



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

### I. Project Information

Project Name: Powder Valley Connector

Type of Project: Water Conservation/Infrastructure  Check box if project type includes storage

Funding Request Type:  Loan  Grant

Funding Amount Requested: \$ 1,076,000 Total cost of project: \$ 1,440,000

*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: Andrew Umpleby</b>	<b>Fiscal Officer: Andrew Umpleby</b>
Address: <u>690 E Street</u>	Address: <u>690 E Street</u>
<u>North Powder, Oregon 97867</u>	<u>North Powder, Oregon 97867</u>
Phone: <u>(541) 898-2366</u> Fax: _____	Phone: <u>(541) 898-2366</u> Fax: _____
Email: <u>pvwater@eoni.com</u>	Email: <u>pvwater@eoni.com</u>

<b>Involved Landowner 1: Jim Newman</b>	<b>Involved Landowner 2: Myron Miles</b>
Address: <u>14386 Muddy Creek Lane</u>	Address: <u>70440 Miles Ranch Road</u>
<u>Haines, Oregon 97833</u>	<u>North Powder, Oregon 97867</u>
Phone: <u>541-805-8503</u> Fax: _____	Phone: <u>541-898-2140</u> Fax: _____
Email: _____	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: 1/15/2016

Print Name: Andrew Umpleby Title/Organization: Manager-Powder Valley Water Control 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 Powder Valley Water Control District (PVWCD) is a group of irrigators located in Baker and Union Counties seeking to reduce water loss from the MaHarry-Blevins Ditch, an 8,090 foot manually controlled open irrigation ditch, by constructing a 6,980-foot long 36-inch diameter pipeline with automated control valves to replace the ditch from Wolf Creek Reservoir to the P-2 pipeline inlet. Water is lost through degrading banks, rocky stretches of ditch where*

water can infiltrate through the rocks, soil absorption, and evaporation. Currently, water loss from the open ditch represents an economic loss of up to \$540,000 in crops each year per the 2013 System Optimization Study (see attached). When completed, the pipeline will result in the conservation of up to 1,350 acre-feet (Ac-Ft) of water each irrigation season, which will largely be allowed to remain in Wolf Creek Reservoir. This volume of water represents a staggering 13 percent of the total volume of the reservoir. The reservoir is an important habitat area for bull trout, an endangered species. The reservoir is also a popular destination that supports tourism and local recreation and provides essential water storage services to the rural community of North Powder.

The PVWCD owns and manages two reservoirs, three ditches, and five pipelines. The Carnes Ditch and Coughanour Ditch are both diversions from Anthony Creek in the Elkhorn Mountains that carry water to both Pilcher Creek Reservoir and Wolf Creek Reservoir. Wolf Creek Reservoir sits approximately seven miles from North Powder and provides water for 36 landowners using the W-1 pipeline, W-3 pipeline, Wolf Creek Channel, and MaHarry-Blevins Ditch. This ditch serves as a conveyance for water to reach the inlet of the P-2 pipeline. The 1.5-mile stretch of the MaHarry-Blevins Ditch from Wolf Creek Reservoir to the P-2 pipeline inlet is the portion that has been designed for a new pipeline.

In 1976, the P-2 pipeline was built and connected to the MaHarry-Blevins Ditch to convert 2,900 acres from flood irrigation to sprinklers and increase irrigation efficiency. With seven laterals, this pipeline provides water to 15 landowners who grow potatoes, alfalfa, mint, grains, and pasture for cattle. These crops are known to require a significant amount of water to produce a healthy crop. In July and August, during the heat of the summer, up to twice as much water than is used by the crops is released from Wolf Creek Reservoir into the MaHarry-Blevins Ditch. This additional water is lost to evaporation and system inefficiencies. In the 2013 System Optimization Study conducted by a local engineering firm (see attached), it was found that the ditch may lose up to 6 Ac-Ft per day, which is about 2,000,000 gallons per day. The average loss in the ditch is approximately 14 percent and may be as high as 22 percent, depending on the amount of flow released from Wolf Creek Reservoir into the MaHarry-Blevins Ditch. This loss creates a problem as Wolf Creek has been designated by the U.S. Fish and Wildlife Service as critical habitat for bull trout. Water has been particularly scarce the last few years as the state of Oregon and Baker and Union Counties have been designated as having drought conditions.

