

**CITY OF SANTA ROSA TRANSPORTATION AND PUBLIC WORKS
PROJECT WORK ORDER NO. A010099-2014-13**

PROJECT NAME: **FREEWAY WELL PLANNING PROJECT**
CITY PROJECT MANAGER: **COLIN CLOSE**
CONSULTANT PROJECT MANAGER: **GERRY NAKANO**

SCOPE OF SERVICE: See Consultant's Scope of Services/Proposal for Services and Fee Schedule dated August 2, 2018, attached as Exhibit B-1.

START DATE: **SEPTEMBER 2018**

COMPLETION DATE: **MARCH 2021**

CHARGE NUMBER FOR PAYMENT: **55751**

NOT-TO-EXCEED AMOUNT FOR THIS WORK ORDER: **\$557,731.00**



TERMS AND CONDITIONS: This Project Work Order is issued and entered into as of the last date written below in accordance with the terms and conditions set forth in the "Master Professional Services Agreement with West Yost & Associates, Inc., Agreement No. A010099," dated July 24, 2014, which is hereby incorporated and made part of this Project Work Order. In the event of a discrepancy or conflict between the terms and conditions of the Project Work Order and the Master Agreement, the Master Agreement shall govern.

Work pursuant to this Project Work Order is intended to accomplish a Remedial Investigation/Feasibility Study to evaluate remediation of groundwater in the vicinity of the City of Santa Rosa's Freeway well, as outlined in Groundwater Planning Grant Agreement No. SWRCB0000000000D181251900 (State Grant Agreement) between the California State Water Resources Control Board and City of Santa Rosa, a copy of which is attached hereto as Exhibit B-2 and made part of this Project Work Order. The State Grant Agreement is for the purpose of addressing data gaps by installing and sampling groundwater monitoring wells, performing aquifer tests, and evaluating potential remedial alternatives for groundwater contamination. The State Grant Agreement is the basis and foundation for the Project Work Order, and all work hereunder shall be completed in accordance with the terms and conditions set forth in the State Grant Agreement. Wherever the State Grant Agreement indicates that work may be performed by a consultant or subconsultant, it is the intent of the parties that this work will be covered and is part of this Project Work Order. In case of a conflict between this Project Work Order and the State Grant, the State Grant Agreement shall take precedent.

CITY OF SANTA ROSA,
A Municipal Corporation

By: _____

Daniel Galvin III
Chair, Board of Public Utilities

Date: _____

WEST YOST & ASSOCIATES, INC.,
A California corporation

By: _____

Name: _____

Title: _____

Charles J. Duncan
President

Date: 8-2-18

By: _____

Name: _____

Title: _____

John D. Goodwin
CEO/Treasurer

Date: 8-2-18

APPROVED AS TO FORM:

By: _____

Santa Rosa City Attorney's Office

Attachments: Exhibit B-1 - Consultant's proposal and fee for services for this Project Work Order
Exhibit B-2 - Groundwater Planning Grant Agreement



Exhibit B-1

August 2, 2018

SENT VIA: EMAIL

Mr. Colin Close
Senior Water Resources Planner
Santa Rosa Water
69 Stony Circle
Santa Rosa CA 95401

SUBJECT: Project Work Order 13: Freeway Well Planning Project

Dear Colin:

West Yost Associates (West Yost) is pleased to submit to the City of Santa Rosa (City) Project Work Order 13: Freeway Well Planning Project; as part of the City's Emergency Groundwater Supply Program.

The following specific tasks are to be performed under Project Work Order 13:

- Task 1: Records Review, Data Gathering and Compilation
- Task 2: Test Boring & Monitoring Well Installation
- Task 3: Aquifer Testing
- Task 4: Groundwater Remediation and Treatment Feasibility Study
- Task 5: Project Coordination with Program Manager
- Task 6: Optional Task

The tasks are described in the attached Scope of Services.

COMPENSATION

Based on the scope of work defined in Project Work Order 13, West Yost requests a total budget of \$557,731 to perform the Scope of Services as described in Tasks 1 through 6 (see Attachment A Scope of Services). A summary of the associated fee for performing each task is provided in Table 1, followed by the estimated labor hours for each primary team member shown on Table 2.

Table 1. Project Work Order 13: Freeway Well Planning Project – Fee Summary					
Task	Task Name	West Yost Labor Hours	Subconsultant ^(a)	Directs	Total Fee, Dollars
1	Records Review, Data Gathering & Compilation	338			72,844
2	Test Boring & Monitoring Well Installation	496		3,495	131,960
3	Aquifer Testing	338	73,492 ^(a)	8,899	163,345
4	Groundwater Remediation and Treatment Feasibility Study	261			61,815
5	Project Coordination with Program Manager	384			101,208
6	Optional Task (Contingency of 5%)	106			26,559
Totals for Project Work Order 13		1,923	\$73,492	\$12,394	\$557,731
(a) West Yost to hire pump contractor to conduct spinner and pump testing of Freeway Well for this estimated cost					

Table 2. Project Work Order 13: Freeway Well Planning Project – Estimated Labor Hours								
Staff Name	Billing Rate Category	Estimated Labor Hours						Total
		Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	
Gerry Nakano, PE	Vice-President	29	44	42	57	149	15	336
Andy Rodgers	Engineering Geologist Manager II	62	27	31	18	90	6	234
Ken Loy, PG	Principal Geologist II		91	87				178
Jim Connell, PE	Principal Engineer II		13		95		40	148
Pete Dellavalle, PG	Senior Geologist II	107	201	133		115	45	601
Staff Engineer/Geologist	Staff Engineer/Geologist I	144	49	17	70			280
Technical and Administrative Support Staff	Various	48	49	28	21			146
Totals		390	474	338	261	354	106	1,923

Mr. Colin Close
August 2, 2018
Page 3

Please call me if you have any questions or require additional information.

