

BROWNSVILLE DAM PROJECT UPDATE

Prepared by: Denise Hoffert-Hay, Project Manager

Prepared for: Calapooia Watershed Council July 2007 monthly meeting

Questions? Please call or email Denise at: (541) 619-5896 or hofferthay@peak.org

Technical Team Meeting – Final Design Meeting

A small sub-set of the Council’s Technical Team met with Cascade Earth Sciences (CES) on Monday, June 18th from 10 am to 2 pm at ODFW headquarters in Salem. Technical Team members discussed the final design plans for the dam removal and pump design prepared by CES. Updates on permits were also provided.

Team members in attendance were:

Bud Baumgartner (Council Chair)	Denise Hoffert-Hay (Project Manager)
Bill Sattler (City of Brownsville)	Douglass Fitting (OWEB)
Melissa Jundt (NOAA/NMFS)	Kerry Griffin (NOAA/NMFS)
Joel Watts (OR Dept Fish and Wildlife)	Mike Lambert (OR Dept Fish and Wildlife)
Kirk Jarvie (DSL)	Steve Mamoyac (OR Dept Fish and Wildlife)
Jared Rubin (OR Dept Environmental Quality)	

CES Staff in Attendance:

Steel Maloney (Hydrologist/CES President)	Greg Thurman (Project Engineer)
John Martin (Project Manager)	

Biological Opinion Update – *Kerry Griffin (NOAA/NMFS)*

Kerry explained that his agency is providing our project a programmatic biological opinion (thru the NOAA Restoration Center) because we are receiving some federal funds for the project from the Open Rivers Initiative (that we applied for in January 2006). The project will need to comply with an extensive set of “Terms and Conditions” that are available for review upon request. NOAA will provide the project with an ESA letter that gives the project the necessary ESA coverage for USACE to proceed with issuing a Joint Fill/Removal (JFR) permit. Since there are no US Fish and Wildlife listed species that are impacted by the project, USFWS has already provided their support for the project. USFWS did express interest in future collaboration on habitat conservation for pacific lamprey.

- *(Update)* ESA letter was ready in time to be included with the JFR permit application.

Sediment Transport Modeling Update – *Steel Maloney (CES)*

CES is working to have the modeling completed by early July. There have been several challenges to completing the modeling analysis. The model requires extensive data as input, but little data exists for this stretch of the River for really low flows. Normally, to run a model like this, it requires 2 years of data collection. CES staff have built the model and are running it under different flow conditions and are still working out some of the bugs. Since OSU is doing additional data collection this summer and next, there is the opportunity to build on the model and test it with real data.

Other permits

Bill Sattler made the point that we need to remember Linn County can take upwards of 3 weeks to issue building and electrical permits. He just wanted the project engineers to take that into account.

Joint Fill and Removal Permit Application

CES and Denise are working to have the permit submitted to USACE and DSL by June 22nd. The bulk of the application is prepared and the last pieces that need to be written are the Iowa Vanes description as well as the pump station construction.

The application describes a 3 phase project:

- Phase 1: Summer 2007 – Dam removal
- Phase 2: Summer 2008 – Pump station installation
- Phase 3: Summer 2009 (or later) – Iowa Vane installation (low flow devices to direct summer low flows toward the pump intake)

Kirk Jarvie explained that he will review our project application for Department of State Lands (DSL). He is planning our permit go thru the Fish General Authorization (GA) process rather than the Individual Permit process. The benefit of the GA is the significantly shorter review time – 45 days versus 120 days which would get us the permit issued in time to meet the 2007 in-water work window. The drawback is that the Iowa Vanes that we may need by 2009, depending on how the River responds to the dam removal, do not fall into the GA. The DSL permit will specifically line-item veto them. So, if they need to be constructed, the Council would need to submit a permit again and plan on going thru the 120 day process. DSL does not disagree that the project may require these structures to keep the screen functioning as designed, but the Fish GA will not cover them.

The Iowa Vanes can be permitted by USACE. NOAA is including them in their BiOp. NOAA does not think they would be able to justify permitting them at a later date as a separate project (ie not part of the dam removal). There will be some guidelines that define how the vanes can be installed (no more than 2.5 channel widths upstream of the dam, construction boundaries, etc), but they will be included. NOAA understands the vanes may be necessary to ensure the water depth necessary to keep the intake structure screen functioning as it is designed. If the water depth over the screen were to drop below 1 foot, the screen would develop hot spots that might cause problems for out-migrating juvenile salmonids (and other native fish).

Volunteers for final review of entire document: Steve, Jared, Douglass, Kirk

- *(Update)* Applications to DSL and USACE were received on 6/25/07.

PHASE I – Tentatively planned for 3rd Week August – mid-September 2007 (permit dependent)

Final Dam Removal Design – *Greg Thurman*

Greg provided an overview of the dam removal design. Engineered drawings that detail the removal are available as PDFs from Denise. The Technical Team did not have any revisions to the approach for the dam removal.

