



Ochoco Irrigation District

OID: J1 lateral Pipe and Metering Project

Crook County, Oregon

Application to The United States Bureau of Reclamation for a WaterSMART grant:
Small-Scale Water Efficiency Projects for Fiscal Year 2025

Funding Opportunity No: R24AS00059

Project Manager: Bruce Scanlon, District Manager

1001 NW Deer Street
Prineville, OR 97754
Phone: (541) 447-6449
Email: bruceoid@crestviewcable.com

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OID: J1 lateral Pipe and Metering Project

Executive Summary

Applicant Information

Date: July 5, 2024

Name: Ochoco Irrigation District (OID)

City, County, State: Prineville, Crook County, Oregon

Project Manager: Bruce Scanlon, Manager
Ochoco Irrigation District
541-447-6449
bruceoid@crestviewcable.com

Ochoco Irrigation District is a Category A Applicant

Short Project Summary

The Ochoco Irrigation District (OID) will replace approximately 2,000 feet of old, leaky, concrete cylinder pipe and open sump deliveries with a pressure rated pvc pipe in a tightlined system. In addition to the pipe installation, each delivery would be fitted with an electromagnetic flow meter, isolation valving and drains. These improvements will result in water conservation, increased energy efficiency, reduced operations/maintenance, improved water measurement and accounting.

Project Timeline

OID anticipates that Categorical Exclusion preparation will occur from 7-1-2025 to 10-1-2025. Construction could begin shortly after the district shuts down operations for the non-irrigation season and will take approximately two weeks to perform. This work window will be from 10-15-2025 to 3-31-2026. Project completion and final report will be done prior to April 1, 2026.

Federal Facility

No, the project location is not on a federal facility. There are no federal easements associated with this project. There is a federal nexus in other portions of the district.

Project Location

Ochoco Irrigation District is located in the heart of Central Oregon and is the home of the Crooked River Project. OID serves just over 20,000 irrigated acres in Crook County, Oregon. The District includes a majority of the town of Prineville. (See Appendix A for additional Maps)



The J1 project latitude is 44.319532 and longitude is -120.798552

Technical Description

The current J1 lateral delivers irrigation water to 5 district patrons with small parcels. The original deliveries were installed in the 1980s using concrete cylinder pipe to transport the water to individual sumps for patrons to pump water from. The head gate feeding the lateral is about 40 feet in elevation higher than the delivery sumps. OID staff currently spend up to

10% of their day adjusting headgates to prevent overtopping of sumps and flooding on this one small lateral alone.

This project is part of OID's System Improvement Plan for completely piping the J-Lateral. It is also consistent with the Water Management Conservation Plan updated in 2023. The District recently completed replacement of the J2 with a tightlined system. By putting the J1 into pressurized pipe and tightlining the system irrigators will benefit from the 40+ feet of drop that will help to reduce pumping costs and improve energy efficiency. The District will also place electromagnetic flow meters on each delivery that will accurately measure water usage throughout the irrigation season. The current system does not have a measurement point and usage is estimated. This information will be entered into our new water accounting software and usage will be documented for the patron to track their usage by accessing the online portal. This information will help the patrons to better manage their water usage throughout the season and help the district to ensure that patrons do not go beyond their allocation for the season.

Construction will include the installation of a new diversion box, screen and headgate structure. Removal of the existing concrete cylinder pipe below the headgate to the county road. Pressure rated 6" PVC will be installed in the same alignment replacing the leaky concrete pipe. The crossing of the county road (NE Barnes Rd.) will be accomplished by sleeving the 8" concrete with the 6" pvc. Currently there is a concrete vault on the east side of the county road that is operated by three headgates. Construction would include removing those old headgates. New 4" pvc would be installed to each of the 5 delivery points shown on the attached map. Metering, shut off valves and drains would be installed in each line.

Evaluation Criterion A – Project Benefits

Describe the expected benefits to the Category A applicant's water delivery system.