With the current open ditch system, each landowner must contact the PVWCD manager and put an order in for the flow of water they would like to receive. This can be problematic if a landowner fails to make contact with the manager. Water is wasted when a landowner fails to notify the manager of a shutdown of the system, which may be due to changed plans, electrical failure, or equipment malfunction. This waste would not occur with a closed pipeline system. A different scenario occurs when a landowner turns on his irrigation system without letting the manager know; then a shortage of water occurs that affects every landowner on the system. Another disadvantage to an open ditch system is that contaminants such as livestock waste, algae, weed seeds, and other plant material enter the irrigation water. These contaminants affect water quality, can plug up the system, and create other maintenance issues. When contaminated irrigation water is used on crops, the results can include a negative effect on plant growth and also open the door for invasive weeds and other contaminants to spread throughout the cropland.

The W-1 pipeline was professionally engineered and installed in 1975 to provide pressurized irrigation water to landowners while decreasing the time required by the PVWCD manager and landowners to adjust the water. This system connects directly to the Wolf Creek Dam and runs in a northeast direction, servicing 17 landowners and irrigating approximately 6,800 acres. Prior to this system, landowners would have to call the PVWCD manager to order the amount of water needed for that day or week. Currently, a valve at the bottom of the reservoir is turned on in the spring to pressurize the pipeline, which allows landowners to simply turn on their irrigation system, such as a wheel line or pivot, to access available water. This is similar to a faucet being turned on in a house and pulling water from a city water reservoir. To record the amount of water used, each outlet from the pipeline has its own meter, which is read and recorded weekly by the PVWCD manager. When an irrigation system is shut off by the landowner, or by a system malfunction, the water stays in the reservoir rather than continuing to run down the ditch and be wasted.

The PVWCD has completed the pipeline design for the 1.5-mile stretch of the MaHarry-Blevins Ditch. The design connects the existing P-2 pipeline to the Wolf Creek Dam to make this system similar to the W-1 pipeline. By upgrading this system, there will be a decrease in water lost through ditch loss, irrigation inefficiency, power failures, and human

*error. Irrigation efficiency will be improved as the landowners will be able to draw the exact amount of water they need in a manner similar to the W-1 pipeline. By drawing the exact amount of water needed, less water will be pulled from the reservoir, resulting in more water for critical bull trout habitat, habitat for other wildlife, recreation, and irrigation.*

*Oregon Watershed Enhancement Board (OWEB) grants, along with in-kind contributions from the PVWCD, have funded the initial development phases of this project, including the 2013 System Optimization Study and the 2015 project design. The PVWCD will proceed with the implementation of this project through working to secure funding for construction, obtaining a construction stormwater management permit, completing bid documents, and bidding the project. The construction portion of the project will involve setting up the site/staging area, excavating a trench for the new 36-inch pipeline, placing bedding material, installing the pipe in the trench, backfilling the trench and smoothing the finished ground, connecting the new pipeline to the existing pipeline, constructing a control valve vault, and attaching all control valves, fittings, and flowmeters.*

*This project is needed to conserve water; the purpose of the project is to reduce water loss through upgrading the infrastructure. This project will improve the economic and environmental conditions and provide additional job opportunities for the residents of North Powder and northeast Oregon. Through strengthening the resiliency of the water source, farmers can continue to successfully produce crops to serve the local community and the Pacific Northwest for decades to come.*

*With the final design of the pipeline now complete, the PVWCD is pursuing the permit, easements, and funding to construct the project in 2016-17. See Figure 1, Location and Vicinity Maps, for the project location, and Figure 2, Approved Pipeline Alignment, for project details. Also see the attached design drawings.*

