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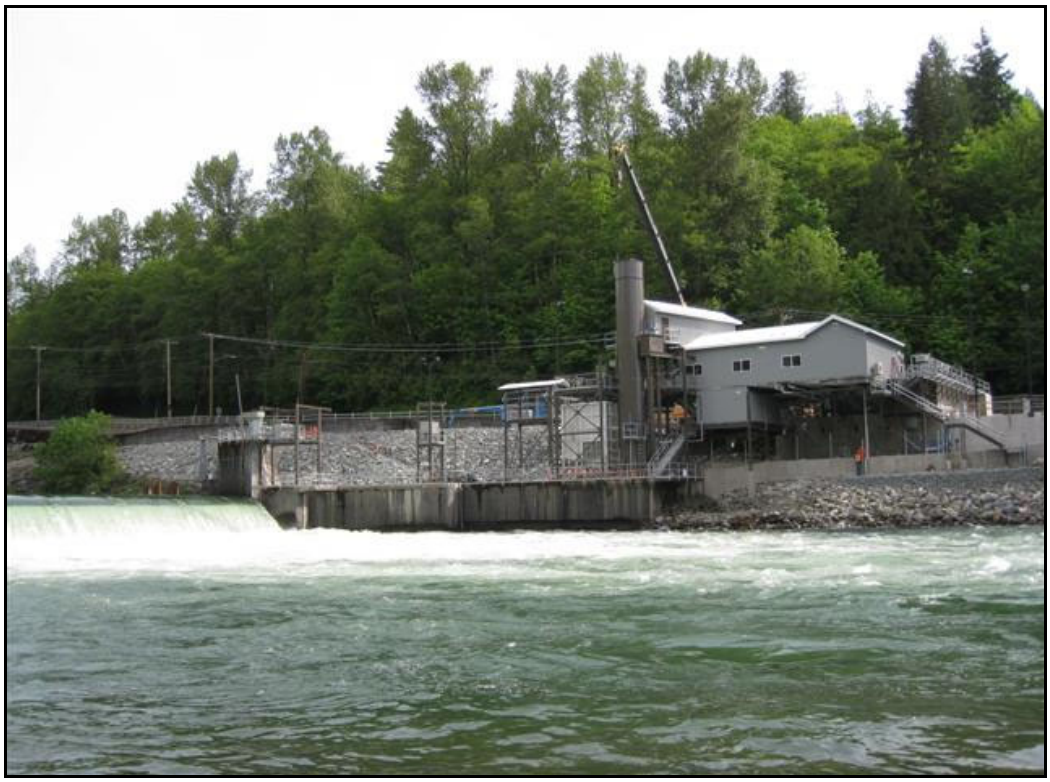
UPSTREAM FISH PASSAGE IMPLEMENTATION PLAN

UPSTREAM PASSAGE FINAL EMERGENCY RESPONSE PLAN

SETTLEMENT AGREEMENT ARTICLE 103

BAKER RIVER HYDROELECTRIC PROJECT
FERC No. 2150



Puget Sound Energy
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1.0 Introduction

The passage of upstream migrating fish at the Baker River Project (FERC No. 2150) is facilitated through the use of a an upstream fish trap (the Trap) located on the Baker River in the town of Concrete, WA. The trap has been in successful operation since the late 1950's; however was substantially renovated and modified by Puget Sound Energy (PSE) in 2010 to incorporate state-of-the-art improvements and changes in fishery agency management directives. With the additional complexity of the resulting facilities also came opportunity for disruptions or failures that could impact passage success.

Coordination of the operations of the trap is conducted within the Aquatic Resources Group (ARG) which includes federal and state resource agencies, tribes, municipalities, and non-governmental organizations. The ARG meets periodically to coordinate and provide direction for facility operations. Fish passage design features are prescribed by the federal services – the National Marine Fisheries Service (NMFS) and the U. S. Fish & Wildlife Service (USFWS) – through provisions in Section 18 of the Federal Power Act. Jurisdiction for trap operating protocols is reserved to the fisheries co-managers: Washington Department of Fish & Wildlife (WDFW), the Swinomish Indian Tribal Community, the Sauk-Suiattle Indian Tribe and the Upper Skagit Indian Tribe (jointly, the co-managers). Other groups such as the USDA Forest Service, the Washington Department of Ecology, and the US Army Corps of Engineers provide comment regarding conduct of operations via participation in the ARG.

The Upstream Fish Passage Implementation Plan (UFPIP), a feature of Settlement Agreement Article 103, Upstream Fish Passage Implementation Plan (SA 103) in the Baker River Project license, stipulates that an emergency response plan (ERP) be developed for the newly constructed upstream fish trap located. Article 103 states:

> **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.

This document addresses operational contingencies and/or emergencies that could potentially arise with operation of the Trap. The plan was developed to respond to issues that do or could induce fish mortality and/or injury including system failures at the Trap.

Emergency response situations and actions taken in response are outlined in section 2.0. Drawings of the facility, to assist in process identification, problem diagnosis and remediation, are contained within section 3.0 of this document. Long-term maintenance and repair solutions are not within the scope of this document and are addressed in the operation and maintenance plan for the upstream trap.

2.0 Emergency Situations and Responses

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 injury or mortality or would materially disrupt the collection and/or transport operation capability of the facility.

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 60 minutes of outage (critical water supply components have automated immediate backup capability);
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 restoration of normal fish collection capability requires more than 48 hours, the Baker River Aquatic Resource Group (ARG) shall be notified/consulted.

Personnel safety is the first consideration when initiating diagnostics and addressing system failures. In all cases, staff must adhere to current PSE safety policies and procedures such as donning personal protection equipment (e.g., work clothing, foot protection, eye protection, hard hats, hearing protection, life jackets, respirators), lock-out/tagout, fall restraint, confined space entry, heat stress prevention, and electrical safety, especially for hot work. Tailgate safety briefings must be performed prior to diagnostic or remediation action and hazard communicated to personnel involved in the work.

Fish Injury or Mortality

Observed fish injury or mortality will initiate response to all general mechanical and operational failures at the trap.

Daily operations include a routine inspection of upstream trap systems and facilities prior to operation, and consist of the following: 1) water supplies, 2) entrance pool, 3) holding pools and visual estimate of fish numbers, 4) fish lock, 5) sorting area, 6) sampling area, 7) transport area, and 8) final transport destination (see Figures 1 and 2). Fish are observed in the holding pools, transition brail, lock and exit, flume, sorting pools, loading hopper and sampling table. These daily observations establish a baseline of fish condition and in-river injury patterns against which comparisons can be made over time. Unexpected change in fish behavior and/or condition relative to normal operations can be used as an indicator of upstream trap problems requiring restoration of the normal operating condition.

2.1 Issue: Increased fish injury, elevated mortality, or abnormal behavior

Response: Initiate diagnostics. In the event that increased fish injury, unusual levels of mortality, or abnormal behavior is observed within the upstream trap, routine trap

operations will be terminated and diagnostic efforts will be made to isolate the area for repair or modification. In the event of an unexplained increase in observed injury or mortality, the trap entrance will be closed and immediate coordination will be conducted among PSE and the ARG. Temporary closure and dewatering of the Trap may be initiated for diagnosis and/or repair, pending consultation with the fish co-managers and ARG. See section 3.35 for the emergency trap shutdown, dewatering and evacuation sequence.

Loss of Electricity Supply

Electrical supply is integral to many fundamental trap operations, including gate actuators, crowders, and screen cleaners. Interruption of the primary power supply is addressed in part through redundant power supply and/or manual override to permit trap operations to continue, however restoration of primary power is essential. Loss of power to any given feature is addressed by diagnosis and/or backup supply.

2.2 Issue: Loss of primary system power

Response: Diagnose cause of interruption and restore primary power supply or initiate and prepare to remain on standby power until primary supply is restored. If the outage occurs during periods of high fish numbers which threaten holding capacity or transport of any component for more than one hour or if the cause is immediately known and restoration expected to be delayed, institute back-up power supply. Start the standby generator and manually transfer power to the upstream trap to allow operation of 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. If primary power outage persists more than 60 minutes, initiate alternate pumping operations and transport fish from trap and sorting pools. Prepare for continuation of contingencies for failure of back-up supply.

2.3 Issue: Loss of secondary system power

Response: Initiate diagnostics. If unable to initiate primary backup power, bring in portable generator, connect to system (at the circuit breaker adjacent to the standby generator) and manually transfer power to the upstream trap. Verify that supply gates are at least 25% open and screen is relatively clean during this operation. Continue to respond to primary power failure noted in the previous section.

General Water Supply

There are two primary water supply systems necessary to operate the trap: the Baker River supply to the entrance vestibule, holding pools and transition pool; and the pressure supply system from the penstock and alternately the pumping system to the fish lock, sorting ponds, sample area and transport truck loading hopper.

2.4 Issue: General water system failure

Response: Initiate diagnostics to determine which supply system has failed (see maintenance manuals for sources). If screened river water system fails so that water supply to the lower pools is disrupted for more than 60 minutes, shut trap entrance gates

and initiate emergency fish evacuation plan in section 3.1.32. Notify ARG and initiate repairs.

If pressure supply system from penstock is disrupted or fails for more than 60 minutes, initiate secondary pumping system to resume operations by switching to backup system on the control screen and manually configuring isolation valves. If secondary pumping is unavailable, initiate fish evacuation from higher level holding areas.

If penstock is out of service and the secondary pumping is already in service and fails for more than 60 minutes, initiate fish evacuation from elevated facilities supplied from the pressure system. If fish cannot be removed to a safe location or it appears that system function can be restored within 3 hours, initiate use of bottled oxygen and diffusing air stones for backup oxygenation, and then transfer fish manually to transportation vehicle or back to the Baker River.

Intake and Lower Pools Water Supply

Water supplied to the lower pools of the Trap 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 (see figures 3-5; table 1). Also present is 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 (figure 6), holding pool 1 (figure 7), holding pool 2 (figure 8), and the transition pool (figure 9). The two entrance weirs also influence holding pools water level and entrance condition; 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 handwheel located on actuator in field
Entrance Pool	LDSG-LPOL01-00	Manual Gate – 100% Open
Holding Pool 1	SLDG-LPOL11-00	Open manually (Local switch or manual handwheel) to 25%
Holding Pool 2 and Transition Pool	SLDG-LPOL17-00	Open manually (Local switch or manual handwheel) to 7%
Level Transmitters	LIT-WIKS01-00 LIT-WIKS02-00	Manually override automatic control if failed.

2.5 Issue: Screen cleaner automatic failure

There are several ways the automatic screen cleaning function can fail, including electrical failure, sensor failure, control system failures, faulty alarm signal, overload by debris or mechanical/structural failure due to use on material exceeding its capacity, or pneumatic system failure.

Response: Initiate diagnostics**.** For electrical failure refer to section 2.2 above. If the system sensor, control system, or alarm failure has occurred and screen cleaner can operate in manual mode, operate manually as needed to maintain function. Inspect intakes daily and restore system function as soon as possible.

2.6 Issue: Screen cleaner mechanical failure

There are two major mechanical failure modes for the screen cleaner that could jeopardize water supply, debris overload and mechanical failure.

Response: If excessive debris loading is the cause of system failure, reduce flow to the trap lower pools to the minimum for fish maintenance in the holding pools to relieve screen pressure and initiate continuous manual cleaning cycles from the local cleaner panel as needed to keep screen clean. Evaluate conditions and restore full function as soon as conditions permit.

For a failure of a mechanical feature of the cleaning system, initiate manual cleaning. Conduct daily inspections of screen conditions and manual clean as needed until the system is repaired or manual cleaning cannot maintain clean screen conditions. Manually clean screens with a long handled broom or a compressed air "wand" if the screen cleaner cannot be operated. Position supply gates such that entrance pool supply gate is 25% open, the holding pool 1 gate is 25% open, and the holding pool 2/transition pool gate is 7% open.

2.7 Issue: Water level transmitter failure

A water level transmitter failure may result in loss of automatic water level control and therefore place fish at risk in ponds or disrupt attraction flow disabling the Trap.

Response: Initiate diagnostics for the signal interruption. If system cannot be restored within 60 minutes, manually position gates such that: the entrance pool supply gate is fully open, the holding pool 1 gate is 25% open, and the holding pool 2/transition pool gate is 7% open. Repair system or replace failed level transmitter, verify signal, and restore automatic operation.

2.8 Issue: Supply gate failure

The supply gate automatically adjusts Baker River gravity flow based upon head differential between the pools and river. Operation could be impacted by failure of one of several systems, including electrical, control or sensors, or physical failure of the gate or its components (such as the actuator, gears, tracks, gates, and connections).

Response: Initiate diagnostics to isolate the cause of the failure. In the event of complete loss of water supply, immediately (i.e., within 60 min.) position gates manually using the handwheel to default positions. These are: entrance pool supply gate fully open, holding pool 1 gate 25% open, and holding pool 2/transition pool gate 7% open. If the condition is likely to persist for more than 1 hour and water supply remains continuous but unadjusted, manually position gates using the handwheel to default positions if flow cannot be determined visually on the human machine interface panel (HMI) in the sampling or electrical rooms.

If the electrical system is the sole cause of failure, determine if electrical continuity is available. If not, provide alternate electrical supply (e.g., standby electrical generator) repair electrical service and restore system to service.

For a physical failure of gate components (automatic actuator, stem, gate frame, connections, etc.), isolate and diagnose the source of failure. If manual adjustment to the default positions is not possible, determine whether adequate water supply is available to continue operations and supply supplemental water if necessary. If system is not available to continue operations, notify ARG and determine if trap operations should be suspended or altered. Based on this consultation, it may be necessary to initiate an emergency evacuation of the holding pools. Repair failed components and restore system to service.

Sorting and Stress-Relief Ponds Water Supply

Water supply is vital to all aspects of Trap operations, including the fish lock, sorting flumes, sorting pools, loading hopper, and stress-relief ponds (table 2). Water supply for several functions is provided through gravity flow 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
Low Head / High Flow Backup Pump	P-SWTR01-00	Backup Low Pressure Supply
High Head / Low Flow Backup Pump	P-WIKS05-00	Backup High Pressure Supply
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.
Pressure Transmitter	PIT-PWTR10-00	Manually override automatic control if failed

2.9 Issue: Unscheduled loss of penstock service

Water supply to the pressurized system is provided by a valved 16-inch pipeline connected to the Lower Baker penstock. As long as water is in the penstock, in continuity with the intake at Lake Shannon, a pressure supply is available, unless the pipeline or valve fails. There are therefore three general ways pressurized water may be interrupted: Lower Baker penstock interruption, pipeline or valve failure.

