

OREGON



WATER RESOURCES
DEPARTMENT

2020 SOLICITATION

FEASIBILITY STUDY GRANTS

GRANT APPLICATION

APPLICATION DEADLINE: BY 5:00PM ON OCTOBER 15, 2020

Application must be received by this date and time

Send application electronically to: WRD_DL_feasibilitystudygrants@oregon.gov

Mail application to:

OREGON WATER RESOURCES DEPARTMENT
Attention: Grant Program Coordinator
725 Summer Street NE, Suite A
Salem, OR 97301

APPLICATION SUBMISSION INSTRUCTIONS

1. **When completing your application, use the** Application Instructions available at the OWRD Funding Opportunities, Applications, Forms, and Guidance webpage:
<https://www.oregon.gov/OWRD/programs/FundingOpportunities/Pages/default.aspx>
2. Complete all sections in the spaces provided. An application must be submitted on the attached form provided by the Department. An explanation must accompany the application if any of the information required cannot be provided [OAR 690-600-0020(6)].
3. Please ensure that the Certification portion of Section II is signed with a live signature by the Applicant and, if applicable, the Co-Applicant.
4. Taking part in a Pre-Application Conference prior to applying is **highly** recommended. The pre-application conference request form is available on the OWRD Funding Opportunities Forms webpage. To learn more contact the Department.
5. Complete and sign the application checklist.
6. Electronic submission of application is the preferred method. You may scan a copy of the signed signature page and submit with your application if both documents are included in the same email.
7. If application is submitted in hard copy - use 8 ½" x 11" single sided, unstapled pages. Provide any attachments to the application on 8 ½" x 11" single-sided, unstapled pages.
8. Contact the Department at 503.986.0869 or WRD_DL_feasibilitystudygrants@oregon.gov if you have any questions.

FEASIBILITY STUDY GRANT APPLICATION CHECKLIST

Instructions: Use this checklist to ensure that your application is complete. An incomplete application will not be eligible for further review and consideration. This checklist must be completed and signed in order for your application to be considered complete.

SECTION A - Application

I. Study Information

- Study name and type(s) is complete and correct.
- The requested grant amount and previous Feasibility Study Grants for the study do not exceed \$500,000.
- The requested grant amount does not exceed 50% of the Total Cost of the Study.

II. Applicant Information

- All applicant and co-applicant name(s) and contact information is complete and correct.
- Application is signed by Applicant/Authorized Person.
- Application is signed by Co-Applicant/Authorized Person *OR* there is no co-applicant.

Note: *If the project is awarded funding the co-applicant will be required to sign and be party to the grant agreement.*

III. Study Location

- All questions have been addressed.
- Site plan map is attached.

IV. Feasibility Study Summary

- A brief (4-5 sentence) summary of the feasibility study and goal is included.

V. Feasibility Study Grant Specifics

- All questions have been addressed.
- Study key tasks are identified.

VI. Feasibility Study Budget

- All key tasks and budget items follow the Department's Budget Procedures and Allowable Costs guidance available on the OWRD Funding Opportunities Forms webpage.
- All budget information is accurate and complete.
- Administrative costs do not exceed 10% of total Grant Request.
- Key tasks listed in budget match those identified in Questions 13 and 14.

VII. Match Funding Information

- Matching Funds total, at a minimum, 50% of the Total Cost of the Feasibility Study.
- Match fund letters, indicating pending or secured match, are attached and equal the amounts listed in VI. Feasibility Study Budget.

VIII. Storage-Specific Questions

- All questions have been addressed *OR* the application is not for a storage project.
- Minimum Storage Specific Study Requirements are met and are incorporated into the study and key tasks.

SECTION B - Application Attachments

Instructions: Use this checklist to ensure required attachments are included with your application. All attachments to the application must be numbered as well as included in this list. For all attachments ensure documentation meets any criteria identified in the application instructions, Storage-Specific Guidance, and Guidance on Budget Procedures and Allowable Costs. For “other” optional attachments in excess of the three spaces provided, include a supplemental list.

Required Attachments:

- Attachment 1 – Site map (Question 3)
- Attachment 2 – Signed Landowner Agreement Forms (Question 5) to verify that you have authorized access to the lands on which the study would occur.
- Attachment 3 – Documentation of matching funds (Question 22) includes the following:
 - a) Match documentation for all match fund sources listed in the match fund table.
 - b) Match fund documentation that clearly identifies the dollar amount and describes the work to be accomplished with the match.
- Attachment 4 (*Select Storage Projects Only: if you answered “yes” to any part of Question 23*) – Description of approach to address storage-specific requirements; see the Storage-Specific Study Requirements: Application Guidance for the minimum requirements.

Optional Attachments:

- Letters of support (Question 13): Attachment #5
- List and description of key tasks (Question 14): Attachment #
- Secured permits and regulatory approvals needed to implement the project (Question 15): Attachment #
- Other: Attachment # 6 Reclamation's Option #32 Recommendation
- Other: Attachment #
- Other: Attachment #

All required items within Section A and B of the application checklist are completed and all identified criteria are addressed to the best of my knowledge.

Signature of Applicant/Authorized Person: Gene R Souza Date: 15 October 2020

Print Name: Gene Souza Title: Executive Director



**FEASIBILITY STUDY GRANTS
2020 GRANT APPLICATION**

I. Study Information

Study Name: Klamath Irrigation District C-G Drop Hydropower Feasibility Study

Type of Feasibility Study: **Water Conservation** Reuse
 Storage (Above-Ground) Storage (Below-Ground)
 Storage (Other)

Requested Grant Amount (must be no more than 50% of Total Study Cost): \$ 80,000

Total Cost of Feasibility Study: \$ 160,000

Note: Request(s) may not exceed \$500,000 per project.

II. Applicant Information

Applicant Name: Klamath Irrigation District	Co-Applicant Name:
Address: 6640 K.I.D. Lane Klamath Falls, OR 97603	Address:
Phone: (541) 882-6661	Phone:
Fax:	Fax:
Email: gene.souza@klamathid.org	Email:

Principle Contact: Gene Souza	Fiscal Officer: Tammi Flanakin
Address: 6640 K.I.D. Lane Klamath Falls, OR 97603	Address: 6640 K.I.D. Lane Klamath Falls, OR 97603
Phone: (541) 882-6661	Phone: (541) 882-6661
Fax:	Fax:
Email: gene.souza@klamathid.org	Email: tammi.flanakin@klamathid.org

Certification: I certify that this application is a true and accurate representation of the proposed work for a project feasibility study and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant and Co-Applicant (if applicable) certifies that they are aware of the requirements of an Oregon Water Resources Department grant, have read and agree to all conditions within the sample Feasibility Study Grant Agreement and are prepared to conduct the study if awarded.

Signature of Applicant/Authorized Person: Gene R Souza Date: 15 October 2020

Print Name: Gene Souza Title: Executive Director

Signature of Co-Applicant/Authorized Person: _____ Date: _____

Print Name: _____ Title: _____

III. Feasibility Study Summary

1. Please provide a brief, 4-5 sentence summary of the feasibility study. This summary should include a brief description of the goal of the water conservation, reuse, or storage project being studied and the purpose of the study. Please refer to the Feasibility Study Grant Application Instructions for additional information on what to include in your study summary.

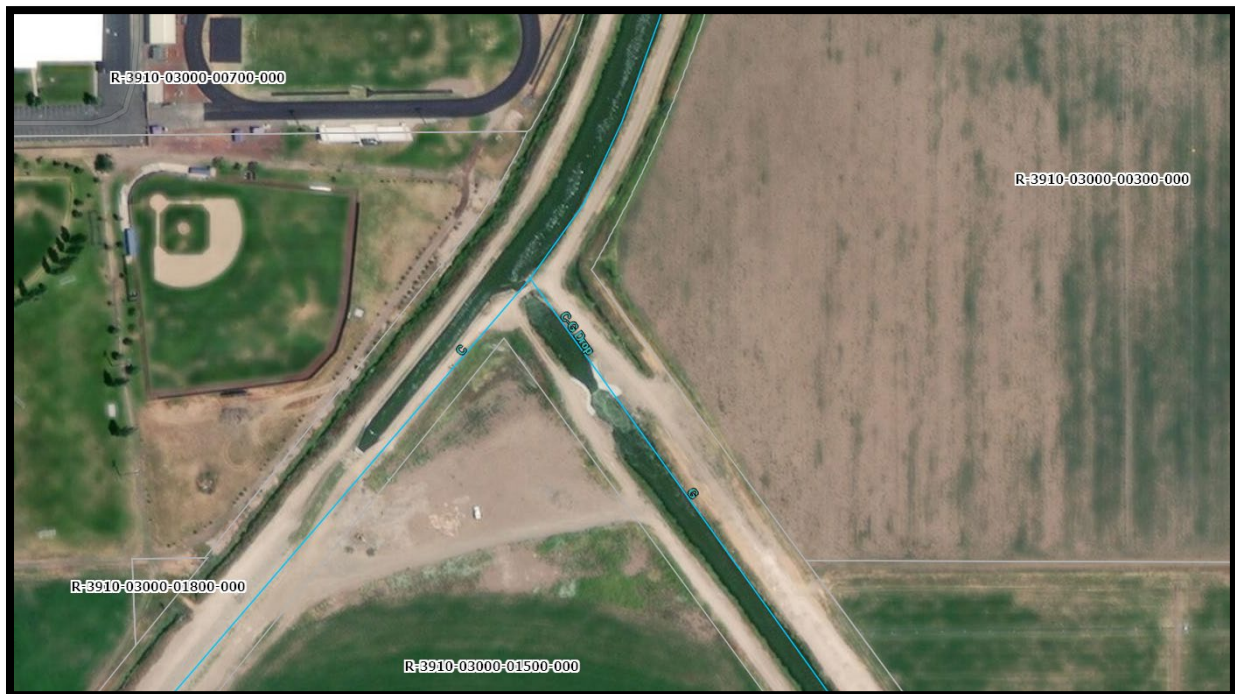
The goal of the proposed feasibility study is to produce a **Hydropower Structure Design** for the C-G Drop in Klamath Irrigation District, which is located in Klamath County. This site was identified by the United States Bureau of Reclamation, Irrigation Training Research Center, and Farmers Conservation Alliance as having **potential for hydropower development as part of a larger modernization effort**. This study will identify and evaluate opportunities to modernize the District's infrastructure in a manner that benefits agriculture, the environment, and the community. Currently the District assumes the location is practical for a hydropower facility and is preparing to invest in automation controls; however, **no research has been conducted to date to develop a detailed study to confirm the assumption of hydropower feasibility with construction plans and detailed cost estimates**. The result of the study will provide **high-level engineering designs, cost estimates, projected water savings, and projected hydroelectric power generation and energy conservation potentials** for integration with a System Improvement Plan (which includes a Supervisory Control and Data Acquisition (SCADA) component, being examined by Farmers Conservation Alliance in partnership with Energy Trust.

IV. Study Location

Instructions: Please answer the following questions about the location of the feasibility study and project being evaluated.

2. **Location.** Please provide the following information about the study and project location.
 - a. Latitude/Longitude (in decimal degrees): **42.149359/ -121.690938**
 - b. County: **Klamath**
 - c. Watershed/Basin (HUC 10 number): **HUC8 180101204**
3. **Site Plan Map.** Please attach a site plan map showing the following and label as Attachment #1:
 - a. Feasibility study area boundaries
 - b. Project area (if implemented)
 - c. True north arrow
 - d. Map title and legend
 - e. Latitude and longitude
 - f. Property boundaries
 - g. Surface water bodies
 - h. Sampling locations (if proposed)
 - i. Points of Diversion and Place of Use, labeled for each water right (if applicable)
4. **Properties Impacted or Accessed During Study.** Check the box which best describes the properties involved in the proposed Feasibility Study.
 - a. This Feasibility Study will not impact or access lands.
 - b. This Feasibility Study will impact or access lands. Complete the table below to identify any properties where access is required for the feasibility study or on which the study would occur. *Add rows as needed.*

Tax Map Number	Tax Lot Number	Ownership Type (✓ One)	Property Owner of Record
Does not Exist – Federal Land SE¼ of NW¼ of Section 30, Township 39s, Range 10E, Willamette Meridian	NA Site and access to site is Federal Property without a Tax Lot Number. See GIS extract below with surrounding Tax Lot Numbers	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	U.S. Bureau of Reclamation with an Operations and Maintenance Contract 14-06-200-3784 with Klamath Irrigation District. K.I.D. has full access to the site through the contract as can be viewed at the Klamath County Public Works Taxlot Finder App .
NA	NA	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	All access to this location is via the Federal Government Lands under contract with K.I.D. These lands do not have tax lot numbers. No additional access through private property, nor additional easements are required.



- 5. Landowner Agreement.** Attach a signed Landowner Agreement form for each property listed in Question #4 where access to the property is required or on which the Feasibility Study would occur. Attach Landowner Agreement form(s) only for those properties involved in the Feasibility Study and label Attachment #2. (Landowner Agreement forms may be found on the [Applications, Forms and Guidance](#) webpage.)
- Where a single landowner entity is the owner of record for multiple properties, one form may list the multiple properties owned by that entity.

- b. For *public* lands attach the landowner form or other documented authorization from the federal or state government property owner allowing the feasibility study activities or documentation that demonstrates such authorization is being pursued.

See attachment #2. Operations and Maintenance [Contract 14-06-200-3784](#)

6. Properties Impacted or Accessed During Implementation. Check the box which best describes the properties involved in future project Implementation. Identify any lands that would be impacted or accessed during future project implementation. Check all that apply and provide the requested information.

- a. The proposed project, if implemented, will only impact or access lands already identified in Question 4 (must have selected box b under question 4).
- b. The proposed project, if implemented, will likely impact or access lands during implementation, but those lands likely to be accessed or impacted have not been identified, OR this question is not applicable. If this box (6b) is checked, do not complete the table below.
- c. The proposed project, if implemented, is highly likely to impact or access additional lands during implementation. If this box (6c) is checked, complete the table below to identify any additional properties (those not already identified under question (4)) where access is required for future project implementation. *Add rows as needed. No Landowner Agreement forms are required for lands listed only under this question.*

Tax Map Number	Tax Lot Number	Ownership Type (✓ One)	Property Owner of Record
NA	NA	<input type="checkbox"/> Public <input type="checkbox"/> Private	NA

V. Feasibility Study Specifics

Instructions: Please answer all questions in this section. As applications are expected to result in additional pages to complete this section, you may attach your responses on a separate document as long as you indicate the question numbers in your response.

7. Water Need. Describe the identified water need (local, regional, or statewide). Please provide data or a narrative substantiating the need.

The proposed feasibility study will help to address water needs in the **Lost River/waterbody (HUC8 180101204)**.

The District is part of the Bureau of Reclamation’s Klamath Project. The **other districts within the Project which may see benefits from this study** are Enterprise Irrigation District, Pine Grove Irrigation District, Poe Valley Improvement District, Klamath Basin Improvement District, Shasta View Irrigation District, Malin Irrigation District, Van Brimmer Ditch Company, and Tulelake Irrigation District. Klamath Irrigation District serves 8 other Districts from the A Canal headworks; watersavings in the Klamath Irrigation District benefit the other Districts in that water saved becomes available to other Reclamation contractors or stakeholder needs.

