



October 16, 2024

306.38

Cheng Vue
Water Resource Control Engineer
State Water Resources Control Board
Division of Financial Assistance
1001 I Street, 16th Floor
Sacramento, CA 95814
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Dear Cheng,

Subject: Burney Water District
Collection System Improvement Project
CWSRF FISCAL Agreement No. SWRCB D190102300, Project No. C-06-8108-310
Project Completion Report

As required under Section A.6, Project Completion Report of the Clean Water State Revolving Fund (CWSRF), FISCAL Agreement No. SWRCB D190102300, Project No. C-06-8108-310, Exhibit A, Burney Water District (BWD) hereby submits this Project Completion Report.

PROJECT DESCRIPTION

The BWD Collection System Improvement Project (Project) included various equipment upgrades at the Main and Bartel Lift Stations, including a 50-horsepower (HP) pump, motor control center (MCC), switchboard, variable frequency drives (VFDs), supervisory control and data acquisition (SCADA) controls, influent slide gate and suction/discharge piping, as well as installation of a new bypass pump connection, davit crane, emergency generators, and miscellaneous electrical. In addition, pipeline improvements were made throughout the collection system, including sewer main replacements on Gunsmith Way and Sapphire Road, cured-in-place pipe (CIPP) and internal patch repairs, open-cut spot repairs, and rehabilitation of four manholes. Tico Construction was awarded the Phase I contract as the Prime Contractor, with Bullert Industrial Electric, Inc. as the Electrical Subcontractor. Construction of Phase I was substantially completed on August 24, 2020. The Certificate of Substantial Completion for Phase I was dated August 24, 2020. The Notice of Completion with Shasta County for Phase I was filed September 16, 2020. RTA Construction, Inc. was awarded the Phase II contract as the Prime Contractor, with Bullert Industrial Electric, Inc. as the Electrical Subcontractor. Construction of Phase II was substantially completed, and startup and testing were conducted on January 31, 2024. The Certificate of Substantial Completion for Phase II was dated January 31, 2024. The Notice of Completion with Shasta County for Phase II was filed June 5, 2024. Project Funding Agreement Amendment Nos. 1 and 2 were authorized by the State Water Resources Control Board. Amendment No. 1 included the final budget approval for Phase I of the Project, which included upgrade of the Main Lift Station generator and automatic transfer switch due to emergency need. Amendment No. 2 included the final budget approval for Phase II of the Project, which included all remaining elements.

PROJECT NEEDS

The Project has met the objectives defined in the Funding Agreement and will help ensure the collection system has updated infrastructure that meets current codes and standards. The upgrade of lift station pumps and electrical equipment and the addition of SCADA elements add reliability and, therefore, safety. The addition of emergency generators add redundancy to the lift stations, particularly during Public Safety Power Shutoff (PSPS) events. By addressing deficiencies throughout the collection system, groundwater quality will be improved by reducing inflow and infiltration (I&I), and wastewater flows will be more efficiently conveyed to the wastewater treatment plant (WWTP) for proper treatment and disposal.

The sections below describe the major project components:

Main Lift Station Improvements:

Phase I of the Project encompassed installation of a new diesel-powered emergency generator and automatic transfer switch, which is used to power this lift station in the event of a power failure or during PSPS events. All remaining improvements were completed during Phase II of the Project. The newly installed 50 HP sewage pump along with two existing 20 HP pumps convey all wastewater flows to the WWTP through an 8-inch force main. The new VFD-controlled 50 HP pump accommodates large wet weather flows with a rated capacity of 835 gallons per minute. The new bypass pump discharge connection along with the new 15-inch sluice gate installed at the juncture of the interceptor sewer into the wet well allow wastewater flows to bypass the pump station for routine maintenance and servicing of equipment. The control system was upgraded by installing a new MCC, VFDs, wet well radar level sensor and alarm floats, influent flow meter, and radio antenna. This allows operation and monitoring of lift station equipment remotely by integrating with the master SCADA system located at the WWTP. New safety railing was installed around the perimeter of the wet well.