Response: If the Lower Baker penstock is unexpectedly taken out of service and thereby interrupts available water supply, initiate diagnostics to determine the duration of the interruption. If the penstock does not need to be dewatered, sufficient flow is available from the residual water in the penstock for extended unaltered trap operation. If however, the penstock must be dewatered. Pumping must be initiated to support high-pressure Trap component operations.

In the event of a pipeline failure due to such events as a slide, erosion or accidental break during excavation, then identify and isolate the source of the interruption. Close the 16-inch gate valve (V-PWTR08) and the 4-inch gate valve in the valve vault, open the stress-

relief pond flush valve (V-SRPD04-00) to insure a minimum 1-cfs flow, and manually operate the low head / high flow backup pump (P-SWTR01-00) as needed until gravity flow can be restored.

2.10 Issue: Filter bank becomes clogged

The filter bank is routinely flushed and brushed as necessary; however an unusual event can overload the system between normal cleaning cycles or one of the system components can fail resulting in a clogged filter bank preventing adequate flow for operations.

Response: Initiate diagnostics. Manually flush and brush each filter. If flow disruption continues, clean each of the three filter banks in sequence. Isolate one of the filters with the appropriate valve, remove the screens from the filter housing and clean using a pressure washer or air at the shop.

2.11 Issue: Pressure reducing valve failure

The pressure reducing valve controls the pressure and volume of flow available to the trap and therefore protects pressurized water system components from excessive pressure.

Response: If high pressure system component failure exists or if valve failure has occurred, initiate diagnostics. 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 flow, and manually operate the low head / high flow backup pump (P-SWTR01-00) as needed. Repair or replace the pressure reducing valve.

In the event of pressure transmitter (PIT-PWTR10-00) failure, manually override automatic control for continued operation.

3.0 General Mechanical Failures

Entrance Pool

The Trap control features associated with the entrance pool are entrance weirs (with hoists), and entrance bulkheads (table 3). The entrance weirs are adjusted to optimize fish attraction to the trap and settings are not critical to fish survival but are essential to routine Trap operations (figure 6).

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

3.1 Issue: Failure of hoist at fish entrance pool

Response: Initiate diagnostics. Install and use portable hoist(s) with cable attachments to position weir(s) and/or gate(s) until automatic function is restored.

Holding Pools

The trap features associated with the holding pools (figures 7-8) are the swinging vee barrier (figure 9) leading into holding pool 2 and the crowder for holding pool 2 (table 4). Although fish will volitionally pass into the transition pool from holding pool 2, the holding pool 2 crowder (figure 8) 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

3.2 Issue: Crowder jams on rocks or debris in the pool

Response: Whether carried in from flood flows or thrown in by vandals, initiation of diagnostics is required. Use a diver to remove obstruction or deploy the stoplogs at the upstream trap entrance and partially dewater the trap, evacuate fish, resume dewatering, conduct repair as necessary and place the trap back in operation.

3.3 Issue: Horizontal crowder motor failure

Response: Initiate diagnostics. Repair or replace motor or resolve electrical/control issue. If replacement of the horizontal drive motor is required, the crowder carriage should be operated manually (e.g., using a chain hoist after releasing the brake on the drive motor).

3.4 Issue: Foot crowder motor failure

Response: Initiate diagnostics. Operate manually with handwheel or with an adapted drill motor to raise and lower until repair or replacement of motor or electrical/control issue resolved. Fish entry into the transition pool will occur regardless of crowder operation, so continued transport should continue, albeit at a slowed and less-controlled pace.

3.5 Issue: Crowder derails

Response: Use portable hoists or jacks to reposition crowder or lift with boom truck and re-install crowder. Initiate diagnostics, including draining ponds for inspection by activating emergency evacuation procedure in section 2.13.

3.6 Issue: Vee barrier loses pneumatic pressure (unable to close)

Response: Initiate diagnostics. Use portable compressor to supply pressure to close vee barrier. If prolonged failure occurs, lower transition pool entrance and collect fish volitionally until problem is resolved. If barrier jams, then initiate diagnostics, including draining ponds for inspection by activating emergency evacuation procedure in section 2.13. If this occurs during periods of high fish numbers, continued trap operation can

occur and entry into the transition pool and lock without crowder operability. Trap dewatering should only be conducted after consultation with Bellevue staff and the ARG, according to the emergency evacuation procedures. Therefore, if structural failure or jamming occurs, continue trap operation without using crowder until all alternatives have been considered with the Bellevue office.

Transition Pool

The transition pool (figures 10 & 11) includes a fish sensor that meters fish into the transition pool from holding pool 2 (table 5). 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 enters the transition pool. The transition pool crowder (figure 11) is a vertical action crowder with a sloping floor to direct fish into the fish lock. The transition pool crowder is raised and lowered by a 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

3.7 Issue: Fish sensor failure

Response: Initiate diagnostics. Keep the fish sensor up to act as a barrier until fish are ready to be crowded through the system, then lower the sensor invert about one foot below pool level to allow entry into the Transition Pool and conservatively estimate the number of fish by counting them as they pass through the sensor. Manually raise the sensor with the electric push-button control, or chain hoist if during an electrical failure, to prevent overcrowding in the transition pool/fish lock, until system is returned to operation.

3.8 Issue: Fish sensor hoist failure

Response: Initiate diagnostics. Use temporary manual hoist attached to superstructure until fixed hoist is repaired or replaced.

3.9 Issue: Roll-up barriers failure

Response: Initiate diagnostics. In order to reduce the potential for fish getting below the transition pool brail in the event of roll-up barrier failure it is necessary to close the entrance vee weir into holding pool 2. Fish already in holding pool 2 have access to this area, and this should be limited by transporting these fish as soon as possible. Lower the entrance fully to reduce the opening beneath the brail and allow fish to enter the transition pool. Trap operators are to use the fish counter and best judgment to assess time allowed for entry based on fish density, raising the entrance when a lock load has entered the brail. Move these fish into the lock and repeat the cycle of allowing fish entry into the transition pool. Transport fish through the sorting facility and continue until

holding pool 2 has been evacuated of fish. Raise the entrance above the water surface to allow fish egress from beneath the brail back to the holding pool.

Dewater trap and, if necessary, evacuate fish from beneath the transition pool crowder utilizing the emergency evacuation plan. Access is available to haul out fish by crane to waiting fish trailer (see figure 6). Remove barrier holder and repair. Restore operation.

3.10 Issue: Transition pool crowder failure

Response: Initiate diagnostics. Disconnect the four cables from corners of the transition pool crowder hoist at the crowder lifting lugs. Position a crane (e.g., Grove RT-860 60-ton portable crane from Lennon Crane) at the tank loading station (figures 11, 23, and 24) and connect a lifting yoke to raise and lower with the boom until the source of the failure can be determined and addressed. It may be necessary to drain the Trap according to the emergency fish evacuation procedures.

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 fish lock crowder/brail (figure 12) can be raised to crowd fish into the sorting flume (figure 13). A hydraulically-actuated false weir and rubber exit gate manage fish into the sorting flume (figure 12; table 6).

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
Fish Sorting Gates	GATE-FSRT14-00 – GATE-FSRT18-00	Manually operate gates from solenoid push button if automatic control fails or shut off air supply and secure gate to route all fish through sampling area as last resort.

3.11 Issue: Fish lock entrance gate failure

Response: Initiate diagnostics. Temporarily install a manual hoist and repair or replace existing hoist. A portable crane (e.g., Grove RT-860 60-ton portable crane from Lennon Crane) may also be connected to the existing chain and lift gate until the system is repaired or replaced.

3.12 Issue: Fish lock vertical crowder hoist failure

Response: Initiate diagnostics. If the hoist line breaks, then drain the fish lock, dewater the fish trap according to the emergency evacuation procedures, remove upper fish lock platform grating, lower and attach a new line by entering through the entrance gate, then re-attach to the hoist after removing the old line. Alternatively, use a portable crane for

temporary operation (75' required) while getting the replacement line or making repairs. Although fish will exit the lock without the crowder, it is likely that some will remain and be injured when the lock is drained and gate opened, so lock operation should be avoided without vertical crowder operability.

3.13 Issue: Fish lock vertical crowder jams

Response: Initiate diagnostics. Drain the fish lock, dewater the fish trap according to the emergency evacuation procedures, remove upper fish lock platform grating, lower a heavy non-abrasive weight such as a Super Sack loaded with chain using a portable crane and attempt to dislodge the jammed crowder. Alternatively, attach a line from the boom truck, fixed or portable hoist by entering through the entrance gate or accessing the frame from above and attempt to raise the crowder. Remove the crowder, assess and modify or repair the crowder to remedy the issue.

3.14 Issue: Fish lock fill valve failure

Response: Initiate diagnostics. Operate manually with hand wheel and repair actuator.

3.15 Issue: Fish lock drain valve fails.

Response: Initiate diagnostics. Operate manually with hand wheel and repair actuator.

3.16 Issue: Fish lock rubber exit gate fails

Response: Initiate diagnostics. Repair gate or hydraulic system using the spare hydraulic motor and control valve, or disconnect air and manually open slightly to maintain full sorting capability.

3.17 Issue: Fish lock false weir fails

Response: Initiate diagnostics. Repair gate or hydraulic system utilizing spare hydraulic motor and control valve if necessary.

3.18 Issue: Fish sorting gates fails

Response: Initiate diagnostics. Operate gates manually by pressing and holding override button on gate solenoid. Shut off air supply to gates by closing the ball valve at the upstream (West) end of the piping, bleed off the air by operating the gates, and secure the gate to the sampling area (GATE-FSRT14-00) to bypass fish to the sampling area for sorting.

Sorting Area and Transport Station

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 (figure 13), a PIT tag detector (figure 14), and pneumatically actuated sorting gates (figure 15). The sorting pools include horizontal crowders and picket barriers (figure 16). Fish are moved from the sorting pools into a loading pool (figure 17), through a loading pool gate (figure 18), and into the loading hopper (figure 19, table 7).

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

3.19 Issue: Sorting crowder failure

Response: Initiate diagnostics. Remove specific 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.

3.20 Issue: Picket barrier failure

Response: Initiate diagnostics. Operate manually with chain hoist and repair or replace hoist.

3.21 Issue: Loading pool gate failure

Response: Initiate diagnostics. Operate manually with chain hoist and repair or replace hoist.

3.22 Issue: Loading hopper or bellows failure

Response: Initiate diagnostics. If hoist failure is cause, operate manually with chain hoist and repair or replace hoist. If bellows fails, route fish though the sampling area and transport fish with transport tanks while replacing bellows with spare. Confirm that issue is not such that failure will be repeated with replacement. Order spare bellows as replacement for the one used. If failure is a result of truck clamps, replace with spare or rig with tie-down line until replacement can be installed.

Sampling Area and Transport Stations

The sampling area (figure 20) receives fish from the pre-anesthesia pool after being crowded into the anesthesia tank (figure 21, table 8). After fish are anesthetized, they are loaded onto a sampling table and routed into one of six return pipes (figure 22) that transport fish either to the sorting pools or 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

3.23 Issue: Anesthesia system failure

Response: If injuries are occurring within the Electroanesthesia unit, reset system to lowest normal voltage and duration indicated on instructions adjacent to the unit. If injuries reoccur, cease system use and initiate diagnostics. Notify control flumes operator and revise sorting protocol to visually sort fish only. Temporarily work fish without anesthesia if possible, or use MS-222, clove oil, or carbon dioxide if handling is necessary. If MS-222 or clove oil is used, contact the WDFW for possible emergency notice for prohibited take of treated fish in the terminal fishery, if in action. Utilize alternative anesthesia by dosing chemicals directly to anesthesia tank or introducing carbon dioxide with an air stone in the anesthesia tank. Repair anesthesia unit.

3.24 Issue: Sampling control failure

Response: Initiate diagnostics. If input panel, PLC or PC program fails, then operate gates manually with the control panel, solenoids, or by disconnecting gates to allow manual swinging and therefore full sorting pool use for holding and transport.

3.25 Issue: Transport tank hoists fails

Response: Initiate diagnostics. Operate manually with chain hoist while repairing or replacing hoist.

Special Emergency Trap Operations

A number of unpredictable and unforeseen events, not related to trap design or component failure could occur which would necessitate non-routine responses or emergency trap closure. Among these are fish run exceeding the trap capacity to hold and/or transport, fish transport truck failure, water supply contamination, personnel safety emergency, and marine mammal capture and injury within the trap.

3.26 Issue: Fish run exceeds capacity to handle or transport

Fish runs are unpredictably variable in timing and size. Small runs with dispersed run timing do not constitute an emergency unless a trap component fails. An extraordinarily large run arriving in a brief period could overwhelm the capacity of trap operation compelling an emergency response to protect fish from trap overload.

Response: The design capacities of upstream trap holding, sorting and transport systems may be temporarily exceeded. After exhausting alternative methods to accommodate the large run (e.g., additional fish transportation vehicles, additional personnel, increase trap to 24-hour operation), it may be necessary to temporarily prohibit fish from entering the trap. The overriding priority is to prevent immediate fish

injury and/or mortality (through trap overload). Unless severe overcrowding conditions are present (indicated by multiple injured or dead fish, low dissolved oxygen levels in the holding pools, overwhelming supply of fish entering holding pool), 1) consultation with PSE biological and operational staff and the ARG should occur before any trap closure activity is taken. If severe overcrowding is present, close both entrance gates and continue sorting and transporting fish to their final destination until fish densities within the holding pools are reduced to a level allowing resumption of normal operations.

Fish Transport System Failure

The fish transport system is the vital link of the trap to destination points for upstream migrating fish. Interruption of this system has serious implications and may come from several sources, including: truck drive train component or holding tank, fill station valve, operator availability, or road closure/washout).

3.27 Issue: Fish transport truck failure

Fish transport truck operation is the vital link of the trap to destination points for upstream migrating fish. Interruption to this system can forestall Trap operations, and may be the result of any of several component failures, including of the: truck drive train or controls, truck holding tank system, operator availability, or road closure/failure.

Response: There are two general levels of urgency associated with truck failure – loaded or unloaded – that impact operations.

