



Feasibility Grant Applications

Project Summaries – 2015-2017, Second Cycle



Background

Oregon is facing increasing water demand and increasingly scarce water supplies. To adequately meet Oregon’s diverse water demands now and into the future, Oregonians must use their water wisely and efficiently. That means looking more closely at innovative water conservation and reuse programs and environmentally sound storage projects. Feasibility Study Grants from the Water Conservation, Reuse and Storage Grant Program provide match funding for project planning studies performed to evaluate the feasibility of developing water conservation, reuse, or storage projects. A feasibility study is an assessment of the practicality of a proposed project or plan and can be used to determine *if* and *how* a project should proceed to the implementation phase.

Document Description

The following are project summaries for complete grant applications received by February 1, 2016 for the second funding cycle of the 2015-2017 biennium. The project summaries are adapted from submitted project applications. The application summaries are listed by project name in the four project categories: conservation, above ground storage, storage other than above ground, and reuse.

Next Steps

Feasibility Grant Applications are currently being evaluated by the Application Review Team. Prior to presentation of the funding recommendations to the Water Resources Commission, applications will be posted for public comment in late March, along with the associated review team recommendations. At that time there will be a 30 day opportunity for the public to provide written comments.

More Information

Additional information about this funding opportunity is available at: bit.ly/owrdffeasibility

Have questions? Please contact Jon Unger (Jon.J.Unger@wrdd.state.or.us, 503.986.0869).

WATER CONSERVATION	
Project Name	Abbie Lane Lateral Improvement
Applicant Name	Rosie Falcon
Funding Requested	\$8,778 Total Project Cost \$17,556
Project Type	Water Conservation
Summary	The proposed study would assess the feasibility of improving the infrastructure of the Abbie Lane Lateral that provides irrigation water to 13 patrons of the Gold Hill Irrigation District. Water diverted from the Gold Hill Irrigation District main canal runs through alternating sections of open ditch and degrading piping, losing water to leakage, seepage, animal burrows and evaporation. Currently inefficiencies result in landowners not receiving adequate water to irrigate, and flooding of structures and other non-agricultural land.

Project Name	Deschutes On Farm Irrigation Water Management Pilot		
Applicant Name	Deschutes SWCD		
Funding Requested	\$17,000	Total Project Cost	\$34,225
Project Type	Water Conservation		
Summary	<p>The proposed study would assess the feasibility of improving distribution of irrigation water and developing irrigation water management (IWM) plans for landowners in Deschutes County. Historically, Irrigation Districts in Central Oregon delivered water to large acreage parcels that were each served by a single point of delivery. Over the last 100 years, many of these large parcels have subdivided and each point of delivery now delivers water to multiple small-acreage parcels served by a private ditch. Parcel subdivision resulted in on-farm water management challenges and the need for a water use rotation system. A Professional Engineer would work with two groups of landowners to develop an approach that would improve irrigation efficiencies for groups of landowners located throughout Deschutes County Irrigation Districts.</p>		

Project Name	Groundwater Development to Conserve Molalla River Instream Flows		
Applicant Name	Canby Utility		
Funding Requested	\$106,950	Total Project Cost	\$213,900
Project Type	Water Conservation		
Summary	<p>The proposed study would assess the feasibility of developing a water supply of up to 2 million gallons per day (MGD) from groundwater sources to reduce reliance on the City of Canby's Molalla River surface water diversion, thereby conserving water in-stream during low-flow periods. The study would build upon previous groundwater studies, as well, as gather new information to identify the most promising locations of a groundwater source by drilling test wells at up to three targeted locations. A consultant would evaluate the water quality, quantity, sustainability, and impacts on other aquifer users, as well as assess water right options. This information would help determine the level of in-stream conservation possible during summertime low-flow events.</p>		

Project Name	Juniper Flats		
Applicant Name	Juniper Flats District Improvement Company		
Funding Requested	\$40,000	Total Project Cost	\$80,000
Project Type	Water Conservation		
Summary	<p>The proposed study would assess the feasibility of conservation measures within the 2,105 acre Juniper Flats District Improvement Company (JFDIC) in Wasco County. The JFDIC irrigation system includes approximately 50 miles of main channel and 50 miles of laterals that serves 24 farms. It is estimated that approximately one-half to two-thirds of available water may be lost because of water conveyance inefficiencies. The goal of the feasibility study is to assess the irrigation system and develop high-impact, cost-effective strategies to reduce water loss and support water conservation.</p>		

