



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

I. Project Information

Project Name: Edmonds Hazelnut Drip Irrigation

Type of Project: Conversion of Hand-line irrigation to Drip Check box if project type includes storage

Funding Request Type: Loan Grant

Funding Amount Requested: \$ \$40,716 Total cost of project: \$ \$54,288

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

II. Applicant Information

Principal Contact: Jonathan Edmonds	Fiscal Officer:
Address: <u>PO BOX 1027</u>	Address:
<u>Mount Angel, OR 97362</u>	
Phone: <u>503-856-5370</u> Fax:	Phone: Fax:
Email: <u>jkedmonds93@gmail.com</u>	Email:

Involved Landowner 1: Jonathan Edmonds	Involved Landowner 2:
Address: <u>17429 Mount Angel - Scotts Mills Rd NE</u>	Address:
<u>Silverton, OR 97381</u>	
Phone: <u>503-856-5370</u> Fax:	Phone: Fax:
Email: <u>jkedmonds93@gmail.com</u>	Email:

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

Certification:

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

Applicant
Signature:

Date: January 11, 2016

Print Name: Jonathan Edmonds

Title/Organization: Land Owner and Owner of small family farm

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.

This project is intended to convert an existing big-gun / hand-line irrigation system for a brand-new 50 acre hazelnut orchard over to a drip-system utilizing an Olsen Vacleen filtration system, thereby creating a significant (~85%) reduction in water requirements. The parcel containing the new orchard has been recently given the address of 17429 Mount Angel - Scotts Mills Rd NE Silverton, OR 97381.

This project will require hiring a company to install and setup a self-flushing filtration system so that river water may suitably be used for drip irrigation. This system will include the ability to fertigate the crop providing very precise amounts of various nutrients to the young orchard. This will benefit the Oregon hazelnut community as a whole, as all data gathered in this sysetm will be made public for all the experts to learn from.

We will donate in-kind labor to handle the installation of the drip-line itself, which must be carefully laid out along the tree rows and connected to the correct zones.

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:

Temporary installation labor will be created for the installation of this system, however, long-term, no job loss or creation is anticipated. Our family farm is planning on using our own labor.

(b) Increases in economic activity:

Some incremental economic activity is created by purchasing a drip filtration system and drip-line, though the overall impact is likely minimal.

(c) Increases in efficiency or innovation:

Several efficiencies are created. There are of course the tremendous water savings, but there is also savings in labor required to manage and maintain the hand lines, and there are also savings in electricity by moving to drip. The pump will have to work less often and less hard during the irrigating months when using a drip system, which reduces electricity usage. Finally, there are benefits from the ability to apply plant nutrients through the drip irrigation directly, rather than through spreading of fertilizer or foliar applications. This reduces the environmental footprint as less trips through the field with a diesel tractor are required.

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

Having a good filtration system on the farm does enhance its value somewhat.

(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:

Hazelnuts are known as a signature Oregon crop, and any new Hazelnut orchards could bolster that position, helping to draw tourism into the Willamette Valley.

(f) Increases in irrigated land for agriculture:

By putting nearly 85% more water back into Butte Creek this project has the potential to increase the amount of land irrigated for agriculture in the Butte Creek river valley by reducing the likelihood of having to turn off water for down-stream users.

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:

This project will have a direct impact on the native hydrograph (A), which will in turn help support native fish species of cultural importance to Indian tribes (D). Our rough estimates indicate that this project will keep approximately 22 million gallons of additional water in Butte Creek over the months of July through September.

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

As this project does not directly impact any wells, it is unlikely to have any measurable improvement in groundwater levels, though some incidental improvement is possible in the event that by adding more water back to the river system, some other ground-water usage may be unnecessary.

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

This project will improve the quality of the Butte Creek River System by increasing the summer-time water supply, thus reducing the surface temperature of the water.

- (d) Water conservation:

Overall, this project is estimated to save 85% of water requirements for the proposed hazelnut orchard. Presuming that using hand-lines will result in approximately 18 inches of water per acre, and that drip lines will utilize approximately 2 inches of water per acre, we should save approximately 16 inches per acre over 50 acres, resulting in nearly 22 million gallons of water savings for Butte Creek annually. Even if we doubled the rate of drip application for larger mature trees in a dry year, we would still be saving 19 million gallons of water annually!

- (e) Increased ecosystem resiliency to climate change impacts:

By increasing streamflow in Butte Creek, this project will positively impact the ecosystem resiliency of the Pudding River Watershed.

