

WaterSMART

Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse Program Funding Opportunity R15AS00015

North Bay Water Reuse Program (NBWRP):
Phase 2 Feasibility Study March 2015

North Bay Water Reuse Authority
Sonoma County Water Agency (Administrative Agency for NBWRA)

Point of Contact:

Kevin Booker

404 Aviation Boulevard

Santa Rosa, CA 95403

Kevin.Booker@scwa.ca.gov

Tel: 707-521-1865

Fax: 707-523-4322

Table of Contents

Technical Proposal.....	1
Executive Summary.....	1
Technical Project Description.....	2
Task 1 Management.....	2
Task 1.1 Workshops/TAC Meetings.....	2
Task 1.2 Public Involvement.....	2
Task 1.3 Administration.....	2
Task 2 Title XVI Feasibility Study and Report.....	2
Task 2.1 Introductory Information.....	3
Task 2.2 Statement of Problems and Needs.....	3
Task 2.3 Water Reclamation and Reuse Opportunities.....	3
Task 2.4 Analysis of Alternatives and Feasibility Study Report.....	4
Task 3 Grant Administration.....	6
Schedule.....	7
Evaluation Criteria.....	8
Evaluation Criterion 1: Statement of Problems and Needs.....	8
Evaluation Criterion 2: Water Reclamation and Reuse Opportunities.....	9
Evaluation Criterion 3: Description of Potential Alternatives.....	11
Evaluation Criterion 4: Stretching Water Supplies.....	13
Evaluation Criterion 5: Environmental and Water Quality.....	15
Evaluation Criterion 6: Legal and Institutional Requirements.....	16
Evaluation Criterion 7: Renewable Energy and Energy Efficiency.....	17
Evaluation Criterion 8: Watershed Perspective.....	18
Required Permits or Approvals.....	19
Funding Plan and Letters of Commitment.....	19
Funding Plan.....	20
Official Resolution.....	21
Project Budget Application.....	22
Budget Proposal.....	22
Agency Costs.....	23
Sonoma County Water Agency.....	23
Contractual Costs.....	25
Budget Narrative.....	26
Attachment 1: Draft Resolution.....	27



North Bay Water Reuse Authority

March 2015

Phase 2 Feasibility Studies

Technical Proposal

Executive Summary

Date: March 3, 2015.

Applicant: Sonoma County Water Agency located in Santa Rosa California is the fiscal agent for the North Bay Water Reuse Authority (NBWRA/Authority). The NBWRA covers 3 counties in Northern California: Marin, Sonoma and Napa. NBWRA members are Marin, Sonoma and Napa counties and 7 municipal, water and wastewater agencies.

Schedule: The Feasibility Study was initiated on July 1, 2014. The study will take two years and will be complete by June 30, 2016.

The North Bay Water Reuse Program (NBWRP/Program) is a watershed based regional-scale reuse Program developing recycled water as new supply for urban, agricultural, and environmental water demands. The Program area covers 318 square miles of California's Marin, Sonoma, and Napa counties. The NBWRP was authorized by Congress in P.L. 111-11, Section 9110, which provided for a 2-phased Program (underlying budget authority for Phase 2 construction pending action by Congress). Phase 1 was determined feasible in 2009 and is comprised of six projects currently under construction that are at approximately 75 percent completion. Full completion of Phase 1 projects is expected in 2018.

The Authority recently undertook a series of concept-level Scoping Studies to assist with scaling Phase 2 feasibility investigations. These studies resulted in 3-new members joining the organization, identified an additional 25,000 AFY of available recycled water and produced a strong candidate portfolio of potential storage, treatment, distribution, groundwater and environmental projects for further analysis.

Therefore, Phase 2 proposes to build upon the success of Phase 1 by increasing operational flexibility through integrated storage facilities that allow for year-round capture and use of recycled water, an expanded distribution network that assists with groundwater recovery through recharge and salt-water intrusion mitigation projects and supports healthy riparian and aquatic habitats. Unlike other recycled water projects that use recycled water only to increase water reliability, the Authority intends Phase 2 to address the impacts of climate change and prolonged drought on the region's water supply by capturing and putting to use the identified 25,000 AFY of recycled water that historically has been lost to discharges in San Pablo Bay.

The NBWRA also intends Phase 2 to be more than an infrastructure addition to Phase 1. By demonstrating how, with thoughtful planning, recycled water projects can build resiliency

into the drought impacted region's supply, serving multiple end-users - agricultural, urban and environmental – and thereby creating and delivering greater value for both federal and local investment.

The Authority is proceeding with Phase 2 Feasibility Studies and preparation of a Phase 2 Feasibility Report. Using the outcomes from the Scoping Studies, the NBWRA has a clear set of objectives and criteria supported by a solid understanding of the diversity of projects to be addressed in the next level of investigations.

These investigations will identify the most feasible, drought resilient new water supply alternatives for the region—a region that has no alternative supply—by using a resource that would otherwise be discharged and lost to San Pablo Bay.

Technical Study Description

The following is excerpted from the Phase 2 Feasibility Study scope of work that provides the entire planning, engineering, environmental, economic, public information and administrative management needed to undertake Phase 2 Feasibility investigations.

The product of this scope of work is the Feasibility Study. As noted in the following discussion, significant information will be drawn from the Scoping Studies conducted in preparation for undertaking full Phase 2 Feasibility Study investigations.

Task 1 Management

Task 1.1 Workshops/TAC Meetings

A total of five workshops are planned with the North Bay Water Reuse Authority Board and Technical Advisory Committee (TAC). Additionally, there will be three NBWRA Board/TAC meetings and eight TAC only meetings.

Task 1.2 Public Involvement

The public involvement program is integral to all phases of the Program. It supports planning, environmental and program development tasks and includes the following activities:

- Support Program Public Outreach and Communication Needs
- Stakeholder Relations – Public Meetings & Workshops

Task 1.3 Administration

The Sonoma County Water Agency (SCWA) is responsible for overall management responsibilities. The prime consultant will manage, compile invoicing, conduct administration and documentation of the subconsultant's activities, and report directly to SCWA.

Task 2 Title XVI Feasibility Study and Report

The scope of work supports the NBWRA's intent to prepare a Phase 2 Feasibility Study for the North Bay Water Reuse Program that will identify the most feasible program alternatives in accordance with U.S. Bureau of Reclamation's "Reclamation Manual Directives and Standards WTR 11-01" (WTR 11-01).

The tasks below follow the outline of WTR 11-01 and define the product of the Feasibility Study Report. The sequence of report sections does not necessarily represent the sequence of tasks to conduct the study – see page 7 for study schedule.

The studies will build on the investments made in Phase 1 and a significant amount of information will be drawn from the 2008 Phase 1 Feasibility Study Report (aka Phase 3 Engineering and Economic/Financial Analysis Report) and elements of the Scoping Studies; the 2012 Phase 2 Project Definition Study Report and the Phase 2 Final Scoping Study Report.

Task 2.1 Introductory Information

Basic information regarding the Program, Member Agencies and the study area will be summarized based on previous reports developed during the Phase 1 and Phase 2 Scoping efforts and updated with available new information.

Task 2.2 Statement of Problems and Needs

This task provides a description of the study area's key water resource management problems and needs for which water reclamation and reuse may provide a solution. The NBWRA plans to leverage information provided in other studies and current drought and climate data to inform development of the water supply picture in the study area.

