



**OREGON WATER RESOURCES DEPARTMENT  
WATER SUPPLY DEVELOPMENT ACCOUNT  
LOAN AND GRANT APPLICATION**

**I. Project Information**

Project Name: Farmers Irrigation District Reservoir Expansion and Pipeline Project

Type of Project: Reservoir storage volume expansion and pipeline project

Check box if project type includes storage

Funding Request Type:       Loan                               Grant

Funding Amount Requested: \$ \$3,000,000                              Total cost of project: \$ \$4,241,000

*Note: Grant funding requests must demonstrate cost match of at least 25% of total project cost. This may include in-kind.*

**II. Applicant Information**

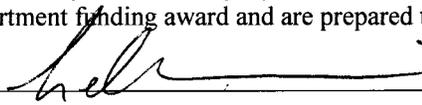
<b>Principal Contact: Les Perkins</b>	<b>Fiscal Officer: June Brock</b>
Address: <u>1985 Country Club Rd.</u>	Address: <u>Same</u>
<u>Hood River, OR 97031</u>	
Phone: <u>541-387-5261</u> Fax:	Phone: <u>Same</u> Fax:
Email: <u>les@fidhr.org</u>	Email: <u>june@fidhr.org</u>

<b>Involved Landowner 1: Hood River County</b>	<b>Involved Landowner 2: NA</b>
Address: <u>601 State Street</u>	Address:
<u>Hood River, OR 97031</u>	
Phone: <u>541-386-3970</u> Fax: <u>541-386-9392</u>	Phone:                              Fax:
Email: <u>doug.thiesies@co.hood-river.or.us</u>	Email:

*\*Please include a supplementary document that lists all additional involved landowners if applicable.*

**Certification:**

I certify that this application is a true and accurate representation of the proposed project work and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant certifies that they are aware of the requirements of an Oregon Water Resources Department funding award and are prepared to implement the project if awarded.

Applicant Signature:                               Date: January 19, 2016

Print Name: Les Perkins                              Title/Organization: Manager, Farmers Irrigation District

**III. Project Summary**

Please provide a description of the need, purpose and nature of the project. Include what the applicant intends to complete and how the applicant intends to proceed.

*The purposes of this project are to alleviate water supply shortages in Farmers Irrigation District (FID) and to increase instream flow for threatened winter and summer steelhead, spring Chinook, and coho. The project will also benefit the County's economy, tribal interests, agricultural productivity, recreation, and tourism. This will be accomplished by increasing storage in upper Kingsley Reservoir and replacing 11,500' of pipeline on the Lowline Pipeline.*

*FID has historically had water supply shortages in its upper and middle districts during dry years (see Attachment A for FID schematic) and results from the Hood River Basin Study (2015) indicate that these water shortages will be more frequent and severe in the future. This past summer, FID declared a drought emergency on July 7th and put patrons on a 3.5 days on, 3.5 days off rotation. Even under this extreme measure, FID's water supply to the upper and middle districts was exhausted before irrigation season ended. Over the past 25 years, FID has converted almost all of their distribution system from open canals to pipeline, and most FID orchardists are using high efficiency on-farm equipment. Hence, the projects proposed in this application represent some of the last conservation and infrastructure projects remaining to complete in the District. Furthermore, based on the FID Reservoir Expansion Feasibility Study (2015), funded by OWRD, these projects are the most cost-effective and realistic means of securing its water supply.*

*In conjunction with securing FID's water supply, this project will increase streamflow and habitat in Green Point Creek, West Fork Hood River, and the mainstem Hood River, which support ESA-listed threatened winter and summer steelhead, spring chinook, and coho. The West Fork Hood River subbasin contains the best salmonid spawning and rearing habitat in the Hood River Basin. Summer steelhead distribution is limited to the West Fork Hood River sub-basin, and this population is one of the weakest native stocks in the Hood River Watershed. Furthermore, Green Point Creek, a West Fork tributary, has the highest native fish density in the Hood River Watershed, making it a high priority for streamflow enhancement for winter steelhead and resident cutthroat trout.*

*This project consists of the two components described further below. Although the two components are in geographically different locations, the components work together synergistically to address FID's water supply needs while increasing comprehensive ecological function throughout the basin.*

#### *Component 1: Replace Lowline Pipeline*

*FID's Lowline Pipeline runs north from its diversion on Green Point Creek and provides water to patrons in the Middle District. It contains 11,500' of pipe that is badly damaged and leaks approximately 3 cfs. Replacing the section of pipe that has been damaged with long-lasting, modern pressure pipe will allow FID to increase reliability of irrigation water to patrons in its Middle District and increase instream flows in Green Point Creek by 1 – 3 cfs.*

#### *Component 2: Increase storage capacity of Upper Kingsley Reservoir*

*Raising the height of the upper Kingsley dam by 9' will add an additional 501 acre-feet of storage in the reservoir. This 501 acre-feet is an approximate 50% increase from existing storage volume but will require no new diversion of water. This is because water that is currently diverted at Rainy, Gate, and Cabin Creek diversions and passed through the reservoir for winter hydropower generation, will instead be stored for irrigation use later in the summer.*