Sincerely,

WEST YOST ASSOCIATES

GS Perkins

Gerry Nakano, PE
Vice President and Project Manager
RCE #29524

GSM:JC:ap

Attachments:

- Attachment A: Project Work Order 13: Freeway Well Planning Project – Proposed Scope of Services
- Attachment B: Conceptual Project Schedule
- Attachment C: Billing Rate Schedule

cc: Jennifer Burke, City of Santa Rosa

Attachment A: Project Work Order 13 Freeway Well Planning Project – Scope of Services



Water in the Freeway Well is contaminated with VOCs and the construction of the well (continuous gravel pack with no intermediate seals) makes it impossible to determine from which water bearing strata the contaminants are entering the well. The City of Santa Rosa (City) is interested in evaluating the feasibility of modifying the existing Freeway Well, or constructing a new replacement well, to restore the City's lost potable production capacity from this well. If it is determined that it is not feasible to modify and return the existing Freeway Well back into service, the well will be properly destroyed to protect the aquifer from further degradation. The objective of this Project Work Order 13 (PWO 13) is to characterize the geology and aquifer conditions and understand the likely sources and vertical distribution of contaminants. This information will be used to evaluate the feasibility of alternative water production and treatment options. The work under PWO 13 will employ standard and long-proven investigative methods.

The Project team will characterize the geology of the site by drilling, collecting sample cuttings, and logging formation samples from a test borehole located on the existing Freeway well site. This borehole will subsequently be reamed and a set of three, nested monitoring wells will be installed within this borehole. Geophysical tools will provide data for short- and long-normal resistivity, single point resistivity, spontaneous-potential, natural gamma and borehole profile for the complete length of the boring. These data will allow the Project team to develop a detailed understanding of the lithology at the site.

A cluster of three nested monitoring wells, each screened at a different depth, is proposed to provide depth specific water levels and water quality information. Each well will target a specific region of the aquifer. The deepest well will provide data from the zone with the most promise for groundwater production. The shallowest well will focus on the upper part of the aquifer which is believed to be contaminated. The intermediate well will be designed to provide data from a permeable zone between the deep and shallow wells. Ideally, the intermediate zone will be separated from the other zones by impermeable layers, but the actual site specific lithologic characteristics will be confirmed by the data collected during drilling of the borehole and installation of the nested monitoring wells. The final recommended design of the monitoring wells will depend on the information obtained from the borehole.

Both a velocity test (spinner test) and a continuous pumping test are planned for the Freeway Well to determine from what strata groundwater is being drawn into this well, and to also determine the production capacity and radius of influence of this well. Observations made during the test in the multiple-completion monitoring well, and in selected observation wells in the vicinity will help the Project team understand how pumping affects groundwater flow and contaminant migration. By studying groundwater levels in the monitoring wells, the Project team hopes to evaluate if and/or what the vertical component of groundwater flow is at this site. Chemical analysis of groundwater collected from the monitoring wells will help the team evaluate if aquitards are naturally limiting the downward migration of contaminants. Water level data from the observation wells will help the team evaluate radius of influence during pumping and assess its potential effect on the contaminant plumes in the area.

To accomplish this work, West Yost proposes the following five tasks:

1. Conduct a records review to gather and compile information about the well, its geologic setting, and the threats and impacts to the aquifer that it draws from;
2. Complete a test boring and install multiple completion monitoring wells to understand the geohydrologic conditions at the site and explore the possible vertical distribution of VOCs in groundwater;
3. Conduct both a well velocity test (to determine percent supply contribution by screen zone section) and a 72-hour constant rate aquifer test to evaluate the well's performance, and the vertical and horizontal effects of pumping on groundwater movement and contaminant migration in the surrounding aquifer;
4. Conduct an evaluation of groundwater protection and remediation options; and
5. Provide Project Coordination with City's Program Manager.

The specific scopes of services to be provided under each task are described below.

TASK 1. RECORDS REVIEW, DATA GATHERING AND COMPILATION

West Yost will interview Regional Water Quality Control Board (RWQCB) staff, search the State GeoTracker and EnviroStor data repositories and other publicly-available environmental reports for properties within approximately a one-half mile radius of the Freeway Well site boundaries, to identify release sites listed on County, State and Federal hazardous site lists, to inventory and profile known conditions in the immediate vicinity of the Freeway Well.

Per discussions with RWQCB staff, there may be undiscovered sources of VOC releases in the area, in addition to the known sources of contamination. Therefore, West Yost will review the land use within 2,000 feet of the site and create a matrix of properties and businesses that may have used VOCs. West Yost will review historic business directories, and fire insurance maps for business names or building patterns that indicate industrial uses. Historic topographic maps and aerial photographs will also be used to develop a general understanding of land use and the sequence and patterns of development.

Relevant data including analytical results, maps of contaminant extents, sensitive receptor surveys, monitoring well locations and investigation reports will be downloaded and compiled. The data will be used to map wells in the area, develop an inventory of known and suspected releases, and create a horizontal and vertical profile of the geologic conditions and contaminant distribution in the area.

West Yost will evaluate the existing wells in the area for potential use as aquifer test observation wells. The objective of the aquifer test is to evaluate the effects of pumping at the Freeway Well site on vertical and horizontal groundwater flow and contaminant plume movement. Therefore, it is important to find observation wells at various distances up-gradient, down-gradient, and cross-gradient from the Freeway well, and completed at various depths. West Yost will look at Department of Water Resources (DWR) well completion reports, and monitoring well logs from groundwater investigations in the area to identify wells completed in

likely production zones and in shallower contaminated zones. West Yost will then work with the City and RWQCB staff to approach the well owners about securing access agreements. West Yost will prepare a draft letter of interest for selected wells. The draft letter will include a description of the Project, approximate duration of monitoring, and the logistics of installing a transducer and collecting data. The draft letter of interest will be provided to the City for review and incorporation in communications with the property owner to secure a right-of-entry agreement. Preparation of the letter and coordination with the property owner will include an on-site meeting. Only wells with sounding ports or other openings that allow installation of a transducer will be considered.

