



## A. General Project Information

1. **Organization / Project Sponsor Name:**  
Lewiston Community Services District (LCSD)
2. **Project Name:**  
Water System Resiliency Project
3. **Has the organization implemented similar projects in the past?** ☒ yes ☐ no
4. **If the project sponsor has worked with NCRP in the past, describe the project and outcome.**
  - Water Meter Project: Installation of 169 water meters to monitor water consumption.
  - Lewiston Valley Water Intertie Project: Installation of approximately 3,650 feet of water main connecting the former LPMWC with LCSD.
  - Third Avenue Water Main Replacement: Replacement of approximately 300 feet of leaking water main.
  - Water System Distribution Project: Replacement of approximately 14,600 feet of water main and 170 water meter registers. Project will soon be put out to bid.
5. **Please describe the qualifications, experience, and capacity of the project team that will be overseeing project implementation.**

PACE Engineering is the current Water and Wastewater Contract Operator and Water Operator of Record for LCSD. The project team for the Proposed Project is staffed by multiple licenced Professional Engineers with decades of collective experience in water, wastewater, structural, and electrical design.
6. **Is this project part of a larger project or program? If so, what effectiveness monitoring is being conducted and what are the results?**

No.
7. **Project Abstract** [500 characters max.]

To improve water supply reliability, water-use efficiency, water self-reliance, and promote water conservation within the LCSD, the Proposed Project includes:

  - Installation of automatic transfer switches (ATS) at the Raw Water Pump Station (RWPS) and at the Water Treatment Plant (WTP).
  - Upgrade siding and roofing on three existing well buildings to a fire-resistant material.
  - Installation of approximately 70 advanced metering infrastructure (AMI) water meters and/or registers



## 8. Project Description [3,000 characters max.]

Surrounded by undeveloped wildland and vegetative fuels, the community of Lewiston is in a high-threat fire area and is considered a Fire Hazard Severity Zone and Wildland Urban Interface Fire Area. As such, LCSD relies heavily on its RWPS and WTP in the event of a fire. While the RWPS, which pumps water to the WTP, and the WTP have back-up generators, these generators must be manually switched from utility power to generator power. During a power outage, the District has limited water storage to both supply the community and use for fire suppression. The installation of ATs at the RWPS and WTP would allow these facilities to automatically utilize the generators during a power outage without the physical presence of an operator and to improve the reliability of the water supply. During the Carr Fire in 2018, LCSD could only operate its WTP, which operated almost 24 hours a day and produced approximately three times the amount of water LCSD normally produces. In that time, power was out intermittently, and the operator had to respond to both locations multiple times, day and night, to transfer power back and forth.

To help protect the well buildings from wildfires, the proposed project also includes upgrading the wood siding and shingle roofing of all three well buildings to a fire-resistant fiber-cement material. The existing siding and roofing material does not meet current California Code for a structure in a Wildland Urban Interface Fire Area. The fiber-cement material will not only protect the well building and equipment but also prevent contamination of the groundwater source and distribution system from incinerated debris originating from the well building. Replacing the siding and roofing would also improve the water supply reliability, as it would protect the groundwater supply source from the threat of wildfires and help protect the health and safety of the public. Furthermore, per the District's recent Inspection Report, DDW highly recommends the Well 6 enclosure be replaced with a larger structure utilizing non-combustible construction materials. See attached DDW 2022 Inspection Report. In addition, Well 4 is set up to run off a portable generator that can be brought on-site during a power outage to supplement the WTP.

To improve water-use efficiency, water self-reliance, and promote water conservation, installation of AMI meters allows the District and customers to view their water consumption at any time and receive alarms for leaks, no flow, and backwards flow. The District could promote water conservation by encouraging customers to create online accounts and monitor their water use. Additionally, the District will be able to collect meter readings instantaneously in real time versus driving along each street and reading each meter individually, contributing to greenhouse gas (GHG) emissions from both drive time and truck idling time.

## 9. Specific Project Goals/Objectives

Goal 1: Ensure water system reliability and quality [100 characters max.]

Goal 1 Objective: Allow continuous operation of RWPS and WTP in the event of a power outage [200 characters max.]



Goal 1 Objective: Protect the groundwater well buildings by replacing the existing siding and roofing with fire-resistant materials

Goal 1 Objective: Protect the well equipment from burning and/or melting and introducing harmful chemicals into the groundwater and distribution system

Goal 1 Objective: Flexibility in the water supply source

Goal 2: Improve water-use efficiency, self-reliance, and promote water conservation

Goal 2 Objective: AMI meters will alert LCSD staff of water leaks up to 30 days sooner than a manual read meter

Goal 2 Objective: AMI meter will alert LCSD staff of backflow through a meter indicating a possible leak in the distribution main

Goal 2 Objective: Encourage customers to create online portals to track their water use

Goal 2 Objective: Encourage customers to use water efficiently and promote water conservation

Goal 3: Reduce GHG Emissions

Goal 3 Objective: Eliminate driving required to manually transfer power from utility to generator and vice versa at RWPS and WTP

Goal 3 Objective: Minimize driving required to collect water meter readings

Goal 3 Objective: Increase water supply reliability to combat wildfires and more quickly extinguish them

Goal 3 Objective:

Additional Goals & Objectives (List)

N/A

**10. Describe how the project addresses the NCRP Goals and Objectives selected. [1,000 characters max.]**

Goal 3: The ATS and meters will reduce the amount of driving Operators do, reducing the amount of GHGs released. The ability to put wildfires out more quickly will reduce the amount of GHG that is released during a fire.

Objective 9: AMI meters give customers access to their water use at any time. Wasteful water use, including leaks, can be reduced with the sending of alarms to LCSD and its customers.

Objective 11: The ATS will allow LCSD to continuously supply water to its customers during power outages and during a fire. Without water, Lewiston could be lost to a fire and its water system damaged similar to Santa Rosa's and Paradise's.

Objective 12: Well buildings protect the groundwater sources and increase water supply reliability.

Objective 13: Harmful contaminants can be introduced into the system through melted PVC impacting water quality and public health.

Objective 15: During a wildfire, which can be a result of climate change, the well buildings will be resistant to fire.



**11. Describe the physical, biological and/or community need for the project. [1,000 characters max.]**

The existing generator for the RWPS and WTP automatically starts during a power outage; however, the power must be manually switched at each location. This can be difficult during a snowstorm or wildfire. If these locations automatically transferred power during an emergency, water would be more readily available and an invaluable resource to protect the Lewiston community. The more resources Lewiston has to protect its community and the surrounding areas, the better protected the Trinity River watershed will be. Many downstream communities rely on the river for salmon and steelhead (Objectives 6, 7, 13 and 14).

With fire-resistant buildings, Lewiston would be less likely to lose their groundwater sources. If the buildings were damaged during a fire, LCSD would rely only on the Trinity River as its water source. After a major rainfall event, the river would likely contain fire-related debris, potentially preventing use of the WTP. If that occurs, LCSD would have no source of water.

**12. Describe the financial need for the project. [1,000 characters max.]**

According to the DWR DAC mapping tool, LCSD is located in both a severely disadvantaged community (SDAC) and disadvantaged community (DAC). The US Census Bureau indicated the median household income (MHI) for Lewiston, as a Census Designated Place (CDP), is \$49,818 ±\$12,658 based on the 2020 American Community Survey (ACS) 5-year estimate. For the state of California, the MHI is \$84,907 ±\$542. This puts Lewiston at 59% of the state's MHI, which classifies them as a severely disadvantaged community. It should be noted that Lewiston as a CDP encompasses approximately 14,000 acres, whereas LCSD only serves approximately 500 acres. See attached Census Data and Reference Map.

Furthermore, any loss to the LCSD community, including their well buildings, water sources, or distribution system, would create a significant financial burden to the District.

**13. Describe potential adverse impacts from project implementation and how they will be mitigated.**

Water meter replacement will be an inconvenience for each customer during the replacement of the meter. This can be minimized by providing ample notice prior to any work performed. Replacement of the well buildings may also require the well be turned off temporarily until construction is complete.

**14. Will this project mitigate an existing or potential Cease and Desist Order or other regulatory compliance enforcement action? ☒ yes ☐ no**

If yes, please describe. [500 characters max.]

The DDW 2022 Inspection Report, attached, indicated a screened casing vent be added to Well 6. The current enclosure for Well 6 does not have adequate spacing to allow for the vent. It was also highly recommended the Well 6 floor be replaced and the enclosure be replaced with a larger structure made of non-combustible materials. The new Well 6 floor will be replaced, and





the enclosure would be slightly upsized as part of this project to accommodate the required screened vent.

**15. Does the project address a contaminant listed in AB 1249 (nitrate, arsenic, perchlorate, or hexavalent chromium)?**

☐ yes ☒ no

If yes, provide a description of how the project helps address the contamination. [500 characters max.]

N/A

**16. Describe how the project contributes to regional water self-reliance and addresses climate change.** [1,000 characters max.]

The proposed project would allow the District's water supply to be more self-reliant in the event of a fire or other emergency as the generators would automatically start and transfer power without the physical presence of an operator. Wildfires are an increasing threat resulting from climate change, and the existing well buildings are vulnerable to that threat.

Other elements of the project would allow customers to log in and see their own water use allowing them to be aware of their water usage and thereby more inclined to conserve water. The reduction in operators driving would also reduce GHG emissions that contribute to climate change.

**17. Does the project increase public safety with regards to flood protection, wildfire hazard risk reduction, increasing firefighting capacity, or in other ways contribute to regional emergency resiliency?**

☒ yes ☐ no

Please explain. [500 characters max.]

The ATs proposed in this project would allow the RWPS and WTP to continue uninterrupted during a power outage or fire emergency. This would significantly increase the water supply reliability in the event of a fire, both increasing firefighting capacity and reducing the hazards associated with wildfires.

**18. Does the project employ new or innovative technologies or practices, including [Decision Support Tools](#) that support the integration of multiple jurisdictions, including, but not limited to, water supply, flood control, land use, and sanitation?** ☐ yes ☒ no

If yes, please describe. [500 characters max.]

N/A

**19. Describe the population served by this project, including any economically disadvantaged communities or Tribes that will directly benefit.**

As a CDP, the population of Lewiston was reportedly 1,320, according to the 2012-2016 ACS. However, LCSD provides water and sewer services to a population of approximately 645



according to the number of household equivalents served by LCSD. The entire service area boundary (see attached map) serves an SDAC with an MHI of \$49,818, or 59% of the state's MHI of \$84,907. The Project will provide a direct water-related benefit to all of LCSD.

**20. Describe local and/or political support for this project. [500 characters max.]**

The LCSD Fire Chief and Board President wrote a letter of support expressing why this project is so important to the Lewiston community. In addition, Barry Sutter, the DDW District Engineer, also wrote a letter of support for this project. Both letters are attached.

**21. List all collaborating partners and agencies and nature of collaboration. [750 characters max.]**

N/A

**22. Is this project part or a phase of a larger project? ☒ yes ☐ no**

Are there similar efforts being made by other groups? ☐ yes ☒ no

If yes to either, please describe. [500 characters max.]

LCSD is replacing 170 of their 240 water meters with AMI meters when they replace their distribution system in the subdivision. The project to replace the distribution system in the subdivision is going out to bid 11/4/2022.

## B. Project Location

**1. Describe the latitude and longitude of the project site.**

Latitude: 40°41'56"

Longitude: 122°48'56"

**2. Site Address (if relevant):**

Various locations within proximity of Lewiston.

**3. Does the applicant have legal access rights, easements, or other access capabilities to the property to implement the project?**

☒ yes If yes, please describe below

☐ no If no, please provide a concise narrative below with a schedule, to obtain necessary access

☐ NA If NA, please describe below why physical access to a property is not needed

Explanation. [500 characters max.]

The RWPS and WTP, along with all well buildings and water meters, are owned by LCSD; therefore, the District has access to all components of the project.

**4. Project Location Notes:**



Raw Water Pump Station - off Deadwood Rd.  
Water Treatment Plant - off Riley Mine Rd.  
Well 2 - off Donner St.  
Well 4 - off Trinity Dam Blvd.  
Well 6 - off Donner St.  
Meters - primarily on Henrietta and connecting streets

## C. Benefits To Disadvantaged Communities and/or Tribes

1. Does the project provide direct water-related benefits to a project area comprised of **Disadvantaged Communities or Economically Distressed Communities**? If partially, please estimate percentage of project that benefits disadvantaged communities and list the communities.  
☒ Entirely  
☐ Partially; estimate the percentage of benefits provided directly to DAC:  
☐ No  
**List the Disadvantaged Community(s)**  
Lewiston
2. Does the project provide direct water-related benefits to a project area comprised of **Severely Disadvantaged Communities (SDAC)**? If partially, please estimate percentage of project that benefits disadvantaged communities and list the SDACs.  
☒ Entirely  
☐ Partially; estimate percentage of benefits provided directly to SDAC:  
☐ No  
**List the Severely Disadvantaged Community(s)**  
Lewiston
3. Does the project provide direct water-related benefits to a **Tribe or Tribes**? If partially, please estimate percentage of project that benefits Tribe(s) and list the Tribes.  
☐ Entirely  
☐ Partially; estimate percentage of benefits provided directly to Tribe(s):  
☒ No  
**List the Tribal Community(s)**  
N/A  
*If yes, please provide a letter of support from each Tribe listed as receiving these benefits.*
4. If the project provides benefits to a DAC, EDA or Tribe, explain the water-related need of the DAC, EDA or Tribe and how the project will address the described need. [750 characters max.]



LCSD currently obtains its water from both the Trinity River and three groundwater sources. A fourth well is projected to be brought online by summer of 2025. LCSD depends on these sources to supply water to its 240 connections as well as for protection of the Lewiston community against wildfires and other emergencies attributed to climate change. The ATs and fire-resistant material at the wells will provide a level of reliability to ensure water can continue to be produced on a continuous basis and protect the groundwater sources. The AMI meters will track customer water usage more accurately and allow customers to better track their own water use.

5. Describe the kind of notification, outreach and collaboration that has been completed with the county(ies) and/or Tribes within the proposed project impact area, including the source and receiving watersheds, if applicable. [500 characters max.]

LCSD held a special board meeting October 19, 2022, to discuss the project components and decide if the District should apply for funding through the NCRP Round 2 solicitation process. The District's three board members in attendance voted unanimously to apply for funding.