*The two components of this project work together to increase summer streamflow during the time of year when streamflow is naturally at its lowest and consumptive use of water for irrigation is at its highest. It is necessary to combine the two projects to realize the maximum environmental benefit as well as maximum benefit to irrigated agriculture.*

#### *Key Tasks:*

- 1. Apply for additional storage water rights. Application for new storage rights is expected to take between 6 months and one year.*
- 2. Conduct assessment of newly inundated land value and initiate a land trade with Hood River County. The expanded reservoir will inundate land which is owned by Hood River County. The County has expressed interest and willingness to engage in a land trade.*
- 3. Perform soil testing and final design for reservoir expansion. FID will engage with a registered engineer to perform all of the tasks associated with the final design of the reservoir expansion.*
- 4. Final design for the Lowline Pipeline replacement. FID will engage with a registered engineer to perform all of the tasks associated with creating a final pipeline design.*
- 5. Finalize construction plans and bid specifications for the Lowline Pipeline replacement and expansion of the Upper Kingsley Reservoir. FID will work with a registered engineer to develop the construction plans and bid specifications.*

6. *Apply for all associated permits for construction. FID will apply for necessary permits identified during the final design phase, which will include removal fill permit and local land use permit.*
7. *Solicit contractor bids for the Lowline Pipeline replacement and expansion of the Upper Kingsley Reservoir. FID will formally solicit bids from qualified contractors.*
8. *Replace Lowline Pipeline. Chosen contractor will remove existing pipe and install new pipe to engineered specifications.*
9. *Construct upstream dike on upper reservoir. Chosen contractor will construct a new dike on the upstream end of the upper reservoir to accommodate new water surface elevation.*
10. *Expand upper reservoir. Chosen contractor will increase the dam crest of the existing dam.*

## IV. Project Specifics

**Instructions:** Answer all questions in this section by typing the answer below the question, using additional space as needed.

- 1. Describe how the project will provide public benefits in each of the three public benefit categories.** Project applications will be scored and ranked based on the economic, environmental and social/cultural public benefits identified below. Describe the conditions prior to and after project implementation to demonstrate changes resulting from the project. Descriptions should be quantitative when possible. Information provided must be sufficient to allow evaluation of the public benefits of the project. **Please see the Public Benefit and Evaluation Guidance document for a description of how public benefits will be evaluated.** Applications that do not demonstrate public benefit in each of the three categories (economic, environmental, social/cultural) will be deemed incomplete. Leave blank any categories that are not applicable to project.

### *Economic Benefits ORS 541.673(2)*

(a) Job creation or retention:

*This project is critical to the long-term retention of approximately 120 agriculture-based jobs in Farmers Irrigation District. (This estimate is based on 1 FTE/11 acres and does not include the jobs supported by packing, delivery, and sales of the harvested fruit.) By stabilizing irrigation water availability in FID's upper and middle districts through increased water storage and conservation, orchardists on 1305 acres will be able to continue to support their families and hire workers to help with irrigation, pruning, and harvesting. The farms in FID are family owned, typically ranging in size from 20 to 80 acres. Water shortfalls during the growing season can cause long-term damage to trees and/or affect fruit size and quality, all of which could be devastating to these small but otherwise financially sound operations. (The cost to plant fruit trees ranges from \$5,000 to \$12,000/acre.)*

*This project will also support local construction jobs with an estimated 16 FTE being supported for 4 months during implementation of the reservoir and pipeline projects.*

*The economy of Hood River County is heavily dependent upon irrigated agriculture, with 1/3 of personal incomes in the County coming from the fruit industry (Radtke et al, 2000). In 2012, gross agricultural commodity sales in Hood River County were \$112,094,000 (<http://oain.oregonstate.edu/>). This is a 100% increase since 1999, demonstrating the growth of jobs and economic impact of the tree fruit industry in the Hood River Valley. Vital to the continued growth in agricultural production and associated jobs is a reliable water supply that supports the existing agricultural base both now and in a future warmer, drier climate.*

(b) Increases in economic activity:

*This project will have an exceptional, long-term positive effect on economic activity for farmers within FID by increasing the reliability of irrigation water. In addition, the local construction industry will significantly benefit from the pipeline and reservoir projects. This project will also boost long-term economic activity for the local and regional economy, which is heavily dependent on irrigated agriculture. Finally, improved instream flows will benefit sport and subsistence fishing, recreation, and tourism.*

*Water security for agricultural use is essential to maintaining the family owned farms in FID. Without a reliable water source, it is difficult to plan for the future. As the next generation of farmers move into leadership roles, they must know that they have a water supply that will allow their farms to operate into the future. As with any business, investing in the future depends heavily on confidence in the ability to successfully operate into the future.*

*The agricultural acres in the upper and middle districts (i.e., 1305 acres) represents 5% of the Hood River Valley's agricultural base and therefore contributed over \$5 million in gross agricultural sales in 2012. The*