The statement of problems and needs will describe:

- **Problem and Need for a Water Reclamation and Reuse Project.** A broad view of the study area's water resources, including challenges such as growing population, dry year surface water supply restrictions, limited groundwater resources and increasingly stringent wastewater discharge requirements, will be prepared.
- **Current and Projected Water Supplies.** Current and projected water supplies for the study area will be described and quantified. Total amounts of water supply developed in the Scoping Study will be included in the description of water supplies.
- **Current and Projected Water Demands.** Demand projections developed by the urban water suppliers in their 2010 Urban Water Management Plans (UWMPs) will be used and supplemented by new analysis to reflect updated growth and unit water use conditions, and to address the smaller communities' water demands. Agricultural and urban demands will be presented using the irrigation water needs analysis presented in the 2008 Feasibility Study Report and updated to reflect new information.
- **Water Quality Concerns for the Current and Projected Water Supply.** Water quality issues will be presented. Water quality supply impacts in the 2010 Urban Water Management Plans (UWMPs) will be used as one of the information sources.
- **Current and Projected Wastewater and Disposal Options other than the Proposed Title XVI project, and Plans and Project Costs for New Wastewater Facilities.** The current and future quantity of recycled water will be derived from Section 4 of the Phase 2 Scoping Study Report. Recycled water quantity will be expressed on an annual and monthly basis.

Task 2.3 Water Reclamation and Reuse Opportunities

This task will build on projects from Sections 3 and 5 of the Phase 2 Scoping Study Report into a format suitable to meet the requirements specified in WTR 11-01 listed below:

- Uses for reclaimed water.

- Water market available to use recycled water to be produced.
- Considerations that may prevent implementing water reuse program.
- Identification of water and wastewater agencies.
- Potential sources of water to be reclaimed, including impaired surface and ground waters.
- Description and location of source water facilities.
- Current water reclamation and reuse technologies and opportunities for developing improved technologies.

Task 2.4 Analysis of Alternatives and Feasibility Study Report

The following data is required by WTR 11-01 for the analysis and selection of alternatives. These topics are required in the Feasibility Study Report.

Task 2.4.1 Non-federal Funding Future Actions

This task provides a baseline for the “no project” alternative by identifying actions Member Agencies might take if no federal funding is provided.

Task 2.4.2 Program Objectives

The Phase 2 Scoping Study identified the Program objectives and subobjectives. Appropriate performance metrics will be developed to evaluate how well an objective is being achieved, either quantitatively or qualitatively. The alternatives will be scored against the Program objectives. The Phase 2 objectives developed in the Scoping Studies that will provide the basis for this effort are shown in Evaluation Criterion 3 (page 11).

Task 2.4.3 Alternatives Considered

Based on the projects identified in the Scoping Study, three alternatives including the No Project alternative will be formulated to meet Program objectives. These alternatives will receive a reconnaissance-level analysis, and the Program objectives will be applied to support Member Agency selection of the proposed Program in Task 2.4.4. The following subtasks will be conducted to develop information and costs of three alternative projects:

- **Alternative Formulation.** The conceptual alternatives will be formulated to meet objectives and to develop an equitable benefit to Member Agencies.
- **Layout of Alternatives.** Project layouts of the pipeline routes and locations of the treatment, wells, storage, pumping facilities, and environmental projects.
- **Cost Estimates.** Estimated costs will include capital, annual operation maintenance, replacement, and life-cycle costs.

Task 2.4.4 Proposed Program Description

The proposed Program will require more detailed definition than the alternatives in Task 2.4.3. The proposed Program will be selected by the Member Agencies applying the objectives discussed in Task 2.4.2. The following subtasks will be conducted on the Proposed Program:

- **Layout of Alternative.** Project layouts of the pipeline routes and locations of the treatment, storage, well, environmental projects and pumping facilities will be developed.
- **Geotechnical Review.** A geotechnical analysis will address existing geologic and geotechnical conditions, in a regional and project-specific context, for the proposed

infrastructure. Geologic conditions described will include topography, stratigraphy, faulting and seismicity. Significant information will be drawn from the 2006/2008 Geologic Conditions and Geotechnical Constraints Technical Memorandum of the Phase 1 Feasibility Study.

- **Hydraulic Analysis.** The purpose of this task is to evaluate the hydraulics of the proposed distribution system to determine the hydraulic grade line under anticipated peak demand month flows.
- **Cost Estimates.** Estimated costs will include capital, annual operation and maintenance, replacement, and life-cycle costs. The estimates will be developed as required for feasibility studies in Reclamation Manual Directives and Standards, Cost Estimating (FAC 09-01).
- **Discharge Requirements.** A description of anticipated effluent treatment and disposal water quality requirements for the proposed Program will be identified.
- **Alternative Measures or Technologies.** Alternative measures, or technologies available for water reclamation, distribution and reuse for the proposed Program, will be identified and summarized.

Task 2.4.5 Economic Analysis

An economic analysis will address three analyses for the Program:

- A life-cycle cost analysis to determine the most cost-effective of the three alternatives. The life-cycle costs analysis calculates annual capital costs of implementing alternatives over a 50-year period of analysis using the current real discount rate and adding annual operations and maintenance costs.
- An economic analysis to evaluate the economic benefits of the proposed alternative relative to the No Action Alternative using other water supply options.
- A non-quantifiable benefits analysis will document and describe qualitatively as complete as possible the difficult-to-quantify benefits.

Task 2.4.6 Proposed Program Selection

Following Task 2.4.3, the three alternatives will be evaluated, compared and scored against the Program objectives, subobjectives and performance metrics. The activities of Task 2.4.5 will be incorporated to provide scoring under the "Total Value and Cost-Effectiveness" subobjective. The preliminary scoring will be summarized for review and comment by the Technical Advisory Committee.

Task 2.4.7 Environmental Considerations and Potential Effects

This task will provide an overview of anticipated potential environmental effects, regulatory requirements and compliance measures. The analysis will focus on the selected Program alternative. Final environmental analysis (not part of this grant) will be completed after a finding of feasibility. The following topics required by WTR 11-01 will be addressed at a reconnaissance level:

- Potentially significant impacts
- Potentially significant environmental effects
- Status of required environmental compliance measures
- Measures necessary to comply with NEPA and other laws

- Water supply and water quality
- Public involvement
- Potential effects on historic properties

Task 2.4.8 Legal and Institutional Requirements

This task will describe the Program's institutional framework, interactions with other agencies and legal requirements. Significant information will be derived from the 2008 Feasibility Study. Specific topics to be addressed include:

- Water rights issues
- Legal and institutional issues
- Multi-jurisdictional or interagency agreements
- Permitting procedures
- Current and projected wastewater discharge requirements
- Rights to wastewater

Task 2.4.9 Financial Capability of Sponsor

The financial capabilities task at this stage will focus on the financial status of the participating agencies and will describe potential ways they may fund and repay their respective share of costs. This first analysis will provide sufficient information for Reclamation to determine that participating Member Agencies are likely to demonstrate financial capability if the projects move to construction.

Significant baseline information for this task is available from the Phase 1 Feasibility Study (aka the 2008 Phase 3 Engineering and Economic/Financial Analysis Report) and the 2009 Title XVI Financial Capability Report.

Detailed analysis will be provided in the separate Financial Capability Report (not part of this grant) to demonstrate that each Member Agency (the non-federal project sponsor) is financially capable of funding the non-federal share of the project's costs before a funding agreement covering construction can be executed.