## D. Project Benefits & Justification

1. For each of the Potential Benefits that the project claims, complete the following table to describe an estimate of the benefits expected to result from the proposed project. Provide quantitative benefit amounts for at least the primary and secondary benefits. Provide a qualitative narrative description of expected benefits that cannot be quantified. *See the NCRP Project Application Instructions for more information and a listing of potential benefits.*

### PROJECT BENEFITS TABLE

Benefit Description	Units	Quantitative Amount	Qualitative Description
<b>Water Supply</b>			
Reliability during power outage	# of Events per Year	5	See Question 10a
Improved water management/ supply reliability - households impacted	# of Households	203	Resident connections
Water supply protection	# of Sources	4	See Question 10b
<b>Water Quality</b>			



Benefit Description	Units	Quantitative Amount	Qualitative Description
Water quality protection	NTU	100-1000	See Question 10b
<b>Climate Change</b>			
GHG reduction - reduced emissions	metric tons CO2/year	0.08	See Question 10c
Reduce vulnerability from climate change	N/A	N/A	See Question 10d
<b>Other Ecosystem Service Benefits</b>			
Watershed protection	N/A	N/A	See Question 10b.
Water conservation	gallons	N/A	See Question 10e
<b>Jobs Created or Maintained</b>			
<b>Other Benefits</b>			
Water conservation - education & outreach	# Events/Year	1	Public outreach
Enhanced firefighting capabilities - buildings protected	# of Buildings	300	Within LCSD

2. Does the proposed project provide physical benefits outside of the North Coast Region?

☐ yes ☒ no



If yes, describe the impacts to areas outside the North Coast Region. [500 characters max.]  
N/A

3. List the impaired water bodies (303d listing) that the project benefits:

Trinity River

4. Describe how the project benefits salmonids, endangered/threatened species and sensitive habitats.

By increasing water supply reliability during a fire emergency (i.e., having an ATS on the RWPS and WTP and protecting the groundwater buildings), fire fighters can better protect the Lewiston community and surrounding wildland from catching fire and spreading throughout the entire watershed. Lewiston is located just below Lewiston Dam along the Trinity River. Any damage as a result of fire to this area could have detrimental effects to the Trinity River, including its salmonid population and surrounding sensitive habitats.

5. Have alternative methods been considered to achieve the same types and amounts of physical benefits as the proposed project?

☒ yes ☐ no

Please explain. [500 characters max.]

The "do nothing" alternative means LCSD staff continue to manually read water meters and switch power supply during power outages and the well buildings material is not replaced. The "do nothing" approach does not provide the same physical benefits to protect the Lewiston community. Additional manpower will be needed to transfer power and protect the well buildings during a fire. Meter reading also currently takes an Operator two days each month to complete. There are no other alternatives.

6. Is the proposed project the lowest cost alternative to achieve the physical benefits?

☒ yes ☐ no

Please explain. [500 characters max.]

PACE Engineering performed a cost-benefit analysis for the proposed project. PACE also recommends the District perform the meter work themselves to save project costs and perform a simplified bid process to hire a contractor to install the ATSs.

7. How will the project be monitored to determine whether it is producing the desired benefits?

LCSD's SCADA system can track each time the Generator starts and the RWPS and WTP operate with the generator. LCSD can start tracking the yearly mileage on its vehicles to ensure they are reducing emissions. LCSD can add information to their website about water conservation as well as send out flyers to their customers on how to conserve water.



8. Provide a narrative for project technical justification. Include any other information that supports the justification for this project, including how the project can achieve the claimed level of benefits listed below. [3,000 characters max.]
  - Lewiston is considered a Fire Hazard Severity Zone and Wildland Urban Interface Fire Area in a State Responsibility Area, see Attached Cal Fire Map. As such, the LCSD relies heavily on its RWPS and WTP in the event of a fire. During a power outage, the District has limited water storage to both supply the community and use for fire suppression. The installation of ATSS at the RWPS and WTP would allow these facilities to automatically utilize the generators, almost instantaneously, during a power outage without the physical presence of an operator. During the Carr Fire in 2018, power was out intermittently, and the operator had to respond to both locations multiple times, day and night, to transfer power back and forth. When trying to supply water that must be pumped, power is an invaluable resource.
  - The 2019 California Building Code, Chapter 7A - Materials and Construction Methods for Exterior Wildfire Exposure lists the "minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Zone within the State Responsibility Areas or any Wildland-Urban Interface Area to resist the intrusion of flames or burning embers projected by a vegetation fire." Section 703A.5.3 does not allow for the use of paint, stain, or other surface treatment techniques as an approved method of protection. As such, the building material must be replaced. While there are exceptions to the Building Code Requirements, DDW recommends, in the District's recent Inspection Report, the Well 6 enclosure be replaced with a larger structure that utilizes non-combustible construction materials. See DDW's Inspection Report attached. The fiber-cement material proposed to be used for the well buildings is rated to be in compliance with Chapter 7A of the Building Code.
  - The District is in the process of bidding a project to replace 170 of their existing Badger water meter registers with new registers capable of transmitting water usage every 15 minutes through cell phone towers using Badger's Orion Technology. However, this leaves approximately 70 meters that the District will still need to manually read. Some of these meters will need to be fully replaced, as they are not Badger meters and are more than 20 years old. Water meters typically have a 15- to 20-year service life. After 15 years, a water meter begins to lose its accuracy. Furthermore, the Orion Technology allows customers to create online portals allowing them to track their own water use and set up alarms for leak detection. The District will be encouraging its customers with these AMI meters to create online portals and start tracking their water use in an effort to conserve water.
9. List and include any studies, plans, designs or engineering reports completed for the project as a "Technical & Reference Supporting Materials" into one document that includes a Table of Contents and is limited to approximately 50 pages. *Please see the instructions for more information about submitting these documents with the final application.*





**10. Project Justification & Technical Basis Notes: Please provide any additional information *not included above* that you think is important.**

Qualitative Descriptions from Project Benefits Table

a: LCSD will track power outages and when the ATs automatically transfer power at the RWPS and WTP.

b: The fire-resistant material will better protect the well buildings/groundwater source. Ensuring there is plenty of water to fight wildfires will protect all sources and the Trinity River Watershed.

c: According to EPA's website, gas vehicles emit 0.008887 metric tons of CO<sub>2</sub>/gal of gasoline. LCSD's truck gets on average 10 miles per gallon. Reading meters requires approximately six miles round trip, and the RWPS and WTP are located approximately 1.5 miles apart. If there were to be one power outage per month, LCSD will reduce their driving by approximately 7.5 miles per month, which is equivalent to 0.00665 metric tons of CO<sub>2</sub> per month.

d: Adding protection to the well buildings from wildfire.

e: AMI meters are more accurate, send leak alarms, and customers have 24/7 access to water usage.

## E. Project Tasks, Budget, And Schedule

**1. Projected Project Start Date: 7/1/23**

**Anticipated Project End Date: 8/1/24**

**2. Describe the basis for the costs used to derive the project budget in each budget category.**

[500 characters max.]

Costs for tasks included in Direct Project Administration and Planning/Design/Engineering/Environmental Documentation are derived from lump-sum costs based on previous projects PACE Engineering has completed with similar project components. Costs for tasks included under Construction/Implementation are estimated based on current quotes received from material suppliers and previous contractor costs to perform similar work as the proposed project.

**3. Provide a narrative on cost considerations including alternative project costs. [500 characters max.]**

The proposed project costs assume LCSD will utilize its own staff to install the water meters. It is anticipated the District will also use a simplified bidding process to solicit bids for installation of the ATs, as this is considered specialty work as opposed to general construction.

**4. List the sources of non-state matching funds, amounts and indicate their status.** Proposition 1 requires a minimum cost share of 50% of the total project costs, though a waiver may apply (see Question 6 below).

The District is an SDAC and is requesting the cost share waiver.



5. List the sources and amount of State matching funds.

N/A

6. Cost Share Waiver Requested (DAC or EDA)? ☒ yes ☐ no

Describe what percentage of the proposed project area encompasses a DAC/EDA, how the community meets the definition of a DAC/EDA, and the water-related need of the DAC/EDA that the project addresses. In order to receive a cost share waiver, the applicant must demonstrate that the project will **directly** provide benefits that address a water-related need of a DAC/EDA.

Lewiston's MHI, as a CDP, is at 59% of the state's MHI, which classifies them as an SDAC. Refer to Question A.12 above. The project is within the LCSD service area boundary, which is 100% within the Lewiston CDP boundary. See attached map. The only source of water for LCSD is through the Trinity River and its groundwater wells. If Lewiston were to lose one or all three of these sources, they would most likely have to truck in water to supply its customers. This would put LCSD into a financial hardship that would require them to raise water rates. As an SDAC, LCSD's customers would then also be put into a financial hardship just to have access to potable water.

7. Is the project budget scalable? ☒ yes ☐ no

8. Describe how a scaled budget would impact the overall project, its expected benefits and state the minimum budget amount that would be viable (see Instructions E.7 for scaled budget examples). [500 characters max.]

The project is organized so any one of the three components can be removed from the project scope. While scaling the project would allow the District to complete at least one of the project components, all three components work together to meet the expected project benefits as listed in this application. If only one of the project components is selected for funding, PACE Engineering will need to reevaluate the costs for Project Administration/Design/Engineering/Environmental Documentation.

9. Major Tasks, Schedule and Budget for Project Solicitation

Please complete MS Excel table available at <https://northcoastresourcepartnership.org/ncrp-proposition-1-irwm-round-2-solicitation/> see instructions for the information to be included in this document and for how to submit the required excel document with the application materials.

10. Project Tasks, Budget and Schedule Notes:

Project schedule is dependent on when LCSD receives their Sub-Agreement with Humboldt County. Material costs are changing rapidly. Construction costs are estimated based on quotes received within the last 6 months.

Project Name:	Water System Resiliency Project
Organization Name:	Lewiston Community Services District

Task #	Major Tasks	Task Description	Major Deliverables	IRWM Task Budget	Non-State Match	Other Match	Total Task Budget	Scaled IRWM Budget - Only the Wells & ATS	Scaled IRWM Budget - Only the Meters	Scaled IRWM Budget - Only the ATS	Scaled IRWM Budget - Only the Wells	Current Stage of Completion (%)	Start Date	Completion Date
A	Category (a): Direct Project Administration													
1	Project Management/Administration	In cooperation with the County of Humboldt sign a sub-grantee agreement for work to be completed on this project. Develop invoices with support documentation. Provide audited financial statements and other deliverables as required	Invoices, audited financial statements and other deliverables as required	\$5,000.00	\$0.00	\$0.00	\$5,000.00	\$5,000.00	\$1,250.00	\$2,500.00	\$2,500.00	0%	7/1/23	8/1/24
2	Reporting	Develop monthly reports describing work completed, challenges, and strategies for reaching remaining project objectives. Develop Final Report	Quarterly and Final Reports	\$1,000.00	\$0.00	\$0.00	\$1,000.00	\$1,000.00	\$250.00	\$500.00	\$500.00	0%	7/1/23	8/1/24
3	Prevailing Wage Monitoring	Monitor Contractor and Subcontractor compliance with labor code laws	Submission of Prevailing Wage Monitoring	\$6,000.00	\$0.00	\$0.00	\$6,000.00	\$6,000.00	\$0.00	\$3,000.00	\$3,000.00	0%	7/1/23	8/1/24
4	Project Performance Monitoring Plan	Develop Monitoring Plan to include goals and measurable objectives	Final Monitoring Plan	\$500.00	\$0.00	\$0.00	\$500.00	\$500.00	\$250.00	\$250.00	\$250.00	0%	7/1/23	8/1/24
B	Category (b): Land Purchase/Easement													
1	N/A			\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	n/a	n/a
C	Category (c): Planning/Design/Engineering/Environmental Documentation													
1	Final Design /Plans & Specifications	Develop a set of final design plans and specifications ready to put out to bid. The plans and specifications will conform to all necessary requirements stipulated by the District and regulatory agencies to ensure a high quality product.	Final Design /Plans & Specifications	\$20,000.00	\$0.00	\$0.00	\$20,000.00	\$20,000.00	\$2,000.00	\$2,500.00	\$17,500.00	10%	7/15/23	8/15/23
2	Environmental Documentation: CEQA	Complete environmental review pursuant to CEQA. Prepare all necessary environmental documentation.	Environmental Information Form approved by DWR	\$5,500.00	\$0.00	\$0.00	\$5,500.00	\$5,500.00	\$5,500.00	\$5,500.00	\$5,500.00	0%	7/15/23	8/15/23
D	Category (d): Construction/Implementation													
1	Construction/Implementation Services	Develop advertisement for bids and contract documents; conduct pre-bid contractors meeting; perform evaluation of bids; award contract	Bid Documents; Proof of Advertisement; Award of Contract; Notice to Proceed	\$25,000.00	\$0.00	\$0.00	\$25,000.00	\$25,000.00	\$0.00	\$10,000.00	\$15,000.00	0%	9/1/23	11/1/23
2	Construction Administration	Complete tasks necessary to administer construction contract. Keep daily records of construction activities, inspection, and progress. Conduct project construction photo-monitoring.	Completed construction administration tasks documented in monthly progress reports; DWR Certificate of Project Completion	\$37,000.00	\$0.00	\$0.00	\$37,000.00	\$37,000.00	\$5,000.00	\$10,000.00	\$27,000.00	0%	11/1/23	6/1/24
3	Project Construction/Implementation: Meter Replacement	Complete retrofit/replacement of water meters	Field Reports from Resident Project Representative; Photos; Summary of meters replaced	\$18,130.00	\$0.00	\$0.00	\$18,130.00	\$0.00	\$18,130.00	\$0.00	\$0.00	0%	11/1/23	6/1/24
3	Project Construction/Implementation: Automatic Transfer Switches	Complete installation and testing of two automatic transfer switches at the Raw Water Pump Station and Water Treatment Plant	Field Reports from Resident Project Representative; Photos	\$25,030.00	\$0.00	\$0.00	\$25,030.00	\$25,030.00	\$0.00	\$25,030.00	\$0.00	0%	11/1/23	6/1/24
4	Project Construction/Implementation: Well Building Upgrades	Complete removal of existing siding and roofing of the three well buildings plus the enclosure for Well 6. Installation of new siding, roof, insulation, and sheathing for locations.	Field Reports from Resident Project Representative; Photos	\$56,830.00	\$0.00	\$0.00	\$56,830.00	\$56,830.00	\$0.00	\$0.00	\$56,830.00	0%	11/1/23	6/1/24
5	Project Construction/Implementation: 20% Contingency	20% Construction Contingency		\$20,000.00	\$0.00	\$0.00	\$20,000.00	\$16,370.00	\$3,630.00	\$5,010.00	\$11,370.00	0%	11/1/23	6/1/24
5	Project Signage	Project Sign that meets DWR requirements	Photos of project sign	\$1,000.00	\$0.00	\$0.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	0%	11/1/23	6/1/24
6	Project Close Out & Final Inspection	Inspect project components and establish that work is complete. Verify that all project components have been installed and are functioning as specified will be conducted as part of construction inspection and project closeout. Conduct project completion photo monitoring. Prepare record drawings.	As-Built and Record Drawings; Field Reports; Project completion site photos	\$11,000.00	\$0.00	\$0.00	\$11,000.00	\$11,000.00	\$5,000.00	\$3,000.00	\$8,000.00	0%	6/1/24	7/1/24
7	Project Performance Monitoring	The performance of the project will be monitored in accordance to the Monitoring Plan using the following measurement tools and methods: Percent complete based on quantivy installed.	Status reports as indicated in the Project Performance Monitoring Plan	\$2,000.00	\$0.00	\$0.00	\$2,000.00	\$2,000.00	\$1,000.00	\$1,000.00	\$1,000.00	0%	11/1/23	8/1/24
	Total North Coast Resource Partnership IRWM Grant Request			\$233,990.00	\$0.00	\$0.00	\$233,990.00	\$212,230.00	\$43,010.00	\$69,290.00	\$149,450.00			
	Percentage of Total Project Cost			100.00%	0%	0%	100%	90.70%	18.38%	29.61%	63.87%			

