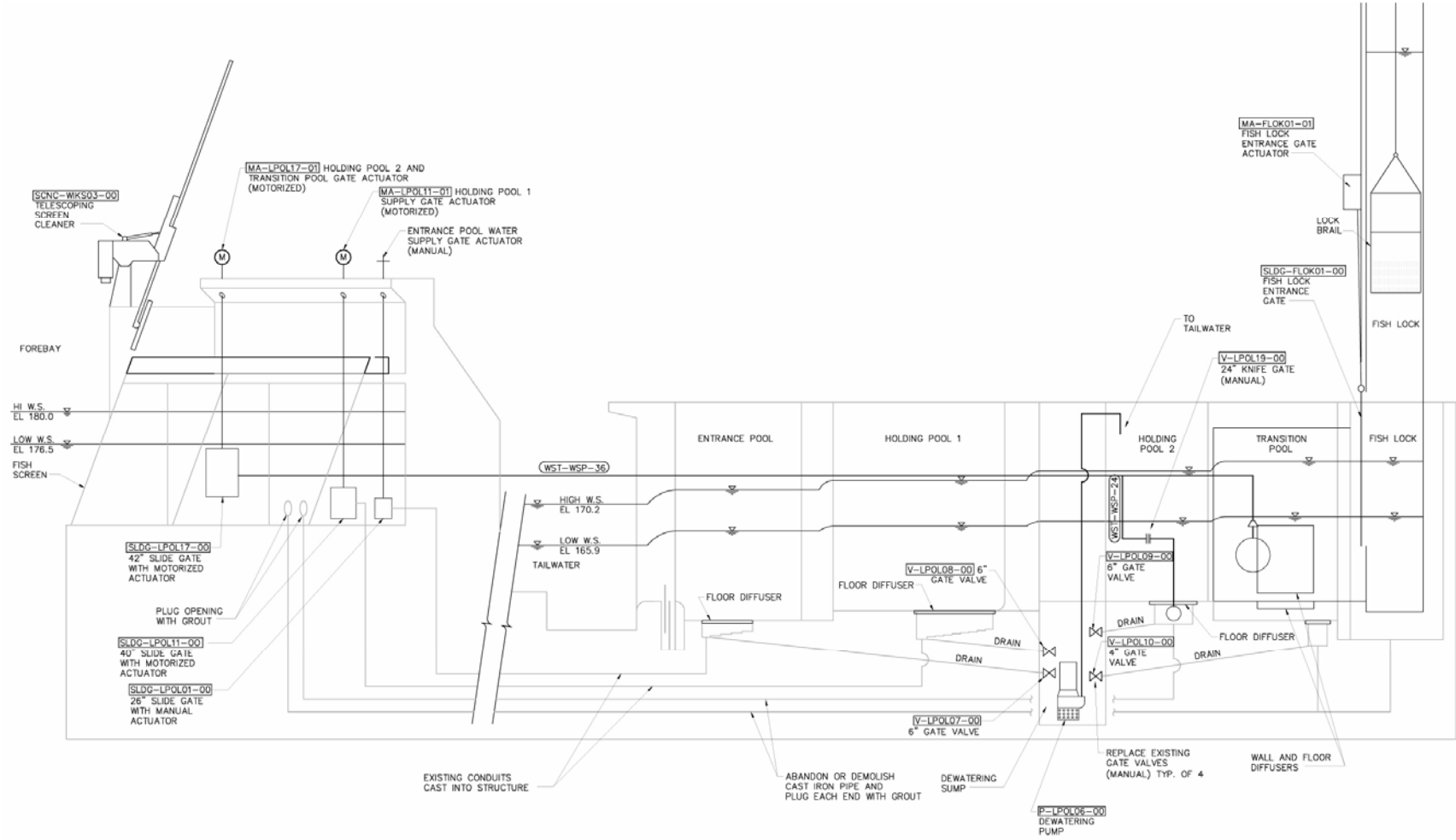

Figure 3.5. Baker Adult Fish Trap water supply piping schematic 3. Created by R2 Resource Consultants, Inc., 15 Oct. 2008.

