



Feasibility Grant Applications

2022 - 2023 Cycle Evaluation Summaries and Review Team Funding Recommendations



Background

Feasibility Study Grants provide funding for project planning studies that evaluate the feasibility of developing a water conservation, reuse, or storage project. A feasibility study is an evaluation of a proposed project or plan and can be used to determine *if* and *how* a project should proceed to the implementation phase. This funding opportunity covers up to 50% of the study cost.

Document Description

The following are evaluation summaries for grant applications received by November 2, 2022 for the current Feasibility Study Grant funding cycle. The evaluation summaries include a project summary, feedback from the Application Review Team (ART), and the ART's funding recommendation. The applications are listed below in alphabetical order.

Next Steps

Applications and the ART recommendations will be posted on the Department's website for a 30-day public comment period from March 15, 2023 to April 14, 2023. The Department will present funding recommendations and the comments received to the Water Resources Commission at its meeting tentatively scheduled for June 15-16, 2023. The funding recommendations will be based on the ART recommendations and public comments received. The Commission will make the final funding decisions.

More Information

Additional information about this funding opportunity is available on the program [website](#). If you have questions please contact Grant Coordinator, Adair Muth, at 971-301-0718 or WRD_DL_feasibilitystudygrants@water.oregon.gov.

List of Applications Received

Study Name	Project Type	County	Funding Requested	Total Cost of Study¹
City of North Plains Aquifer Storage and Recovery Study	Below ground storage	Washington	\$94,727	\$198,297
Drywell-Managed Aquifer Recharge Using Winter flow and Non-Contact Wastewater at Westland Irrigation District	Reuse, Below ground storage	Umatilla	\$249,686	\$499,372
East Fork Hood River Water Conservation Feasibility Study	Conservation	Hood River	\$47,340	\$96,416
Silverton ASR Feasibility Study	Below ground storage	Marion	\$250,000	\$500,000
		Total	\$641,753	\$1,294,085

¹Studies require at least a dollar-for-dollar cost match.

2022-2023 Applications

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City of North Plains Aquifer Storage and Recovery Feasibility Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: City of North Plains

County: Washington

Funding Requested: \$94,727

Total Project Cost: \$198,297

Study Summary:

The proposed study would assess the feasibility of constructing an Aquifer Storage and Recovery (ASR) facility on publicly owned property. With ASR, the City could inject and store potable water underground during the winter when demands are low, and then recover the stored water in the summer to serve customers when demands peak. The study would require hydrogeologic and engineering services to determine the potential for ASR to work in the North Plains area, to select a site, and for well design. The City currently has a single water supply source via the long Joint Water Commission (JWC) transmission main from Hillsboro. A new ASR well would provide an alternate (redundant) water source that does not depend on maintaining continuous integrity of the JWC Supply Pipeline connection.

Evaluation Summary

The application describes the water need with the expected population growth in the area. The review team appreciated the approach to build resiliency through redundancy while preparing to address future population growth and lack of water due to climate change. The study goal is clear, and tasks are appropriate to achieve the goal, but the application would have been improved with more details. Information about environmental concerns including water availability and ecological flow needs would have improved the application. The review team noted the single mention of a storage tank in the application made it a little unclear whether the proposed study would evaluate storing water in an underground storage tank or the aquifer.

The review team noted a lack of public involvement in the process to-date and that the application would have been strengthened with updated letters of support. The review team recommends the study assess the water that could be left instream during the summer and for the applicant to consider protecting it as an instream water right, if feasible in future project planning efforts. The application describes an approach which meets the criteria of the Storage Specific Study Requirements triggered by the study.

Drywell-Managed Aquifer Recharge Using Winter flow and Non-Contact Wastewater at Westland Irrigation District

Recommended for Funding

Study Information (adapted from application)

Applicant Name: Oregon State University

County: Umatilla

Funding Requested: \$249,686

Total Project Cost: \$499,372

Study Summary:

Managed Aquifer Recharge (MAR) is increasingly used to augment groundwater supplies with excess surface water. The proposed study would demonstrate the implementation of multi-beneficial MAR through a novel drywell-MAR approach. A vadose zone and groundwater monitoring well would be installed to evaluate water quantity and quality improvement by aquifer dilution through drywell-MAR. This study would be the first to evaluate the use of non-contact wastewater (NCWW) from data centers as an alternative water source for drywell-MAR. A pretreatment system developed to treat the NCWW would be tested at the drywell-MAR site. Data collected from this project would be used to conduct numerical modeling to evaluate the drywell-MAR's ability to infiltrate, recharge, and improve the water quality of the targeted aquifer.