## BUDGET DETAIL

Row (a) Direct Project Administration Costs				
Major Task Name	Personnel by Discipline	Number of Hours	Hourly Wage	Total Admin Cost
Project Management/Administration	Senior Engineer	8	\$237	\$1,896
	Staff Engineer Grade 3	5	\$165	\$825
	Staff Engineer Grade 1	10	\$141	\$1,410
	Admin Staff	10	\$87	\$870
Reporting	Staff Engineer Grade 3	5	\$165	\$825
	Admin Staff	2	\$87	\$174
Prevailing Wage Monitoring	Staff Engineer Grade 3	3.5	\$165	\$578
	Staff Engineer Grade 1	20	\$141	\$2,820
	Admin Staff	30	\$87	\$2,610
Project Performance Reporting Plan	Staff Engineer Grade 3	2	\$165	\$330
	Admin Staff	2	\$87	\$174
<b>Total</b>				<b>\$12,512</b>

<b>Row (b) Land Purchase/Easement</b>
N/A

Row (c) Planning/Design/Engineering & Environmental Documentation				
Personnel (Discipline)	Major Task Name	Number of Hours	Hourly Wage	Total Cost
Senior Engineer	Final Design /Plans & Specifications	40	\$237	\$9,480
Staff Engineer Grade 3		19	\$165	\$3,135
Staff Engineer Grade 1		40	\$141	\$5,640
Admin Staff		20	\$87	\$1,740
Environmental Consultant	Environmental Documentation: CEQA			\$5,000
Staff Engineer Grade 3		3	\$165	\$495
<b>Total</b>				<b>\$25,490</b>

Row (d) Construction/Implementation				
Personnel (Discipline)	Work Task and Sub-Task (from Work Task Table)	Number of Hours	Hourly Wage	Total Cost
Senior Engineer	Construction/Implementation Services	45	\$237	\$10,665
Staff Engineer Grade 3		35	\$165	\$5,775
Staff Engineer Grade 1		42	\$141	\$5,922
Admin Staff		30	\$87	\$2,610
Senior Engineer	Construction Administration	15	\$237	\$3,555
Staff Engineer Grade 3		23	\$165	\$3,795
Staff Engineer Grade 1		20	\$141	\$2,820
Admin Staff		10	\$87	\$870
Resident Project Representative		130	\$200	\$26,000
N/A	Project Construction/Implementation: Meter Replacement			\$18,130
N/A	Project Construction/Implementation: Automatic Transfer Switches			\$25,030
N/A	Project Construction/Implementation: Well Building Upgrades			\$56,830
N/A	Project Construction/Implementation: 20% Contingency			\$20,000
N/A	Project Sign			\$1,000
Senior Engineer	Project Close Out & Final Inspection	15	\$237	\$3,555
Staff Engineer Grade 3		20	\$165	\$3,300
Staff Engineer Grade 1		20	\$141	\$2,820
Admin Staff		15	\$87	\$1,305
Senior Engineer	Project Performance Monitoring	3	\$237	\$711
Staff Engineer Grade 3		5	\$165	\$825
Admin Staff		5	\$87	\$435
<b>Total</b>				<b>\$195,953</b>

\$233,955

<p style="text-align: center;"><b>Lewiston CSD</b>  <b>Water System Resiliency Project</b>  <b>PRELIMINARY COST ESTIMATE</b></p>					
No.	Item	Quantity	Unit	Unit Cost <sup>1</sup>	Total Cost
<b>Construction Costs</b>					
<b>Meter Replacement</b>					
1	5/8", 3/4", & 1" Register Only (Equipment)	15	EA	\$85	\$1,270
2	Install 5/8" & 3/4" Register	15	EA	\$20	\$300
3	5/8", 3/4" & 1" Meter and Register (Equipment)	45	EA	\$169	\$7,620
4	Install 5/8" & 3/4" Meter and Register	45	EA	\$40	\$1,800
5	1.5" Compound Meter and Register (Equipment)	1	EA	\$462	\$460
6	Install 1.5" Compound Meter and Register	1	EA	\$80	\$80
7	Furnish and Install new meter box lids	60	EA	\$110	\$6,600
<b>Subtotal Meter Replacement Construction Cost</b>					<b>\$18,130</b>
<b>Automatic Transfer Switches</b>					
8	Raw Water Pump Station- Parts and Materials	1	LS	\$8,938	\$8,938
9	Raw Water Pump Station- Labor and Travel	1	LS	\$3,575	\$3,575
10	Water Treatment Plant- Parts and Materials	1	LS	\$8,938	\$8,938
11	Water Treatment Plant- Labor and Travel	1	LS	\$3,575	\$3,575
<b>Subtotal Automatic Transfer Switches Construction Cost</b>					<b>\$25,030</b>
<b>Well Building Upgrades</b>					
<b>Well 2</b>					
11	Demolition and removal of existing exterior siding, interior wall finishes, and insulation	228	SF	\$17	\$3,876
12	Demolition and removal of existing roofing, plywood, and insulation	82	SF	\$17	\$1,394
13	Install fire retardant plywood	82	SF	\$5	\$410
14	Install Class A metal roofing	82	SF	\$12	\$984
15	Install building insulation and interior wall finish (gypsum board)	278	SF	\$17	\$4,726
16	Install and paint exterior siding and paint	228	SF	\$19	\$4,332
17	Metal/FRP Door and Frame	1	EA	\$1,000	\$1,000
18	Roof eave vent	4	EA	\$65	\$260
19	Gable end vent	2	EA	\$228	\$456
<b>Well 4</b>					
20	Demolition and removal of existing exterior siding, interior wall finishes, and insulation	264	SF	\$17	\$4,488
21	Demolition and removal of existing roofing, plywood, and insulation	105	SF	\$17	\$1,785
22	Install fire retardant plywood	105	SF	\$5	\$525
23	Install Class A metal roofing	105	SF	\$12	\$1,260
24	Install building insulation and interior wall finish (gypsum board)	332	SF	\$17	\$5,644
25	Install and paint exterior siding and paint	264	SF	\$19	\$5,016
26	Metal/FRP Door and Frame	1	EA	\$1,000	\$1,000
27	Roof eave vent	4	EA	\$65	\$260
28	Gable end vent	2	EA	\$228	\$456
<b>Well 6</b>					
29	Demolition and removal of existing exterior siding, interior wall finishes, and insulation	232	SF	\$17	\$3,944
30	Demolition and removal of existing roofing, plywood, and insulation	85	SF	\$17	\$1,445
31	Install fire retardant plywood	85	SF	\$5	\$425
32	Install Class A metal roofing	85	SF	\$12	\$1,020
33	Install building insulation and interior wall finish (gypsum board)	284	SF	\$17	\$4,828
34	Install and paint exterior siding	232	SF	\$19	\$4,408
35	Metal/FRP Door and Frame	1	EA	\$1,000	\$1,000
36	Roof eave vent	4	EA	\$65	\$260
37	Gable end vent	2	EA	\$228	\$456
38	Demolition and removal of existing Well Box	10	SF	\$17	\$170
39	Install Well Box enclosure	1	EA	\$1,000	\$1,000
40	<b>Subtotal Well Building Upgrades Construction Cost</b>				<b>\$56,830</b>
	<b>Subtotal Construction Cost</b>				<b>\$99,990</b>
42	<b>Construction Contingency Cost @ 20%</b>				<b>\$20,000</b>
43	<b>TOTAL CONSTRUCTION COSTS</b>				<b>\$119,990</b>

**Cost Notes**

From Badger Quote  
Assumed District Operator @ \$40/hour, 30 minutes to replace a register  
From Badger Quote  
Assumed District Operator @ \$40/hour, 1 hour to replace a meter and register  
From Badger Quote  
Assumed District Operator @ \$40/hour, 2 hour to replace a meter and register  
Estimated from similar projects

From Quote 1237 by Power Up Electric  
From Quote 1237 by Power Up Electric  
From Quote 1236 by Power Up Electric  
From Quote 1236 by Power Up Electric

Estimated based on previous projects similar in nature and size

PACE Engineering, Inc.  
STANDARD CHARGES FOR PROFESSIONAL SERVICES  
Effective through December 31, 2022

Billing Class	Labor Classification	Hourly Rate
E8	Senior Engineering Consultant	\$237
E7	Managing Engineer	\$237
E6/LS6	Principal Engineer/Surveyor	\$223
E5/LS5	Senior Engineer/Surveyor	\$205
E4/LS4	Associate Engineer/Surveyor	\$184
E3/LS3	Staff Engineer/Surveyor - Grade 3	\$165
E2/LS2	Staff Engineer/Surveyor - Grade 2	\$155
E1/LS1	Staff Engineer/Surveyor - Grade 1	\$141
T4	Engineering Technician 4	\$155
T3	Engineering Technician 3	\$140
T2	Engineering Technician 2	\$126
T1	Engineering Technician 1	\$110
SC1	One-Man Survey Crew	\$260
SC2	Two-Man Survey Crew	\$331
SC2x	Two-Man Survey Crew (O/T)	\$391
SC3	Three-Man Survey Crew	\$408
AD3	Admin. Clerk 3	\$87
AD2	Admin. Clerk 2	\$77
AD1	Admin. Clerk 1	\$70
PWCO	Prevailing Wage Group 2 - Construction Observer	\$200
PWCOOT	Prevailing Wage Group 2 - Construction Observer (O/T)	\$236
PWCODT	Prevailing Wage Group 2 - Construction Observer (Double-Time)	\$271
PW1M	Prevailing Wage One-man Survey Crew	\$307
PW2M	Prevailing Wage Two-man Survey Crew	\$423
PW2MOT	Prevailing Wage Two-man Survey Crew	\$500
PW1MDT	Prevailing Wage Two-man Survey Crew	\$576
PW3M	Prevailing Wage Three-man Survey Crew	\$559
PW3MOT	Prevailing Wage Three-man Survey Crew	\$658



## ORGANIZATION INFORMATION

1. **Project Name:**  
Water System Resiliency Project
2. **Applicant Organization Name:**  
Lewiston Community Services District (LCSD)
3. **Contact Name/Title**  
Name: Mel Deardorff  
Title: Board President  
Email: meldeardorff@gmail.com  
Phone Number (include area code): (530) 949-0553
4. **Organization Address (City, County, State, Zip Code):**  
P.O. Box 164  
302 Texas Ave.  
Lewiston, Trinity, CA, 96052
5. **Organization Type**  
☒ Public agency  
☐ 501(c)(3) Non-profit organization  
☐ Public utility  
☐ Federally recognized Indian Tribe  
☐ California State Indian Tribe listed on the Native American Heritage Commission's California Tribal Consultation List  
☐ Mutual water company  
☐ Other:
6. **Authorized Representative** (if different from the contact's name)  
Name: Same as Contact Name  
Title:  
Email:  
Phone Number (include area code):
7. **List all projects the organization is submitting to the NCRP for this Solicitation in order of priority.**  
Water System Resiliency Project
8. **Organization Information Notes:**  
N/A





## ELIGIBILITY

### 1. North Coast Resource Partnership Goals and Objectives

#### GOAL 1: INTRAREGIONAL COOPERATION & ADAPTIVE MANAGEMENT

- ☒ Objective 1 - Respect local autonomy and local knowledge in Plan and project development and implementation
- ☒ Objective 2 - Provide an ongoing framework for inclusive, efficient intraregional cooperation and effective, accountable NCRP project implementation
- ☐ Objective 3 - Integrate Traditional Ecological Knowledge in collaboration with Tribes to incorporate these practices into North Coast Projects and Plans

#### GOAL 2: ECONOMIC VITALITY

- ☒ Objective 4 - Ensure that economically disadvantaged communities are supported and that project implementation enhances the economic vitality of disadvantaged communities by improving built and natural infrastructure systems and promoting adequate housing
- ☐ Objective 5 - Conserve and improve the economic benefits of North Coast Region working landscapes and natural areas

#### GOAL 3: ECOSYSTEM CONSERVATION AND ENHANCEMENT

- ☒ Objective 6 – Conserve, enhance, and restore watersheds and aquatic ecosystems, including functions, habitats, and elements that support biological diversity
- ☒ Objective 7 - Enhance salmonid populations by conserving, enhancing, and restoring required habitats and watershed processes

#### GOAL 4: BENEFICIAL USES OF WATER

- ☒ Objective 8 - Ensure water supply reliability and quality for municipal, domestic, agricultural, Tribal, and recreational uses while minimizing impacts to sensitive resources
- ☒ Objective 9 - Improve drinking water quality and water related infrastructure to protect public health, with a focus on economically disadvantaged communities
- ☒ Objective 10 - Protect groundwater resources from over-drafting and contamination

#### GOAL 5: CLIMATE ADAPTATION & ENERGY INDEPENDENCE

- ☒ Objective 11 - Address climate change effects, impacts, vulnerabilities, including droughts, fires, floods, and sea level rise. Develop adaptation strategies for local and regional sectors to improve air and water quality and promote public health
- ☒ Objective 12 - Promote local energy independence, water/ energy use efficiency, GHG emission reduction, and jobs creation

