## 1. Title:

Pine Ck #2 65K Storage Reservoir

## 2. Proposal Preparer(s):

Brian Wolcott

## 3. Project Status: Identify whether the proposed project is a past, ongoing or new project and briefly explain the status of the project, including the requested role of the Flow Study in further consideration of the project. If past project, some of the questions below may not be applicable.

- **X a. NEW PROJECT**
- **□ b. ON-GOING PROJECT**
- **□ c. PAST PROJECT**

$85,000 in study funds are available for reservoir site and conveyance analysis and costings.

Corps studied extensively in 2009.

## 4. General Description of Proposal: Identify the category(s) and briefly explain the proposed project (e.g. location, infrastructure requirements, maintenance requirements, connection to other new, ongoing or past projects, other stakeholders, various sizing or phasing, etc.).

- **□ a. Water Conservation & Infrastructure**
- **□ b. Aquifer Recharge & Aquifer Storage and Recovery**
- **□ c. Surface – Groundwater Source Switch**
- **X d. Surface Water Storage**
- **□ e. Pump Exchange**
- **□ f. Water Right Transactions**
- **□ g. Point of Diversion Transfers**
- **□ h. Other**

A 65,000 acre foot reservoir located in the Pine Creek drainage approximately 2 miles upstream of the Klein residence just prior to where the Pine Creek drainage emerges out onto the Walla Walla valley. A study will identify costs for this Walla Walla River flow improvement project. An initial USACE study (2009) sponsored by the Confederated Tribes of the Umatilla identified this potential reservoir site to provide water for many of the irrigated farms in the Walla Walla Valley so they can leave their Walla Walla River irrigation water rights in the river at the Little Walla Walla Diversion at Cemetery Bridge and at GFID’s Burlingame Diversion near Beet Road to improve flows for fish. The Corps study was considered expensive to build and operate. This study will utilize relevant information from the Corps’ study, but look at a farm-based approach, and also include senior water users along the downstream Washington portion of the Walla Walla River to ensure fish flow benefits are protected to the confluence with the Columbia River. Also, conveyance to the reservoir can be enhanced with a larger, upstream diversion on the Walla Walla River and on upper Dry creek, both delivering water to the reservoir pool on gravity. This upper Pine Creek reservoir site will require less pumping, of Summer irrigation water back uphill to Milton-Freewater irrigators on WWRID. This cost could be offset be a hydropower plant which could generate power when water is delivered on gravity to lower HBDIC, GFID, and Lowden ditch water users.

OWRD has looked at water availability from the Walla Walla River, Pine Creek, and Dry Creek and after subtracting out existing water rights, there is 47,330 acre feet available, based on 50% exceedance flows. This may need to be reduced to comply with Oregon Environmental Flow requirements. 35,000 acre feet is needed to meet CTUIR goals, for Tumulum reach. More may be needed for Beet Road Reach and McDonald Road reach. This larger capacity reservoir would be able to store water from years with higher water yields for future use.
5. **Source of Produced Water**: Mark all applicable and identify (water right number, shallow or deep basalt aquifer, stream name).

- □ a. Existing Water Right
- □ b. Groundwater
- X c. Surface Water
- □ d. Other

6. **Quantity/Timing/Location of Produced Water Instream**: Estimate average amount of water, when and where. Can project be considered at various sizes (flow outputs) and/or considered in phases?

   a. Acre-feet and/or Cubic-feet-per-second:

   - 50 cfs summer Milton-Freewater (Nursery Bridge)
   - 75 cfs spring through July 1, Fall September-November Milton-Freewater (Nursery Bridge)
   - 75 cfs Spring through July 1, and Fall Oct 1 to Dec 1 at Burlingame Diversion
   - 15 cfs Summer Lowden diversion (McDonald Bridge)

   b. Timeframe(s):

   - Spring Summer Fall

   c. Stream Reach Location(s):

   - Milton-Freewater/Nursery Bridge
   - Burlingame Diversion/Beet Road/McDonald Road
d. **UNKNOWN** - Need more work (engineering/design/modeling, etc.) to estimate potential instream flow outputs of project. Will results of this work be concluded within one year to inform potential project flow outputs? Describe additional work needed and cost estimate.

Site needs to be evaluated for suitability: geology, porosity, seismic, dam material, water availability, water production, pumping costs if any, hydropower potential. Conveyance costs to and from reservoir need to be determined. Reservoir costs need to be determined.

**7. Ability to Protect Produced Water Instream:** Briefly explain how the produced water will be quantified, monitored and protected instream or why it is not currently protectable.

- □ a. **YES** - protection under existing regulations expected to WW River mouth or in limited reach?

  Surface storage may be easier to protect than other types of produced water.

- □ b. **NO** or X c. **UNKNOWN** – Results and implementation of flow protection study likely necessary to ensure flow protection.

  Protection is unknown

**8. Cost Estimates:** Provide known and estimated costs to develop and implement the project.

- a. **Project Development and Design:**
  
  $7,391,000 (Corps estimates from 2009 study)

- b. **Project Construction:**
  
  $369,562,700 (Corps estimates from 2009 study) does not include new WW diversion and dry ck conveyance

- c. **Construction cost per AF and/or CFS:**
  
  $5685.58/AF (Corps estimates from 2009 study)

- d. **Project Annual O&M:**
  
  $1,153,000 (Corps estimates from 2009 study)

  □ c. **UNKNOWN** - Need engineering/design work to estimate costs

  Needs to be recalculated, included higher volume conveyance from Walla Walla River and Dry Creek

**9. Secured Costs:** Has any funding been secured in the past or currently and what is source?

$85,000 secured for site assessment

**10. Other Potential Project Advantages:** In addition to helping address flow targets and basin-wide flow issues (Endangered Species Act, Tribal Water Rights, Clean Water Act, etc.), briefly explain other potential benefits (e.g. reduced O&M costs, restores/mimics ecological processes, cropping flexibility, )

Could provide seasonal recreation and wildlife benefits
### 11. Other Potential Project Disadvantages:
Briefly explain potential drawbacks of the proposal (e.g. reduced GW supply - recharge mitigation need, increased O&M costs, legal implications)

O&M costs of
Will likely impact wildlife and ESA fishery in Walla Walla River and Pine Creek
Will likely need to pump some of the fill water up into the reservoir.

### 12. Estimated Time Frame to Implement Project?

10-20 years