*estimated value added as the fruit crop moves through the first handler level is two times the gross agricultural sales (Oregon State University Extension, 2007), which means that the upper and middle district's \$5 million in gross sales has at least a \$15 million value to the local economy. Maintaining a reliable water supply therefore contributes to both job growth, as described above, and increased economic activity through processing and packing, transportation and handling, marketing, management, and local tax revenue. This effect reverberates through the state and regional economy, as the Hood River Valley produces roughly 25% of the nation's pears.*

*From a fisheries perspective, increases or even stabilization of salmon and steelhead runs brings economic growth through the sport fishing industry. The Confederated Tribes of the Warm Springs tribal members could also benefit from increased or improved salmon and steelhead runs as the Hood River is a traditional fishing ground and the CTWS has ceded fishing rights in the Hood River.*

(c) Increases in efficiency or innovation:

*The replacement of the Lowline pipeline will result in an exceptional increase in efficiency for FID by reducing water loss by at least 15% and saving over 200 hours/year of staff time spent repairing and monitoring the aging section of pipeline.*

*The expansion of the upper reservoir will allow FID to operate a larger reservoir with improved operational features which will also save staff time. The project will include upgraded telemetry capabilities to allow for remote monitoring, eliminating costs associated with frequent site visits. Upgraded telemetry will also provide for better flow records to more accurately assess water use and needs from year to year.*

(d) Enhancement of infrastructure, farmland, public resource lands, industrial lands, commercial lands or lands having other key uses:

*This project provides exceptional enhancement of an existing reservoir (i.e., 50% increase in capacity) and conveyance system, making FID's infrastructure more efficient, reliable, and resilient to changing environmental conditions. The reservoir expansion also provides an enhancement of the surrounding public lands (Hood River County forestland) by increasing recreational opportunities for the public. Hood River County is interested in expansion of the campground associated with the Upper Kingsley Reservoir, which would provide for expanded and improved overnight camping.*

*This project will significantly increase the property value of farmland in FID's upper and middle districts by enabling FID to provide reliable water. Furthermore, from a big-picture perspective, added ecosystem resiliency to climate change will be realized through the decrease in diversion and consequent increased stream flow in Green Point Creek and the West Fork Hood River, which will decrease water temperatures, further restore and protect cold-water habitat, and ameliorate impacts from drought.*

(e) Enhanced economic value associated with tourism or recreational or commercial fishing, with fisheries involving native fish of cultural significance to Indian tribes or with other economic values resulting from restoring or protecting water instream:

*The Hood River Watershed is part of the ceded lands of the Confederated Tribes of the Warm Springs Reservation (CTWS). To improve fish harvest opportunities for tribal members, CTWS created the Hood River Production Program (HRPP), which includes raising of winter steelhead and spring Chinook smolts at a hatchery located in the Middle Fork Hood River Sub-basin. The HRPP and associated CTWS/BPA funding has resulted in the investment of millions of dollars into the Basin, which has helped pay for numerous water conservation and habitat restoration projects. These conservation projects are invariably constructed by local companies, which add significant value to the local economy. Ongoing water conservation and increased summer stream flow is vital to the continued investment of CTWS funding and success of the HRPP.*

*Hood River County has a significant tourism component to the local economy. Statistics gathered by Dean Runyan and Associates for the Hood River Chamber of Commerce shows an economic impact of \$87.4 million to the local economy of Hood River County in 2014 from tourism. Total direct employment related to tourism in Hood River County was calculated at 1,040 full time jobs. The vast majority of the tourism industry is focused on*

agriculture or recreation. When the local agricultural system is strengthened, so is the agricultural tourism economy. Recreational tourism in Hood River County has a strong focus on water sports. The Hood River is a favorite kayaking and swimming resource and any in-stream flow enhancement will enhance the opportunities associated with water focused recreation.

Finally, recreational fishing as well as CTWS harvest opportunities would be enhanced by increased in-stream flow. Increased flow generally leads to better production and survival numbers which in turn leads to overall improved return of adult fish to spawn.

(f) Increases in irrigated land for agriculture:

*This project will not increase irrigated land. FID is focused on increasing water resource reliability on its existing land base.*

### **Environmental Benefits ORS 541.673(3)**

(a) A measurable improvement in protected streamflows that accomplishes one or more of the following:

- (A) Supports the natural hydrograph;
- (B) Improves floodplain function;
- (C) Supports state- or federally-listed sensitive, threatened or endangered fish species;
- (D) Supports native fish species of cultural importance to Indian tribes; or
- (E) Supports riparian habitat important for wildlife:

*The Lowline Pipeline currently leaks approximately 3 cfs, which is roughly 15% of the average monthly low flow in Green Point Creek. Replacing the pipeline will allow FID to decrease summer irrigation diversion from Green Point Creek by 1.5 cfs (and use the other 1.5 cfs to meet historic shortages), which would increase streamflow in Green Point Creek by 7.5%. This will be a significant improvement as Green Point Creek has the highest native fish densities in the West Fork Hood River, including ESA-listed threatened winter steelhead. The additional flow will also benefit the West Fork Hood River, which hosts summer steelhead, also listed threatened and one of the weakest native stocks in the Hood River Basin, and threatened spring Chinook.*