The District's primary water supply source for this study is the Upper Klamath Lake with Klamath Adjudication claims KA 1000, KA 1001, and KA 1004. Both winter snowpack and spring/summer precipitation are expected to decrease in the coming years, which could jeopardize the District's future water supply.

The District diverts water from the Upper Klamath Lake at the A Canal Headworks diversion near the Link River Dam. A fish passage screen is incorporated into the A Canal Headworks. The District maintains about 200 miles of open canals that carry water to over 300 patrons to irrigate over 122,000 acres across the 8 Districts. These canals lose an average of 35% of water to seepage, evaporation, and operational spill as determined in a 1997 study by Davids Engineering; **the District owns and maintains 7 reuse pump stations which are becoming extremely expensive to operate and maintain.**

This feasibility study specifically focuses on the United States Bureau of Reclamation's recommendation "Option #32" in the Draft Klamath Project Yield and Water Quality Improvement Options Appraisal Study (April 2012) which recommends to **"Automate the Flow Control at the Head of the C-G Cutoff Canal" which will enhance efficiencies in operating the Project.** A hydropower facility, with integrated automation controls will improve water control, reduce operational spill, and has the potential to make water available to other water right holders.

The proposed feasibility study will help to address agricultural water needs as the District's water supply varies annually with environmental conditions. This variability highlights the need for improved water efficiency. The District relies on live flow and stored water to meet patrons' needs, **and it is becoming increasingly challenging to deliver water to junior water right holders due to policy driven water shortages.** The District typically starts drawing heavily upon its storage earlier during drier years, accelerating the onset and increasing the intensity of these shortages. These shortages may extend into subsequent years, limit patrons' agricultural production, and have economic impacts to district patrons and the local economy.

The proposed feasibility study also offers the potential to address environmental water needs. The U.S. Fish and Wildlife Service and Klamath Tribes are concerned about low elevations of the Upper Klamath Lake during the irrigation season. The Upper Klamath Lake supports the endangered Lost River Sucker fish species. Currently, Reclamation is **denying farmers access to 134,367 acre feet of stored water in Upper Klamath Lake** available to KA 1000, KA 1001, and KA 1004 water right holders for an unquantifiable fish benefit.

Due to the uncertainty of the District's water supply, the District is taking measures to efficiently manage its available water. In 2020, the District changed its 103 year delivery model from demand based to supply based; meaning that maximum daily rates were placed on each canal, patrons (and expensive crops) were placed upon a monthly ration, and further placed upon lengthy waiting lists. These measures ensure that, to the best of our ability, the District can best manage its existing supplies and leverage the benefits of any infrastructure improvements. The District has also partnered with Farmers Conservation Alliance to develop a System Improvement Plan for a portion of the District's canals that will help the district to identify opportunities to save water and improve operational efficiencies. **This feasibility study would complement the actions Farmers Conservation Alliance is undertaking with the District.**

The climate variations further stress existing agricultural, municipal, and environmental water supplies. Changes in the climate may result in decreased summer stream flows due to earlier runoff timing; increased crop evapotranspiration and associated agricultural water demands; and higher stream

temperatures resulting from higher air temperatures. These changes will likely increase the frequency and magnitude of water supply shortages and associated challenges for all users in the region.

8. Study Goal. Describe the feasibility study goal.

The goal of the proposed study is to develop a Hydropower Facility Design for the C-G Drop in the Klamath Irrigation District. The result of the study will be an evaluation of the ability to improve the District's infrastructure with associated high-level engineering designs for hydropower at this site, cost estimates, projected water savings, and projected hydroelectric power generation and energy conservation potentials.

9. Study Scope. Describe how the proposed study would achieve the goal.

Klamath Irrigation District diverts and delivers water through approximately 200 miles of canals, laterals, and pipelines. The proposed study will analyze the District's existing water delivery infrastructure at the critical location of the C-G Drop, and evaluate one or more alternatives for modernizing that infrastructure with hydropower capabilities. These tasks will include water loss assessment, hydraulic modeling, automated SCADA control integration, energy conservation and generation evaluations. These technical components will augment the engineering cost assessment to develop a Hydropower facility at the C-G Drop. This study will determine project feasibility by quantifying the effect of water conservation, operations and maintenance costs, and energy conservation and generation potential.

10. Water Availability. Please provide evidence that water is available to meet the above described need. Evidence can include regulatory and physical information regarding water availability.

The proposed study will evaluate opportunities to conserve water associated with Klamath Irrigation District's existing water rights. The District holds both live flow and storage water rights associated with infrastructure to be evaluated through this study. These water rights include Klamath Adjudication claims KA 1000, KA 1001, and KA 1004. Water diverted from Upper Klamath Lake from all three of these claims is routed through the C-G drop for delivery to places of use with and outside the District.

11. Community Benefit. Describe how implementation of the project could benefit and/or impact the community.

The proposed feasibility study will identify opportunities to modernize the G Canal Headworks (aka the C-G Drop) infrastructure to identify opportunities to save water by automating controls, improving operational efficiencies, reducing energy costs associated with pumping, and **generating fish-friendly, renewable energy**. When implemented, these projects would offer the potential to benefit the District, its patrons, and the surrounding community.

The District's open canals and laterals currently experience seepage losses and dry year delivery challenges. Modernizing the District's infrastructure will help address these challenges. It would

improve water delivery reliability for the District's patrons and reduce operation and maintenance costs, helping to maintain agricultural production and associated economic benefits. Water saved from the project could be used to improve water supply reliability for district patrons and the 8 other junior Districts we serve; augment water levels in Upper Klamath Lake to support resident and anadromous fish; and/or improve water supplies for other municipal and agricultural water users. The proposed feasibility study will quantify the amount of water that could be saved and made available through modernizing the District's infrastructure.

Public safety could also be improved through modernizing the District's infrastructure at this location. Piping canals and laterals eliminates drowning risks associated with open canals and laterals and eliminates any flooding risks associated with canal and lateral bank failures. Installing a modern hydropower facility will integrate with the District's desire to pipe portions of the District.

The proposed feasibility study will provide the technical framework necessary for the District to adopt a strategic and comprehensive approach to funding and implementing infrastructure improvements, allowing the District to increase the pace and scale at which it helps to provide agricultural, environmental, and community benefits.

12. Community Support. Describe the level of community support and commitment associated with the study. This may include any collaborative water planning efforts undertaken to identify the project or study.

This study is part of a larger modernization effort recommended by Reclamation and being explored by Farmers Conservation Alliance. This project is directly linked to a plan to modernize the SCADA system across the District to implement automation and improve efficiencies. SCADA controls will be integrated into the hydropower facility. The SCADA modernization plan is supported by U.S. Senator Merkley, the U.S. Fish and Wildlife Service, Duck Unlimited, Intermountain Joint Venture, Klamath Water Users Association, and Tulelake Irrigation District. The proposed feasibility study would complement water infrastructure projects currently underway in the basin, including NRCS's watershed study, FCA's work in the Klamath Basin with Klamath Irrigation District, Klamath Drainage District, and Tulelake Irrigation District.

The proposed hydropower feasibility study will be integrated with Farmers Conservation Alliance efforts to identify how to modernized the delivery system and leverage the C-G Drop to build upon existing efforts in the basin.

As identified below, the letters of support for the proposed SCADA modernization plan are included for this study as a hydropower facility will integrate SCADA sensors and automation in addition to offsetting power costs for other SCADA components and pumping stations.

13. Letters of Support. List letters of support (name and/or affiliation of sender). Attach copies of the letters to your application.

Klamath Irrigation District has received and attached letters of support for the SCADA modernization from:

U.S. Senator Jeff Merkley
U.S. Fish and Wildlife Service
Ducks Unlimited
Intermountain West Joint Venture
Farmers Conservation Alliance
Klamath Water Users Association
Tulelake Irrigation District

14. Study Key Tasks. Identify the study key tasks necessary to conduct the feasibility study using the following format and including as many tasks as necessary to complete the study. In the event that your study receives grant funding, the key tasks identified will be incorporated into your grant agreement as the “Statement of Work.” Please note: Project management and administration are common functions within a specified key task and not separate key tasks themselves.

Task number. Key Task Title

- Task schedule: The approximate dates during which the key task will be completed.
- Description of key task activities: Include specific details of the task such as task purpose, planned approach, appropriate technical information, proposed methods, and rationale for the approach.
- Qualified personnel that will complete task: Include a description of the professional experience, professional qualifications and licensure of personnel necessary for task work.

Task 1. Water loss assessment

- Task schedule: Summer 2021
- Description of key task activities: GIS data of the existing system will be used to plan and conduct on-site measurements of water losses associated with operational spills below the G Canal Headworks and its laterals to assess potential water savings associated with infrastructure modernization. Evaluation of existing water flow data and determine if additional flow data is required.
- Qualified personnel that will complete task: 3x Klamath Irrigation Ditch Riders, technical members of Farmers Conservation Alliance, and members of Sierra Controlls.

Task 2. Hydraulic modeling

- Task schedule: Fall 2021
- Description of key task activities: A hydraulic model will be developed of a the water delivery system using EPANET or a similar model including associated. The hydraulic model is essential to developing preliminary engineering designs and cost estimates to support future modernizations towards a piped system.
- Qualified personnel that will complete task: Contracted Engineer

Task 3. Infrustructure design

- Task schedule: Fall 2021
- Description of key task activities: The C-G Drop currently contains two undershot radial gates with local manual control. Flow is measure at a rated drop structure with a water level sensor just downstream of the headgates. It is assumed a new infrustructure design to integrate hydropower production, SCADA sensors and controls is necessary.
- Qualified personnel that will complete task: Contracted Engineer

Task 4. Energy conservation and generation evaluation

- Task schedule: Fall 2021
- Description of key task activities: Potential pumping cost reductions and hydroelectric generation capacity will be evaluated from the hydraulic model and GIS mapping. Energy use from pumping excess spill water can affect operations and maintenance costs for the District and its patrons. Evaluating potential pumping cost reductions and hydroelectric generation capacity are important tasks in the proposed study because they affect the financial feasibility of the piping project.
- Qualified personnel that will complete task: Contracted Engineer

Task 5. Project design with cost estimates

- Task schedule: Spring 2020
- Description of key task activities: The technical findings from tasks 1 through 4 will be used to develop a project design that describes the District's desired alternative for modernizing the C-G Drop facility. The purpose of the design is to develop a well-considered evaluation of the construction site, hydroelectric generation, a mitigation plan for operational spill, and consideration of future modernization through pressurized deliveries and through piping. The alternative presented in the plan will focus on improving water conservation and operational efficiencies for the District through SCADA if a hydropower facility is not feasible. The design will outline potential phasing of the project.
- Qualified personnel that will complete task: Contracted Engineer

15. Study Task Scheduling. Estimated duration of feasibility study: January 2021 to April 2022

Place an “X” in the appropriate column to indicate when each task of the project would take place. Study tasks should match those listed as part of your response to the previous question.

Feasibility Study Key Tasks (Add additional rows as needed)	Grant year				Grant year				Grant year			
	2020				2021				2022			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Water loss assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hydraulic modeling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SCADA Integration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Energy conservation and generation evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing System Improvement Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Feasibility Study Water Rights. Identify any water rights required to **conduct** the proposed Feasibility Study below. Check all of the following that apply and provide the information requested:

- No water rights are required to complete the proposed study.
- The proposed study requires a new water right or other water right transactions to **conduct** the study. If checked, list the transaction(s) required (e.g., new right, transfer, etc.):
- The applicant has legal access to a water right that will be used to **conduct** the study. The proposed study requires a water right, and the applicant holds or has been given permission to utilize the water right(s) for the proposed study. If checked, list all water rights required for the study in the table below, adding rows as needed. See the Application Instructions for further guidance, including how to find water right information.

Water Right Number (Include prefixes, if applicable, e.g., CW 12345)	Is this an application, permit, certificate, limited license, special or final order, transfer, decree, lease, or claim? Enter “New right Needed” below if a new water right is needed to do this work.	Tax Lot IDs within the Place of Use where water will be used to complete the study
Klamath Adjudication KA 1000	Final Order	NA – See #4

17. Project Implementation Water Rights. Identify any water rights needed to implement the proposed Project below. Check all of the following that apply and provide the information requested:

- a. The applicant does not know what water rights or water right transactions are required for the project. That will be determined through this study or other effort at a future date.
- b. The proposed project requires a new water right or other water right transactions. If checked, list transaction(s) required (e.g., new right, transfer, etc.):
- c. The applicants holds the water right(s) required for the project. If checked, include list of rights in the table below, adding rows as needed. See the Application Instructions for further instruction, including how to find water right information.

Water Right Number (Include prefixes, if applicable, e.g., <u>G</u> 00010)	Is this an application, permit, certificate, limited license, special or final order, transfer, decree, lease, or claim?	Water Right Amount			Tax Lot IDs within the Place of Use where water will be used to implement the proposed project
		Max Volume (ac-ft)	Max Rate (cfs)	Duty (ac-ft/ac)	
Klamath Adjudication KA 1000	Final Order				NA – See #4

18. Feasibility Study Permits. Provide a list of any other permits and regulatory approvals needed to conduct the Feasibility Study and indicate the status of each in the table below. If permits/approvals are required, please submit copies of secured permits/approvals **or** describe efforts to secure permits/approvals including status. If no permits or authorizations are required for the study, provide an explanation:

No permits or authorizations are required for completing the study. Water loss assessments, and other on-the-ground activities will occur within Klamath Irrigation District easements and under its existing authorities. Modeling, energy evaluations, System Improvement Plan development, and related activities will be conducted remotely and will not require permits or authorizations.

Permit/ Regulatory Approval	Permitting Entity	Status and Efforts To Date
N/A		

19. Project Implementation Permits. Provide a list of the permits and regulatory approvals that you anticipate would be needed to implement the proposed project being studied. If permits/approvals are not required, please explain why and provide information regarding any agencies contacted to verify this determination:

Permits and approvals can vary depending on anticipated on-the-ground activities and funding sources. Based on past experience, the following permits, approvals, and compliance activities may be needed to implement the project:

Project Permit/Regulatory Approval (<i>add rows as needed</i>)	Permitting Entity
Land Use Compatibility Statement	County
Consultation with County Floodplain Administrator if construction would occur within the 100-year floodplain.	County
National Pollutant Discharge Elimination System permit if construction activities would disturb one or more acres of land and have the potential to discharge into a public waterbody.	Oregon Department of Environmental Quality
Removal-fill permit if jurisdictional wetlands occur in areas outside canals where work would be done.	Oregon Department of State Lands
Consultation for compliance with National Historic Preservation Act Section 106.	State Historic Preservation Office
National Environmental Policy Act CE, EA, or EIS completion.	United States Bureau of Reclamation
Compliance with Oregon Fish Passage Law depending on the findings from fish screening and passage evaluation.	Oregon Department of Fish and Wildlife
Compliance with the Clean Water Act Section 404.	Oregon Department of Environmental Quality
Compliance with the Farmland Protection Policy Act.	TBD

VI. Feasibility Study Budget

Instructions: Please answer the following questions about the study budget using the tables provided.