The immediate response to failure of a loaded truck must be focused on preventing fish mortality, assessing the extent of the transport vehicle failure and determination of the timeframe of repair. In the event of an extended vehicle failure, the truck will either have to be towed to its destination or fish will have to be transferred to another transport vehicle by lowering the water level and dip netting the fish to an adjacent truck or hauling tank trailer. If access to the failed vehicle is limited, the fish may need to be transferred using rubber fish recovery tubes (figure 27; 2 recovery tubes from each 1000R-20 truck tube, hog rings, 1/2" twisted 3-strand line), then transported to their destination. Towing a full truck may be difficult or impossible if the air brakes actuate due to an air system failure.

Parallel to the fish transfer and transport efforts, an assessment of the time to restore the truck to operation should be made. If the truck cannot soon be returned to service, and if fish numbers at the upstream trap require it, replacement transport vehicles should be brought into service in order to continue trap operations. Alternative transport vehicles include: transport tanks on flatbeds, trailers or low-boys; transport trailers; and transport trucks from agencies and/or tribes if available. Transport loading rates should be increased to their maximum allowable level during peak transport periods and until the failed vehicle is returned to service. Temporary trap closure after consultation with PSE biological staff and the ARG may be required if the truck repair is prolonged.

3.28 Issue: Fish transport truck water fill valve failure.

Fish are transferred from the sorting pools to loading pool, to the hopper and transport truck after the truck has been filled and hopper flooded so that no differential water level exists upstream and downstream of the loading pool gate. Water failure at the transport

station must be diagnosed if not due to an upstream general water system failure. If the fill valve has failed, transport station operation can be maintained by using a 4" suction hose to siphon water over the loading pool gate and into the truck and hopper or by using a portable pump until valve operation has been restored.

3.29 Issue: Operator availability

Fish transport truck operation is conducted by qualified operators. As such sufficient numbers of trained operators must be available for routine operations. An emergency exists when driver capacity is exceeded but hauling capacity is not and transport requirements are extant. This could happen due to labor dispute, pandemic or other widespread sickness, or Department of Transportation restrictions.

Response: Hire additional temporary CDL-certified operators and train in fish transport operations to offset PSE operator deficit. During low migration periods the transport tank stations should be used by routing fish through the sampling area and using vehicles that do not require drivers with a commercial driver's license to operate.

3.30 Issue: Road closure or failure

Fish transport truck release locations are primarily accessed from a single road (the Baker Lake Highway). Closure or failure of this road, of roads leading to or from it, or of alternate release site access roads (e.g., due to winter load restriction, bridge abutment failure, washout, fallen trees) therefore poses a risk to the unrestricted transport of fish from the Trap.

Response: Hold fish in the Trap holding pools if outside of peak and numbers are well within holding capacity, and no abnormal behavior is exhibited. If risk is posed by increased jumping or trap loading, then close the trap to further entrants according to the emergency trap evacuation section of this plan. Alternate means and methods of transport must be sought in the case of prolonged unavailability of access to release sites. Alternate means to consider include barged transport tanks and aerial releases. The stress-relief ponds and/or propagation facilities can also be used to temporarily hold fish until access is restored; however, holding fish in the river is the preferred alternative if access is anticipated to be blocked for less than one week. Consult the ARG regarding short-term and long-term direction.

Miscellaneous Emergencies

3.31 Issue: Water supply contamination

The potential for contamination of the water supply upstream of the trap is small and the response to PSE-caused contamination is addressed in SA 401 – Water Quality. However, events may occur that are not related to PSE that impact water quality and therefore the safe operation of the trap. Landslides, release of toxicants, or other events may degrade water quality such that fish in the Baker River would be injured or die as a result. In part the recognition that fish entering the Baker River are exposed to the same contamination that the trap would experience implies that transporting the fish immediately and in a clean water supply would be the best outcome for those fish, and in

fact, better than leaving them in the Baker River. Consequently, emergency response would depend on the source, severity, extent, and duration of the event.

Response: Identify a clean source of water for fish entering or handled through the trap. If the penstock water source is contaminated and not just the waters downstream of the Lower Baker Powerhouse, then power generation must cease immediately and the level of toxicity and extent of contamination determined to evaluate the urgency of fish passage. If possible, keep the fish in the Trap until the contaminant assessment and/or removal is completed. Otherwise locate a cool, clean, de-chlorinated supply of water and initiate continuous transport of fish to clean water systems until a diagnosis of the source, severity, extent, and duration of the contamination can be determined. It may be necessary that fish transport trucks and tanks be filled with water from the Upper Baker propagation facility. Fish in the stress-relief ponds should be released immediately after the toxicant has been identified and confirmed not to pose a public health hazard if fish exposed to the substance are later consumed.

3.32 Issue: Personnel safety emergency

Response: Safety systems installed at the upstream trap include ladders and/or pull cords for flotation within the holding pools, throwable flotation devices, rescue baskets, first aid kits and an AED. If an individual has fallen into one of the holding pools and cannot be immediately extracted, it may be necessary to shut off water to the upstream trap and to close the swinging vee-barrier to ensure that the individual does not become trapped against one of the gates and/or get discharged into the turbulent waters of the tailrace. Portable ladders and or safety lines can be provided, as well as a harness for fitting to the victim and/or a rescue-basket for mechanically lifting them from the water if they are not able to exit on their own. Place the trap online after the safety emergency has been addressed.

3.33 Issue: Marine mammal in trap

Response: All seals and sea lions are protected under the Marine Mammal Protection Act. Upon observation of seal or sea lion, immediately contact PSE biological staff and management regarding the incident and they will contact the Protected Resources Division (Marine Mammal Protection) staff at the Portland and Seattle offices of NMFS regarding the presence of the marine mammal.

No action should be taken unless the marine mammal(s) enter the Trap. PSE biological staff and management must be kept informed of the situation at all times. If possible, the marine mammal(s) should be isolated in the lowest possible holding pool by closing appropriate upstream gates.

If the Marine mammal is successfully isolated in holding pool 1, the fish residing in holding pool 2 can be processed through the upstream fish trap to their final destination; however, under no circumstances should the lock gate and/or transition area open when a marine mammal is present in holding pool 2.

Await direction from the Marine Mammal Protection staff before any other action is taken for marine mammals in the Trap.

Emergency Fish Evacuation Plan

A number of system failure scenarios could occur that would impel bypassing normal sampling and transport systems. Some of these include prolonged failure of transition pool brail, fish lock, sorting pools and truck transport equipment. In the event that any one or a combination of these systems fail, manual sorting and collection of fish for transport may be required which would invoke the fish emergency evacuation plan. In cases when extreme overcrowding occurs at the Trap, or where transport capability is exceeded, fish removed from the pools may be returned to the river to prevent fish injury or mortality.

Two failure modes requiring fish evacuation are presented: 1) component(s) failure upstream of the transition pool (e.g., fish lock/flume), whereby emergency evacuation or operation may be possible without requiring trap dewatering, and 2) component(s) failure requiring complete trap dewatering to address the issue.

3.34 Issue: Failure of collection and transport systems upstream of transition pool

Response: Activate the emergency evacuation plan after immediate consultation with PSE biological & operational staff and the ARG. Isolate the affected system(s) to prevent expansion of issue. Conduct an assessment of the Trap fish density. If the Trap must be dewatered to enable fish evacuation or for problem diagnosis and repair, follow instructions in that section.

Fish Evacuation Plan without Trap Dewatering

Fish in the Trap can be manually collected, sorted, and transported to their final destination in the event of component failure by following instructions in this section. The Trap entrance can be closed or left open after conducting an assessment of whether cycling and transport can keep pace with fish entry while manually handling fish. Should the system failure occur upstream of the transition pool (e.g., fish lock/flume) fish should be manually collected from within the transition pool brail by personnel entry via ladder, sorted into a chute leading through the fish counter entrance slot and into a transport tank or hopper suspended by a mobile crane in holding pool 2 (figures 10, 11, 23, 24). The tank or hopper can then be transported or enable fish to be transferred to awaiting trucks or tanks for transfer. This method of sorting, removal and transport is similar to past operation of the Trap, where biological staff accessed and manually handled every fish. Fish removal and transport can be accomplished in a variety of ways, such as with rubber fish tubes, chutes and suspended hopper or tank.

The crane must be sized and capable of suspending the transport tank and/or hopper filled with water (5,000 lbs., with overtopping valve open) into holding pool 2 adjacent to the transition pool entrance. The crane previously used to remove the transition pool brail for repair was a Grove RT-860 60-ton rubber-tired mobile unit from Lennon Crane Rentals, capacity 9,500 pounds. Position the crane at the transport tank docking station (figures 23, 24), remove the adjacent light post, extend the tank or hopper into holding pool 2 adjacent to the transition pool entrance. This is necessary due to overhead framework obstructions over the transition pool brail where the fish handling is conducted.

3.35 Issue: Failure of collection and transport systems requiring Trap dewatering

Response: Activate the emergency evacuation plan after immediate consultation with PSE biological & operational staff and the ARG. Isolate the affected system(s) to prevent expansion of issue. Conduct an assessment of the Trap fish density. The complete response is detailed below.

Trap Dewatering and Fish Evacuation Plan

Prior to complete trap dewatering, fish in holding pools 1 and 2 must be evacuated and transported. These must be captured by dip nets and hand seines after lowering pool level to allow personnel entry, loaded in rubber transport tubes and buckets, transferred to transport vehicles and hauled to their final destination, after which holding pools 1 and 2 can be completely dewatered.

Following is he sequence for complete trap dewatering and evacuation of fish from holding pools 1 & 2 and the entrance vestibule:

- Close vee barrier which reduces transition pool flow to 7% open, crowd fish into lock, through sorting system, then drain lock;
- Place entrance weir in manual mode, lower large entrance weir one foot, close holding pool 1 supply gate, manually close entrance pool supply gate;
- After lock has drained, manually close transition pool supply gate, set entrance bulkheads and turn on dewatering pump, install safety lock-out of the fish lock fill valve;
- Transport fish to final destination;
- Provide safety briefing for everyone intending to enter the trap when dewatered;
- When holding pool 2 water depth reaches 18", pumping is to be stopped, qualified fisheries staff to enter pond, dip net and/or seine fish into rubber fish recovery tubes, remove from pool alive and into transport truck or tank at bellows station, then collect and remove fish from holding pool 1, the entrance vestibule, transition brail and lock (note: full dewatering time is approximately 2 hrs, and it is critical to drain the pools down to a depth not under 18" prior to beginning salvage/transport operations to avoid entirely dewatering fish). Therefore observation of the dewatering operation and communication must be continuous and pumping resumed only at the direction of biological staff after initial fish recovery at the 18" depth;
- Emergency trap dewatering & fish evacuation is complete and trap is available for inspection, repair, and/or other emergency action;
- Reverse the dewatering process to return trap to operating condition after approval to resume trap operation.

The Project should maintain an updated list of equipment needs for the emergency fish evacuation, which may include the following:

- Safety harnesses, hard hats, safety glasses;
- Fall restraint or preventer;
- Four radios;
- Thirty-foot ladder to access holding pools;

- Three stick seines (10-25 ft length);
- (12) rubber fish recovery tubes w/attached 25-ft lines;
- (6) buckets w/attached 25-ft lines, (4) garbage cans/totes;
- Prepared live trough in sample area for juveniles and/or native char;
- (3) large dip nets w/juvenile mesh;
- (3) juvenile dip nets;
- Chest waders for all entering pools;
- (2) fish transport tank modules;
- Fish truck at loading station.

Stress-Relief Ponds

The three stress-relief ponds adjacent to the Trap share their water source and pipeline with the Trap. They consist of concrete pools for temporary holding of downstream migrants during the operational season of the floating surface collectors. Each pond's manifold water supply is controlled by a manual butterfly valve, and the outlet flow is regulated with a weir gate that is connected to submarine hose transitioning to steel pipe and a Roman ogee outfall into the Baker River (figures 25 and 26, table 9). Fish are typically held for up to three days after transport and allowed volitional egress prior to forced release to make room for subsequent days' migrants.

Table 9. Description of stress-relief pond 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

3.36 Issue: Loss of motorized weir operation

Response: Initiate diagnostics. Conduct manual release operations as appropriate. Utilize handwheel to actuate weir gate of outmigrant pond. Resume stress-relief ponds operation when motorized weir function has been restored.

3.37 Issue: Water supply fails

Response: Revert to backup water supply. Provide supplemental oxygen/circulation in holding ponds. As necessary, release held fish. If the pond water supply cannot be restored immediately, release migrants directly from the downstream collectors into the river and resume stress-relief ponds operation only after water supply has been restored.

3.38 Issue: Release hoses or pipe fails

Response: Release fish from the downstream collectors directly into the river and resume stress-relief ponds operation only hoses or pipe has been restored.