*The Hood River Aquatic Habitat Restoration Strategy (Shively 2006), Hood River Subbasin Plan for Fish and Wildlife (Coccoli 2004), and the Lower Columbia River Recovery Plan for Oregon Populations of Salmon and Steelhead (ODFW, 2010) identified in-stream flows in the Hood River Basin, including the West Fork, as a primary limiting factor to recovery of threatened salmon and steelhead. Irrigation withdrawals for agriculture were identified as the main contributing factor to summer low flows. Overall, increasing summer and fall stream flows in Green Point Creek and the West Fork Hood River will result in significant improvement to spawning and rearing habitat for ESA listed winter and summer steelhead, spring chinook, and resident cutthroat trout.*

*A). Components 1 and 2 both support the natural hydrograph. Results from the Hood River Basin Study and the Hood River Watershed Action Plan stress that increasing summer streamflow closer to the natural state should be the number one priority in the basin for fisheries recovery. Increasing the storage volume in Upper Kingsley Reservoir and replacing the Lowline Pipeline decreases FID's reliance on live summer streamflow, thereby increasing summer streamflow.*

*B) Not applicable*

*C) Similar to the answer provided in Section A above, both components of this project will increase summer streamflow, which has been identified as critical to ESA-listed threatened species in the basin.*

*D) Spring chinook and winter steelhead are culturally important to the CTWS and they have invested millions of dollars in fish habitat improvement projects in the upper West Fork Hood River. The critical limiting factor for these species is low summer streamflow, which both components of this project will increase.*

*E) Water left in Greenpoint Creek in the critical summer months will support riparian habitat.*

(b) A measurable improvement in groundwater levels that enhances environmental conditions in groundwater restricted areas or other areas:

*This project will protect groundwater levels by reducing the desire or need for agricultural producers to seek new wells or more heavily utilize existing wells. The vast majority of agricultural land in the Hood River Valley is irrigated with surface water. By maintaining sufficient irrigation water quantity, through increased storage and more efficient infrastructure, we anticipate that growers will not resort to the time or expense of pumping groundwater. To evaluate current groundwater levels, OWRD and the Hood River Watershed Group (HRWG) have been monitoring 52 wells around the Valley, which will enable us to track groundwater levels over the long-run and better predict whether more groundwater use could be an option for sustainably augmenting irrigation and instream flows in the future.*

(c) A measurable improvement in the quality of surface water or groundwater:

*This project will achieve significant water quality benefits. The reservoir expansion and Lowline Pipeline replacement components will both increase summer streamflow, which will result in cooler stream temperatures. The Hood River has multiple temperature total maximum daily load (TMDL) standards that are regularly exceeded in the summertime. These TMDLs are exceeded due to a combination of high ambient air temperature, high solar radiation, and low streamflows. Studies performed in the Hood River Basin and elsewhere show that increases in streamflow directly lead to lower stream temperature. These decreases in stream temperatures are caused by the greater thermal mass that must be warmed with higher streamflows and the shorter period of warming due to the greater velocities associated with higher streamflow volumes.*

*The reservoir expansion will increase summer streamflows by decreasing FID's reliance on live summer flow, plus the 25% of storage that will be dedicated instream as part of the project. The Lowline Pipeline currently leaks approximately 3 cfs, which is roughly 15 percent of the average monthly low flow in Green Point Creek. In the anticipated scenario where FID decreases summer irrigation diversion from Green Point Creek by 1.5 cfs (and uses the other 1.5 cfs to meet historic shortages), streamflow in Green Point Creek would be increased by 7.5%.*

*Replacing the Lowline Pipeline will also eliminate sediment delivery to the West Fork Hood River from occasional washouts along the existing damaged pipeline.*

(d) Water conservation:

*Replacement of the Lowline Pipeline is expected to reduce water use by 15 to 25 percent, while still being able to meet the same level of demand. Multiple flow measurements and mass balance calculations have estimated that the existing pipeline loses 3 cfs to leakage. Replacement of this old pipe will eliminate all leakage, and hence conserve 3 cfs of water. Lowline Pipeline typically sees a flow range from 12 to 20 cfs, and hence 3 cfs of water conservation is 15 to 25 percent.*

(e) Increased ecosystem resiliency to climate change impacts:

*Both components of this project are specifically designed to result in exceptional increases in ecosystem resiliency to climate change. Results from the recently completed Hood River Basin Study (BOR 2015) identified the key impacts of climate change to be decreased snowpack, higher winter streamflows, and lower summer streamflows, while multiple studies have identified low summer streamflow as the primary limiting factor in the basin's fisheries. Increasing the storage in Upper Kingsley Reservoir is specifically designed to decrease FID's reliance on live summer streamflow. Replacing the Lowline Pipeline will conserve 3 cfs of water. Leaving more water instream will increase ecosystem resiliency by reducing stream temperatures and increasing available habitat. It will also provide more water resource reliability and resiliency for FID's patrons.*

