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. ***(See letter from MPID)***

☒ 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 (3 pages)

☐ List and description of key tasks (Question 14): Attachment #

☐ Secured permits and regulatory approvals needed to implement the project (Question 15): Attachment #

☒ Other: Klamath Adjudication Claim 84 Attachment # 6

☒ Other: Technical Memo, MPID Water Availability Review Attachment # 7

☐ 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: _____ Date: 15 Oct 2020

Print Name: Mason Terry_____ Title: __Board Secretary

OREGON WATER RESOURCES DEPARTMENT

FEASIBILITY STUDY GRANTS
2020 GRANT APPLICATION

I. Study Information

Study Name: Upper Klamath Lake Water Storage Feasibility Study

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

Requested Grant Amount (must be no more than 50% of Total Study Cost): $ 26,400

Total Cost of Feasibility Study: $ 58,600

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

II. Applicant Information

Applicant Name: Modoc Point Irrigation District	Co-Applicant Name:
Address: PO Box 278	Address:
Chiloquin, OR 97624	
Phone:	Phone:
Fax:	Fax:
Email:	Email:

Principle Contact: Angela Boudro	Fiscal Officer: Mason Terry
Address: Box 3444	Address: 3201 Campus Drive , Purvine Hall, Room 290, Klamath Falls, OR 97601
Central Point, OR 97502	
Phone: 541-890-4014	Phone: 541.885.1506
Fax:	Fax:
Email: angelaboudro@gmail.com	Email: mason.terry@oit.edu

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: _____ Date: 15 Oct 2020

Print Name: Mason Terry Title: Board Secretary

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 proposed study would evaluate the feasibility of building one or more above-ground water storage reservoirs to store off-season run-off water from the Upper Klamath Lake Basin in order to augment the irrigation supply for Modoc Point Irrigation District irrigators and provide supplemental water in the case of a call by the primary water right holder. The result of the study would be potential sites and optimum sizes for the reservoir(s) in each potential location as well as costs, environmental impacts, regulatory compliance, and funding sources for constructing and implementing these potential reservoir sites. This study will also consider how to site and design the reservoir(s) to improve water quality for endangered fish by reducing phosphorus deposition in Klamath Lake, and whether the reservoir(s) can be designed to provide habitat for waterfowl.

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): 42.461614 , -121.882907

b. County: Klamath

c. Watershed/Basin (HUC 10 number): 1801020303

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. ***(see additional explanation below b)***

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.*

We do not expect to need to impact or assess lands to complete the feasibility study. However, Modoc Point Irrigation District has easements for the ditches and drainages (see Attachment 2) if they need to be accessed. If at any point in the study land access becomes necessary, we will complete landowner agreements and provide copies of those agreements to OWRD (see task 4).

Tax Map Number	Tax Lot Number	Ownership Type (✓ One)	Property Owner of Record
		☐Public ☐Private	
		☐Public ☐Private	
		☐Public ☐Private	
		☐Public ☐Private	

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.)
   a. 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.

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
		☐Public ☐Private	
		☐Public ☐Private	
		☐Public ☐Private	
		☐Public ☐Private	
		☐Public ☐Private	

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 Modoc Point Irrigation District (MPID) serves 70 patrons with a total of 4,273 irrigated acres. Their water right allows the District to divert up to 10,478 acre-feet of water from the Williamson River and Sprague River and is the oldest non-native water right from that source. However, following Oregon Water Resources Department Klamath River Basin Adjudication's issuance of the Final Order of Determination in 2013, Modoc Point irrigators are often shut off early in the irrigation season when the senior water right holder calls for water. In 2017, irrigators in the District didn't receive water for more than half the season, which otherwise would last from April 15th to November 1st, a 200-day season. In 2018, the District was only able to supply irrigators with water for 21 days. In 2019, irrigators received water for 36 days and in 2020, they were not able to irrigate at all. Irrigators face a high degree of uncertainty regarding water availability, which makes it difficult to make decisions regarding what crops can be grown, whether and when to purchase and sell livestock, etc. In addition, most properties use irrigation water as their stock water source; without an alternative such as the proposed reservoir(s), a lack of irrigation also limits the duration of grazing because livestock don't have water.

In addition to water reliability issues for District irrigators, water quality in the Upper Klamath Lake is a resource concern for the District, the Klamath Tribes, and many other stakeholders. During the winter and spring, rain and snowmelt creates runoff from agricultural lands in the Upper Klamath Basin Watershed, flowing into District drains and ditches which then flow into Upper Klamath Lake. This water runoff carries excess phosphorus into the lake, which can have a negative impact on water quality. Excess phosphorus can contribute to reduced dissolved oxygen, algal blooms, and other water quality problems. Poor water quality in the lake negatively affects habitat for the federally endangered Lost River sucker (*Deltistes luxatus*) and the shortnose sucker (*Chasmistes brevirostris*), especially the survival of juvenile fish.

Water stored during the wetter, non-irrigation season, when there is water runoff from agricultural lands and excess water in District drains and ditches, has the potential to improve the water supply for irrigators. Stored water could allow irrigators to continue irrigating during the existing irrigation season in the event of a water call by the senior water right holder while still providing enough water for fish and wildlife. Storing excess water from winter and spring runoff could also improve water quality in Upper Klamath Lake by reducing the amount of phosphorus loading. Additional potential benefits from storing water include providing habitat for waterfowl. The proposed feasibility study will consider siting and sizing reservoirs to store water in order to maximize these benefits for the District, irrigators, and fish and wildlife.

See Attachment #1 for a map of the District showing canals, ditches and drains and the direction of water flow. The canals are the main water conveyances in the District and primarily convey irrigation water from the Williamson and the ditches and drains convey both irrigation runoff during the irrigation season and natural runoff during the non-irrigated months. During the irrigation season the main drain conveys water south till the drain intersects with the end of the C-1 lateral. A pump lifts the drainage water into another drain that travels south for approximately 8,000 feet before splitting to the Geinger ditch and continuing on to drain to the lake. The main drainage ditch carries most of the winter runoff to the lake for discharge during the springtime when the snow and ice melt.

8. Study Goal. Describe the feasibility study goal.

The goal of this feasibility study is to determine the sizes and locations of potential above-ground storage reservoirs. Prior work done by Adkins Engineering determined that runoff water is the most dependable source for water in the Upper Klamath Lake Basin in the months of March, April and May because these months had the highest exceedance of required lake levels and, therefore, the lowest potential for a water call from senior users. This source of water includes runoff from rain and snowmelt that drains through the District's delivery system and drains into Upper Klamath Lake. One or more reservoirs would collect and store this runoff from drains and ditches in the District, providing the dual benefits of irrigation water during the summer and preventing phosphorus returns to the lake. This study will build on the prior work done by Adkins to focus on determining how many and what size reservoirs are optimum and where to best site the reservoirs to maximize benefits to irrigators as well as wildlife and water quality.

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

Modoc Point Irrigation District will contract with a qualified firm to perform tasks associated with the feasibility study. The selected firm will then use LIDAR, topographical maps, historical information, prior reports done by Adkins Engineering and other available data to assess the feasibility of water storage and the best locations for one or more reservoirs. The study will consider the feasibility of water storage based on several factors including engineering (i.e., siting and reservoir capacity), project costs, legal and regulatory compliance, and environmental considerations for water quality and fish and wildlife. More detail on these key tasks are found in response to Question 14. This study is part of broader efforts by the District to modernize their

infrastructure. The District is working with Farmers Conservation Alliance (FCA) to outline a feasibility-level design and corresponding cost estimates for potential improvements to the delivery system which may include piping, improved water availability through reregulating reservoirs, and/or additional pump stations.

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.

MPID owns one primary irrigation right (Klamath Adjudication Claim 84) in the area of interest that accounts for 4,272.68 acres of primary irrigation. This right is authorized for 11 points of diversion along the Sprague and Williamson Rivers. See Attachment 6 for details.
In a prior study, Adkins Engineering used the OWRD Water Availability Reporting System's net water availability in each month from the two potential water sources: Upper Klamath Lake, which includes runoff that drains into the lake, and the Williamson River. Adkins Engineering then used historical water level and flow data from OWRD and USGS to run a statistical analysis to estimate the percentage of days that the water levels and flows exceeded the values required by Klamath Adjudication Claims 622 and 625 (most senior water rights). Months with higher percentages of days exceeding the required values were considered to have lower probability of a water call by senior users. The Technical Memorandum associated with the study is attached (Attachment 7); Table 5 from the report is below and shows that in the months of March, April and May, there is low risk of a water call with an Upper Klamath Lake source. For example, the level of Upper Klamath Lake exceeds the water level required by the Klamath Adjudication Claim 622 for 96% of days in a typical March. Months not shown did not have sufficient water available.

Percentage of Days Water Level or Flow Exceeds KA 622 & KA 625		
Month	Lake Level Exceeds KA 622	River Flow Exceeds KA 625
January	38%	68%
March	96%	50%
April	98%	24%
May	99%	30%

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

The 2013 water rights adjudication was the result of many years of intense litigation that had a significant impact on the local farming and ranching communities. Many ranchers in the area were left without a dependable water source, which greatly limits their ability to manage their operations and impacts their financial viability. This water insecurity and the resulting impacts to farms and ranches also affect the local community. Many jobs in the local community are directly tied to agricultural production, and agriculture indirectly supports other local businesses.

The implementation of water storage would help mitigate this water insecurity and would greatly enhance irrigators' ability to plan, reduce stress, improve land management and provide economic benefits to the community.

A storage reservoir will also likely reduce phosphorus inputs into Upper Klamath Lake. Phosphorus is identified as a major contaminant in the Oregon Department of Environmental Quality's (ODEQ) 2001 Upper Klamath Lake and Agency Lake Total Maximum Daily Load (TMDL). "Total phosphorus load reduction is considered the primary and most practical mechanism to reduce algal biomass and attain water quality standards for pH and dissolved oxygen." (ODEQ TMDL presentation). The 2001 TMDL aims for a 40% reduction in external total phosphorus loading to Upper Klamath Lake. Phosphorus inputs into the lake are complicated and not completely understood, but ODEQ found in 2001 that wetland reclamation and use (for agriculture) may account for 29% of the external total phosphorus loading to the lake. Currently, District canals collect spring runoff from fields and discharge into the lake. Water storage reservoir(s) could play an important part in reducing this problem, as runoff flows from canals would be directed into a reservoir and used for irrigation instead of discharging into the lake. Reducing phosphorus could improve habitat in Upper Klamath Lake for the federally endangered Lost River sucker (*Deltistes luxatus*) and the shortnose sucker (*Chasmistes brevirostris*). Both of these fish species are culturally important to the Klamath Tribes and efforts are underway to protect and restore these species.