Address the following:

Clearly explain the anticipated water management benefits to the Category A applicant's water supply delivery system and water customers. Consider: *Will the Project Result in more efficient management of water supply?*

OID is a small irrigation district with just under 900 patrons and delivers water to just over 20,000 irrigated acres in the Prineville Valley. OID owns and operates Ochoco Dam and Reservoir as well as operating the Bowman Dam on Prineville Reservoir which is owned by BOR and was constructed as part of the Crooked River Project. OID operates approximately 120 miles of canals and pipelines as well as multiple pumping stations to lift that water to benchlands around the valley. Like most small districts we operate on a very tight budget

and run a lean crew that is responsible for every facet of operations and maintenance. As mentioned previously, this small lateral puts an extraordinary demand on our staff to operate on a regular basis. One of the primary benefits of this project is the improved efficiency gained through decreased time and effort to operate this delivery. Additionally, these improvements will ensure the timely and efficient delivery of irrigation water to these patrons who currently experience periods of low water or too much water.

Where any conserved water as a result of the project will go and how it will be used?

OID, like many projects in the Western U.S., has been in the grips of historic drought. With such extreme conditions OID is more acutely aware than ever before of the need to conserve every drop of water. This project will help the district to more effectively account for water that is being delivered, do it more reliably and ensure that patrons get their full allocation but also don't get too much. OID utilizes water from two storage facilities; Ochoco and Prineville Reservoir. Prineville Reservoir is a much more reliable source of water than Ochoco. This makes it even more important for the district to conserve as much water as possible from this source. The conserved water from this project, and the future savings as we complete the entire J-Lateral, directly impacts our storage in Ochoco Reservoir.

Are customers not currently getting their full water right at certain times of year?

Recent drought conditions have resulted in significantly reduced allocations. Two of the most recent allocations have been 25% or less of their water right. The drought impacts have been felt most severely by patrons who rely solely on Ochoco Reservoir; which serves the J-lateral. This highlights the need to manage and conserve the water from Ochoco more effectively. Currently, there is no direct measurement for patrons on the J-1. Ditch Riders must estimate usage based on sprinklers being used. Newly installed flow meters will allow the district to accurately account for water usage and ensure that these patrons are provided only up to their full allocation. Additionally, the Ditch Rider does not have complete control if a patron decides to turn on without ordering water. Installing valves will give the district control of each delivery and ensure that only patrons who have ordered water are able to turn on.

Does this project have the potential to prevent lawsuits or water calls?

The current operation of the J-1 does not provide for measurement or control. Without both of these elements, the district cannot ensure that patrons are getting the water that is rightfully theirs and prevent others from taking the water that was intended for them. There is no current or threatened litigation. There are, however, disputes between neighbors with the potential for those to degrade to a lawsuit that would involve the district. This project

will provide the district with the measurement and control necessary to reduce the likelihood of legal issues around water.

What are the consequences of not making the improvement?

Continued lack of control and measurement. The J-lateral will not be piped and continued associated water losses and O&M challenges. All project benefits will not be realized.

Are customer water restrictions currently required?

We do not have any water restrictions associated with these customers apart from a 3 acre foot per acre allocation in water year 2024.

Other significant concerns that support the need for the project.

PacifiCorp is the power provider for irrigators on the J-lateral. Power rates increased by 17% in 2024 and the utility is requesting a 20% rate hike in 2025. Any efficiency gained by putting the J into a tightlined system will be a welcome and added bonus for this project.

Broader Benefits: Describe the broader benefits that are expected to occur as a result of the project. Consider:

Will the project improve broader water supply reliability at sub-basin or basin scale?

In 2021 and 2022, stream flows below Ochoco Reservoir dried up completely in the Fall and Winter months as a result of the prolonged severe drought. Ochoco Irrigation District is a party to the Deschutes Basin Habitat Conservation Plan (DBHCP) that was signed in December of 2020. The listed species of concern for OID's operations are Steelhead and Bull Trout. One of the conservation measures described in the DBHCP is related to non-irrigation season flows in Ochoco Creek. In 2021 and 2022 the reservoir was so depleted that these measures could not be met. This project is part of the District plans to target conserved water in Ochoco. As mentioned previously, this project will focus on the J-1 which is part of the larger J-lateral piping project. The conserved water from this project will benefit supplies in Ochoco Reservoir and help the district to better manage the control and measurement of water from this resource.

Will the proposed project increase collaboration and information sharing among water managers in the region? Please explain.

OID is a member of the Deschutes Basin Board of Control. The 7 DBBC member irrigation districts located in Central Oregon have a long history of collaboration. This project will have no impact on that.