Should the selected well be determined to be not feasible for monitoring, an alternative monitoring well site will be pursued, if one exists. West Yost will work with the property owner and the City to minimize impacts from ingress/egress of vehicle and staff and establish a schedule for periodic data downloads. Once access to the well is secured, West Yost will install a data-logging pressure transducer and begin collecting hourly water level measurements to establish ambient conditions prior to the aquifer test. At the completion of the Project, West Yost will remove the transducers and comply with the terms of the access agreements.

Task 1 Deliverables: Work completed under Task 1 will be documented in the Task 1 deliverable described below.

TASK 2. TEST BORING AND MONITORING WELL INSTALLATION

The geologic conditions at the Freeway Well site are not well understood. The only available geologic information comes from the original driller's log which provides no more than one and two-word descriptions in the lithology. That information does not help explain the productivity of the Freeway Well, which was high (800 gallons per minute (gpm) or higher) compared to other wells in the area. Furthermore, the Freeway Well is screened at nearly every permeable zone with no intermediate seals, and therefore is poorly constructed to provide discrete information regarding the possible vertical distribution of contaminants in the aquifers. West Yost proposes to drill a test boring and install multiple completion monitoring wells to characterize the geology at the site and evaluate aquifer characteristics and contaminant concentrations in the various, discrete water bearing zones.

Bid Solicitation

West Yost will prepare the technical specifications describing the scope of work for completing the test boring and installing a set of three multiple completion monitoring wells. These technical specifications will describe all work elements in detail and specify performance requirements. The technical specifications will be provided for the City to add their front-end specifications and then advertise and obtain bids for this project. The solicitation will request a cost bid, availability, and work schedule. The City will review the bids submitted and select the contractor.

Pilot Boring

The City selected Drilling Contractor will drill a pilot hole to the original depth of the Freeway Well, 800-feet below surface. The well will be drilled on the Freeway Well property at a location selected in collaboration with the City to minimize interference with future plans for the Site. The anticipated location is the southwest corner of the Site between the driveway and the fence along Cleveland Avenue.

West Yost will work with the Drilling Contractor and City staff to determine logistics for preparing the drill site, and establish ways to minimize impacts from ingress/egress of vehicle and support equipment, and minimize noise and potential impacts to the adjacent neighbors during drilling operations. A schedule will be established and communicated through the City to permitting agencies and interested neighboring properties. A construction schedule will be prepared indicating milestone dates through job completion.

Upon approval of work schedule, a pre-construction site meeting will be held. The meeting will cover construction schedule, sequence of work, methods of access to the construction site, drilling water source, drilling mud and cuttings containment and disposal, disposal of water from development and sampling procedures, methods of sample collection, drilling fluid standards, and temporary facilities. The following is a summary of the items to be covered:

- Certifications, security, access, and permits
- Locations of water supply, power and water discharge areas
- Sound mitigation measures
- Schedule, hours of operation, site safety and emergency protocol
- Names and numbers of responsible personnel available 24 hours
- Drilling fluids and waste management programs
- Driller's log of daily drilling conditions and operations
- Support equipment, subcontractors and storage of supplies
- Site preparation and restoration

Log Geology

The Drilling Contractor will collect formation samples from every ten feet of drilling and at significant changes of lithology from ground surface to the bottom of the test borehole. The driller will label and maintain the samples in sequence for completing a log of formations drilled from the surface to total depth. West Yost will be on site to observe the collection of formation cuttings and provide technical support to the City. City staff will serve as the Construction Manager for this Project. Within water bearing zones, additional samples will be retained for possible grain size distribution analyses.

Daily activities will be recorded by the Drilling Contractor to document depth drilled, penetration rates, bit weight, string weight, fluid properties, water usage and meter readings or any other relevant observations and information. A complete lithologic drilling log and shift record of construction activities will be maintained by the Drilling Contractor and checked by West Yost. The log will record other relevant information such as the amount of water used and the amount of additives used during drilling.

Geophysics

A geophysical subcontractor will be retained by the Drilling Contractor to perform downhole surveys and provide geophysical logs in a pre-specified electronic format. West Yost will be on site to direct, observe and document the subcontractor activities and maintain records of all tools used, survey rates and logs produced. The logs will be interpreted on site and discussed with the geophysical subcontractor to insure understanding of results.

All logs will survey the full borehole depth and will consist of the following: spontaneous potential log, short normal and long normal resistivity log (16 and 64-inch spacing), single point resistivity log, and spectral gamma log. Caliper logs shall be made along the full depth of the test hole and the reamed borehole.

Design & Install Multiple Completion Monitoring Wells

Within three days of completing the geophysical logging, West Yost will prepare well construction specifications including individual monitoring well depths, screen materials, filter pack, seal zones and well placement/configuration. The specifications will be provided to the City and discussed as necessary. The preliminary design calls for three multiple completion monitoring wells in the reamed borehole. The final recommended design of the monitoring wells will depend on the information obtained from the pilot boring results. Each of the wells will be constructed of 3-inch schedule 80 PVC. The final design will target three zones. The deepest well will collect water from the zone with the most promise for groundwater production. The shallowest well will collect water from the upper water bearing zone which is believed to be contaminated. The intermediate well will be designed to collect water from a permeable zone between the deep and shallow wells. Ideally, the intermediate zone will be separated from the other zones by impermeable layers, but the presence or absence of this impermeable layer will be confirmed by the observed lithology and e-logging.

Once the City has approved the design, City staff will observe the Drilling Contractor ream the test hole to a final diameter, with West Yost staff occasionally on-site to observe progress and answer any City questions. Upon completion of the reaming operation, the driller will run mechanical surveys to determine uniformity of the borehole cross-section. When the reaming operation has been completed, the nominal 3-inch diameter monitoring well casings, or other determined size well casings and screen sections will be installed.