There is also the possibility that a reservoir could provide important habitat for waterfowl. The Klamath Basin provides important habitat for many migratory birds and is critical stopover along the Pacific Flyway. See attached letter of support from The Klamath Watershed Partnership.

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.

Conservation efforts to reduce agricultural phosphorus loading to Upper Klamath Lake within or near Modoc Point Irrigation District have been occurring for over 25 years. The lake's algal community has shifted to massive blooms which have been directly related to episodes of poor water quality. The degraded water quality has been proposed as a contributing factor in the decline in population of shortnose (*Chasmistes brevirostris*) and Lost River (*Deltistes luxatus*) suckers, which were both listed in 1988 as Federally Endangered Species and are of cultural importance to the Klamath Tribes. Agricultural projects to improve water quality on agricultural lands occur throughout the Basin and include no-till planting, installation of riparian fencing to keep livestock out of waterways, construction of log and wood structures to reduce erosion and enhance instream habitat, water quality monitoring, and wetland restoration work. Both Oregon Department of Agriculture and the Klamath Watershed Partnership are in support of this project which will complement the actions already underway in the basin.

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

Bill Lehman, Klamath Watershed Partnership
Stephanie Page, Oregon Department of Agriculture
Gene Souza, Klamath Irrigation District
Dave Moldal, Energy Trust of Oregon (find as Attachment 3; also proof of match)

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. Secure a Qualified Firm

- Task schedule: July 2021 to September 2021
- Description of key task activities:
    - The District will select and contract with a qualified firm for the tasks identified below in order to complete the feasibility study. The qualified firm will employ licensed civil engineer(s) with demonstrated experience in irrigation infrastructure, hydrology analysis, water storage, environmental reviews and state and federal funding programs.
- Qualified personnel that will complete task: Modoc Point Irrigation District personnel and Board including Mason Terry will select an engineering firm. Board members have experience with contracting and have performed contracting with engineering firms in the past. They also have personal experience with the necessary tasks and processes as business owners.

Task 2. Hold Project Introduction Meeting

- Task schedule: October 2021 to December 2021
- Description of key task activities:
    - Identify key stakeholders and invite to meeting.
    - Identify and prepare information for stakeholders at the meeting.
    - Hold meeting to review and refine the project scope, tour the District and project area and discuss project-specific areas of concern.
- Qualified personnel that will complete task: Engineering firm and Modoc Point Irrigation District personnel. The engineering firm will employ licensed civil engineers that have experience attending and holding project introduction, or "kick-off" meetings, that are successful in meeting the goals stated above. The District regularly holds business meetings and has also held several project introduction meetings in recent years.

Task 3. Review Existing Data, Identify Need for Project

- Task schedule: October 2021 to December 2021
- Description of key task activities:
    - Collect and review existing data: LiDAR, water rights, previously written reports, etc.
    - Produce technical memorandum that summarizes previous studies, identifies need for the project and summarizes stakeholder input. The technical memorandum will also develop the criteria for reservoir(s) site and size.
- Qualified personnel that will complete task: Engineering firm. The selected firm will employ licensed civil engineer(s) with demonstrated experience in irrigation infrastructure, hydrology analysis, water storage, environmental reviews and state and federal funding programs. The selected firm will also have experience in producing written reports.

Task 4. Property Access

- Task schedule: October 2021 to December 2021
- Description of key task activities:
    - If it becomes necessary to access properties as part of the study, the District and engineering firm will get landowner approval and submit the appropriate forms to OWRD.
- Qualified personnel that will complete task: District Board. The Modoc Point Board is experienced in working with landowners as a normal part of District function. They have necessary skills to obtain and complete the forms with the landowners and submit to OWRD, and landowners (patrons) are supportive of the project.

Task 5. Hydrology Analysis

- Task schedule: October 2021 to March 2022
- Description of key task activities: Use publicly available LiDAR and survey data to conduct a hydrology analysis. The deliverable for this step is to determine the amount of runoff that could be captured and stored in order to size the proposed reservoir(s).
- Qualified personnel that will complete task: Engineering firm. The selected firm will employ licensed civil engineer(s) with demonstrated experience in hydrology analysis and water storage as well as irrigation infrastructure, environmental reviews and state and federal funding programs.

Task 6. Reservoir Siting

- Task schedule: January 2022 to March 2022
- Description of key task activities:
    - Use publicly available LiDAR and survey data to identify potential sites for reservoirs.
    - Conduct preliminary grading calculations to determine feasibility of construction and earthwork quantities.
    - Make recommendations on potential reservoir sites based on this data as well as data from Task 3 and input from stakeholders in task 2.
- Qualified personnel that will complete task: Engineering firm. The selected firm will employ licensed civil engineer(s) with demonstrated experience in water storage and hydrology analysis as well as irrigation infrastructure, environmental reviews and state and federal funding programs.

Task 7. Cost Estimates

- Task schedule: January 2022 to June 2022
- Description of key task activities:
    - Using data from previous steps, develop conceptual plans regarding the additional infrastructure required to support the reservoir, such as piping, pumps and open irrigation channels.
    - Develop total project cost estimates for the reservoir(s) and supporting infrastructure. This will also include a present worth life cycle cost analysis for the alternatives identified.
- Qualified personnel that will complete task: Engineering firm. The selected firm will employ licensed civil engineer(s) with demonstrated experience in irrigation infrastructure, hydrology analysis, water storage, environmental reviews and state and federal funding programs.

Task 8. Storage Specific Requirements

- Task schedule: April 2022 to September 2022
- Description of key task activities:
    - Determine whether OWRD Storage Specific Requirements are triggered by the study. Use data and recommendations from previous tasks, and consultation with OWRD staff if necessary, to determine whether the project triggers the need to complete the OWRD Storage Specific Requirements.
    - If necessary, address OWRD Storage Specific Requirements according to Question 23 of the feasibility study application.
- Qualified personnel that will complete task: Engineering firm. The selected firm will employ licensed civil engineer(s) with demonstrated experience in irrigation infrastructure, hydrology analysis, water storage, environmental reviews and state and federal funding programs.

Task 9. Identify Funding Sources for Implementation

- Task schedule: July 2022 to September 2022
- Description of key task activities: Identify possible funding sources based on the results of previous tasks and incorporating MPID's financial situation. Funding sources will consider a mix of grants and low interest loans.
- Qualified personnel that will complete task: Farmers Conservation Alliance (FCA) and Engineering firm. FCA has several staff with over 15 years of experience developing funding strategies for irrigation modernization projects. The selected firm will employ licensed civil engineer(s) with demonstrated experience in identifying state and federal funding programs for this type of project.

Task 10. Regulatory Compliance

- Task schedule: July 2022 to September 2022
- Description of key task activities: Evaluate all possible regulatory compliance requirements. A sample of these potential requirements is listed below in response to question 19.
- Qualified personnel that will complete task: Engineering firm. The selected firm will employ licensed civil engineer(s) with demonstrated knowledge of water law and the regulations surrounding this type of project.

Task 11. Report Preparation

- Task schedule: January 2022 to September 2022
- Description of key task activities:
    - Compile all information from previous tasks into a comprehensive feasibility report for the proposed project.
    - Deliver drafts at 50%, 90% and 100% completion stages for review by the District and other Stakeholders.
    - This will include outreach to affected landowners. The District and engineering firm will coordinate meeting(s) with potentially affected landowners and prepare materials and hold meetings, address stakeholder concerns and questions
- Qualified personnel that will complete task: Engineering firm. The selected firm will employ licensed civil engineer(s) with demonstrated experience in writing reports and technical memorandum's regarding their projects.

Task 12. Outreach to Landowners

- Task schedule: September 2022 to December 2022
- Description of key task activities: The District and engineering firm will coordinate meeting(s) with potentially affected landowners. This will include preparing materials and holding meetings to address stakeholder concerns and questions.
- Qualified personnel that will complete task: Engineering firm and District personnel. District staff and board have years of experience working with patrons through meetings and individual communication. The selected engineering firm will employ licensed civil engineer(s) with demonstrated experience in similar projects, including landowner outreach.

15. Study Task Scheduling. Estimated duration of feasibility study: Q3 2021 to Q4 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 2021				Grant year 2022				Grant year 2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Secure firm for feasibility study	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hold project introduction meeting	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐
Review Existing Data, Identify Need	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐
Determine Property Access Needs	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐
Hydrology Analysis	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐
Reservoir Siting	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐
Cost Estimates	☐	☐	☐	☐	☒	☒	☐	☐	☐	☐	☐	☐
Storage Specific Requirements	☐	☐	☐	☐	☐	☒	☒	☐	☐	☐	☐	☐
Identify Funding Sources	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐
Regulatory Compliance	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐
Report Preparation	☐	☐	☐	☐	☒	☒	☒	☐	☐	☐	☐	☐
Outreach to Landowners	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐

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:

a. ☒ No water rights are required to complete the proposed study.
b. ☐ 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.):
c. ☐ 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

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.): new right
    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., G 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)	
Not yet known	Not yet applied for	N/A	N/A	N/a	Not yet known

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 are required to perform this study. The contracted firm will use available information to determine where to site the reservoir and how large the reservoir should be.