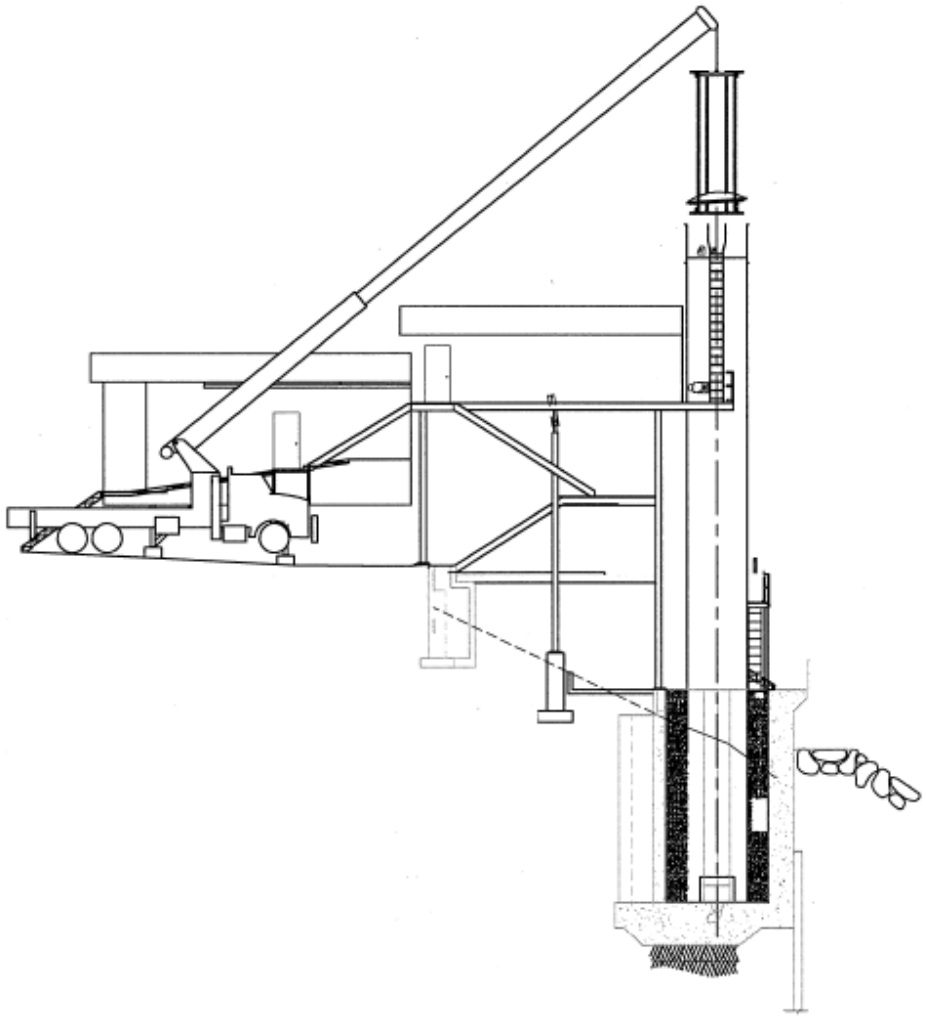

Figure 3.6. Fish removal schematic for boom truck access at the Fish Lock. Created by R2 Resource Consultants, Inc.

4. APPENDICES

4.1 EMERGENCY CONTACTS AND SITE EMERGENCY NUMBERS

General Dispatch	---	Phone	425-882-4981
Plant Operator	Mike Donnelly	Cell	360-661-2235
		Home	360-826-4273
Plant Manager	John Jensen	Cell	360-661-0831
		Home	360-424-2943
Plant Engineer	Dennis Hendrickson	Cell	360-630-8059
		Home	360-
Plant Sr. Elect. Engr.	Sam Johnson	Cell	360-353-8797
		Home	360-
Plant Hydro Tech. IV	Bob Coffell	Cell	360-661-2233
		Home	360-826-4626
Fisheries Supervisor	Doug Bruland	Cell	360-661-2210
		Home	360-424-9722
Fisheries Technician III	Nick Nickelson	Cell	360-661-1137
		Home	360-724-0503
Fisheries Technician III	Mike Ficklin	Cell	360-661-2239
		Home	360-714-9504
Resource Sciences Mgr.	Cary Feldmann	Cell	206-949-0415
		Home	425-235-0598
Fisheries Biologist	Nick Verretto	Cell	206-200-4431
Project Engineer	Don Thompson	Cell	206-275-1000
		Home	206-236-1222
Emergency Response	911		

4.2 EMERGENCY CONTACT PLAN, AFTER HOURS

Operator or first person on site will use the Emergency Contact List (above) or following list:

Baker River		outside 360-853-8341 or 86-2836 (office), 360-424-2919 (machine shop), FSC 86-2070					
	from outside direct, dial 360-424- then 4-digit extension (LB only), LB pwrhse 86-29/33/2913, UB 86-2033/2057, outside line 360-853-8608						
#	**Last Name**	**First Name**	**Extension**	**E-Mail - Work**	**Cell Phone**	**Home**	**Reports to**
1	Blanton	Rick	86-2919	rick.blanton@pse.com	360-661-2208	360-855-1976	Jensen
2	Bruland	Doug	86-2920	doug.bruland@pse.com	360-661-2210	360-424-9722	Jensen
3	Clark	Sharon	86-2064	sharon.clark@pse.com	360-661-2284	360-853-7679	Jensen
4	Coffell	Bob	86-2952	robert.coffell@pse.com	360-661-2233	360-826-4626	Jensen
5	Donnelly	Mike	86-2933	mike.donnelly@pse.com	360-661-2235	360-826-4273	Jensen
6	Elbrecht	Adam	86-2977	adam.elbrecht@pse.com	360-661-3347	360-366-5904	Jensen
7	Faber	Gary	86-2919	gary.faber@pse.com	253-261-8546	253-891-2314	Jensen
8	Feay	Patrick	86-2919	patrick.feay@pse.com	360-547-3189	360-708-7384	Jensen
9	Fichter	Elaine	86-2064	elaine.fichter@pse.com	360-853-8258	360-853-8258	Jensen
10	Ficklin	Mike	86-2947	michael.ficklin@pse.com	360-661-2239	360-714-9504	Jensen
11	Garland	Pam	86-2912	pamela.garland@pse.com	360-661-2243	360-826-3087	Jensen
12	Hadaway	Bryon	86-2970	bryon.hadaway@pse.com	360-661-3864	360-826-4073	Jensen
13	Hall	Debbie	86-2967	debbie.hall@pse.com	360-661-1317	360-293-5253	Jensen
14	Hatfield	Andy	86-2988	andrew.hatfield@pse.com	360-593-1578	360-436-2177	Jensen
15	Hendrickson	Dennis	86-2954	dennis.hendrickson@pse.com	360-630-8059		Jensen
16	Hockett	Melissa	86-2911	melissa.hockett@pse.com	360-661-0197	360-853-7027	Jensen
17	Jensen	John	86-2910	john.jensen@pse.com	360-661-0831	360-424-2943	Jensen
18	Johnson	Sam	86-2953	samuel.johnson@pse.com	360-353-8797	360-353-8797	Jensen
19	Kempkes	Mike	86-2033/2059	mike.kempkes@pse.com	360-661-2251	360-853-8608	Jensen
20	Kincheloe	Gerry	86-2942	gerry.kincheloe@pse.com	360-722-4545		Jensen
21	Koens	Doug	86-2919	douglas.koens@pse.com	360-661-2297	360-420-1944	Jensen
22	Kurras	Kevin	86-2919	bakerlake@dfw.wa.gov	360-661-2253	360-724-6460	Jensen
23	Levy	Dick	86-2919/2004	richard.levy@pse.com	360-661-2269	360-853-8433	Jensen
24	Luttrell	Rebekah	86-2919	rebekah.luttrell@pse.com	360-661-7806	360-853-8542	Jensen
25	Lynch	Al	86-2919	allan.lynch@pse.com	360-661-2271	360-855-0407	Jensen
26	McGuire	Gabe	86-2928	gabe.mcguire@pse.com	360-661-0862	360-927-4046	Jensen
27	McLaughlin	Cathie	86-2919	cathie.mclaughlin@pse.com	360-630-6061	253-261-8813	Jensen
28	Nickelson	Nick	86-2938	nick.nickelson@pse.com	360-661-1137	360-724-0503	Jensen
29	Rathvon	Norm	86-2919	norman.rathvon@pse.com	360-661-2273	360-826-4337	Jensen
30	Rauter	Donna	86-2064	donna.rauter@pse.com	360-708-6397	360-424-5345	Jensen
31	Rensink	Kevik	86-2930	kevik.rensink@pse.com	360-630-6063	360-853-8505	Jensen
32	Riehl	Rich	86-2919	richard.riehl@pse.com	360-661-2275	360-826-3108	Jensen
33	Schmidt	Jason	86-2919	jason.schmidt@pse.com	360-661-2278	360-826-4192	Jensen
34	Sparkman	Ken	86-2919	ken.sparkman@pse.com	360-393-6526		Jensen
35	Sutherland	Mark	86-2919	mark.sutherland@pse.com	360-661-2265	360-757-4625	Jensen
36	Tyminski	Bonnie	86-2912	bonnie.tyminski@pse.com	360-853-8062	360-853-8062	Jensen
37	Whitton	Vivien	86-2990	vivien.whitton@pse.com	360-661-0160	360-853-7691	Jensen
38	Zitkovich	John	86-2918	john.zitkovich@pse.com	360-661-2245	360-853-8628	Jensen