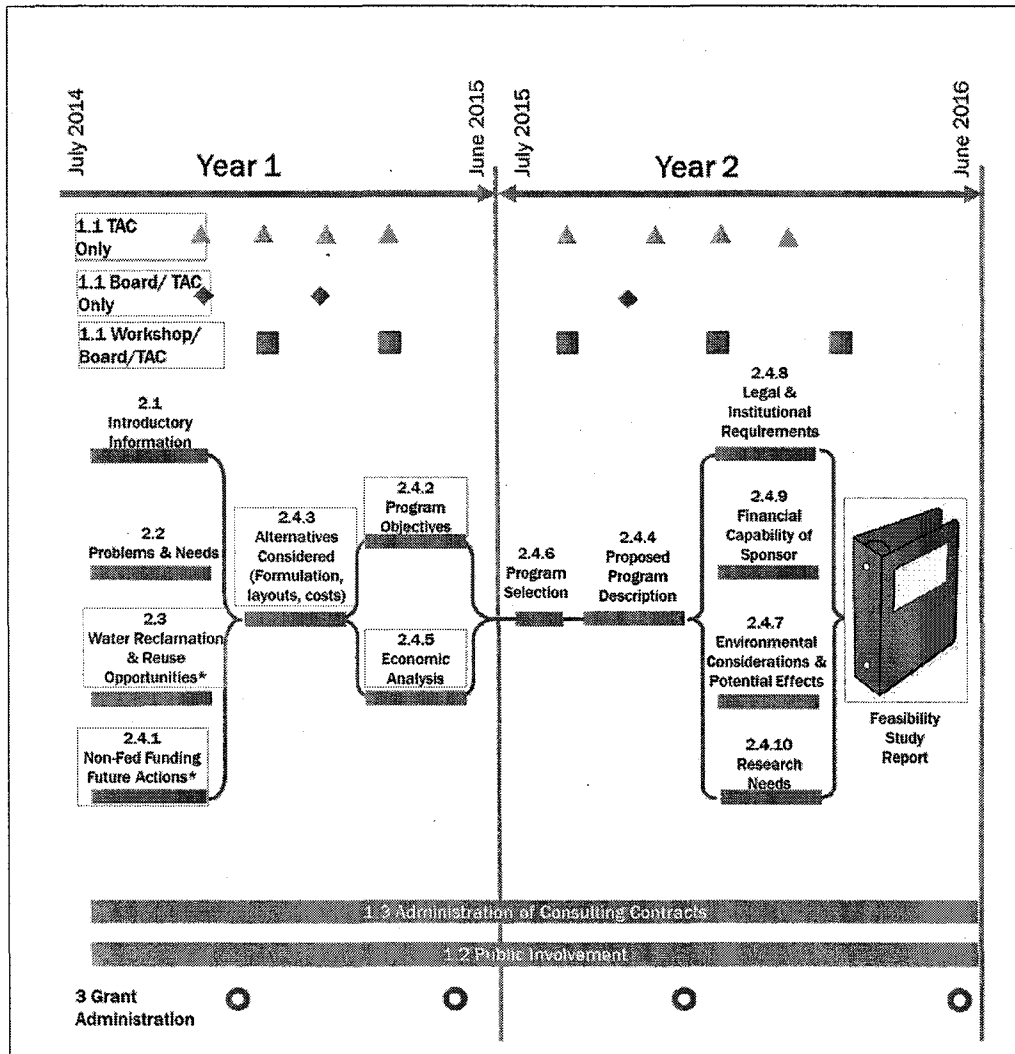
Task 2.4.10 Research Needs

Potential research needs identified during the Phase 2 Feasibility Study will be developed and summarized.

Task 3 Grant Administration

Administration and reporting will be done in coordination with the Sonoma County Water Agency (SCWA) as the primary fiscal agent for NBWRA. Administration consists of assisting NBWRA with completing the Feasibility Study grant agreements and preparing semi-annual reports for the duration of this 2-year study.

Schedule



Evaluation Criteria

Evaluation Criterion 1: Statement of Problems and Needs

10 points

Points will be awarded based on the presence of watershed-based water resource management problems and needs for which water reclamation and reuse may provide a solution. Describe in detail the water resource management problems and needs in the area and explain how water reclamation and reuse may address those problems and needs. Additional consideration will be given to proposals that explain how the problems and needs in the area may be impacted by climate change, and/or if the feasibility study will include climate change information in the supply and demand projections used.

The Program area is the watershed that drains into the northern edge of San Pablo Bay; the northern part of the greater San Francisco Bay. It is home to urban and rural residential areas, extensive vineyards and agriculture and diverse environmental communities that include riparian corridors and salt marsh providing habitat for fisheries, aquatic species and a home for migrating waterfowl on the North American Pacific flyway.

The region is not served by a state or federal water project and urban water supply primarily relies on groundwater and restricted surface diversions from the Russian River. In both Napa and Sonoma counties the United States Geological Survey (USGS) has documented over-drafted groundwater basins that serve rural households and agricultural users. The combined effects of reduced surface water supply and over-drafted groundwater basins have resulted in the region experiencing serious water supply shortages exacerbated by impacts associated with climate change such as; inconsistent rainfall, frequent drought and significant water quality degradation from saltwater intrusion from the Bay.

The Member Agencies are incorporating downscaled climate futures into simulated unimpaired hydrology that is input into their planning models of supply and demand. For the groundwater they are linking climate futures to a coupled surface water - groundwater model in the Santa Rosa Plain, the Sonoma Valley, and in the future for the Petaluma Valley. For groundwater planning, they will be working with stakeholder groups to use the models to conduct scenario-based planning. Also, they are increasing their downscaled climate futures.

Simply put the region is water short and the only new supply available to address potable water shortages is recycled water. Currently the Program's sanitation districts discharge an estimated 25,000 AFY of highly treated wastewater into San Pablo Bay. This valuable water resource—if captured and stored—can be put to beneficial use throughout the watershed building resiliency into the water supply and creating a buffer against the variables of drought and climate change on an increasingly overtaxed water supply.

Phase 1 of the NBWRP identified six projects that when completed in 2018, will yield 5,500 AFY of recycled water for irrigation and habitat restoration. Due to the regional-scale of the Program, Phase 1 projects primarily focused on infrastructure that both upgraded treatment capacity and delivered water to users in close proximity to treatment plants.

In Phase 2, we plan to build on the infrastructure investment made in Phase 1 and potentially capture an additional 25,000 AFY of recycled water should storage be made

available. Therefore a major component of the Phase 2 Study will be to investigate how to best capture and store this water for year-round use and, in turn, its distribution for irrigation, groundwater management and environmental uses.

Evaluation Criterion 2: Water Reclamation and Reuse Opportunities

15 points

Points will be awarded based on the extent to which the proposal demonstrates that the Title XVI feasibility study will explore opportunities for water reclamation and reuse in the study area.

1. Describe how the feasibility study will investigate potential uses for reclaimed water (e.g., environmental restoration, fish and wildlife, groundwater recharge, municipal, domestic, industrial, agricultural, power generation, and recreation).

A foundational premise of the NBWRP is to develop and serve recycled water to multiple end-users within the watershed; urban, agricultural, and environmental. This premise or approach was investigated, determined feasible and demonstrated in projects constructed under Phase 1.

Phase 2 studies will again use this approach and investigate how best to build on the Phase 1 infrastructure investments. Member Agencies have identified recycled water storage, treatment and distribution, groundwater management and environmental projects to be investigated at the Feasibility level.

Members projects will be analyzed for their respective ability to build capacity in their own water supply but also how in aggregate, they contribute to mitigating water shortages and drought impacts to the region as a whole – serving urban, agricultural and environmental end-users - therefore providing the greatest return on investments to their agencies and the North Bay communities they serve—as opposed to simply the selecting a project based on the yield or cost per acre-foot.

2. Describe the potential water market available to use any recycled water that might be produced upon completion of a Title XVI project, as well as methods to stimulate recycled water demand and methods to eliminate obstacles to the use of reclaimed water.

The biggest limitation on realizing the full potential of the Program is the lack of storage to capture the identified 25,000 AFY of recycled water for distribution and balancing seasonal demands on the system. From a market perspective, the study will integrate and evaluate urban, environmental, community and agricultural user needs. In a Program of this scale, in a severally drought impacted region, the demand for recycled water supply is not the issue; it is the ability to capture and deliver a consistent, sustainable, high-quality supply that is the obstacle to full use of the resource.