Permit/ Regulatory Approval	Permitting Entity	Status and Efforts To Date

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:

Project Permit/Regulatory Approval *(add rows as needed)*	**Permitting Entity**
Dam Safety Review (Depending on reservoir size)	Oregon Water Resources Department
1200-C Construction Stormwater Permit	Oregon Department of Environmental Quality
Consultation for compliance with National Historic Preservation Act Section 106	State Historic Preservation Office
Land Use Compatibility Statement	Klamath County
New Water Right Application for Supplemental Water Right	Oregon Water Resources Department

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	44	50	$2,200			$2,200
Contractual/Consulting	432	125		$30,000	$24,000	$54,000
Equipment (must be approved)						0
Supplies						0
Travel						0
Other:						00
Administrative Costs**(10%)					$2,400	$2,400
		Total	**$2,200**	**$30,000**	**$26,400**	**$58,600**

** The "Unit" should be per "hour" or "day" – not per "project" or "contract." Units x 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
Task 1: Secure a qualified firm for feasibility study	$1,000	$0	$0	$1,000
Task 2: Hold Project Introduction Meeting	$600	$2,000	$0	$2,600
Task 3: Review Existing Data, Identify Need for Project		$3,000	$0	$3,000
Task 4: Property Access	$300			$300
Task 5: Hydrology Analysis		$8,000	$0	$8,000
Task 6: Reservoir Siting		$7,950	$2,255	$10,205
Task 7: Cost Estimates		$5,000	$0	$5,000
Task 8a: OWRD SSSR Determination		$50	$275	$325
Task 8b: Address OWRD SSSR		$4,000	$4,400	$8,400
Task 9: Identification of Funding Sources - Implementation		$0	$3,300	$3,300
Task 10: Regulatory Compliance			$1,100	$1,100
Task 11: Report Preparation		$0	$8,800	$8,800
Task 12: Outreach to Affected Landowners	$300	$0	$6,270	$6,570
Total	$2,200	$30,000	$26,400	$58,600

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)*
Energy Trust of Oregon	☒cash ☐in-kind	☒secured ☐pending	$30,000*	October 2020
Modoc Point Irrigation District	☐cash ☒in-kind	☒secured ☐pending	$2,200	October 2020
	☐cash ☐in-kind	☐secured ☐pending		
	☐cash ☐in-kind	☐secured ☐pending		
	☐cash ☐in-kind	☐secured ☐pending		
Total of Match Funds			$32,200	

*Note: Energy Trust has committed $200,000 to support FCA's work with Modoc Point Irrigation District which includes activities outside the scope of this study.

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 ☐
See explanation below

B. Will the project impound surface water on a perennial stream? Yes ☐ No X

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.

The guidance document for the Storage-Specific Study Requirements specifies that these requirements are triggered if the project proposes to impound surface water on a perennial stream, divert water from a stream that supports STE fish species or divert more than 500 acre-feet of water from a stream for storage. (pages 5-6 of Storage-Specific Study Requirements Guidance Document) As none of the water proposed to be stored in this project is from a stream, we do not believe the project triggers these requirements. Nevertheless, we have addressed how we would meet these requirements if they were triggered. See Attachment 4.

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.

The goal of this project is to store water during a period when there is excess water in District drains and ditches for use by irrigators during a time when there is not excess water for fish and wildlife. While the project does not intend to store water specifically for release to augment stream flows, the reservoir would help protect necessary instream flows by providing an alternative water source for irrigators to ensure that fish and wildlife have the water they need during critical months. The reservoir is also expected to improve water quality by reducing phosphorus inputs into the lake, as well as provide habitat for waterfowl.

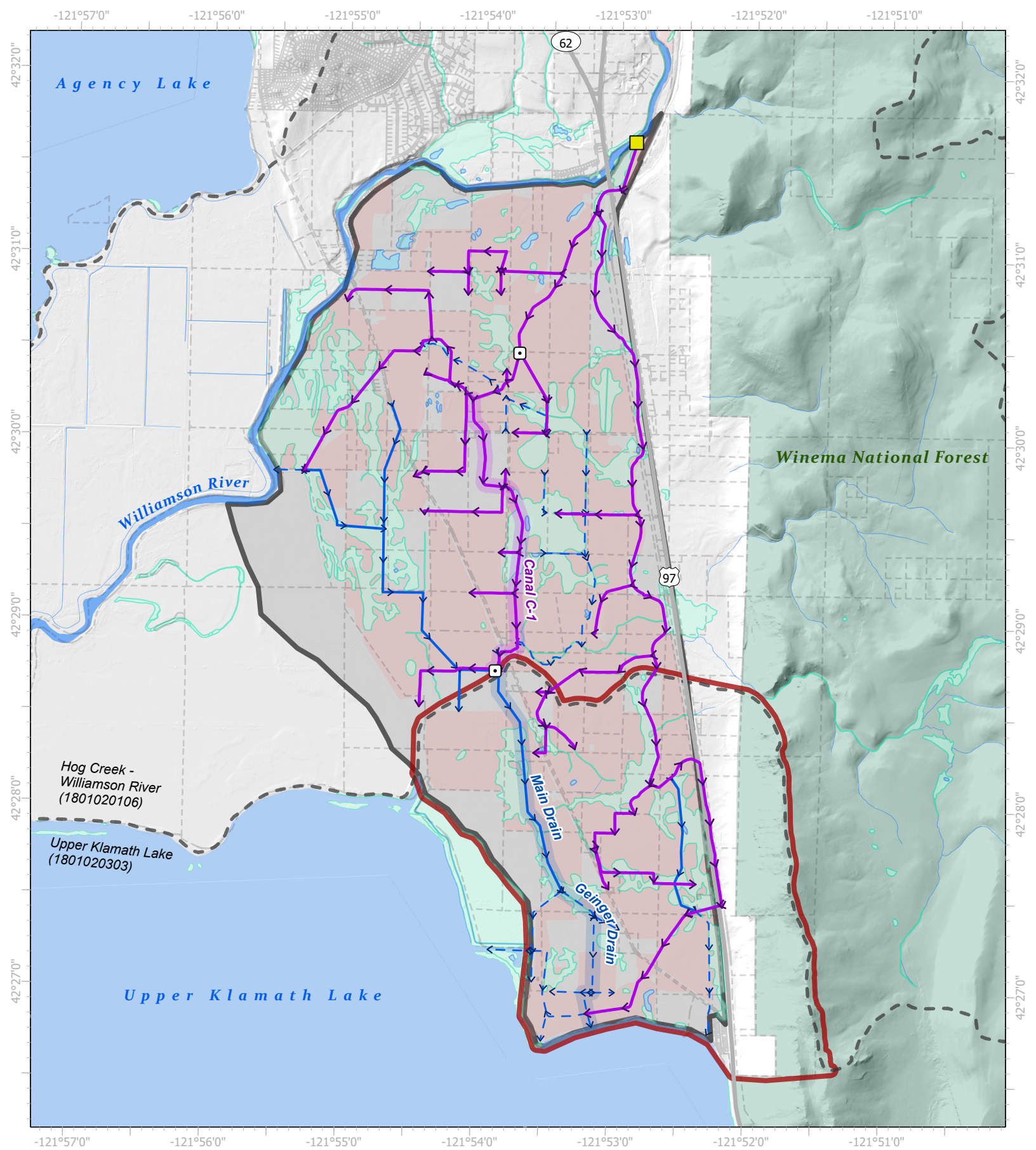
Oregon Water Resources Department Feasibility Study Grant Application

Upper Klamath Lake Water Storage Feasibility Study

Supporting Documentation

Attachment 1

Site Map



Attachment # 1: Site Plan Map

Modoc Point Irrigation District: OWRD Feasibility Study

- Canal
- Drain
- Ditch
- Pump
- Diversion
- Highway
- District Boundary
- Feasibility Study Boundary
- Claim KA-84
- Property Boundaries
- Wetland
- Pond
- Lake
- River
- HUCs

N

0 0.25 0.5 1 Miles

*** This map was compiled by FCA as a visualization tool and is not intended for legal purposes. FCA is not liable for any damages caused by omissions or errors in the data displayed herein. ***

Attachment 2

District Land Access Letter

MODOC POINT IRRIGATION DISTRICT

P.O. Box 278
Chiloquin, OR 97624

October 15, 2020

Becky Williams, Grant Program Coordinator
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301

Ms. Williams:

Modoc Point Irrigation District seeks to evaluate the feasibility of building one or more above-ground water storage reservoirs to store off-season run-off water in order to augment irrigation and stock water supply for district patrons and improve water quality for endangered fish by reducing phosphorus deposition into Klamath Lake. Typically, this runoff water collects in the lower fields nearest Klamath Lake that can lead to adverse affects on water quality and impact farming/ranching operations. Funding through the Oregon Water Resources Department Feasibility Study Grants program will be critical to achieving these goals.

As part of this study, Modoc Point Irrigation District staff and partners may need to collect on-the-ground data of the District's canal and drainage infrastructure. Modoc Point Irrigation District's delivery infrastructure and drainage canals cross many properties and the District holds easements for each of these properties. This letter confirms that all actions proposed within this study will occur within Modoc Point Irrigation District's existing easements and under its existing authorities for each property involved in the study.

I appreciate the opportunity to work with the Oregon Water Resources Department to continue to improve Modoc Point Irrigation District's ability to efficiently deliver water to its patrons and improve water quality in Klamath Lake.

Sincerely,

Mason Terry, PhD
Secretary

Attachment 3

Documentation of Matching Funds

EnergyTrust of Oregon

421 SW Oak St., Suite 300
Portland, OR 97204

1.866.368.7878
energytrust.org

October 12, 2020

Ms. Becky Williams
Grant Program Coordinator
Oregon Water Resources Department
725 Summer St. NE, Suite A
Salem, OR 97301

RE: Letter of Support

Dear Ms. Becky Williams:

This letter confirms Energy Trust of Oregon's support for the activities outlined in Modoc Point Irrigation District's 2020 Oregon Water Resources Department Feasibility Study Grant proposal. Energy Trust has committed $200,000 to support irrigation modernization in Modoc Point Irrigation District by partnering with Farmers Conservation Alliance to develop a System Improvement Plan for the District. The System Improvement Plan provides a technical evaluation of a district's infrastructure and the potential options for modernization. A modernization option under consideration as part of the System Improvement Plan would be to study the feasibility of above-ground water storage reservoirs within the District. Energy Trust of Oregon funds are committed to provide match for the Feasibility Study Grant proposal.

Since 2015, Energy Trust has invested over $6,000,000 in irrigation modernization in Oregon, much of this in rural agricultural communities. Agricultural producers, ditch companies, and irrigation districts across the American West deliver water to urban, suburban, and rural farms and ranches via systems that were constructed about 100 years ago. Modernizing irrigation infrastructure, including converting open, leaky canals to closed, pressurized pipe systems helps agricultural producers, ditch companies, and irrigation districts deliver water more safely, reliably, and economically. Pressurized water delivery systems also provide for energy conservation by reducing or eliminating energy intensive pumping. In-conduit hydropower also delivers significant non-energy benefits to all Oregonians. These benefits include reducing the amount of water lost through seepage, evaporation, evapotranspiration, and operational spills. Pressurized irrigation systems and 'conduit' hydropower increases the economic resilience of farms, ranches, and rural communities, and keeps energy dollars local while restoring billions of gallons of water to aquatic ecosystems.