(f) Improvements that address one or more limiting ecological factors in the project watershed:

*The Hood River Aquatic Habitat Restoration Strategy (Shively 2006), Hood River Sub-basin Plan for Fish and Wildlife (Coccoli 2004), and the Lower Columbia River Recovery Plan for Oregon Populations of Salmon and Steelhead (ODFW, 2010) identified low streamflow as a primary limiting factor to the recovery of ESA-listed threatened salmon and steelhead. Irrigation withdrawal for agriculture was identified as the main contributing factor to summer low flows.*

**Social/Cultural Benefits ORS 541.673(4)**

(a) The promotion of public health and safety and of local food systems:

*Unreliable water ultimately equates to an unreliable national food system, and Hood River County's contribution to national food production accounts for 25% of the U.S. pear crop for fresh consumption. Furthermore, FID includes substantial acreage dedicated to blueberries, all of which account for a substantial portion of local and often organically grown food in the Hood River Valley. The agricultural community in FID will directly benefit from the completion of this project, but so too will the Hood River Valley economy, ecology, and culture at-large. This is evidenced by successful pipeline and on-farm conservation projects completed by FID and Middle Fork Irrigation District, which not only exceeded water conservation expectations but also decreased greenhouse gas emissions, enhanced drought resiliency, decreased instream water temperatures, decreased sediment delivery to streams, enhanced on-farm and community economics, and preserved cultural aesthetics on a basin-wide scale. As the deleterious impacts on public health, as a function of global warming in general, become increasingly self-evident, the link between effective water conservation projects and public health, safety, and local food systems becomes clear. The FID Storage Expansion and Pipeline Project will thus provide a critical step in the right direction in this regard.*

(b) A measurable improvement in conditions for members of minority or low-income communities, economically distressed rural communities, tribal communities or other communities traditionally underrepresented in public processes:

*This project will provide exceptional benefits to both tribal and minority communities in the Hood River Valley. In addition, CTWS was integral to the development of this project and is providing matching funds for its implementation. The project was also presented for approval to the Hood River Watershed Group (HRWG), which is Hood River's watershed council and open to all members of the community. Meetings and agendas are published in the Hood River News.*

*Tribal members harvest salmon and steelhead from the Hood River for subsistence and ceremonial purposes. Tribal fishing opportunity has become severely restricted because of low fish populations and the need to protect weak or threatened stocks. Instream flows have been identified as a primary limiting factor to the recovery of salmon and steelhead, and an increase to instream flow in the West Fork Hood River offers meaningful stream enhancement potential. Furthermore, the success of this and similar flow restoration projects is pivotal to the success of CTWS' Hood River Production Program and ultimate increase in tribal fishing opportunity in the Hood River Watershed.*

*Hood River County has a substantial and growing Hispanic population making up approximately 30% of the entire population. Migrant workers (primarily from Mexico) began arriving in the Hood River Valley in the early to mid 1970's to work in the harvest of tree fruit. Since that time, descendants of the original migrants, as well as others moving to the area for work, have become established and valued members of the community, taking leadership roles in agriculture, business and community organizations. Despite the achievements made by some in the Hispanic population, there still exists a problem with the living conditions and access to services for members of the Hispanic population at a disproportionate rate to the rest of the population.*

*Irrigated agriculture was historically (and still is) the primary draw that attracts migrant labor. Irrigated agriculture has provided opportunities for economic growth for many who have chosen to make the Hood River Valley their permanent home. Some families have chosen to open businesses, some have purchased or leased their own acreage, and many have moved into leadership or management roles with associated businesses. Labor*

*shortages in recent years have led to increased pay and improvement in housing and working conditions in the agricultural sector and this trend is expected to continue. Water supply security and efficiency of application both directly affect the long term viability of irrigated agriculture. The Hispanic community is just beginning to reach a place where social and economic parity is possible across the entire community. Irrigated agriculture will continue to be the primary conduit for economic and social growth within the Hispanic community and therefore improving the long term security and viability of irrigated agriculture in Hood River County will lead to improvement in conditions for members of a minority population that has historically had disproportionate representation in the low-income end of the economic spectrum.*

(c) The promotion of recreation and scenic values:

*The Hood River Valley is known for its scenic beauty as well as the vast array of recreational opportunities. Along with the pure geographic beauty of the Hood River Valley, irrigated agriculture provides a stunning landscape throughout the seasons. In the spring, the entire valley is carpeted in white and pink pear, apple, and cherry blossoms, which attracts people from around the world. Tree fruit are a core part of the scenic beauty and culture of Hood River County.*

