

Logan River Watershed Plan-EIS Solutions and Benefits

Logan City



After extensive discussion, analysis, and comparison between evaluated alternatives, Cache Water District, Crockett Avenue Irrigation Company (CAIC), Logan City, North Logan City, and Hyde Park City, in concert with the Natural Resources Conservation Service (NRCS), have determined the First Dam Alternative would best meet their objectives. One of the objectives of this alternative is to build a new pressurized irrigation (secondary water) system that would service all current shareholders and landowners in the CAIC service area to achieve the benefits described in this document. Further information on the First Dam Alternative can be found in the Logan River Watershed Plan-EIS Project Overview Fact Sheet.

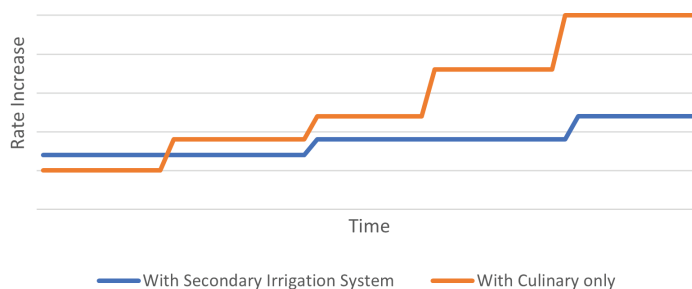
Reduces Future Culinary Water Infrastructure Needs

Drinking water is a limited resource to Logan City. Additional water sources will need to be developed to provide for future growth, which may include wells or water treatment plants. Additional culinary water infrastructure will also be needed to serve the growing population of the City, which will include storage tanks and pipelines. New sources and infrastructure are expensive and increase the cost of culinary water to residents.

Helps Manage Future Culinary Water Demands and Costs

The value of water will rise as the valley grows and demand increases, which also will increase the cost of drinking water. Without a pressurized irrigation system, the cost of drinking water will surpass the combined cost of a drinking water and a pressurized irrigation (secondary) system. The graphic below shows projected culinary and secondary rates over time.

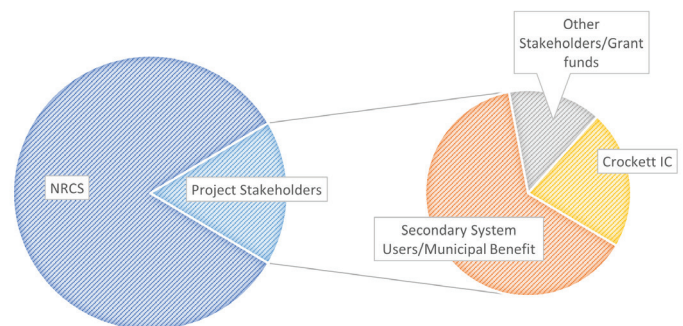
Concept Residential Total Water Rate Comparison



Federal Funding

The NRCS WFPO Program can pay for 100% of the design and engineering work and up to 75% of the construction costs of a pressurized irrigation system. The remaining costs would be shared between project co-sponsors, including CAIC, Logan City, North Logan City, and Hyde Park City on a benefit-proportional basis which will be determined in the coming months. Connection from the installed meter to the individual irrigation system will be the responsibility of the landowner. There will be no impact fees.

CONCEPT STAKEHOLDER COST SHARE



Cost Sharing Promotes Conservation and Sustainability

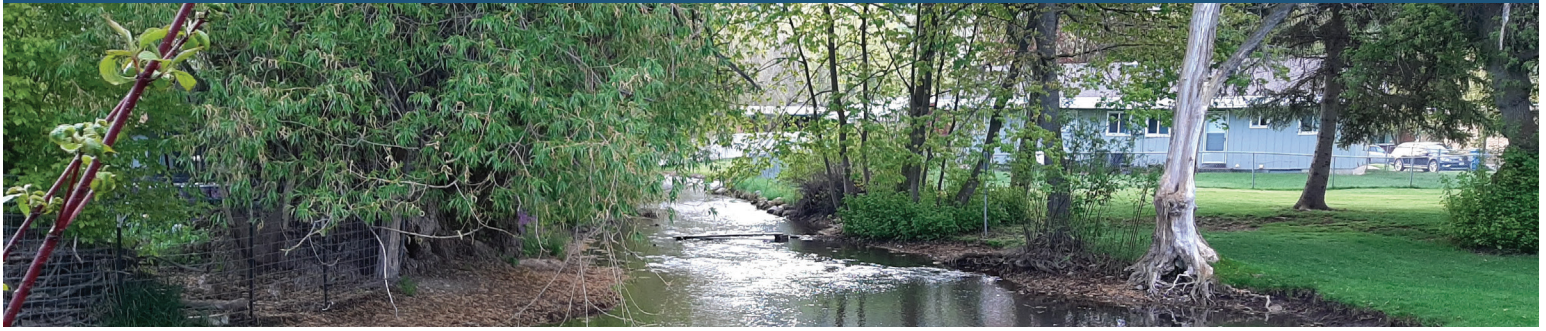
More landowners within the service area that connect to the secondary irrigation system would result in lower user rates and additional contributions required by the community. The City may consider using adjustments to tiered culinary water rates or requirements for secondary connections where available to promote conservation, provide more sustainable water rates for future generations and reduce the secondary system rate to users.