The well casing and screen will be fabricated as specified including depths of alignment straps, centralizers, filter pack, intermittent bentonite seals and cement annular seals. Well construction operations will be photographed and as-built well information will be recorded.

Develop Wells

The Drilling Contractor will develop each completed monitoring well by mechanical means until discharge water runs clear and pH, electrical conductivity, and temperature have stabilized for three successive 15-minute intervals.

After each monitoring well has been properly developed, each monitoring well will be properly identified before a single well head will be constructed to prevent vandalism, secured from public access (by key or combination), sealed from surface elements and protected from vehicles with bollards.

Sample & Analyze Groundwater

West Yost will collect representative groundwater samples from each completed monitoring well. Using a submersible pump, water will be purged from the well at the maximum sustainable rate. West Yost will record flow rates, water levels, pH, electrical conductivity, temperature, and water clarity prior to sample collection. Purging will continue until pH and electrical conductivity and temperature of discharged water have stabilized and discharge water is clear. West Yost will collect the samples in containers supplied by the contract laboratory. West Yost will transport the samples, under chain-of-custody protocol, to a State certified laboratory to analyze the samples for Volatile Organic Chemicals by EPA method 524.2. It is assumed that sampling water can be discharged into the City's sanitary sewer system.

Install Transducers

West Yost will install data-logging pressure transducers in each of the three monitoring wells. The loggers will be set to record hourly water levels and temperatures to evaluate ambient conditions before the aquifer test.

Task 2 Deliverables: Work completed under Task 2 will be documented in the Task 3 deliverable described below.

TASK 3. AQUIFER TESTING

After completion of the nested monitoring well, a step pump test coupled with well velocity testing will be conducted in the Freeway Well. The velocity testing will provide information regarding which specific zones are providing flow contribution to the well and what percentage of total, overall inflow this section is providing to the well. At the conclusion of the step and velocity testing, a constant rate pump test of 72-hour duration will be performed in the Freeway well, with water level measurements collected from selected observation wells and the newly constructed multiple completion monitoring well. Table A-1 (located in the next subsection entitled Constant Rate Pump Testing) lists the monitoring frequencies for the pumping well (groundwater level and flow), observation wells and barometric pressure monitoring.

Data-logger-equipped pressure transducers will be deployed in the Freeway Well and specific observation wells to monitor background groundwater level trends and groundwater levels during aquifer testing and a subsequent recovery period. A recording barometer will also be

deployed at the Freeway Well site to monitor barometric pressure changes that could affect groundwater levels in the monitored wells during the background monitoring, aquifer testing and recovery periods. Manual measurements will be made periodically to benchmark the electronically collected data. Electronic measurements will have an accuracy of 0.05 percent of the full-scale range at a temperature of 15° Centigrade. Manual measurements will be made to the nearest 0.01 foot. All aquifer testing water generated is assumed to be acceptable for discharge into the City's sanitary sewer system.

Aquifer testing will be conducted as follows.

Observation Well Identification and Assessment

The Freeway Well will be used as the pumping well during aquifer testing. Observation wells will include the newly constructed multiple-completion monitoring well and observation wells identified during implementation of Task 1. For budgeting purposes, it is assumed that five additional observation wells will be identified for monitoring under Task 1.

Background Groundwater Level Monitoring

Background monitoring will be used to estimate the radius of influence of the City's Freeway Well, and assess the degree to which pumping in this well influences groundwater levels, direction of groundwater flow and groundwater gradients within the general area of the Freeway Well.

Groundwater levels will be measured in the Freeway Well, the newly constructed multiple completion monitoring well, and selected observation wells for three consecutive days prior to conducting step and constant rate aquifer testing.

Step Testing

Step testing will be conducted to estimate the specific capacity and sustainable pumping capacity of the Freeway Well. The step test will be conducted by pumping the Freeway Well over a series of steps in which the pumping rate is incrementally increased at specified time intervals. The step test will be used to select the pump rate for the constant rate aquifer test.

The step test will be conducted in four steps of approximately three-hour duration per step at rates of approximately 0.5, 0.75, 1, and 1.5 times the anticipated capacity of the Freeway Well. The complete test is estimated to require approximately 12 hours. The discharge rate from the pump will be controlled by both a gate valve and engine throttle. The discharge will be controlled and maintained for each step within an accuracy of plus or minus five percent of the target discharge.

During the step test, the time, pumping level and discharge rate will be recorded in the Freeway Well. Groundwater levels will be measured and recorded from each well in the specified observation well network.

Flow Velocity Logging

Continuous flow velocity logging will be conducted by a qualified contractor (hired by West Yost) using a low inertia impeller (spinner) type flow meter equipped with centralizers. Prior to conducting the flow velocity logging, the contractor will:

- Determine the line-speed baseline of the impeller (the impeller counting rate caused by line speed under zero flow conditions) in the Freeway Well under non-pumping conditions;
- Verify, and adjust as necessary, the line speed baseline by comparing the flow meter responses for up and down runs during pumping in the Freeway Well; and
- Construct a line-speed chart based on three down runs made at three different constant speeds with no pumping in the Freeway Well.

The flow velocity logging will then be conducted using a variable flow rate methodology during the step test. For each of the four steps in the test, up and down surveys will be conducted at constant line velocities over the entire length of the well.

For each pumping rate in the step test, a stop-count survey will be conducted at the beginning of each down survey and at the end of each up survey. These stop-count surveys will be conducted by placing the flow meter at a stationary location above the perforated interval and below the pump intake and record readings, consisting of the impeller counting rate and the constant pump rate. The pump intake will be placed at least 15 feet above the top of the perforations. These stop-count survey results will be used to create a chart relating impeller counting rate to pumping rate (Variable Flow Rate Chart). The relationship between impeller counting rate and pumping rate should be linear.