#### GOAL 6: PUBLIC SAFETY



☒ Objective 13 - Improve flood protection, forest and community resiliency to reduce the public safety impacts associated with floods and wildfires

**2. Does the project have a minimum 15-year useful life?**

- a) ☒ yes ☐ no
- b) If yes, will the organization be able to provide compliance documentation outlined in the instructions should the project be selected as a Priority Project?
- ☒ yes ☐ no

**3. Other Eligibility Requirements and Documentation**

**CALIFORNIA GROUNDWATER MANAGEMENT SUSTAINABILITY COMPLIANCE**

- a) Does the project directly affect groundwater levels or quality?
- ☐ yes ☒ no
- b) If yes, will the organization be able to provide compliance documentation outlined in the instructions including a Groundwater Sustainability Agency letter of support, to include in the NCRP Regional Project Application should the project be selected as a Priority Project?
- ☐ yes ☐ no

**CASGEM COMPLIANCE**

- a) Does the project overlie a medium or high groundwater basin as prioritized by DWR?
- ☐ yes ☒ no
- b) If yes, list the groundwater basin and CASGEM priority: N/A
- c) If yes, please specify the name of the organization that is the designated monitoring entity: N/A
- d) If yes, please specify whether the local Groundwater Sustainability Agency has endorsed the project: N/A

**URBAN WATER MANAGEMENT PLAN**

- a) Is the organization required to file an Urban Water Management Plan (UWMP)?
- ☐ yes ☒ no
- b) If yes, has DWR verified the current 2020 UWMP?
- ☐ yes ☐ no
- c) If the 2020 UWMP has not been verified by DWR, explain and provide anticipated date for verification: N/A
- d) Has DWR verified a water loss audit report in accordance with SB 555 as submitted by the urban water supplier?
- ☐ yes ☐ no
- e) Does the urban water supplier meet the water meter requirements of CWC 525?
- ☐ yes ☐ no



- f) Does the urban water supplier meet the State Water Resources Control Board's Water Conservation and Production Reporting requirement?  
☐ yes    ☐ no
- g) If yes, will the organization be able to provide compliance documentation outlined in the instructions, to include in the NCRP Regional Project Application should the project be selected as a Priority Project?  
☐ yes    ☐ no

#### AGRICULTURAL WATER MANAGEMENT PLAN

- a) Is the organization – or any organization that will receive funding from the project – required to file an Agricultural Water Management Plan (AWMP)?  
☐ yes    ☒ no
- b) If yes, will the organization be able to provide compliance documentation outlined in the instructions, to include in the NCRP Regional Project Application should the project be selected as a Priority Project?  
☐ yes    ☐ no

#### SURFACE WATER DIVERSION REPORTS

- a) Is the organization required to file State Water Resources Control Board (SWRCB) annual surface water diversion reports per the requirements in CWC Part 5.1?  
☒ yes    ☐ no
- b) If yes, will the organization be able to provide compliance documentation outlined in the instructions, to include in the NCRP Regional Project Application should the project be selected as a Priority Project?  
☒ yes    ☐ no

#### STORM WATER MANAGEMENT PLAN

- a) Is the project a stormwater and/or dry weather runoff capture project?  
☐ yes    ☒ no
- b) If yes, does the project benefit a Disadvantaged Community with a population of 20,000 or less?  
☐ yes    ☐ no
- c) If this is a stormwater/dry weather runoff project but does not benefit a small DAC population, please provide documentation that the project has been included in a Stormwater Resource Plan that has been incorporated into the NCRP IRWM Plan:
- d) If no, will the organization be able to provide documentation that the project is included in a Stormwater Resource Plan that has been incorporated into the NCRP IRWM Plan, should the project be selected as a Priority Project?  
☐ yes    ☐ no

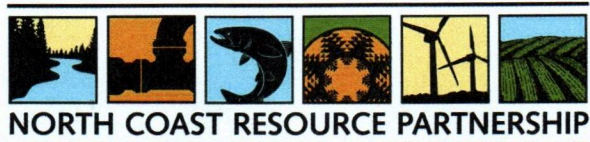


#### 4. Eligible Project Type under 2022 IRWM Grant Solicitation

- ☐ Water reuse and recycling for non-potable reuse and direct and indirect potable reuse
- ☒ Water-use efficiency and water conservation
- ☐ Local and regional surface and underground water storage, including groundwater aquifer cleanup or recharge projects
- ☐ Regional water conveyance facilities that improve integration of separate water systems
- ☒ Watershed protection, restoration, and management projects, including projects that reduce the risk of wildfire or improve water supply reliability
- ☐ Stormwater resource management projects to reduce, manage, treat, or capture rainwater or stormwater
- ☐ Stormwater resource management projects that provide multiple benefits such as water quality, water supply, flood control, or open space
- ☐ Decision support tools that evaluate the benefits and costs of multi-benefit stormwater projects
- ☐ Stormwater resource management projects to implement a stormwater resource plan
- ☐ Conjunctive use of surface and groundwater storage facilities
- ☐ Decision support tools to model regional water management strategies to account for climate change and other changes in regional demand and supply projections
- ☐ Improvement of water quality, including drinking water treatment and distribution, groundwater and aquifer remediation, matching water quality to water use, wastewater treatment, water pollution prevention, and management of urban and agricultural runoff
- ☐ Regional projects or programs as defined by the IRWM Planning Act (Water Code §10537)
- ☐ Other:

#### 5. Describe how the project provides a benefit that meets at least one of the Statewide Priorities as defined in DWR's [Final 2022 Guidelines](#) (see page 7) and Tribal priorities as defined by the NCRP?

- Statewide Priority #3 - Promote water conservation by encouraging customers to monitor their own water use regularly and set up leak detection alarms. Improve water system reliability during power outages by automatically transferring power.
- Statewide Priority #4 - Make well buildings less vulnerable to wildfire; reduce GHG emissions by reducing driving for reading meters & transferring power; encourage customers to use water more efficiently by monitoring their own use.



## CERTIFICATION OF AUTHORITY

By signing below, the Authorized Representative executing the certificate on behalf of the Project Sponsor affirmatively represents that s/he has the requisite legal authority to do so on behalf of the Project Sponsor. The Authorized Representative executing this proposal on behalf of the project sponsor understands that the NCRP is relying on this representation in receiving and considering this proposal. The person signing below hereby acknowledges that s/he has read the entire NCRP 2022 Project Review and Selection Process Guidelines and the NCRP 2022 Proposition 1 IRWM Round 2 Project Application & Instructions documents and has complied with all requirements listed therein.

Official Authorized to Sign for Proposal

Signature

Mel Deardorff, LCSD Board President

Date

11/2/2022

**NORTH COAST RESOURCE PARTNERSHIP  
2022 PROPOSITION 1 IRWM PROJECT APPLICATION  
TECHNICAL & REFERENCE SUPPORTING MATERIALS**

**Organization/Project Sponsor:** Lewiston Community Services District

**Project Name:** Water System Resiliency Project

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## State Water Resources Control Board

October 28, 2022

Lewiston Community Services District  
P.O. Box 164  
Lewiston, CA 96052

Attention: Mel Deardorff, Board President

Subject: Inspection of Public Water Treatment and Distribution System  
Lewiston Community Services District, PWS #5301002

On May 25, 2022, accompanied by Nicole Humphreys and Eric Ramsey, Ian McFadden, of this office, conducted an inspection of the public water treatment and distribution facilities operated by Lewiston Community Services District (LCSD). Please find the enclosed *Water System Deficiency Record* for your review and use. A copy of our report is also included.

During the inspection and subsequent file review, the following system deficiencies, issues, or concerns were noted:

1. Well Head Improvements Needed:

- *Well 4 & Well 6* - Please confirm that Wells No. 4 and 6 are properly vented. If not, a screened casing vent must be installed on each to help relieve the partial vacuum that develops when the water in the casing is drawn down during pumping. Dedicated raw water sample taps are also needed.
- *Well 2 & Well 4* - Please install check valves and dedicated raw water sample taps. Waterworks standards require check valves to be installed downstream of dedicated raw water sample taps.

2. Recommend Improvements to Well 6 Enclosure – It is highly recommended that the Well 6 enclosure be replaced with a well house that can accommodate a standard lockable man-door and include a concrete floor sloped to drain water away from the well head. Non-combustible construction materials are recommended.

3. Inspect Storage Tanks - AWWA recommends storage tanks be inspected internally for cleaning and refurbishing at least every five years. Maintenance activity, such as recoating and repainting shall be based on AWWA Standards D102. Please notify this office of the date of the last and next scheduled cleaning of the tanks.

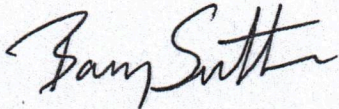
E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

464 W. 4th Street, #437, San Bernardino, CA 92401 | [www.waterboards.ca.gov](http://www.waterboards.ca.gov)



Please consider adding the above deficiencies to the *LCSD Infrastructure Improvement Plan*.

If you have any questions, or if we can be of assistance, please contact Ian McFadden at (530) 224-4868 or me at (530) 224-4875.

A handwritten signature in black ink, appearing to read "Barry Sutter". The signature is fluid and cursive, with the first name "Barry" and last name "Sutter" clearly distinguishable.

Barry Sutter, P.E., Klamath District Engineer  
Division of Drinking Water  
STATE WATER RESOURCES CONTROL BOARD

Enclosures (1):  
Water System Record



State Water Resources Control Board – Division of Drinking Water  
Drinking Water Field Operations Branch – Klamath District – Redding Office  
Inspection Report

Public Water System Lewiston Community Services District System Number 5301002  
Person(s) Contacted/Position Nicole Humphries, operator (530) 244-0202, Eric Ramsey, Operator (530) 778-0306  
Date of Inspection May 25, 2022 Inspecting Engineer I. McFadden  
Last Inspection April 24, 2019 District Engineer Barry Sutter

## A. INTRODUCTION

### 1) Water Supply Permit Status (Date Issued/Amendment Purpose)

February 25, 1994: Full Permit No. 01-01-94(P)-179. Superseded by 2012 Amendment.

#### Amendment(s):

WSP No. 01-01-12(P)003 6/1/2012 (consolidated w/ Lewiston Valley WC).

Permit provisions are complied with; however, the permit is not up to date. Permit will be updated after LSCD and LPMWC consolidation. A new comprehensive permit is needed that includes the following changes and improvements since 2012:

- Construction of the new 170-gpm filter plant;
- Relocation of the Trinity River infiltration gallery, wet well, and pump station;
- Construction of new 323,000 gallon welded steel tank;
- Consolidation with LPMWC;
- New 165,000 gallon welded steel storage tank

Has the PWS complied with the permit provisions? Yes.

Is the Permit up to date? No. New permit is needed after consolidation with LPMWC.

System classification/season Community Water System

### 2) Changes Since Last Inspection:

- Well 7 disconnected from system. Local church will use for irrigation only.

### 3) Planned changes:

Plan to pull pump from well 5 and have it destroyed.

### 4) Consumer & Production Data (from 2017 eARDWP for LPMWC + LCSD)

Number of service connections 49 + 168 = 217 Number with meters 219

Approximate population served 150 residential, 100 transient, + 551 Residential = 701 Residential.

Water production during recent 12 month period 7.3 MG + 20.6 MG = 27.9 MG

Maximum month 5.325 MG August 2019 Maximum day 274,000 gpd ~ 190 gpm

#### PRODUCTION DATA

Year	Total Annual Water Production (MG)	Maximum			Estimated Population Served	Number Service Connections	Max Day Flow per Connection (gpd)	Max Day Flow per Person (gpd)	Comments
		Month (MG)	Day x1.5 (MG)	Day (gpm)					
2014	12.585	1.777	0.058	40.7	150	49	1,184	386	
2015	19.8 (est)	2.5	0.082	57.2	150	49	1,673	546	
2016	7.3 (est.)	1.05	0.035	24.0	150	49	714	233	
<b>Consolidated with LPMWC</b>									
2017	27.9	4.33	0.274	190	701	217	1,260	390	
2018	23.111	5.325	0.258	179	701	219	1,178	368	
2019	30.07	4.17	*0.263	182	701	231	1,138	375	*eAR
2020	36.41	4.48	0.216	150	701	231	935	308	
2021	30.49	4.04	0.196	136	701	231	848	280	



**Discussion:**

Consolidation with LPMWC has significantly increased the number of connections and population over the two years. The District appears to have sufficient source capacity (305 gpm) to meet maximum day demands.

**B. SOURCE DATA**

Sources	Status	Capacity	Comments
<b>Groundwater</b>			
Well 02	Active	44	Next to treatment plant. Pumps directly into distribution. 5 hp submersible pump. <b>No check valve, no sample tap.</b>
Well 04	Active	42	Next to and pumps directly into tank. 5 hp submersible pump (reported capacity: 60 gpm) New pump+motor installed 5/2015. <b>No casing vent, no check valve, no sample tap.</b>
Well 06	Active	39	On Donner St. Pumps directly into d-sys. 7.5 hp submersible pump. <b>Well does not have casing vent. No sample tap.</b>
Well 05	Inactive	0	Next to and pumps directly into tank. 7.5 hp submersible pump, (reported capacity: 27 gpm), but due to decreased well capacity, the pump can not run 24 hours per day and production is limited to ~40,000 gallons per day. A 45-KW diesel-powered generator located at Well 4 can power wells 4 & 5 at the same time. This is a fixed generator, cannot be easily moved. Well not in use 2017-2019.
Well 07	Inactive	0	In field by Old Lewiston Road. Pumps directly into d-sys. Estimated, 5 hp submersible pump (reported capacity: 25 gpm) <b>Break in electric conduit at wellhead.</b>
Lewiston Park Wells 02, 04, 05, 06, 07	Active 5301002-004,008,010,011	~125 gpm	Only wells 02, 04, 06 in regular use.
<b>Surface Water</b>			
Trinity River	Active 5301002-006	175 gpm	175 gpm duplex pumps. 1957 water right is 2.83 MG annual. 100' long 12" diameter slotted PVC infiltration gallery
<b>Purchased from other systems, Emergency Connections: NONE</b>			

Discussion & appraisal (i.e., location of septic systems in relation to wells and does source capacity comply with Waterworks Standards?):

As required by 22 CCR Section 64554(a), the total active source capacity of 175 - 300 gallons per minute (gpm), exceeds the highest maximum day demand (MDD) estimated to be 190 gpm. 1957 water right of 2.83 MG annual, 53.9 gpm continuous flow allowance for any 7-day period may be diverted in a shorter time period.