3. Describe the sources of water that will be investigated for potential reclamation, including impaired surface and ground waters.

The sources of water for potential reclamation are the wastewater discharges from the NBWRA's Member Agencies. The Member Agencies that contribute treated wastewater to the Program are Novato Sanitary District (NSD), Sonoma Valley County Sanitation District

(SVCSD), City of Petaluma and Napa Sanitation District (Napa SD). These agencies have a combined 25, 000 AFY of additional water to contribute to Phase 2 projects.

In Napa and Sonoma counties, the United States Geological Survey (USGS) has documented over-drafted groundwater basins; in Sonoma County this situation has been further exacerbated by saltwater intrusion from the Bay.

Evaluation Criterion 3: Description of Potential Alternatives

15 points

Points will be awarded based on the extent to which the proposal demonstrates that the Title XVI feasibility study will develop descriptions of water supply alternatives, including a proposed Title XVI project and other water supply alternatives.

1. Describe the objectives all alternatives will be designed to meet. What other water supply alternatives will be investigated as part of the Title XVI feasibility study?

During the Scoping Study process, the NBWRA established Program criteria that integrated the needs of local agencies with those of potential funding partners. The objectives and sub-objectives will be used to both formulate and evaluate Program alternatives to select the most implementable portfolio of projects. These include but are not limited to the following:

Objective	Subobjective
Improve Regional Water Supply	<ul style="list-style-type: none"> • Improve local, regional, and state water supply reliability • Address impaired groundwater basins • Offset demands on potable water supplies • Maintain and protect public health and safety • Reduce dependence on the Delta
Sustainability	<ul style="list-style-type: none"> • Incorporate use of renewable energy and promote energy efficiency • Address climate change adaptation • Reduce greenhouse gas emissions
Watershed Approach	<ul style="list-style-type: none"> • Incorporate multiple agencies and stakeholders • Address multiple resources management strategies
Economic Feasibility & Financial Viability	<ul style="list-style-type: none"> • Cost effectiveness • Financially implementable projects
Readiness to Proceed	<ul style="list-style-type: none"> • Ability to start design • Ability to start construction
Environmental Enhancement	<ul style="list-style-type: none"> • Enhance local and regional ecosystems • Improve water quality for habitat • Improve instream flows for aquatic life
Social Issues	<ul style="list-style-type: none"> • Provide benefits to rural or economically disadvantaged communities • Address environmental justice considerations • Enhance recreation and open space opportunities • Maintain agricultural industry and culture

Member Agencies will be provided a multi-dimensional view of the quantitative and qualitative values associated with the final alternative and from this informed perspective, can evaluate and determine how well it meets the Program objectives.

2. Provide a general description of the proposed project that will be the subject of a Title XVI feasibility study.

The Authority is proposing to build on Phase 1 infrastructure with a suite of recycled water projects that could include storage, treatment, distribution systems, groundwater management, and environmental projects. New water storage facilities would enable the capture and reuse of up to 25,000 AFY for year-round use.

3. Describe alternative measures or technologies for water reclamation, distribution, and reuse that will be investigated as part of the Title XVI feasibility study.

The Scoping Studies helped Members understand how much new recycled water was potentially available and to identify multi-purpose Program opportunities for its use. Opportunities to be addressed in the Feasibility Study include landscape and agricultural irrigation, groundwater management and a broad range of environmental enhancement opportunities. There are significant opportunities for synergistic water supply, effluent management, and recreation and habitat restoration projects that would engage multiple agencies in cooperative alternatives. Additionally, these agencies share a commitment to designing projects to leverage financial resources, mitigate impacts of drought and sea-level rise due to climate change, and minimize discharges of highly treated recycled water into the Bay. Alternative measures for reuse that will be investigated include:

- Multi-purpose storage wetlands to temporarily store secondary effluent. The storage wetlands would store secondary effluent from Novato SD's wastewater treatment plant (WWTP), providing wet weather storage for reuse during the summer months and reducing effluent discharged into San Pablo Bay. The project plans to remove an existing Bayside levee and construct a new setback or earthen levee to create new freshwater wetlands as well as tidal wetlands using recycled water. The ecotone slope earthen levee would be a hybrid approach that combines tidal marsh restoration with construction of levees to be adaptive to climate change and sea level rise. This concept allows for shoreline protection and environmental enhancement through upland slopes with moist grasslands and brackish marshes inland of the tidal marsh.
- The City of Petaluma will work with local agricultural irrigators to create an "offset program" where agricultural irrigators that currently use groundwater will be served recycled water in the area northeast of the City's service area. This will allow the City of Petaluma to manage the groundwater basin to meet potable water demands. This program creates new water supply and directs each source towards its appropriate end-use.
- Sonoma County Water Agency in conjunction with Valley of the Moon Water District is working to manage the Sonoma groundwater basin to stop and reverse saltwater intrusion from San Pablo Bay. One area of focus is the El Verano Depression Area where they propose to use Russian River winter flows for aquifer storage and recovery (ASR). This program will benefit the region by adding new water to the basin, reduce salinity concentrations for potable and agricultural uses, and stabilize the groundwater basin.

Evaluation Criterion 4: Stretching Water Supplies

15 points

Points will be awarded based on the extent to which the proposal demonstrates that the Title XVI feasibility study will address activities that will help to secure and stretch water supplies.

1. Describe the potential for the project to reduce, postpone, or eliminate the development of new or expanded water supplies. Include description of any specific issues that will be investigated or information that will be developed as part of the Title XVI feasibility study.

This Program will reduce the development of existing and new non-recycled water supplies. Municipal, agricultural, and environmental water demands in the region are currently met through a combination of imported surface water from the Russian River, surface water supplies from local watersheds, and groundwater. This Program is being developed to reduce the current and/or expanded use of these constrained and drought impacted water supplies.

All of these local sources of water are over-allocated. In Napa County, the Program will address the Milliken-Sarco-Tulocay (MST) groundwater basin to reduce the development of deeper or new groundwater wells in the depleted groundwater basin. In Sonoma County, the use of alternative water supplies including recycled water and winter flow capture is a key part of the Sonoma County Water Agency (SCWA)'s Water Supply Strategies Action Plan (Action Plan). The Action Plan includes a set of nine strategies. This Program directly fits with four of the Action Plan strategies:

- Increase groundwater recharge and construct multipurpose stormwater detention facilities.
- Emphasizing the development of diversified water supply portfolios for each groundwater basin.
- Working with the Water Contractors to reduce peak demand on the Russian River surface water supplied by the transmission system via conservation, groundwater banking, local supply, and recycled water.
- Reduce potable water required by new development, to evaluate feasibility of a base demand system instead of a continued peak summer demand system, and to evaluate local and sub-regional projects that would increase overall water supply reliability.

In Marin County, the recycled water and captured flows will reduce dependence on Russian River flows provided by SCWA.

2. Describe the potential for the project to reduce or eliminate the use of existing diversions from natural watercourses or withdrawals from aquifers. Include description of any specific issues that will be investigated or information that will be developed as part of the Title XVI feasibility study.

This Program will reduce diversions from natural water courses and withdrawals from aquifers by providing recycled water and captured stormwater for a variety of uses that would otherwise be supplied by surface water diversions and the local groundwater aquifers. The volume of reduction in diversions and withdrawals will be directly correlated to the quantity of recycled water to be provided up to 25,000 AFY. Furthermore, this Program includes improving the groundwater basins in the region through the recharge of both

recycled water and wet season surface water (when available) that would otherwise be unused for human or environmental purposes. The groundwater aquifers would become further depleted without these groundwater recharge components. There are six groundwater basins in the region as defined by the California Department of Water Resources (DWR). The improved management of these basins has become an increasing priority.