Stop-count surveys will also be taken at 10-foot intervals in the perforated section of the Freeway Well during the up survey for each pumping rate of the step test. Because of their greater accuracy, the stop-count survey results will be used to verify and constrain the results of the continuous surveys conducted over the entire length of the Freeway Well.

The results of the continuous and stop-count surveys conducted in the perforated interval of the Freeway Well will be processed by first correcting the impeller counts for line speed and then converting the corrected impeller counts to flow in gallons per minute using the Variable Flow Rate Chart. The processed results will consist of a vertical profile of the incremental and cumulative flow rate from the bottom of the well to the top of the perforated zone.

Constant Rate Pump Testing

A 72-hour constant rate pump test will be conducted in the Freeway Well at a pumping rate determined based on the results of the step testing. The objectives of the constant rate test will be to assess:

- Lateral and vertical extent of hydraulic influences from pumping of the Freeway Well;
- Aquifer zones that may act as contaminant pathways from VOC sources to the Freeway Well; and
- Aquifer hydraulic properties.

The pumping rate will remain constant throughout the test, not varying by more than five percent of the designated pumping rate. When the test is completed and the pump stopped, groundwater level recovery will be monitored in the Freeway Well and the specified observation well network for 48 hours or until the water levels have recovered to 90 percent of pre-test levels. During the drawdown and recovery tests, the time, pumping rate, and the groundwater levels will be monitored on the schedule presented in Table A-1, below:

Table A-1 Constant Rate Test Schedule	
Duration ^(a)	Interval ^(b)
First 10 minutes	Once every 1 minute
10 – 30 minutes	Once every 2 minutes
30 – 60 minutes (0.5-1 hour)	Once every 5 minutes
60 – 240 minutes (1-4 hours)	Once every 15 minutes
240 – 720 minutes (4-12 hours)	Once every 30 minutes
720 – 4,320 minutes (12-72 hours)	Once every 60 minutes
(a) Alternatively, a logarithmic scale may be used. Recovery of groundwater levels will be measured on the same schedule beginning when the pump is turned off.	
(b) Barometric pressure will be measured and recorded at 15-minute intervals throughout all phases of testing, including background monitoring, constant rate testing and recovery monitoring.	

The totalizer reading from the flow meter will be recorded once every hour with the exact time of the reading. Any adjustments to the discharge rate will also be recorded.

Water Sampling and Analysis

Water quality samples will be collected from the Freeway Well and the multiple completion monitoring wells at the conclusion of the constant rate test. A water sample will be pulled from a sampling tap installed on the pump discharge pipe after the wellhead.

A summary of the work performed in Tasks 1, 2, and 3, and findings and conclusions from these tasks will be documented in a Remedial Investigation Report. The contents of this report are discussed in more detail below.

Task 2 Deliverables

The Remedial Investigation Report will describe the findings of the Task 1 Site Investigation through the following elements:

- a. Records Review and Site Investigation including Monitoring Plan (MP), Quality Assurance Project Plan (QAPP), and Health and Safety Plan (HSP or Plan);
- b. Test Boring and Nested Monitoring Well Completion;
- c. Aquifer Testing;

These elements are discussed below.

Records Review/Site Investigation

This Section will include an introduction that describes the site background and discusses the objectives of the Project and subsequent tasks. The section will also provide a description of the physical characteristics of the Site including the geology, groundwater conditions, and historic uses of the area. Based on our records review, West Yost will prepare a map of properties that are known or suspected sources of VOC contamination and a map that identifies the properties by distance and direction from the Site, relative to the direction of groundwater flow and ranks them as potential source areas for the contaminants being observed at the Site. West Yost will also prepare a map of wells that could be used as either test monitoring wells and draft access agreements for the City's use in negotiations with the well owners for monitoring access.

