

PROJECT 05: NBWRP Phase 2

IMPLEMENTING AGENCY: Sonoma County Water Agency (Sonoma Water) on behalf of the North Bay Water Reuse Authority

PROJECT DESCRIPTION: The North Bay Water Reuse Program (NBWRP) Phase 2 Program is a regional effort to construct 16 sub-regional treatment and distribution system projects over the next 10 years in the San Pablo Bay watershed. Sonoma Water is the Administrative and Fiscal Agent for the North Bay Water Reuse Authority (NBWRA). The workplan below would complete two subprojects of the NBWRP Phase 2 Program.

The City of Petaluma Tertiary Expansion Project proposes to increase tertiary treatment capacity at Ellis Creek Water Recycling Facility (ECWRF). This project includes facility upgrades at the existing ECWRF to increase tertiary filtration and disinfection capacity by 2.12 million gallons per day (mgd). The existing ECWRF can treat 4.68 mgd to California Code of Regulations Title 22 tertiary treatment standards. The existing tertiary process includes continuous backwash filters and an ultra-violet (UV) disinfection system. The continuous backwash filters have performance and maintenance issues; the project includes the expansion of filtration capacity with cloth filter technology. The existing UV system was constructed with a third channel not currently in use to allow for future expansion. The project will add banks of UV lamps in the existing, unused channel, and upgrade existing UV lamps to the latest generation technology to match new lamps in the third channel. The project will include other related improvements to the tertiary system. Proposed facilities would provide 2.12 mgd of new tertiary filtration capacity and a project yield of 712 acre-feet per year (AFY).

These improvements would allow the City of Petaluma to produce additional tertiary treated recycled water to meet increasing recycled water demands. The need for recycled water has increased due to recent drought conditions. The City is expanding recycled water in urban areas to reduce potable water demand for irrigation at parks, schools and landscape areas. Agricultural properties adjacent to the City are increasing demands for recycled water to reduce reliance on local groundwater and surface water for irrigation.

The City of American Canyon Recycled Water Distribution System Expansion Project proposes adding several new distribution pipelines in their service area. The identified pipeline extensions will build off their existing system to deliver recycled water to existing landscaping and industrial users on potable water and convert them to recycled water for non-potable uses. The customer demands associated with these extensions would be met directly from the American Canyon Water Recycling Facility (WRF) during the peak months with no seasonal storage needed. The Recycled Water Distribution System Expansion has been phased and the portion funded by this grant will focus on constructing only within existing built roadways including Dodd Court, Klamath Court, Spikerush Circle and Benton Way. This portion of the project will provide 48 AFY and include 3,070 LF of 6-inch-diameter pipelines.

These subprojects also provides additional benefits by improving regional water supply reliability by reducing reliance on groundwater and surface water, reducing demand on local and imported potable water supplies, providing local supply to meet water demands for irrigation, and reducing effluent discharges to San Pablo Bay.

Budget Category (a): Project Administration

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| <u>Task 1 - Project Management</u> | <u>% Complete_0</u> |
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Manage grant agreement including compliance with grant requirements, and preparation and submission of supporting grant documents and coordination with IRWM regional manager, the Association of Bay Area Governments. Prepare invoices including relevant supporting documentation for submittal to DWR via Association of Bay Area Governments. This task also includes administrative responsibilities associated with the project such as coordinating with partnering agencies and managing consultants/contractors.

The NBWRP Phase II Projects are a cooperative effort between Sonoma Water (acting on behalf of NBWRA), City of Petaluma, and City of American Canyon. NBWRA operates under its fourth amended memorandum of understanding and Sonoma Water, as the appointed administrative and fiscal agent, will serve as the grant administrator. Sonoma Water will work with all partners including Association of Bay Area Governments, City of Petaluma, and City of American Canyon on grant requirements and submittals. City of Petaluma will implement the Tertiary Expansion subproject and coordinate with Sonoma Water. City of American Canyon will implement the Recycled Water Distribution System Expansion Project subproject and coordinate with Sonoma Water.

If funded, the MOU will be amended or a separate agreement between Sonoma Water, City of Petaluma, and City of American Canyon will be drafted to formalize responsibilities and cost sharing.