The MST area is located in an unincorporated area of Napa County, due east of the City of Napa. In 2003, the USGS, in cooperation with Napa County, completed a study of the groundwater resources in the MST. Data showed that groundwater levels have declined significantly since a previous study of the area was completed in 1977, and the review concluded that an increase in groundwater extraction since the 1950's has resulted in the general decline of groundwater levels throughout the area.

In Sonoma County, SCWA has developed and implemented a program (Groundwater Basin Assessment and Management Program/Groundwater Program) intended to enhance the current knowledge of groundwater resources within Sonoma County. The intent of the Groundwater Program is to provide a basis for subsequent groundwater management planning activities which emphasize local and regional coordination and collaboration. The Groundwater Program will provide direct input to the NBWRP.

To implement the Groundwater Program, SCWA staff worked with scientists from the USGS to develop a cooperative technical study program to evaluate groundwater resources in the Sonoma Valley groundwater basin. The USGS estimated that pumping in the basin has generally increased from approximately 6,200 AFY, since the basin was last studied in 1974, to 8,400 AFY in 2000 (approximate 25 percent increase in pumping). Groundwater meets more than half of the water demand in the Sonoma Valley, with irrigation being the largest use, drawing on an estimated more than 70 percent of the annual groundwater demand. The USGS identified the migration of high-saline water along the southern end of the basin and localized areas of thermal waters.

The Sonoma Valley Groundwater Management Plan (GMP) identified four management strategies that included increased use of recycled water and groundwater and implementation of groundwater banking and stormwater recharge.

In addition to reduced withdrawals from major watercourses such as the Russian River, the Program will reduce or eliminate the need for agricultural irrigators to tap local streams for irrigation water. Therefore, impacts to riparian habitat and to anadromous fish will be reduced by the agricultural use of recycled water, particularly during key times in the spawning periods.

3. Describe the potential for the project to reduce the demand on existing Federal water supply facilities. Include description of any specific issues that will be investigated or information that will be developed as part of the Title XVI feasibility study.

No Federal water supplies are provided to the Program area because the area is too remote from the nearest Federal water sources. Connecting to the Orland Project, the Sacramento River, or the Sacramento-San Joaquin Delta (Delta) would be astronomically expensive and would reduce Reclamation's ability to use existing Federal water supplies for meeting current water supply obligations and for Delta restoration. The City of Napa is a contractor for the California State Water Project (SWP), which has the same supply as Reclamation's Central Valley Project (CVP)—the Delta. The use of local supplies such as recycled water

helps keep water importers such as Napa from seeking additional water from the Delta. This, in turn, is a benefit for both the SWP and the CVP.

Evaluation Criterion 5: Environmental and Water Quality

15 points

Points will be awarded based on the extent to which the proposal demonstrates that the Title XVI feasibility study will address the potential for a water reclamation and reuse project to improve surface, groundwater, or effluent discharge quality; restore or enhance habitat for non-listed species; or provide water or critical habitat for federally-listed threatened or endangered species.

1. Describe the potential for the project to improve the quality of surface or groundwater, including description of any specific issues that will be investigated or information that will be developed as part of the Title XVI feasibility study.

The NBWRP captures high quality treated effluent for irrigation and habitat restoration in the water scarce areas of Marin, Sonoma, and Napa Counties. The supply of tertiary treated wastewater from Member Agencies will improve water quality in the North San Pablo Bay area in the following ways:

- Reduce disposal of treated wastewater to San Pablo Bay – Member Agencies face strict regulatory limits on the timing and quality of the treated water they can discharge to the San Pablo Bay, as well as the rivers and streams that flow to it. By treating the wastewater to stricter regulatory levels required for reuse, the agencies can recycle the water productively to address water supply needs and reduce the amount released to San Pablo Bay and its tributaries. Implementation of Phase 1 projects would have an estimated 2020 discharge reduction of 6,121 AFY for all the member agency WWTPs combined.
- Improve instream flows by reducing agricultural diversions – The NBWRP provides recycled water to local irrigators who historically have dammed streams and diverted limited runoff for irrigation uses. By providing recycled water for irrigation, natural flows remain in-stream and contribute toward restoring riparian and aquatic systems that drain to the Bay.
- Improve groundwater quality by reducing overdraft of the Sonoma Valley and MST groundwater basins - The MST groundwater basin has been over pumped, with adverse effects on water levels and quality. Groundwater quality problems include arsenic, boron, iron, and manganese in concentrations above drinking water standards in groundwater wells in southern Napa County. The Sonoma Valley groundwater basin is facing encroaching saline intrusion, also affecting agricultural wells. As noted earlier in this document, the USGS identified the migration of high-saline water along the southern end of the basin and localized areas of thermal waters. The NBWRP will provide an alternative source to the use of groundwater in these areas, thereby reducing groundwater pumping and allowing for basin recharge. The planned groundwater recharge component of this Program will result in improved groundwater levels (by offsetting local groundwater use with Russian River surface water through an ASR program) that will minimize the potential for saline intrusion into the Sonoma Valley groundwater basin. Additionally, as the vast majority of drinking water quality parameters in supply from the Russian River

are of superior quality compared with most local groundwater sources, improvements to the quality of local Sonoma Valley municipal supplies are expected.

2. Describe the potential for the project to improve flow conditions in a natural stream channel, including description of any specific issues that will be investigated or information that will be developed as part of the Title XVI feasibility study.

The NBWRP will provide recycled water to agricultural users who have historically diverted stream flows draining into San Pablo Bay. A reliable, alternative supply for irrigation allows flows to remain in-stream, providing riparian and fishery habitat and benefitting local sub-watersheds that contribute to surface water supplies within the Program area. These include the Novato Creek Watershed and Russian River Watershed, both of which provide habitat for fisheries and aquatic species.

Another project to be addressed in the Feasibility Study seeks opportunities in the Novato Creek watershed to address sea-level rise projections and alternatives to improve the creek's ability to transport sediment to the Bay. The project lands, referred to as "Flood Control Lands," are currently leased to Novato SD for secondary effluent spray fields. Without use by Novato SD, the lands could be used for habitat enhancement, recreation, and restoration of the tidal prism in lower Novato Creek. The marsh restoration project proposes the use of sediment dredged from nearby flood control channels as construction and maintenance material for the upland ecotone slope, which would be designed to mitigate the impacts of wave action from sea-level rise. Recycled water could be used to irrigate the brackish marsh habitat restoration planted to enhance and stabilize the upland ecotone slopes.

3. Describe the potential for the project to provide water or habitat for federally listed threatened or endangered species, including description of any specific issues that will be investigated or information that will be developed as part of the Title XVI feasibility study.

This Program will provide water directly to areas affecting a federally listed threatened or endangered species. Program implementation will result in potable water offsets, which in turn, provide a corresponding benefit to local and regional watersheds that contribute to surface water supplies within the NBWRP area. These include the Carneros Creek, Novato Creek and Russian River Watersheds, all of which provide habitat for the state and federally listed central coast steelhead. Additionally, the Russian River Watershed provides habitat for federally listed Coho salmon and Chinook salmon. Implementation of recycled water projects that meet urban irrigation demands have substantial benefit, particularly during peak demand summer months, by assisting in the maintenance of in-stream flow. This Program would supply water for listed species by reducing surface water diversions from the Russian River during dry periods. Both stored recycled water and banked groundwater resulting from the proposed groundwater recharge component of this Program would help meet supply demands during the dry season instead of surface water diversions from the Russian River.

Evaluation Criterion 6: Legal and Institutional Requirements

10 Points

Points will be awarded based on the extent to which the proposal demonstrates that the Title XVI feasibility study will address legal or institutional requirements or barriers to

implementing a project, including water rights issues and any unresolved issues associated with implementation of a water reclamation and reuse project.

Many of the vineyards in the region divert water for irrigation from the riparian waterways that drain into the Bay. This has resulted in degraded riparian habitat and fish kills when water is needed and diverted for agricultural production.