## 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 will have considerable impact on the long-term viability of job creation and retention in the region. A water supply system that is reliable, efficient, and fully functional is absolutely critical to the retention of farming jobs. Severe drought conditions, which have been increasing in duration and intensity in eastern Oregon, can easily drive farmers out of business. Many farms garner very little profit each year and must make huge capital investments in farming equipment to remain competitive. A drought or unsuccessful season has the potential to bankrupt farms, which are the lifeblood of the local economy. At least 25 people work on farms impacted by this irrigation system, and their jobs are all dependent on efficiently using limited water resources. This project increases infrastructural efficiency and supports existing farm jobs. This project is important in an effort to offset drought conditions that can be attributed to climate change. The long-term increases in economic activity and increased productivity for crop growth are essential economic benefits that will be provided by this project.*

*In addition, numerous short-term jobs will be supplied by this project. Project permitting, design, and construction will be accomplished by local firms, which will allow for job retention in engineering and construction firms.*

#### (b) Increases in economic activity:

*The project will result in a strong increase in economic activity because of the multitude of benefits from an upgraded piping delivery system that will support the retention of up to 25 jobs. Additionally, water loss from the open ditch may represent an economic loss of approximately \$540,000 in crops in a year, according to the 2013 System Optimization Study. This project may effectively decrease the crop loss each year. The completed project will result in exceptional increases in economic activities as croplands will be more efficiently irrigated and water will be conserved for late season irrigation, therefore producing higher yields. Also, the pipeline will increase protection of the water resources from exposure to biological contaminants (such as the feces of livestock and other animals that dwell in the area), and when water is cleaner, crops have a greater likelihood of making it to market without disease or contamination, thus allowing for a higher total yield.*

*The impacts of this project will be long-lasting, strengthening these farms for decades to come. Long-term impacts include expected increases in gross sales from multiple farms that utilize water from the ditch.*

*An additional boost in economic activity will occur in the short term while the pipeline is constructed.*

#### (c) Increases in efficiency or innovation:

*With the current open ditch system, each landowner must contact the PVWCD manager and put an order in for the flow of water they would like to receive plus an additional amount to compensate for water loss. This can be problematic if a landowner fails to make contact with the manager. If a landowner shuts off his irrigation system*

*without letting the manager know, water is not left in the reservoir or creek for fish and is lost. If a landowner turns on his irrigation system without letting the manager know, there is a shortage of water that affects every landowner on the system. This project will result in exceptional increases in efficiency and time savings. Farmers and the PVWCD manager will no longer have to manually coordinate water use and will be able to more precisely allocate water to meet their irrigation requirements. The 2013 Optimization Study estimates that approximately 50 percent of the water in the conveyance system is lost through the inefficiencies of the open ditch system. The amount of water loss in the MaHarry-Blevins Ditch may be as much as 1,350 Ac-Ft per year. The 1,350 Ac-Ft of water, valued at \$10 per Ac-Ft, is a potential loss to PVWCD irrigators of \$13,500 per year in stored water that they pay for but do not receive or utilize. A conservative estimate for the annual gross value of the crops that 1,350 Ac-Ft of water may help produce is approximately \$540,000. Converting the MaHarry-Blevins Ditch into a pipeline delivery system will result in exceptional efficiency increases.*

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

*Upgrading the open ditch to a modern pipeline and control system will result in exceptional enhancement of this irrigation delivery system. This benefit will also positively impact the farmlands watered by the pipeline. It is expected that these major infrastructure improvements will result in a modern and efficient regional irrigation system that optimizes water use while leaving conserved water in the reservoir for recreation and bull trout habitat. This is also anticipated to increase the value of these farms due to anticipated increases in irrigable land productivity.*

(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:

*Currently, it is estimated that the open ditch system of water conveyance results in water loss of 2 cubic feet per second (cfs) per mile. This loss is due to evaporation, seepage from the ditch, and inefficiencies from the manual operation of the ditch system. The 2013 System Optimization Study estimated this as up to 1,350 Ac-Ft per irrigation season of water lost to irrigators. The 1,350 Ac-Ft is approximately 13 percent of the irrigation storage capacity of Wolf Creek Reservoir. The construction of a pipeline will allow for water to remain in the reservoir longer for critical bull trout habitat and recreational uses.*