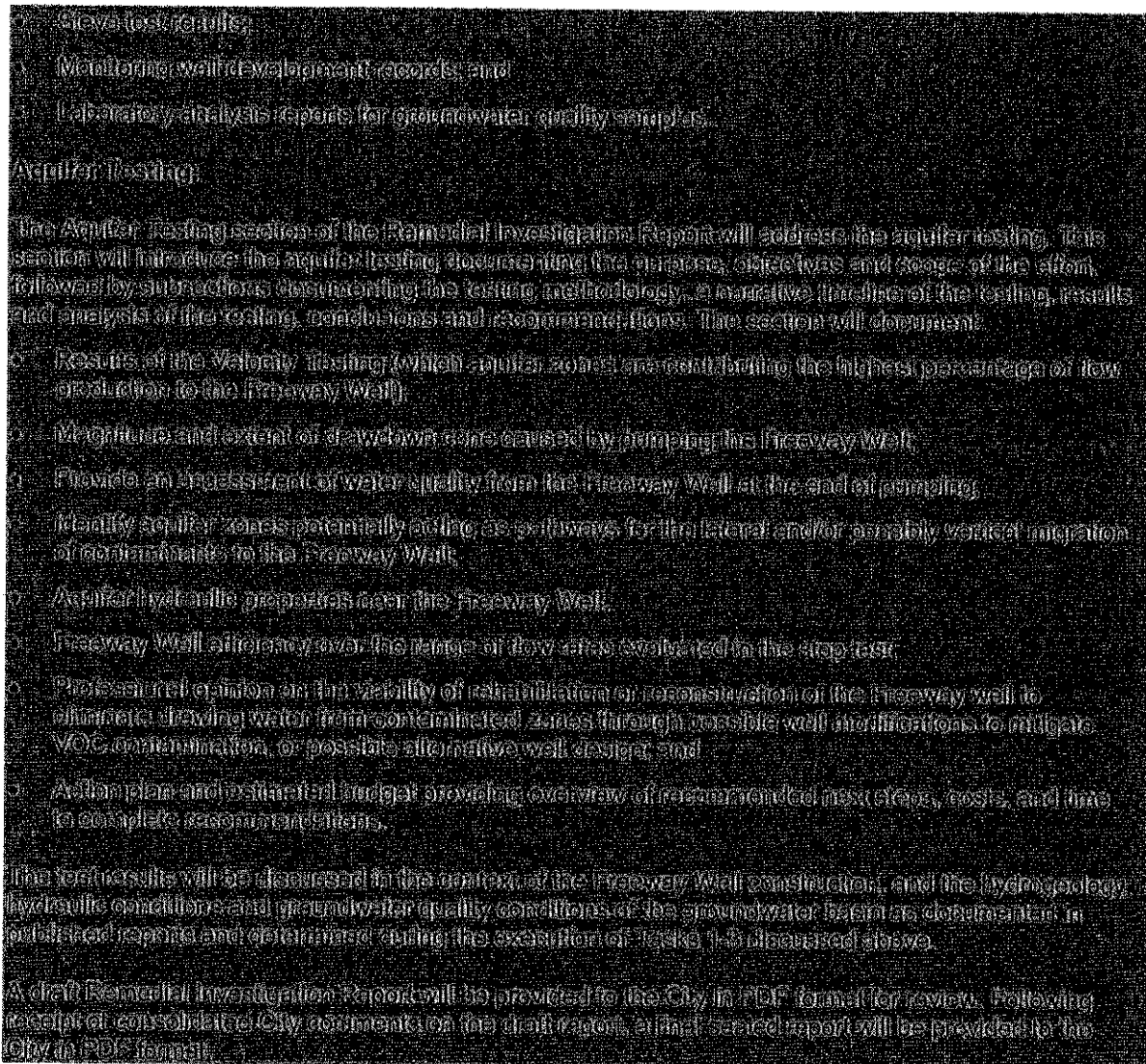
The Monitoring Plan (MP) and Quality Assurance Project Plan (QAPP) will be prepared and included as appendices to the Records Review/Site Investigation section. The MP will discuss those wells selected to be used for water level monitoring during the stop and constructive pumping tests in the freeway wall. Stipulated right of entry forms to monitor these wells on private property will also be included, along with measurement frequency, and a discussion of the procedures for obtaining these measurements. The QAPP will lay out the sampling and analysis procedures for the test boring, nested monitoring well installation, and aquifer testing. The plan will describe West Yost's standard operating procedures for sample collection, storage and custody, and test result confirmation. The QAPP will also describe the analytical laboratory methods and procedures quality assurance measures to be employed by the contract laboratory.

A site specific Health and Safety Plan (HSP or Plan) will also be included as an appendix to the Site Investigation section. The HSP will apply to all phases of work and will govern the onsite behavior of West Yost staff and its subcontractors while working on the site.

Test Boring

The Test Boring section of the Remedial Investigation Report will document the permitting, site specific difficulty encountered during the test boring drilling, and design construction of the multiple completion monitoring well development, and water quality sampling results. The analytical results of the collected groundwater quality samples will be tabulated and compared to published water quality objectives. The report will include an as-built well construction diagram, which will also display the lithologic and geophysical logs of the pilot hole. Contractor supplied well construction data and information will be included as appendices to the section. The appendices will include:

- a. Sonoma County Department of Environmental Health drilling permit;
- b. California Department of Water Resources Well Completion Report;
- c. Photographic log of well construction activities;
- d. Geophysical and caliper logs;



TASK 4. GROUNDWATER REMEDIATION AND TREATMENT FEASIBILITY STUDY

West Yost will evaluate the feasibility of treating groundwater pumped from the Freeway Well, specifically for the removal of VOCs. The Project will consider the historic and new water quality results from the Freeway Well, water quality results for the nested monitoring wells, and the other lithologic and regional information gathered and evaluated under Tasks 1, 2 and 3. Based on the available data, the Project will consider potential alternatives to retrofit the Freeway Well to reduce or eliminate the presence of VOCs, and the potential construction of a replacement well.

As part of the Project, West Yost will evaluate treatment technologies for removal of VOCs in water pumped from the Freeway Well. West Yost will evaluate the feasibility of wellhead treatment systems based on anticipated flow rates, and estimated VOC mass loading rates, and other site-specific design considerations, assuming that this treated water can be discharged directly into the city's potable water distribution system for consumption.

Task 4 Deliverables: The evaluation and selection of treatment and remediation options will be described in a technical memorandum (TM). The recommended alternatives TM will include the following:

- Identification, description and evaluation of treatment technologies and Project alternatives for VOC removal from the Freeway Well, if feasible.
- A cost benefit analysis of the economic feasibility of Project alternatives. Costs will include conceptual cost estimates of capital costs (design, construction, start-up) and annual operation, monitoring, controls management, and maintenance costs, including materials and operating consumables (e.g., electricity). Benefits will include estimates of financial and economic benefits because of the ability to bring the Freeway Well back on line.
- Ranking of Project alternatives based on defined Project objectives, including the cost benefit analysis, and
- Recommended alternative and rationale for selection, if feasible.

A draft TM will be provided to the City in PDF format for review. Following receipt of consolidated City comments on the draft TM, a final sealed TM will be provided to the City in PDF format.

TASK 5 PROJECT COORDINATION WITH PROGRAM MANAGER

Project Coordination with Program Manager includes general project management, communications and coordination of activities with the City and team subconsultants, quality control and quality assurance activities, stakeholder outreach assistance, and invoicing. The project duration is anticipated to be approximately 24 months.

Monthly project status conference calls will be initially scheduled between the West Yost program manager and the City's program manager (Colin Close), plus others by specific request (for budgeting purposes, 24 such conference calls have been budgeted). If additional meetings, or unanticipated program management activities are required, these can be provided with a corresponding budget and schedule augmentation.

TASK 6 OPTIONAL TASK (CONTINGENCY OF 5%)

This task provides an optional 5% contingency fund for requested out of scope work items identified by the City that can be performed by West Yost, once written authorization from the City has been provided.