Growers have expressed concerns over losing their riparian water rights should they take and use recycled water. However, legal investigation into this issue has shown that shifting from surface water to recycled water will not create the potential to lose the initial surface water right. This Feasibility Study will work with agricultural producers to determine the best delivery and storage systems for recycled water, therefore reducing the competing demands between agriculture and habitat needs.

As of this writing, the State of California Water Resources Control Board and the Legislature have established a water recycling goal of 2.5 million AFY by 2030. How agencies are to meet this target and, the funds necessary to implement projects associated with meeting this goal, are part of the Proposition 1 Water Bond that was approved by the voters in 2014. The Bond included a \$750 million designated fund for desalinization and water reuse projects.

Also in 2009 the State of California enacted legislation requiring state-wide reductions in urban water use. The *20x2020 Water Conservation Plan* sets forth a statewide road map to maximize the state's urban water efficiency and conservation opportunities between 2009 and 2020, and beyond. It aims to set in motion a range of activities designed to achieve the 20 percent per capita reduction in urban water demand by 2020. These activities include improving an understanding of the variation in water use across California, promoting legislative initiatives that incentivize water agencies to promote water conservation, and creating evaluation and enforcement mechanisms to assure regional and statewide goals are met. By implementing both Phase 1 and Phase 2, NBWRA Member Agencies can work toward their individual 20x2020 mandates for water conservation while contributing to broader water conservation goals in the Program area.

Evaluation Criterion 7: Renewable Energy and Energy Efficiency

10 points

Points will be awarded based on the extent to which the proposal demonstrates that the Title XVI feasibility study will address methods to incorporate the use of renewable energy or will otherwise address energy efficiency aspects of the water reclamation and reuse project being investigated.

All NBWRA Member Agencies are committed to designing and operating recycled water projects that are energy efficient, and all have ongoing programs to create and use renewable energy through the use of solar panels; one member agency is generating energy through a bio-digester that collects waste from areas even beyond the NBWRP footprint.

This perspective will continue with Phase 2 as all proposed projects include alternative and/or, energy efficient infrastructure. Opportunities for the use of renewable energy and upgrades to existing facilities will be identified in the Feasibility Study. Currently, SVCSD has

a 0.9 megawatt solar power system at the WWTP with another 0.1 MW system being installed and SCWA has met its stated goal of producing carbon-free water.

As previously noted, storage is a large part of the Phase 2 Program, and several of the proposed storage sites will be investigated for their ability to provide multiple-benefits that could include carbon sequestration as part of a matrix of ponds used to store water, create habitat and recreational opportunities.

Water recycling may reduce energy usage and greenhouse gas emissions in comparison to alternative water supplies brought in from the Russian River and can serve as an adaptive response to climate change impacts, increasing local water supplies and building supply resiliency into the overall Program area. The Feasibility Study will quantify the embedded energy for each of the alternatives as well as the no action alternative.

Evaluation Criterion 8: Watershed Perspective

10 points

Points will be awarded based on the extent to which the proposal demonstrates that the Title XVI feasibility study will address alternatives that promote and apply a regional or watershed perspective to water resource management.

From inception the Program has used the North San Pablo Bay watershed as it's template for evaluating ways that recycled water could be captured and put to use serving the urban, agricultural, and environmental needs in the region. The Phase 1 Feasibility studies looked at the Program's projects individually and in aggregate, analyzing how each could meet individual Member Agency's needs and Programmatic objectives while contributing toward meeting diverse water supply demands in the region.

Phase 2 proposes to build on the infrastructure established in Phase 1 and create a network of storage, treatment, distribution, groundwater, and environmental projects serving recycled water to mitigate impacts of the drought and build resiliency into the water supply serving multiple, diverse uses throughout the San Pablo watershed.

In 2004, with the advent of State of California bond measures aimed at promoting a new model of integrated regional water management throughout California, Bay Area water, wastewater, flood protection, and stormwater agencies, cities and counties represented by the Association of Bay Area Governments, and water management interests represented by the State Coastal Conservancy and non-governmental environmental organizations, signed a Letter of Mutual Understandings, detailing their intent to develop the San Francisco Bay Area Integrated Regional Water Management Plan (IRWMP) for the nine-county Bay Area.

Given the large geographic scope of the Bay Area region and the wide range of water management strategies being implemented, original development of the IRWMP was approached as a two-step process. First, four water management service areas were established for the region: Water Supply and Water Quality, Wastewater and Recycled Water, Flood Protection and Stormwater Management, and Watershed Management and Habitat Protection and Restoration. Each of these four Functional Areas developed a comprehensive "Functional Area Document" in order to identify specific needs and challenges relating to the specific Functional Area, describe water management strategies and approaches to address these needs, and develop an initial list of potential strategies and implementation projects

that would maximize benefits and enhance opportunities for regional cooperation within a given Functional Area. Second, the four Functional Area Documents were integrated, culminating in the development of the San Francisco Bay Area IRWMP, which was adopted in December 2005. The San Francisco Bay Area Regional Water Management Group is governed by the San Francisco Bay Area IRWMP Coordinating Committee (CC), and the San Francisco Bay Area regional received California Department of Water Resources approval under the 2009 Regional Acceptance Process. Through the IRWMP effort, the CC and participating entities established priorities for regional implementation through a collaborative planning process. The CC has used this process to identify projects for implementation, taking into consideration the evolving needs of the region, which include the need to increase water supply reliability to adapt to potential long-term drought conditions and climate change impacts, among others.

Through this collaborative process, the CC identified five high priority regional programs for implementation and inclusion in their proposal for Proposition 84 Round 1 Implementation Grant funding. The NBWRP Phase 1 projects are an element of the Bay Area IRWMP's Regional Recycled Water Program. The Regional Recycled Water Program was the largest program and represents one of the best strategies of addressing long-term drought preparedness.

The NBWRP is critical to implementing the regional integrated plan. In combination with State funding, it is key to advancing the overall regional plans and goals identified in the Bay Area IRWMP. To date, the NBWRA wastewater agencies were awarded over \$6,000,000 for the Phase 1 projects through Proposition 84 Implementation Grant funding.

In 2012, the CC began the 2013 Bay Area IRWMP Update. As part of the document update, all Bay Area water projects had to submit a new project description to be reviewed and scored for incorporation into the 2013 IRWMP and included in this update were the Phase 2 projects identified in the Scoping Studies. The required information included the project need, a detailed project description, costs, schedule, project partnerships, watershed benefits, water supply benefits, and water quality benefits. The CC ranked the NBWRP as number one out of more than 300 projects in the Bay Area, recognizing the NBWRP as a model Program for integrated water planning in the Bay Area.

Required Permits or Approvals

Applicants must state in the application whether any permits or approvals are required for development of the proposed feasibility study and explain the plan for obtaining such permits or approvals.

No permits or approvals are needed for the Feasibility Study.

Funding Plan and Letters of Commitment

Describe how the non-Reclamation share of project costs will be obtained. Reclamation will use this information in making a determination of financial capability.

Project funding provided by a source other than the applicant shall be supported with letters of commitment from these additional sources. This is a **mandatory requirement**. Letters of commitment shall identify the following elements:

1. The amount of funding commitment

The NBWRA commits to providing \$1,236,316 in non-federal matching funds per their Memorandum of Understanding dated March 8, 2013.

2. The date the funds will be available to the applicant

July 1, 2014

3. Any time constraints on the availability of funds

None

4. Any other contingencies associated with the funding commitment

None

Funding Plan

The funding plan must include all project costs, as follows:

1. How you will make your contribution to the cost share requirement, such as monetary and/or in-kind contributions and source funds contributed by the applicant (e.g., reserve account, tax revenue, and/or assessments).