20. Budget By Line Item or Category. Please provide an estimated line item budget for the proposed feasibility study. Examples include: Direct project specific costs, such as in-house staff salary, contractual services, and administrative costs. See the Department’s Budget Procedures and Allowable Costs for further guidance.

OVERALL STUDY BUDGET Line Items	Number of Units* (e.g. # of Hours)	Unit Cost (e.g. hourly rate)	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Staff Salary/Benefits	862	51	\$44,000			\$44,000
Contractual/Consulting	1000	145		\$36,000	\$80,000	\$116,000
Equipment (must be approved)	0					
Supplies	0					
Travel	0					
Other:						
Administrative Costs**						
Total						\$160,000

* The "Unit" should be per "hour" or "day" – not per "project" or "contract." $Units \times Unit\ Costs = Total\ Cost$
** Administrative Costs may not exceed 10% of the total funding requested from the Department

21. Budget by Key Task. Identify the budget for each key task below. Key tasks identified below should be the same as the key tasks identified in Questions 14 and 15.

Feasibility Study Key Tasks (Add additional rows as needed)	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Water loss assessment	\$44,000			\$44,000
Hydraulic modeling		\$10,000	\$20,000	\$30,000
Infrastructure design		\$16,000	\$20,000	\$36,000
Energy conservation and generation evaluation		\$10,000	\$20,000	\$30,000
Project design with cost estimates			\$20,000	\$20,000
Total				\$160,000

VII. Match Funding

Instructions: Please answer the following question regarding matching funds.

22. Match Funding Table and Documentation. Please fill out the table below and attach the appropriate documentation for both the secured and pending match (add rows as needed). Keep in mind that applicants must demonstrate a minimum **dollar-for-dollar match**. Please note that a failure to meet this requirement or to attach documentation will result in an incomplete application that will not be considered for funding.

For secured funding, you must attach a letter of support or award from the match funding source that specifically mentions the dollar amount identified for this study and as shown in the “Amount/Dollar Value” column in the table below.

For pending resources, other written documentation showing a request for the matching funds must accompany the application or documentation must identify the date on which a future funding application will be submitted, identify the funding program, and provide evidence that the project is eligible for the funding program identified.

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	Type (✓ Only One)	Status (✓ Only One)	Amount/ Dollar Value	Date Match Funds Available (Month/Year)
KID Employee Project Manager	<input type="checkbox"/> cash <input checked="" type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$20,000	10/2020
KID Employees	<input type="checkbox"/> cash <input checked="" type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$24,000	10/2020
WaterSMART Grant (SCADA)	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input checked="" type="checkbox"/> pending		
KID Infrastructure Improvement Budget	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$36,000	01/2021
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
Total of Match Funds			= \$80,000	

VIII. Storage-Specific Questions

Instructions: If you indicated that your study is for a storage project, answer question 23 in this section. If your study is for above-ground storage, also answer question 24. Please refer to the document on Storage-Specific Study Requirements for guidance and information on completing this section, available on the OWRD Funding Opportunities, Applications, Forms, and Guidance webpage. If your study is for a water conservation or reuse project, skip this section.

23. All Storage Projects. Answer the following “Yes/No” questions about the storage project to be evaluated in the proposed study.

- A. Will the project divert more than 500 acre-feet of surface water annually? Yes No
- B. Will the project impound surface water on a perennial stream? Yes No
- C. Will the project divert water from a stream that supports sensitive, threatened or endangered species? Yes No

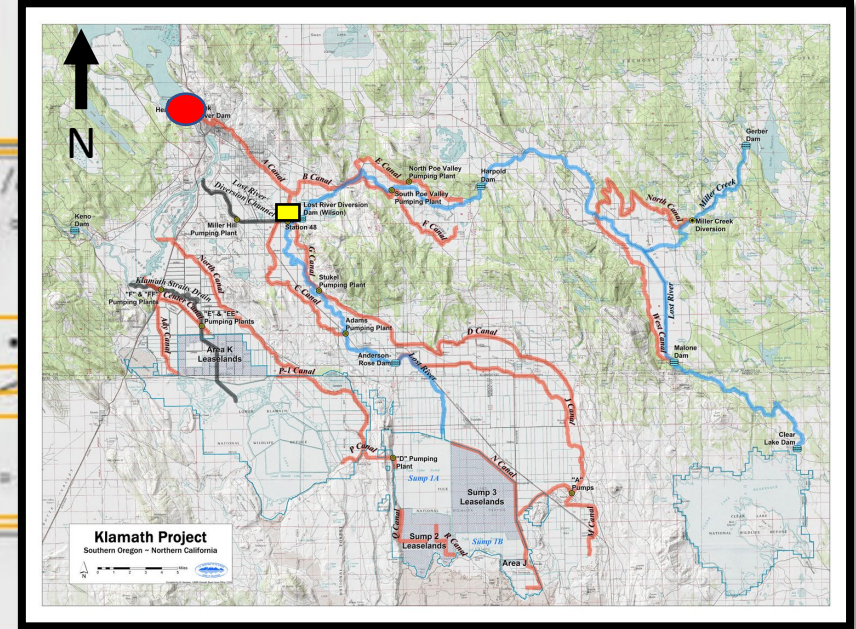
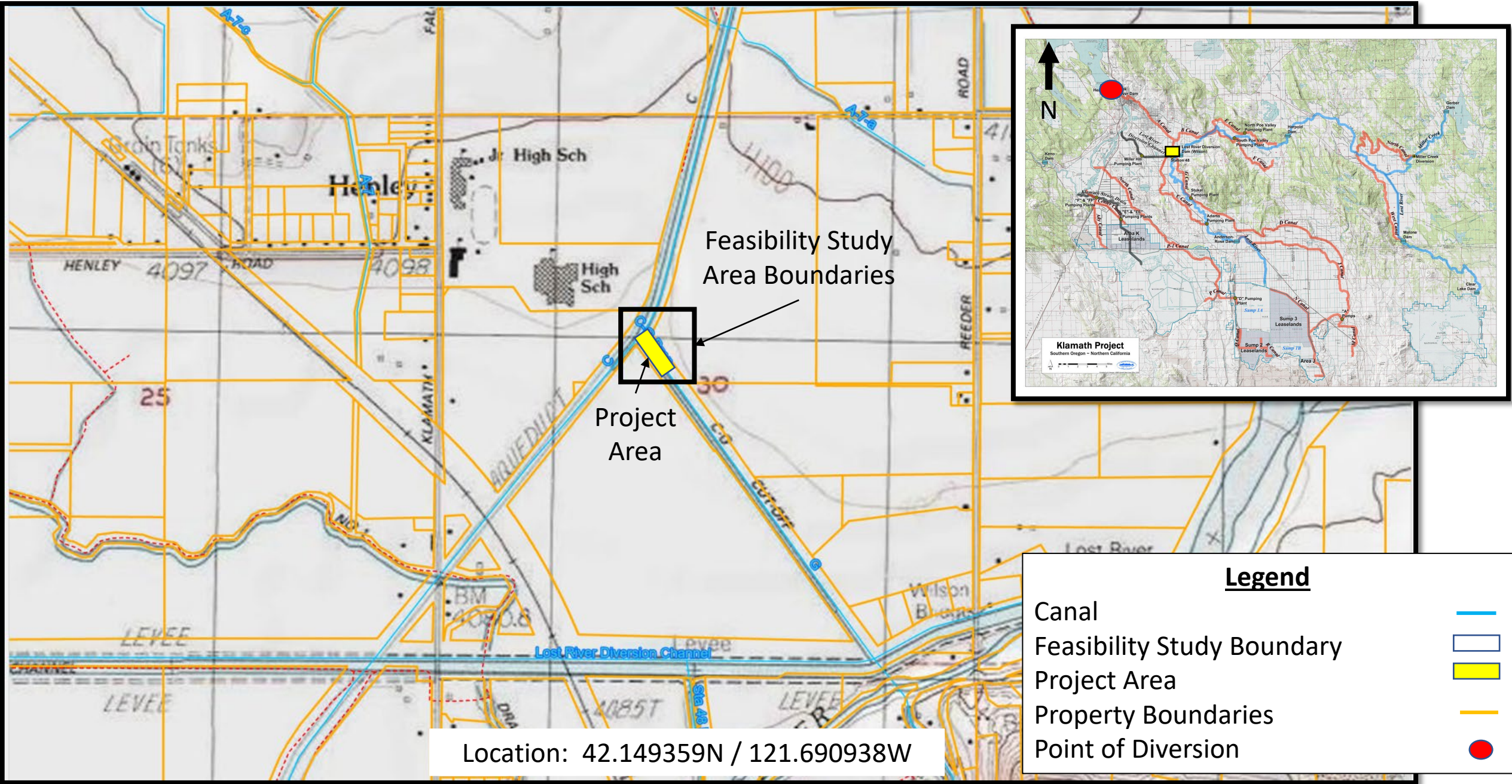
If you answered “yes” to any of the questions above, you are required to address the following analyses in your feasibility study. By signing this application, you are committing to include these required elements in your feasibility study.

If you answered “Yes” to (A), (B), or (C) above, attach a description of how you intend to address the following required elements in your feasibility study (please refer to the document on Storage-Specific Study Requirements for guidance and a description of the minimum acceptable standards regarding these study requirements):

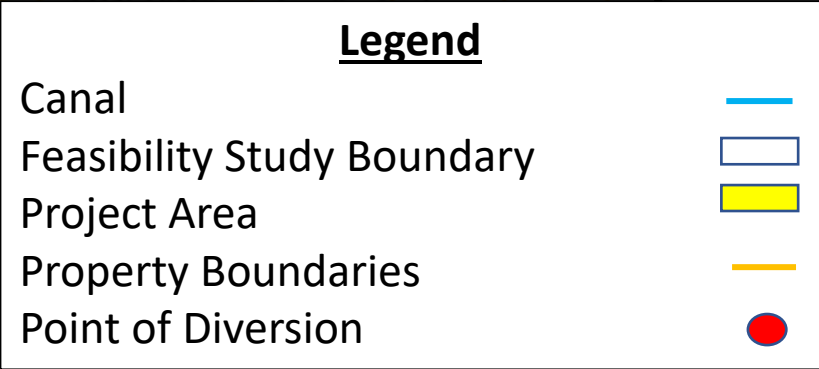
- i. Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows.
- ii. Comparative analyses of alternative means of supplying water, including but not limited to the costs and benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives.
- iii. Analyses of environmental harm or impacts from the proposed storage project.
- iv. Evaluation of the need for and feasibility of using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.
- v. *For proposed storage projects for municipal use only* – For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project’s relationship to existing and planned water supply projects.

24. For Above-Ground Storage Only. Describe whether or not the storage project would include provisions for using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life or other ecological values. As per statute and rule, above-ground storage projects that include these provisions receive preference for funding over other storage projects.

Attachment #1: K.I.D. C-G Drop Hydropower Feasibility Study Site Plan Map



Location: 42.149359N / 121.690938W



ATTACHMENT 2 - SIGNED LANDOWNER AGREEMENT FORMS (QUESTION 5)

SEE ATTACHED CONTRACT 14-06-200-3784 THE UNITED STATES BUREAU OF
RECLAMATION AND KLAMATH IRRIGATION DISTRICT

39 PAGES

11/29/54

Contract No.
14-06-200-3784

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Klamath Project, Oregon-California

AMENDATORY CONTRACT BETWEEN THE UNITED STATES OF AMERICA
AND THE KLAMATH IRRIGATION DISTRICT

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CONTRACT NO.

14-06-200-3784

Regional Office Draft 8-1-54
(Revised W. O. 9-9-54)
Approved W. O. 9-17-54

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
Klamath Project, Oregon-California

AMENDATORY CONTRACT BETWEEN THE UNITED STATES OF AMERICA
AND THE KLAMATH IRRIGATION DISTRICT

THIS AMENDATORY CONTRACT, made this 29th day of November,
1954, between THE UNITED STATES OF AMERICA, hereinafter called the
United States, acting through the Secretary of the Interior, pursuant to
the Federal reclamation laws, and the KLAMATH IRRIGATION DISTRICT,
organized and existing under and by virtue of the laws of the State of
Oregon, hereinafter called the District:

WITNESSETH, THAT:

EXPLANATORY RECITALS

WHEREAS, under authority of the Federal reclamation laws the
United States has constructed and continues to construct the irrigation
project in the States of Oregon and California, known as the Klamath
Project, consisting of facilities for storing water in Upper Klamath
Lake and Gerber Reservoir in Oregon, and Clear Lake Reservoir in
California, together with works for delivering irrigation water therefrom
to areas where it may be beneficially used; and

WHEREAS, the United States and the District, acting pursuant
to the Federal reclamation laws and the laws of the State of Oregon, have
previously entered into a contract dated July 6, 1918, as amended and
supplemented by contracts dated June 28, 1920, April 10, 1922, June 25,
1927, November 24, 1928, April 1, 1938, and June 2, 1950, for the repay-
ment of the costs of construction of certain of the Project works; and

WHEREAS, the District is obligated, among other things, to repay to the United States that part of the expenditures made by the United States in the construction of the Project which is properly allocable to the District; and

WHEREAS, the District, as the duly authorized representative of the water users within its geographic boundaries, desires to enter into an amendatory contract with the United States, which would provide for the District to take over the operation and maintenance of certain of the Project works;

NOW, THEREFORE, in consideration of the mutual and dependent covenants and stipulations herein contained, it is mutually agreed between the parties hereto as follows:

DEFINITIONS

1. The following terms, whenever used in this contract, shall have the following respective meanings:

(a) "District" shall mean the Klamath Irrigation District, except where indicated otherwise.

(b) "Secretary" shall mean the Secretary of the Interior or his duly authorized representative.

(c) "Federal reclamation laws" shall mean the Act of June 17, 1902 (32 Stat. 388), and all acts amendatory thereof or supplementary thereto.

(d) "Reserved works" shall mean all Project works located outside the District boundaries but within Klamath County, Oregon, and

Siskiyou and Modoc Counties, California, which contribute to the irrigation, drainage or flood protection of the District lands but will continue to be operated and maintained by the United States or by some agency other than the District, under contract with the United States, plus the following works located wholly or partly within the District:

(i) The entire "J" Canal and distribution system, including the headworks and Lower Lost River Diversion Dam.

(ii) All buildings at the Project headquarters, except those which may be transferred to the District under provisions of Article 4(e) of this contract.

(iii) Lost River Diversion Dam and the Lost River Diversion Channel, including all appurtenant control works.

(iv) The Project telephone system.

(v) Link River Dam.

(vi) Enterprise Hydroelectric Plant.

(e) "Transferred works" shall mean all of the irrigation works set forth in Article 4 and such other irrigation works constructed by the United States for the irrigation of the lands located within the geographic boundaries of the District which upon agreement between the United States Bureau of Reclamation and the District may hereafter be transferred to the District for operation and maintenance.

(f) "Operation and maintenance costs" shall mean all costs properly chargeable to operation and maintenance of the works in reference to which the term is used, including, without limitation by reason of

this enumeration, the costs of replacements and betterments of such works or any part thereof.

SCOPE OF CONTRACT

2. This contract supplements the previous contracts enumerated herein between the United States and the District. All provisions of such contracts not in conflict with this contract shall remain in full force and effect.