Energy Trust has a strong history of collaboration with Farmers Conservation Alliance to help irrigation districts in Oregon modernize their infrastructure. We look forward to continuing our work together and strongly support your efforts to encourage the participation of additional funders in this important endeavor.

Sincerely,

Dave Moldal
Sr. Program Manager - Renewables

MODOC POINT IRRIGATION DISTRICT

P.O. Box 278
Chiloquin, OR 97624

October 23, 2020

Becky Williams, Grant Program Coordinator
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301

Re: OWRD Feasibility Study Grant Application

Dear OWRD Feasibility Study Grant Selection Committee:

This letter is to confirm an allocation of in-kind match funds from Modoc Point Irrigation District for the Upper Klamath Lake Water Storage Project.

The District is committed to contribute $2,200 of in-kind match to the project.

If you have any questions, please don't hesitate to contact me.

Sincerely,

Mason Terry, PhD
Secretary

Attachment 4

Approach to Storage Specific Requirements

Question 23 Response: Approach to Addressing Storage Specific Elements

The guidance document for the Storage-Specific Study Requirements specifies that these requirements are triggered if the project proposes to impound surface water on a perennial stream, divert water from a stream that supports STE fish species or divert more than 500 acre-feet of water from a stream for storage. (pages 5-6 of Storage-Specific Study Requirements Guidance Document) As none of the water proposed to be stored in this project is from a stream, we do not believe the project triggers these requirements. Nevertheless, we have addressed how we would meet these requirements if they were triggered.

i. Analysis of Ecological Flows: Due to the nature of the reservoir water source (overland runoff) and the receiving water body (Upper Klamath Lake), the following analyses of bypass flows and optimum flows are not applicable. However, it is possible that the project may affect flushing flows on the Klamath River downstream of Upper Klamath Lake. Therefore, under this analysis the engineering consultant will evaluate the effect of the project on Klamath River flushing flows as required under the National Marine Fisheries Service 2019 Biological Opinion and the U.S. Fish and Wildlife Service 2020 Biological Opinion.

ii. Comparative Analyses of Alternatives Means of Supplying Water: Using information collected in Tasks 1 and 2, and in consultation with FCA, the selected engineering firm would develop concepts for alternative means of water supply to meet MPID irrigation needs. These alternatives will include conservation and efficiency options. The consultant will develop a decision matrix of all project alternatives (including storage) based on the following parameters: satisfaction of long-term water needs, cost/benefit and effects of regulatory requirements.

iii. Analysis of Environmental Harm or Impact: : This project is to not only seeking to provide a reliable water supply for MPID, but to also improve water quality in Upper Klamath Lake by reducing/eliminating phosphorus laden runoff. The selected engineering firm would complete a review for the potential of the project to have environmental impacts. The consultant will review existing data including biological opinions to determine the potential for the project to impact sensitive, threatened and endangered species which will likely include, but not be limited to Lost River Sucker, Shortnose Sucker, Largescale Sucker and Smallscale Sucker. The project is not expected to impact groundwater in the area, and therefore will not include groundwater in this analysis. The consultant will review existing data to determine the potential for the project to impact surface water quality based on the reduction/elimination of phosphorus laden runoff. The consultant will review existing data to determine how the project may impact ecosystem resiliency to climate impacts. The

consultant will review existing data, reports, conservation plans or watershed assessments and how the project may impact the limiting ecological factors identified in these resources.

iv. Evaluation of Need and Ability to Augment Instream Flows: Modoc Point Irrigation District experiences irrigation water uncertainty because the senior water right holder makes calls to keep water instream. This amount of water kept instream is the amount of water deemed appropriate for fish and wildlife, so additional water is unlikely to be needed. In addition, due to the nature of this project the ability to augment instream flows will likely be limited. The project aims to reduce or eliminate water that would naturally flow to Upper Klamath Lake within the MPID service area. This water that would normally flow to Upper Klamath Lake contains large amounts of phosphorous and it has proven difficult to remove (ODEQ, Upper Klamath Lake and Agency Lake TMDL) the phosphorus prior to discharge to the lake. Therefore, this project proposes to remove this phosphorus laden water from the system by storing and irrigating, thereby improving water quality for fish and wildlife.

v. Analysis Requirement Related to Municipal Use: This project will not include municipal use, therefore no analysis for municipal use will be completed.

Attachment 5

Letters of Support (Three Letters of Support)

KLAMATH WATERSHED PARTNERSHIP

Klamath Watershed Partnership

205 Riverside Drive, Suite C
Klamath Falls, OR 97601
Phone (541) 850-1717 ~ Fax (541) 850-8001

October 6, 2020

Becky Williams
Grant Program Coordinator, Oregon Water Resources Department
725 Summer St. NE, Suite A
Salem, OR 97301

Re: Letter of Support for Modoc Point Irrigation District's Reservoir Feasibility Study Grant Application

Dear Becky Williams

I am writing to you today to support Modoc Point Irrigation District's (District) Feasibility Study Grant application. The District is applying for this grant to assess infrastructure modernization opportunities that will increase agricultural security and enhance environmental benefits. Specifically, this grant will help to fund an irrigation reservoir feasibility study. Seasonal reservoir storage has the potential to benefit not just farmers, but also to serve as a drainage sink for sediment during high water flows. This would benefit fish and has the potential to provide seasonal benefits to migratory waterfowl. Additionally, it would have the potential to reduce phosphorus offloading into upper Klamath Lake by reducing the amount of winter/spring runoff from being pumped off patrons' farms into the lake.

Thank you very much for your careful considering of this grant funding proposal. Studying the feasibility and benefits of storage capacity at the district will be instrumental in understanding how modernizing district infrastructure will benefit both agriculture and the environment.

Sincerely,

Bill Lehman
Executive Director
Klamath Watershed Partnership
205 Riverside Drive, Suite C
Klamath Falls, OR 97601
Phone: 541-850-1717
E-mail: blehman@klamathpartnership.org

KLAMATH IRRIGATION DISTRICT
6640 K.I.D. LANE
KLAMATH FALLS, OREGON 97603
Phone: (541) 882-6661 Fax (541) 882-4004

8 October 2020

Oregon Water Resources Department
Becky Williams
Grant Program Coordinator

Letter of Support for Modoc Point Irrigation District's Irrigation Storage Feasibility Study

Ms. Williams,

The Klamath Irrigation District supports Modoc Point Irrigation District's application for feasibility study grant funds to investigate irrigation storage capability. The ability for Modoc Point Irrigation District to secure a reliable water supply is integrated with the overall stability of the Klamath Basin economy.

The ability to store water for the Modoc Point Irrigation District is critical for the future for farmers and ranchers, economic capital in the region, and enhances the ability of the District to enhance environmental stewardship.

Gene R Souza

Gene Souza
Executive Director and District Manager
Klamath Irrigation District

Oregon
Kate Brown, Governor

Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532

October 7, 2020

Becky Williams
Grant Program Coordinator, Oregon Water Resources Department
725 Summer St. NE, Suite A
Salem, OR 97301

Re: Letter of Support for Modoc Point Irrigation District's Reservoir Feasibility Study Grant Application

Dear Becky Williams,

I am writing to you today to support Modoc Point Irrigation District's (District) Feasibility Study Grant application. The District is applying for this grant to assess infrastructure modernization opportunities that will increase certainty for irrigators and enhance environmental benefits.

Specifically, this grant will help to fund an irrigation reservoir feasibility study. Seasonal reservoir storage has the potential to benefit not just farmers, but also to serve as a drainage sink for sediment during high water flows. This would benefit fish and has the potential to provide seasonal benefits to migratory waterfowl.

Currently, excess water from the Modoc Irrigation District is pumped to Upper Klamath Lake. This water can contain elevated phosphorus levels as well as other pollutants. The excess nutrients help feed proliferating algal blooms and degrade water quality. Water quality degradation in the Lake has been determined to be one of the main drivers in the further decline of the endangered sucker fish species in the Lake.

ODA's Water Quality Program is specifically supportive of the potential use of a reservoir within the Modoc Irrigation District to receive agricultural tailwater for storage and reuse. Directing agricultural tailwater to a storage reservoir, rather than pumping it to Upper Klamath Lake, would be a good step toward reducing agriculture's impact to the Lake. This action, when implemented, would be a significant step toward meeting agriculture's obligations for phosphorus and pollutant reduction in Upper Klamath Lake.

Thank you very much for your careful consideration of this grant funding proposal. Studying the feasibility and benefits of storage capacity at the district will be instrumental in understanding how modernizing district infrastructure will benefit both agriculture and the environment.

Sincerely,

Stephanie Page
Natural Resources Program Area Director
Oregon Department of Agriculture

Attachment 6

Klamath Adjudication Claim 84

Rates per Settlement Agreement

POD #	AREA IRRIGATED	RATE
2	102.6	2.69
3	0.8	.02
4	39.7	.99
5	0.2	.01
6	0.4	.01
7	0.4	.01
8	48.66	1.22
9	16.6	.42
10	21.8	.60
11	11.7	.29
12	4029.82	61.86
POD 2-12	**4,272.68**	**68.12**

Duty: Up to 10,478 acre-feet per irrigation season, measured at the points of diversion.