NBWRA Member Agency assessments as per their MOU cost share agreement dated March 8, 2014.

2. Describe any in-kind costs incurred before the anticipated project start date that you seek to include as project costs. Include:

a. What project expenses have been incurred.

No costs incurred before the anticipated project start date are included in the project costs.

b. How they benefitted the project.

N/A

c. The amount of the expense.

N/A

d. The date of cost incurrence.

N/A

3. Provide the identity and amount of funding to be provided by funding partners, as well as the required letters of commitment.

All Non-Federal funding is to be provided by the NBWRA.

4. Describe any funding requested or received from other Federal partners. Note: Other sources of Federal funding may not be counted towards the applicant's 50 percent cost share unless otherwise allowed by statute.

No funding has been received or requested from other Federal agencies.

5. Describe any pending funding requests that have not yet been approved, and explain how the project will be affected if such funding is denied.

N/A

Please include the following chart (table 1) to summarize your non-Federal and other Federal funding sources. Denote in-kind contributions with an asterisk (*). Please ensure that the total Federal funding (Reclamation and all other Federal sources) does not exceed 50 percent of the total estimated project cost.

Table 1. Summary of Non-Federal and Federal Funding Sources	
Funding Sources	Funding Amount
Non-Federal Entities	
NBWRA	\$1,236,316
Non-Federal Subtotal	\$1,236,316
Other Federal Entities	\$0
Requested Reclamation Funding	\$450,000
Total Study Funding	\$1,686,316

Official Resolution

Include an official resolution adopted by the applicant's board of directors or governing body, or for state government entities, an official authorized to commit the applicant to the financial and legal obligations associated with receipt of Federal financial assistance, verifying:

- The identity of the official with legal authority to enter into agreement
- The board of directors, governing body, or appropriate official who has reviewed and supports the application submitted
- The capability of the applicant to provide the amount of funding and/or in-kind contributions specified in the funding plan
- That the applicant will work with Reclamation to meet established deadlines for entering into a cooperative agreement

An official resolution meeting the requirements set forth above is mandatory. If the applicant is unable to submit the official resolution by the application deadline because of the timing of board meetings or other justifiable reasons, the official resolution may be submitted up to 30 days after the application deadline.

Resolution attached is scheduled for Board action and approval on March 17, 2015.

Project Budget Application

Budget Proposal

Total Study Costs are \$1,686,316, comprised of \$201,485 of SCWA costs and \$1,484,831 of contractual costs.

BUDGET ITEM DESCRIPTION	Quantity	Unit	Unit Cost	Recipient Funding	Reclamation Funding	Total Cost
Salaries and Wages						
General Manager - Grant Davis	5	hours	\$ 100	\$ 500	\$ -	\$ 500
Asst General Manager - Pam Jeane	45	hours	\$ 88	\$ 3,960	\$ -	\$ 3,960
Principal Engineer - Kevin Booker	570	hours	\$ 66	\$ 37,620	\$ -	\$ 37,620
Environmental Resources Coordinator - Jessica Martini Lamb	90	hours	\$ 60	\$ 5,400	\$ -	\$ 5,400
Principal Programs Specialist - Ann Dubay	80	hours	\$ 52	\$ 4,160	\$ -	\$ 4,160
GIS/CAD Manager - Courtney Ellerbusch	30	hours	\$ 50	\$ 1,500	\$ -	\$ 1,500
Drafting	90	hours	\$ 40	\$ 3,600	\$ -	\$ 3,600
Administrative Services Officer	140	hours	\$ 52	\$ 7,280	\$ -	\$ 7,280
Department Analyst	140	hours	\$ 40	\$ 5,600	\$ -	\$ 5,600
Tech Writing Manager	36	hours	\$ 55	\$ 1,980	\$ -	\$ 1,980
Tech Writing Specialist	680	hours	\$ 41	\$ 27,880	\$ -	\$ 27,880
Accountant	224	hours	\$ 33	\$ 7,392	\$ -	\$ 7,392
Office Assistant II	64	hours	\$ 21	\$ 1,344	\$ -	\$ 1,344
County Counsel	150	hours	\$ 225	\$ 33,750	\$ -	\$ 33,750
SUBTOTAL	2344			\$ 141,966	\$ -	\$ 141,966
FRINGE BENEFITS						
Health, Dental, Vision, Life Ins., FICA, Holiday, Vacation, Sick, Workers Comp, Retirement, (Calculated at 55% of Total Personnel)				\$ 59,519	\$ -	\$ 59,519
TOTAL PERSONAL				\$ 201,485	\$ -	\$ 201,485
TRAVEL				\$ -	\$ -	\$ -
EQUIPMENT				\$ -	\$ -	\$ -
SUPPLIES/MATERIALS				\$ -	\$ -	\$ -
CONTRACUAL				\$ 1,034,831	\$ 450,000	\$ 1,484,831
TOTAL DIRECT COSTS				\$ 1,236,316	\$ 450,000	\$ 1,686,316
INDIRECT COSTS				\$ -	\$ -	\$ -
Indirect Costs - %				\$ -	\$ -	\$ -
TOTAL PROJECT COSTS				\$ 1,236,316	\$ 450,000	\$ 1,686,316

	Recipient Funding	Reclamation Funding	Total
Total Cost by Source	\$ 1,236,316	\$ 450,000	\$ 1,686,316
Percent of Total Study Cost	73%	27%	100%

Agency Costs

Sonoma County Water Agency

Project Tasks: Task 1 Workshops/Public Outreach/Management; Task 2 Planning and Engineering; Task 3 Grant Applications and Management

Sonoma County Water Agency administration will include awarding and administering contracts on behalf of NBWRA members, receiving and administering federal funds on behalf of NBWRA and its member agencies, monthly conference calls or meetings to monitor project progress, budget and schedule tracking, performance and financial reporting to document the project's success in achieving its goals and objectives, overseeing the technical and scientific complexities of the project, ensuring compliance with federal laws and regulations, serving as the lead agency, and project coordination with the NBWRA members, Reclamation, regulatory agencies, and the public.

Salaries and Wages	Quantity	Unit	Unit Cost	Total Cost
General Manager - Grant Davis	5	hours	\$100	\$500
Attend meetings on behalf of NBWRA, tours for stakeholders and local, state and federal entities. Assist with public and stakeholder outreach; review final documents to be submitted for Board approval.				
Assistant General Manager - Pam Jeane	45	hours	\$ 88	\$ 3,960
Oversee Project Manager. Provide Project Oversight. Review consulting agreements and agenda items for approval by Water Agency Board of Directors. Attend tours. Assist with public and stakeholder outreach and coordination; review final documents to be submitted for Board approval. Review/approve consultant invoices and ensure deliverables have been completed.				
Principal Engineer - Kevin Booker	570	hours	\$66	\$37,620
Feasibility Study Project Manager. Track scope, schedule and budget. Review all consultant-generated technical documentation for consistency, accuracy, compliance with the scope of work, and compliance with Reclamation's requirements. Attend all meetings to ensure consistency throughout the project. Attend tours. Assist consultant with background research, field visits, and project alternatives development. Review consultant's analysis as it relates to the overall feasibility of the project and cumulative environmental impacts. Provide insight to water resource management issues based on Water Agency's 2010 Urban Water Management Plan. Assist with permitting. Oversee grant management and reporting.				
Environmental Resources Coordinator - Jessica Martini Lamb	90	hours	\$60	\$5,400
Review consultant's alternative development and feasibility study. Ensure compliance with federal laws and regulations and Reclamation's feasibility study guidelines.				
Principal Programs Specialist - Ann Dubay	80	hours	\$52	\$4,160
Assist consultant with public outreach, planning, coordination, and implementation of workshops with NBWRA Board and Technical Advisory Committee (TAC), as well as other Agency meetings. Also, assist with coordination and logistics for conducting tours for stakeholders and local, state, and federal entities.				
GIS/CAD Manager - Courtney Ellerbusch	30	hours	\$50	\$1,500
Oversee CAD/GIS drafting. Provide guidance on mapping; review project graphics.				
Drafting	90	hours	\$40	\$3,600
Coordinate graphics development with consultant; review project graphics and assist with developing graphics as needed.				
Administrative Services Officer	140	hours	\$52	\$7,280
Provide grant oversight, compliance and management. Ensure compliance with federal laws and regulations. Assist with audits. Oversee Department Analyst.				

