

## **Public and Interagency Meeting**

**May 8, 2018**

**6:00 – 7:30 PM**

**Cascades Academy**

**19860 Tumalo Reservoir Road**

**Bend, OR 97703**

### **Tumalo Irrigation District Irrigation Modernization Project**

Meeting Purpose: To inform the community of the Draft Watershed Plan-Environmental Assessment (Draft Watershed Plan-EA) for the proposed Tumalo Irrigation District Irrigation Modernization Project, and to gather public comments on the Draft Watershed Plan-EA.

#### Project Partners

Lead Federal Agency: Natural Resources Conservation Service (NRCS)

Lead Project Sponsor: Deschutes Basin Board of Control (DBBC)

Project Co-Sponsor: Tumalo Irrigation District (TID)

Draft Watershed Plan-EA prepared by: Farmers Conservation Alliance (FCA)

#### Meeting Agenda

- Welcome (Kevin Conroy, NRCS)
- Watershed Plan Process and PL 83-566 Program (Margi Hoffmann, FCA)
- Overview of Tumalo Irrigation District and the Proposed Irrigation Modernization Project (Ken Rieck, Manager, TID)
- Breakout Session for Public Comments

**Comments on the Draft Watershed Plan-EA may be submitted until May 22, 2018.**

Email:

OR

Mail:

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Tumalo Watershed Plan  
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**Tumalo Irrigation District – Irrigation Modernization Project**  
**Draft Watershed Plan-Environmental Assessment**  
**Fact Sheet**

**Project Purpose**

The goal of the Tumalo Irrigation District Irrigation Modernization Project is to improve water conservation, water delivery reliability, and public safety on 68.8 miles of canals and laterals owned by Tumalo Irrigation District. The project would improve water quality and stream habitat in the upper Deschutes Basin while improving the economic sustainability of agriculture in the Deschutes Basin.

**Project Sponsors**

- Lead Federal Agency: Natural Resources Conservation Service (NRCS)
- Lead Project Sponsor: Deschutes Basin Board of Control (DBBC)
- Project Co-Sponsor: Tumalo Irrigation District (TID)

**Location**

- Deschutes County, Oregon; 2<sup>nd</sup> Congressional District
- Hydrologic Units: Tumalo Creek and Deschutes River (17070301)

**Agencies Consulted and Other Stakeholders**

Bend Park and Recreation District	Oregon Department of State Lands
Burns Paiute Tribe	Oregon Governor’s Office
Business Oregon	Oregon State Historic Preservation Office
Central Oregon Land Watch	Oregon Water Resources Department
City of Bend	Oregon Watershed Enhancement Board
Coalition for the Deschutes	The Klamath Tribes
Confederated Tribes of the Warm Springs	Trout Unlimited
Deschutes County	U.S. Army Corps of Engineers
Deschutes River Conservancy	U.S. Bureau of Land Management
National Oceanic and Atmospheric Administration Fisheries	U.S. Bureau of Reclamation
Oregon Department of Agriculture	U.S. Fish and Wildlife Service
Oregon Department of Environmental Quality	U.S. Forest Service, Deschutes National Forest
Oregon Department of Fish and Wildlife	Upper Deschutes Watershed Council
	WaterWatch of Oregon

**Background**

- TID provides irrigation water to 667 patrons and 7,417 acres using two primary diversions, one on the Deschutes River and one on Tumalo Creek.

- Water is delivered mostly through a series of open canals and on-farm ditches, which lose approximately 30% to seepage and evaporation.
- TID is struggling to deliver sufficient flows to its patrons due to inefficient and outdated infrastructure, along with new environmental demands and drought.
- Irrigation diversions and reservoir operations contribute to low summer flows in Tumalo Creek and the Deschutes River downstream from the City of Bend and low winter flows in Crescent Creek and the Little Deschutes River upstream from the City of Bend. Low flows diminish water quality and habitat quality for fish and aquatic species.