4.0 Facility Drawings and Photos

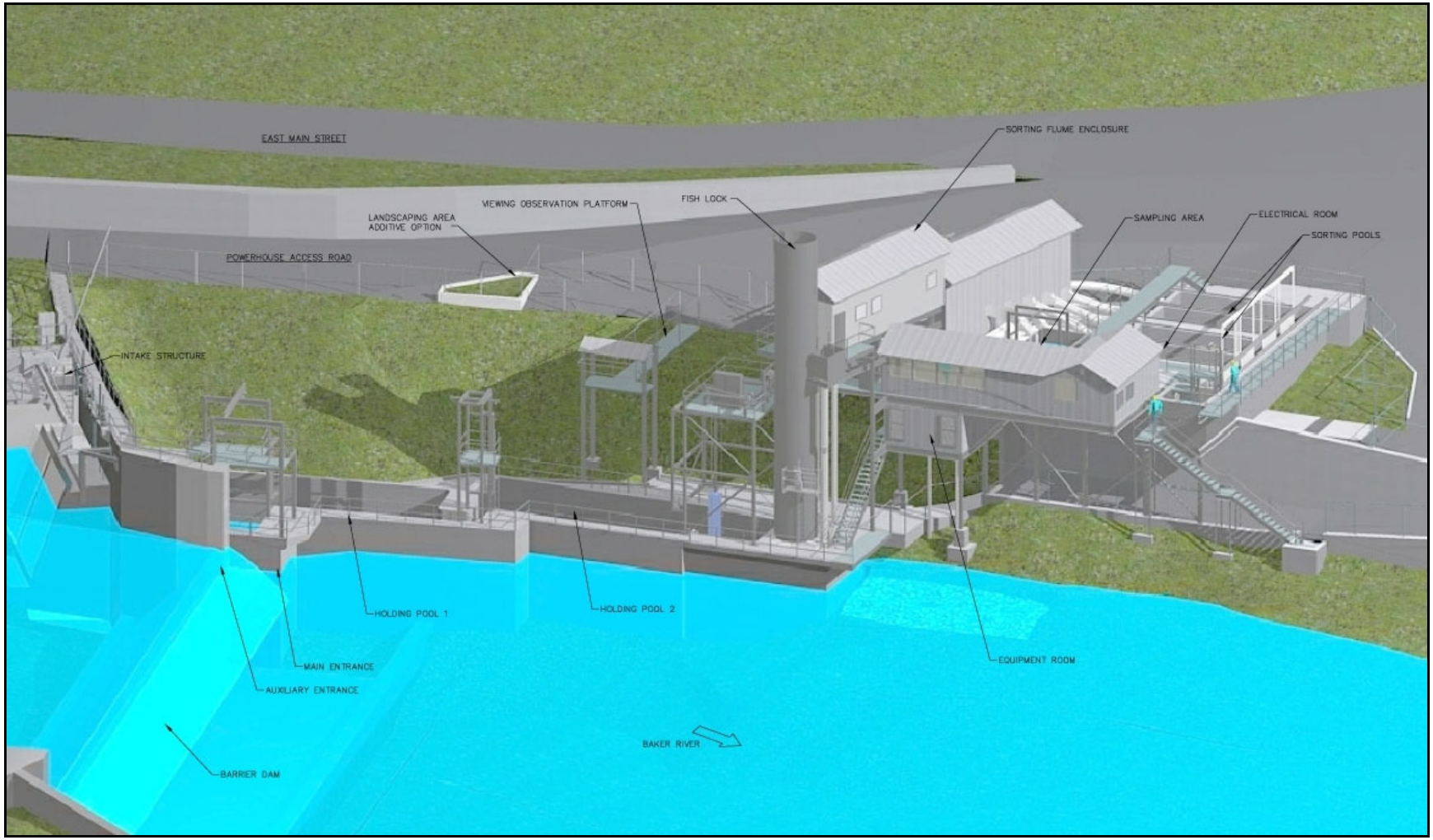


Figure 1. Baker upstream fish trap facility site rendering. R2 Resource Consultants Inc., October 2008.

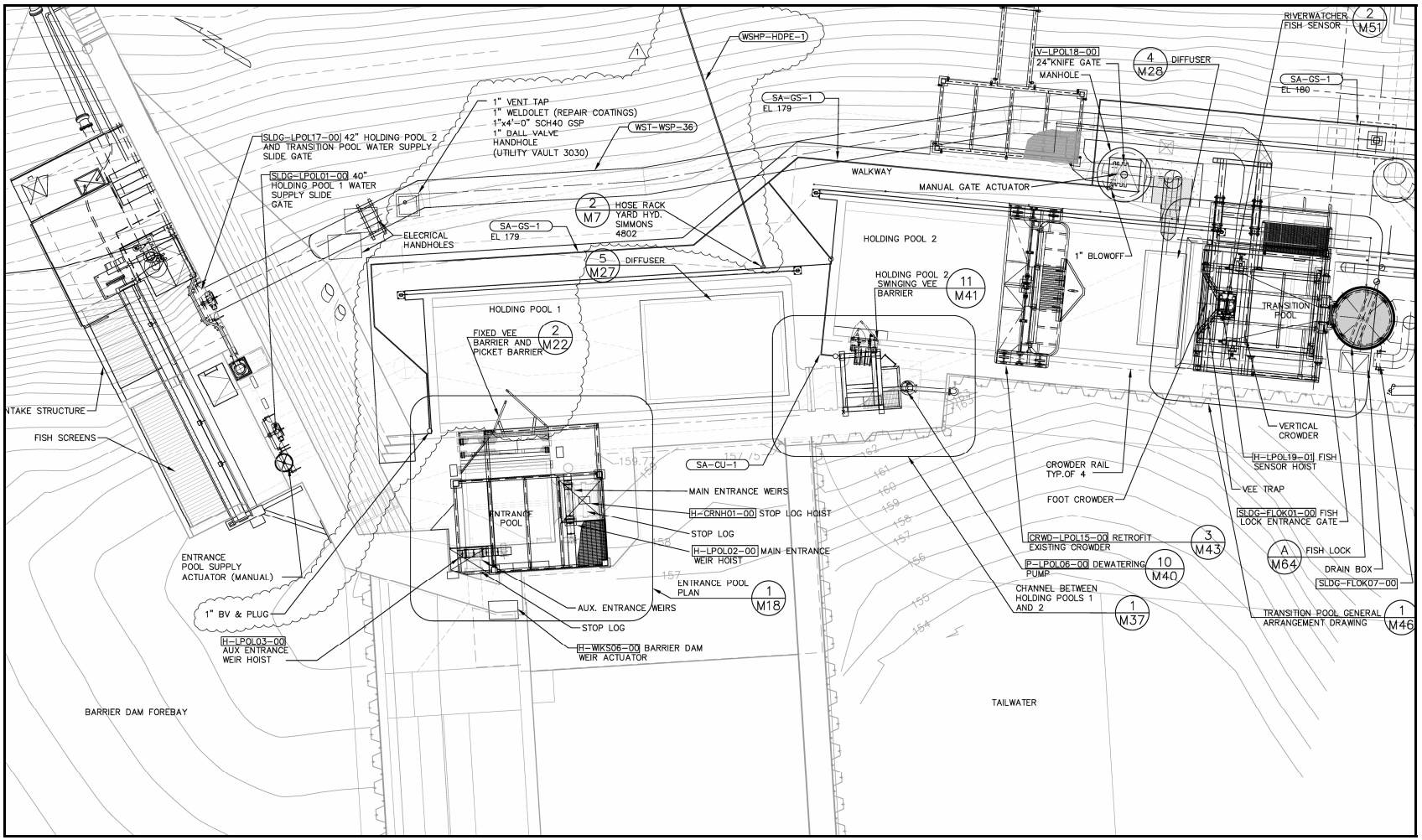


Figure 2. Baker upstream fish trap facility site plan. R2 Resource Consultants Inc., October 2008.

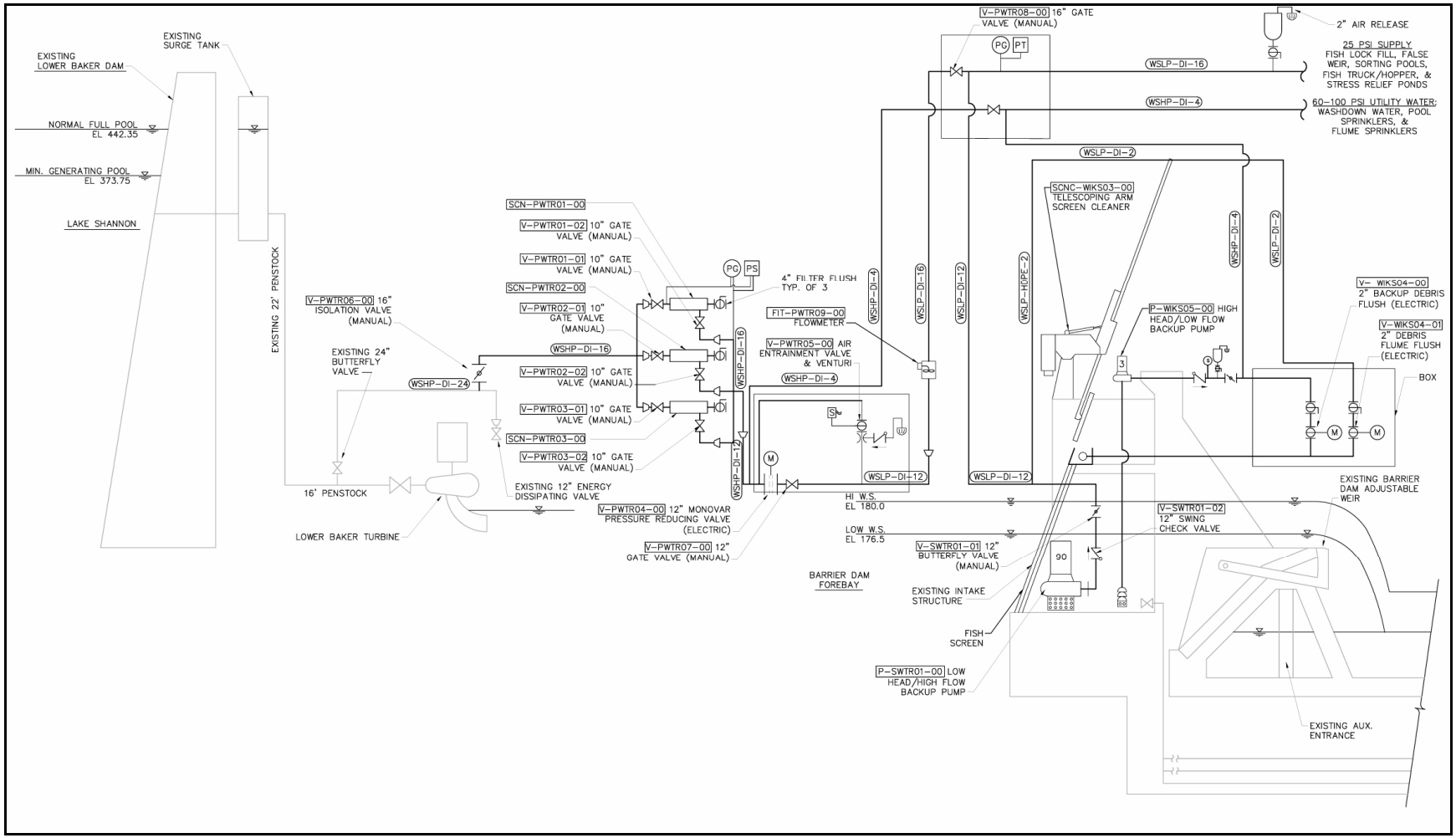


Figure 3. Baker upstream fish trap water supply piping schematic 1. R2 Resource Consultants Inc., October 2008.

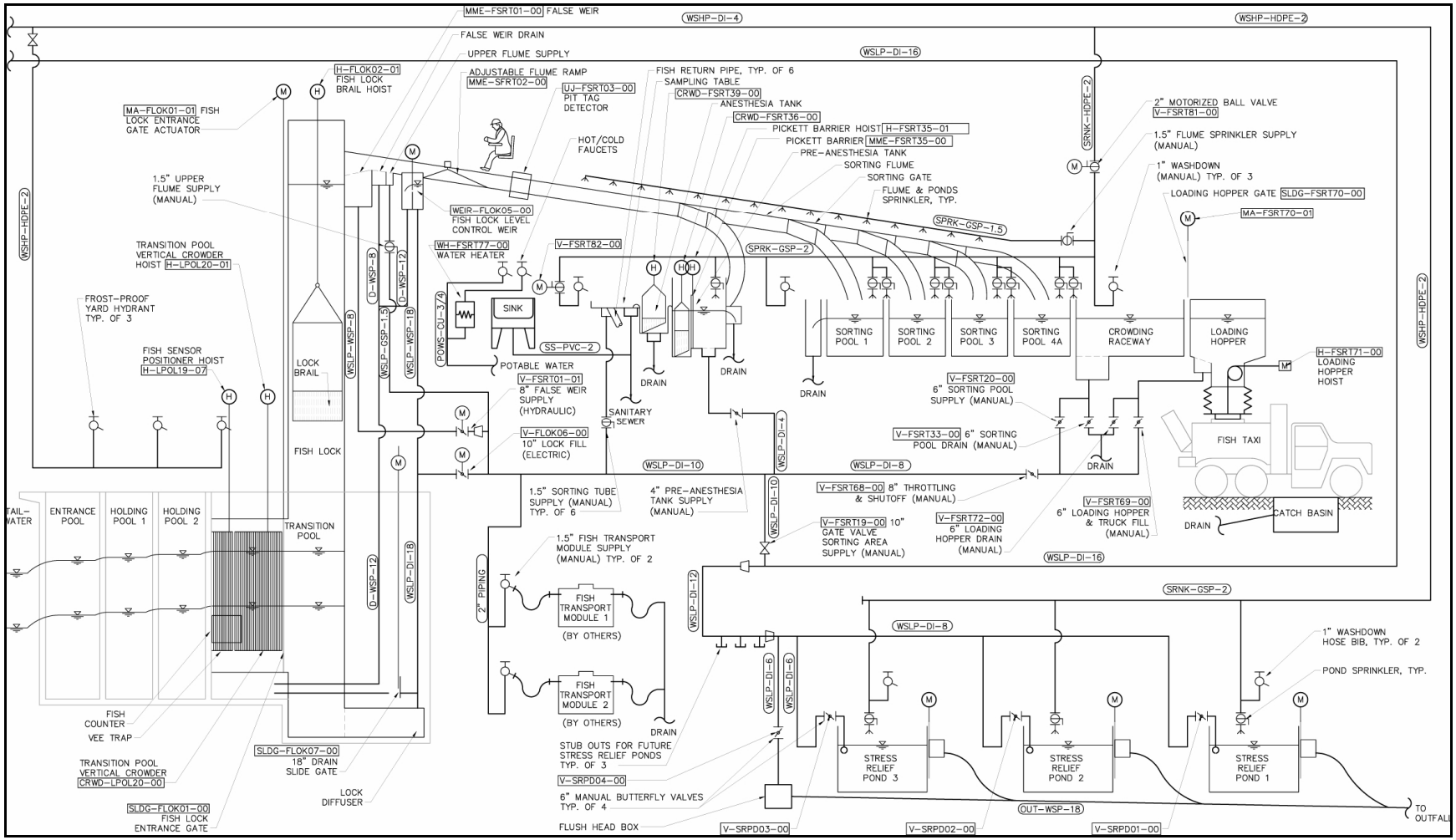


Figure 4. Baker upstream fish trap water supply piping schematic 2. R2 Resource Consultants Inc., October 2008.