Deliverables:

- Environmental Information Form (EIF)
- Financial Statements
- Invoices
- Other Applicable Project Deliverables

Task 2 – Reporting % Complete 0

Prepare progress reports detailing work completed during reporting period as outlined in Exhibit G of this Agreement. Submit reports to the Association of Bay Area Governments for review and inclusion in a progress report to be submitted to DWR.

Prepare draft Final Project Completion Report and submit to DWR via the Association of Bay Area Governments for DWR Project Manager's comment and review no later than 90 days after project completion. Prepare Final Report addressing the Association of Bay Area Governments/DWRs comments. The report shall be prepared and presented in accordance with the provisions outlined in the DWR Grant Agreement.

Deliverables:

- Quarterly Project Progress Reports
- Final Project Completion Report

Budget Category (b): Land Purchase/Easement**Task 3 - Feasibility Studies**

No land purchase or easement activities are planned as part of this project.

Deliverables:

- No Deliverables

Budget Category (c): Planning/Design/Engineering/Environmental Documentation**Task 4 - Feasibility Studies** % Complete 100

A Project Feasibility Study was prepared as part of the project development process by NBWRA. The feasibility study report presents the North Bay Water Reuse Program's engineering evaluation and economic and financial analysis for Phase 2 of the North Bay Water Reuse Program. Costs to complete the feasibility studies have not been included as local cost share.

Deliverables:

- Relevant Feasibility Study

Task 5 - CEQA Documentation % Complete 100

Sonoma Water circulated a Notice of Preparation in July and August 2017, and held a series of scoping meetings in early August 2017. A Public Draft EIR/EIS (SCH # 2017072051) was circulated for a 45-day public review period from April 4 through May 18, 2018. During this period, four public hearings were held in Marin, Sonoma, and Napa counties. Written comments from four entities were received during the public review period. (No oral comments were received at any of the public hearings.) The written comments focused on concerns regarding construction on or near State roadway facilities, potential for effects to geothermal reservoirs in the Sonoma Valley, the Phase 2 Program's relation to water quality objectives, and the potential for elements to exacerbate flooding or flooding risk. A Final EIR/EIS was distributed on August 3, 2018, and has been made available for the minimum 10-day review period required by CEQA. On August 14, 2018, acting as the Board of Directors for the Sonoma County Water Agency, the administrating agency for NBWRA and Lead Agency under CEQA, the Sonoma County Board of Supervisors certified the Phase 2 Program's EIR/EIS.

Deliverables:

- Copy of Notice of Preparation
- Final environmental document(s)
- Copy of Notice of Completion
- Copy of Notice of Determination
- No Legal Challenges letter
- Resolutions from partner agencies

Task 6 – Permitting % Complete 0

City of Petaluma Tertiary Expansion Project: Acquire Order Approving Wastewater Change Petition, Water Code Section 1211 from State Water Resources Control Board, building permit from City of Petaluma Building Division, General Approval for the production, distribution, and use of recycled water under Title 22 of the California Code of Regulations (Title 22) by the Regional Water Quality Control Board and the Division of Drinking Water

Deliverables:

- Order Approving Wastewater Change Petition, Water Code Section 1211
- Building Permit
- Approved Bioassay Test Protocol by Division of Drinking Water
- Approved Bioassay Testing Results by Division of Drinking Water
- Approved Engineering Report (Title 22) by Division of Drinking Water

Task 7 – Design % Complete 40

City of Petaluma Tertiary Expansion Project: Complete preliminary design including the following supporting work: geotechnical investigation and basis of design report (BOD). The BOD will provide the overall project concept for use in development of final design, plans and specifications including: preliminary design details for filter foundation, preliminary design details and 100% (Final) design, plans, and specifications. A review of tertiary filter options was completed that included the following supporting work: Copies of filter technology review materials obtained from suppliers, draft and final presentation including conceptual design materials, cost estimate, and layouts, and final conceptual design materials and meeting notes from the presentation of the conceptual design

City of American Canyon Recycled Water Distribution System Expansion Project: A Project Charter was completed by staff for the Project. Tasks included in the charter included: CEQA, data gathering, field investigation, customer outreach, preparation of plans, specifications and estimates, and construction.

CEQA, data gathering, field investigation work, and initial customer outreach has been completed. Staff has prepared 60% plans, specifications and estimates.