Is the project in an area that is experiencing, or recently experienced, drought or water scarcity? Will the project help address drought conditions at the sub-basin or basin scale? Please explain.

Ochoco Irrigation District has recently suffered from the longest and most severe drought conditions in our more than 100 years of existence. We set record lows in our storage facilities and left thousands of acres of ground fallow for years. I cannot overstate the magnitude of the drought impacts that OID has navigated in recent years. OID spent most of 2021 and 2022 in D4 level drought conditions, longer than any other area in Oregon. This project is one of many steps that the district is taking to conserve water, increase efficiency and create resiliency for the future.

Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state listed species, or a species of particular recreational, or economic importance)? Please explain.

As previously mentioned, OID is party to the DBHCP. Listed species of concern include Mid-Columbia River Steelhead and Bull Trout. Other species of importance include Chinook Salmon and Redband Trout. Conserved water and drought resiliency associated with the overall project will increase chances that Fall and Winter flows will be present for fish and wildlife purposes.

Will the proposed project positively impacts/benefit various sectors and economies within the applicable geographic area (e.g., impacts to agriculture, environment, recreation, and tourism)? Please explain.

Agriculture, tourism, and recreation are significant economic drivers for the Prineville community. The numerous benefits associated with this project, and subsequent phases, have direct impacts on the local economy. The expected energy savings will directly impact the patrons on the J-1. Improved measurement and control will decrease operations demands on OID and allow us to focus on managing water more efficiently. The ultimate conserved water will provide improved drought resiliency which leads to better reservoir access year-round.

Will the project complement work being done in coordination with NRCS in the area (e.g., the area with a direct connection to the district's water supply)? Please explain.

OID finalized its Watershed Plan – Environmental Assessment with NRCS in late 2020. The OID Infrastructure Modernization Project includes work described in the OID System Improvement Plan and is consistent with the goals and objectives of the OID Water Management Conservation Plan. The district recently completed the first phase of modernization work and is under contract for the second phase to be completed during the

2024 - 25 non-irrigation season. The plan includes new energy efficient pumping stations, replacing open canals with pipe, and new pipeline construction. The J-1 Piping Project is directly related to OID's plan for modernizing it's entire system and complements that work currently being funded through our partnership with NRCS and other federal, state and private sponsors.

Evaluation Criterion B. Planning Efforts Supporting the Project

Plan Description and Objectives: Is your project supported by a specific planning document or effort? If so, describe the existing plan. When was the plan developed? What is the purpose and objective of the plan?

OID has done a considerable amount of planning in the past several years. The System Optimization Review ("SOR") of the Ochoco Irrigation District was commissioned by the United States Bureau of Reclamation under its 2010 WaterSMART funding opportunity number (R10SF80256). The intended impacts of the study are to benefit the water resources of the lower Crooked River, Ochoco Reservoir, Ochoco Creek, and McKay Creek and other tributaries. The goals of the SOR are to optimize water and energy conservation and efficiency in the district, while benefiting the anadromous reintroduction effort and ESA-listed fish and reducing potential future conflict over community water supply. Utilizing the information gained through this planning effort the district worked with Farmer's Conservation Alliance with support from Energy Trust of Oregon to complete a System Improvement Plan. The purpose of this System Improvement Plan (SIP) was to develop a well-considered evaluation of the district's primary and secondary canal systems, a mitigation plan for the seepage losses, and consideration of resulting pressurized deliveries, if any. System piping was the primary method proposed for such mitigation. This work naturally led to the previously described Ochoco Irrigation District Infrastructure Modernization Project Watershed Plan – EA which was completed with USDA-NRCS under the authorization PL83-566. In addition, OID completed its Water Management Conservation Plan update in 2023 and is currently working with Crook County to update the Natural Hazard Mitigation Plan with a particular focus on drought mitigation.

Plan Development: Who developed the planning effort? What is the geographic scope of the plan? If the planning effort was not developed by the Category A applicant, describe the Category A applicant's involvement in developing the planning effort.

Support for the Project: Describe to what extent the proposed project is supported by the identified plan. Consider:

Is the project identified specifically by name and location in the planning effort?

The J-lateral piping plan is described directly in the 2017 System Improvement Plan. The plan is consistent with the previously described planning work that the district has recently done.

Is this type of project identified in the planning effort?

This project is consistent with the planning described previously. OID continues to make progress in both planning and implementation of projects targeting our highest priorities.