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

No substantiated improvements to limiting ecological factors are likely from this project, however, increased streamflow is clearly one likely outcome.

Social/Cultural Benefits ORS 541.673(4)

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

Hazelnuts are a signature Oregon crop, and are a big part of the local food system. This project, by promoting a sustainable hazelnut orchard, contributes to our local food system in a positive and direct manner.

- (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:

Many low-income and rural residents recreate in Butte Creek, and by increasing the quality and water level of the river system, there is some measurable improvement in non-economic conditions for them.

- (c) The promotion of recreation and scenic values:

Butte Creek is a river system with some level of recreation, though it is often limited in the summer-time due to its low flow rates. This project directly benefits the scenic and recreational value of this river system by improving water flows and river conditions.

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

We will be making our data available to the Nut Growers Society of Oregon which, when combined with other local farmers, will help determine the overall benefit of drip-irrigation in hazelnuts. This information will be made publically available.

(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:

With Butte Creek being a protected stream within the state, improving the water quality of this river is considered a state priority.

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

This project would seem to directly to recommendation 10.A of the Integrated Water Resources Strategy.

This section talks about improving water-use efficiency and water conservation.

2. Identify Project Location.

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

Map Showing Parcel in question in Green

(b) Township Range Section Quarter-Quarter Section
 6S 1E 17 NENE

(c) Tax Lot Number(s)

061E1700100

(d) Latitude/Longitude

45.0555355/ -122.7053517

(e) County

Marion

(f) Watershed

Pudding River

(g) River/Stream Mile (where applicable)

Butte 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.

The submitter of this proposal is also the land owner, and as such, the land owner is definitely aware and agrees to the proposal.

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

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

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

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.

Karen Quigley responded to my request with the following information:

Hello Jonathan.

Thanks for your email.

There are 3 Tribes that should be contacted for your project.

Although fish are a treaty and/or cultural resources for Tribes, as you seem to suggest, there are other reasons that projects by waterways may be of interest to Tribes. Not surprisingly, really, many village sites, burial sites and cultural resources can be found along waterways. All 3 contacts are friendly and incredibly knowledgeable. They are the respective Tribes' cultural resources directors.

Confederated Tribes of Grand Ronde, David Harrelson David.Harrelson@grandronde.org

Confederated Tribes of Siletz, Robert Kentta rkentta@ctsi.nsn.us

Kathleen Sloan, Kathleen.sloan@ctwsbnr.org for Confederated Tribes of Warm Springs.

Thanks,

Karen

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.

Robert Kentta - Confederated Tribes of Siletz

I communicated with Mr. Kentta via email on January 4, 2016. He was overall in favor of any project that reduced the water impacts of irrigation. His main concern was that this project may require significant disruption of the ground in several key sites along Butte Creek. After I explained to him that this project does not intend to have much ground disturbance, he was in favor of it and gave it his blessing.

David Harrelson - Confederated Tribes of Grand Ronde

I sent an email to Mr. Harrelson on January 4, 2016. He responded indicating that the Cultural Protection Coordinator (Jordan Mercier) would need to get back to me, but he has not yet responded.

Kathleen Sloan - Confederated Tribes of Warm Springs

I sent an email to Ms. Sloan on January 4, 2016. I followed-up with another email on January 7, 2016. She has not yet responded to my request for feedback.

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.

Not Required

(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.

Not Required

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 system is fairly straight-forward to install. This is an Olson Vacleen auto-flushing Screen Filter attached to a 300 gpm pump. It will feed a series of 20mil 24" space drip line tubes coming off of a mainline fed from the pump. Fischer Supply in Canby, OR will coordinate installation if this project is approved.

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.

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"> • Cash - Cash is direct expenditures made in support of the feasibility study by the applicant or partner*. 	<ul style="list-style-type: none"> • Secured - Funding commitments already secured from other sources.
<ul style="list-style-type: none"> • In-Kind - The value of in-kind labor, equipment rental and materials essential to the feasibility study provided by the applicant or partner. 	<ul style="list-style-type: none"> • Pending - 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.

* “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 (<input checked="" type="checkbox"/> One)	Status (<input checked="" type="checkbox"/> One)	Amount/ Dollar Value	Date Match Funds Available (Month/Year)
<i>Applicant Funds</i>	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$11,572	January 16
<i>Donated Installation Labor</i>	<input type="checkbox"/> cash <input checked="" type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$2,000	January 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		
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