Salaries and Wages	Quantity	Unit	Unit Cost	Total Cost
Department Analyst	140	hours	\$40	\$5,600
Provide grant oversight, compliance and management. Ensure compliance with federal laws and regulations. Oversee Technical Writing Specialist.				
Tech Writing Manager	36	hours	\$55	\$1,980
Coordinate development of consultant agreements and board agenda items.				
Tech Writing Specialist	680	hours	\$41	\$27,880
Develop consultant agreements and board agenda items. Provide grant oversight, compliance, and management. Ensure compliance with federal laws and regulations. Assist with audits. Prepare semi-annual and final performance report. Monitor subrecipients. Attend grant meetings with Reclamation. Conduct project closeout.				
Accountant	224	hours	\$33	\$7,392
Provide grant management. Ensure compliance with federal laws and regulations. Prepare financial reports and reimbursement requests, and ensure pass through of funds to consultants and members as needed. Assist with audits.				
Office Assistant II	64	hours	\$21	\$1,344
Provide clerical services and support for agreements, correspondence, and other project documentation.				
Fringe Benefits	55%		\$108,216	\$59,519
Fringe Benefits are based on the cost of providing social security and Medicare insurance, retirement, health, vision, and dental, worker's compensation insurance coverage as well as life and disability insurance. Fringe benefits are 55% of salaries and wages.				
Contractual				
County Counsel	150	hours	\$225	\$33,750
Review consulting agreements and board agenda items. Review environmental and feasibility study documents and ensure compliance with laws and regulations.				
<i>There are no travel, supplies, equipment, or indirect costs being charged for grant purposes.</i>				
TOTAL SALARY, WAGES, FRINGE, & COUNTY COUNSEL	2,344	hours		\$201,485

Budgeted costs for consultants were determined to be fair and reasonable through a competitive selection process, assessment of qualifications, evaluation of rates, and prior experience of professional staff on projects of similar size and scope.

Contractual Costs

The following are costs of the consulting team that was competitively selected to conduct the Phase Feasibility Study.

Contract Budget												
Estimated Hours by Firm												
Task	BC	ESA	Kennedy Jenks	Data Instincts	Bryant & Associates	Stratus	GTC	Total Estimated Hours	Labor Cost	Expenses	Total Cost	
1 Workshops/Public Outreach/Management	1,137	0	204	982	96	0	0	2,419	434,372	62,451	496,823	
1.1 Workshops	344	0	84	0	96	0	0	524	119,756	26,856	146,612	
1.2 Public Involvement	120	0	0	982	0	0	0	1,102	166,608	27,567	194,175	
1.3 Administration	673	0	120	0	0	0	0	793	148,008	8,028	156,036	
2 Title XVI Feasibility Study/Report	1,458	124	1,699	0	264	430	470	4,445	880,953	74,571	955,523	
2.1 Introductory Information	120	0	40	0	0	0	0	160	31,624	3,104	34,728	
2.2 Statement of Problems/Needs	136	0	35	0	24	0	0	195	38,665	4,661	43,325	
2.3 Water Reclamation/Reuse Opps	144	0	56	0	40	0	0	240	49,912	4,345	54,257	
2.4 Analysis of Alternatives/FS Report	1,058	124	1,568	0	200	430	470	3,850	760,752	62,461	823,213	
3 Phase 2 Grant Management	152	0	0	0	4	0	0	156	26,404	6,080	32,484	
Total Estimated Level of Effort	2,747	124	1,903	982	364	430	470	7,020	1,341,729	143,102	1,484,831	

Budget Narrative

All the requested information is fully disclosed in the Agency and Consultant cost tables provided which are directly linked to the tasks identified in the Technical Project Description in previous sections.

Attachment 1: Draft Resolution

Resolution No.
County of Sonoma
Santa Rosa, CA 95403

Date: 3/17/2015

Resolution Of The Board Of Supervisors Of The County Of Sonoma, State Of California, authorizing the General Manager of the Sonoma County Water Agency, or his designee, to: a) file a grant application to the Bureau of Reclamation's Title XVI Water Reclamation and Reuse Program; b) execute a cooperative agreement with the United States Bureau of Reclamation; and c) take all actions necessary to implement the grant agreement.

Whereas, the Sonoma County Water Agency (Water Agency) wishes to promote and expand the beneficial use of recycled water in the North San Pablo Bay Region thereby promoting the conservation of limited surface and groundwater resources; and

Whereas, the Water Agency, Sonoma Valley County Sanitation District (District), Napa Sanitation District, Novato Sanitary District, Napa County, North Marin Water District, County of Napa, County of Marin, Marin Municipal Water District, and Las Gallinas Valley Sanitary District, collectively known as the North Bay Water Reuse Authority (NBWRA), signed a Memorandum of Understanding to assess and implement regional water recycling opportunities for restoration and agricultural irrigation; and

Whereas, the Memorandum of Understanding designates the Water Agency as the administrative agency for purposes of carrying out the administrative tasks of the NBWRA; and

Whereas, under Title XVI of P.L. 102-575, the United States Bureau of Reclamation (Reclamation) works to identify and investigate opportunities to reclaim and reuse wastewaters and naturally impaired ground and surface water in the 17 Western States and Hawaii and provide up to 50 percent of the costs of studies to determine the feasibility of water reclamation and reuse projects; and

Whereas, prior to construction funding of any project authorized under Title XVI, the Reclamation must determine that a feasibility study for the project complies with the provisions of Title XVI; and

Whereas, the NBWRA proposes to conduct a study to assess the feasibility of implementing its Phase II regional water recycling construction projects; and

Whereas, Reclamation has issued Funding Opportunity Announcement No. R15AS00015 - Development of Feasibility Studies under the Title XVI Water Reclamation and Reuse

Program for Fiscal Year 2015 to assist project sponsors with the development of new Title XVI feasibility studies; and

Whereas, Reclamation has established procedures and criteria necessary to administer the program; and

Whereas, said procedures and criteria established by Reclamation require a resolution certifying the approval of application by the Applicant's governing body before submission of said application to Reclamation; and

Whereas, the Water Agency intends to apply for a grant to conduct a feasibility study for the NBWRA Phase II Feasibility Study; and

Whereas, the Water Agency, if selected, will enter into an agreement with the Reclamation to carry out the feasibility study project; and

Whereas, the NBWRA Board of Directors, approved at its January 27, 2014 meeting approved of the Water Agency submitting application on behalf of the NBWRA.

Now, Therefore, Be It Resolved that the Board of Directors hereby finds, determines, certifies, and declares as follows:

1. The General Manager of the Water Agency, or his designee, is hereby authorized to sign and file a grant application with the Reclamation for funding the development of feasibility studies for the North Bay Water Reuse Program, under the Bureau's Title XVI Water Reclamation and Reuse Program.
2. The General Manager of the Water Agency, or his designee, is hereby authorized to execute a cooperative agreement with the Reclamation.
3. The General Manager of the Water Agency, or his designee, is hereby authorized take all actions necessary to implement the grant agreement.

Supervisors:

Rabbitt:

Zane:

Gore:

Carrillo:

Gorin:

Ayes:

Noes:

Absent:

Abstain:

So Ordered.