Photo 1 – New 50 HP Sewage Pump

Bartel Lift Station Improvements:

A diesel-powered emergency generator with automatic transfer switch was installed to allow for operation of this lift station in the event of a power failure or during PSPS events. A new control panel, radar level sensor for alarms and operational setpoints, and radio antenna allow the lift station to be integrated with the master SCADA system for remote operation and monitoring. A new davit crane was installed to allow for more efficient and safe removal of pumps from the wet well.



Photo 2 – Bartel Lift Station Antenna, Emergency Generator, and Davit Crane

Collection System Improvements:

The sewer main on Gunsmith Way was upsized from 6 inches to 8 inches to address frequent maintenance issues. The sewer main on Sapphire Way was also upsized from 8 inches to 10 inches to eliminate sags that were identified in the old main. Ten sewer mains were repaired via CIPP lining, and a total of seven open-cut spot repairs and fifteen internal spot repairs were completed to address deficiencies in the collection system ranging from broken or collapsed pipe to root intrusion. Four manholes were rehabbed to reduce excess I&I from entering the system.



Photo 3 – Sapphire Way Sewer Main Replacement

LONG-TERM SOLUTION

The Project provides a long-term solution for wastewater treatment reliability by improving the integrity of the collection system, thereby reducing occurrences of sanitary sewer overflows and frequent operation and maintenance problems. Project components have an expected useful service life up to 50 years. Lift station improvements strengthen efficiency and reliability to convey future wastewater flows. SCADA allows for remote monitoring, resulting in improved operator response time, and will also support informed decisions when improvements become necessary in the future.

COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

Phase I:

Required Mitigation Measures (MMs) were included as a condition of the Construction Contract as described in the Project Manual, Supplementary Conditions, page 00800-25, SC-19.10, Item E. Furthermore, additional environmental requirements were further required as described in the Project Manual, Supplementary Conditions, on pages 00800-25 through 00800-27.

MMs 4.3.1, 4.4.1, 4.8.1, and 4.12.1 through 4.12.4 were checked for compliance during field site visits by BWD and the Construction Observer during special inspections.

MM 4.4.2 required a bird nesting survey to be completed if vegetation removal or ground disturbance activities were to occur during the nesting season. The project environmental subconsultant, ENPLAN, was consulted prior to the start of construction and indicated that since no trees were in the project vicinity of Phase I work, only the Main Lift Station building itself had the potential for nests. Furthermore, ENPLAN indicated that only one eave over the door was a potential location for a nest. As such, ENPLAN requested that BWD do a visual inspection a few days prior to the start of construction and notify them if a nest was observed. The survey by BWD was completed a few days prior to the initiation of ground disturbance activities, and no nests were observed.

No archaeological or paleontological resources, human remains, or signs of any soil contamination were encountered during construction; therefore, MMs 4.5.1, 4.5.2, and 4.8.1 were complied with.

Construction of Phase I was completed during the dry season; therefore, little to no erosion control was required.

Phase II:

MM 4.3.1 for air quality was included in the Project Manual, Volume 1, Attachment A. The Construction Observer verified that these measures were followed throughout construction.

MM 4.4.1 for the potential for introduction and spread of noxious weeds was included in the Project Manual, Volume 1, Attachment A. The Construction Observer verified that these measures were followed throughout construction.

MM 4.4.2 for a bird nesting survey was included in the Project Manual, Volume 1, Attachment A. The initial survey, conducted by a qualified wildlife biologist on May 10, 2022, revealed no active nests were present at the various project sites. Subsequent surveys conducted on June 10, 2022, and February 14, 2023, revealed the same results.

MM 4.5.1 and MM 4.5.2 for cultural resources were included in the Project Manual, Volume 1, Attachment A. The Construction Observer verified that these measures were followed throughout construction.

MM 4.8.1 for hazardous materials was included in the Project Manual, Volume 1, Attachment A. The Construction Observer verified that these measures were followed throughout construction.