Dam will be removed in two stages. **If permits are secured for Summer 2007, work would begin no earlier than the third week of August.** The in-water work window is thru the end of September, but we hope to have the project underway in August. If permits are not secured for Summer 2007, work would begin July 1, 2008.

The work description below is the very abbreviated version – for a full description of the removal, please email Denise and request the permit application.

North Side – prior to the start of construction, the flashboards will need to be removed. ODFW has expressed a concern over impacts to lamprey during the reservoir dewatering and want to see the drawdown occur over a longer time frame. Instead of removing the boards in 2-3 hours (as is current practice), they would prefer it take 2 to 3 days. This longer time period would allow the juvenile lamprey to find secure new homes in the gravels. Community members would participate the first day and train the CES crew on how to remove the boards.

Abbreviated construction sequence:

- A 15-foot notch of the dam will be removed using an excavator.
- Work will take place without de-watering the River.
- The flow of the River will move thru this opening, dewatering the south side of the channel/dam.
- During this drawdown, some rescue of pacific lamprey will be required. ODFW will train volunteers on site to assist with the rescue.
- Concrete will be hauled to a recycling center near Eugene.
- Work will take 1-2 days

South Side – The remainder (and majority) of the dam will be removed from the South side by accessing private property and using a farm road thru a filbert orchard. Permission from the landowners to access the site has been secured.

Abbreviated construction sequence:

- If the River's flow is not entirely diverted thru the newly created opening, structures called "Ecoblocks" will be used to dewater the construction site.
- Excavator will remove chunks of the dam working from the upstream side to downstream side.
- ODFW and NOAA staff will be on-site to lead fish salvage if necessary. NO ANADROMOUS fish are present at this location at this time of year.
- Work is expected to take 2 to 3 weeks at the most.

PHASE II – Pump Station Installation (tentatively planned for June/July 2008)

Designs for the pump station were thoroughly reviewed. This is a brief explanation of the screen and intake system. A very detailed description and the engineering drawings are available from Denise upon request.

The pump station will be installed upstream of the dam just off the parking lot in the existing deep pool. Due to extreme summer low flows and regulatory restrictions, horizontal and infiltration type galleries cannot be installed. The design that best meets all of the criteria is an inclined screen. The screen will be set parallel with the existing bank and the intake structure will run parallel to the river at an angle. The screen will be placed at the lowest point of the bank to maximize the potential water column height in the River during summer.

After water passes through the screen and into the intake structure sump, it will travel to the main pump station under gravity flow through a 15 inch pipe. After the water is diverted from the River, it will be lifted and discharged into the existing Brownsville Canal. The pump station will be located 25 ft from the intake structure. It will consist of 7-ft diameter pre-cast concrete rings set approximately 22 feet below the ground surface in the parking lot. Access to the pump station will be through traffic rated hinged vault covers. The pumps will be two 15 Hp submersible wastewater pumps mounted on rails to allow them to be pulled up from the bottom for maintenance.

The water will be lifted through a valve station also located in the parking lot and discharged into the canal downstream from the former canal headgate. A concrete energy dissipation structure will be constructed at the outlet.

Significant group discussion took place over the type of baffling system, the nozzle spray pattern, type of nozzle, spray pressures, etc. ODFW agreed to work with CES to explore the options for this installation. ODFW indicated there is not much research on these systems and the nozzles are not rated typically for underwater use.

PHASE III – Installation of Iowa Vanes (tentatively planned for July 2009 and ONLY installed if site conditions warrant it)

When the dam is removed, the existing gravel bar on the south side upstream from the dam (across from the parking lot) is expected to erode. If half or more of those sediments erode (and are not replaced with material from upstream) the channel width will increase enough that during the lowest summer flows (15 to 20 cfs) the newly installed screen intake may not have the necessary one-foot of water flowing past the screen. If the flows past the intake screen drop below one foot, NOAA Fisheries would become concerned about how the intake is impacting juvenile outmigrating salmonids and other native fish. Therefore, CES engineers developed a design for installing low flow diversion structures. These instream structures (named Iowa Vanes after the university where they were developed) are short (1-2 feet tall) and are designed to push water toward the intake during low flows and be completely submerged during winter high flows.

These structures would ONLY be installed IF site conditions necessitate it. That is why their installation is not planned until the second summer post dam removal. This will give the site the time needed to adjust to the new conditions. If the structures are not needed to keep water levels to a one-foot minimum depth, then they will not be installed.