*Many opportunities exist for recreation in Hood River County. Many of the most popular forms of recreation revolve around water. Adequate stream flows are necessary for rafting, swimming, and kayaking and also to support populations of fish that are essential to the sport fishing industry. In a 2015 survey conducted by the Hood River Valley Residents Committee, 562 individuals responded to questions regarding their relationship to the Hood River and recreational opportunities. The survey respondents were from both the local area and from outside the local area and covered the full spectrum of age and economic demographics. All respondents stated an affinity for the natural beauty of the river and the vast majority cited the importance access for water focused recreation such as swimming, kayaking, and fishing.*

*Increasing storage in Upper Kingsley Reservoir will improve camping opportunities, as Hood River County plans to improve its campground next to the reservoir after the completion of this project.*

(d) Contribution to the body of scientific data publicly available in this state:

*FID, HRWG, ODFW and CTWS have a long history of collecting stream flow and temperature data in the West Fork Hood River to evaluate project effectiveness, which will be publicly available upon request. Furthermore, the HRWG will continue to track progress for all its basin partners as part of its Watershed Action Plan, which is updated every 5 years and available on the HRWG's website ([www.hoodriverswcd.org/hrwg](http://www.hoodriverswcd.org/hrwg)). Information regarding conservation work completed with FID's system is posted on FID's website, [www.fidhr.org](http://www.fidhr.org).*

*The FID project is consistent with the Hood River Watershed's Action Plan, and, via its water conservation projects to date, FID has returned about 2,500 acre feet of water to summer instream flow in the Hood River. As with the other Hood River Basin irrigation districts, FID's fully enclosed system offers the opportunity to implement a fully metered, use-based billing system; a radical, progressive, and unprecedented step toward water conservation among irrigation districts in Oregon.*

(e) The promotion of state or local priorities, including but not limited to the restoration and protection of native fish species of cultural significance to Indian tribes:

*The Hood River is an essential basin within Oregon for recovery of the Lower Columbia Salmon and Steelhead ESU. This is due to the unique genetics and life history diversity of its populations (e.g., the basin contains the only population of summer steelhead in the Lower Columbia ESU). With the exception of winter steelhead, the current extinction risks of salmon and steelhead populations within the Hood are very high (ODFW 2010). A primary limiting factor to recovery is low streamflow in the summer. The primary threats to streamflow are withdrawals for agriculture and off-channel hydropower production, as well as predicted reduction in summer streamflow from climate change. Tribal, state, and federal fisheries agencies estimate that recovery of Hood River winter steelhead and spring Chinook populations is likely with appropriate restoration and conservation actions. Chief among these is restoration of summer instream flows.*



(f) Watershed  
*Ditch Creek, which is a tributary to the Hood River*

(g) River/Stream Mile (where applicable)  
*Ditch Creek, but reservoir is above any perennial streams*

3. (a) Will the project result in a physical change on private land?  Yes  No

If yes, attach evidence that landowners are aware of and agree to the proposal. List attachments below.

(b) Will the project result in monitoring on private land?  Yes  No

If yes, attach evidence that landowners agree to the proposal and are aware that monitoring information is public record. List attachments below.

4. Provide a project schedule, including beginning and completion dates. Use the following table as a guide. Attach a separate sheet to application if needed.

**Estimated Project Duration: July 1, 2016 to December 31, 2018**

Place an “X” in the appropriate column to indicate when each Key Task of the project will take place.

Project Key Tasks	2016				2017				2018 & Beyond
	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr	
<i>Apply for additional storage rights</i>		X							
<i>Soil testing and final design</i>			X	X					
<i>Finalize construction plans and specifications</i>				X	X				
<i>Solicit contractor bids</i>						X			
<i>Replace Lowline Pipeline</i>							X	X	
<i>Construct upstream dike</i>							X	X	
<i>Expand upper reservoir</i>							X	X	X

5. Describe any conditions that may affect the completion of the project.

*Although not anticipated to affect the project since Hood River County is currently evaluating the most efficient manner in which to trade FID for the land required for the reservoir expansion, this project is dependant on this HRC land exchange so as to move forward.*

**6. Attach a completed feasibility analysis if one has been completed.**

*The Upper Kingsley Reservoir Expansion Feasibility Study is attached. This study was funded by OWRD and completed in 2015. The feasibility study recommended the project components detailed in this application, and found no fatal flaws in being able to implement the components immediately.*

**7. Provide suggestions for interim and long-term project performance benchmarks.**

*The following standards will be used for benchmarks:*

*Short-term:*

*Goal #1: Complete project within schedule and budget. Milestones to achieve this goal will be evaluated as follows:*

- A. Obtain HRC grade-fill permit by July 1, 2016. (graded as pass/fail).*
- B. Obtain OWRD water rights permits July 1, 2016. (graded as pass/fail).*
- C. Obtain Seasonally Varying Flow (SVF) agreement by July 1, 2016 (graded as pass/fail).*
- D. Commence soil testing within two months of signing SB 839 grant contract. (graded as pass/fail).*
- E. Finalize construction drawings, specifications, and contract documents by January 31, 2017. (graded as pass/fail).*
- F. Secure contractor by March 31, 2017. (graded as pass/fail).*