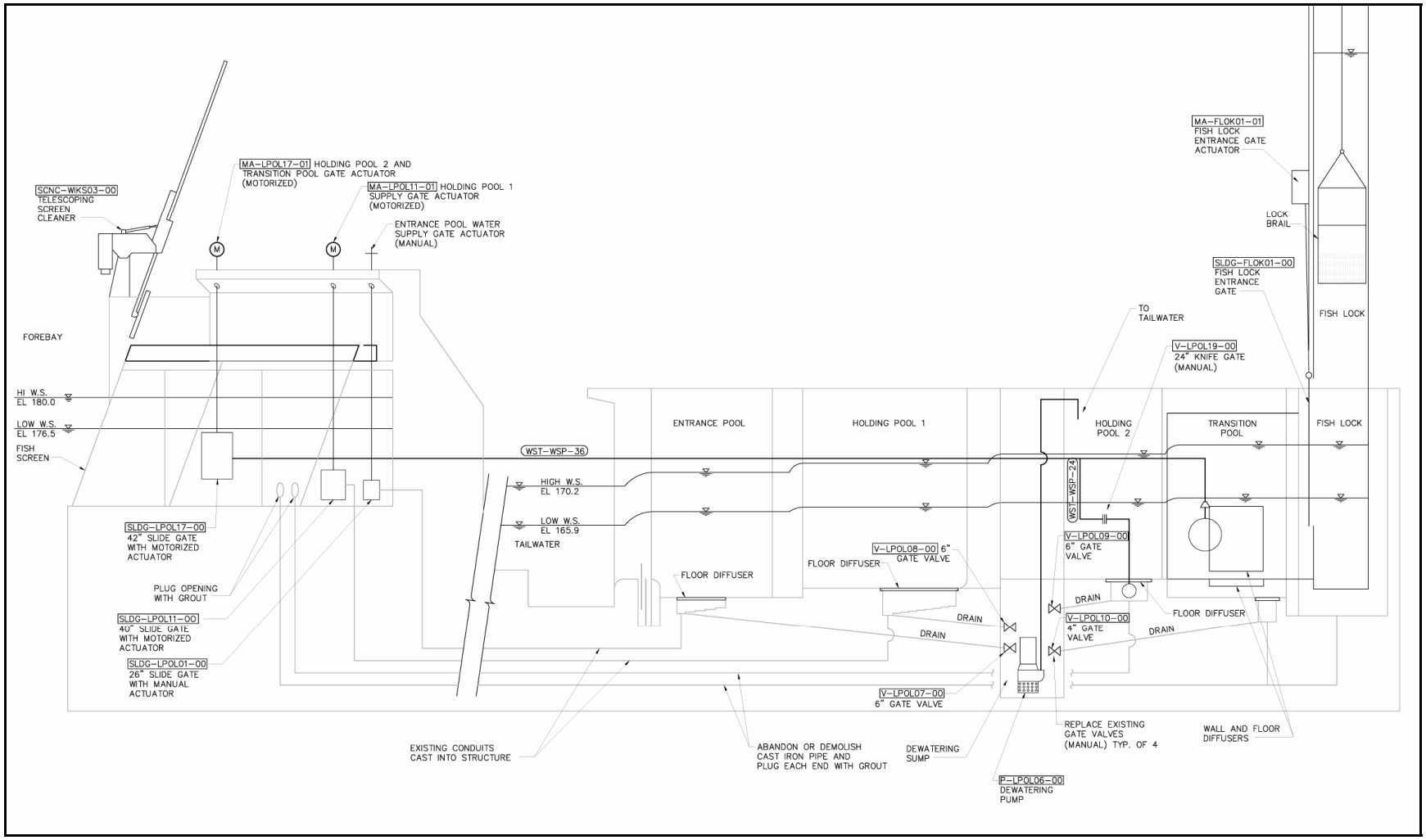


Figure 5. Baker upstream fish trap water supply piping schematic 3. R2 Resource Consultants Inc., October 2008.

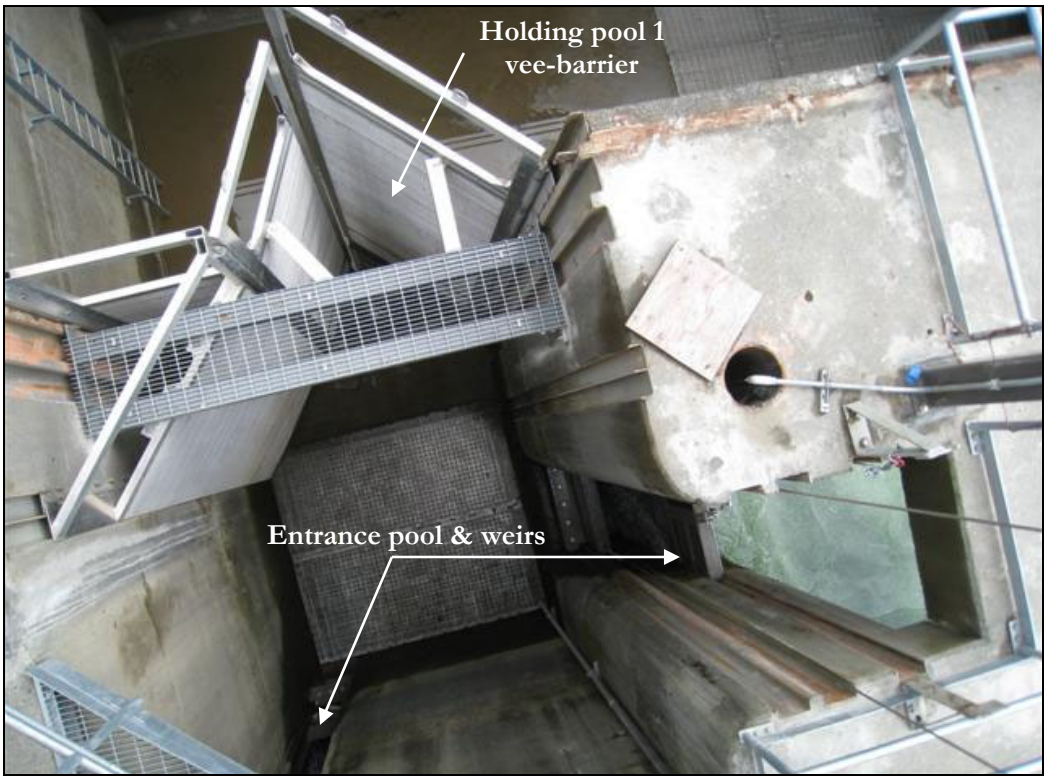


Figure 6. Entrance pool and entrance weirs.

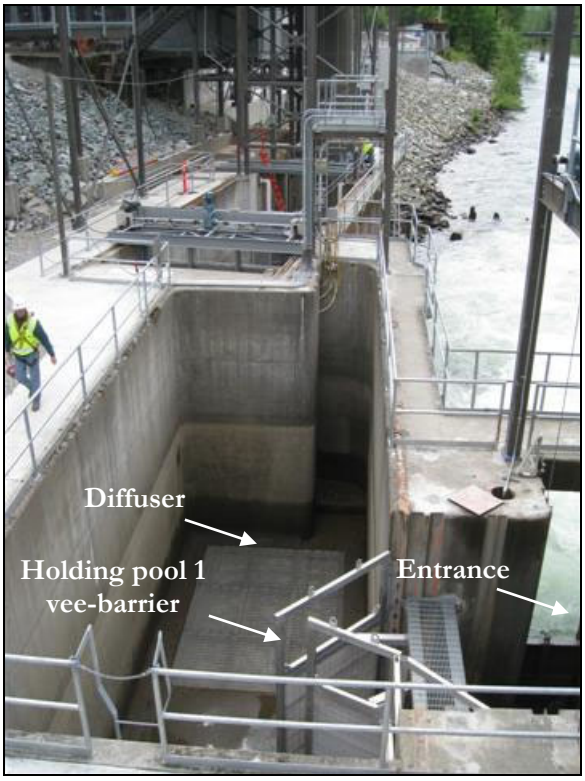


Figure 7. Holding pool 1, fixed vee-notch weir, and diffuser.

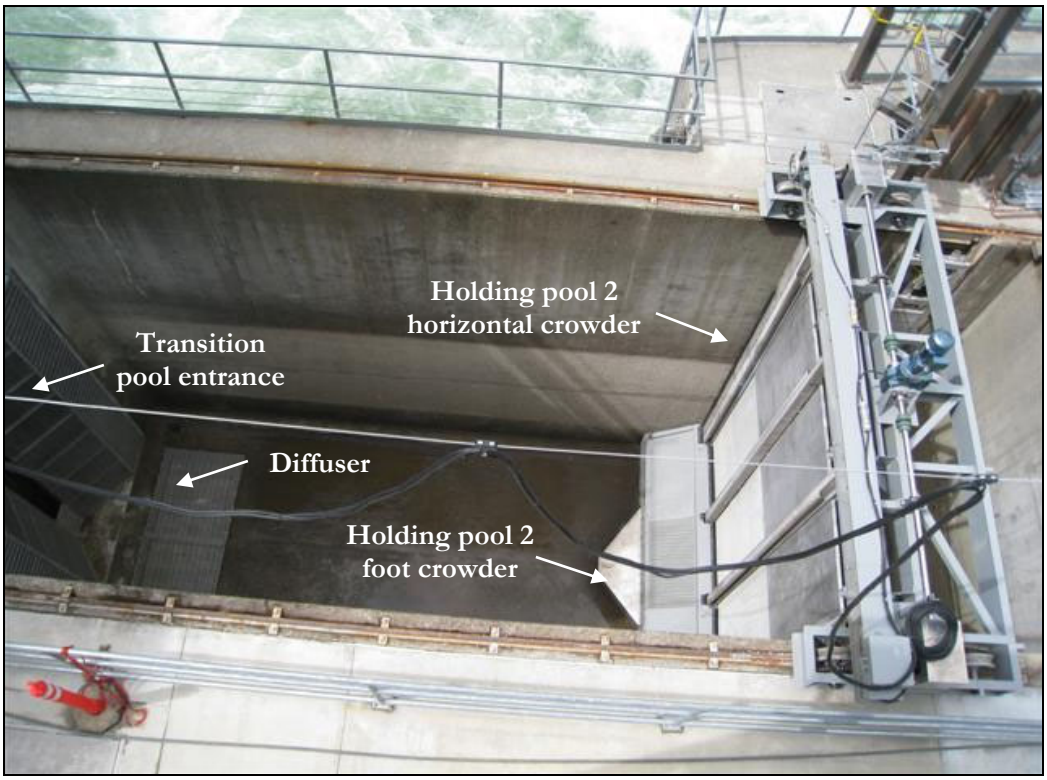


Figure 8. Holding pool 2, horizontal fish crowder, and foot crowder.

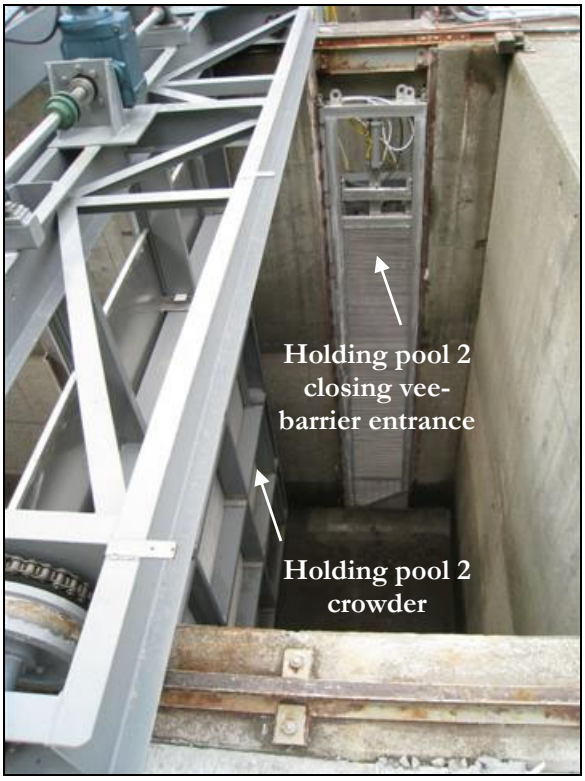


Figure 9. Closing vee-notch weir located between holding pools 1 and 2.

Figure 10. Transition pool entrance and fish sensor.

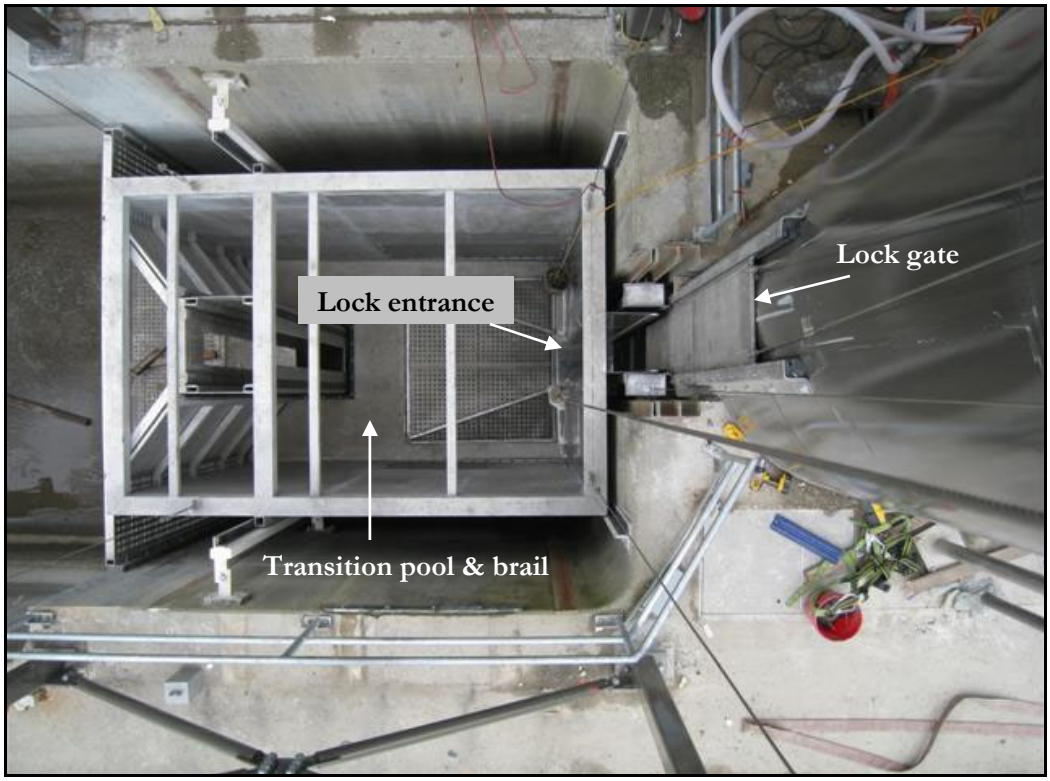


Figure 11. Transition pool brail and fish lock entrance gate.