TWP	Range	Sec	1/4 1/4	GL	# Claimed Acres	Settle-ment Acreage
35S	7E	21	SWNW	18	3.6	3.60
35S	7E	21	SENW	20	10.0	8.40
35S	7E	21	NESW	26	15.0	15.00
35S	7E	21	NWSW	27	10.0	8.30
35S	7E	21	NWSW	28	10.0	8.30
35S	7E	21	NESW	29	19.0	19.00
35S	7E	21	SESW	34	20.0	20.00
35S	7E	21	SESW	37	20.0	20.00
TOTAL POD 2					**107.6**	**102.60**

TWP	Range	Sec	1/4 1/4	GL	# Claimed Acres	Settle-ment Acreage
35S	7E	20	SWNW	16	0.8	0.80
TOTAL POD 3					**0.8**	**0.80**

TWP	Range	Sec	1/4 1/4	GL	# Claimed Acres	Settle-ment Acreage	
35S	7E	20	SWNW	16	1.6	4.00	Col. F = 12/06
35S	7E	20	NWSW	25	7.7	12.40	Claimed, error in
35S	7E	20	NWSW	27	9.6	12.40	12/06 filing; Col.
35S	7E	20	SWSW	34	7.7	10.90	L = </= Orig.
							1991 Claim
TOTAL POD 4					**26.6**	**39.70**	

TWP	Range	Sec	1/4 1/4	GL	# Claimed Acres	Settle-ment Acreage
35S	7E	20	SWSW	34	0.2	0.20
TOTAL POD 5					**0.2**	**0.20**

TWP	Range	Sec	1/4 1/4	GL	# Claimed Acres	Settle-ment Acreage
35S	7E	20	SWSW	34	0.4	0.40
TOTAL POD 6					**0.4**	**0.40**

TWP	Range	Sec	1/4 1/4	GL	# Claimed Acres	Settle-ment Acreage
35S	7E	20	SWSW	34	0.4	0.40
TOTAL POD 7					**0.4**	**0.40**

TWP	Range	Sec	1/4 1/4	GL	# Claimed Acres	Settle-ment Acreage
35S	7E	31	NWNE	9	15.5	13.46
35S	7E	31	SENE	11	19.7	19.70
35S	7E	31	SENE	20	16.3	15.50
TOTAL POD 8					**95.6**	**48.66**

TWP	Range	Sec	1/4 1/4	GL	# Claimed Acres	Settle-ment Acreage
35S	7E	3	NWNW	13	2.2	2.20
35S	7E	3	SENW	14	3.3	3.30

35S	7E	3	SWNE	15	4.5	4.50
35S	7E	3	NWSE	20	4.6	4.60
35S	7E	3	SWSW	27	0.0	0.00
35S	7E	4	NENE	9	2.0	2.00
35S	7E	3	SENE	10	0.0	0.00
35S	7E	3	SENE	18	0.0	0.00
35S	7E	3	SESE	29	0.0	0.00

TOTAL POD 9	**16.6**	**16.60**

TWP	Range	Sec	1/4 1/4	GL	# Claimed Acres	**Settle-ment Acreage**
35S	7E	9	SESE	33	2.5	2.50
35S	7E	10	SWSW	15	3.3	3.30
35S	7E	10	SWSW	15	6.4	6.40
35S	7E	15	NWNW	12	2.7	2.70
35S	7E	15	NWNW	13	0.0	0.00
35S	7E	16	NENE	1	4.9	4.90
35S	7E	16	NENE	10	2.0	2.00

TOTAL POD 10	**21.8**	**21.80**

TWP	Range	Sec	1/4 1/4	GL	# Claimed Acres	Settle-ment Acreage
35S	7E	16	SENE	20	6.3	6.30
35S	7E	16	NESE	21	5.4	5.40
TOTAL POD 11					**11.7**	**11.70**

TOTALS PODS 2-11	**281.7**	**242.86**

Total Stipulated Acres	For PODS 2-11	**242.86**
Total Stipulated Acres	For POD 12	**4,029.82**

GRAND TOTAL STIPULATED ACRES	**4,272.68**

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
35S	7E	20	NESE	22	13.3	13.30
35S	7E	20	NESE	30	19.1	19.10
35S	7E	20	SESE	31	19.5	19.50
35S	7E	20	SWSE	32	20.0	20.00
35S	7E	20	SESW	33	6.6	6.60
35S	7E	20	SESW	36	7.9	7.90
35S	7E	20	SWSE	37	19.0	19.00
35S	7E	20	SESE	38	20.0	18.00
35S	7E	21	NENE	10	5.7	5.70
35S	7E	21	NWNE	11	0.4	0.40
35S	7E	21	SENE	12	3.9	3.90
35S	7E	21	SWNE	13	5.5	5.50
35S	7E	21	SWNE	22	6.0	6.00
35S	7E	21	SENE	23	0.4	0.40
35S	7E	21	NWSW	27	7.0	7.00
35S	7E	21	NWSW	28	10.0	10.00
35S	7E	21	SWSW	35	14.4	14.40
35S	7E	21	SWSW	36	18.5	18.50
35S	7E	28	NENW	3	10.0	10.00
35S	7E	28	NWNW	4	15.9	12.90
35S	7E	28	NWNW	5	19.8	19.80
35S	7E	28	SWNW	6	20.0	20.00
35S	7E	28	SENW	11	20.0	20.00
35S	7E	28	SWNW	12	20.0	20.00
35S	7E	28	SWNW	13	20.0	20.00
35S	7E	28	SENW	14	20.0	20.00

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
35S	7E	28	NWSE	18	17.0	17.00
35S	7E	28	NESW	19	20.0	19.20
35S	7E	28	NWSW	20	20.0	19.50
35S	7E	28	NWSW	21	20.0	19.50
35S	7E	28	NESW	22	10.0 10.0	19.30
35S	7E	28	NWSE	23	19.3	19.30
35S	7E	28	SWSE	26	17.9	17.90
35S	7E	28	SESW	27	19.3	18.00
35S	7E	28	SWSW	28	12.6	12.60
35S	7E	28	SWSW	29	18.8	18.80
35S	7E	28	SESW	30	20.0	20.00
35S	7E	28	SWSE	31	20.0	20.00
35S	7E	29	NENE	1	20.0	19.00
35S	7E	29	NENW	3	20.0	20.00
35S	7E	29	NWNW	4	15.3	15.00
35S	7E	29	NWNW	5	4.9	4.90
35S	7E	29	NENE	8	17.2	17.20
35S	7E	29	SENE	9	19.2	19.20
35S	7E	29	SWNE	10	20.0	20.00
35S	7E	29	SENW	11	20.0	20.00
35S	7E	29	SWNW	12	16.3	16.30
35S	7E	29	SWNW	13	19.0	19.00
35S	7E	29	SENW	14	17.3	17.30
35S	7E	29	SWNE	15	20.0	18.50
35S	7E	29	SENE	16	20.0	20.00

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
35S	7E	29	NESE	17	20.0	19.50
35S	7E	29	NWSE	18	20.0	20.00
35S	7E	29	NESW	19	20.0	20.00
35S	7E	29	NWSW	20	19.0	16.10
35S	7E	29	NWSW	21	14.1	13.30
35S	7E	29	NESW	22	18.1	18.10
35S	7E	29	NWSE	23	11.0	11.00
35S	7E	29	NESE	24	19.1	19.10
35S	7E	29	SESE	25	17.1	17.10
35S	7E	29	SWSE	26	12.5	12.50
35S	7E	29	SESW	27	17.7	17.70
35S	7E	29	SWSW	28	18.4	16.40
35S	7E	29	SWSW	29	20.0	20.00
35S	7E	29	SESW	30	17.5	15.70
35S	7E	29	SWSE	31	12.5	12.50
35S	7E	29	SESE	32	12.8	12.80
35S	7E	30	NENE	10	8.8	8.80
35S	7E	30	SENE	11	17.2	17.20
35S	7E	30	SWNE	19	0.6	0.60
35S	7E	30	SENE	20	20.0	20.00
35S	7E	30	SESE	31	20.0	0.00
35S	7E	30	SWSE	32	16.0	0.00

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
35S	7E	30	SESW	38	0.2	0.20
35S	7E	30	SWSE	39	18.4	18.40
35S	7E	30	SESE	40	18.5	18.50
35S	7E	31	NENE	1	14.2	14.20
35S	7E	31	NWNE	2	20.0	20.00
35S	7E	31	NENW	3	2.7	2.70
35S	7E	31	NENE	10	20.0	20.00
35S	7E	32	NWNE	2	17.5	17.50
35S	7E	32	NENW	3	14.2	14.20
35S	7E	32	NWNW	4	20.0	19.40
35S	7E	32	NWNW	5	20.8	19.40
35S	7E	32	NENW	6	14.5	14.50
35S	7E	32	NWNE	7	20.0	20.00
35S	7E	32	SENW	11	19.0	17.20
35S	7E	32	SENW	14	19.8	17.80
35S	7E	32	NESE	17	20.0	20.00
35S	7E	32	NWSE	18	19.0	15.65
35S	7E	32	NWSW	20	20.0	20.00
35S	7E	32	NWSW	21	20.0	20.00
35S	7E	32	NWSE	23	19.0	19.00
35S	7E	32	NESE	24	20.0	20.00
35S	7E	32	SESE	25	17.8	17.00
35S	7E	32	SWSE	26	19.0	19.00
35S	7E	32	SWSW	28	20.0	10.00
35S	7E	32	SWSW	29	20.0	20.00

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
35S	7E	32	SWSE	31	20.0	20.00
35S	7E	32	SESE	32	19.0	19.00
35S	7E	33	NENE	1	4.5	4.50
35S	7E	33	NWNE	2	11.2	11.20
35S	7E	33	NENW	3	18.8	18.80
35S	7E	33	NWNW	4	20.0	17.90
35S	7E	33	NWNW	5	18.8	17.60
35S	7E	33	NENW	6	20.0	20.00
35S	7E	33	NWNE	7	20.0	20.00
35S	7E	33	NENE	8	5.3	5.30
35S	7E	33	SENE	9	4.3	4.20
35S	7E	33	SWNE	10	20.0	20.00
35S	7E	33	SENW	11	20.0	20.00
35S	7E	33	SWNW	12	20.0	20.00
35S	7E	33	SWNW	13	18.4	18.40
35S	7E	33	SENW	14	20.0	20.00
35S	7E	33	SWSE	15	20.0	20.00
35S	7E	33	SESE	16	5.3	5.20
35S	7E	33	NESE	17	8.3	8.30
35S	7E	33	NWSE	18	20.0	19.50
35S	7E	33	NESW	19	20.0	19.00
35S	7E	33	NWSW	20	18.9	18.90
35S	7E	33	NWSW	21	20.0	20.00
35S	7E	33	NESE	22	20.0	19.00
35S	7E	33	NWSE	23	20.0	19.50
35S	7E	33	NESE	24	8.0	8.00

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
35S	7E	33	SWSE	26	20.0	20.00
35S	7E	33	SESW	27	20.0	20.00
35S	7E	33	SWSW	28	18.5	10.00
35S	7E	33	SWSW	29	13.4	9.00
35S	7E	33	SESW	30	20.0	20.00
35S	7E	33	SWSE	31	20.0	20.00
TOTALS T35S					**2474.5**	2,021.75