*The reservoir is a source of tourism, and allowing water to stay in the reservoir for longer periods will extend the tourism season. Wolf Creek Reservoir is utilized for hiking, fishing, boating, hunting, birdwatching, and camping. Recently, six campsites were built in response to the tourism demand. Tourism is vital to rural economies. According to a Longwood Travel 2013 report, the main purpose of 46 percent of trips to eastern Oregon was for outdoor recreation. By increasing the recreational value of the landscape, tourism opportunities will be enhanced. Specific benefits to tourism activities include potential increases in fishing license purchases (due to a longer fishing season when more water is left in the reservoir) and increased navigability for recreational boaters in the reservoir (due to a larger water surface in the reservoir).*

*Wolf Creek Reservoir is a component of the essential bull trout habitat in this watershed. The reservoir provides an area for rearing bull trout from the fry stage to adulthood. Increased water in the reservoir will provide more area in which the fish can live, forage, and grow. In addition, the greater quantity of water left in the reservoir will help to reduce water temperatures, thus improving the water quality and associated fish habitat.*

(f) Increases in irrigated land for agriculture:

*This project will help ensure that existing farmland is not taken out of production as a result of insufficient water supply. Climate change has been identified as a cause of drought conditions, and drought conditions have plagued this area in the past few years. This project will conserve water through eliminating ditch loss and providing infrastructure that will allow for improving operational efficiencies to eliminate waste. This conserved water will aid in keeping existing lands in production.*

***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 project will reduce water loss by enclosing the ditch. This will support the natural hydrograph by leaving water in the Wolf Creek Reservoir and allowing it to be more naturally dispersed. Providing additional water in Wolf Creek Reservoir will be beneficial to bull trout, which are a native state and federally listed threatened species. Preserving healthy bull trout populations is important to regional biodiversity and species recovery goals.*

*Additionally, the ditch will be infilled and allowed to return to its natural state of vegetation. This area supports vegetation important to sage grouse, which are an at-risk species important to preserving biodiversity in this unique high desert region.*

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

*Conserved water may be approximately 13 percent of the reservoir volume. This project will provide more water in the reservoir. Higher levels of water in Wolf Creek Reservoir, due to increases in efficiency from piping the open ditch, will result in more pressure and availability to facilitate the surface-groundwater interchange.*

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

*Currently, water quality concerns are created by the open ditch irrigation system. Surface water quality will be greatly improved as a direct result of completing this project. A disadvantage to an open ditch system is the ability for contaminants, such as livestock waste, algae, weed seeds, and other plant material to enter the irrigation water. These contaminants affect surface water quality, can plug the system, and create other maintenance issues. When contaminated irrigation water is used on crops, it can have a negative effect on plant growth and can allow for invasive weeds and other contaminants to spread throughout the irrigated cropland. Through efficient use of surface water (contained in a clean pipeline), the contamination of surface water and groundwater will be reduced.*

*One of the farms served by the ditch is an organic farm. This farm does not use traditional herbicides and pesticides. The open ditch facilitates the transport of weeds throughout the area, creating a great challenge to the organic producer, and also may cause other farmers to use more pesticides, which may have a detrimental effect on the organic farmer, are costly, and negatively impact water quality. Contaminants from the open ditch may cause degradation in the quality of the organic crops that are produced.*

*A significant water quality concern in the area is temperature. Wolf Creek Reservoir currently suffers from high water temperatures late in the irrigation season because water levels are low. High temperatures in the reservoir are dangerous for fish and other aquatic organisms that require cool water for survival. By saving approximately 13 percent of the total amount of water and allowing it to remain in the reservoir longer, the temperature conditions will likely improve during the latter parts of the irrigation season and thus improve general surface water conditions and fish habitat.*

(d) Water conservation:

*Currently, it is estimated that the MaHarry-Blevins open ditch system results in water loss of 2 cfs per mile, which equates to a loss of water as high as 22 percent of the total volume transported in the ditch. This loss is due to evaporation and seepage as well as inefficiencies from the manual control of the ditch system. The 2013 System Optimization Study estimated the evaporation and seepage loss to be as high as 1,350 Ac-Ft per irrigation*

season. The 1,350 Ac-Ft is approximately 13 percent of the irrigation storage capacity of Wolf Creek Reservoir. The technology that will be used for this project includes a 36-inch high-density polyethylene pipe and associated automated valves in a controlled vault, which will increase efficiency of the system and reduce water loss.

(e) Increased ecosystem resiliency to climate change impacts:

*This project will provide a significant increase in the farmland ecosystem resiliency to climate change impacts. Before the Wolf Creek Dam was built, farmers could irrigate only until early-July when live flow irrigation water would run out; with the reservoir they can irrigate through October (in a typical non-drought year). Recently, the watershed has been experiencing less snow pack. Higher snow pack levels have provided storage in the watershed until later in the season, so that full irrigation storage in the reservoir has not been needed. With lower snow pack levels due to climate change, the amount of reservoir storage needs to be increased through water conservation projects. Decreasing water losses in the system will leave more water in the reservoir and will help to replace the lost snow pack storage by increasing late season reservoir storage. These improvements represent a stronger system that is more resilient to drought caused by climate change. This proposed pipeline ensures that this irrigation system will remain functional and efficient.*

*Through infrastructure replacement, this project will help to bolster a secure local crop production system, which is essential for responding to changes in the climate that impact production systems. Birds and other species make their homes on farms in the area and the project supports habitat for these species.*

*A 13 percent increase in the water in the reservoir will allow bull trout and other aquatic organisms to be better protected from water temperature increases caused by increasing air temperatures and lower reservoir levels. Higher reservoir levels also provide more aquatic habitat. Bull trout are a threatened species and are critical to preserving biodiversity in northeast Oregon.*

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

*The 2004 Powder River-Powder Valley Watershed Assessment prepared for the Powder Basin Watershed Council (funded and reviewed through OWEB and the Bureau of Reclamation) noted several limiting ecological factors in the project watershed. One item cited was sufficient habitat and water quality conditions for bull trout; this project will reduce early season water release from Wolf Creek Reservoir for irrigation purposes through increases in efficiency. In turn, this will provide the ability to meet needs for bull trout through the possible addition of 1,350 Ac-Ft of water in the reservoir each year.*

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

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

*Creating a safe, enclosed surface water conveyance pipeline will reduce the threat of ecological contamination to surface water used to irrigate crops grown to support local and national supplies. Currently, potato crops are at risk from the waste of grazing animals entering the irrigation supply and introducing potential contaminants (i.e., E. coli or cryptosporidium) into the water used for irrigation. Enclosing water in a pipe will prevent animal waste from entering the system after the water exits the reservoir.*

*By ensuring a more efficient distribution of water, this project strongly supports local crop production systems, not only crops such as organic potatoes and wheat that are grown for public consumption, but also alfalfa and feed products that are harvested to support beef production on the area.*

(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:

*The median household income in 2013 for North Powder was approximately 85 percent of Oregon's median household income. Additionally, according to Business Oregon's Distressed Areas in Oregon, 2015, Union County is classified as a distressed area. Improving the efficiency by which farmers can acquire water for their crops will result in a significant benefit for the environmental justice community. The project proponent, PVWCD,*

*represents members of this distressed rural community who were consulted and involved in the development of this project to fulfill community needs.*

*Members of environmental justice communities have made on-site visits to the project area and have been consulted throughout the development of this project.*

(c) The promotion of recreation and scenic values:

*Wolf Creek Reservoir is a major source of tourism, and the amount of time each year that visitors can use the reservoir will be extended due to the expected water conservation, which will leave water in the reservoir longer. The beauty of the area attracts people who enjoy outdoor recreation such as hiking, wildlife viewing, photography, sightseeing, swimming, fishing, hunting, camping, water skiing, and boating. Six new campsites were recently added to the reservoir area in response to increased tourist demand. Leaving up to 13 percent more water in the reservoir by eliminating the volume lost to inefficiencies will improve scenic and recreational values. Tourism is vital to rural economies. According to a Longwood Travel 2013 report, the main purpose of 46 percent of trips to eastern Oregon was for outdoor recreation. By increasing the recreational value of the landscape, tourism opportunities will be enhanced.*

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

*Using pipes to reduce water loss in irrigation is not a new technique; however, the results of this project will be monitored to determine the volume of water actually conserved. Water use records from previous years will be compared to water use records after the project is constructed to evaluate the effect of the new pipeline to the current open ditch system. Multiple years of data will be evaluated to ascertain average conditions and average project impacts on water conservation. Through word of mouth, this project will expose more individuals in this area to the benefits of piping ditches and canals. This project may also contribute a minor amount of new data to the body of scientific data on best practices in irrigation and water conservation. The information will be made available to the public upon request.*

(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:

*Bull trout reside in Wolf Creek Reservoir, and restoration and protection of this species is a local, state, and federal priority. This project provides additional late season water for these fish and thereby enhances important habitat qualities. Additionally, the movement of wildlife will be easier without a large ditch to cross.*

*The project area also includes sage grouse habitat that will be restored through removing the open ditch and returning the project area to more natural conditions and topographic contours.*

*In the 2004 Powder River-Powder Valley Watershed Assessment, several limiting ecological factors were noted in the project watershed. One item was sufficient water quantity and quality conditions for bull trout, and another was sufficient supplies of irrigation water for farmers. This project aims to reduce water loss through the simple strategy of updating the old and inefficient irrigation infrastructure.*

*Oregon's Integrated Water Resources Strategy lists multiple ways to address water-related concerns in the state, including improving local water planning. This locally initiated project is a superior example of planning at a community level. An additional part of the strategy includes maintenance and improvement of water-related infrastructure. The installation of a water conveyance pipeline accomplishes a much-needed upgrade to irrigation infrastructure.*

(f) The promotion of collaborative basin planning efforts, including but not limited to efforts under Oregon's Integrated Water Resources Strategy:

*Oregon's Integrated Water Resources Strategy encourages local development of strategies to evaluate in stream and out-of-stream needs as they relate to water quantity and water quality. Development of these strategies is encouraged to come from a collaborative and inclusive process. The processes of preparing this grant application and developing the project concept were transparent and inclusive to users and regulators of the water resource.*

*This project has been discussed by the PVWCD, stakeholders, and agency regulators for over 35 years. Through extensive discussions and monthly meetings open to the public, the PVWCD has developed this project and, through collective decision making, it has been determined to be the most acceptable option to those involved. See the attached public meeting minutes from the January 11, 2016, PVWCD board meeting.*

**2. Identify Project Location.**

(a) Attach map of project implementation area if appropriate. List map(s) in this space and attach to application.

*See attached Figure 1, Location and Vicinity Maps.*

(b) Township	Range	Section	Quarter-Quarter Section
6S	38E	11	SE-SE
6S	38E	13	SW-NW, NW-SE, SW-SW, SE-SW
6S	38E	14	NE-NE, SE-NE

(c) Tax Lot Number(s)

*6S 38E 11 (Tax Lot: 300, 800)*

*6S 38E (Tax Lot: 2501, 2503, 3506, 3300, 3500)*

(d) Latitude/Longitude

*45.051085° / -118.019241° (Intake connection to Wolf Creek Reservoir)*

*45.035671° / -118.003631° (Approximate end of pipeline/connection to existing P-2 pipeline)*

(e) County

*Union*

(f) Watershed

*Powder River Watershed*

(g) River/Stream Mile (where applicable)

