



## Baker River Fish Passage – Adult Trap and Juvenile Stress Relief Ponds

### *Baker River Basin, Washington*

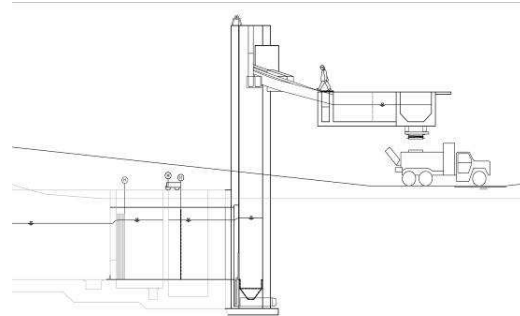


R2 was contracted by Puget Sound Energy (PSE) to design modifications to the existing adult fish trap to improve upstream fish passage, and to design stress relief ponds for downstream migrants. These projects are part of the FERC relicensing of the Baker River Hydroelectric Project. This work includes: concept development, negotiations with the agencies, initial design development for cost forecasting, and final design. The trap will be designed to pass approximately 50,000 upstream migrants (sockeye, coho, steelhead, pinks, chum, Chinook, cutthroat, and native char) during a peak year. The stress relief ponds will accommodate approximately 100,000 smolts per day.

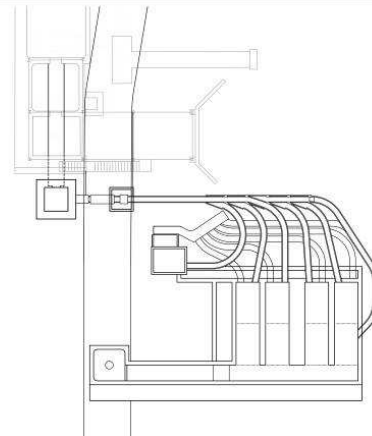
Modifications to the existing trap will include: replacing the trashrack water supply intake with a criteria fish screen, increasing the flow capacity through the trap, automating trap operations, constructing a fish lock to pass fish through a flume type fish sorting facility with post sorting holding and sampling.

#### **Project Elements:**

- Fish Passage and Protection
- Hydrologic/Hydraulic Analysis and Modeling
- Design Plans and Specifications
- Cost Estimating



**Trap Profile View**



**Trap Plan View**

Three stress relief ponds are being designed to hold up to 100,000 smolts. Egress will be both volitional and forced with a flume type transfer from the ponds to the Baker River. The set of three ponds will allow between 48 and 72 hours of holding.

Concept development and initial design was completed in 2006. Final design was completed in 2008 and construction is scheduled for completion in 2010.