PSE Energy Resources Bellevue (PSE-09 & 04) Staff Contacts List							
outside line: 425-456-2950, then 6-digit extension from list							
#	**Last Name**	**First Name**	**Extension**	**E-Mail - Work**	**Cell Phone**	**Home**	**Reports to**
1	Aspelund	Arnie	81-3442	arnie.aspelund@pse.com	206-276-0316	360-897-8814	Feldmann
2	Blackburn	Jennifer	81-2422	jennifer.blackburn@pse.com	425-766-4462		Olin
3	Brink	Kevin	81-3222	kevin.brink@pse.com	206-276-1641	206-789-0540	Olin
4	Brown	Chris	81-3447	chris.d.brown@pse.com	425-647-4816	425-827-0699	Olin
5	Farwaha	Sanjeev	81-3787	sanjeev.farwaha@pse.com	425-785-1189	425-379-7711	Olin
6	Feldmann	Cary	81-3088	cary.feldmann@pse.com	206-949-0415	425-235-0598	Loreen
7	Hella	Frank	81-3288	frank.hella@pse.com	206-276-9386	425-967-5482	Loreen
8	Jacobchuk	Paul	81-5708	paul.jacobchuk@pse.com			Olin
9	Jacobsen	Dallas	81-3452	dallas.jacobsen@pse.com	425-785-4951		Olin
10	Jaggi	Sarah	81-2469	sarah.jaggi@pse.com	425-890-3452	425-753-7044	Olin
11	Jenness	Dave	81-3932	dave.jenness@pse.com	206-604-5545		Loreen
12	Jusak	Paul	81-5459	paul.jusak@pse.com	360-815-1055	360-201-8624	Olin
13	Kramer	Karen	81-3814	karen.kramer@pse.com	425-577-8718	425-677-8174	Olin
14	Lacasse	Ginette	81-3983	ginette.lacasse@pse.com	425-283-6753	425-283-6753	Olin
15	Land	Billie	81-3650	billie.stuart@pse.com	425-753-7165		Olin
16	Lane	Kim	81-3173	kim.lane@pse.com	425-765-2852	425-227-9386	Olin
17	Larson	Paul	81-5249	paul.larson@pse.com			Olin
18	Loreen	Doug	81-2663	doug.loreen@pse.com	206-604-3705		Wiegand
19	Macartney	Matt	81-3651	matthew.macartney@pse.com	425-301-9742	425-643-1051	Olin
20	Murphy	Ryan	81-3809	ryan.murphy@pse.com	425-223-2116		Olin
21	Narayanan	Deepa	81-2759	deepa.narayanan@pse.com	425-647-4031		Olin
22	Ngoma	Zakeyo	81-2584	zakeyo.ngoma@pse.com			Olin
23	Olin	Kris	81-3051	kris.olin@pse.com	206-276-2776	425-883-2042	Loreen
24	Overman	Nathanael	81-5283	nathanael.overman@pse.com	206-697-0316		Feldmann
25	Porter	Wayne	81-3073	wayne.porter@pse.com	206-550-9308	425-483-8456	Olin
26	Powell	Malcolm	81-2059	malcolm.powell@pse.com	206-300-1678		Olin
27	Reichmuth	Jeffrey	81-3417	jeffrey.reichmuth@pse.com	425-766-5944	425-487-2134	Olin
28	Shahla	Mehdi	81-3457	mehdi.shahla@pse.com	425-890-3373	425-883-1143	Olin
29	Thompson	Don	81-3337	donald.thompson@pse.com	206-275-1000 / 206-455-1110	206-236-1222	Olin
30	Venard	Jacob	81-3771	jacob.venard@pse.com	425-890-8929		Feldmann
31	Verretto	Nick	81-3441	nick.verretto@pse.com	206-200-4431	206-200-4431	Feldmann
32	Whitaker	Andy	81-2463	andy.whitaker@pse.com	425-999-0824		Olin
33	Williams	Scott	81-2587	scott.williams@pse.com	253-670-2319	425-271-7094	Loreen