*Long-term:*

*Goal #1: Maintain agriculture as Hood River County's main economic driver. This benchmark will be evaluated as follows:*

- A. The elimination of water shortages in FID. (graded as pass/fail).*
- B. The ability of FID to maintain existing irrigated acreage. (graded as pass/fail).*

*Goal #2: Maintain and enhance native fish populations, specifically ESA-listed steelhead in Greenpoint Creek and West Fork Hood River, and spring chinook in the West Fork Hood River. This goal will be evaluated as follows:*

- A. Ability to meet ODFW's Greenpoint Creek minimum streamflow target. (graded as pass/fail).*
- B. Reduction (with a longer-term goal of elimination) of low streamflow during irrigation season as a limiting factor in fisheries recovery. This metric cannot be graded as pas/fail, but will continue to be evaluated in consultation with ODFW, OWRD, CTWS, HRWG and other stakeholders in the basin. (graded qualitatively, assessed semi-annually by basin stakeholders).*

**8. Provide letters of support for the proposed project (list in this space and attach to application).**

*Letters of support are attached from:*

- 1. Hood River County*
- 2. Hood River Watershed Group*
- 3. Oregon Department of Fish and Wildlife*
- 4. Confederated Tribes of the Warm Springs*

**9. Describe partnerships and collaborative efforts associated with the project.**

*These projects have been identified and supported as high priority projects by several groups, as described below:*

*Component #1: Replacing Lowline Pipeline:*

*Lowline Pipeline is the only remaining pipeline in FID's distribution system that leaks a significant amount of water. Because this pipeline diverts from Green Point Creek, which is home to ESA-listed winter steelhead, as well as a tributary to the West Fork Hood River, it has been identified in FID's Water Management and Conservation Strategy, the Hood River Watershed Action Plan, the Hood River Basin Study, and the Hood River Basin Water Conservation Strategy as a high priority action. The above studies have been supported and endorsed by the Confederated Tribes of the Warm Springs, Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, Hood River County, and the Hood River Watershed Group.*

*Component #2: Adding storage volume and structural modifications to the upper reservoir:*

*The need for structural modifications has been identified repeatedly since the dam's construction in 1937, while the need to increase the overall storage volume has been highlighted in the Hood River Basin Study, Hood River Watershed Action Plan, and Hood River Water Conservation Strategy. These studies have been supported and endorsed by the Confederated Tribes of the Warm Springs, Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, Hood River County, and the Hood River Watershed Group.*

**10. Consultations/communications with affected Indian tribes and with the Legislative Commission on Indian Services regarding the project.**

**Has the Legislative Commission on Indian Services been contacted to identify tribes affected by the project?**

Yes     No

**Please provide correspondence as an attachment to this application.**

*see attached*

**Has there been consultation/communications with affected Indian tribes?**

Yes     No

**Please provide a description of consultation/communication that occurred and attach documents to this application if applicable.**

*Chris Brun with the Confederated Tribes of the Warm Springs has been consulted with and has provided a letter of support for the project.*

**11. Provide a description of:**

**(a) Required local, state and/or federal permits and/or authorizations for project implementation that have been secured to date. Please attach secured permits/authorizations to the application.**

*Project construction is dependent on obtaining SB 839 funds, and therefore no permits have yet been obtained. FID has, however, consulted with all agencies requiring permits and set forth a timeline to secure them.*

**(b) Required local, state and/or federal permits and/or authorizations that will be secured in the future to implement the project. Describe efforts to date in securing these permits and/or authorizations.**

*Federal:*

No federal permits are required.

State:

A. Water rights:

OWRD requires a water rights place of use transfer for moving storage volume from the Lower reservoir into the Upper reservoir. OWRD also requires a storage water right for the additional 500 acre-feet of storage. Although the diversion rate from the river does not change, the type of use changes, and OWRD may also require a type of use transfer.

B. Other:

OWRD requires construction plans and specifications stamped by a registered professional engineer. The FID engineer of record (and also the specific engineer for this project) is Niklas Christensen of WPN.

County:

Hood River County Planning Department has been consulted and informed FID that the only permit required is a the attached grade-fill permit. This permit application will be filed with Hood River County by July 1, 2016.

**12. Provide any additional supplemental materials to demonstrate ability to implement the project. Examples include project plans and specifications, engineering details and [water availability analysis](#). List documents in this space and attach to application.**

The following documents are attached to demonstrate the ability to implement the project:

[order of attachments below needs to be edited to match text in document; complete before final submittal]

1. Vicinity map of project components.
2. Schematic of FID water supply system.
3. Cost estimate of project components.
4. Upper Kingsley Reservoir Expansion Feasibility Study.
6. OWRD Water Availability Analysis.
7. Cross-section of planning-level design.
8. Inundation area map.
10. Photos of condition of Lowline Pipeline.

**V. Storage Project Requirements (if not a storage project continue to Section VI)**

For any storage project please contact Water Resources Grant Administrator, Jon Unger, at (503) 986-0869 prior to completing the application.

