

Chestnut Pump Station Reconstruction RD784-02

I. Project Sponsor Contact Information

Lead Agency/Organization	Reclamation District 784
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II. General Project Information

Project Title	Chestnut Pump Station Reconstruction
Project Total Budget	\$2.5 million
Project Funding Match	This pump station serves the Disadvantaged Communities of Linda and Olivehurst
Project Funding Request	\$2.5 million
Can a detailed cost estimate be provided upon request?	Yes
Project Location:	Chestnut Road East of the Western Pacific Railroad, Linda
Latitude	39.1277
Longitude	-121.5508
Could you provide a map of the project location including boundaries upon request?	Yes
County	Yuba
City/Community	Linda
Watershed/subwatershed	Yuba River
Groundwater Basin	Yuba Groundwater Basin/South Yuba Sub-basin
Project Type	Facility Construction Best Management Practices

III. Project Description

This project will demolish the current facility and construct a new pump station at the current site with two pumps (primary and redundant) capable of pumping 15 cubic feet per second (cfs) controlled by a SCADA motor control system. A back-up generator would replace a diesel motor back-up supplying reliable power and reducing emissions. A Closed Circuit Television Camera (CCTV) and a motion activated camera security system would also be installed to protect the facility. The CCTV camera would be part of an existing CCTV system already in place.

Additionally, during the design phase of the project, the feasibility of reclaiming storm water for agricultural and municipal use as well as the project’s possible contribution to groundwater recharge will be considered, assessed and determined.

IV. Project Rationale/Issues Statement

This project replaces aging drainage infrastructure which enhances flood management, and protects water conveyance, several wastewater management and ground water recharge facilities that serve Linda and Olivehurst, two Disadvantaged Communities (DACs). Additionally, the project considers the possibility of reclaiming storm water for agricultural and municipal reuse. The project specifically addresses the following regional issues:

- Upgrading infrastructure;
- Mitigating urban, agricultural and sediment run-off;
- Water use efficiency/water conservation;
- Improving flood management;
- Ensuring regulatory compliance;
- Adapting to climate change.

V. Goals/Objectives/Performance Metrics

Goals Addressed by the Project:	<p>Goal 1: This project protects water supplies by upgrading flood management infrastructure and promoting disaster preparedness.</p> <p>Goal 2: The project protects water quality by mitigating for impacts from flood and in managing for urban, agricultural and sediment run-off.</p> <p>Goal 5: The project protects public safety by upgrading aging flood management infrastructure, promoting disaster preparedness and reducing the costs and difficulty of achieving regulatory compliance.</p> <p>Goal 6: The project reduces greenhouse gas emissions and improves flood protection.</p> <p>Goal 7: The project provides flood protection for the disadvantaged communities of Linda and Olivehurst.</p>
Objectives Addressed by Project	<p>1.1 Promote and implement policies and practices to increase water use efficiency <i>and</i> water conservation in municipal and agricultural sectors;</p> <p>1.2 Promote water conservation and water use efficiency by instituting various techniques including, but not limited to, groundwater recharge, conjunctive management, irrigation efficiencies, municipal water conservation, water recycling and reuse;</p>

	<p>1.4 Promote disaster preparedness and conservation planning efforts;</p> <p>1.5 Maintain and enhance flood control infrastructure to protect water supplies;</p> <p>2.1 Protect and improve water quality by mitigating for urban, agricultural and sediment run-off;</p> <p>2.2 Minimize water quality impacts from flood, effluent discharge and wastewater spills;</p> <p>5.1 Improve integrated flood management to ensure emergency preparedness, increase flood protection and enhance regional and inter-regional collaboration;</p> <p>6.1 Support efforts to reduce greenhouse gas emissions in the region, particularly those related to water management operations;</p> <p>6.3 Increase system flexibility and resiliency to adapt to climate variability;</p> <p>7.2 Prioritize ongoing participation of DACs in the Regional Water Management Group</p>
<p>What performance metrics will be used to demonstrate that objectives are being met? Wherever possible, provide a quantitative measurement reflecting successful project outcomes.</p>	<ul style="list-style-type: none"> ▪ The rebuilt pump station would replace older, inefficient pumps and electrical motors with updated technology that uses less power. Lower power consumption for similar pumping capacity could be measured. ▪ Replace the old, World War II PT Boat emergency generator motor with high efficiency, low hydrocarbon exhaust motor and increase emergency power reliability. ▪ Lowered FEMA Flood insurance premiums in some surrounding areas due to additional internal drainage protection.