INDEBTEDNESS OF DISTRICT

3. The construction cost obligation of the District to the United States as established by previous contracts, or as said contracts may hereafter be amended, is not affected by this contract.

TRANSFERRED WORKS TURNED OVER TO DISTRICT

4. Effective January 1, 1955, there is transferred to the District for care and operation and maintenance the real and personal property listed below, used or useful for operative purposes of the Klamath Project, subject to the provisions of Article 5. Title to said property shall remain in the United States except as provided in Article 5.

(a) The entire Main or "A" Canal, and the "B", "C", "D", "E", "F" and "G" Canals, including the "C-G Cutoff," (but excluding the Enterprise Hydroelectric Plant) and all their related distribution systems;

(b) The entire drainage system within the District, including the Melhase-Ryan drainage pumping plant and the "J" Canal North Side

Parallel Drain and drainage works constructed pursuant to the agreement of November 24, 1928, as set forth in said agreement;

(c) All structures used in connection with the above canals, distribution and drainage works;

(d) The Adams and Miller Hill Pumping Plants;

(e) The residences, outbuildings, shops, warehouses, and office buildings designated by the District pursuant to the procedure set forth in Article 5 hereof;

(f) All equipment, records and supplies used in connection with the operation and maintenance of the transferred works which the United States desires to transfer with said works and which the District designates pursuant to the procedure set forth in Article 5 hereof.

SELECTION AND TRANSFER OF PROPERTY

5. Prior to the time that the transferred works are turned over to the District for care and operation and maintenance as provided in Article 4 hereof, the Board of Directors of the District shall determine which, if any, it desires of the Klamath Project residences, outbuildings, shops, offices, warehouses, or other structures to be used in connection with the operation of the District but which are not integral parts of the irrigation and drainage systems, and what equipment, records and supplies it wishes to accept, pursuant to Article 4 hereof. Upon making such determination, the Board shall submit to the Secretary a list of those structures, equipment, records and supplies, whereupon such

list shall be appended to and become part of this contract. Upon the transfer to the District of the operation and maintenance of the works as provided in Article 4, the items on said list shall be transferred to the District for use in connection with the care and operation and maintenance of said transferred works. Whenever, and to the extent, authorized by law, title to said structures, equipment, records and supplies shall be vested in the District.

OPERATION AND MAINTENANCE OF TRANSFERRED WORKS

6. The District accepts the care, operation, and maintenance of the transferred works and will care for, operate, and maintain the transferred works and deliver water therefrom in full compliance with the Federal reclamation laws as they now exist or hereafter may be amended, the regulations of the Secretary now in force or hereafter promulgated, and the terms of this contract and any other contract in force affecting the transferred works.

KEEPING TRANSFERRED WORKS IN REPAIR

7. (a) No substantial change in any of the transferred works shall be made by the District without first obtaining the written consent of the Secretary.

(b) The District shall promptly make any and all repairs to the transferred works which, in the opinion of the Secretary, are necessary for their proper preservation in as good condition as they were on the effective date of this contract.

(c) In case of neglect or failure of the District for a period of one (1) year to make such repairs, the United States may, at the option of the Secretary, take back the care, operation and maintenance of the transferred works as provided in Article 21 hereof, or may cause suitable repairs to be made and charge the cost thereof to the District, which charge the District shall pay as provided in Article 16.

(d) In event of major disaster to, or failure of, the transferred works, or any part thereof, which results in damage of such severity or magnitude that immediate repairs to the transferred works are imperative, in the opinion of the Secretary, to protect against substantial hazard to life or property, and the District is then unable or unwilling to promptly accomplish such repairs, the United States may, at the option of the Secretary, immediately take and temporarily retain possession of the transferred works for such time as may be necessary to protect life and property and to prevent further damage to the transferred works. The District shall pay to the United States, as provided in Article 16, the cost of any emergency repairs made during such period of temporary possession by the United States.

INSTALLATION AND MAINTENANCE OF MEASURING DEVICES
AND REPORTING OF DATA

8. The District shall, at its expense, and in a manner satisfactory to the Secretary, maintain all water measuring and controlling devices and gages as have been constructed or installed by the United States or by the District in connection with the transferred works,

collect the data from such devices and gages, and furnish the United States with written reports of such data. If the District at any time fails to do so, the United States may replace or repair such devices and collect such data at the expense of the District, which charge the District shall pay in accordance with Article 16.

CROP CENSUS

9. The District shall, at its own expense, keep a reasonably accurate record of all crops raised, including agricultural and livestock products produced on District lands, and furnish the Secretary on or before December 31 of each year a crop report, including the aforesaid data, in a form prescribed by the Secretary.

INSPECTION OF TRANSFERRED PROPERTY

10. The Secretary shall cause to be made from time to time a reasonable inspection of the transferred property to ascertain whether the terms of this contract are being satisfactorily executed by the District. Such inspection may include examinations of the transferred property and of the books, records, and papers of the District, together with examinations in the office of the District of all contracts, papers, plans, records and programs connected with the transferred property. The actual expense of such inspection as found by the Secretary shall be paid by the District to the United States as provided in Article 16, provided that the maximum cost for which the District shall be obligated for such inspection shall not exceed fifteen (15) man-days within any period of three (3) consecutive years, plus actual travel and per

diem expenses. The foregoing limitation shall not apply to inspections reasonably necessary to assure that repairs required pursuant to Article 7 have been satisfactorily completed. All inspections shall be held to the minimum necessary to protect the interests of the United States.

INSPECTION OF BOOKS AND RECORDS

11. Subject to applicable Federal laws and regulations, the proper officers or agents of the District shall have full and free access at all reasonable times to the Project account books and official records of the Bureau of Reclamation, insofar as the same pertain to the matters and things provided for in this contract, relating to the construction, acquisition, care, operation and maintenance of the transferred property, the status of individual accounts and the account of the District, and payments of operation and maintenance and construction charges, with the right at any time during office hours to make copies thereof, and the proper representative of the United States shall have similar rights in respect to the account books and records of the District.

OPERATION AND MAINTENANCE OF RESERVED WORKS

12. The reserved works shall be operated and maintained by the United States or by some other agency under contract with the United States. The District will pay to the United States its appropriate share of the cost of operating and maintaining the reserved works as provided in Article 16.

DELIVERY OF WATER SUPPLY AND ASSUMPTION BY DISTRICT OF
OUTSTANDING CONTRACT OBLIGATIONS OF THE UNITED STATES

13. (a) The District shall take the water supply for the lands within the limits of the District, as the same are now or hereafter defined, to be served by or through the transferred works, at the head-works of the main canal and other delivery locations now in existence or that may be constructed in the future, and shall distribute the same to the water users entitled thereto.

(b) The District hereby assumes and agrees to carry out, during the term of this contract, to the satisfaction of the Secretary, all the obligations imposed upon the United States by the contracts listed on Exhibit "A", or any amendments or supplements thereto, appended to and made a part of this contract, for the carriage and delivery of water, in force as of the effective date of this agreement, insofar as said contracts relate to the delivery and carriage of irrigation and drainage water through the transferred works.

(c) Upon execution by the United States of future water right contracts providing for carriage and delivery of irrigation and drainage water through the transferred works to serve the lands of the Pumping Division of the Klamath Project, or to serve the lands of individual water users which are outside the District but so located that they can be served through the transferred works, the District shall be notified thereof by the Secretary and the District shall thereupon assume the obligation of carriage and delivery thereunder the

same as if said contracts had been in existence at the time of execution hereof: Provided, however, That further contracts shall not be entered into by the United States for carriage or delivery of irrigation water through the transferred works which will require additions to or enlargements of the same unless the expense of said additions or enlargements is borne by the United States or by the contractors.

(d) During the life of this agreement the District shall be entitled to collect and retain for its own use, but the United States assumes no responsibility whatever for the payment or collection thereof, all revenues payable to the United States under the hereinabove mentioned contracts as annual operation and maintenance charges. The District shall have the right to withhold delivery of water to any contractor that fails to pay such charges in the amounts and at the time provided in its contract with the United States. All other provisions of said contracts shall remain unaffected hereby. The District shall not be responsible for collection of any revenues due the United States under said contracts which became due and payable before the effective date of this contract.

(e) The District shall deliver water to District lands at the points the United States is now delivering water. For lands outside the District boundaries, and served through the transferred works, water shall be delivered in the quantities, at the times and at the points of diversion from the transferred works as required from time to time by

contractors that have executed contracts with the United States in such manner as to meet obligations which the United States has assumed under said contracts. Responsibilities of the District for delivery of water outside its boundaries shall be limited to the contracts listed on Exhibit "A" hereto and such other contracts as the United States may henceforth execute with others for delivery of water through the transferred works, provided that the terms of such future contracts with others are not contrary to any of the terms of this contract.

(f) The District agrees that it will make no water deliveries under contracts mentioned in this article at times when notified by the Secretary that the contracting parties are not entitled to the delivery of irrigation water because of nonpayment of charges due the United States, or for other reasons.

(g) Within thirty (30) days after the effective date of this contract, the United States shall furnish to the District an itemized statement showing the status of fund accounts with the United States for the District, and for other contractors that receive water through the transferred works, and the status of stores and equipment accounts with the United States for the District. This statement will include the following items:

(i) Unexpended balances of funds advanced for operation and maintenance work, itemized by each contractor.

(ii) Book value of unused materials and supplies purchased with advanced funds.

(iii) Undepreciated value (book value at date of transfer) of equipment purchased with advanced funds.

If a credit balance exists in the fund account of the District, the amount of such balance will be refunded in accordance with Article 24. If a credit balance exists in the fund account of any other contractor, the United States will retain that balance on its books to be applied against the next succeeding payment or payments becoming due on obligations of the Klamath Irrigation District to the United States. In consideration of the total of all such credits being allowed the District, the District will likewise allow corresponding credits to the other contractors on its subsequent billings to those respective contractors. If a debit balance exists in the account of the District with the United States, the District shall pay to the United States the amount due on its own account within ninety (90) days after receipt of statement. Debit balances existing in the accounts of other contractors will be collected by the United States.

DELIVERY OF WATER TO TULE LAKE LANDS

14. (a) The United States retains for use in irrigating non-district lands, and will continue to maintain and operate, or will contract with another agency to maintain and operate, (1) the diversion dam and appurtenant works on Lost River at the heading of the "J" Canal, and (2) the "J" Canal, and the Project buildings at the headworks thereof, and laterals leading therefrom, and (3) the drainage system

below the "J" Canal as shown on map entitled Exhibit "B" which is appended to and made a part of this contract. The United States, or another agency acting under contract for the United States, will deliver irrigation water to the Tule Lake lands within the boundaries of the Klamath Irrigation District served by the said "J" Canal, lateral and drainage systems. The United States will charge the District annually for such service the amount per acre that is charged the Tule Lake lands in California served from the "J" Canal for operation and maintenance, to be paid to the United States in the manner stated in Article 16 hereof.

(b) The District shall maintain and operate for the United States the irrigation and drainage works serving lands lying between the "D" and "J" Canals and above the "D" Canal in California, as shown on map entitled Exhibit "B", and will deliver irrigation water through the "D" Canal to such of those lands in California served from the "D" Canal, as may be designated by the Secretary. For gravity delivery of water to lands which were served by the United States prior to the effective date of this contract, the District shall charge the United States annually the amount per acre of land irrigated that is charged to lands within the District in the State of Oregon for operation and maintenance, and the United States will credit said amount to the District annually upon any payments due hereunder, as provided in Article 16. For future delivery of water to additional lands not

previously served, the District shall charge such amount per acre as may be agreed upon by future supplement to this contract.

WATER FOR LANDS IN KLAMATH FALLS, MALIN AND MERRILL

15. The District shall deliver for use on non-district lands within or adjacent to the District, including but not limited to those within or near the corporate limits of the towns of Klamath Falls, Malin, and Merrill, the water supply which said lands are entitled to receive under existing water rental contracts, under water right applications of various individuals, and under public notices issued by the Secretary, as listed in Exhibit "C" attached to and made a part hereof, or under future public notices issued by the Secretary. The District shall likewise deliver water to any of said lands which may hereafter contract with the United States for a water supply. Water shall be delivered at the respective points where now received, or as may be agreed upon between the District and such water users. The District shall be entitled to collect and retain for its own use all revenues payable for such deliveries, in the same manner as for deliveries to other contractors under the provisions of Article 13 hereof and shall be entitled to withhold delivery of water if charges are not paid when due.

CHARGES TO BE PAID BY THE DISTRICT

16. (a) On or before February 1 of each calendar year during the term of this contract, the United States shall furnish to the District an itemized estimate of all costs expected to be incurred by the United

States under the provisions of this contract during that calendar year which are properly chargeable to the District and a statement of the differences between estimated and actual costs for the previous calendar year, with appropriate charges or credits to adjust the previous year's estimate to the total of actual costs for that previous year. The District shall pay to the United States the total of such estimated costs for the current calendar year, as adjusted by the reconciliation of actual and estimated costs for the previous calendar year, within sixty (60) days after receipt of said estimate and statement. Each such annual estimate and statement shall list separately the following types of costs:

(i) The estimated annual general expense, as determined by the Secretary, to be incurred by the United States and apportioned to the Main and Pumping Divisions of the Klamath Project. This estimate shall be itemized by office and by activity but shall not include the costs itemized under other subdivisions of this article. Such costs shall not exceed Five Thousand Dollars (\$5,000) per year during the first 5-year period following the transfer of operation and maintenance to the District. At the end of said 5-year period and at the end of other appropriate periods throughout the remainder of the term of this contract the Secretary shall analyze the services required to be performed by the United States, and upon the basis of such analysis will establish a similar limit of expenditure for each such period in the light of the then general cost index.

(ii) Estimated annual costs of any bookkeeping, accounting, engineering, legal, drafting, clerical or other technical or administrative services which the District has specifically requested from the United States in writing, or which are furnished by the United States pursuant to some mutual agreement in writing, which costs shall be itemized for each type of service.

(iii) An equitable proportion of the estimated annual costs of operating and maintaining the reserved works, except for the charges provided in subdivision (vii) hereof, as determined by the Secretary. The estimate for these costs shall show the basis on which total costs for operating and maintaining the reserved works are allocated between the District and other agencies.

(iv) Estimated cost of repairs to the transferred works, if any, expected to be made by the United States under the provisions of Article 7 hereof.

(v) Estimated cost of installations, repairs, or maintenance by the United States of measuring and controlling devices and gages, and collection of data, if any, expected to be performed by the United States under the provisions of Article 8 hereof.

(vi) Estimated cost of all inspections expected to be performed by the United States under the provisions of Article 10 hereof.

(vii) Estimated water rental charges or estimated costs of operation and maintenance for lands within the District supplied with water from the "J" Canal, in accordance with the provisions of Article 14 hereof.

(b) The District shall pay the United States any actual costs in excess of the previous year's estimate for work performed or services furnished by the United States during that calendar year under provisions of this contract, itemized by each of the preceding subdivisions (i) through (vii) of this article.

(c) The District shall be credited for any amounts by which the actual costs of work performed or services furnished by the United States during the previous calendar year under provisions of this contract were less than the amounts for such work shown in the previous year's estimate, itemized by subdivisions (i) through (vii) of this article.