Final plans, specifications and estimates will be completed by Spring of 2020.

Deliverables:

- Geotechnical Reports
- BOD Report/Project Charter
- 100% design, Bid set submittal including signed and sealed drawings and specifications
- Construction cost estimates
- Other relevant reports

Task 8 - Project Performance Monitoring Plan % Complete 0

Develop and submit a Project Performance Monitoring Plan. The Project Performance Monitoring Plan will include baseline conditions, a brief discussion of monitoring systems to be used, methodology of monitoring, frequency of monitoring, and location of monitoring points.

Deliverables:

- Project Performance Monitoring Plan

Budget Category (d): Construction/Implementation

Task 9 - Contract Services % Complete 0

City of Petaluma and City of American Canyon will perform activities necessary to secure a contractor and award the contract in compliance with all laws, regulations, and their respective internal protocols. Activities include: develop bid documents, prepare advertisement and contract documents for construction contract bidding, conduct pre-bid meeting, bid opening and evaluation, selection of the contractor, award of contract, and issuance of notice to proceed.

Deliverables:

- Bid documents
- Proof of Advertisement
- Award of contract

- Notice to proceed

Task 10 - Construction Administration % Complete 0

This task includes managing contractor submittal review, answering requests for information, and issuing work directives. A full-time engineering construction observer will be on site for the duration of the project. Construction observer duties include: documenting of pre-construction conditions, daily construction diary, preparing change orders, addressing questions of contractors on site, reviewing/ updating project schedule, reviewing contractor log submittals and pay requests, forecasting cash flow, notifying contractor if work is not acceptable.

Deliverables:

- Notice of Completion

Task 11 - Construction/Implementation Activities % Complete 0

Construction activities are outlined below and will adhere to construction standards, health and safety standards, laboratory analysis protocols, and acceptable standard methods. City of Petaluma will ensure that improvements will be constructed to meet Title 22 tertiary treatment standards and 2012 National Water Reuse Institute UV Guidelines. City of American Canyon will ensure project will be constructed in accordance with the City of American Canyon Standard Plans and Specifications (City Standards). Both entities will follow CalOSHA standards and State Water Board requirements.

City of Petaluma Tertiary Expansion Project:

- Pre-Construction Conference
- Mobilization and Demobilization
- Site preparation will include removing existing gravel parking area in filter area.
- Install, Construct
 1. Addition of a cloth media disk filter system, with connection to the existing filter influent feed channel.
 2. Addition of Suez (Ozonix) UV disinfection equipment (40 HO Gen 2) for the third channel of the existing UV system, and replacement of the existing UV modules with upgraded modules (40HO Gen2) to match the new third channel units.
 3. Addition of two tertiary feed pumps to the existing filter feed pump station, modification to flow meter and header piping, and addition of flushing connections.
 4. Additional improvements to existing facilities including:
 - Existing filter facility modifications: Slope floor within flocculation basins, replace existing pumps with higher capacity sump pumps, modify meter and bypass piping.
 - Existing UV facility modifications: Add canopy shade structure; add second acid dip tank for UV modules, replace buried UV Channel drain valves, add channel coating.
 - Other modifications to tertiary system: Upsize existing tertiary effluent flow meter; Influent channel/box: Replace the 6-inch outlet diffuser pipe with 8-inch outlet diffuser pipe and add grout to slope interior of box to a recessed sump; addition of power monitoring for the UV power feeder; addition of a UV module rack or support system to be used when modules are to be removed for channel cleaning; Filter Support Building: Air compressor room HVAC upgrades to reduce heat during warm weather.
- Startup and Testing (Includes Bioassay Testing for UV system)
- Project Closeout
- Record Drawings

City of American Canyon Recycled Water Distribution System Expansion Project:

- Mobilization and Demobilization
- Site preparation will include Potholing, Stormwater Pollution Prevention Plan (SWPPP), and Traffic Control
- Install, Construct
 - Main: Excavation, bedding, PVC pipe, valves, backfill, testing
 - Services: Excavation, bedding, PVC pipe, meter, backflow, meter box, backfill, testing

- Irrigation conversion, including signage
- Trench paving
- Striping
- Project Closeout
- Record Drawings

Deliverables:

- Photographic documentation
- Engineers Certification
- Startup Plans
- Record Drawings