Project Name	Rogue Basin Pilot Study		
Applicant Name	Rogue Basin Partnership		
Funding Requested	\$37,000	Total Project Cost	\$74,900
Project Type	Water Conservation		
Summary	<p>The proposed study would assess the feasibility of conserving water by detaining precipitation that falls on rural lands during the wet season through the addition of organic materials and other amendments to the soil. The added organic materials may minimize water runoff and increase water infiltration. Prior to attempting large-scale implementation, feasibility would be assessed on three types of rural land: timberland, oak savannah, and pastureland. The study would determine if the initial changes to the soil horizon are self-sustaining for the long term. Results would inform decisions on potential next steps to consider larger-scale implementation of the concept.</p>		

Project Name	Upper Catherine Creek Conservation		
Applicant Name	The Freshwater Trust		
Funding Requested	\$114,265	Total Project Cost	\$230,120
Project Type	Water Conservation		
Summary	<p>The proposed study would assess the feasibility of piping or lining irrigation ditches and upgrading on-farm irrigation methods in the upper Catherine Creek watershed. The study would assess the potential water savings, technical feasibility and estimate costs with a goal of improving agricultural production and enhancing instream flows for Endangered Species Act listed chinook and steelhead. The study would yield a prioritized roadmap for future water conservation efforts.</p>		

Project Name	WISE Water Rights Evaluation		
Applicant Name	Medford Water Commission		
Funding Requested	\$162,000	Total Project Cost	\$1,412,000
Project Type	Water Conservation		
Summary	<p>The proposed study would assess the feasibility of the WISE (Water for Irrigation, Stream and Economy) water conservation project in Jackson County in terms of how existing water rights interact with the proposed project. The WISE project proposes to pipe the more than 600 miles of canals that serve the Medford, Talent and Rogue River Irrigation Districts (which serve 35,000 acres) conserving up to 40,000 acre feet of water in an average irrigation season. The purpose of the evaluation is to both confirm that the infrastructure changes proposed with WISE can be satisfied with the existing water rights and to determine how the existing water rights could be modified to meet the demands of WISE. The proposed feasibility work would be part of the larger WISE Feasibility Study and National Environmental Policy Act work already underway.</p>		

ABOVE GROUND STORAGE

Project Name	Applegate Reservoir Capacity Restoration Project		
Applicant Name	Applegate Partnership and Watershed Council		
Funding Requested	\$89,925	Total Project Cost	\$181,615
Project Type	Above-ground Storage		
Summary	<p>The proposed study would assess the feasibility of restoring storage capacity to the Applegate Reservoir through the removal of coarse sediment deposits within the reservoir basin. Sediment deposits have reduced the storage capacity of the reservoir by an estimated 3,000-5,600 acre feet, and have indirectly affected the flow rate and duration of instream flows downstream of the dam. The feasibility study would be led by the Applegate Partnership and Watershed Council. The US Forest Service (USFS) and US Army Corps (Corps) are active partners in this project, and they are responsible for all land ownership and management associated with the project.</p>		

Project Name	Drift Creek Water Supply Development	
Applicant Name	East Valley Water District	
Funding Requested	\$76,320	Total Project Cost \$152,640
Project Type	Above-ground Storage	
Summary	<p>The proposed study would assess the feasibility constructing a reservoir on Drift Creek in order to provide a long-term water supply for East Valley Water District (District) members. The project would provide a water source for over 15,000 acres of agricultural lands in Clackamas and Marion counties. The funding requested would represent the final analyses needed to complete project feasibility, submit the environmental permitting package, answer questions by regulatory agencies, and move toward construction and implementation.</p>	

Project Name	McMullin Creek Dam and Spillway Analysis	
Applicant Name	Josephine County Public Works Department	
Funding Requested	\$73,000	Total Project Cost \$146,000
Project Type	Above-ground Storage	
Summary	<p>The proposed study would assess the feasibility of hydraulic design alternatives to upgrade the dam and service spillway of McMullen Creek Dam. The study would evaluate the existing conditions of the dam and would provide the Josephine County (County) with all required technical information to select the most practicable and cost effective design alternative. In addition the County will use the study to evaluate public benefits presently offered by the recreational area.</p>	