(d) The District shall be credited for operation and maintenance charges due the District on lands in California served from the "D" Canal by the District, in accordance with Article 14 hereof.

GENERAL OBLIGATIONS OF THE DISTRICT

17. The obligations of the District under this contract shall be considered general repayment obligations and the District agrees to pay to the United States such obligations according to the terms stated in this contract, notwithstanding the individual default in payment by any of the individual water users of assessments or other charges. Notwithstanding any provisions of this contract, the United States reserves the right to pursue any and all remedies which it may have against the District for default in any payment due under the terms of this contract or under the terms of any contract which the District may have with the United States.

DISTRICT TO USE ALL POWERS TO COLLECT CHARGES

18. (a) The District agrees that it will cause to be made and collected all necessary assessments and charges to cover costs apportioned to it and will use all the authority and resources of the District including, without limitation by reason of this enumeration, its taxing power, the power to create liens in connection with its taxing power, and the power to withhold delivery of water, to meet the obligations of the District to the United States under this contract in full on or before the day such payments become due, and to meet the District's other obligations under this contract. The District is hereby granted the power to withhold delivery of water from any water users receiving water from the transferred works whose payments to the District are in arrears.

(b) The District shall make each year a reasonable estimate of probable delinquencies in collections based on past experience, and shall levy assessments or other charges sufficiently large against the lands in the District to meet the requirements stated in (a) of this article, notwithstanding any individual delinquency which may occur in the payment to the District of any District assessments, or other charges.

WATER RENTAL AGREEMENTS

19. The District may enter into water rental agreements, in a form approved by the Secretary, providing for the delivery of water from the transferred works to water users other than those holding water rights or those having executed contracts with the United States or the

District. The charges to be made for such water rentals shall be those stated in Public Notices of Water Charges for the Klamath Project issued by the Bureau of Reclamation: Provided, That if issuance of such Public Notices by the Bureau be discontinued, the charges to be made in water rental agreements by the District each calendar year shall be established in advance by the Board of Directors of the District. The District shall collect and retain for its own uses all revenues from water rental agreements executed after the effective date of this contract. Delivery of water to holders of water rental agreements shall be subordinate to deliveries to other water users, and the rental agreements shall so state.

REFUSAL OF WATER TO DISTRICT IN CASE OF DEFAULT

20. The United States reserves the right (in addition to the rights elsewhere herein reserved to the United States) to refuse to deliver water to the District in the event of the default of the District for a period of more than twelve (12) months in any payments due the United States under this contract. The provisions of this article are not exclusive, and shall not in any manner hinder the United States from exercising any other remedy to enforce collection of any amount due the United States hereunder.

RESUMPTION OF MANAGEMENT AND CONTROL IN EVENT OF DEFAULT

21. (a) In event of default by the District for a period of one (1) year on any payment to the United States provided by this contract, or failure of the District to perform necessary repairs for a period of one (1)

year as provided in Article 7, or of any other violation by the District of the terms of this contract, the United States may, at the option of the Secretary, resume operation and maintenance of the transferred works, or any part thereof, for the purpose of enforcing the provisions of this contract.

(b) Prior to resuming operation and maintenance, the Secretary shall give the District written notice of his intent to exercise such option, which notice shall inform the District of the specific provisions of this contract which have been violated or the obligations that are in default, shall describe the property and works to be returned to the custody of the United States and shall name the date on which return to the United States shall be effected, which date shall be not less than sixty (60) days after the date of notice sent to the District. The District agrees that if it fails to make payment of all sums in default, or to initiate measures that will correct the violations of contract provisions, prior to the date set by the Secretary in accordance with this article, it will upon that date relinquish to the United States the custody of Project works as specified by the Secretary, together with all equipment, records and supplies appurtenant to the operation and maintenance thereof.

(c) In event of resumption by the United States of the operation and maintenance of any or all of the transferred works, the United States shall, within ten (10) days after taking custody of such works, furnish to the District an estimate of cost for operation and maintenance of such works from the date of transfer of custody to the

United States until the end of the calendar year. Within thirty (30) days after receipt of such estimate, the District shall pay to the United States the amount thereof. If the amount so paid to the United States is insufficient to pay the costs of operation and maintenance to the end of the calendar year, the United States shall notify the District, within thirty (30) days after the end of such year, of the amount required to pay the balance of such costs and the District shall within ten (10) days after receipt of such notice pay such amount. Any balance of funds advanced by the District in excess of the amount necessary to pay such costs to the end of the calendar year shall be returned to the District or, at the option of the United States, credited to operation and maintenance costs for the following year.

(d) Operation and maintenance costs for any subsequent years in which the United States retains the operation and maintenance of said works shall be paid by the District in the manner and at the times provided in the existing contracts between the United States and the District and in contracts with other organizations and with individuals involved in operations under this contract.

(e) Any resumption of the management and control of said property and works by the United States, as herein provided for, shall not relieve the District of its obligations under this contract.

(f) Notwithstanding any such resumption of operation and maintenance by the United States all or any part of the Project works may, pursuant to this contract, at the election of the Secretary, be

retransferred by the United States to the District for operation and maintenance in accordance with the terms of this contract by giving sixty (60) days' written notice to the District of such election, of the property and works to be retransferred, and of the effective date of such retransfer. The District agrees to accept the retransfer of any property and works on the effective date of such retransfer, as specified in any such written notice.

(g) It is agreed that in the event the United States, its officers or employees, resume the operation and maintenance of the Project works, or any part thereof, as provided in this contract, neither the United States, nor its officers or employees, shall be liable for any damages resulting directly or indirectly from any such resumption, and the District agrees to hold the United States, its officers and employees, harmless from any and all claims for such damage.

PENALTY FOR DELINQUENCY

22. In the event the District defaults in the payment of any amount due the United States as provided in this contract, there shall be added to the amount unpaid a penalty of one-half (1/2) of one (1) per cent on the day following the due date, and there shall be added a like penalty of one-half (1/2) of one (1) per cent of the remaining unpaid amount on the first day of each calendar month thereafter so long as such default shall continue.

EXCESS-LAND PROVISIONS

23. Pursuant to the provisions of the Federal reclamation laws, water supplied to the District under the terms of this contract shall not be delivered to more than one hundred sixty (160) irrigable acres in the ownership of any one person or corporation, except that, if irrigable lands in excess thereof have been acquired by foreclosure or other process of law, by conveyance in satisfaction of mortgages, by inheritance or devise, water therefor may be furnished temporarily for a period not to exceed two (2) years from the effective date of such acquisition and except that delivery may be made to lands held in excess of this limitation if the excess lands are covered by a recordable contract made in accordance with the provisions of Section 46 of the Act of May 25, 1926 (44 Stat. 649). These limitations shall cease to operate when the construction charge obligation allocable to such land has been paid in full to the United States.

RESERVE FUND

24. (a) Commencing with the calendar year 1955, and continuing until all construction charge obligations to be paid to the United States are paid in full, the District shall include in the annual operation and maintenance assessments to be collected from its water users, amounts sufficient to accumulate and maintain a reserve fund which shall be available only for the purposes and in the circumstances hereinafter set forth.

(b) Said reserve fund shall be accumulated as follows:

The balance of advance operation and maintenance funds held by the United States for the credit of the District at the time of transfer of operation and maintenance to the District shall be refunded to the District and deposited in the reserve fund and become a part thereof; in addition thereto the District shall, commencing with the calendar year 1955, and continuing until all construction charge obligations to be paid to the United States are paid in full, include in the annual operation and maintenance assessments to be collected from its water users amounts sufficient to collect annually not less than Five Thousand Dollars (\$5,000) to be deposited in said reserve fund until the reserve fund thus accumulated shall total Seventy-five Thousand Dollars (\$75,000), which total sum shall be maintained thereafter:

Provided, That upon the depletion of the reserve fund for any of the purposes hereinafter set forth, the District shall not be required to replenish said reserve fund by an amount in excess of Five Thousand Dollars (\$5,000) in any one year.

(c) The reserve fund shall be used only for the purposes of meeting large, unforeseen costs of operation and maintenance, repairs and replacements of works transferred hereunder and for ordinary operation and maintenance costs when the District is otherwise unable to meet such costs.

(d) Such funds shall be maintained by the District apart from other of its funds and shall be deposited with such depository

or may be invested in such securities as are approved by the Secretary:
Provided, however, That said funds may be left with the County Treasurer
as provided by statute.

UNITED STATES HELD HARMLESS

25. After the transfer of the transferred works, as herein provided, the District shall hold the United States, its officers and agents, harmless as to any and all damages or claims for damages which may in any manner grow out of the care, operation and maintenance of the transferred works after the effective date of transfer.

UNITED STATES NOT LIABLE FOR WATER SHORTAGE

26. On account of drought or other causes, there may occur at times a shortage in the quantity of water available in Project reservoirs and, while the United States will use all reasonable means to guard against such shortage, in no event shall any liability accrue against the United States or any of its officers, agents, or employees for any damage, direct or indirect, arising therefrom and the payments to the United States provided for herein shall not be reduced because of any such shortages.

UNCONTROLLABLE FORCES

27. Neither party shall be considered to be in default in respect to any obligation hereunder, if prevented from fulfilling such obligation by reason of an uncontrollable force. For the purpose of this contract the term "uncontrollable force" means any cause beyond

the control of the party affected, including, but not limited to, failure of facilities, flood, earthquake, storm, lightning, fire, epidemic, war, riot, civil disturbance, labor disturbance, sabotage, and restraint by court or public authority, which by exercise of due diligence and foresight such party could not reasonably have been expected to avoid. Either party rendered unable to fulfill any obligation by reason of an uncontrollable force shall exercise due diligence to remove such inability with all reasonable dispatch.

WASTE, SEEPAGE AND RETURN FLOW

28. The United States does not abandon or relinquish any of the waste, seepage, or return flow waters coming from the lands of the Project irrigated through works constructed by the United States, but the same are reserved and intended to be retained by the United States for the use and benefit of the Project. The District shall be entitled to use for irrigation all return flows available through the transferred works.

ASSURANCE RELATING TO VALIDITY OF CONTRACT

29. The execution of this contract shall be authorized by the qualified electors of the District at an election held for that purpose. The District, after the election and upon execution of this contract, shall file and prosecute to a final decree, (including any appeal therefrom to the highest court of the State of Oregon) in a court of competent jurisdiction a special proceeding for the judicial examination, approval, and confirmation of the proceedings leading up the making of this

contrast. This contract shall not be binding upon the United States until the contract shall have been so confirmed by a court of competent jurisdiction or pending appellate action if ground for appeal be laid.

NOTICES

30. Any notice or announcement which the provisions hereof contemplate shall be given to one of the parties hereto by the other shall be deemed to have been given if deposited in the United States Post Office, on the part of the United States, in a postage-prepaid envelope addressed to the District at its office and, on the part of the District, in a postage-prepaid envelope addressed to the Bureau of Reclamation, Department of the Interior, P. O. Box 2511, Sacramento, California, or such other address as from time to time may be designated by the Secretary in a written notice to the District: Provided, however, That this article shall not preclude the effective service of any such notice or announcement by other means.

CHANGES IN DISTRICT ORGANIZATION

31. While this contract is in effect, no changes shall be made in the District, either by inclusion or exclusion of land, or by partial or total consolidation or merger with another District, or by proceeding to dissolve, or otherwise, except with the consent of the Secretary evidenced in writing.

SELECTION OF MANAGER OR SUPERINTENDENT

32. Until completion of payment to the United States of the construction charges against the lands in the District, the District

shall employ a competent and suitable District Manager or Superintendent to have charge of the transferred works while they are being operated and maintained by the District. The selection and continued employment of said person shall be subject to the mutual approval of the District and the Secretary: Provided, however, That such Manager or Superintendent may at any time be discharged by the District.

ADJUSTMENT OF DISPUTES

33. Should any dispute arise between the District and any of the parties receiving water from the works operated by the District, concerning the operation or management of the transferred works or any part thereof, in which dispute it is claimed that the transferred works are not being properly operated or maintained or that any party is not receiving water in the manner and amount to which such party is entitled under contract with the United States; and should the District and parties be unable to settle such dispute, the matter in dispute immediately shall be referred to the Secretary, who shall promptly render his decision on such disputed question. Said decision shall be accepted by all parties as final and conclusive, except that it may be subject to review by a court having jurisdiction over the matter in dispute. The District shall promptly comply with such decision, and shall operate in conformance with such decision until or unless the same is reversed or modified by the Secretary or by said court.

RIGHTS RESERVED UNDER SECTION 3737, REVISED STATUTES

34. All rights of action for breach of any of the provisions of this contract are reserved to the United States as provided in Section 3737 of the Revised Statutes of the United States (U.S. Code, Title 41, Section 15), relating to assignment of contracts.

TERMINATION OF CONTRACT

35. (a) All obligations of the District to make payments to the United States under Article 16 hereof, except those required by subdivisions (iii) and (vii) of Article 16, shall terminate whenever all of the following have taken place:

(i) The United States has relinquished its title to the transferred works.

(ii) The District has notified the United States that it no longer has any foreseeable need for technical or administrative services from the United States, of the types mentioned in subdivision (ii) of Article 16 hereof.

(iii) All amounts of money owed by the District to the United States under provisions of this and other contracts have been paid in full.

(b) By such termination of payment obligations, the District shall permanently acquire from the United States all water rights then held by the United States pertaining to lands within the boundaries of the District: Provided, That such acquisition of water rights by the District shall be in no way contrary to the laws of the State of Oregon

as then existing, or to the provisions of any compact which may be then in effect between the State of Oregon and California with respect to water rights in the watershed drained by the Klamath River.

DISCRIMINATION AGAINST EMPLOYEES OR APPLICANTS
FOR EMPLOYMENT PROHIBITED

36. The District shall not discriminate against any employee or applicant for employment because of race, creed, color, or national origin, and shall require an identical provision to be included in contracts relating to the performance of this contract. This provision, however, does not refer to, extend to, or cover the activities of the District which are not related to or involved in the performance of this contract.

OFFICIALS NOT TO BENEFIT

37. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom, but this restriction shall not be construed to extend to this contract if made with a corporation or company for its general benefit.

ASSIGNMENT LIMITED--SUCCESSORS AND
ASSIGNS OBLIGATED

38. The provisions of this contract shall apply to and bind the successors and assigns of the parties hereto, but no assignment or transfer of this contract or any part or interest therein shall be valid until approved by the Secretary.

IN WITNESS WHEREOF, the parties hereto have signed their names the day and year first above written.