### **Resource Concerns**

A public scoping process was used early in the planning process to identify issues, concerns, and potential effects that require detailed analysis. Using input obtained during scoping, NRCS refined the TID Irrigation Modernization Project to focus on relevant resource concerns and issues. These include, but are not limited to:

- Reduced fish and aquatic habitat associated with low streamflows
- Inefficient irrigation water delivery leading to low drought tolerance for local agriculture
- Poor water quality, elevated stream temperatures
- Inefficient energy use from individual pumps
- Risks to public safety from open canals
- Economic viability of agricultural lands

### **Project Alternatives**

Several project alternatives were considered to address the resource concerns listed above. The following alternatives were eliminated due to cost, logistics, technology, or social and environmental reasons: pipeline realignment outside the District's rights-of-way, conversion to dryland farming, fallowing farm fields, on-farm efficiency upgrades, steel pressurized piping, polyvinyl chloride pressurized piping, and the exclusive or partial use of groundwater for irrigation.

Three alternatives are evaluated in the Draft Watershed Plan-EA based on their benefits, costs, and environmental effects:

- No Action Alternative: TID would continue to operate and maintain its existing canal, lateral, and pipe system in its current condition.
- Piping Alternative: TID's open canals and laterals would be converted to buried, high-density polyethylene (HDPE) pressurized pipe.
- Canal Lining Alternative: TID's open canals and laterals would be reshaped to a trapezoidal form and impervious geomembranes and shotcrete would be installed on the canal and lateral bottom and sides.

The benefits and costs of these alternatives were evaluated over a 100-year period, including any change in operations and maintenance costs and any replacement costs based on design life.

- The Piping Alternative is expected to cost \$42,689,000, assuming a decrease in operations and maintenance costs and no replacement over a 100-year period.
- The Canal Lining Alternative is expected to cost \$84,057,000, assuming an increase in operations and maintenance costs and full replacement once during a 100-year period.

Based on a detailed comparison of the benefits, costs, and environmental effects, the Piping Alternative was selected as the Preferred Alternative.

### **Project Piping Measures**

- Replace the remaining open sections of the Tumalo Feed Canal with 84-inch diameter HDPE pipe and 66.9 miles of open laterals with smaller diameter pressurized HDPE pipe.
- Upgrade 543 turnouts to pressurized delivery systems, install 119 new turnouts, and install 3 pressure-reducing valves to alleviate high pressures within the system.
- Construction would be completed in 7 project groups over an 11-year period, beginning with the Tumalo Feed Canal.

### **Project Benefits**

- Eliminate water seepage and evaporation losses from the open canals of up to 48 cfs (equivalent to 15,116 acre-feet or 4.9 billion gallons over the entire irrigation season).
- Improve water delivery reliability for TID's patrons.
- Water saved from the project (approximately 48 cfs) would be legally protected instream using Oregon's Allocation of Conserved Water Program, enhancing streamflow in 2.5 miles of Tumalo Creek during the irrigation season; 120 miles of Crescent Creek, the Little Deschutes River, and the Deschutes River outside the irrigation season; and 39 miles of the Deschutes River below Tumalo Creek.
- Enhanced summer streamflows in Tumalo Creek is expected to lower stream temperatures in Tumalo Creek and the Deschutes River. Enhanced winter streamflows in Crescent Creek, the Little Deschutes River, and the Deschutes River is expected to improve and increase available habitat for fish and aquatic species.
- Piping would allow for pressurized deliveries to farms in TID. Pressurized deliveries would reduce or eliminate the need for pumping to irrigate 7,002 acres. This would save approximately \$385,000 per year in pumping costs for patrons.
- Improve public safety by eliminating the risk of drowning in open canals.

### **Funding**

The District is requesting \$30,081,000 from the NRCS Watershed Program (PL 83-566). The expected funding sources for the TID – Irrigation Modernization Project are:

- NRCS Watershed Program
- Oregon Water Resources Department grant
- In-kind services from TID
- Oregon Department of Environmental Quality Clean Water State Revolving Loan Fund
- Oregon Watershed Enhancement Board grant