13. Storage Project Type:     Above Ground     Below Ground

14. If above-ground storage, would the proposed storage project be located in-channel?

Yes     No     N/A

**15. Identify the capacity in acre-feet of the proposed storage project.**

*501 acre feet of new storage capacity.*

**16. Has a water right application been filed for the proposed storage project?**

Application not yet made.

Water right application made; permit not yet issued      Application #

Permit issued.      Application #      Permit #

**For Questions 17 & 18 answer the following:**

(a) Does the proposed storage project impound surface water on a perennial stream?

Yes     No     Uncertain

(b) Does the proposed storage project divert water from a stream that supports state- or federally-listed sensitive, threatened or endangered fish species?

Yes     No     Uncertain

(c) Does the proposed storage project divert more than 500 acre-feet of water annually?

Yes     No

**17. Water Dedicated Instream**       N/A

**For above ground storage projects seeking grant funding:** If you answered “yes” to any of the questions posed in a-c above a minimum volume of water equal to at least 25% of the stored water must be dedicated to instream use.

Identify percentage of stored water to be dedicated to instream use.

**25 %**

*Note: Any storage project dedicating 25% of stored water to instream use will automatically receive a median score in the environmental public benefit category with the opportunity to demonstrate additional environmental benefit to increase the score.*

**18. Seasonally Varying Flow Prescription**

**For all storage projects:** If you answered “yes” to any of the questions posed in a-c above the project will need a **Seasonally Varying Flow (SVF) Prescription**, determining the duration, timing, frequency and volume of flows (including ecological baseflow), necessary for protection and maintenance of biological, ecological, and physical functions outside of the official irrigation season. The initial step in defining the SVF for the project is to schedule an SVF meeting with OWRD. For assistance and more information please contact Water Resources Grant Administrator Jon Unger at (503) 986-0869.

Identify whether the storage project will need a Seasonally Varying Flow Prescription.

Yes     No     Uncertain

## VI. Environmental Public Benefit for Conservation Projects Dedicating Water Instream (if not a conservation project continue to Section VII)

19. Identify percentage of conserved water to be dedicated to instream use.     N/A

25 %

*Note: Any project that conserves water and dedicates at least 25% of the conserved water quantity to instream use will automatically receive a median score in the environmental public benefit category with the opportunity to demonstrate additional environmental benefit to increase the score. Water dedicated to instream use must be permanently placed instream and protected by the Oregon Water Resources Department.*

## VII. Financial Information

***For Loan Applicants*** – Since loan applications do not require cost match, loan applicants who do not offer a cost match need not complete Section A and can disregard the match funding columns in Sections B and C. Budget and costs of key tasks must be identified in sections B & C. Loan applicants will be required to provide additional financial information related to their ability to repay the loan. This request for information will take place after the scoring and ranking process for those projects that are recommended for funding.

***For Grant Applicants*** – Complete Sections A, B and C.

**Section A – Cost Match Information**

Applicants must demonstrate a minimum 25% funding match based on the total project cost. The match may include: a) applicant funds or secured funding commitment from other sources; b) pending funding commitment from other sources; and/or c) the value of in-kind labor, equipment rental, and materials essential to the project. For secured funding, the applicant must attach a funding award letter from the match funding source that specifically mentions the dollar amount shown in the “Amount/Dollar Value” column. For pending resources, documentation showing a request for the matching funds must accompany the application. Funds expended prior to grant agreement are not reimbursable nor do they qualify for cost match without prior authorization by the Department.

<p><b>In the Type column below matching funds may include:</b></p>	<p><b>In the Status column below matching funds may have the following status:</b></p>
<ul style="list-style-type: none"> <li>• <b>Cash</b> - Cash is direct expenditures made in support of the feasibility study by the applicant or partner*.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Secured</b> - Funding commitments already secured from other sources.</li> </ul>
<ul style="list-style-type: none"> <li>• <b>In-Kind</b> - The value of in-kind labor, equipment rental and materials essential to the feasibility study provided by the applicant or partner.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Pending</b> - Pending commitments of funding from other sources. In such instances, Department funding will not be released prior to securing a commitment of the funds from other sources. Pending commitments of the funding must be secured within 12 months from the date of the award.</li> </ul>

\* “Partner” means a non-governmental or governmental person or entity that has committed funding, expertise, materials, labor, or other assistance to a proposed project planning study. OAR 690-600-0010.

<p><b>Match Funding Source</b> (if in-kind, briefly describe the nature of the contribution)</p>	<p><b>Type</b> (✓ One)</p>	<p><b>Status</b> (✓ One)</p>	<p><b>Amount/ Dollar Value</b></p>	<p><b>Date Match Funds Available</b> (Month/Year)</p>
<p><i>Oregon Department of Environmental Quality State Revolving Loan Fund</i></p>	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	<p>\$1,196,630</p>	<p>January 16</p>
<p><i>Farmers Irrigation District</i></p>	<input type="checkbox"/> cash <input checked="" type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	<p>\$44,370</p>	<p>January 16</p>
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
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