Freeway Well Planning Project City of Santa Rosa

FAST PIN: 39858

* denotes Project Administration Services performed by either City of West York Staff. See Attachment 5, Scope of Work for details.
 IT denotes Engineering Services. See Attachment 5, Scope of Work for details.

* denotes Project Administration Services performed by either City of West York Staff. See Attachment 5, Scope of Work for details.
 IT denotes Engineering Services. See Attachment 5, Scope of Work for details.

Billing Rate Schedule

City of Santa Rosa

Freeway Well Replacement Feasibility Study

ENGINEERING

Position	Labor Charges (dollars per hour)
Principal/Vice President	289
Engineering/Scientist/Geologist Manager II	279
Engineering/Scientist/Geologist Manager I	266
Principal Engineer/Scientist/Geologist II	258
Principal Engineer/Scientist/Geologist I	243
Senior Engineer/Scientist/Geologist II	228
Senior Engineer/Scientist/Geologist I	217
Associate Engineer/Scientist/Geologist II	207
Associate Engineer/Scientist/Geologist I	193
Engineer/Scientist/Geologist II	180
Engineer/Scientist/Geologist I	156
Senior GIS Analyst	212
GIS Analyst	200
CAD Manager	169
CAD Designer II	146
CAD Designer I	130
Engineering Aide	88
Technical Specialist IV	211
Technical Specialist III	190
Technical Specialist II	169
Technical Specialist I	147
Administrative IV	134
Administrative III	121
Administrative II	100
Administrative I	80

- Hourly rates include Technology and Communication charges such as general and CAD computer, software, telephone, routine in-house copies/prints, postage, miscellaneous supplies, and other incidental project expenses.
 - These billing rates will be fixed for the entire project (as described in the attached scope of work), with the reasonable assumption that this Project will be completed by June 30, 2020. If for whatever reason the Project duration extends beyond June 30, 2020, a revised hourly rate schedule will need to be negotiated and authorized by the City to increase the Project budget.
 - Outside Services such as vendor reproductions, prints, shipping, and major West Yost reproduction efforts, as well as Engineering Supplies, Travel, etc. will be billed at actual cost plus 15%.
 - Mileage will be billed at the current Federal Rate.
 - Subconsultants will be billed at actual cost plus 10%.
 - Expert witness, research, technical review, analysis, preparation and meetings billed at 150% of standard hourly rates. Expert witness testimony and depositions billed at 200% of standard hourly rates.
- A Finance Charge of 1.5% per month (an Annual Rate of 18%) on the unpaid balance will be added to invoice amounts if not paid within 45 days from the date of the invoice.

Continues on following page

Billing Rate Schedule

City of Santa Rosa

Freeway Well Replacement Feasibility Study

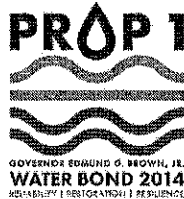
CONSTRUCTION MANAGEMENT

	Labor Charges (dollars per hour)
Senior Construction Manager	277
Construction Manager IV	241
Construction Manager III	193
Construction Manager II	180
Construction Manager I	169
Resident Inspector (Prevailing Wage – Group 1)	188
Resident Inspector (Prevailing Wage – Group 2)	180
Resident Inspector (Prevailing Wage – Group 3)	162
Resident Inspector (Prevailing Wage – Group 4)	146
Apprentice Inspector	133
CM Administrative II	96
CM Administrative I	72

EQUIPMENT CHARGES

Equipment	Billing Rate
Gas Detector	\$80/day
Hydrant Pressure Gauge	\$10/day
Hydrant Pressure Recorder, Standard	\$40/day
Hydrant Pressure Recorder, Impulse (Transient)	\$55/day
Trimble GPS – Geo 7x	\$220/day
Vehicle	\$10/hr
Water Flow Probe Meter	\$20/day
Water Quality Multimeter	\$185/day
Well Sounder	\$30/day

Exhibit B-2



**PROPOSITION 1
GROUNDWATER**

CITY OF SANTA ROSA

AND

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD



PLANNING GRANT

GROUNDWATER PLANNING

FREEWAY WELL PLANNING PROJECT

AGREEMENT NO. SWRCB0000000000D181251900

GRANT FUNDS: \$488,836

ELIGIBLE START DATE: JANUARY 19, 2018

WORK COMPLETION DATE: APRIL 30, 2021

FINAL DISBURSEMENT REQUEST DATE: MAY 31, 2021

RECORDS RETENTION TERM END DATE: APRIL 30, 2057

WHEREAS,

1. The State Water Board is authorized to provide funding under this Agreement pursuant to the following:
 - Proposition 1 Groundwater - Sections 79770-79774 of the Water Code (Prop 1)
2. The State Water Board determines eligibility for financial assistance, determines a reasonable schedule for providing financial assistance, establishes compliance with Prop 1, and establishes the terms and conditions of a funding agreement.
3. The Recipient has applied to the State Water Board for funding for the Project described in Exhibit A of this Agreement, and the State Water Board has selected the application for funding through a competitive process.
4. The State Water Board proposes to assist in funding the costs of the Project, and the Recipient desires to participate as a recipient of financial assistance from the State Water Board, upon the terms and conditions set forth in this Agreement, all pursuant to Prop 1.

NOW, THEREFORE, in consideration of the premises, and of the mutual representations, covenants and agreements set forth herein, the State Water Board and the Recipient, each binding itself, its successors and assigns, do mutually promise, covenant, and agree as follows:

Subject to the satisfaction of any conditions precedent to this Agreement, this Agreement shall become effective upon the signature of both the Recipient and the State Water Board.

Upon execution, the term of the Agreement shall begin on the Eligible Start Date and extend through the Records Retention Term End Date.

1. Definitions

Unless otherwise specified, each capitalized term used in this Agreement has the following meaning:

"Agreement" means this Grant, including all exhibits and attachments hereto.