Estimated Secondary User Rates with NRCS Funding

Connection Rate	50%	75%	100%
Estimated Secondary Rate* (monthly for 12 months)	\$60-70	\$40-45	\$30-35

*These estimates do not include any municipal contribution. Municipalities receive substantial benefit and secondary User rates could be reduced through up-front or ongoing municipal contributions.





Logan River Instream Flows

The Logan River will have increased flow below the Crockett Diversion west through the City improving water quality, fish and wildlife habitat, recreation, and aesthetics through a 25 cfs minimum instream flow increase above existing summer base flows for 14 river miles. This increase in flow was evaluated by scientists and reviewed by the Logan River Task Force in accordance with the Conservation Action Plan Criteria shown in the table below. Evaluation showed that the rating would change from "Poor" under current circumstances to "Good" under the First Dam Alternative. Figures 1 and 2 on the Photos page illustrate comparative flow rates.

Logan River Conservation Action Plan Summer Base Flow Evaluation Criteria			
Poor	Fair	Good	Very Good
< 10 cfs	10-30 cfs	31-60 cfs	>60 cfs

Provides Ongoing Little Logan Base Flow

The project will provide up to 10 cfs of water to flow through the entire length of the South Branch of the Crockett canal system (Little Logan) during the irrigation season (April 1- October 15), including through multiple parks, fairgrounds, the zoo and many private properties that border the channel. The amount will be determined in the coming months as water available for allocation to this public feature is identified. It should be noted that 10 cfs over the irrigation season is sufficient water to irrigate all lawns and gardens in the Crockett Service area that are currently using culinary water. Figures 3-5 on the Photos page show the channel at flow rates between 5 and 10 cfs at popular public locations.

Maintains Aesthetics through River Hollow Park

The South Branch of the Crockett canal system (Little Logan) channel will be modified between River Hollow Park and Crockett Avenue to install the pressurized irrigation system AND have open channel flow for aesthetics.

Reduces Waste Water Treatment Costs

Ground water has been documented to infiltrate the sewer collection system, which increases wastewater treatment volume and cost. Pressurized irrigation delivery will reduce seepage from the current earthen canals that enters the sewer collection system.

Improves Flood Protection

Runoff flows into the canals are increasing as development occurs. The project will provide 100% of funding to construct overflows from canals to help manage floodwater in the City.

Floodplain impacts in the Thrushwood area will be reduced from 42 to 14 homes and by approximately 3100 linear feet of roadway. 28-33 homeowners will qualify for reduced flood insurance premiums. See Figure 6 for a map of the homes protected by this project.

Reduces Canal Maintenance Needs

Canal improvements to handle runoff flows will reduce the need for debris removal from property owners (debris blocks runoff flows and reduces floodwater capacity). NRCS funding will cover 100% of the canal improvements to reduce flooding.

Improves Trail Access

The project will provide 50% of the funding for the construction of a \$3.0 Million trail from Center Street to 600 East. This trail connection will provide improved access to Logan Canyon.



Logan River Comparative Flows



Figure 1: Photo near Logan River Golf Course taken on 6-29-2021, Flow Rate between 5-15 cfs (as is currently experienced during a significant portion of the irrigation season)



Figure 2: Photo near Logan River Golf Course taken on 5-6-2021, Flow Rate between 30-50 cfs (as would be experienced with Logan River instream flows included in the First Dam Alternative)

Little Logan Comparative Flows



Figure 3: Jens Johansen at 7 cfs

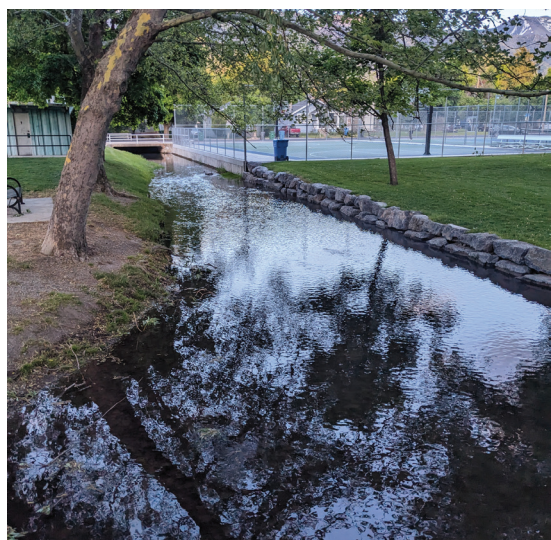


Figure 4: Central Park (Merlin Olsen) at 5.5 cfs



Figure 5: Fairgrounds at 9.3 cfs



Figure 6: Homes protected by this project



REDUCED FLOODPLAIN IMPACTS UNDER FIRST DAM ALTERNATIVE

- 1% Floodplain (FEMA Zone AE)
- Area Outside the 1% Floodplain with the Proposed Project

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