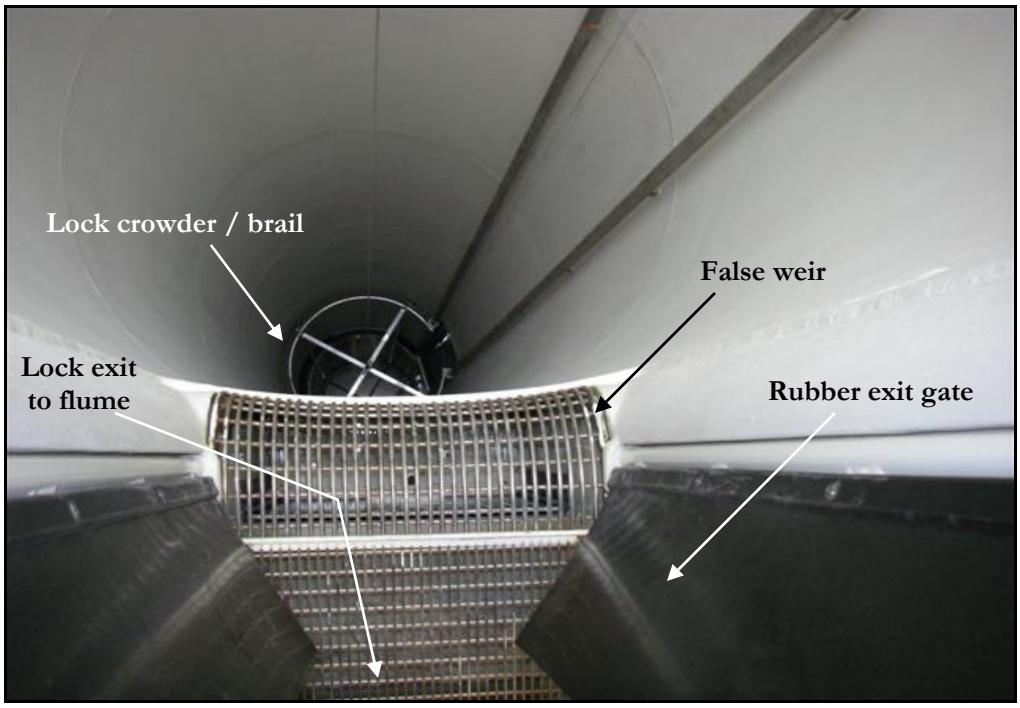


Figure 12. Fish lock crowder and false weir.

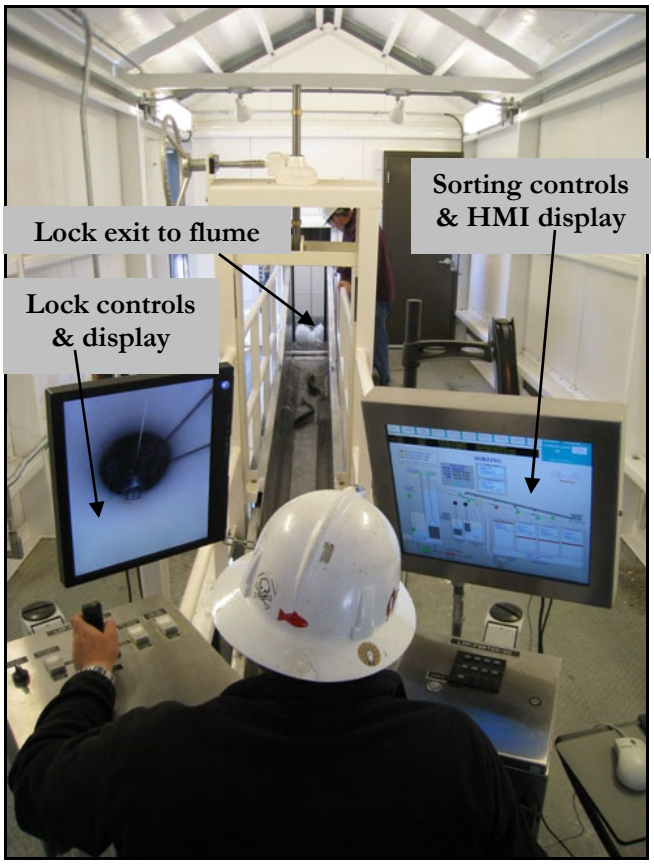


Figure 13. Fish sorting flume and control room.

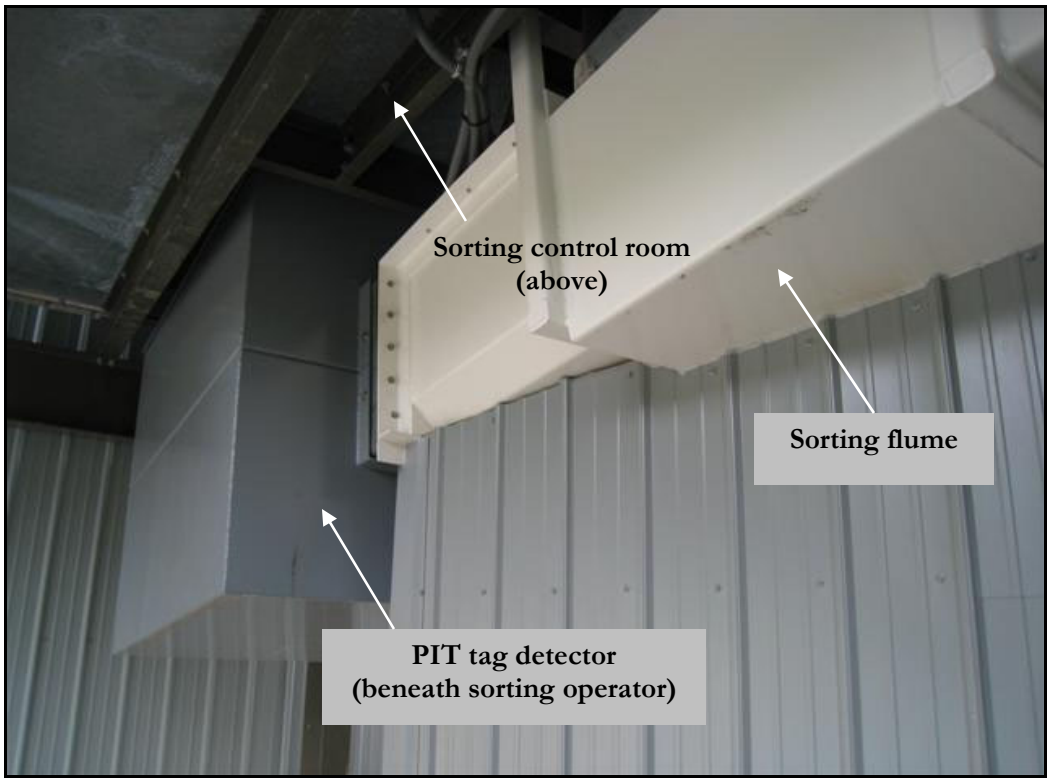


Figure 14. PIT tag detection array.

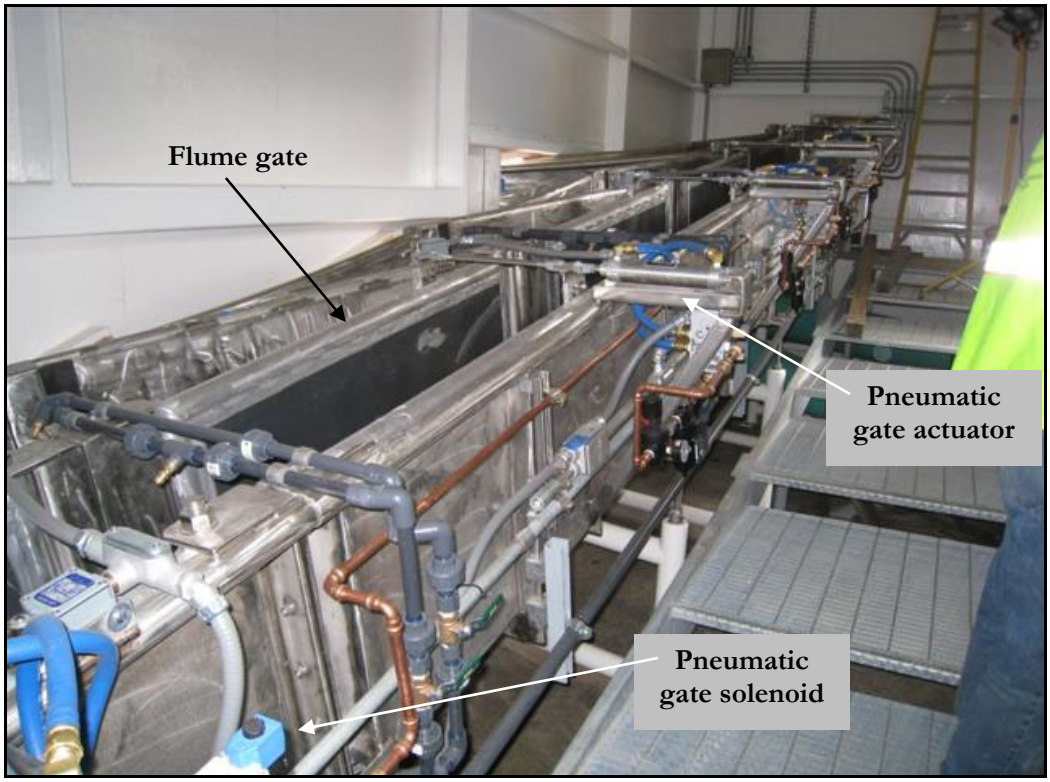


Figure 15. Fish sorting gate room.

Figure 16. Sorting pools and horizontal crowder.

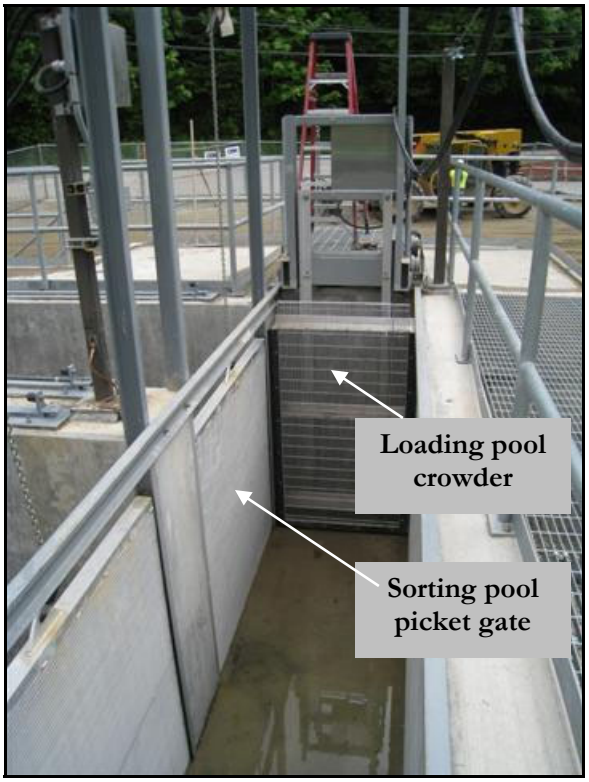


Figure 17. Loading pool crowder.

Figure 18. Loading pool gate.

Figure 19. Loading hopper.

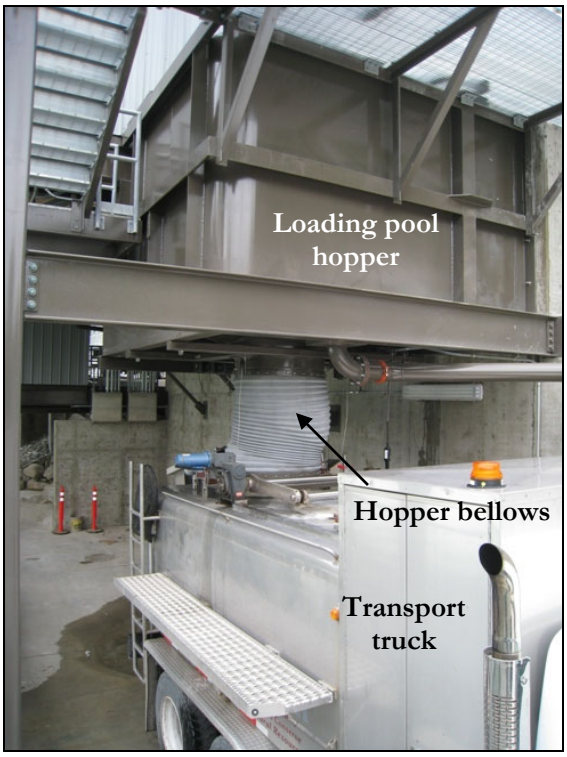


Figure 20. Loading hopper & bellows.