Project Name	Little Rock Creek Reservoir Project	
Applicant Name	Harney County Watershed Council	
Funding Requested	\$7,700	Total Project Cost \$16,650
Project Type	Above-ground Storage	
Summary	<p>The proposed study would assess the feasibility of constructing a reservoir on Little Rock Creek in Harney County that could provide up to 120 acre feet of water storage. The study would help to determine if there is enough fill material at the site and would develop a hydrology estimate. Preliminary design would be completed and the amount of water loss through the break in the hillside where the creek currently runs would be determined.</p>	

Project Name	Oakland Reservoir		
Applicant Name	City of Oakland		
Funding Requested	\$10,858	Total Project Cost	\$21,716
Project Type	Above-ground Storage		
Summary	<p>The proposed study would assess the feasibility of enhancing an existing agricultural pond to provide municipal water for the City of Oakland and augment instream flows in Calapooia Creek during summer months. Calapooia Creek is the only water source for the City of Oakland and has been recorded by the US Geological Survey as having a flow rate of zero in past years. The study would determine: whether the proposed enhancement is viable on the City's property; if the proposed water source is adequate to provide the necessary volume of water to supply the reservoir; and whether the reservoir enhancement would have detrimental effects on adjacent lands or Calapooia Creek.</p>		

Project Name	Pine Grove Water System Improvement		
Applicant Name	Pine Grove Water District		
Funding Requested	\$10,000	Total Project Cost	\$20,000
Project Type	Above-ground Storage		
Summary	<p>The proposed study would assess the feasibility of repairing/renovating or replacing existing water supply infrastructure serving Pine Grove Water District in Klamath County. The study would consist of an examination of current conditions including investigating the structural integrity of water storage tanks and the ability of existing supply to meet demand in an emergency situation (i.e. fire flows). The results of the study would select an appropriate alternative based on an economic analysis of the proposed alternatives (repair vs. replace).</p>		

Project Name	RCC Dam at Big Creek		
Applicant Name	City of Newport		
Funding Requested	\$460,000.00	Total Project Cost	\$1,203,613
Project Type	Above-ground Storage		
Summary	<p>The proposed study would assess the feasibility of constructing a roller compacted concrete (RCC) Dam on Big Creek to replace two existing dams that are susceptible to a seismic event. Big Creek is the City of Newport's sole source of water. A previous study confirmed deficiencies in the existing dams that could result in failure during a seismic event. Dam failure would result in loss of the City's sole source of water as well as flooding and landslides. In 2014-15, the City conducted a feasibility analysis of dam remediation options. This study would build upon that study further analyzing the preferred option of a new RCC Dam.</p>		

Project Name	West Fork Palmer Creek		
Applicant Name	Timothy Kreder		
Funding Requested	\$64,170	Total Project Cost	\$128,340
Project Type	Above-ground Storage		
Summary	<p>The proposed study would assess the feasibility of development of reservoirs for storage of water during the winter months to use for agricultural crop irrigation in the summer in Yamhill County. Regulatory requirements of constructing ponds would be analyzed in addition to the feasibility of alternative sources of water. Cost estimates would be developed for engineering, construction and irrigation systems. The study also would look to identify ways that collaborative partnerships with watershed conservation agencies could be used as a resource in the design and implementation of irrigation ponds that might also improve water quality and ecosystem health.</p>		

STORAGE OTHER THAN ABOVE GROUND

Project Name	Alpine Collective Action Aquifer Storage and Recovery		
Applicant Name	Benton County Community Development		
Funding Requested	\$141,348	Total Project Cost	\$292,228
Project Type	Storage other than above-ground		
Summary	<p>The proposed study would assess the feasibility of addressing groundwater quantity and quality concerns in the rural area surrounding the community of Alpine by developing small-scale Aquifer Storage and Recovery (ASR) that would mitigate low domestic well yields by storing rainwater collected from rooftops. The study would be documented through an Oregon State University student-produced video and manual on the use of ASR wells as an alternative small-scale method of storing recharge water in historically low-yielding wells with low natural recharge rate.</p>		

Project Name	Banks-Green Mountain ASR		
Applicant Name	City of Banks		
Funding Requested	\$102,191	Total Project Cost	\$204,382
Project Type	Storage other than above-ground		
Summary	<p>The proposed study would assess the feasibility of utilizing Aquifer Storage and Recovery (ASR) to meet 2050 summer demands for the City of Banks. The City proposes to assess the feasibility of ASR, water conservation, and alternative water supplies, in order to develop sustainable ASR storage of wintertime Green Mountain spring flow to meet 2050 summer demands for water.</p>		