THE UNITED STATES OF AMERICA

By /s/ C. H. Spencer
Regional Director, Region 2
Bureau of Reclamation

KLAMATH IRRIGATION DISTRICT

By /s/ E. M. Hammond
President

(SEAL)
Affixed
Attest:

/s/ John L. Stewart Jr.
Secretary

EXHIBIT "A"

WARREN ACT CONTRACTORS ENTITLED TO WATER FROM DISTRIBUTION SYSTEM

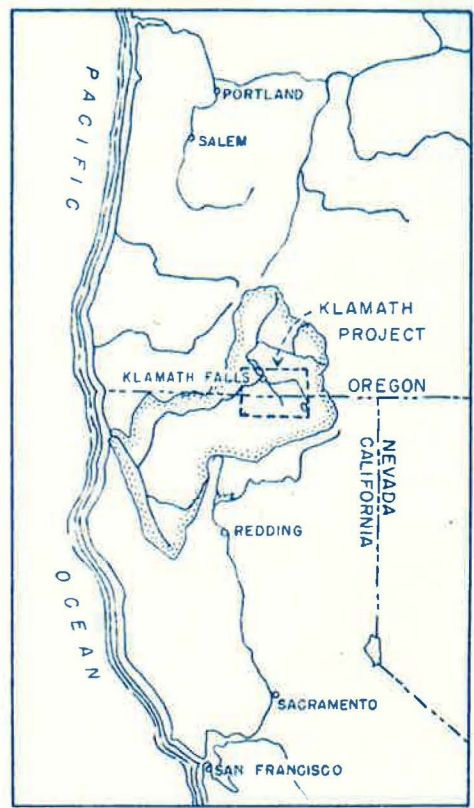
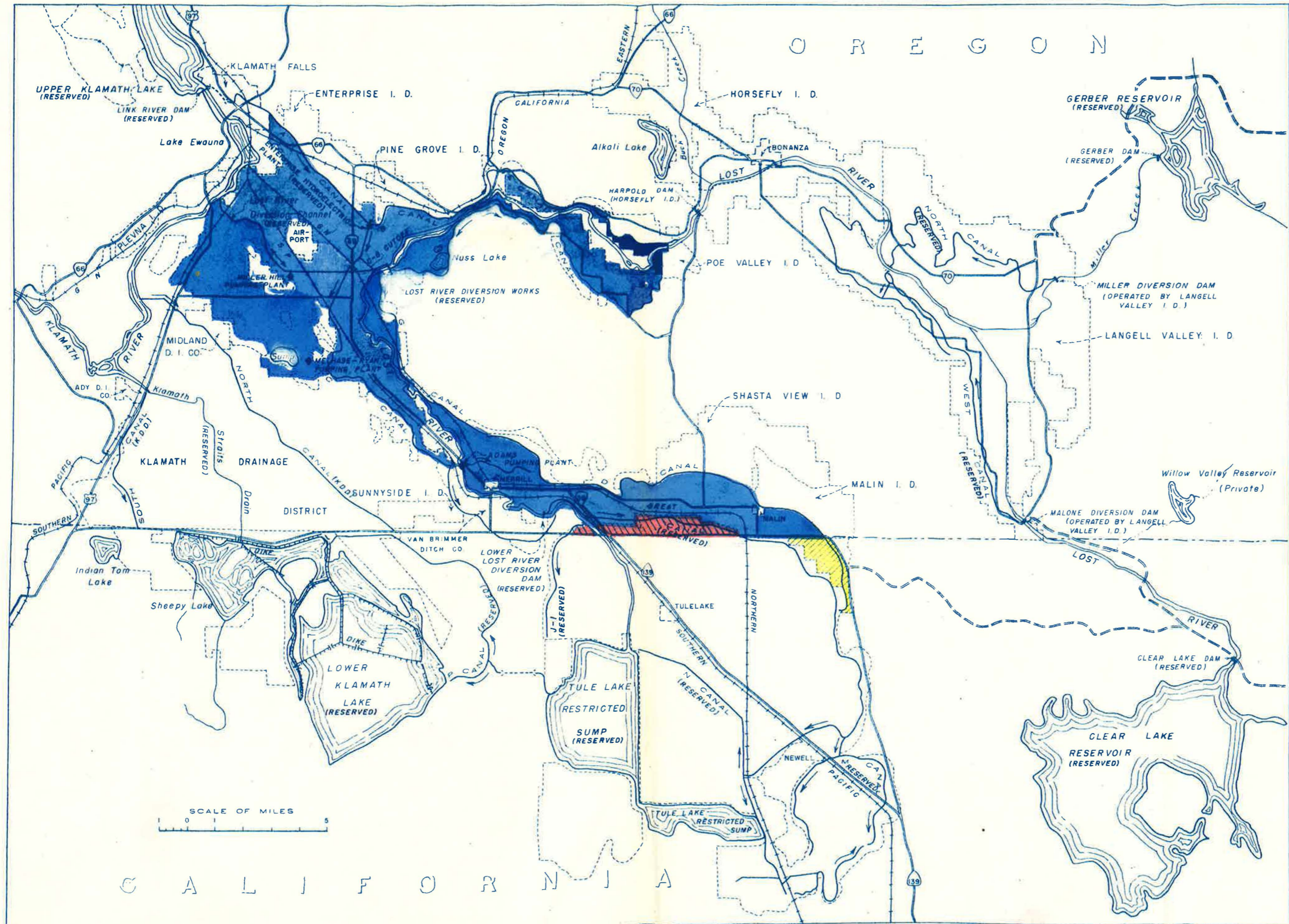
<u>Contract Number</u>	<u>Contract Date</u>	<u>Water User</u>	<u>Acres</u>
Ilr-403	Dec. 21, 1918	Pine Grove Irrigation District	954.
I8r-1065	Feb. 3, 1943	Van Brimmer Ditch Company	Excess Only
Ilr-399	Oct. 5, 1920	Enterprise Irrigation District	2980.8
Ilr-195	Sept. 9, 1922	Malin Irrigation District	3479.2
Ilr-1531	Aug. 20, 1948	Shasta View Irrigation District	3991.0
Ilr-401	Aug. 23, 1924	E. H. Johnson	20.0
Ilr-174	Oct. 24, 1922	Sunnyside Irrigation District	595.0
Ilr-143	May 16, 1927	Charles W. Lewis	52.9
Ilr-144	May 28, 1927	R. C. Burleigh	107.0
Ilr-144	May 28, 1927	Phelps Lewis	32.5
Ilr-145	May 18, 1927	L. Kandra	91.6
Ilr-146	May 21, 1927	I. C. Johnson	90.1
Ilr-147	May 16, 1927	Clyde M. Horsley	35.2
Ilr-147	May 16, 1927	Roy Houck	12.6
Ilr-148	May 27, 1927	I. C. Johnson	61.9
Ilr-149	May 20, 1927	J. A. Carpenter	89.6
Ilr-149	May 20, 1927	J. A. Carpenter	46.8
Ilr-150	May 24, 1927	Charles B. Rice	16.0
Ilr-151	May 24, 1927	William F. Jinnette	60.2
Ilr-152	May 24, 1927	W. E. Hammond	50.4
Ilr-155	May 19, 1927	Myrtle Beasly	133.5
Ilr-156	May 19, 1927	Myrtle Beasly	45.1
Ilr-157	May 28, 1927	Hill Brothers	57.0
Ilr-159	May 26, 1927	J. A. Carpenter	37.2
Ilr-159	May 26, 1927	J. A. Carpenter	103.2
Ilr-161	June 11, 1927	James W. Dolan	70.5
Ilr-162	June 14, 1927	James Lacey	31.5
Ilr-163	June 16, 1927	Joe Meeker	80.0
Ilr-164	June 11, 1927	Elizabeth L. Stewart	73.7
Ilr-165	June 7, 1927	Roy F. Beasly	30.0
Ilr-166	June 9, 1927	Fred Peterson	10.0
Ilr-175	June 22, 1927	Anton Steyskal	5.1
Ilr-175	June 22, 1927	J. A. Carpenter	18.3
Ilr-248	Nov. 30, 1927	Karl F. Dehlinger	60.5
Ilr-304	May 26, 1928	Harry Kinney	45.4

EXHIBIT "A" (CONT'D.)

<u>Contract Number</u>	<u>Contract Date</u>	<u>Water User</u>	<u>Acres</u>
I1r-316	June 6, 1928	June F. Grimes	131.1
I1r-329	June 8, 1928	M. J. Barnes	1.6
I1r-328	June 15, 1928	Harold E. Dehlinger	56.0
I1r-337	July 7, 1928	Cecil Drew	28.8
I1r-531	Feb. 13, 1929	G. W. Crew	25.4
I1r-582	Nov. 9, 1929	George E. Stevenson	63.0
I8r-375	Dec. 15, 1930	Neva Haskins	55.5
I8r-376	Dec. 15, 1930	Neva Haskins	25.4
I8r-377	Dec. 15, 1930	V. G. Reinmiller	20.4
I8r-374	Dec. 18, 1930	A. J. Manning	105.3
I8r-384	Feb. 24, 1931	George Chin	20.7
I8r-414	May 15, 1931	F. H. Hadley	35.0
I8r-414	May 15, 1931	F. H. Hadley	25.0
I8r-415	May 16, 1931	Robert J. Petrik	11.2
I8r-416	May 16, 1931	W. W. Ochs	29.4
I8r-418	May 16, 1931	J. W. Reeder	39.2
I8r-419	May 16, 1931	I. E. Icenbice	80.0
I8r-419	May 16, 1931	C. F. Icenbice	33.2
I8r-420	June 1, 1931	Geo. Retterath & Sons	23.5
I8r-421	May 29, 1931	Robert Petrik	40.1
I8r-426	June 17, 1931	F. H. Hadley	5.4
I8r-426	June 17, 1931	Bernace Wilson	67.6
I8r-508	July 7, 1931	C. Bruce Campbell	17.7
I8r-510	Dec. 26, 1931	Wilbur Robinette	30.1
I8r-511	Dec. 26, 1931	W. M. Williams	79.7
I8r-549	June 20, 1932	C. Bruce Campbell	13.8
I8r-592	June 14, 1933	Anna C. McConnell	34.4
I8r-626	May 15, 1934	William F. Jinnette	38.8
I8r-631	May 23, 1934	J. C. Wright	17.9
I8r-630	May 16, 1934	Lester Wilson	3.3
I8r-633	July 23, 1934	J. M. Walker	9.0
I8r-675	Dec. 18, 1935	Joseph Brandejsky	66.3
I8r-676	Dec. 18, 1935	Lloyd Davidson	15.5
I8r-677	Dec. 19, 1935	John A. Marshall	17.8
I8r-685	Dec. 28, 1935	Earl Mack	37.3

EXHIBIT "A" (CONT'D.)

<u>Contract Number</u>	<u>Contract Date</u>	<u>Water User</u>	<u>Acres</u>
I8r-688	Jan. 16, 1936	Joe Steele	51.0
I8r-689	Jan. 16, 1936	John D. O'Connor	155.9
I8r-696	May 11, 1936	C. L. Webber	41.0
I8r-701	June 22, 1936	L. W. George	33.7
I8r-702	June 23, 1936	Stanley F. Kendall	7.4
I8r-702	June 23, 1936	James Sexton	14.8
I8r-703	June 26, 1936	V. C. Jackson	37.0
I8r-704	June 29, 1936	Mary M. Johnson	10.2
I8r-705	July 2, 1936	Lulu Storey	71.6
I8r-793	Nov. 28, 1936	Emil Wells	31.2
I8r-818	May 28, 1937	Gerald D. West	36.0
I8r-820	May 28, 1937	Harold E. Dehlinger	22.9
I8r-821	May 28, 1937	Wilbur Reiling	45.5
I8r-823	June 12, 1937	W. M. Williams	35.6
I8r-824	June 18, 1937	Sam Wong	68.3
I8r-829	Aug. 5, 1937	Stanley C. Masten	36.4
I8r-830	Aug. 5, 1937	A. R. Dickson	15.2
I8r-848	March 5, 1938	M. D. Fiegi	29.0
I8r-865	June 21, 1938	Glen Stough	23.8
I8r-867	June 21, 1938	F. E. Gordon	21.4
I8r-864	June 21, 1938	William Gray	101.6
I8r-864	June 21, 1938	Kelley Robinette	37.9
I8r-866	June 21, 1938	John Lehto	6.9
I8r-896	March 10, 1939	W. M. Williams	28.0
I8r-927	Jan. 30, 1940	John Stirling	16.5
I8r-930	March 5, 1940	Mary M. Johnson	48.7
I8r-931	March 5, 1940	Charles R. Schmeiser	9.9
I8r-937	March 27, 1940	Don M. Smith	65.9
I8r-938	April 12, 1940	J. Leland Pope	123.4
I8r-939	April 16, 1940	Dale Bebbber	95.0
I8r-940	April 18, 1940	West & Lyons	48.3
I8r-941	April 22, 1940	Thomas Lacey	30.1
I8r-943	April 24, 1940	Harvey E. Wise	50.5
I8r-946	May 17, 1940	George Reiling	30.6
I8r-947	June 14, 1940	Otto Balin	85.6
I8r-977	June 24, 1941	Earl Mack	6.4
I8r-1035	March 10, 1942	L. W. George	13.0
I8r-1066	March 26, 1943	Cecil Drew	20.3
I8r-1085	May 10, 1944	George Reiling	20.4
I8r-1088	June 1, 1944	Leland Cheyne	153.1



EXPLANATION

- Klamath Irrigation District Lands
- Oregon Lands Served by United States or another agency under Part (a), Art. 14 of Contract.
- California Lands Served by Klamath Irrigation District under Part (b), Art. 14 of Contract.

NOTE

Project Features marked "reserved" will not be operated or maintained by Klamath Irrigation District.