36S	7E	3	SWNW	12	5.5	3.60
36S	7E	3	SWNW	13	7.5	5.60
36S	7E	3	NWSW	20	9.0	9.00
36S	7E	3	NWSW	21	10.5	10.50
36S	7E	3	SWSW	28	12.5	12.50
36S	7E	3	SWSW	29	14.5	14.50
36S	7E	4	NENE	1	19.1	15.90
36S	7E	4	NWNE	2	20.0	15.00
36S	7E	4	NENW	3	20.0	20.00
36S	7E	4	NWNW	4	20.0	20.00
36S	7E	4	NWNW	5	20.0	20.00
36S	7E	4	NENW	6	20.0	20.00
36S	7E	4	NWNE	7	20.0	20.00
36S	7E	4	NENE	8	20.0	20.00
36S	7E	4	SENE	9	20.0	20.00
36S	7E	4	SWNE	10	17.5	17.20

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
36S	7E	4	SENW	11	20.0	20.00
36S	7E	4	SWNW	12	20.0	20.00
36S	7E	4	SWNW	13	0.0 16.2	2.00 14.20
36S	7E	4	SENW	14	20.0	17.10
36S	7E	4	SWNE	15	20.0	16.90
36S	7E	4	SENE	16	17.8	17.00
36S	7E	4	NWNE	17	0.0	
36S	7E	4	NWSE	18	20.0	20.00
36S	7E	4	NESW	19	20.0	20.00
36S	7E	4	NWSW	21	19.3	12.30
36S	7E	4	NESW	22	16.1	16.10
36S	7E	4	NWSE	23	20.0	20.00
36S	7E	4	NWSE	24	0.0	
36S	7E	4	SESE	25	20.0	20.00
36S	7E	4	SWSE	26	20.0	20.00

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
36S	7E	4	SESW	27	17.3	17.30
36S	7E	4	SWSW	28	19.3	11.30
36S	7E	4	SWSW	29	19.3	10.90
36S	7E	4	SESW	30	18.2	18.20
36S	7E	4	SWSE	31	19.2	18.00
36S	7E	4	SESE	32	19.7	19.70
36S	7E	5	NENE	1	19.5	17.50
36S	7E	5	NWNE	2	20.0	19.50
36S	7E	5	NENW	3	20.0	17.90
36S	7E	5	NWNW	4	19.8	19.20
36S	7E	5	NWNW	5	16.3	15.60
36S	7E	5	NENW	6	20.0	19.70
36S	7E	5	NWNE	7	20.0	20.00
36S	7E	5	NENE	8	18.8	18.80
36S	7E	5	SENE	9	17.7	17.00
36S	7E	5	SWNE	10	20.0	18.00
36S	7E	5	SENW	11	20.0	20.00
36S	7E	5	SWNW	12	9.0	9.00
36S	7E	5	SWNW	13	5.4	2.70
36S	7E	5	SENW	14	20.0	19.90
36S	7E	5	SWNE	15	20.0	17.00
36S	7E	5	SENE	16	19.7	17.00
36S	7E	5	NESW	19	18.3	16.00
36S	7E	5	NESW	22	13.4	7.40

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
36S	7E	5	SESE	25	20.0	19.00
36S	7E	5	SWSE	26	20.0	19.70
36S	7E	5	SWSE	31	20.0	19.70
36S	7E	5	SESE	32	20.0	19.00
36S	7E	8	NENE		40.0	40.00
36S	7E	8	NWNE		35.9	35.90
36S	7E	9	NENE	1	17.2	17.20
36S	7E	9	NWNE	2	20.0	20.00
36S	7E	9	NENW	3	18.8	18.80
36S	7E	9	NWNW	4	20.0	14.50
36S	7E	9	NWNW	5	18.5	18.50
36S	7E	9	NENW	6	19.0	19.00
36S	7E	9	NWNE	7	20.0	20.00
36S	7E	9	NENE	8	20.0	13.00
36S	7E	9	SENE	9	20.0	20.00
36S	7E	9	SWNE	10	20.0	10.00
36S	7E	9	SENW	11	17.0	13.50
36S	7E	9	SWNW	12	20.0	20.00
36S	7E	9	SWNW	13	20.0	20.00

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
36S	7E	9	SENW	14	19.5	19.50
36S	7E	9	SWNE	15	20.0	20.00
36S	7E	9	SENE	16	20.0	20.00
36S	7E	9	NESE	17	20.0	20.00
36S	7E	9	NWSE	18	19.4	19.40
36S	7E	9	NESW	19	20.0	20.00
36S	7E	9	NESW	22	20.0	20.00
36S	7E	9	NWSE	23	19.4	13.20
36S	7E	9	NESE	24	20.0	20.00
36S	7E	9	SESE	25	20.0	20.00
36S	7E	9	SWSE	26	19.3	5.00
36S	7E	9	SESW	27	8.6	8.60
36S	7E	9	SESW	30	11.9	10.37
36S	7E	9	SWSE	31	20.0	16.40
36S	7E	9	SESE	32	20.0	20.00
36S	7E	10	NWNW	4	16.5	16.50
36S	7E	10	NWNW	5	18.5	13.50
36S	7E	10	SWNW	12	19.5	19.00
36S	7E	10	SWNW	13	18.1	17.60
36S	7E	10	SENW	14	2.7	2.70
36S	7E	10	NESW	19	4.2	4.20

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
36S	7E	10	NWSW	20	20.0	19.40
36S	7E	10	NWSW	21	20.0	19.40
36S	7E	10	NESW	22	6.2	6.20
36S	7E	10	SESW	27	7.3	7.30
36S	7E	10	SWSW	28	20.0	19.50
36S	7E	10	SWSW	29	20.0	19.40
36S	7E	10	SESW	30	9.3	9.30
36S	7E	15	NENW	3	11.0	10.40
36S	7E	15	NWNW	4	20.0	20.00
36S	7E	15	NWNW	5	20.0	20.00
36S	7E	15	NENW	6	12.7	12.10
36S	7E	15	SENW	11	13.7	13.70
36S	7E	15	SWNW	12	19.3	14.00
36S	7E	15	SWNW	13	16.9	16.90
36S	7E	15	SENW	14	11.4	10.80
36S	7E	16	NENE	1	19.5	19.50
36S	7E	16	NWNE	2	20.0	0.00
36S	7E	16	NENW	3	13.4	10.00
36S	7E	16	NENW	6	12.2	8.00
36S	7E	16	NWNE	7	20.0	0.00
36S	7E	16	NENE	8	19.2	8.00
36S	7E	16	SENE	9	19.3	7.00
36S	7E	16	SWNE	10	20.0	15.30
36S	7E	16	SENW	11	20.0	10.00
36S	7E	16	SENW	14	20.0	15.50

TWP	Range	Sec	1/4 1/4	GL	# Acres Claimed 12/06	Settle-ment Acreage
36S	7E	16	SWNE	15	20.0	15.00
36S	7E	16	SENE	16	19.1	15.00
36S	7E	16	NESE	17	20.0	20.00
36S	7E	16	NWSE	18	20.0	19.00
36S	7E	16	NESW	19	20.0	18.00
36S	7E	16	NWSW	20	7.1	5.00
36S	7E	16	NWSW	21	5.9	5.00
36S	7E	16	NESW	22	18.6	11.60
36S	7E	16	NWSE	23	13.0	10.00
36S	7E	16	NESE	24	6.7	5.00
36S	7E	16	SESW	27	4.0	2.00
36S	7E	16	SWSW	28	0.5	0.00
TOTALS T36S					**2,659.60**	**2,008.07**
TOTALS					**5,134.10**	**4,029.82**
					281.70	**242.86**
			GRAND TOTAL		**5,410.90**	**4,272.68**

SCALE: 1" = 1320'

1320 0 660 1320 2640

1 inch = 1320ft.

LEGEND

DIVERSION POINT (MEASURED)

DIVERSION POINT (LOCATION PROVIDED BY U.S.B.R.)