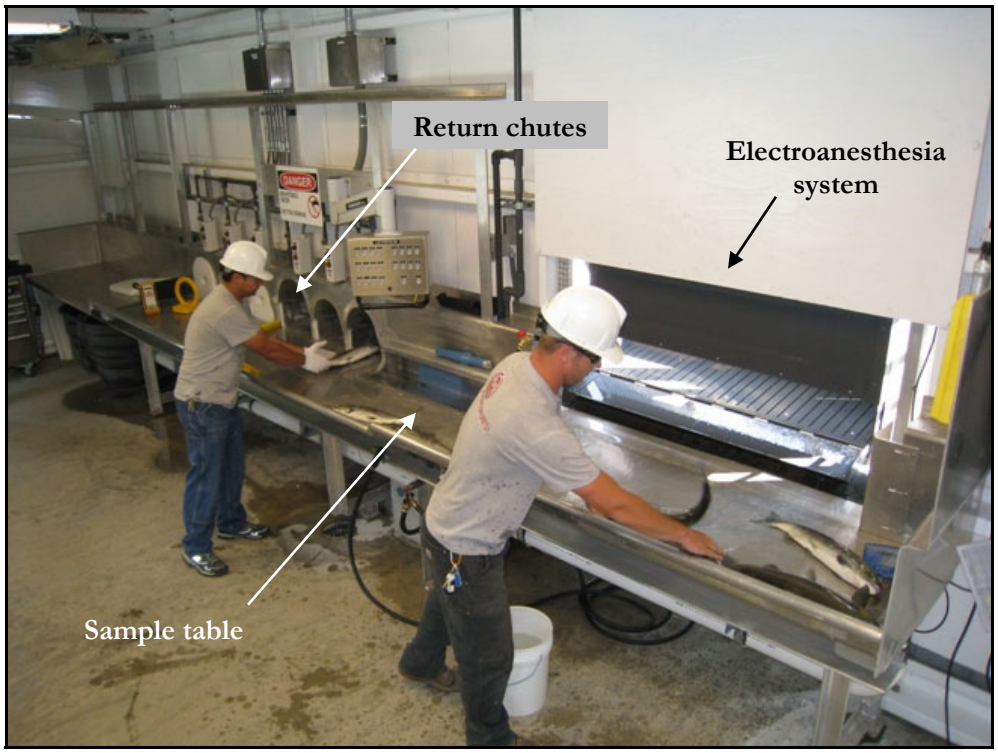


Figure 21. Fish sample room.

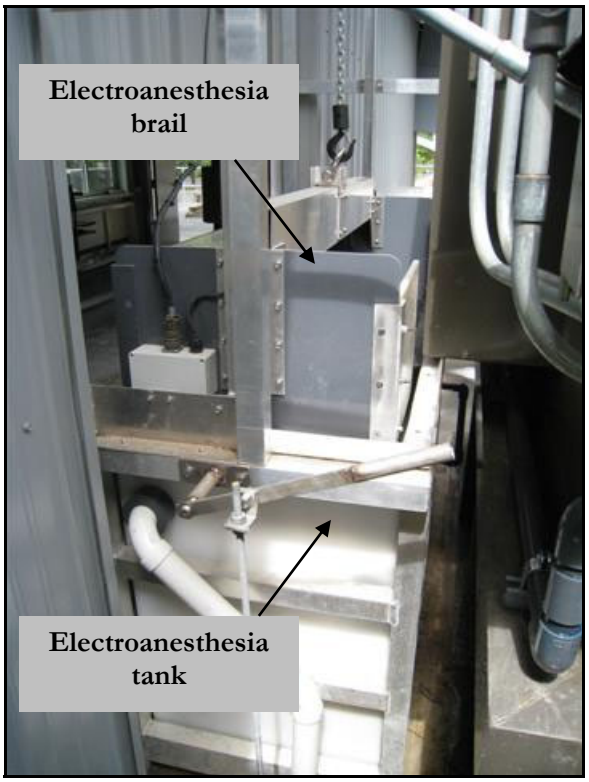


Figure 22. Fish sample anesthesia tank.

Figure 23. Grove RT-860 portable crane positioned to lift fish during emergency fish evacuation.

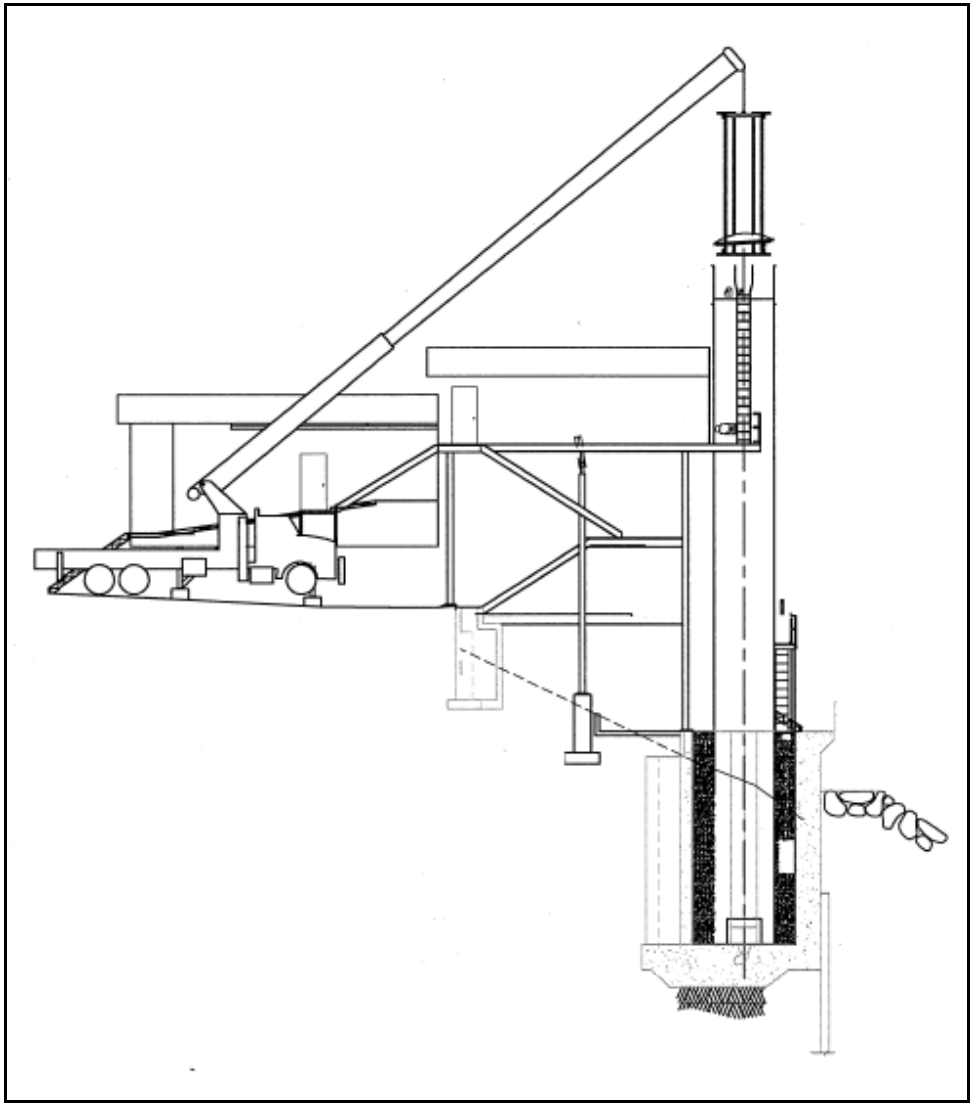


Figure 24. Baker upstream fish trap emergency fish removal schematic & crane access at the fish lock.

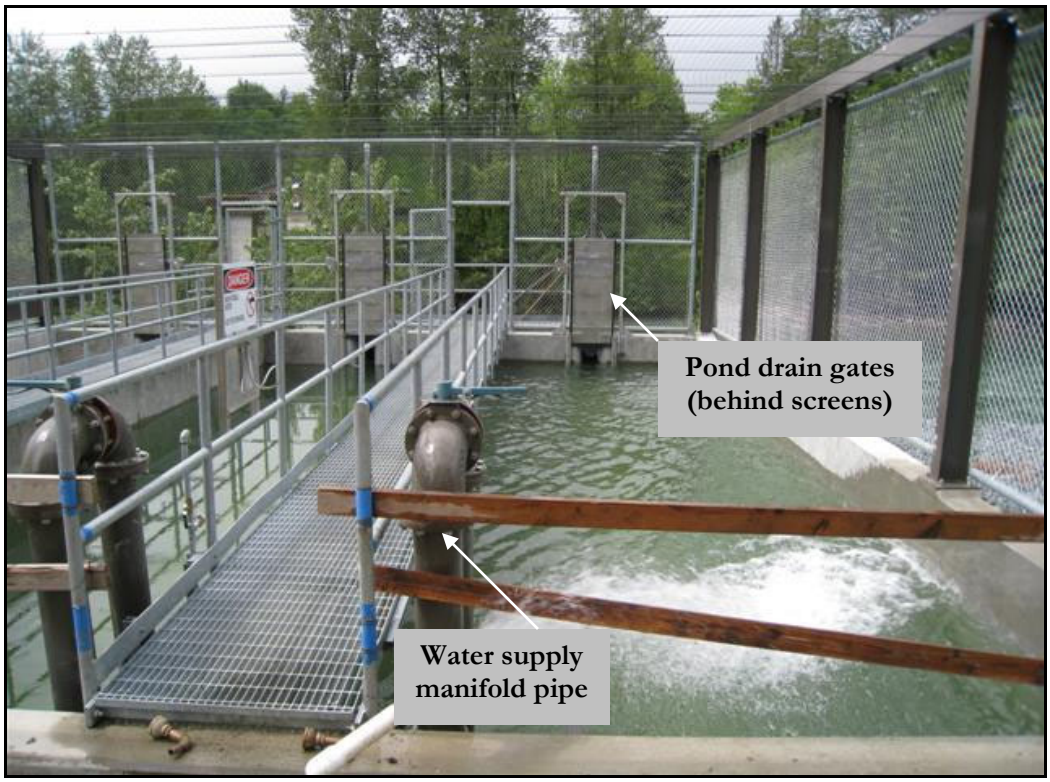


Figure 25. Stress relief ponds.

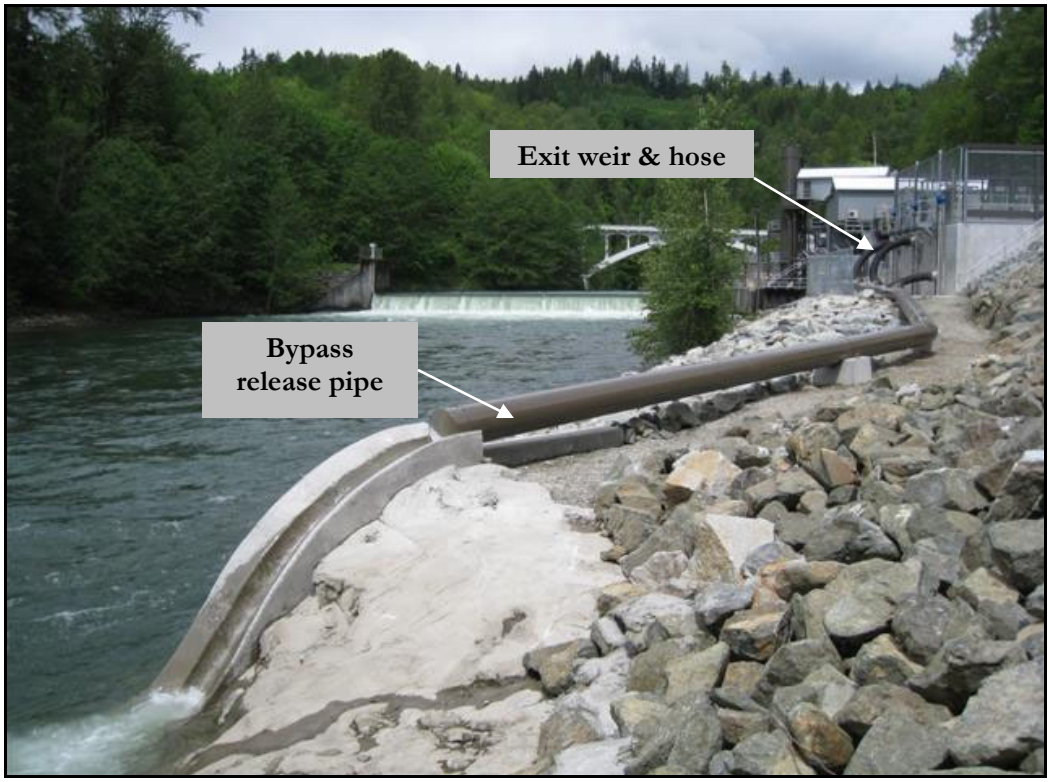


Figure 26. Stress relief pond outflow to the Baker River.

Figure 27. Rubber fish recovery tube.

5.0 Preliminary Emergency Response Plan Reviewer Comments

5.1 Distribution List

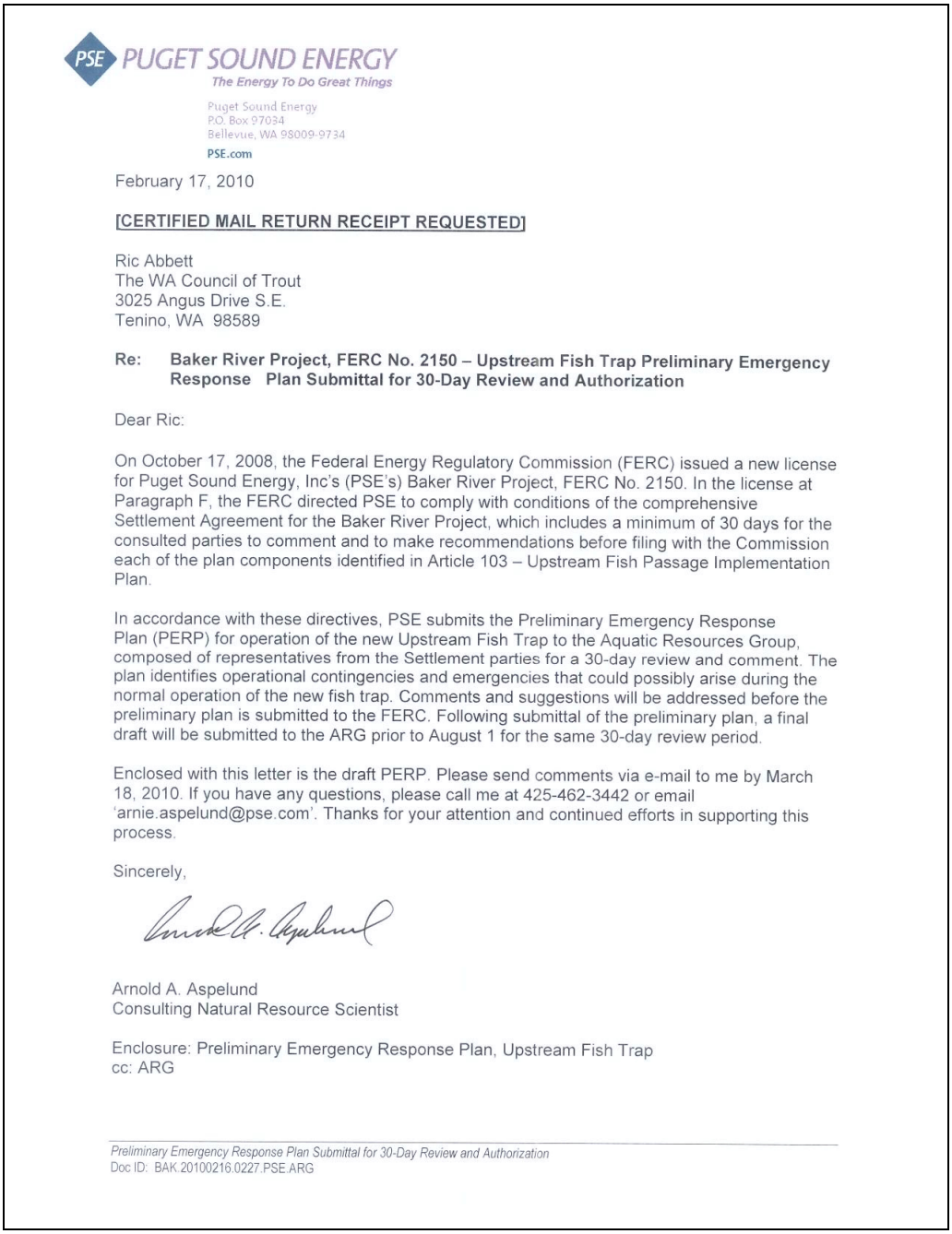
On February 17, 2010, PSE sent the Preliminary Emergency Response Plan for the Lower Baker Upstream Fish Trap, with document review cover letter, by certified mail to the settlement parties (table 10). The document review cover letter (Figure 28) is provided in this section for reference.