**C. TREATMENT****1) Ground Water Sources:**

**Is continuous disinfection provided?** Yes

**Describe facilities:** All wells use a 2.4 gpd peristaltic metering pump to inject a sodium hypochlorite solution at the wellhead prior to distribution. The ~3% hypochlorite solution is reportedly prepared by diluting 1 gallon of a 12.5% sodium hypochlorite solution in 3 gallons of water.

**Discussion** The facilities appear to be adequate to maintain chlorine residual throughout distribution.

**2) Surface Water Sources: Trinity River  
Watershed and source water**

Name of source and treatment plant: Trinity River. Water Treatment Plant. This plant is capable of producing approximately 170-gpm. This plant is used year-round. The District started operating this new treatment plant in 2015.

Are there significant sewage hazards? No, the watershed is remote with limited access. Watershed is mostly located on National Forest land.



Is there significant recreation? Some, likely insignificant.

Have there been significant changes to or activities on the watershed since the last inspection and/or changes in raw water quality, such as, turbidity or coliform levels? No.

What is date of last watershed survey (DWSAP or SWAP)? Source Water Assessment was completed in January 2003. The Source Water Assessment identified the source as "most vulnerable to Historic Mining Operations." The high arsenic levels (15-43 µg/L from 2008-2014) in the source water at the old intake were due to historic mining operations along Deadwood Creek which flows into the Trinity River above the old diversion point. The new diversion point is approximately 0.5 miles downstream of the old diversion and has lower arsenic levels. 2015-2016 arsenic levels were 2-3 µg/L.

### **Filtration Facilities**

Treatment classification and log removal credit for filters Direct filtration system. Dual media pressure filters are deemed capable of providing 2-log (99%) removal of Giardia cysts and 1-log (90%) removal of viruses, and 2-log (99%) removal of cryptosporidium.

Describe treatment process (i.e., chemicals used, typical dosages, injection points, rapid mix, flocculation & sedimentation, type of filters, filter media, media depth) The raw water is drawn from the Trinity River into the Infiltration Gallery. The Infiltration Gallery consists of 100' of 12-inch diameter, slotted-wall PVC pipe that runs approximately parallel with the shore of the Trinity river channel and is set 4.5 feet below the lowest river level at 300cfs release on the east bank. The slotted section of the Infiltration Gallery tees to a 12-inch diameter, solid-wall pipe that runs for approximately 85 feet to the wet well at the Raw Water Pump Station. The Infiltration Gallery is equipped with a 6-inch pipeline from the water pumped to the WTP that can be used to flush the Infiltration Gallery. The Raw Water Pump Station wet well, which is 20-feet deep, is serviced by two 25-HP 175-gpm vertical turbine pumps which pump the raw water from approximately 1,800 MSL at the wet well up to an elevation of 1,987 MSL at the Water Treatment Plant (WTP) through approx. 1,500 lineal feet of 6-inch PVC pipe. The WTP does not have pumps, the raw water pumps pump through the WTP up to the finished water storage tank at an elevation of 2,150 MSL through approximately 2,050 lineal feet of 6-inch PVC pipe.

The WTP consists of two 4.5' diameter down-flow contact clarifiers (operated in parallel) and two 6' diameter dual media down-flow pressure filters. The filter media in the contact clarifiers consists of coarse sand media with a minimum 36-inch depth. The normal clarifier backwash rate is 15 gpm/ft<sup>2</sup>. The filter media in the pressure filters consists of 18 inches of sand (size=0.45-0.55 mm) and 12 inches of anthracite coal (size=0.6-0.8 mm) over a stainless slotted underdrain for a total of 30 inches of filter media bed depth. The maximum WTP design flow rate is 170 gpm (2 filter trains). Each pressure filter is 72-inches in diameter and has a maximum flow rate of 85 gpm and a filter loading rate of 3 gpm/ft<sup>2</sup>. Under the media in each clarifier and filter is the gravel media support consisting of approximately 3-inches of 0.125" -0.25", then 3-inches of 0.375"-0.75", then 6-inches of 0.75"-1.5" gravel. The maximum operating pressure of the WTP vessels is 150 psi, the normal filter backwash rate is 12.0 gpm/ft<sup>2</sup>, and the backwash cycle includes a surface media wash (20-gpm). A (N) 21,000 Bolted-Steel (w/cathodic protection) Backwash Recycle Tank has also been installed at the WTP.

<i>Chemicals used</i>	<i>Typical dosages</i>	<i>Injection points</i>	<i>Mixing provided for chemical</i>
CC2135	0.1 to 0.5 mg/l	Clarifiers	6" static mixer

#### Flocculation/sedimentation :

Two pressure contact clarifiers consist of 2- 4.5' diameter by 6' tall vessels. Each clarifier has a surface area of 16 ft<sup>2</sup>.

#### Filters :

Two dual media pressure filters are 6'dia x 6' tall, 113 ft<sup>2</sup> total surface area. 12" anthracite over 18" graded sand.

Multiple filter units for redundant capacity? Yes.

Standby power for treatment plant? Yes. 50kW diesel generator at raw water pumps and 50kW diesel generator at WTP.

Are design criteria met? If not what facilities are needed? Yes.

Does polymer/monomer meet treatment technique requirements of Section 64448 and what is maximum allowable dosage? Yes. 71 mg/L max. dose per NSF rating.



### Filtration operations

Approved maximum filter rate and plant capacity 3.0 gpm/ft<sup>2</sup>, 170 gpm for dual media pressure filter (85 gpm per filter).

How is filter rate controlled? The filter effluent valves are modulated to balance flow across the filters and limit flow to the max. 85 gpm per filter.

Have filter rates exceeded maximum approved rate? Not reported.

Are filters operated to minimize shutdowns and startups or rapid changes in filter rates and are filter rates constant or varied to meet system demands? Yes. The filter effluent valves are modulated to balance flow across the filters and limit flow to the max. 85 gpm per filter. One filter train will be run when raw water turbidity is high.

Are filtration rates increased gradually after a backwash cycle? Yes.

Coagulation (and flocculation) used at all times and optimized or 80% reduction in turbidity Yes.

How is coagulant feed rate determined and optimized? Rate is controlled by streaming current meter and is flow paced off the raw water flowmeter and dose set point.

Metering pumps (make, model, and capacity) Watson Marlow 520U peristaltic 350 ml/min max. 35 gal. crock. Diluted to 10% strength. Typical dose is 1-6 mg/l.

Standby metering pumps? Unknown.

How often metering pumps calibrated? According to Plan, every three months.

Are pressure filters physically inspected annually? Yes, according to Plan.

Is Surface Water Treatment Operations Plan up-to-date? Yes, dated 8/16.

### Backwash Cycle

Describe Backwash cycle (source of backwash water, flowrates, use of air/water, length of backwash, surface wash) backwash process is automatically controlled by the WTP PLC set points. The cycle consists of a surface wash, backwash, settling, and filter to waste. Typical clarifier back wash flowrate is 250gpm and filter backwash is 350gpm. Backwash water is supplied from the filter effluent piping. Backwash waste is sent to the 21,000 (16,687 gal. useable capacity) gallon backwash recycle tank and the majority is recycled in o the treatment system via the backwash recycle pump. Each clarifier is individually backwashed with a 1 minute surface wash, followed by a 10 minute backwash at a flowrate of 250gpm, and a 2 minute filter to waste. The filters have a 2 minute surface wash, a 10 minute backwash at 350gpm, and a 5 minute filter to waste. .

Frequency of backwashing and/or what initiates backwash The backwash system is used to periodically clean the filters and clarifiers. A backwash can be initiated automatically, by a differential pressure set point, a run time set point, an effluent turbidity set point, or by a manual call. Backwashing is usually done manually and can be controlled via the SCADA system.

Method used to minimize turbidity spikes after backwashing or other interruption events. After backwash, each filter is filtered to waste for five minutes.

If filter to waste provided, length of time? Filters=5 minutes. Clarifiers=2 minutes.

Are filter rates gradually increased after backwashing or other shut down? Yes.

If coagulant added to backwash water, dosage and name of coagulant? N/A

If reclaimed backwash water returned to headworks, describe treatment, settling time provided, percent solids removal, and return rate to plant The backwash water flows into a 21,000-gal backwash tank adjacent to the treatment plant. Once the solids are allowed to settle out of the water, the Backwash Recycle Pump pumps water off the top of the tank via a floating suction strainer to the raw water piping upstream of the static mixer to conserve water. The pump speed is controlled to deliver a flow rate through the backwash recycle flowmeter less than 10% of the raw water flow. At this rate, it takes the Backwash recycle pump approximately 16.4 hours to pump the tank down to the stop level of 3.0 ft..

Discussion & appraisal New system, works well. Backwash tank is bolted steel with cathodic protection.

### Filtration performance

Summarize performance over last year, (performance standard is  $\leq 0.3$  NTU 95% of time (or 1 NTU for slow sand, 0.5 NTU for DE, or approved Alternative Filtration NTU Standard) and not to exceed



5 NTU at any time) Filtered water turbidity is consistently less than 0.1 NTU, and the filter-loading rates appear to be less than the maximum allowable for a dual media direct filtration system of 3.0 gpm/ft<sup>2</sup>.

Does turbidity after backwashing meet criteria for each filter? ( $\leq 0.3$  NTU after 4 hours and  $\leq 1.0$  NTU 90% of time during last 12 months and not to exceed 2.0 NTU) Based on treatment records, the treatment plant has never exceeded the turbidity standards.

Are performance standards met for combined effluent and individual filters? Based on treatment records, the treatment plant did not exceed the turbidity standards.

Discussion & appraisal Treatment plant has to lower intake rate to 85 gpm during periods of high raw water turbidity to maintain filtered water turbidity levels.

### Monitoring and Alarms

Parameter	Location	Sample Frequency	Recording	Alarmed	Alarm Set point	Alarm Result
Influent Flow	Intake PS	Continuous	Yes	Yes	Low 50 gpm, High 185 gpm	5min Lockout Delay, Notification
Effluent Flow	WTP	Continuous	Yes	Yes	High 90gpm (per filter)	5min Lockout Delay, Notification
Turbidity	Raw	Continuous	Yes	Yes	15NTU	15min Lockout Delay, Notification
Turbidity	Clarifier Effluent	Continuous	Yes	Yes	High 10NTU	30min Lockout Delay, Notification
Turbidity	Filter Effluent	Continuous	Yes	Yes	0.18/0.3	Alarm, 30min Lockout Delay, Notification
Turbidity	tank outlet	Continuous	Yes	No		
Turbidity	Each Filter	Quarterly	Yes			
Cl <sub>2</sub> Residual	Effluent	Continuous	Yes	Yes	0.3/0.2	Low alarm/Plant off
Cl <sub>2</sub> Residual	tank outlet	Continuous	Yes	Yes	High: 3.0 mg/l, Low: 0.25 mg/l	5min Lockout Delay, Notification
Water Temp	Tank	Continuous	Yes	Yes	95 deg, 35 deg	10min Lockout Delay, Notification
Water pH	Raw	Weekly	Yes			
Chem feed	Plant	Daily	Yes			
Tank Levels	At Tank	Continuous	Yes	Yes (h & l)	22' stop, 17' start	Plant off/Plant start

Are samples collected at proper locations that give accurate and representative results (i.e. turbidity sample must be before clearwell) Yes.

Can each filter and/or filter cell be monitored for turbidity Yes.

Discuss other monitoring or sampling (particle counters, etc.) \_\_\_\_\_

Other alarms related to treatment plant process Above.

Alarms adequate to provide warning of coagulation, filtration, and disinfection failures or describe alternatives? Yes.

Are alarms tested, and if so, how often? No.

Describe (or attach copy of) monthly records maintained of treatment The District reports the daily raw, recycled, and filtered water turbidities, daily meter reading and flow rate, chlorine feed rate, chlorine used, polymer used, chlorine residual, pH and temperature. the District includes a CT compliance calculation for the peak hour from each day. The report also includes complaints, calibrations, and additional comments.

Discussion & appraisal There are Alarms for every situation and entire system is SCADA controlled and dialer system notifies operators

### Turbidimeters

Type and model of turbidimeters used The District uses Hach 1720E in-line turbidimeters to continuously monitor the CFE. Weekly grab samples of the raw water are tested using a bench top turbidimeter.

How often turbidimeters calibrated? Quarterly.



How are they calibrated and what standards are used? Grab samples of the raw water are tested using a bench top turbidimeter. The in-line turbidimeter is calibrated every three months using a 20 NTU stock formazine solution per manufacturer's recommendations.

Discussion & appraisal 4 turbidimeters; raw water, clarified water, filtered water, recycled water.

## Surface Water Disinfection

Required log inactivation Disinfection must be sufficient to provide a 1-log inactivation of Giardia and a 3-log inactivation of virus. Water delivered to the distribution system must contain a minimum of 0.2 mg/L free chlorine residual. A detectable level of free chlorine residual must be maintained in the distribution system.

Type and model of chlorine residual monitors or test kits Hach CL17 chlorine analyzer in the WTP, at the storage tank there is a HACH sc200 meter that monitors chlorine, pH, temp.

Is emergency plan for disinfection failure up-to-date (646660(c)(2)? No.

Pre-chlorination (Not Used. Plant is set up for it if desired)

Type Liquid hypochlorite. Watson Marlow 520U. 450mL/min max. capacity.

Capacity 25 gallon liquid chlorine mix tank marked at each gallon. 12.5% solution Diluted 4 gallons water to 1 gallon chlorine.

Standby feeders yes.

Injection points, typical dosages, chlorine demand, typical residuals Chlorine is injected into a 6-inch pipe line static mixer just prior to clarifiers. Dose: 0 to 2 mg/l. Typical residual is 0.5-1.0 mg/l.

## Post-chlorination

Type Liquid hypochlorite. Post-chlorination uses the same Watson Marlow 520U. 450mL/min max. capacity.

Capacity 25 gallon liquid chlorine mix tank marked at each gallon. 12.5% solution Diluted 4 gallons water to 1 gallon chlorine.

Standby feeders Standby feeder is available.

Injection points, typical dosages, chlorine demand, typical residuals Injection is into 6-inch pipeline static mixer just after filtration.