VI. Resource Management Strategies

Improve Operational Efficiency and Transfers	
Conveyance—Regional/Local	Returns stormwater to the river.
Increase Water Supply	
Conjunctive Management and Groundwater	A policy of retaining water in detention basins at the end of winter seasons for later release or possible groundwater recharge is being considered.
Recycled Municipal Water	Determine feasibility of recycling stormwater for agricultural and municipal use.
Improve Water Quality	
Urban Runoff Management	The catchment basin captures sediment and miles of drainage canals convey and filter urban stormwater.
Matching Water Quality to Use	The project aims to determine the feasibility of reclaiming stormwater for non-potable agricultural irrigation.
Practice Natural Resources Stewardship	
Land Use Planning and Management	Part of internal drainage system necessary for development of residential, commercial and industrial lands.

Recharge Areas Protection	Protects basin infrastructures; assesses the facility's contribution to groundwater recharge.
Improve Flood Management	
Flood Risk Management	Internal Drainage flood management that protects water treatment, water conveyance and ground water recharge facilities.

VII. Statewide Priorities

Drought Preparedness

- Promote water conservation, conjunctive use, reuse and recycling
- Achieve long term reduction of water use

Use and Reuse Water More Efficiently

- Increase urban and agricultural water use efficiency measures such as conservation and recycling

Climate Change Response Actions

- Adaptation to Climate Change: Use and reuse water more efficiently
- Adaptation to Climate Change: Water management system modifications that address anticipated climate
- Reduce Energy Consumption: Water recycling
- Reduce Energy Consumption: Water system energy efficiency

Practice Integrated Flood Management

- Better emergency preparedness and response
- Improved flood protection
- More sustainable flood and water management systems

Protect Surface and Groundwater Quality

- Protecting and restoring surface water and groundwater quality to safeguard public and environmental health and secure water supplies for beneficial uses

Ensure Equitable Distribution of Benefits

- Develop multi-benefit projects with consideration of affected disadvantaged communities and vulnerable populations

Climate Change Adaptation

The rebuilt pump station is phase two of a larger project. The detention basin has already been enlarged to impound more water. The rebuilt pump station will be able to more reliably move larger quantities of stormwater expected with more extreme weather. The computer control systems and more efficient pumps and motors will reduce the operation’s carbon footprint as well as reduce costs. Additionally, the project will consider modifications to allow for reclaiming storm water for agricultural and municipal use contributing to a more reliable water supply in response to projected climate variability and anticipated drought conditions.

GHG Emissions Reduction

Replacement pumps would be more efficient which would require less energy. The replacement generator would replace 1940s diesel technology with more reliable and cleaner contemporary generating equipment. The pump station is in an isolated location and subject to theft and vandalism making solar or other energy sources impractical. However, the District has adopted a policy of pumping proactively off peak unless overcome by severe storm conditions. The entire facility has to be hardened against theft and vandalism.

VIII. Project Status and Schedule

Project Stage	Description of Activities in Each Project Stage	Planned/Actual Start Date	Planned/Actual Completion Date
Planning	Done		
Design	Preliminary design complete; additional design required for water recycling capability and groundwater recharge assessment		Fall 2016
Environmental Documentation (CEQA/NEPA)	Done		
Permitting	TBD	Awaiting Funding	
Tribal Consultation (if not applicable, indicate by N/A)	N/A	N/A	
Construction/ Implementation	Awaiting Funding	Awaiting Funding	Unknown

IX. Project Technical Feasibility

a. List the water planning documents that specifically identify this	<ul style="list-style-type: none"> ▪ Yuba County General Plan ▪ RD 784 Master Drainage Plan
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project.	
<p>b. List the adopted planning documents the proposed project is consistent with (e.g., General Plans, UWMPs, GWMPs, Water Master Plans, Habitat Conservation Plans, etc.)</p>	<ul style="list-style-type: none"> ▪ Yuba County General Plan ▪ RD 784 Master Drainage Plan
<p>c. List technical reports and studies supporting the feasibility of this project.</p>	<p>Studies and assessment included in Master Drainage Plan</p>