END OF MEETING SUMMARY

Other Updates

Permits/Sustainability Board

Permits were submitted to: DEQ, DSL, USACE on June 22nd and received by those agencies on June 25th. The Council is a pilot project for a program working to streamline the state permit process. This project is sponsored by the Sustainability Board, the Office of Regulatory Streamlining, and the Institute for Natural Resources. Information about this group, our project and past meeting updates is available on-line at the site below.

http://egov.oregon.gov/DCBS/RSL/other_projects.shtml

Because we are participating in this process, we are receiving assistance from Kirk Jarvie with Division of State Lands. He is coordinating communication between state agencies on issuing our permits so that hopefully we will receive all of our state permits at approximately the same time and without conflicting permit conditions. The state recently streamlined the process for developers to receive permits and track permit status online. Now, they are working to do something similar for natural resource permits. Our project is the first one – and guinea pig – for this process.

Open Rivers Initiative

Summary

The Council has been awarded a 3 year \$439,042 grant from NOAA Fisheries through the Open Rivers Initiative. This is the big grant that Denise submitted in January 2006. The bulk of this funding will go toward the 3 year monitoring program being developed by Oregon State University. Some of the funding will be used for removing the dam, project engineering and data collection (topographic/bathymetric survey, archaeology survey).

Budget Details

This budget ONLY describes the breakdown for ORI funding, not the entire project's funding. For more information about the entire project's funding, please contact Denise.

YEAR ONE

Travel (Federal), \$988

Denise Hoffert-Hay, Project Manager or Tara Putney, Council Coordinator will be presenting a poster or provide a presentation on the project progress and results at three watershed restoration conferences (to be determined). Lodging 6 nights (\$100/night, total lodging \$600), mileage (\$0.485/mile for 800 miles total \$388). Total conference travel: Total: \$988

Supplies (Federal), \$4,032

Interpretive/Education exhibit sign and construction for two watershed locations. Total: \$2,500

Native plants will be purchased from a local native plant nursery to stabilize and re-vegetate the site following the dam removal and pump installation. Plant material may include native, certified weed-free grass and forb seed, willows, ash, cottonwoods, snowberry, twinberry, ninebark and other shrubs and forbs depending on availability and site conditions. Prices of plants vary. Other materials needed to assist with establishing the plants including irrigation drip line, jute matting or weed mats, protective tubes to keep rodents from eating the plants, etc will also be purchased. Some materials will be donated (see below). Total: \$1,532

Contractual (Federal), \$207,636

Project costs estimated from the project 80% design.

Contractors will complete the following (note: some of these costs will be shared by OWEB – the total for each line item is not reflected below – only ORI’s portion of the cost):

- Finalize engineering design plans - \$16,500
- Secure necessary permits - \$5,000
- De-water dam work area with Eco-blocks - \$24,200
- Mobilize/demobilize equipment - \$16,400
- Remove dam and properly dispose of all debris - \$33,280
- Provide erosion and sediment control - \$16,100
- Archaeological survey - \$5,000 (*Pre-implementation cost*)

Monitoring - \$87,656

- Pre-removal monitoring
- During removal monitoring
- Immediate post removal monitoring
- Survey of stream channel (*\$15,000 of this will be pre-implementation cost*)

A contract crew will also be hired to assist with implementing the post dam removal site revegetation plan - \$3,500.

Other (Federal) - \$21,266

Fiscal Admin (CPRCD)

Year One Total:

Federal: \$233,922

YEAR TWO

Contractual (Federal), \$91,310

Monitoring - \$91,310 - Described in monitoring scope of work

Other (Federal), \$9,131

Fiscal Admin (CPRCD)

Year Two Total: Federal: \$100,441

YEAR THREE

Contractual (Federal), \$95,163

Monitoring - \$95,163 - Described in monitoring scope of work

Other (Federal), \$9,516

This will cover rent, utilities, and other costs associated with project administration and oversight

Year Three Total: Federal: \$104,679

TOTAL (All three years)

Total Grant Award: Federal: \$439,042

Dam Removal Monitoring

A monitoring meeting will be held on July 9th from 8:30 am to 10:00 am at Albany City Hall. Participants include representatives from: OWEB, OSU, NOAA and the Council. The meeting discussion will focus on the types of monitoring activities that will be conducted for this year and the subsequent 2 years as well as the funding breakdown between the different funding sources. Meeting minutes will be available for distribution to the Council following this meeting.

Dam Removal Recognition Ceremony

There will be a meeting on July 9th from 10 am to 11:30 am at Albany City Hall to discuss the event planning for this summer/fall. There is a great deal of interest outside of the Council in attending the dam breaching. This meeting will be an opportunity to discuss how this event or events will take place and determine “jobs” for folks. This whole issue will be discussed in more detail at the Council’s regular July meeting.

PLEASE CONTACT Denise Hoffert-Hay WITH QUESTIONS OR CONCERNS. I am happy to talk with you in person at your convenience day or evening about the project. PLEASE email or call if you need clarification or to understand a part of the project. These updates are the best I can do to help keep such a large group informed. If you need more info, I am happy to provide it. But if you don’t ask, I don’t know that you have questions!