IRRIGATED AREA BY POD #2

IRRIGATED AREA BY POD #3

IRRIGATED AREA BY POD #4

IRRIGATED AREA BY POD #5

IRRIGATED AREA BY POD #6

IRRIGATED AREA BY POD #7

IRRIGATED AREA BY POD #8

IRRIGATED AREA BY POD #9

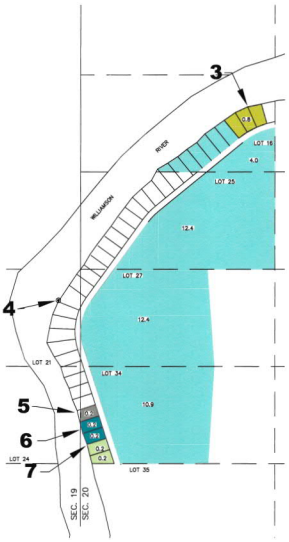
IRRIGATED AREA BY POD #10

IRRIGATED AREA BY POD #11

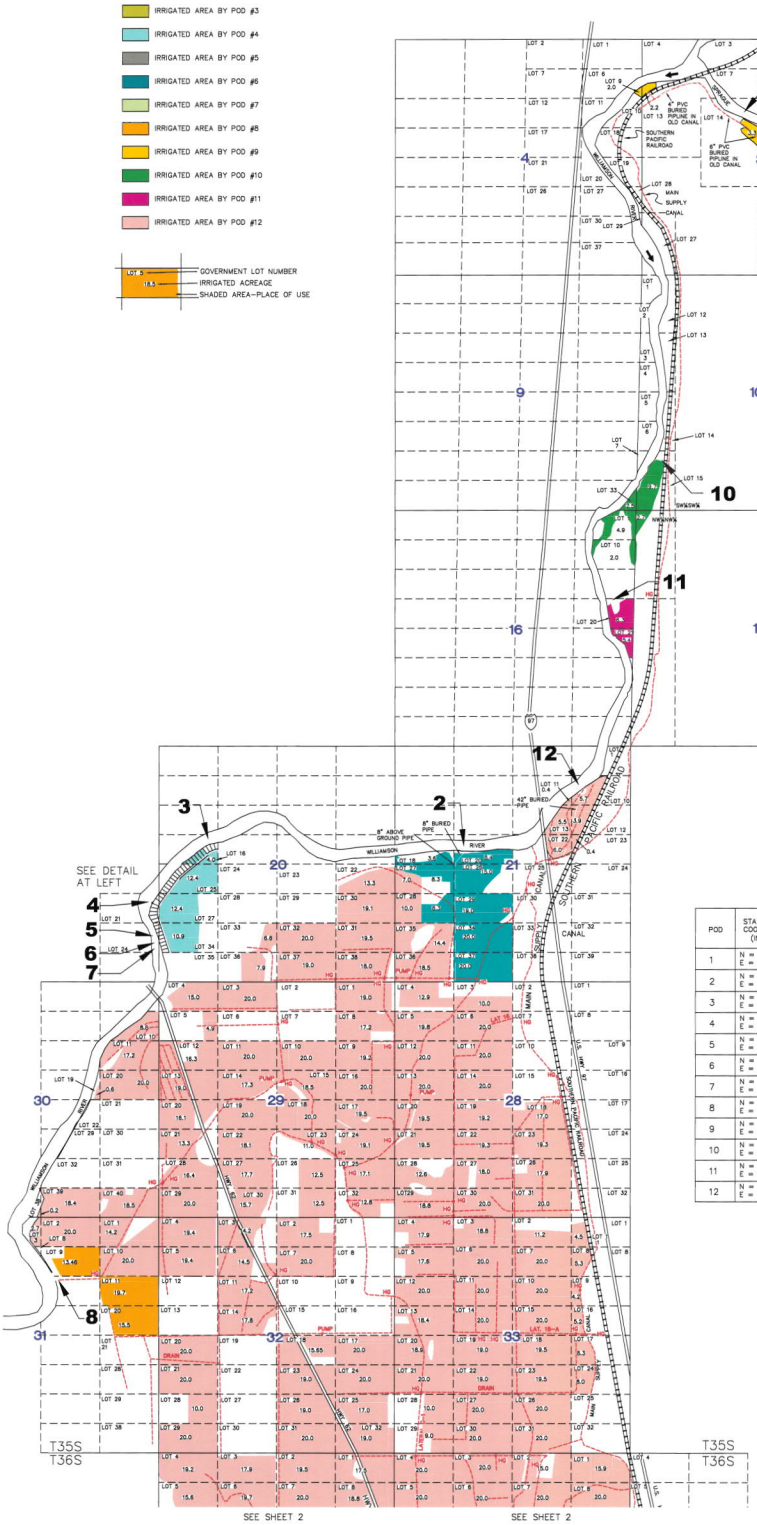
IRRIGATED AREA BY POD #12

LOT 5 — GOVERNMENT LOT NUMBER
18.5 — IRRIGATED ACREAGE
SHADED AREA--PLACE OF USE

NOTE:
MAP REFLECTS ACREAGES AND PLACE OF USE AS DIRECTED BY MPID BOARD.



DETAIL
SCALE 1" = 400'



POD	STATE PLANE COORDINATES (IN FEET)	TIE FROM POD TO SECTION CORNER COMMON TO SECTIONS 9, 10, 15 & 16, T35S, R7E	
		BEARING	DISTANCE (ft)
1	N = 329,546 E = 4,554,401	S32°24'39"W	7810.2
2	N = 315,335 E = 4,546,087	N28°27'11"E	8663.7
3	N = 315,581 E = 4,540,569	N52°36'46"E	12140.3
4	N = 314,283 E = 4,539,221	N51°44'29"E	14001.4
5	N = 313,549 E = 4,539,312	N49°13'16"E	14397.4
6	N = 313,435 E = 4,539,343	N48°48'04"E	14449.4
7	N = 313,323 E = 4,539,368	N48°24'13"E	14504.4
8	N = 305,896 E = 4,536,897	N37°52'36"E	21595.0
9	N = 331,810 E = 4,552,446	S14°08'10"W	9134.2
10	N = 324,202 E = 4,550,517	S13°36'21"W	1285.3
11	N = 320,930 E = 4,549,394	N22°06'01"E	2183.2
12	N = 316,713 E = 4,548,856	N12°17'15"E	6386.2

Modoc Point Irrigation District
By: Melinda Cavin
Title: Board Secretary

APPLICANT SIGNATURE

THIS MAP IS FOR THE PURPOSE OF DESCRIBING THE LOCATION OF THE WATER RIGHT ONLY AND HAS NO INTENT TO PROVIDE DIMENSIONS OR LOCATION OF PROPERTY LINES.

RECEIVED
NOV 20 2008
WATER RESOURCES DEPT
SALEM, OREGON

Certified Water Right Examiner
2002
Douglas E. Adkins
November 19, 1987
STATE OF OREGON
RENEWAL 12/31/09

SCALE 1"=1320'	DESIGNED BY
DATE 11/18/08	SURVEYED BY
SHEET 1 OF 2	DRAWN BY AMH
PROJ.1433-0101 CLAIM84_T35S	CHECKED BY DEA

ADKINS CONSULTING ENGINEERS, INC.
Engineers ▲ Planners ▲ Surveyors
2950 Shasta Way · Klamath Falls, Oregon 97603 · (541) 884-4666 · FAX (541) 884-5335
Klamath Falls, OR · Medford, OR · Alturas, CA

CLAIM 84
SETTLEMENT MAP
FOR
MODOC POINT IRRIGATION DISTRICT
TOWNSHIP 35 SOUTH, RANGE 7 EAST,
SEC. 3, 4, 9. 10. 15, 16, 19, 20, 21, 28, 29, 30, 31, 32, 33
KLAMATH COUNTY, OREGON

No.	REVISION	DATE	BY
No.	REVISION	DATE	BY
No.	REVISION	DATE	BY

SCALE: 1" = 1320'

1320 0 660 1320 2640

1 inch = 1320ft.

LEGEND

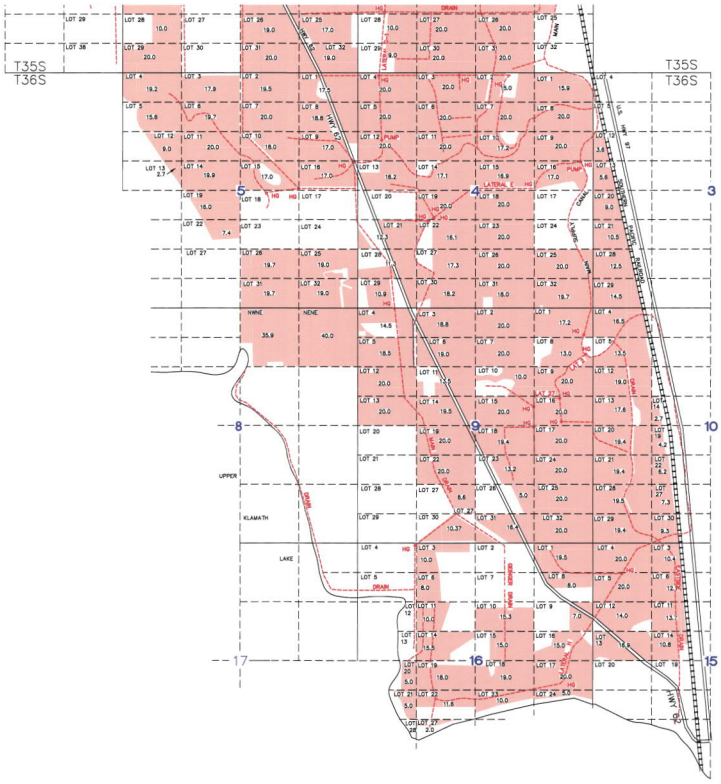
- DIVERSION POINT (MEASURED)
- DIVERSION POINT (LOCATION PROVIDED BY U.S.B.R.)
- IRRIGATED AREA BY POD #2
- IRRIGATED AREA BY POD #3
- IRRIGATED AREA BY POD #4
- IRRIGATED AREA BY POD #5
- IRRIGATED AREA BY POD #6
- IRRIGATED AREA BY POD #7
- IRRIGATED AREA BY POD #8
- IRRIGATED AREA BY POD #9
- IRRIGATED AREA BY POD #10
- IRRIGATED AREA BY POD #11
- IRRIGATED AREA BY POD #12

LOT 5 — GOVERNMENT LOT NUMBER
18.5 — IRRIGATED ACREAGE
SHADED AREA—PLACE OF USE

NOTE:
MAP REFLECTS ACREAGES AND PLACE OF USE AS DIRECTED BY MPID BOARD

SEE SHEET 1

SEE SHEET 1



POD	STATE PLANE COORDINATES (IN FEET)	TIE FROM POD TO SECTION CORNER COMMON TO SECTIONS 9, 10, 15 & 16, T35S, R7E	
		BEARING	DISTANCE (ft)
1	N = 329,546 E = 4,554,401	S32°24'39"W	7810.2
2	N = 315,335 E = 4,546,087	N28°27'11"E	8663.7
3	N = 315,581 E = 4,540,569	N52°36'46"E	12140.3
4	N = 314,283 E = 4,539,221	N51°44'29"E	14001.4
5	N = 313,549 E = 4,539,312	N49°13'16"E	14397.4
6	N = 313,435 E = 4,539,343	N48°48'04"E	14449.4
7	N = 313,323 E = 4,539,368	N48°24'13"E	14504.4
8	N = 305,896 E = 4,536,897	N37°52'36"E	21595.0
9	N = 331,810 E = 4,552,446	S14°08'10"W	9134.2
10	N = 324,202 E = 4,550,517	S13°36'21"W	1285.3
11	N = 320,930 E = 4,549,394	N22°06'01"E	2183.2
12	N = 316,713 E = 4,548,856	N12°17'15"E	6386.2

Modoc Point Irrigation District 11/19/2008
Rep: Melinda Cavin
Title: Board Secretary
APPLICANT SIGNATURE

THIS MAP IS FOR THE PURPOSE OF IDENTIFYING THE LOCATION OF THE WATER RIGHT ONLY AND HAS NO INTENT TO PROVIDE DIMENSIONS OR LOCATION OF PROPERTY LINES.