Table 10. Parties who received the Lower Baker Upstream Fish Trap Preliminary Emergency Response Plan for formal review.

Name	Organization	Address
Ric Abbett	The WA Council of Trout	3025 Angus Drive S.E. Tenino, WA 98589
Brock Applegate	WA Dept. Fish and Wildlife	PO Box 1100 La Conner, WA 98274
Len Barson	The Nature Conservancy	1917 First Avenue Seattle, WA 98101
Chuck Ebel	US Army Corps of Engineers	4735 E. Marginal Way S. Seattle, WA 98124
Lorna Ellestad	Skagit County	1800 Continental Place Mount Vernon, WA 98273

Name	Organization	Address
Alison Evans	WA Department of Ecology	3190 160th Ave. S.E. Bellevue, WA 98008-5452
Steve Fransen	NOAA Fisheries	510 Desmond S.E., Ste. 103 Lacey, WA 98503
JoAnn Gustafson	WA Dept. Natural Resources	919 N. Township Sedro-Woolley, WA 98284
Bob Helton	Skagit County Resident	21032 Little Mountain Rd. Mount Vernon, WA 98274
Lou Ellyn Jones	US Fish and Wildlife Service	510 Desmond S.E., Ste. 102 Lacey, WA 98503-1273
Scott Lentz	USDA Forest Service	810 State Route 20 Sedro-Woolley, WA 98284
Greta Movassaghi	USDA Forest Service	810 State Route 20 Sedro-Woolley, WA 98284
Ashley Rawhouser	National Park Service	810 State Route 20 Sedro-Woolley, WA 98284
Scott Schuyler	Upper Skagit Indian Tribe	25944 Community Plaza Sedro-Woolley, WA 98284
Arn Thoreen	Skagit Fisheries Enhancement Group	29517 S. Skagit Hwy Sedro-Woolley, WA 98284
Stan Walsh	Sauk-Suiattle Indian Tribe	PO Box 368 La Conner, WA 98257
Stan Walsh	Swinomish Indian Tribal Community	PO Box 368 La Conner, WA 98257
	Town of Concrete	PO Box 39 Concrete, WA 98273

5.2 Cover Letter



PUGET SOUND ENERGY
The Energy To Do Great Things

Puget Sound Energy
P.O. Box 97034
Bellevue, WA 98009-9734
PSE.com

February 17, 2010

[CERTIFIED MAIL RETURN RECEIPT REQUESTED]

Ric Abbett
The WA Council of Trout
3025 Angus Drive S.E.
Tenino, WA 98589

Re: Baker River Project, FERC No. 2150 – Upstream Fish Trap Preliminary Emergency Response Plan Submittal for 30-Day Review and Authorization

Dear Ric:

On October 17, 2008, the Federal Energy Regulatory Commission (FERC) issued a new license for Puget Sound Energy, Inc's (PSE's) Baker River Project, FERC No. 2150. In the license at Paragraph F, the FERC directed PSE to comply with conditions of the comprehensive Settlement Agreement for the Baker River Project, which includes a minimum of 30 days for the consulted parties to comment and to make recommendations before filing with the Commission each of the plan components identified in Article 103 – Upstream Fish Passage Implementation Plan.

In accordance with these directives, PSE submits the Preliminary Emergency Response Plan (PERP) for operation of the new Upstream Fish Trap to the Aquatic Resources Group, composed of representatives from the Settlement parties for a 30-day review and comment. The plan identifies operational contingencies and emergencies that could possibly arise during the normal operation of the new fish trap. Comments and suggestions will be addressed before the preliminary plan is submitted to the FERC. Following submittal of the preliminary plan, a final draft will be submitted to the ARG prior to August 1 for the same 30-day review period.

Enclosed with this letter is the draft PERP. Please send comments via e-mail to me by March 18, 2010. If you have any questions, please call me at 425-462-3442 or email 'arnie.aspelund@pse.com'. Thanks for your attention and continued efforts in supporting this process.

Sincerely,

Arnold A. Aspelund
Consulting Natural Resource Scientist

Enclosure: Preliminary Emergency Response Plan, Upstream Fish Trap
cc: ARG

Preliminary Emergency Response Plan Submittal for 30-Day Review and Authorization
Doc ID: BAK.20100216.0227.PSE.ARG

Figure 28. Preliminary document review cover letter.

5.3 Summary of Reviewer Replies

The following reviewers sent comments to PSE (see section 5.4 for details):

- Chuck Ebel, US Army Corps of Engineers
- Greta Movassaghi, US Forest Service
- Brock Applegate, WA Department of Fish and Wildlife

5.4 Reviewer Comments and PSE Response

Table 11. Comments from formal review of the Preliminary Emergency Response Plan for the Upstream Fish Trap, March 2010.

Comment	Puget Sound Energy Response
USACE - Chuck Ebel, received March 5, 2010	
I have reviewed the attached plan and it looks good. When the In water protection plan and storm water protection plans are drafted I would like/be willing to review those. Please let remind when the cofferdams are going to be installed I would like to see that if by any chance I am available. I really would like to see the "super gulper" surface collector in action this spring. I have not seen it since it was under construction. Please let Doug know I would like to see it and I could possibly be useful for a day as I used to operate Granite Dams fish collection facility.	Comment noted. No revisions to plan.
USFS – Greta Movassaghi, received March 18, 2010	
The Forest Service has no comments on the following plans: The preliminary Emergency Response Plan for the Adult Fish Trap The O&M Plan for the Adult Fish Trap Thank you	Thank you for your response.
WDFW – Brock Applegate, received March 18, 2010	
We have reviewed the Upstream Fish Trap Preliminary Emergency Response Plan and we have no comments. Thanks for the opportunity to review and participate in the creation of this document.	Thank you for your response.

6.0 Draft Final Emergency Response Plan Reviewer Comments

6.1 Distribution List

On October 17, 2010 PSE sent, the Draft Final Emergency Response Plan for the Lower Baker Upstream Fish Trap, with document review cover letter, by certified mail

to the settlement parties (table 12). The document review cover letter (figure 29) is provided in this section for reference.

Table 12. Parties who received the Lower Baker Upstream Fish Trap Draft Final Emergency Response Plan for formal review.

Name	Organization	Address
Ric Abbett	The WA Council of Trout Unlimited	3025 Angus Drive S.E. Tenino, WA 98589
Brock Applegate	WA Dept. Fish and Wildlife	P. O. Box 1100 111 Sherman St. La Conner, WA 98257-9612
Len Barson	The Nature Conservancy	1917 First Avenue Seattle, WA 98101
Chuck Ebel	U.S. Army Corps of Engineers	4735 E. Marginal Way S. Seattle, WA 98124
Lorna Ellestad	Skagit County	1800 Continental Place Mount Vernon, WA 98273-5625
Alison Evans	WA Department of Ecology	3190 160th Ave. S.E. Bellevue, WA 98008-5452
Steve Fransen	National Marine Fisheries Service	510 Desmond S.E., Ste. 103 Lacey, WA 98503-1273
JoAnn Gustafson	WA Dept. of Natural Resources	919 N. Township Street Sedro Woolley, WA 98284
Bob Helton	Skagit County Citizen	21032 Little Mountain Road Mount Vernon, WA 98274
Lou Ellyn Jones	U.S. Fish and Wildlife Service	510 Desmond S.E., Ste. 102 Lacey, WA 98503-1273
Scott Lentz	USDA Forest Service	810 State Route 20 Sedro Woolley, WA 98284
Sue Madsen	Skagit Fisheries Enhancement Group	P. O. Box 2497 Mount Vernon, WA 98273
Greta Movassaghi	USDA Forest Service	810 State Route 20 Sedro Woolley, WA 98284
Ashley Rawhouser	National Park Service	810 State Route 20 Sedro Woolley, WA 98284
Scott Schuyler	Upper Skagit Indian Tribe	25944 Community Plaza Sedro Woolley, WA 98284
Stan Walsh	Sauk-Suiattle Indian Tribe	P. O. Box 368 11426 Moorage Way La Conner, WA 98257-0368
Stan Walsh	Swinomish Indian Tribal Community	P. O. Box 368 11426 Moorage Way La Conner, WA 98257-0368
	Town of Concrete	P. O. Box 39 Concrete, WA 98273

6.2 Cover Letter

PUGET SOUND ENERGY
The Energy To Do Great Things

Puget Sound Energy
P.O. Box 97034
Bellevue, WA 98009-9734
PSE.com

September 9, 2010

[CERTIFIED MAIL RETURN RECEIPT REQUESTED]

Rick Abbett
WA Council of Trout Unlimited
3025 Angus Dr. S.E.
Tenino, WA 98589

Re: Baker River Project, FERC No. 2150 – Upstream Fish Trap Draft Final Emergency Response Plan Submittal for 30-Day Review, Comment and Approval

Dear Rick:

On October 17, 2008, the Federal Energy Regulatory Commission (FERC) issued a new license for Puget Sound Energy, Inc's (PSE's) Baker River Project, FERC No. 2150. In the License Article SA 103 – Upstream Fish Passage, the FERC directed that PSE develop and file a final Upstream Fish Passage Implementation Plan – Emergency Response Plan. The consultation for the plan includes a minimum of 30 days for the consulted parties to comment and to make recommendations before filing with the Commission.

Please review the draft Final Emergency Response Plan (FERP) for operation of the new Upstream Fish Trap. The plan identifies operational contingencies and emergencies that could possibly arise during the normal operation of the new fish trap. Comments and recommendations will be addressed before the final plan is submitted to the FERC. Additionally, in accordance with terms of the Settlement Agreement, PSE requests notice of approval by the National Marine Fisheries Service and the U.S. Fish and Wildlife Service.

Enclosed with this letter is the draft FERP. You may submit your comments using the enclosed reply form. Please send comments via e-mail to me at 'arnie.aspelund@pse.com' or by regular mail by October 11, 2010.

If you have any questions, please contact Nick Verretto at 425-462-3441 or by e-mail 'nick.verretto@pse.com'. Thanks for your attention and continued efforts in supporting this process.

Sincerely,

Arnold A. Aspelund
Consulting Natural Resource Scientist

Enclosure: Draft Final Emergency Response Plan, Upstream Fish Trap
cc: ARG

Draft Final Emergency Response Plan Submittal for 30-Day Review, Comment & Approval
Doc ID: BAK 20100907.0327.PSE.ARG

Figure 29. Final document review cover letter.

6.3 Summary of Reviewer Replies

The following reviewers sent comments to PSE.

- Lou Ellyn Jones, U. S. Fish and Wildlife Service
- Alison Evans, WA Department of Ecology
- Brock Applegate, WA Department of Fish and Wildlife
- Stan Walsh, Sauk-Suiattle Indian Tribe and Swinomish Indian Tribal Community

6.4 Reviewer Comments and PSE Response

Table 13. Comments from formal review of the Draft Final Emergency Response Plan for the Upstream Fish Trap, October 2010.

Comment	Puget Sound Energy Response
USFWS – Lou Ellyn Jones, received September 13, 2010	
I have read the plan and have no comments.	Thank you for your response. No revisions to the plan.
WA DOE – Alison Evans, received September 21, 2010	
Thank you for the opportunity to review the draft Final Emergency Response Plan for the new upstream fish trap. Ecology has no comments.	Thank you for your response. No revisions to the plan.
WDFW – Brock Applegate, received October 08, 2010	
I have read the draft SA 103 – Upstream Fish Trap Draft Final Emergency Response Plan and I have no comments.	Thank you for your response. No revisions to the plan.
Sauk-Suiattle and Swinomish Tribes – Stan Walsh, received October 13, 2010	
[In a telephone conversation, Stan Walsh requested that PSE remove the specific metrics from section 2.1, such as "five dead fish in a single day," and replace this text with a general requirement for action based on observed abnormality in fish condition.]	In the second full sentence of section 2.1, we have deleted the text "a substantial issue (e.g., five dead fish in a single day, three dead fish on three consecutive days, increase by 10% of population w/abnormal injuries, increase in severity of injuries)," and replaced it with "an unexplained increase in observed injury or mortality."

APPENDIX A: Emergency Contacts

The operator or first person onsite should refer to the latest emergency contacts list (example below; updated periodically by plant management) for support and direction.

General Dispatch		
Plant Operator		Cell
		Home
Plant Manager		Cell
		Home
Plant Engineer		Cell
		Home
Plant Sr. Elect. Engr.		Cell
		Home
Plant Hydro Tech. IV		Cell
		Home
Fisheries Supervisor		Cell
		Home
Fisheries Technician III		Cell
		Home
Fisheries Technician III		Cell
		Home
Resource Sciences Mgr.		Cell
		Home
Fisheries Biologist		Cell
		Home
Project Engineer		Home
		Cell
Emergency Response		911