MM 4.12.1 through MM 4.12.4 for noise were included in the Project Manual, Volume 1, Attachment A. The Construction Observer verified that these measures were followed throughout construction.

The United States Department of Interior, Fish and Wildlife Service (USFWS) letter dated August 29, 2018, included as part of Exhibit D of the funding agreement, includes additional erosion control conditions and limits construction to the dry season. A 120-day winter weather shutdown period was accounted for and included in the Contract Documents. The Contractor submitted an erosion control plan as required by the Contract Documents and the Construction Observer verified that these measures were followed throughout construction.

No unexpected environmental issues were encountered during construction, and all environmental requirements were complied with throughout the Project.

PROJECT SCHEDULE

Claim 22, the final disbursement claim, has been submitted to the Division of Financial Assistance (DFA). With functional acceptance testing accomplished and the Notice of Completions filed for both Phases I and II, the Project is now complete.

CONTRACT CHANGE ORDERS

Contract change orders are summarized in Table 1.

Table 1 – Contract Change Order Summary			
PHASE I			
No.	Tasks	Contract Days Added for Final Payment	Amount
1	Repair Main Lift Station floor after removal of existing generator and additional anchor bolt holes in new generator base.	0	\$6,523.00
PHASE II			
No.	Tasks	Contract Days Added for Final Payment	Amount
1	Electrical revisions to the customer meter inside the Main Lift Station switchboard and relocation of a sewer lateral on Gunsmith Way.	0	\$0
2	Electrical revisions to the main circuit breaker and generator to be installed at the Bartel Lift Station, additional open-cut spot repair and relocation of a distribution main due to unforeseen site conditions, CIPP lining material change due to existing host pipe material conflict and credit for manhole gaskets material change.	0	\$96,089.67
3	Structural revisions to the MCC and switchboard details for reduced overall equipment pad footprints.	0	\$0
4	Removal and replacement of five rod holes, not including concrete collars and final surface restoration, to facilitate installation of CIPP liners in original Scope of Work and material change credit for previously approved epoxy resin liner material cost.	0	\$22,862.74
5	Controls modifications to the Main Lift Station lead and lag sewage pumps.	0	\$1,319.33
6	Bartel Lift Station antenna cable and generator battery and heater conductor changes and extension of contract times with associated costs.	96	\$3,690.01
7	Revisions made to Gunsmith Way sewer improvements, additional open-cut spot repair, final surface restoration at constructed sites identified in previous change orders, and extension of contract times with associated costs.	153	\$55,187.12
8	Installation of new Owner-furnished comminutor and control panel and associated changes to conduit routing, extension of concrete equipment pad for new switchboard to satisfy PG&E requirement, modification to bypass pump discharge connection, material cost for additional dismantling joint, extension of contract times, and credit for waived fabricator’s warranty requirement for the shade canopy roof panels.	32	\$11,411.52
9	Addition of guardrail around the Main Lift Station wet well, surface restoration where equipment was removed, installation of crushed rock around new switchboard structure, compensation for material cost increases, and material credit for check valves.	0	\$15,532.62
10	Main Lift Station VFD controls modifications, troubleshooting comminutor control panel, and no-cost extension of contract times.	30	\$3,868.68
11	Additional equipment tag for comminutor control panel and no-cost extension of contract times.	31	\$226.50
Total (Phase I & II):		342	\$216,711.19

PROJECT BUDGET

The final Project budget is summarized in Table 2 below:

Table 2 – Project Budget and Expenditures		
Task	Final Budget	Amount Spent
Facilities Construction Cost	\$1,882,000	\$1,892,509
Pre-Purchased Material/Equipment	\$49,901	\$50,355
Change Order Contingency	\$282,692	\$216,711
Design	\$301,098	\$303,568
Construction Management	\$573,920	\$705,206
Administration	\$20,000	\$4,543
Total:	\$3,109,611	\$3,172,892

Please contact me with any questions you have regarding this Project Completion Report.

Sincerely,



Laurie McCollum
Project Manager

- c: David Zevely, Burney Water District, dzevely@burneywater.org
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