RECEIVED
NOV 20 2008
WATER RESOURCES DEPT
SALEM, OREGON

Certified Water Right Examiner #007
Douglas E. Adkins
November 19, 1987
STATE OF OREGON
RENEWAL 12/31/09

SCALE	1"=1320'
DESIGNED BY	
DATE	11/18/08
SURVEYED BY	
SHEET	2 OF 2
DRAWN BY	AMH
PROJ.	1433-0101
CHECKED BY	DEA
	CLAIM84_T36S

ADKINS
CONSULTING ENGINEERS, INC.
Engineers ▲ Planners ▲ Surveyors
2950 Shasta Way · Klamath Falls, Oregon 97603 · (541) 884-4666 · FAX (541) 884-5335
Klamath Falls, OR · Medford, OR · Alturas, CA

CLAIM 84
SETTLEMENT MAP
FOR
MODOC POINT IRRIGATION DISTRICT
TOWNSHIP 36 SOUTH, RANGE 7 EAST,
SEC. 3, 4, 5, 8, 9, 10. 15, 16, 17
KLAMATH COUNTY, OREGON

No.	REVISION	DATE	BY

Attachment 7

Technical Memorandum: Water Availability Review

ADKINS
ENGINEERING & SURVEYING

Technical Memorandum

To: Mason Terry, Modoc Point Irrigation District
From: Daniel B. Scalas, P.E. & C.W.R.E.
Date: March 6, 2020
Re: MPID Water Availability Review

Executive Summary

The purpose of this memorandum is to provide a technical review that details the current availability of water from the Upper Klamath Lake and Williamson River in the Modoc Point Irrigation District (MPID) area. As part of the review, Adkins Engineering & Surveying (Adkins) conducted a water availability review for the two water sources to determine the most feasible source for a potential irrigation storage reservoir for MPID based on historical flows and lake levels. Included, Adkins has made recommendations on which route gives MPID the greatest opportunity to acquire a storage water right without a water call occurring from a senior water right holder. With the Klamath Tribes owning the water rights to maintain a certain amount of water in the lake and river, Adkins' analysis had to take into account the possibility of a water call due to the water levels dropping below the levels described in the senior water rights. This memorandum gives a brief overview of the water rights of interest to this project. The review included a statistical analysis using historical water level and flow data for comparison against the required water budgets described in the Klamath Adjudication claims owned by the Klamath Tribes. Attached with this memorandum are the delineations for the Upper Klamath Lake and Williamson River basins, as well as Klamath Adjudication Claims 622 & 625. Based on our findings, if MPID would like to pursue storage water rights, Adkins recommends that MPID store water from Upper Klamath Lake. Additionally, based on historical flow data, it was determined that there is a high probability that water calls may occur for the Williamson River.

Klamath Adjudication Claims 622 & 625

When the Klamath Adjudication review and determination of claims was completed in 2013, the more senior water right holders had the opportunity to make a call to satisfy their water rights. When a call is made, the watermaster gives the more senior water rights priority over junior water rights. After the review, the Klamath Tribes received claims that work to protect specific amounts of water within given lakes and rivers in Klamath County. If the water levels described in the water rights are not met, the Tribes have the authority to make a call on the water to meet those demands. A "call" is when a senior water right holder does not have the necessary amount of water to meet their needs, and in turn will contact the local watermaster to regulate the more junior water users to provide more water for the senior water rights. Adkins' review looks at two major water sources that the Tribes has water rights for: Upper Klamath Lake (KA 622) and Williamson River (KA 625).

KA Claim 622: KA 622 has a priority date listed as 'Time Immemorial', which means this water right predates the existence of the U.S. government and the state of Oregon. The water right acts to maintain minimum water levels at Upper Klamath Lake and Agency Lake throughout the year to establish and maintain a healthy and productive habitat to preserve and protect the Tribes' hunting, fishing, trapping and gathering rights on former reservation land. Table 1 below describes the minimum water levels at the lake. If water falls below these levels, the Tribes have the authority to make a water call to remedy the issue. All values in the table represent feet above mean sea level in the North American Vertical Datum of 1988 (NAVD 88).

MONTH	MINIMUM LAKE LEVELS (IN FEET ABOVE MEAN SEA LEVEL)
January 1 - March 31	Consistent with flood control purposes, raise elevation as quickly as possible to 4143.0 by March 31
April 1 - June 15	4143.0
June 16 - June 30	4142.0
July 1 - July 15	4141.5
July 16 - August 15	4140.5
August 16 - October 15	4139.5
October 16 - November 30	4140.5
December 1 - December 31	4141.0

Table 1: Minimum water levels required at Upper Klamath Lake for KA 622.

The drainage basin for Upper Klamath Lake encompasses all streams and tributaries that flow into the lake, which includes the majority of Klamath County, and parts of Lake and Jackson Counties (see Attachment 1). It is worth noting that the attached delineation is a rough estimate of the drainage basin.

KA Claim 625: KA 625 also has a priority date listed as 'Time Immemorial'. The protected reach within Williamson River extends from river mile 0 to 7. This water right works to protect instream use to preserve and protect the Tribes' hunting, fishing, trapping, and gathering rights on former reservation land. Table 2 below describes the minimum flow required in the river. All values in the table are in cubic feet per second (CFS).

MONTH	Riparian Habitat Base Flow (CFS)	Riparian Habitat High (Flood) Flow	
		Trigger Flow (CFS)	Cap Flow (CFS)
January	650	-	-
February	650	-	-
March	1100	2180	4190
April	1440	2180	4190
May	1300	2180	4190
June	873	-	-
July	650	-	-
August	620	-	-
September	650	-	-
October	650	-	-
November	650	-	-
December	650	-	-

Table 2: Minimum flow levels required for Williamson River for KA 625.

The Riparian Base Flow values represent the minimum flows that must be maintained unless a Riparian Habitat High (Flood) Flow is triggered. If stream flows are at or above the Trigger Flow, stream flows must be maintained up to the Cap Flow. If the stream flow drops below the Trigger

Flow, then stream flows are once again maintained at the Riparian Habitat Base Flow. See Attachment 2 for a rough delineation of the Williamson River drainage basin.

Water Availability Analysis

To estimate the water availability at the two sources, Adkins used the Oregon Water Resource Department's (OWRD) Water Availability Reporting System. This system takes into account the water required for consumption/storage, the expected stream flow, and the instream flow requirements, then provides a net water availability. A 50% exceedance level for a given source is required to apply for a storage water right. With that in mind, the months with water available for storage at Upper Klamath Lake and Williamson River are January, March, April, and May (see Tables 3 & 4).

Upper Klamath Lake					
Month	Natural Stream Flow	Consumptive Use	Expected Stream Flow	Instream Requirement	Net Water Available
January	2,120	576	1,540	60	1,480
March	2,680	1,040	1,640	80	1,560
April	3,210	1,110	2,100	80	2,020
May	3,120	1,280	1,840	83	1,750

Table 3: Water availability for Upper Klamath Lake. Values are in Acre-Feet.

Williamson River (mouth to Spring Creek)					
Month	Natural Stream Flow	Consumptive Use	Expected Stream Flow	Instream Requirement	Net Water Available
January	963	11	952	650	302
March	1,590	69	1,520	1,100	421
April	1,990	129	1,860	1,440	421
May	1,760	279	1,480	1,300	181

Table 4: Water availability for Williamson River. Values are in CFS.

After the available months were determined, Adkins collected historical water level and flow data from OWRD and USGS to run a statistical analysis to estimate the percentage of days that the water levels and flows exceeded the values stated in KA 622 & 625. With that information, Adkins can make a recommendation on if a water call could potentially occur in the future at these two sources. The following table presents our findings.

Percentage of Days Water Level or Flow Exceeds KA 622 & KA 625		
Month	Lake Level Exceeds KA 622	River Flow Exceeds KA 625
January	38%	68%
March	96%	50%
April	98%	24%
May	99%	30%

Table 5: Percentage of days water level or flow exceeded the requirements in KA 622 & 625. Based on actual gauge data since 1974.

Upper Klamath Lake: Two gauge stations (near Rocky Point and Algoma) provided water level data dating back to 1974. The statistical analysis estimated the percentage of historical days that the water level at the lake exceeded the minimum water levels described in KA 622 (see Table 1). After completing the analysis, it was determined that the months of March, April, and May had the greatest percentage of exceedance days at 96%, 98%, and 99%, respectively (see Table 3). Therefore, these months provide the greatest potential for obtaining a storage water right from Upper Klamath Lake, without a water call occurring.

Williamson River: Two gauge stations (river miles 4.7 & 10.2) provided historical flow data. The analysis estimated the percentage of days that the Williamson River flow exceeded the requirements for KA 625 (see Table 2). The highest percentage month was January at 68%, while March, April, and May each had exceedance percentages at-or-below 50% (see Table 5). These values determine there is a relatively high probability that a water call could potentially be made in the future for the Williamson River.

Summary

The Klamath Tribes have rights to two major water right claims that determines the minimum water levels in Upper Klamath Lake, and the minimum flow in the Williamson River. For water to be available for storage, OWRD requires a 50% exceedance level at these sources. The months with available water are January, March, April, and May. By running a statistical analysis with gauge data, Adkins was able to estimate the percentage of days where water has historically been available since 1974. With this information, Adkins can make a recommendation on which water source is least likely to experience a water call in the future.

It is Adkins' recommendation that if MPID elects to apply for a storage water right, the best source would be Upper Klamath Lake with a very low probability for a future water call based on historical lake levels. There is water available for storage from the Williamson River; however, based on our findings, there is a high probability (greater than 50%) that a future water call could be made based on historical river flows. It is recommended that MPID seek to secure grants to develop a feasibility study to size and site a potential storage reservoir. This feasibility study would need to be completed before applying for a storage water right permit. Currently, there are two 50/50 cost-share funding grants available for projects that evaluate the feasibility of developing water storage that we recommend MPID applies for: USBR's WaterSMART Water and Energy Efficiency Grant, and/or OWRD's Water Conservation, Reuse and Storage Grant. The 2020 funding deadline to submit an application for USBR is September 30, 2020. The funding deadline for OWRD is not yet determined, but is typically around middle-to-late October.

Please feel free to contact us if you have any questions, comments, or concerns about what has been presented in this memo.

Sincerely,

Daniel B. Scalas, P.E. & C.W.R.E.
Project Manager

CC: Mason Terry (mason.terry@oit.edu)
ACE file 1433-02
Attachment 1: Upper Klamath Lake and Williamson River Drainage Basin Delineations
Attachment 2: Klamath Adjudication Claims 622 & 625

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