## Facilities providing contact time (Surface Water Disinfection):

### Effective Contact Volume

Facility	Volume Gallons	Short circuit factor	Effective Contact Volume, Gallons
6-inch pipe line (2,050 ft.) to tank		1	3,011 $\pi * (3/12)^2 * 7.48 * 2,050$
Storage Tank	318,000	0.2 <sup>a</sup>	43,598 Assume at 17' low set point (69% full)
Total effective contact volume			46,609

<sup>a</sup> Based on short-circuiting factors for top inlet/bottom outlet round storage tanks without baffling

### CT "Worst Case" Scenario ()

Parameter	Summer	Winter	Example 12-24-2019
Temperature, °C	12	10	8.7
pH	7.5	7.5	6.7
Required CT, mg-min/L (for 1-log Giardian Cyst inactivation)	36	50	35
Residual at Low Alarm, mg/L	0.3	0.3	0.66
Flow, gpm (max)	175	175	366 (flow out of tank)
Contact Time, minutes	266	266	145
Available CT, mg-min/L	80	80	96
Giardia Cyst Inactivation, -Log	2.2	1.9	2.7



Are CT requirements being consistently met before the first service connection? Yes.  
Are residuals entering distribution system  $\geq 0.2$  ppm? Yes.  
Are distribution system residuals at least a trace 95%? Yes.  
Discussion & appraisal CT calculations and distribution system residuals are provided by the District with the monthly monitoring reports.

### **Compliance with Federal Long Term 1 Enhanced Water Treatment Rule (LT1)**

Summarize the combined filter effluent (CFE) performance (as of January 2005 federal standard is  $\leq 0.3$  NTU 95% of time, not to exceed 1 NTU) The LT1 requires monitoring of both the combined filter effluent (CFE) and the individual filter effluent (IFE); however, because there are two or fewer filters, the LT1 allows the District to monitor CFE in lieu of IFE.

Summarize the individual filter effluent (IFE) performance. The system is required to conduct continuous turbidity monitoring & report to DDW if:

- (1) The turbidity exceeds 1.0 NTU in two consecutive recordings 15 minutes apart, or
- (2) For 3 months in a row, turbidity exceeds 1.0 NTU in 2 consecutive recordings 15 minutes apart (also requires a self assessment), or
- (3) For 2 months in a row, turbidity exceeded 2.0 NTU in 2 consecutive recordings 15 minutes apart (also requires a comprehensive performance evaluation)

Is the Monthly Summary of Monitoring for the Federal LT1 being submitted monthly?  
Yes.

Was disinfection profiling performed? Not formally, no record. The District calculates daily CT and log inactivation for peak condition and demonstrates consistently  $>1$  log monthly inactivation via CT.

If using an unapproved alternative filtration technology (in-line) does it meet 0.1 NTU (CAP goal) 50% of the time, has a study been performed, or does a study need to be performed? N/A

Discussion & appraisal Based on "worst case" scenarios, it appears that the District provides the required CT for 1-log inactivation of Giardia cysts.

### **Cross-connections within treatment plant:**

Between treatment chemicals and finished water? No.

Between surface wash and unfiltered water? No.

Between backwash recovery ponds and treated water via filter to waste piping? No.

Via filter bypass piping? Filters cannot be bypassed.

Discussion & appraisal System has a CC Control ordinance created 9/2021, in permit folder. System has 3 testable backflow prevention assemblies (3 RPP) all tested and passed in 2021, and 5 air gap separations..

### **3) Other Treatment or Blending Facilities**

Describe facilities & parameters treated/blended (i.e. iron, & manganese, fluoridation, nitrate, corrosion control, organics, etc. N/A

### **4) Describe Records Maintained of Treatment**

The District reports the daily raw, recycled, and filtered water turbidities, daily meter reading and flow rate, chlorine feed rate, chlorine used, polymer used, chlorine residual, pH and temperature. the District includes a CT compliance calculation for the peak hour from each day..

## **D. STORAGE DATA**



Name	Type	Capacity (MG)	Zone	Year Installed	Comments
Main	Welded Steel	0.32	Service	2015	Tank in good condition. Some sediment. All screens in good condition. Climbed 2022.
New	Welded Steel	0.16	Service	2019	Tank in excellent condition. All screens in excellent condition. Climbed 2022.
Total: 480,000 gallons					

Does storage capacity comply with Waterworks Standards? Yes, tank capacity > MDD of approx. 275,000 gallons. The District meets current Waterworks Standards for storage capacity. The tank overflows have mesh screens.

Are AWWA coating procedures adhered to? New tanks have not been recoated. Recommend inspection of main tank.

Discussion & appraisal Plans for recoatings, cleanings &/or inspections?

There is a perimeter alarm system at the main storage tank. New tank has security fencing. Will remind operator in 2024 for recoating/touch-up of new tank

## E. TRANSMISSION FACILITIES

Describe transmission facilities:

1. Approximately 1,500 feet of new (2015) 6-inch diameter C900 pipe between the Trinity River intake and the Treatment Plant.

Are there low head lines? Reportedly, no.

Discussion & appraisal All transmission facilities are new and in good condition.

## F. DISTRIBUTION SYSTEM

1. **Pressure Zones** - Describe or tabulate: \_\_\_\_\_

Pressure Zone Name	Pressure Range	Primary Pressure Control	# of Connections
Main	30-90 psi	Main Tank	217

2. **Booster or Reducing Stations**

Station	Capacity	From Zone	To Zone
N/A			

3. **Mains**

Material	Amount	Size	Condition	Comments
C900	3,130 feet	6	Very Good	
PVC	390 feet	4	Good	
PVC	665 feet	<= 2	Good	
Cast Iron	~1,000	3	Unknown	Lewiston Park (LP)
Cast Iron	~12,250	4	Good	Lewiston Park (LP)
Asbestos Cement	~2,500	6	Good	(LP) est. from map

4. Discuss **leak history** during past 12 months (mains & connections)

No significant leaks or breaks per 2018-2021 EARs. Service connection leaks only.

5. Are Distribution facilities constructed in accordance with **Waterworks Standards**?

Reportedly, they are.

6. Describe **water main & sewer line separation** practices: Reportedly, minimum separation requirements are met.

7. Extent of **lead** pipes, joints, &/or lead solder used in distribution system & present policy None known.

Discussion & appraisal The distribution system is reported to be in good overall condition. A new sewer pipeline is being installed in the Lewiston Park area in 2023. New distribution and sewer project will have equivalent protection as separation guidelines.



## G. WATER QUALITY & MONITORING

### 1. Bacteriological Monitoring

Description of program The District collects two routine bacteriological samples each month and delivers them to the Weaverville Sanitary District Lab, a certified lab. The routine samples are rotated between 6 sample sites throughout the District's service area.

Sampling plan approved & current (do we have a copy?) Plan is from 2021.

Raw source water coliform sampling? Yes.

Controlling factor is population or service connections? Service Connections.

Number of samples per month or week required? 1 per month.

MCL violations in past year? All bacteriological samples reported since the last inspection were absent for total coliform and E.coli.

Special/additional monitoring done in past year for:

Raw water quality N/A

After construction/repair of wells N/A

After main installation or repair None reported.

After construction, repair, or maintenance of storage tanks None reported.

After system pressure loss to less than 5 psi None reported.

Other None.

Discussion & appraisal The District's monitoring program is up to date.

### 2. Chemical Monitoring

Description of program The District is up-to-date on all of its chemical monitoring.

Who collects samples? Trained District staff.

Discussion & appraisal The District's chemical monitoring program appears to be adequate.

### 3. Other Organics

Description of program No special monitoring is required.

Discussion & appraisal N/A.

### 4. Disinfection Byproducts (Trihalomethanes/Haloacetic Acids, etc.)

**Stage 1 DBPR Sampling.** The District had been collecting annual TTHM and HAA5 samples at one location within the distribution system in accordance with the Stage 1 Disinfectants and Disinfection Byproduct Rule (DBPR). The site was located in an area representative of high residence times within the distribution system. Stage 1 sample results indicated elevated levels of TTHMs and HAA5s concentrations.

**Stage 2 DBPR Sampling ("Standard Monitoring").**

**Compliance Monitoring:** Lewiston CSD samples annually.

**Monitoring Plan:** None.

#### Lewiston CSD – Disinfection By-Product (results in ppb)

Annual DBP Sampling			
TTHM (ppb) 80 µg/l MCL		HAA5 (ppb) 60 µg/l MCL	
Date	Result	Date	Result
8/10/2016	<u>55.9</u>	8/10/2016	<u>35.0</u>
9/05/2017	<u>34.2</u>	9/05/2017	<u>30.7</u>
9/18/2018	<u>22.7</u>	9/18/2018	<u>20.7</u>
8/20/2019	<u>20.8</u>	8/20/2019	<u>13.8</u>
Missed			
8/05/2021	<u>20.5</u>	8/05/2021	<u>20.5</u>
8/24/2022	<u>20.6</u>	8/24/2022	<u>16.2</u>



## Discussion & appraisal

Historic DBP data up are summarized in previous Inspection Reports. Operator will sample from sewer treatment plant for longest residence time.

### 5. Lead and Copper Rule

Round	# Samples	Date Completed	Lead 90th % (ug/L)	Copper 90th % (ug/L)
		Action Level	15	1,300
6M 1st	5	8/10/16	0.0	621
6M 2nd	5	12/19/16	0.0	797
Annual 1st	5	9/30/17	0.0	139
Annual 2nd	10	9/18/2018	0.0	635
	5	9/24/19	0.0	155
Triennial	10	8/23/2022	2.7	393

Discussion & appraisal According to Department records, the District has completed 10 rounds of sampling for lead and copper in the distribution system with no exceedances of the 90<sup>th</sup> percentile action levels for lead or copper. The District is currently on a once every three year sampling cycle. The District is current on lead and copper sampling; next round due in 2024.

### 6. Additional Monitoring

Description of program (Physical quality of distribution system, corrosion, fluoridation, etc.) None.

7. Is an approved water quality **monitoring plan** on file? (i.e., briefly summarize plan & needed additions) A monitoring plan is not required for this system.

8. Was the most recent **Consumer Confidence Report (CCR)** sent to customers? Yes, the certification has been sent in to the DDW.

Date sent? 5/9/2022 Is a copy of the report on file with DDW? Yes.

Are there needed additions or changes? No.

9. Was the most recent **Electronic Annual Report to the Drinking Water Program (eARDWP)** sent to DDW? Yes.

## H. OPERATION & MAINTENANCE

### 1. Planning & Personnel

Are system improvements made in accordance with the Waterworks Standards?

Reportedly, yes.

What is the minimum WTO/WDO grade requirements? This system is required to have a T2 certified treatment operator. Based on Lewiston CSD's service area population of ~700, the CSD's distribution system is classified as a D1 system.

Name	Treatment Grade	Treatment Expiration Date	Distribution Grade	Distribution Expiration Date
Nicole Humphreys	T2 #41655	4/1/2024	D2 #50607	11/1/2024
Eric Ramsey	T1 #40793	7/1/2023	-	-
Lorraine Dusi	T1 #24833	1/1/2024	-	-
	-	-	-	-



2. **Water System Funding**  
What are the water rates billed to customers? 5/8" = \$40.99 min. plus \$2.08/100ft<sup>3</sup>  
Date of most recent water rate revision? 7/2018  
Does the water system have a Capital Improvement Plan? Yes,  
Does water system maintain cash reserves? \$15,000 8/2019.
3. **Cross-Connection Control Program**  
Name of cross-connection control inspector(s) None.  
Is there a copy of the cross-connection control ordinance on file? No. There is a plan, but no ordinance.  
Discussion & appraisal Devices are tested Annually.
4. **Complaints**  
Describe complaint program The District has an informal program. None reported on 2021 eAR.  
Discussion & appraisal \_\_\_\_\_
5. **Emergency Response**  
Is an up-to-date emergency notification plan on file? Yes, 7/2021.  
Emergency response plan None.  
Notification of DDW of significant system problems The operators are aware that the Department should be notified of any significant problems.  
Discussion & appraisal 2022 emergency response plan on file. System had a pretty good emergency drill with the Carr Fire Summer 2019.
6. **Main Disinfection Program**  
Describe main disinfection program (i.e., method, contact time, chlorine residual, bacteriological tests, records) for new & repaired mains The District uses Permatex, calcium hypochlorite tablets, following the AWWA methods for disinfection at a dosage of 25 ppm. Bacteriological samples are collected and analyzed following flushing of the chlorinated water.  
  
Does the main disinfection program comply with AWWA standards? The contract operator is aware of the standards.  
Discussion & appraisal Most work will be done by contractors and the Operator is aware that standards should be followed.
7. **Valve Maintenance Program**  
Describe program No formal program.  
Are number & location of valves satisfactory? (i.e., mainline, ARVR, blow-off valves, etc.) Unknown. No distribution maps on file.  
Discussion & appraisal (i.e., are valves recorded on maps available to field crews? Are all valves located with valve covers raised to grade?) Reportedly all valves are in boxes raised to grade.
8. **Flushing**  
Describe flushing program (i.e. dead-ends, records, etc.) No formal program.  
Approximate number of dead ends Unknown. 4-6 Percent with flushing valves Unknown %  
Discussion & appraisal The District has not received many water quality complaints since the new WTP plant.
9. **Facility Data Sheets**  
List Facility Data Sheets in File no datasheets on file for new system. Department has construction plans.  
List Required Data Sheets **not** in File all for new treatment system. New 160,000 gallon tank.  
Does the utility have up-to-date distribution system maps? No.  
Is up-to-date copy of system schematic on file? Yes.



**I. CLIMATE CHANGE VULNERABILITY ASSESSMENT**

1. **Fire.** Is a Defensible Space of 100 feet (California Public Resources Code, 4291) maintained around all structures managed by this CWS? (Y/N) No. Tanks and treatment shed do not have 100 feet of defensible space.
2. **Flooding.** Are any of the drinking water facilities vulnerable to flooding? (Y/N) No.
3. **Drought.** Is the system prepared for drought related shortages or outages? (e.g., Interties, backup supply, increased storage, etc.) (Y/N) Yes, Adequate water supply and new well 8 can be brought online.
4. **Backup Power.** Is backup power available via portable generators or permanent generators? (Y/N). If liquid fuel is used, is it properly contained and stored away from the source? (Y/N). Yes, Generator is not autostart and operator has to get through road closures to turn on generator during fire power shutoffs.

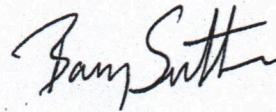
**J. OVERALL SYSTEM APPRAISAL**

The District is well maintained and operated. The contract operator has a strong understanding of system operations. The board understands the monitoring requirements.