Explain whether the proposed project implement a goal, objective, or address a need or problem identified in the existing planning effort?

The goals and objectives described in this application are directly in line with the purpose and needs described in the various plans described previously.

Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.

The J-1 piping project was prioritized due to its significant operations and maintenance demands. No other area requires as much attention to operate. This SWEP funding was identified as a potential source because it fit the budget. Completing the larger J-lateral would exceed this funding and the construction window doesn't allow for OID to complete all that work in the off season along with all our other necessary maintenance work.

Evaluation Criterion C. Implementation and Results

Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.

OID staff will be self-performing the work described in this project. Operations and maintenance staff have the necessary knowledge and experience in equipment operations and pipe installation to successfully install these improvements. The estimated construction window needed to complete all the upgrades is approximately two weeks. OID will be able to fit this project anywhere into the non-irrigation season. The ideal timeline would be around the first part of November. We typically shut down the canal in early October. The canal will be dewatered and the weather should allow for quick work in the area.

Directly following the notice of award, OID will begin cultural and environmental work needed prior to construction. Additionally, procurement will follow to ensure that pipe, fittings and meters will arrive in time for construction.

Milestones:

- Mobilization and Set up – One Day. Bring equipment and supplies to the predetermined lay down area near the J1 headgate.
- Headgate and old concrete pipe removal in section one – One Day
- Grading and installation of new pvc for section one – One Day
- Removal of old pipe in sections two and three – Three Days
- Installation of new pipe in sections two and three – Two Days
- Installation of meters, drains and shut off valves at each delivery point – Two days
- Demobilization and clean up – One Day

Proposals with a budget and budget narrative that provide a reasonable explanation of project costs will be prioritized under this criterion.

Budget and Budget Narrative is provided

Describe any permits and agency approvals that will be required along with the process and timeframe for obtaining such permits or approvals.

OID does not have any requirements for permits. OID will coordinate with the Crook County Road Department on activities related to slip lining the current pipe going under the roadway. OID has a great working relationship with the county and a long history of project success. No impacts are expected with this work.

Identify and describe any engineering or design work performed specifically in support of the proposed project. What level of engineering design is the project currently? If additional design is required, describe the planned process and timeline for completing the design.

OID staff have done the initial design and planning work on this project. It is a relatively simple undertaking and does not require additional design.

Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project? If the applicant does not yet have permission to access the project location, describe the process and timeframe for obtaining such permission.

OID possesses an easement for irrigation with the current alignment. No additional easements or necessary. OID will coordinate with the landowners/Patrons on timing and impacts of the work.

Identify whether the applicant has contacted the local Reclamation office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs. Has a line item been included in the budget for costs associated with compliance? If a contractor will need to complete some of the compliance activities, separate line items should be included in the budget for Reclamation's costs and the contractor's costs.

OID has contacted Christine Horting-Jones and Tom Heintzman with the Bend Field Office (BFO). Christine provided a budget estimate for compliance through the BFO. That \$5,000 is listed in the budget under the "Other" category. Archaeological survey has not been done on this site and will need to be performed. We have included the estimate for this work in our budget as well. The built environment has already been determined to be ineligible.

Evaluation Criterion D. Nexus to Reclamation

Is the proposed project connected to a Reclamation project or activity? If so, how? Please consider the following:

Yes, OID does have a Reclamation Nexus.

Does the applicant have a water service, repayment, or operations and maintenance(O&M) contract with Reclamation?

Ochoco Irrigation District has a long history of collaboration with Reclamation. OID currently has repayment contracts for Safety of Dams work done on both Ochoco and Bowman Dams. OID is under contract to operate and maintain Bowman Dam. OID also has a water storage contract in Prineville Reservoir.

If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?

NA

Will the proposed work benefit a Reclamation Project area or activity?

This project will provide benefits to the Crooked River Project.

Evaluation Criteria E. Presidential and Department of the Interior Priorities

Sub_criterion.Noj.E7j.Climate.Change

Please describe how the project will address climate change, including the following:

Please provide specific details and examples on how the project will address the impacts of climate change and help combat the climate crisis.

Ochoco Irrigation District has recently experienced the most severe drought in its history. The effects of climate change on snowpack and temperature will be significant on the ability for OID to store water for irrigation and other benefits. This project is a small but important part of the OID plan to increase efficiency and optimize the resource.