Project Name	County Line Recharge		
Applicant Name	County Line Water Improvement District		
Funding Requested	\$12,500	Total Project Cost	\$25,000
Project Type	Storage other than above-ground		
Summary	<p>The proposed study would assess the feasibility of constructing a pipeline to pump water from the Umatilla River to the existing County Line Water Improvement District's recharge area. Physical and economic viability of the project would be assessed. The study would also evaluate the potential for conservation of water by pumping in an enclosed system versus running water down the Westland Irrigation District (WID) canals with the associated seepage losses and conveyance issues.</p>		

Project Name	Eastside Aquifer Recharge and Recovery Pumping Test		
Applicant Name	Walla Walla Basin Watershed Council		
Funding Requested	\$44,000	Total Project Cost	\$119,000
Project Type	Storage other than above-ground		
Summary	<p>The proposed study would assess the feasibility of diverting water from the Walla Walla river in the winter/spring time to store in the Eastside sub-basin aquifer for later use during low-flow months (July-Sept). This study would focus on conducting aquifer pumping test(s) which would provide the information necessary to determine aquifer characteristics and the feasibility of the proposed project. The proposed project would allow irrigators the ability to withdraw stored water from the Eastside sub basin aquifer instead of diverting water from the Walla Walla River during these low flow months, thereby improving summer time flows in the Walla Walla River.</p>		

Project Name	Fifteen Mile Watershed Managed Underground Storage		
Applicant Name	Fifteen Mile Watershed Council		
Funding Requested	\$153,185	Total Project Cost	\$316,470
Project Type	Storage other than above-ground		
Summary	<p>The proposed study would assess the feasibility of developing and using below-ground storage to augment late season stream flows providing more stable water supplies. As streamflow declines each summer, junior water right holders are regulated off in order to protect senior users, including some instream rights. Low stream flow is identified as a primary limiting factor for viable fish populations. Specifically, the study would evaluate below-ground storage opportunities in the basin and determine whether any potential storage facilities could meet the dual goal of benefitting both farms and fish.</p>		

Project Name	Meadow Storage Capacity in Upper John Day		
Applicant Name	North Fork John Day Watershed Council		
Funding Requested	\$56,282	Total Project Cost	\$130,429
Project Type	Storage other than above-ground		
Summary	<p>The proposed study would assess the feasibility of increasing meadow water storage capacity through active restoration. The study would analyze three meadows, two undergoing restoration and one control site. Field work would include monitoring of piezometers and temperature loggers at two meadow boundaries as well as staff gauges at all three sites. Measurements would be taken on representative stream transects. After analysis, recommendations would articulate best restoration practices in the region.</p>		

Project Name	Ralph Hutchinson Family Study		
Applicant Name	Susan Boyd & Ira Cohen		
Funding Requested	\$10,000	Total Project Cost	\$20,000
Project Type	Storage other than above-ground		
Summary	<p>The proposed study would assess the feasibility of diverting high water flows from Catherine Creek in the winter to sub irrigate lands to allow for increased agricultural productivity and the recharge of the shallow aquifer. The feasibility study would include soil analysis to determine permeability, infrastructure design, as well as shallow aquifer and soil moisture monitoring.</p>		

Project Name	Rupp Agricultural ASR		
Applicant Name	Rupp Ranches		
Funding Requested	\$155,000	Total Project Cost	\$324,000
Project Type	Storage other than above-ground		
Summary	<p>The proposed study would assess the feasibility of a new approach (utilization of subsurface soils) to treat Columbia River Water for injection into the basalt aquifers in Umatilla County. The projects long term benefits would be to replenish basalt aquifers for long term sustainable use, to bring land that is strategically located near the Columbia River into high value crop production, and to provide technical information to OWRD and the public regarding operational and financial viability of such systems in the Umatilla Basin.</p>		