ROADS

- Primary
- Secondary



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
K L A M A T H P R O J E C T
O R E G O N — C A L I F O R N I A
**LANDS SERVICED FROM WORKS
TRANSFERRED TO KLAMATH IRRIGATION
DISTRICT JANUARY 1, 1955**

EXHIBIT "C"

NON-DISTRICT LANDS IN OREGON TO BE SERVED THROUGH DISTRIBUTION SYSTEM

INDIVIDUAL WATER RIGHTS:

<u>Serial Number</u>	<u>Public Notice Date</u>	<u>Water User</u>	<u>Acres</u>
49-1	Nov. 18, 1908	C. J. Shuck	9.9
49-4	Nov. 18, 1908	Great Northern Railway	1.1
67-1	Nov. 18, 1908	C. J. Shuck	7.1
67-2	Nov. 18, 1908	Great Northern Railway	12.3
72	Nov. 18, 1908	William Hodges	3.0
80	Nov. 18, 1908	Sarah Hodges	5.8
123	Nov. 18, 1908	Neva Haskins	2.0
152	Nov. 18, 1908	John Turner	5.5
313	Nov. 18, 1908	C. J. Shuck	5.0
346	Nov. 18, 1908	Maurice O'Keefe	1.0
388	Nov. 18, 1908	Loyal Order of Moose	1.0
392	Nov. 18, 1908	David J. Dean	3.6
392-1	Nov. 18, 1908	City of Merrill	1.0
392-2	Nov. 18, 1908	Agnes Welshans	1.3
392-3	Nov. 18, 1908	Kenneth Caldwell	.1
483	Nov. 18, 1908	School District No. 22	2.0
511-1	Nov. 18, 1908	L. A. Geraghty	28.5
511-2	Nov. 18, 1908	Great Northern Railway	4.8
511-4	Nov. 18, 1908	Anton Suty	5.2
550	Nov. 18, 1908	Joe Meeker	1.9

LONG-TERM WATER RENTAL CONTRACTS:

<u>Contract Date</u>	<u>Contract No.</u>	<u>Contractor</u>	<u>Area Served</u>	<u>Term of Contract</u>	<u>Acres</u>
May 23, 1938	I8r-860	Union High School District No. 2	Athletic Field	25*	6
Jan. 14, 1950	I8r-1371	City of Klamath Falls	North Entrance Park	25	10
Jan. 23, 1950	I8r-1372	City of Klamath Falls	Conger Field	25	7

CONTRACT FOR USE OF DRAINAGE SYSTEM FOR SEWAGE DISPOSAL:

	<u>Contract No.</u>	<u>Contractor</u>		
May 10, 1939	I8r-905	City of Malin	**	--

*Option to renew for additional 25 years

**Indefinite - Either party may cancel on two years notice

ATTACHMENT 3 - MATCHING FUND SOURCE

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	Type (✓ Only One)	Status (✓ Only One)	Amount/ Dollar Value	Date Match Funds Available (Month/Year)
KID Employee Project Manager	<input type="checkbox"/> cash <input checked="" type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$20,000	10/2020
KID Employees	<input type="checkbox"/> cash <input checked="" type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$24,000	10/2020
WaterSMART Grant (SCADA)	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input checked="" type="checkbox"/> pending	■	■
KID Infrastructure Improvement Budget	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$36,000	01/2021
■	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending	■	■
Total of Match Funds			= \$80,000	

ATTACHMENT 4 SELECT STORAGE PROJECT

NOT APPLICABLE

ATTACHMENT 5 LETTERS OF SUPPORT

Klamath Irrigation District has received and attached letters of support for the SCADA modernization from:

U.S. Senator Jeff Merkley
U.S. Fish and Wildlife Service
Ducks Unlimited
Intermountain West Joint Venture
Farmers Conservation Alliance
Klamath Water Users Association
Tulelake Irrigation District

Project Title: Klamath ID SCADA 2021-22 Improvements. BOR-DO-21-F001

United States Senator Jeffrey A. Merkley,

JEFF MERKLEY
OREGON

United States Senate

WASHINGTON, DC 20510

Sept. 8, 2020

COMMITTEES:
APPROPRIATIONS
BUDGET
ENVIRONMENT AND
PUBLIC WORKS
FOREIGN RELATIONS

Bureau of Reclamation
Financial Assistance Operations
Attn: Mr. Ned Weakland
P.O. Box 25007
Denver, CO 80225

Dear Mr. Weakland,

I am writing in support of Klamath Irrigation District's application for WaterSMART grant funding to install 21 Supervisory Control and Data Acquisition and Automation (SCADA) devices around the district. The installation of these devices will improve water delivery in the Klamath Project and help conserve water in Upper Klamath Lake.

The Klamath Irrigation District currently relies on manual readings, performed by hand, to measure water in the canals. This is an inefficient system and often results in spillover or over-deliveries that leads to wasted water and higher pumping costs. The use of SCADA devices will allow for near real-time monitoring and decision making that will not only benefit the Klamath Irrigation Districts but also the eight other irrigation districts that get their water through the canals.

The ability to monitor the water in real-time will improve the water delivery system in place and help conserve over 39,000 acre feet of water. The water will remain in the lake longer into the irrigation season, which will improve water quality and provide better habitat for fish and wildlife including the Coho Salmon and Suckers, both of which are endangered.

The installation of the SCADA devices will also lay the groundwork for future modernization projects such as automatic gates, control systems on pumps, and canal piping. These improvements will save additional water and provide long-term benefits for both irrigators and the environment.

The goals of Klamath Irrigation Districts SCADA project are consistent with the intent of the Bureau of Reclamation's WaterSMART program to conserve water for the benefit of farmers and the environment. Thank you for your full and fair consideration of the Klamath Irrigation District's application. If you have any questions regarding this matter, please contact BJ Westlund in my Central Oregon office at 541-318-1298.

Sincerely,



Jeffrey A. Merkley
United States Senator

313 HART SENATE OFFICE BUILDING
WASHINGTON, DC 20510
(202) 224-3753
FAX (202) 228-3997

121 S.W. SALMON STREET
SUITE 1400
PORTLAND, OR 97204
(503) 326-3386
FAX (503) 326-2900

US Fish and Wildlife Service



United States Department of the Interior

FISH AND WILDLIFE SERVICE
KLAMATH BASIN NATIONAL WILDLIFE REFUGES

4009 Hill Road
Tulelake, California 96134
Phone: (530) 667-2231 Fax: (530) 667-8337



September 30, 2019

Bureau of Reclamation
Financial Assistance Support Section
WaterSMART Grant for Fiscal Year 2020
Attn: Darren Olsen

Dear Mr. Olsen,

On behalf of the Klamath Basin National Wildlife Refuge Complex, I am writing to express support of Klamath Irrigation Districts (KID) funding proposal for the installation of Supervisory Control and Data Acquisition and Automation (SCADA) components that will improve operational efficiency and irrigation water savings.

The Klamath Basin NWR Complex is comprised of 6 different refuges located in southern Oregon and northern California, with two of the refuges located within the footprint of the Klamath Reclamation Project. The refuges lay in one of the richest areas for biological diversity in the Pacific flyway and are recognized for the large numbers of migrating and wintering tundra swans, white pelicans, ducks, geese and eagles it supports.

The installation of SCADA components is anticipated to enhance inter-district communications, reduce spills, and decrease over-deliveries in the District and can provide some relief from shortages in Project water supply, in addition the project may provide water availability for the Refuge when efficiencies are realized.

I support the efforts of KID as they seek funding to find efficiencies through the modernization of water infrastructure throughout their District, especially as water is becoming scarcer throughout the Klamath Basin.

Sincerely,

Greg Austin
Project Leader



Klamath Water Users Association



1 October 2019

For: Grant Approval Authority at the Bureau of Reclamation

Reference: Letter of Support for Klamath ID's 2020 Modernization Efforts

The Klamath Water Users Association supports Klamath Irrigation District's modernization planning which includes Supervisory Control and Data Acquisition and Automation (SCADA) improvements, piping and canal lining improvements, hydropower, and solar projects.

The installation of SCADA components will enhance inter-district communications, reduce spills, and decrease over-deliveries. This project will benefit all eight (8) Districts linked to Klamath Irrigation District and has potential to benefit the U.S. Fish and Wildlife Service, Klamath Tribes, and several endangered species.

Efforts to improve canals with piping and liners will reduce seepage and other losses due to weed control measures. These savings can be applied and used by numerous stakeholders.

Energy projects to create renewable energy are beneficial to the entire Project and Basin.

Furthermore, this initiative will improve visibility of water deliveries across the three (3) largest Districts in the Klamath Project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Johnson', is written over a light blue horizontal line.

Mark Johnson
Deputy Director
Klamath Water Users Association

Tulelake Irrigation District

Tulelake Irrigation District

P. O. Box 699 * 2717 Havlina Road * Tulelake, CA 96134
Phone: 530-667-2249 * Fax: 530-667-4228 * Email: tid@cot.net

*Brad C. Kirby, Manager
Kraig D. Beasley, Asst. Mgr.
Kacie A. Fields, Office Mgr.
John F. Crawford, President
Gary A. Wright, V. President
James E. Havlina, Director
Edgar J. Staunton, Director
Scott M. Seus, Director*

1 October 2019

For: Grant Approval Authority at the Bureau of Reclamation

Re: Letter of Support for Klamath ID's 2020 Modernization Efforts

The Tulelake Irrigation District supports Klamath Irrigation District's modernization planning which includes Supervisory Control and Data Acquisition and Automation (SCADA) improvements, piping and canal lining improvements which will have a positive impact on Tulelake Irrigation District operations.

The installation of SCADA components is anticipated to enhance inter-district communications, reduce spills, and decrease over-deliveries. This project will benefit Tulelake Irrigation district as in allowing for visibility on Klamath Irrigation District spills into our District, and will reduce our overall pumping costs. We believe these projects have potential to benefit the U.S. Fish and Wildlife Service when efficiencies are realized.

Efforts to improve canals with piping and liners will reduce seepage and other losses due to weed control measures. These savings can be applied and used by numerous stakeholders, to include Tulelake Irrigation District.

We anticipate this initiative will improve visibility of water deliveries across the three (3) largest Districts in the Klamath Project.

Sincerely,



Brad Kirby
District Manager
Tulelake Irrigation District

Farmers Conservation Alliance

RESOURCE SOLUTIONS FOR RURAL COMMUNITIES

October 1, 2019



U.S. Bureau of Reclamation
Financial Assistance Support Section
Attn: Ms. Janeen Koza
P.O. Box 25007, MS 84-27814
Denver, CO 80225

RE: Letter of Support for Klamath Irrigation District Project WaterSMART Water and Energy Efficiency Grant Program

Dear Ms. Janeen Koza,

This letter expresses Farmers Conservation Alliance's (FCA's) support for Klamath Irrigation District's Supervisory Control and Data Acquisition and Automation (SCADA) Improvements Project.

FCA has been actively working with Klamath Irrigation District to help the district modernize the infrastructure that it operates in a manner that benefits both agriculture and the environment. The SCADA Improvements Project will help the district meet both of these goals.

The SCADA Improvement Project will reduce incidental spills from Klamath Irrigation District by almost 25,000 acre-feet per year. It would improve inter-district communications, reduce end spills and over-deliveries, decrease pumping costs, and increase conveyance efficiencies, thereby reducing Klamath Irrigation District's diversions out of Upper Klamath Lake and increasing the amount of water available for other interests.

Klamath Irrigation District is currently working with Tulelake Irrigation District, Klamath Drainage District, US Fish and Wildlife, Bureau of Reclamation, and the Klamath Tribes to improve its infrastructure. The SCADA Improvement Project will complement and facilitate future infrastructure improvements currently under consideration.

This project aligns with long-term community goals, and, when complete, will yield agricultural and environmental benefits. Investments by the Bureau of Reclamation in the SCADA Improvement Project would accelerate the implementation of the project and the realization of these benefits, and FCA fully supports these investments.

Sincerely,

A handwritten signature in cursive script that reads "Julie Davies O'Shea".

Julie Davies O'Shea
Executive Director

website www.fcasolutions.org

telephones 541-716-6085

office 102 state street . hood river . oregon . 97031

Ducks Unlimited



Western Regional Office
3074 Gold Canal Drive
Rancho Cordova, CA 95670
Ph: 916-852-2000, Fax: 916-852-2200
www.ducks.org

September 3, 2020

U.S. Bureau of Reclamation
Financial Assistance Support Section
P.O. Box 25007, MS 84-27814
Denver, CO, 80225

Re: Klamath Irrigation District Supervisory Control and Data Acquisition and Automation (SCADA) 2021-2022 Improvements Project

Dear Grant Approval Authority at the Bureau of Reclamation:

Ducks Unlimited (DU) supports Klamath Irrigation District's (KID) proposed Supervisory Control and Data Acquisition and Automation (SCADA) 2021-2022 Improvements Project proposal, an important opportunity to improve an irrigation delivery system resulting in potential water savings through operational efficiencies.

KID is located within the Klamath Basin of the Southern Oregon - Northeast California (SONEC) region which recently has been identified by waterfowl researchers as one of the two most important geographic conservation priority areas for wetland dependent birds in the Intermountain West. KID is an important irrigation district within the Klamath Project as it provides service to eight additional irrigation districts. Therefore, operation efficiencies on KID will improve inter-district communications, improve water use efficiency through reduce spills and seepage, and potentially contribute to 39,000 acre-feet in annual water savings. This water savings when realized may provide additional water which may be made available to either Lower Klamath National Wildlife Refuge and/or Tule Lake National Wildlife Refuge. Both Refuges are incredibly important as migration and breeding locations for Pacific Flyway waterfowl populations, however, have suffered in their abilities to provide adequate habitat as water in Klamath Project has become scarce. Therefore, any efforts to improve water use efficiency throughout the project and potentially improve water availability to the refuges, may increase the available habitat to waterfowl and other waterbirds in the Klamath Basin.

In California and Oregon, DU has worked in collaboration with private landowners, other non-governmental organizations, state and federal agencies, and irrigations districts to help conserve wetlands through land protection, restoration, and enhancement projects. We look forward to continued collaborative efforts with KID and other organizations within the Klamath Basin to improve water use efficiencies and foster collaborative multi-beneficial projects.

Sincerely,

Mark E
Biddlecomb

Digitally signed by Mark E Biddlecomb
DN: cn=Mark E Biddlecomb, o=Ducks
Unlimited, ou,
email=mbiddlecomb@ducks.org, c=US
Date: 2020.09.03 11:04:26 -0700

Mark Biddlecomb
Director of Operations

Intermountain West Joint Venture



INTERMOUNTAIN WEST
JOINT VENTURE

conserving habitat through partnerships

September 2, 2020

Bureau of Reclamation
Financial Assistance Support Section

Subject: Klamath Irrigation District (Klamath ID) Supervisory Control and Data Acquisition and Automation (SCADA) 2021-2022 Improvements.

Dear Grant Approval Authority at the Bureau of Reclamation,

The Intermountain West Joint Venture (IWJV) supports Klamath Irrigation District's WaterSMART Grant proposal for the installation of Supervisory Control and Data Acquisition and Automation (SCADA) systems. SCADA components will enhance inter-district communications, reduce spills, and decrease over-deliveries.

The Klamath Basin is one of our highest priority areas for wetland habitat conservation for Pacific Flyway waterfowl, shorebirds, and waterbirds. Waterfowl use of the Klamath Basin National Wildlife Refuges has declined by 50% since 2008, largely as a direct result of reduced water allocations. The IWJV is working with irrigation districts, farmers, and other local stakeholders to identify collaborative solutions that ensure the availability of wetland habitat on public and private lands as needed to sustain Pacific Flyway waterfowl population at goal levels established by the North American Waterfowl Management Plan.

The proposed irrigation modernization improvements will enhance water management capabilities. Projects that improve the stewardship of water in the Klamath Basin benefit waterfowl, irrigators and fisheries in the area. We urge the Bureau of Reclamation to give this project its utmost consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Smith". The signature is fluid and cursive.

Dave Smith, Coordinator
Intermountain West Joint Venture

Option 32: Automate the Flow Control at the Head of C-G Cutoff Canal

Conclusion—

Issue—Need real-time control of operation for the existing head of C-G Cutoff Canal.

Purpose—Allows for real-time control of operation for the existing head of G Canal.

Background—The headworks of C-G Cutoff Canal currently contains two undershot radial gates with local manual control. Flow is measured at a rated drop structure with a water level sensor just downstream of the headgates. Monitoring flow information from the drop structure occurs by transmitting information through a nearby RTU.

Suggested Action(s)—Install motorized gate operators and a new RTU for the existing radial gates. Replace the existing water level sensor and RTU at the drop structure.