Does this proposed project strengthen water supply sustainability to increase resilience to climate change? Does the proposed project contribute to climate change resiliency in other ways not described above?

OID utilizes two different storage sources, Ochoco and Prineville Reservoir. Prineville Reservoir has a refill rate of about 8 out of 10 years. Ochoco is half that. The need for OID is obvious to optimize the use of water from Prineville and conserve as much water as possible out of Ochoco. This project is an important step in accomplishing this goal. As part of the district system improvement plan and water conservation management plan this project is linked to our overall operations and conservation goals.

Sub_criterion.No;E8;Disadvantaged.or.Underserved.Communities.

Please use the White House Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool, available online at Explore the map – Climate & Economic Justice Screening Tool (<https://screeningtool.geoplatform.gov>) to identify any disadvantaged communities that will benefit from your project.

If applicable, describe how the project benefits those disadvantaged or underserved communities identified using the tool. For example, does the project increase reliability of water supplies, improve water quality, provide economic growth opportunities, improve or expand public access to natural areas or recreation, or provide other benefits in a disadvantaged or underserved community?

According to the screening tool the project location is not in a disadvantaged or underserved portion of the district. The majority of the district boundary is described in the tool as disadvantaged. The benefits of this project to improve control and measurement as well as conserving water will be shared across the entire district. Any benefits that are gained in operations and maintenance will economically benefit all patrons. As we gain

efficiency and improve operations the stored water will be a public benefit to all surface water users in the reservoir. Recreation and tourism are significant economic drivers for the entire Prineville community.

Sub_criterion.No1.E91.Tribal.Benefits.

Does the proposed project directly serve and/or benefit a Tribe? Will the project improve water management for a Tribe?

This project does not have a direct Tribal benefits that we are aware of.

Does the proposed project support Tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety by addressing water quality, new water supplies, or economic growth opportunities?