**K. APPENDIX**

Attachments:  
Water System Record  
System Schematics

Report prepared by:



Signature

for Ian McFadden

10/28/2022



# WATER SYSTEM DEFICIENCY RECORD

Name of System Lewiston C.S.D.

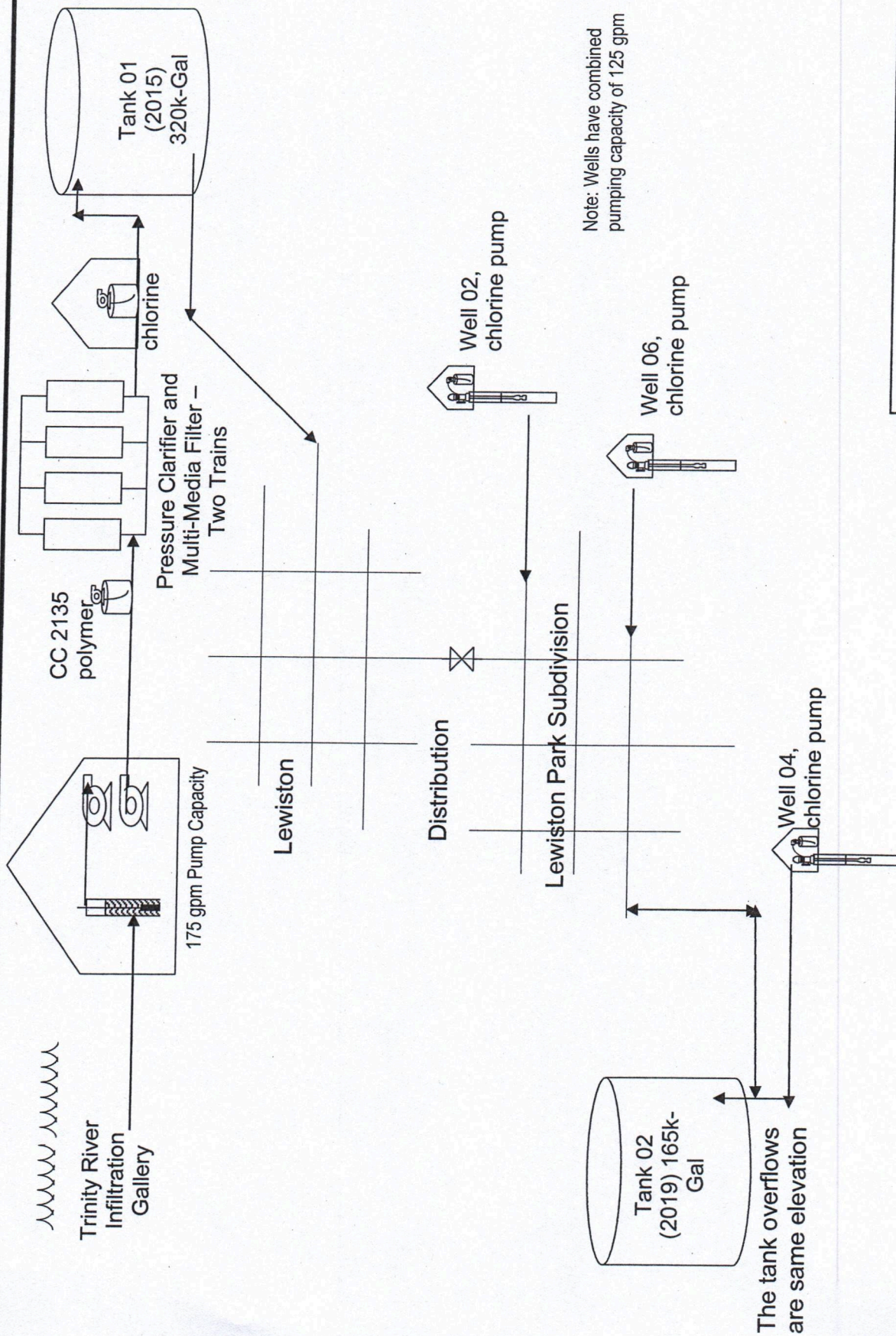
System Number 5301002

Date Noted	Description of Required Correction	Order #	Correction Timeline	Reported Corrected	Confirmed Corrected
8/26/19	Draft Emergency Disinfection Plan	3			2/23/22
8/26/19	Update Emergency Notification Plan	R		*	1/2/22
8/26/19	Complete 2018 Electronic Annual Report	R		10/14/19	12/13/19
3/16/17, 8/26/19	Develop Cross-Connection Control Program and Hazard Survey	3		2022	
8/26/19	Update Bacteriological Sampling Site Plan to incorporate expanded distribution system	3		*	8/16/24
8/26/19	Please review the source water sampling schedules and sample for the constituents marked "Due Now"	3		11/13/19	12/13/19
8/26/19	Well 6 should have an outsloping concrete pad installed and a locking enclosure.	3			
10/19/22	Wells 4 and 6 should have a screened casing vents installed. Wells 2 and 4 should have check valves installed. All wells should have dedicated sample taps installed.	3			
10/19/22	Inspect tanks - AWWA recommends tanks be inspected and cleaned every 3-5 years.	3			

## Order Number

1. Serious health hazard; corrective action must be taken immediately.
2. Critical system or operational defect &/or potential health hazard; must be corrected as soon as possible.
3. System or operational defect &/or potential contamination hazards of lesser public health significance. Must be corrected as work load permits.
4. System or operational defect &/or potential health hazard - costly to correct - to be included in any long-range water improvement project.
- R. Requested or Recommended as good waterworks practice.





Lewiston CSD 5301002

Water System Schematic

Revised: August 2019



## State Water Resources Control Board Division of Drinking Water

October 27, 2022

Mel Deardorff  
LCSD Board President  
130 Texas Avenue  
P.O. Box 164  
Lewiston, CA 96052

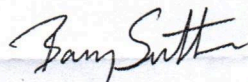
Subject: Lewiston C.S.D. Drinking Water System Upgrade Project

This office has been informed that the Lewiston Community Services District is seeking financial assistance to install new water meters, add fire-resilient siding and roofing to existing well buildings, and add automatic transfer switches to the generators at the treatment plant and raw water pump station.

We strongly support this endeavor and concur with the necessity of this water system upgrade project.

The proposed improvements will increase the resiliency of the water system and help to ensure that wholesome and potable drinking water is delivered reliably to the customers of Lewiston CSD.

If you have any questions, please contact Ian McFadden at (530) 224-4868, or me at (530) 224 4875.



Barry S. Sutter, P. E., Klamath District Engineer  
Division of Drinking Water  
STATE WATER RESOURCES CONTROL BOARD



**LEWISTON COMMUNITY SERVICES DISTRICT**  
**POST OFFICE BOX 164**  
**LEWISTON, CALIFORNIA 96052**

October 31, 2022

Subject: Letter of Support for the Water System Reliability Project

To Whom It May Concern:

On behalf of the Lewiston Community Services District (LCSD or District), I am writing this letter of support for the Water System Reliability Project.

In the past decade, droughts and wildfires have threatened small alpine communities at increasing rates, and Lewiston is no exception. The proposed project is vital to ensure the water supply system remains functional during and after a state of emergency.

The existing well building's siding is primarily made of a plywood material with shingle roofing. These materials are not fire resilient and do not meet the current code requirements for a Fire Hazard Severity Zone or a Wildland Urban Interface Fire Area, which Lewiston is located within. In their current condition, these buildings are vulnerable to fire, and if one were damaged or destroyed, it would cause severe consequences to the Lewiston community. Should a fire contaminate the distribution system, the damage could be near irreversible. As seen with other water districts that have been affected by wildfires, such as Santa Rosa after the Tubbs Fire or Paradise after the Camp Fire, preventing contamination within the distribution system is the difference between saving it and rebuilding it.

While both the Raw Water Pump Station and Water Treatment Plant are equipped with emergency standby generators, there is no automatic transfer switch at these locations. As such, in the event of a power outage, the Operator must first drive to the Raw Water Pump Station to manually transfer the power from utility to generator and then do the same at the Water Treatment Plant. When utility power is restored, the Operator must return to each location to transfer the power from generator back to the utility. In the event of an emergency (like a fire), if Lewiston were to lose power, the Operator would have to visit both sites to get both the Raw Water Pump Station and Water Treatment Plant to produce water. While these locations are located in proximity to each other, in an emergency situation, the amount of time it would take the Operator to do this effort could be the difference between someone losing their home or having it saved. If both locations had an automatic transfer switch that would automatically transfer power between the utility and the generator, this would also free up the Operator to assist in other ways during an emergency.

When the Carr Fire approached Lewiston in 2018 and the community was evacuated, many homeowners left hoses and sprinklers running to protect their homes. Not only did this deplete the water storage rather quickly, leaving very little water for fighting the fire, the operator had to go to each home to shut the water off. Given the current wildfire conditions in California and the proximity of the Carr Fire to Lewiston, the need to protect our water system has become a top priority for LCSD.



As part of an upcoming project, the District is upgrading only a portion of their existing meters with Badger AMI metering infrastructure. These new meters will allow both the District and customers to monitor water consumption 24/7, improving water self-reliance. The AMI technology includes alerts such as leak detection, no flow, backwards flow, cut wire indication, and low battery indication, all of which will alarm directly to the District and/or customer. The new water meters will also be more accurate, allowing for better tracking of water consumption and water loss. The time required to collect meter readings each month will go from 1½ days to a matter of minutes, which is crucial for the District due to limited staff. Time spent reading meters monthly can now be spent performing routine maintenance on the system, increasing its useful service life. This proposed project would allow the entire community within the LCSD service area to benefit from these new meters.

Due to the size of and economic hardship to the community, the District does not have the funding to complete these upgrades without grant assistance. We appreciate your consideration for grant funding and look forward to hearing from you.

Please feel free to reach out to me at (530) 949-0553 if you would like any other information regarding our support.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Mel Deardorff', with a stylized, cursive script.

Mel Deardorff, Board President and Fire Chief  
Lewiston Community Services District



# LEWISTON COMMUNITY SERVICES DISTRICT

## RESOLUTION 2022-3

### A RESOLUTION DESIGNATING OFFICERS AUTHORIZED TO SIGN A FINANCIAL ASSISTANCE APPLICATION AND GRANT AGREEMENT FOR THE WATER SYSTEM RESILIENCY PROJECT.

WHEREAS the Lewiston Community Services District wishes to submit a proposal for funding to the North Coast Resource Partnership to obtain a Round 2 Integrated Regional Water Management Implementation Grant pursuant to the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Water Code § 79700 et seq.) issued by the California Department of Water Resources.

Water Resources and allocates a portion of the grant funding to sub-grantee(s).

WHEREAS the Lewiston Community Services District wishes to enter into a Sub-grant Agreement with the County of Humboldt to receive a grant for the: Water System Resiliency Project.

WHEREAS be it here resolved by the board of directors of the Lewiston Community Services District, as follows:

The President of the Board of Directors (Authorized Representative), or designee Vice President of the Board of Directors, of the Lewiston Community Services District, is hereby authorized and directed to prepare the necessary data, conduct investigations, provide assurances, certifications, and commitments required for the proposal and grant agreement, file such proposal, and execute a grant agreement or any amendments thereto with the North Coast Resource Partnership, California Department of Water Resources, and/or County of Humboldt.

The Authorized Representative, or his/her designee, is designated to represent the Lewiston Community Services District in carrying out the District's responsibilities under the grant agreement, including certifying disbursement requests on behalf of the District and compliance with applicable state and federal laws.

#### CERTIFICATION

THE FOREGOING RESOLUTION WAS ADOPTED upon motion of Director Kasper, Seconded by Director Brookins, at a regular meeting on this day of November 1, 2022.

AYES: Directors

Jenni Brookins, Mel Deardorff, Joe Kasper, Jim Montgomery

NOES: Directors

EXCUSED: Directors

Cyd Cooper

ABSTAIN:

ATTEST:

Katie Quinn  
Katie Quinn, Secretary

I do hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the Lewiston Community Services District held November 1, 2022.

# Lewiston CDP, California

Lewiston CDP, California is a city, town, place equivalent, and township located in [California](#).

**Populations and People**

Total Population  
**1,222**  
[P1](#) | 2020 Decennial Census

**Education**

Bachelor's Degree or Higher  
**14.2%**  
[S1501](#) | 2020 American Community Survey 5-Year Estimates

**Housing**

Total Housing Units  
**643**  
[H1](#) | 2020 Decennial Census

**Families and Living Arrangements**

Total Households  
**603**  
[DP02](#) | 2020 American Community Survey 5-Year Estimates

**Income and Poverty**

Median Household Income  
**\$49,818**  
[S1901](#) | 2020 American Community Survey 5-Year Estimates

**Employment**

Employment Rate  
**42.9%**  
[DP03](#) | 2020 American Community Survey 5-Year Estimates

**Health**

Without Health Care Coverage  
**18.6%**  
[S2701](#) | 2020 American Community Survey 5-Year Estimates