Evaluation Summary

The application clearly articulates the water need and the review team appreciated the investigation of a novel approach to water supply issues. The research methods are thoroughly described, but the tie to a specific project to be implemented as a result of the study was vague, which made it difficult to determine that this is a feasibility study and not a research project. The review team, however, determined the information was sufficient to recommend the study for funding.

The review team noted the application does not clearly describe the required permitting pathway for the study. The applicant will need to obtain a limited license for Artificial Groundwater Recharge (AR) prior to installing a drywell for Managed Aquifer Recharge. The application proposes to use winter flow water from the Westland Irrigation Canal and reclaimed water from data center operations during the summer. The application's proposed method of using winter overflows from the Westland Irrigation Canal is not feasible as described because a limited license requires water to be appropriated from a natural water source and the water in the canal has not been appropriated for AR. The applicant may be able to apply for a new water right to appropriate water from the Umatilla River and convey it using the Westland Irrigation Canal as part of their limited license.

The application's proposed use of reclaimed water may be possible but is untested. The use of reclaimed water for aquifer recharge has not been licensed before, so the licensing path will need to be worked out by the appropriate state agencies. Since the issue of water availability is

critical to the ability of the applicant to complete the study, OWRD strongly encourages early discussions regarding the limited license permitting process, including a pre-application conference to discuss the limited license application.

The Confederated Tribes of the Umatilla Indian Reservation requests that the applicant include in the study scope a review of the State Historic Preservation Office database of recorded cultural resources to ensure the dry well is not excavated in a known site. If funded, cultural resources compliance will be a condition of the grant agreement (this is agency practice for all grants).

East Fork Hood River Water Conservation Feasibility Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: East Fork Irrigation District

County: Hood River

Funding Requested: \$47,340

Total Project Cost: \$96,416

Study Summary:

The proposed study would evaluate the feasibility of reducing suspended sediment in the East Fork Irrigation District's (EFID) irrigation water and eliminating a major overflow in the district's delivery system. The study would 1) evaluate options for reducing sediment and eliminating an existing major overflow within EFID's system, 2) assess the feasibility, size, and cost of the preferred alternative, and 3) recommend preferred alternatives and next steps. Eliminating overflows and reducing sediment levels in irrigation water would conserve water and support the goals of increasing summer streamflows for Endangered Species Act-listed spring Chinook salmon and steelhead and providing high-quality irrigation water to farms and rural residences.

Evaluation Summary

The application describes a clear study goal of evaluating two actions to conserve water. The tasks are clearly outlined and appropriate to achieve the goal. If completed, the project shows potential to benefit agricultural water users and several fish species. The review team noted the potential for conserving water instream and encourages the applicant to consider legally protecting the water instream if feasible in future project planning efforts. The proposal was strengthened by the community engagement efforts, which includes providing information in multiple languages.

The design of a new fish screen will require coordination with the Oregon Department of Fish and Wildlife. The review team encourages the applicant to consider Pacific lamprey entrainment in the design of a new fish screen. The review team also encourages the applicant to consider the environmental impact of reducing flows to Neal Creek.

Silverton ASR Feasibility Study

Recommended for Funding

Study Information (adapted from application)

Applicant Name: City of Silverton

County: Marion

Funding Requested: \$250,000

Total Project Cost: \$500,000

Study Summary:

In 2021 the City of Silverton completed an initial feasibility evaluation to identify the best potential locations for an Aquifer and Storage Recovery (ASR) Project to store water in the winter underground so it can be pumped out and used in the summer. The completed evaluation identified two potential ASR locations. This proposed study would drill exploratory wells at those two locations to determine the potential ASR yield at each site. The two exploratory wells would be drilled on City property. The study would complete a pre-design level plan of infrastructure needed and estimate costs for an ASR project for the site with the best ASR yield based on the well testing. A completed ASR project would allow the City to reduce the reliance on taking water from two surface water sources, Abiqua and Silver Creek, during the summer when streamflows are low which would provide a buffer for the City against drought.

Evaluation Summary

The proposed study builds off of the previous feasibility study completed in 2021. The goal of the study is clear, and tasks are thoroughly described and appropriate to achieve the goal. If completed, the ASR project shows potential to benefit municipal water users, as well as several fish species. The proposed ASR project would divert winter flows into the aquifer. The review team recommends consideration of instream needs throughout project development including overwinter fish habitat and flushing flows necessary to trigger fish migration.

The review team noted the application includes limited information regarding community engagement about the project and encourages the applicant to conduct community engagement outside of City Council meetings. The application describes an approach which meets the criteria of the Storage Specific Study Requirements triggered by the study.