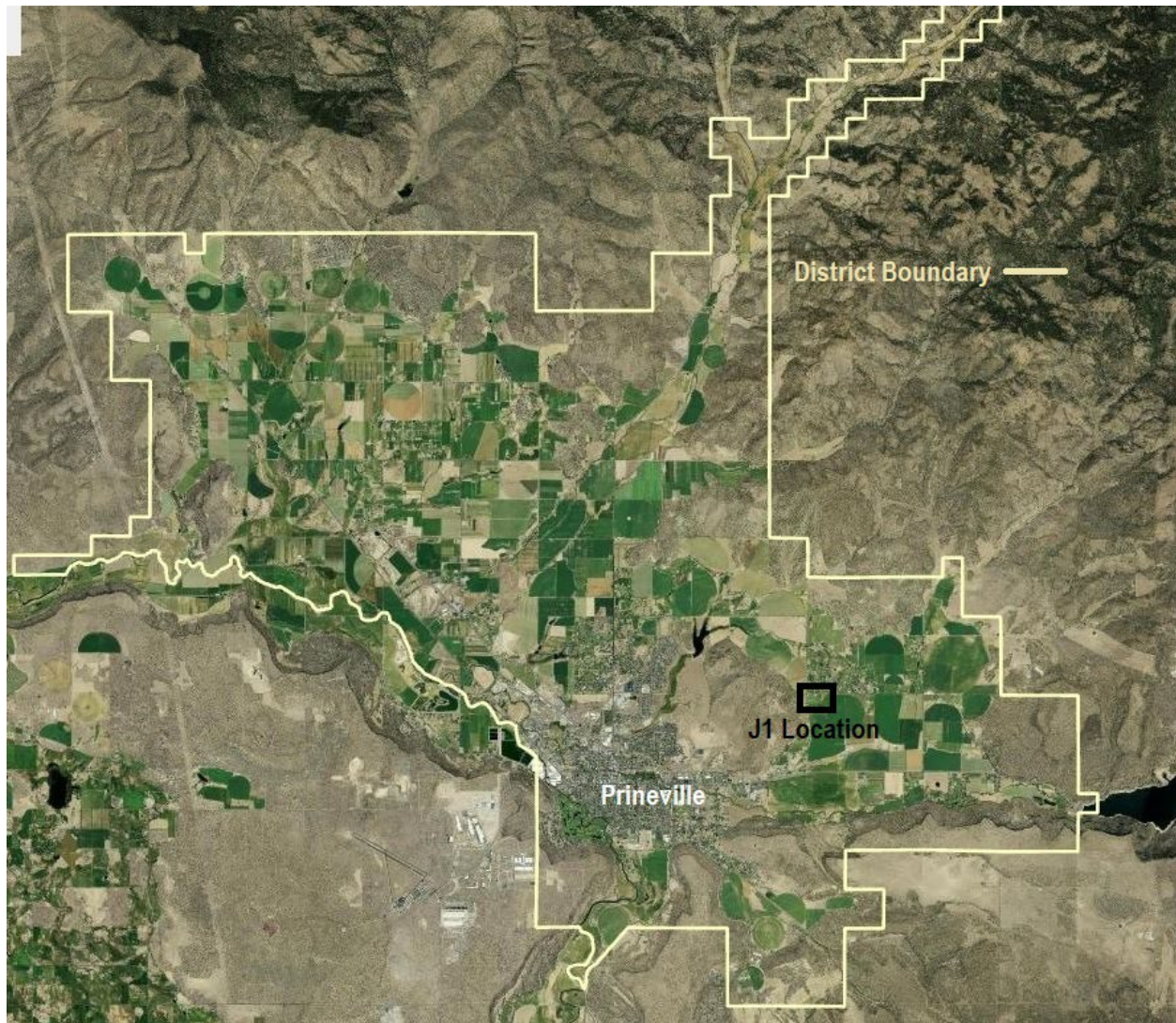
NA

Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?

NA

Appendix A

Project Location Maps:





Latitude and longitude: 44.319532, -120.798552

Budget and Budget Narrative

The OID J1 Pipe and Metering Project is a fairly straightforward piping and meter installation project. The basic approach to the project is for OID to utilize grant funds to secure the materials. The match for the project will be provided primarily through in kind work performed by OID personnel with OID equipment. The estimated cost breakdown is provided in figure 1.

J-1 Pipe and Metering Project Budget					
Salary/Wages	Per Hr	Quantity	Cost	Grant	OID
Project Manager	\$ 59.93	40	\$ 2,397.20		\$ 2,397.20
Supervisor	\$ 32.46	80	\$ 2,596.80		\$ 2,596.80
Labor	\$ 27.77	80	\$ 2,221.60		\$ 2,221.60
Labor	\$ 27.77	80	\$ 2,221.60		\$ 2,221.60
Labor/Fabrication	\$ 27.77	80	\$ 2,221.60		\$ 2,221.60
Total Labor			\$ 11,658.80		
Fringe	34%				
Project Manager	20.38	40	\$ 815.20		\$ 815.20
Supervisor	11.04	80	\$ 883.20		\$ 883.20
Labor (3)	9.45	240	\$ 2,268.00		\$ 2,268.00
Total Fringe			\$ 3,966.40		
Equipment					
120 Excavator	\$ 125.00	60	\$ 7,500.00		\$ 7,500.00
580 Case Backhoe	\$ 100.00	50	\$ 5,000.00		\$ 5,000.00
Dump Truck	\$ 85.00	16	\$ 1,360.00		\$ 1,360.00
Total Equipment			\$ 13,860.00		
Supplies/Materials					
Pipe-6" PVC	\$ 6.09	1260	\$ 7,673.40	\$ 7,673.40	
Pipe-4" PVC	\$ 3.20	700	\$ 2,250.00	\$ 2,250.00	
Fittings/Valves			\$ 2,000.00	\$ 2,000.00	
Pump Fittings/Landowner			\$ 650.00	\$ 650.00	
Diversion Box					
Screen/Headgate			\$ 3,000.00	\$ 3,000.00	
Flow Meter	3,200 each	5	\$ 16,000.00	\$ 16,000.00	
3 - Flush/Drains			\$ 820.00		\$ 820.00
Fence repair/Backfill					
Material contingency			\$ 3,040.00		\$ 3,040.00
Total Supplies/Material			\$ 35,433.40		
Other/Consultant					
Archeological Survey	estimate		\$ 4,000.00		\$ 4,000.00
Bend Field Office Staff					
Cultural Resources	estimate	20	\$ 5,000.00	\$ 5,000.00	
Total Project			\$ 73,918.60	\$ 36,573.40	\$ 37,345.20