*Wolf Creek Reservoir (approximately river mile 7 of Wolf Creek)*

**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.**

*All four landowners where the pipeline will be installed are aware of this project and are highly supportive of the pipeline installation. Letters of support from three of these landowners are attached. The PVWCD is composed of all landowners receiving water from the ditch system. The PVWCD board approved this application at its January 11, 2016, meeting.*

*Additionally, the PVWCD possesses easements where the ditch crosses each property, and is legally permitted to conduct maintenance on its facilities. The easements can be provided to OWRD upon request.*

*Attachments:*

*Letter of support from landowner - Newman*

Letter of support from landowner - Isaac  
 Letter of support from landowner - Miles  
 Project kickoff meeting summary - October 13, 2015  
 Board meeting minutes - January 11, 2016

(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.

*This project will not result in any new monitoring. Flow data will continue to be collected and is public record.*

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 September 30, 2017**

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	
Secure Funding			X						
Obtain Permits			X						
Complete Bid Documents				X					
Bid Project/Secure Contract				X					
Construction					X	X			
Construction Administration					X	X			
Project Closeout							X		
Project Management			X	X	X	X	X		

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

*The 100 percent design of this project is complete and landowners approve of the project design. The acquisition of funds for construction is currently in process and must be completed in order to construct this project.*

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

*The 2013 System Optimization Study identified areas of water loss in the PVWCD. Feasibility of this project was evaluated during the 100 percent design phase. This project was chosen as it represents a great opportunity for water loss reduction.*

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

*Water volumes used will be the benchmark for project success. Historical records of water use will be compared with water use after the project is completed. It is assumed that a reduction of up to 22 percent of water loss will occur and this performance benchmark will reveal whether the project meets its goal.*

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

*See the following attachments:*

*Letter of support from landowner - Newman*

*Letter of support from landowner - Isaac*

*Letter of support from landowner - Miles*

*Letter of support from DEQ - Dadoly*

*Letter of support from District 8 Watermaster - Lusk*

*Letter of support from Baker Valley SWCD - Collins*

*Letter of support from Baker County - Bennett*

*Letter of support from Union County - Davidson*

*Letter of support from OWEB - Loftsgaarden*

*Letter of support from Oregon Department of Agriculture - Straughan*

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

*Several groups have been involved with efforts associated with this project. The Baker Valley Soil and Water Conservation District assisted with the Powder Valley Connector Project, through which the 100 percent project design was accomplished. The design was funded through OWEB. The PVWCD is applying for the pipeline construction funding through the Oregon Water Resources Department. All groups have consulted with landowners, board members, and interested parties to ensure full support for this project.*

*This project has been discussed by the PVWCD, stakeholders, and agency regulators for over 35 years. The PVWCD has developed this project through collective decision making involving extensive discussions during monthly public meetings. See the attached public meeting minutes from the January 11, 2016, PVWCD board meeting.*

**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 email from Karen M. Quigley.*

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.

*Scoping may occur as a part of design finalization.*

**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.

*This project is located on private land and involves a number of existing water rights. None of these water rights will be affected by the installation of this pipeline. There are very few regulations that impact this project. All required permits will be secured prior to construction of the pipeline.*

(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.

*The Oregon Department of Environmental Quality Water Quality Permit Program requires National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permits for most projects. One permit (DEQ 1200-C) is anticipated to be required for this project. The 1200-C Permit regulates stormwater runoff to surface waters during construction and is required for projects that affect one or more acres. The 1200-C Permit will be secured prior to construction of the pipeline.*

**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 100 percent final design project plans and 2013 System Optimization Study are attached.*

**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.

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.

%

*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

%

*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.*

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## **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.

In the Type column below matching funds may include:	In the Status column below matching funds may have the following status:
<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.

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	Type (✓ One)	Status (✓ One)	Amount/ Dollar Value	Date Match Funds Available (Month/Year)
PVWCD (Bedding Material, Ditch Fill, Project Management, Construction Administration)	<input type="checkbox"/> cash <input checked="" type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$230,000	January 16
OWEB	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input checked="" type="checkbox"/> pending	\$134,000	September 16
	<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		
	<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		
	<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		
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		