Study and Design Assumptions—

Cost Summary—

Items and Mobilization Subtotal	\$	Design Contingencies	\$
Contract Cost		Construction Contingencies	
Field Cost		Non-Contract Cost	
Construction Cost		Total cost:	

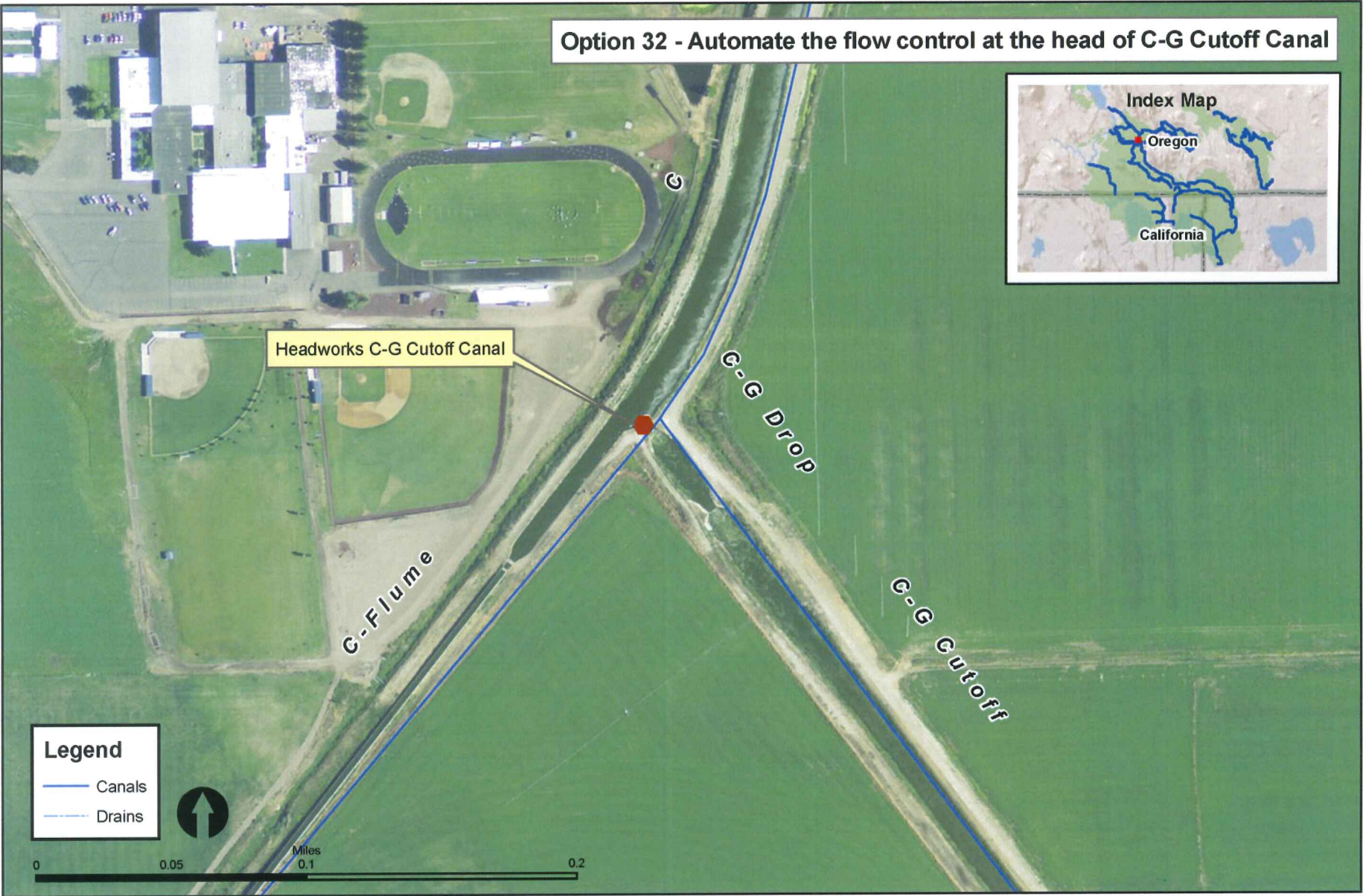
Reduces Diversions on the Klamath River—No.

Dependencies—None.

Interacts with—Option 29: Overhaul SCADA system. If Option 7: Restore the Old G Canal Diversion off Lost River at Wilson Dam were constructed, similar gate automation should be considered.

Analysis Requirements—

Note that costs and analysis are at a preliminary or appraisal level only and should only be used as a guideline to determine which options merit further study.



Note that costs and analysis are at a preliminary or appraisal level only and should only be used as a guideline to determine which options merit further study.

DRAFT

Option 32: Automate Flow Control at Head of G canal

Install motorized gate operators and a new RTU for the existing radial gates. Replace the existing water level sensor and RTU at the drop structure.

Purpose

Option 32 automates flow control at the head of G Canal. Automation allows for real-time control of operation from a remote SCADA base station.

General Facility and Area Description

The headworks of G canal currently contain two undershot radial gates with local manual control (figure 1). Flow is measured at a rated drop structure with a water level sensor just downstream of the headgates. Monitoring flow information from the drop structure occurs by transmitting information through a nearby RTU.

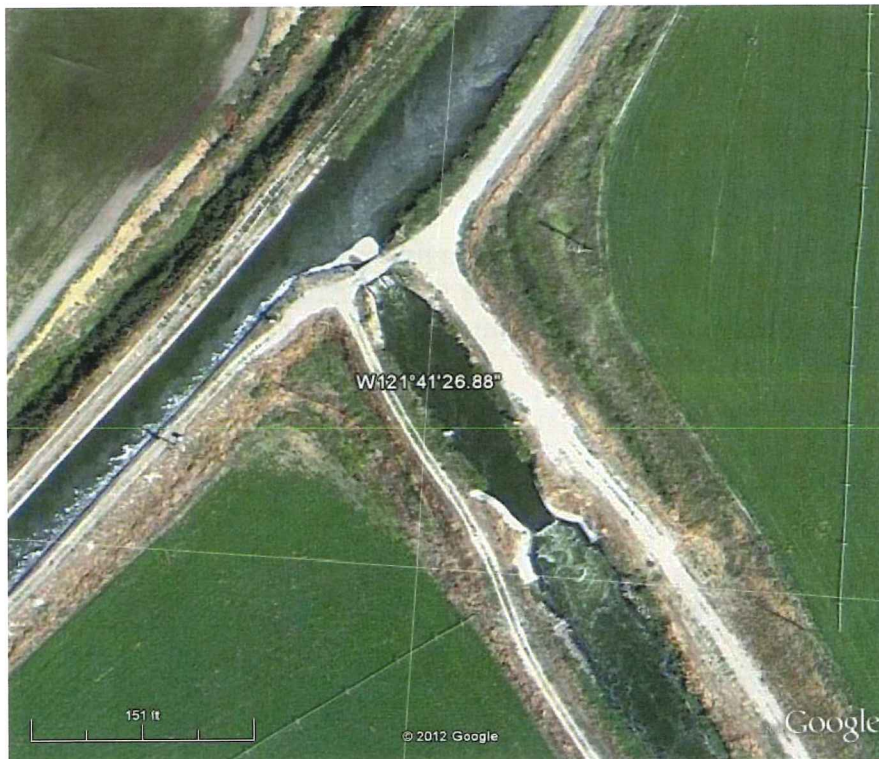


Figure 1. Satellite image of head of G canal including radial gates and drop structure (Google™ Earth, 2012).

Note that costs and analysis are at a preliminary or appraisal level only and should only be used as a guideline to determine which options merit further study.

DRAFT**Option 32: Automate Flow Control at Head of G canal**

Plan of Operation

Information about gate position, water level, and flow rate will be transmitted to the KID SCADA system. The SCADA system will be used for both monitoring and control of the G canal headgates.

Cost estimates on the following pages do not include development of hydropower facilities.

Note that costs and analysis are at a preliminary or appraisal level only and should only be used as a guideline to determine which options merit further study.

ESTIMATE WORKSHEET

<p>FEATURE:</p> <p>Klamath Project Irrigation Enhancement Act Yield Improvement Study Proposal # 32</p> <p><i>Proposal Description: Automate flow control at head of G canal</i></p>	<p>PROJECT:</p> <p style="text-align: center;">Klamath Project (Oregon/California)</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">WOID: AF929</td> <td style="width:33%;">ESTIMATE LEVEL: Appraisal</td> </tr> <tr> <td>REGION: MP</td> <td>UNIT PRICE LEVEL: 2012</td> </tr> </table> <p>FILE: Q:\Klamath Enhancement Act General Studies\Klamath FY12\Design\Option 32\4-22-draft pdf\3-8460-Opt 32_final.xlsx\Template Sheet 1</p>	WOID: AF929	ESTIMATE LEVEL: Appraisal	REGION: MP	UNIT PRICE LEVEL: 2012
WOID: AF929	ESTIMATE LEVEL: Appraisal				
REGION: MP	UNIT PRICE LEVEL: 2012				

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		Furnish and install RTU	86-68460				
		Remote terminal unit (RTU) includes:		2	EA		
		- Bulletproof RTU housing					
		- Nema 12 sealed electrical box					
		- Rigid 3 controller					
		- High speed data radio					
		- 12 V battery					
		- Charge controller					
		- Antenna					
		- Lightning arrestor for antenna					
		- Breakers					
		- Solar panel					
		- Power pole for mounting solar panel/antenna					
		- Cabling/wiring for installed equipment					
		On-site LCD display screen and keypad		2	EA		
		Program RTU (1 electronics technician, 8 hr)		16	HR		
		Program office SCADA system to accept inputs (1 SCADA engineer/programmer, 8 hr/site)		16	HR		
		Furnish and install gate control system	86-68460				
		Motorized gate operator includes gate position sensors, electric actuators, limit switches, and pushbutton control panel		2	EA		
		Furnish and Install Water Level Devices					
		Furnish and install new stilling well, brackets		1	LS		
		Furnish and install water level sensors		2	EA		
		Calibrate water level sensor (1 field technician, 8 hrs)		8	HR		
		Staff gage for local readings		1	EA		
		SUBTOTAL THIS SHEET					

QUANTITIES		PRICES	
BY	CHECKED	BY	CHECKED
DATE PREPARED	PEER REVIEW / DATE	DATE PREPARED	PEER REVIEW / DATE

BUREAU OF RECLAMATION

ESTIMATE WORKSHEET

SHEET 1 OF 2

<p>FEATURE:</p> <p>Klamath Project Irrigation Enhancement Act Yield Improvement Study Proposal # 32</p> <p><i>Proposal Description: Automate flow control at head of G canal</i></p>	<p>PROJECT:</p> <p style="text-align: center;">Klamath Project (Oregon/California)</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">WOID: AF929</td> <td style="width:30%;">ESTIMATE LEVEL: Appraisal</td> </tr> <tr> <td>REGION: MP</td> <td>UNIT PRICE LEVEL: Jan - 2012</td> </tr> </table> <p>FILE: H:\D8170\EST\Spreadsheet\00_Project Files\Klamath Water Sys Rebuild\Estimate SUM FINALS\Prop 32 - Klamath EAYI Study - Appraisal - April 2012.xlsx\32 - 8460 - Sht 1</p>	WOID: AF929	ESTIMATE LEVEL: Appraisal	REGION: MP	UNIT PRICE LEVEL: Jan - 2012
WOID: AF929	ESTIMATE LEVEL: Appraisal				
REGION: MP	UNIT PRICE LEVEL: Jan - 2012				

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	1	Furnish and install RTU	86-68460				
	a.	Remote terminal unit (RTU) includes:		2	EA	\$38,000.00	\$76,000.00
		- Bulletproof RTU housing					
		- Nema 12 sealed electrical box					
		- Rugid 3 controller					
		- High speed data radio					
		- 12 V battery					
		- Charge controller					
		- Antenna					
		- Lightning arrestor for antenna					
		- Breakers					
		- Solar panel					
		- Power pole for mounting solar panel/antenna					
		- Cabling/wiring for installed equipment					
	b.	On-site LCD display screen and keypad		2	EA	\$2,000.00	\$4,000.00
	c.	Program RTU (1 electronics technician, 8 hr)		16	HR	\$250.00	\$4,000.00
	d.	Program office SCADA system to accept inputs (1 SCADA engineer/programmer, 8 hr/site)		16	HR	\$250.00	\$4,000.00
	2	Furnish and install gate control system	86-68460				
	a.	Motorized gate operator includes gate position sensors, electric actuators, limit switches, and pushbutton control panel		2	EA	\$280,000.00	\$560,000.00
	3	Furnish and Install Water Level Devices					
	a.	Furnish and install new stilling well, brackets		1	LS	\$7,500.00	\$7,500.00
	b.	Furnish and install water level sensors		2	EA	\$9,000.00	\$18,000.00
	c.	Calibrate water level sensor (1 field technician, 8 hrs)		8	HR	\$180.00	\$1,440.00
	d.	Staff gage for local readings		1	EA	\$530.00	\$530.00
SUBTOTAL THIS SHEET 1							\$675,470.00

QUANTITIES		PRICES	
BY Connie Svoboda	CHECKED Tom Gill	BY L.L. Ziomke	CHECKED [Signature] 4/26/12
DATE PREPARED 04/03/12	PEER REVIEW / DATE Tom Gill 4/3/12	DATE PREPARED 04/25/12	PEER REVIEW / DATE [Signature] 4/28/12

FEATURE: Klamath Project Irrigation Enhancement Act Yield Improvement Study Proposal # 32 Automate flow control at head of G canal <p style="text-align: center;">SUMMARY</p>	PROJECT: Klamath Project (Oregon/California)
	WOID: AF929 ESTIMATE LEVEL: Appraisal REGION: MP UNIT PRICE LEVEL: Jan - 2012 FILE: H:\08170\EST\Spreadsheet\00_Project Files\Klamath Water Sys Rebuild\Estimate - SUM FINALS\Prop 32 - Klamath EAY1 Study - Appraisal - April 2012.xlsx\32 -Sum- Sht 2

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT	
		SUMMARY:-						
		Sheet 1 - Subtotal					\$675,470.00	
		Subtotal 1					\$675,470.00	
		Mobilization	5%	+/-			\$34,000.00	
		Subtotal 1 with Mobilization					\$709,470.00	
		Design Contingencies	15%	+/-			\$110,530.00	
		Subtotal 2 = Subtotal 1 + Design Contingencies					\$820,000.00	
		Allowance for Procurement Strategies (APS)	0.0%	+/-			\$0.00	
		Type of solicitation assumed is: Full and open sealed bid competition.						
		Subtotal 3 = Subtotal 2 + APS					\$820,000.00	
		CONTRACT COST					\$820,000.00	
		Construction Contingencies	25%	+/-			\$180,000.00	
		FIELD COST					\$1,000,000.00	
		Non-contract Cost	35.0%	+/-			\$350,000.00	
		CONSTRUCTION COST					\$1,350,000.00	
		** Non-contract costs have been added using the same percentage for all proposals for consistency and proposal comparison. Depending on the contract type, amount, complexity and/or other factors, the non-contract costs percentages may require adjustment. All costs shown are not for funding purposes.						
		Ref.: For appropriate use and terminology, see Reclamation Manual, Directives and Standards FAC; 09-01, 09-02 and 09-03.						

QUANTITIES		PRICES	
BY See Groups' Sheets	CHECKED See Groups' Sheets	BY L. Zornke	CHECKED 4/26/12
DATE PREPARED See Groups' Sheets	PEER REVIEW / DATE See Groups' Sheets	DATE PREPARED 04/28/12	PEER REVIEW / DATE 4/28/12