REUSE

Project Name	Big Lake Recycled Water Study		
Applicant Name	Big Lake Youth Camp, Les Zollbrecht		
Funding Requested	\$4,250	Total Project Cost	\$8,500
Project Type	Reuse		
Summary	<p>The proposed study would assess the feasibility of separating grey water from sinks, showers and laundry facilities before it enters the septic system to be used for onsite irrigation at the Big Lake Youth Camp. Use of recycled water would reduce the hydraulic loading on the gravel filter. Water would be brought to Class C standards, stored above ground and used to promote the growth of native plants over roughly on-half acre to pilot the technology.</p>		

Project Name	Pendleton Reuse		
Applicant Name	Umatilla County Soil & Water Conservation District		
Funding Requested	\$30,000	Total Project Cost	\$60,000
Project Type	Reuse		
Summary	<p>The proposed study would assess the feasibility of reusing wastewater from the City of Pendleton's wastewater treatment facility that currently discharges into the Umatilla River. The reuse water could be applied to State or Oregon rights of way throughout Pendleton, used for irrigated farms located below the facility, and used near the Airport Industrial Area. The study would determine the cost for each phase of this project and determine a future funding path. The study would also result in a better understanding of Oregon Department of Environmental Quality permitting elements associated with the wastewater treatment facility.</p>		

Project Name	Yoncalla Water Reuse Plan		
Applicant Name	City of Yoncalla		
Funding Requested	\$10,000	Total Project Cost	\$20,000
Project Type	Reuse		
Summary	<p>The proposed study would assess the feasibility of constructing a water reuse system to facilitate land application of wastewater from hydraulically undersized municipal wastewater lagoons in the city of Yoncalla.</p>		

Project Name	West Extension Reuse		
Applicant Name	West Extension Irrigation District		
Funding Requested	\$40,000	Total Project Cost	\$80,000
Project Type	Reuse		
Summary	<p>The proposed study would assess the feasibility of constructing three regional reuse storage reservoirs within or near West Extension Irrigation District (WEID) boundaries. The study would include reviewing the feasibility of storing Class A reuse water from the City of Hermiston, City of Umatilla, Port of Morrow, and the Port of Umatilla. The construction of regional reuse reservoirs would allow the District to store the reuse water throughout the year and put it to beneficial use throughout the WEID reducing the amount of water the District diverts from the Columbia River to meet their irrigation demand.</p>		

Project Name	Umatilla Reuse		
Applicant Name	The City of Umatilla		
Funding Requested	\$130,000	Total Project Cost	\$260,000
Project Type	Reuse		
Summary	<p>The proposed study would assess the feasibility of separating industrial and domestic wastewater from the City of Umatilla's wastewater treatment plant and beneficially reusing all current and future industrial flows by recycling the water into the West Extension Irrigation District (WEID) via the Umatilla feed canal. The City's wastewater treatment plant capacity is exceeded during the summer due to industrial cooling tower flows generated by the VA Data Center site at the Port of Umatilla. The feasibility study would quantify water demands, permitting, treatment, and reuse requirements for current, future, and buildout flows from all potential industrial uses in the City, Port, and Confederated Tribes of the Umatilla Indian Reservation (CTUIR) area.</p>		

Project Name	Sunrise Purple Pipe Groundwater & Reuse Feasibility Study		
Applicant Name	Sunrise Water Authority		
Funding Requested	\$50,000	Total Project Cost	\$100,000
Project Type	Reuse		
Summary	<p>The proposed study would assess the feasibility of using groundwater and reuse water to meet non-potable demand in Clackamas County. Sunrise Water Authority owns and operates an 11,970 foot purple pipe (non-potable water) distribution system that currently supplies potable water to meet peak seasonal demands for non-potable water. The study would determine the types and quantities of future non-potable water demand, assess groundwater and reuse source water for SWA's purple pipe system, delineate the locations and capacities of storage facilities, and develop a layout of future purple pipe mains.</p>		

Project Name	Sterling Park Storm water Recharge		
Applicant Name	Clean Water Services		
Funding Requested	\$50,000	Total Project Cost	\$100,000.00
Project Type	Reuse		
Summary	<p>The proposed study would assess the feasibility of reusing winter storm water collected from impervious residential roads in Beaverton and stored in an aquifer storage and recovery well for beneficial purposes in the summer. Potential uses of stored water include benefitting instream flows, improving instream temperatures, and providing an alternative to drinking water for non-potable uses. The study would involve collecting site-specific stormwater quality and quantity data, evaluating treatment technology, groundwater fate and transport modeling, assessing regulatory and permitting issues, and developing an implementation plan.</p>		