**Race and Ethnicity**

Hispanic or Latino (of any race)  
**70**  
[P2](#) | 2020 Decennial Census

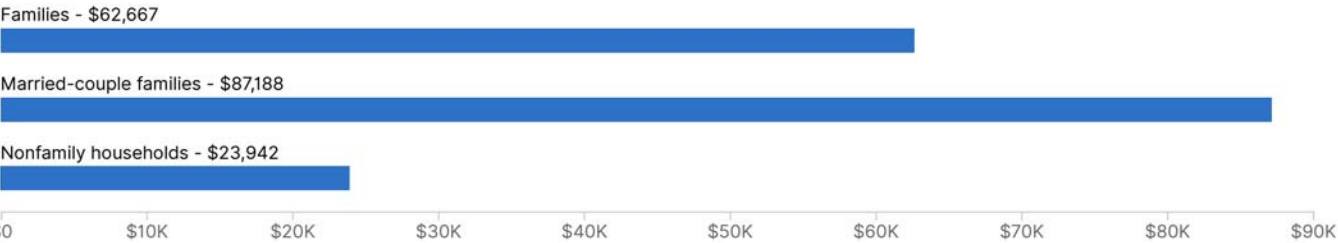


**\$49,818** +/- \$12,658  
Median Household Income in Lewiston CDP, California

**\$84,907** +/- \$542  
Median Household Income in California

*S1901 | 2020 American Community Survey 5-Year Estimates*

**Median Income by Types of Families**  
in Lewiston CDP, California



*S1901 | 2020 ACS 5-Year Estimates Subject Tables*

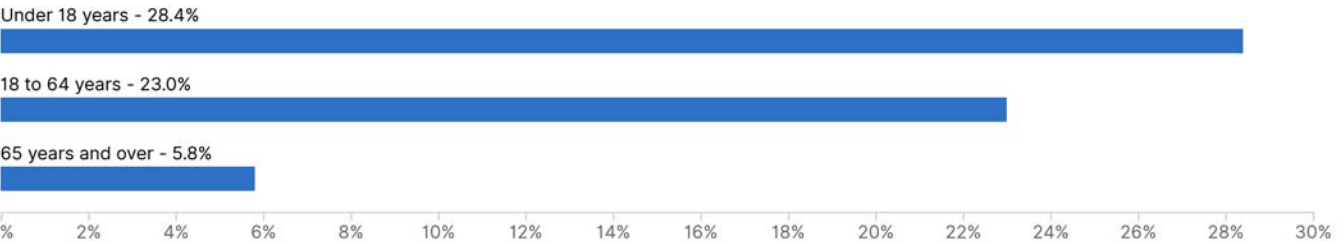
**Poverty**

**20.0%** +/- 9.2%  
Poverty, All people in Lewiston CDP, California

**12.3%** +/- 0.2%  
Poverty, All people in California

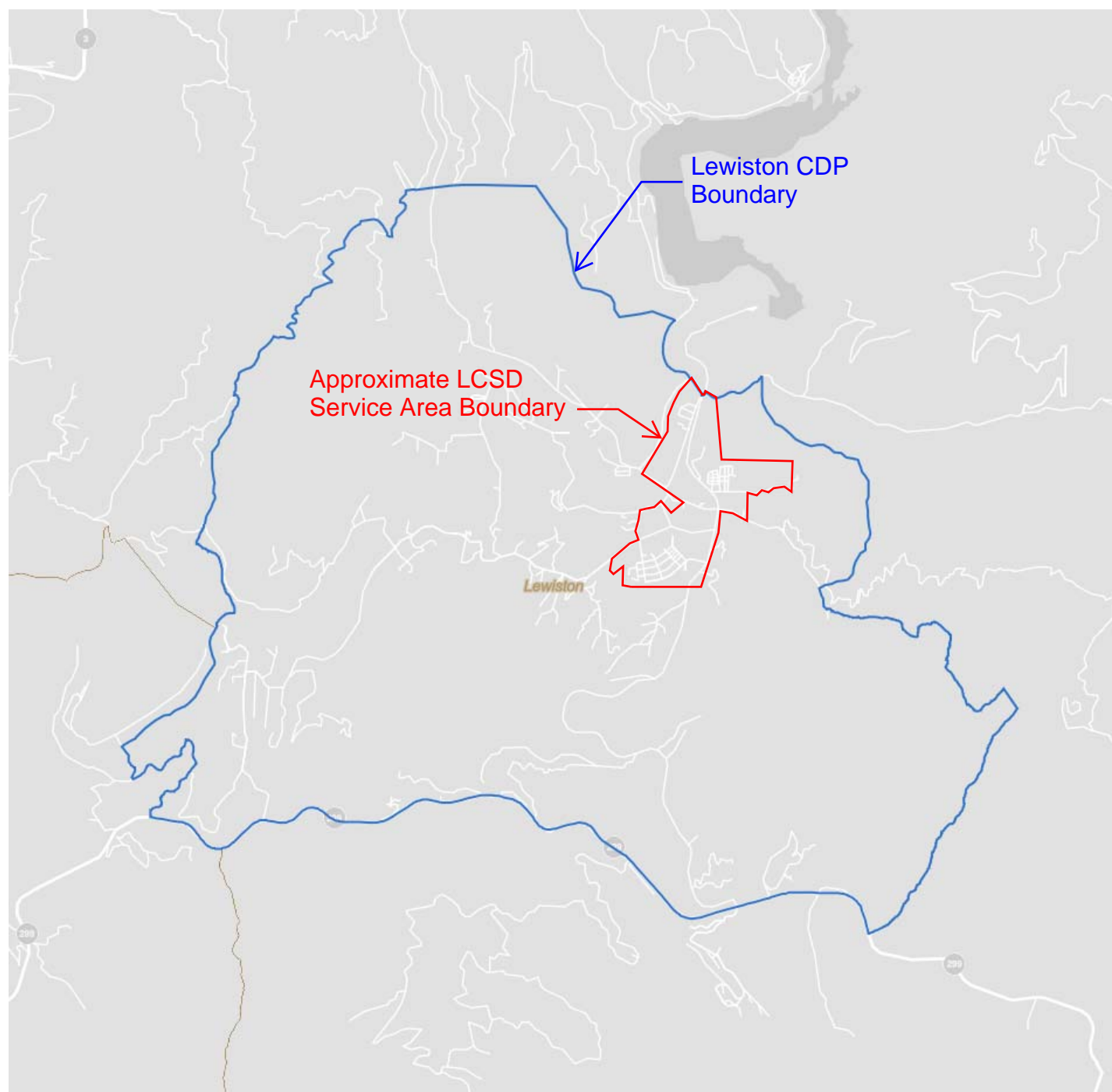
*S1701 | 2020 American Community Survey 5-Year Estimates*

**Poverty by Age**  
in Lewiston CDP, California



*DP03 | 2020 ACS 5-Year Estimates Data Profiles*

## Lewiston CDP, California Reference Map

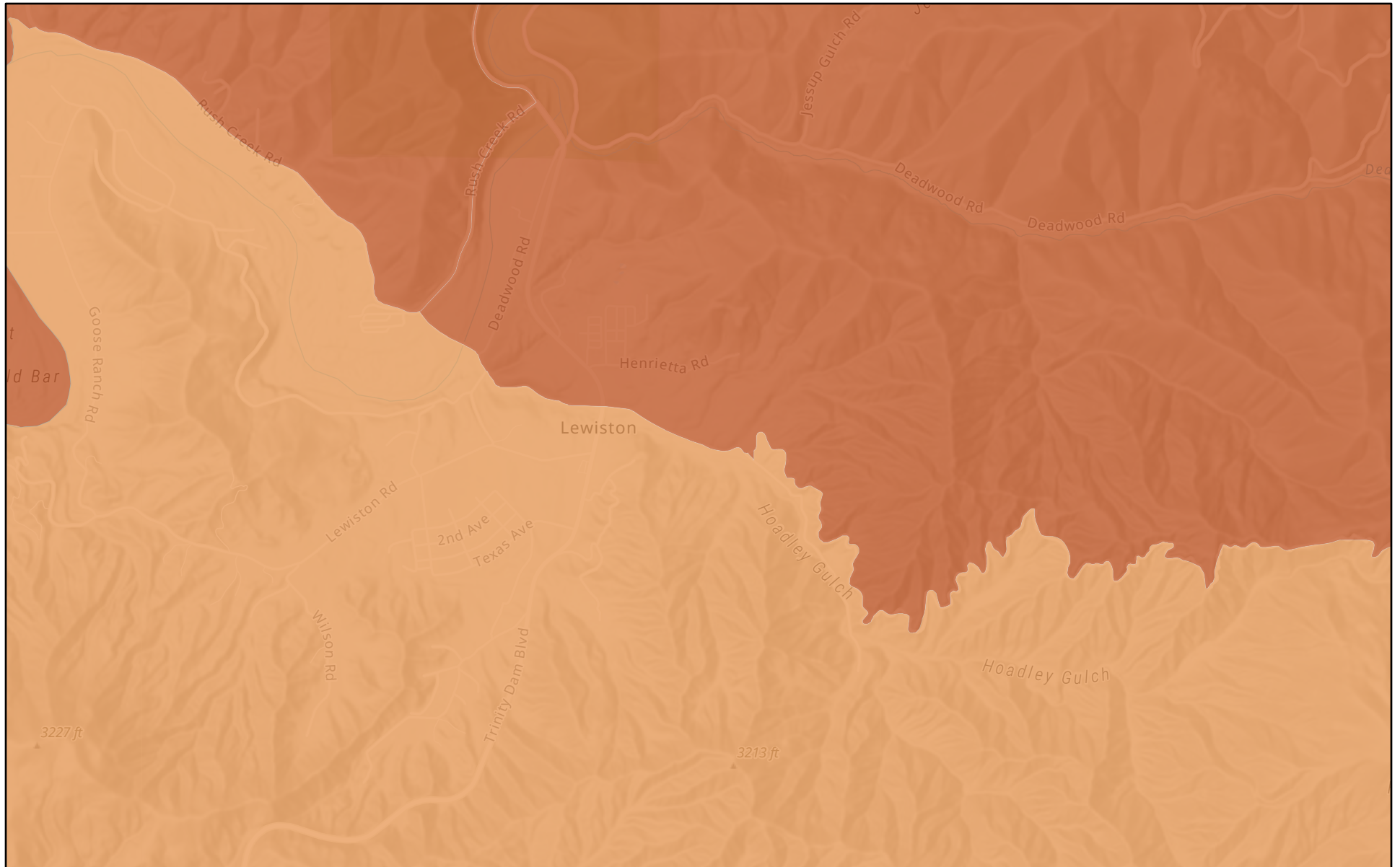


Source: U.S. Census Bureau

# Income and Poverty

## Income and Earnings

# ArcGIS Web Map



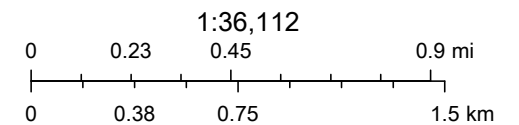
10/27/2022, 11:21:15 AM

Disadvantaged Communities - Block Groups (ACS: 2016 - 2020)

SDACs (<\$47,203)

DACs (\$47,203 - \$62,938)

California Counties



California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US

ArcGIS Web AppBuilder

Esri Community Maps Contributors, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA | Esri, NASA, NGA, USGS, FEMA | Department of Water





# FHSZ Viewer

Help



## LEGEND

### City Boundaries

- Incorporated Area

### County Boundaries



### FHSZ in LRA

- VHFHSZ

### FHSZ in SRA

- Very High
- High
- Moderate

### Responsibility Areas

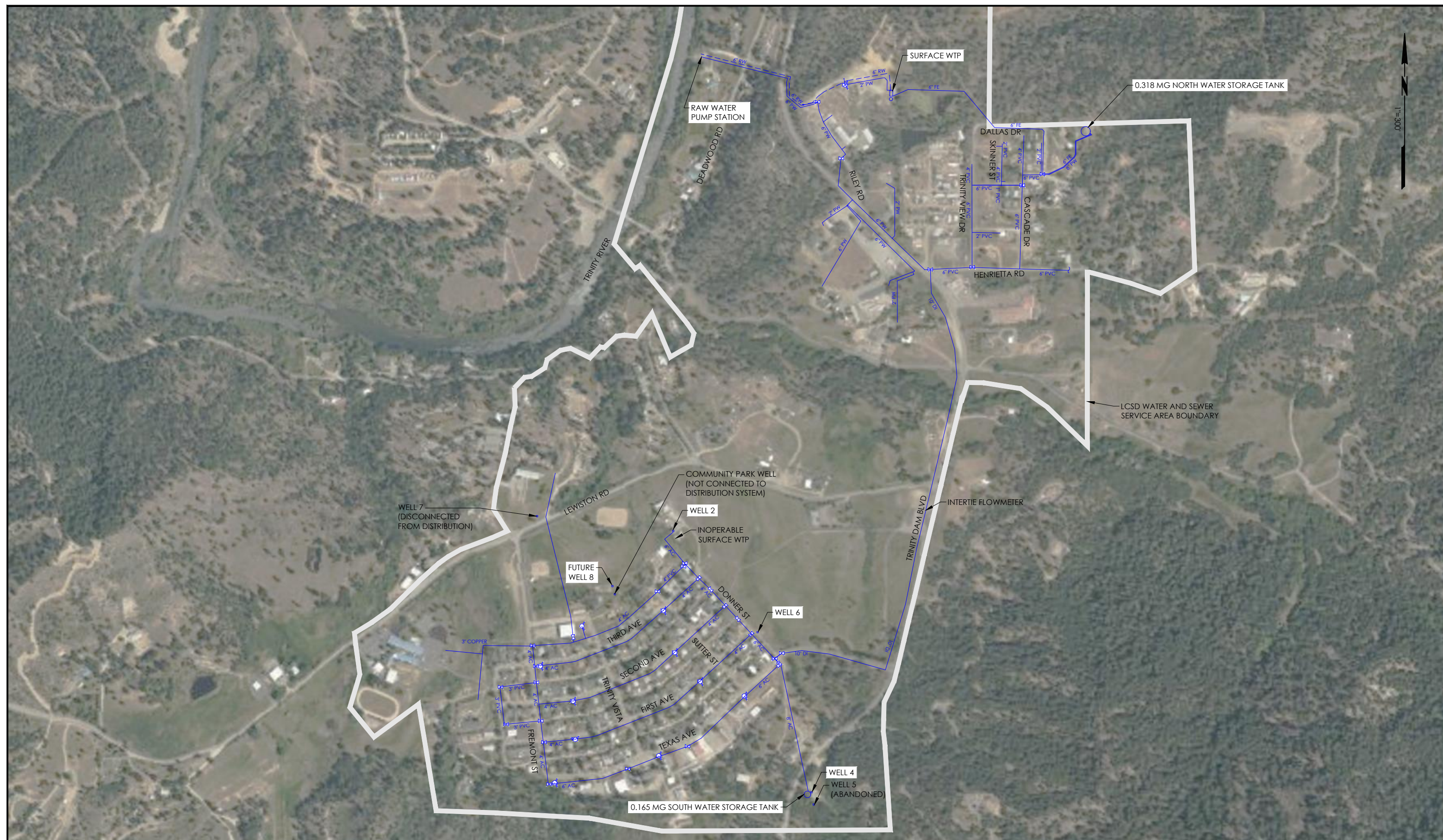
- Local Responsibility Area (LRA)
- State Responsibility Area (SRA)
- Federal Responsibility Area (FRA)

Lewiston, Ca



0 0.2 0.4mi



 $T = 300$ 

BAR IS ONE INCH ON  
ORIGINAL DRAWING

0"1"

IF NOT ONE INCH ON THIS  
SHEET, ADJUST SCALES  
ACCORDINGLY.

REVISIONS		
NO	DATE	DESCRIPTION



SIGNED

LEWISTON COMMUNITY SERVICES DISTRICT  
PWS NO. 5301002

## WATER DISTRIBUTION SYSTEM SCHEMATIC

FIGURE