"Authorized Representative" means the duly appointed representative of the Recipient as set forth in the certified original of the Recipient's authorizing resolution that designates the Authorized Representative by title.

"Days" means calendar days unless otherwise expressly indicated.

"Disbursement Period" means the period during which Grant Funds may be disbursed.

"Disbursement Request" means the form used by the Recipient to document Match Funds and request reimbursement of Project Costs.

"Division" means the Division of Financial Assistance of the State Water Board or any other segment of the State Water Board authorized to administer the funding program(s) set forth in this Agreement.

"Eligible Start Date" means the date set forth in Exhibit B, establishing the date on or after which reimbursable Project Costs may be incurred and eligible for reimbursement hereunder.

"Final Disbursement Request Date" means the date established in Exhibit B, after which date no further Grant Funds disbursements may be requested.

"Fiscal Year" means the period of twelve (12) months terminating on June 30 of any year.

"Force Account" means the use of the Recipient's own employees or resources for the Project.

"GAAP" means generally accepted accounting principles, as issued by the Governmental Accounting Standards Board.

"Grant Contact" means the employee of the Recipient who has been delegated by the Project Director to oversee the day-to-day activities of the Project. The Grant Contact is set forth in Section 2 of this Agreement.

"Grant Funds" means funds provided by the State Water Board towards eligible reimbursable Project Costs.

"Grant Manager" means the person designated by the State Water Board to manage performance of the Agreement. The Grant Manager is set forth in Section 2 of this Agreement.

"Guidelines" means the State Water Board's "Proposition 1 Groundwater Grant Program Guidelines," as amended from time to time.

"Indirect Costs" means those costs that are incurred for a common or joint purpose benefiting more than one cost objective and are not readily assignable to the Project (i.e., costs that are not directly related to the Project). Examples of Indirect Costs include, but are not limited to: central service costs; general administration of the Recipient; non-project-specific accounting and personnel services performed within the Recipient organization; depreciation or use allowances on buildings and equipment; the costs of operating and maintaining non-project-specific facilities; tuition and conference fees; generic overhead or markup; and taxes.

"Match Funds" means funds provided by the Recipient towards the Project Costs incurred after November 4, 2014.

"Party Contact" means, for the Recipient, the Authorized Representative of the Recipient or any designee of the Authorized Representative, and, for the State Water Board, the Grant Manager, or the Program Analyst.

"Project" means the planning project as described in Exhibit A and in the documents incorporated by reference.

"Project Completion" means, as determined by the Division, that the Project is complete to the reasonable satisfaction of the Division.

"Project Costs" means the incurred costs of the Recipient which are eligible under this Agreement, which are allowable costs as defined under the Guidelines, and which are reasonable, necessary and allocable by the Recipient to the Project under GAAP.

"Project Director" means an employee of the Recipient designated by the Authorized Representative to be responsible for the overall management of the administrative and technical aspects of the executed Agreement. The Project Director is set forth in Section 2 of this Agreement.

"Recipient" means City of Santa Rosa.

"Records Retention Term End Date" means the last date that the Recipient is obligated to maintain records pursuant to Section C-29 of this Agreement.

"Regional Water Quality Control Board" or "Regional Water Board" means the appropriate Regional Water Quality Control Board.

"State" means State of California.

"State Water Board" means the California State Water Resources Control Board, an administrative and regulatory agency of the State of California.

"Work Completion" means the Recipient's submittal of all work set forth under Exhibit A for review and approval by the Division. The Division may require corrective work to be performed prior to Project Completion. Any work occurring after the Work Completion Date will not be reimbursed under this Agreement.

"Work Completion Date" means the date set forth in Exhibit A that is the last date on which Project Costs may be incurred under this Agreement.

"Year" means calendar year unless otherwise expressly indicated.

2. Party Contacts

The Party Contacts during the term of this Agreement are:

State Water Board		City of Santa Rosa	
Section:	Division of Financial Assistance	Section:	Water Department
Name:	Aparjeet Rangi, Grant Manager	Name:	Jennifer Burke, Project Director
Address:	1001 I Street, 17 th Floor	Address:	69 Stony Circle
City, State, Zip:	Sacramento, CA 95814	City, State, Zip:	Santa Rosa, CA 95401
Phone:	(916) 319-8255	Phone:	(707) 543-3359
Fax:	(916) 341- 5707	Fax:	(707) 543-3936
Email:	Aparjeet.Rangi@waterboards.ca.gov	E-mail:	jburke@srcity.org

Direct inquiries to:

State Water Board		City of Santa Rosa:	
Section:	Division of Financial Assistance	Section:	Water Department
Name:	Melissa Miller, Program Analyst	Name:	Colin Close, Grant Contact
Address:	1001 I Street, 17 th Floor	Address:	69 Stony Circle
City, State, Zip:	Sacramento, CA 95814	City, State, Zip:	Santa Rosa, CA 95401
Phone:	(916) 993-3872	Phone:	(707) 543-4524
Fax:	(916) 341- 5707	Fax:	(707) 543-3936
Email:	Melissa.Miller@waterboards.ca.gov	E-mail:	cclose@srcity.org

The Recipient may change its Project Director upon written notice to the Grant Manager, which notice shall be accompanied by authorization from the Recipient's Authorized Representative. The State Water Board will notify the Project Director of any changes to its Party Contacts.

3. Exhibits and Appendices Incorporated

The following exhibits and appendices to this Agreement, including any amendments and supplements hereto, are hereby incorporated herein and made a part of this Agreement:

EXHIBIT A – SCOPE OF WORK

EXHIBIT B – FUNDING PROVISIONS

EXHIBIT C – STANDARD TERMS AND CONDITIONS

EXHIBIT D – SPECIAL CONDITIONS

4. Representations, Warranties, and Commitments

The Recipient represents, warrants, and commits to the following as of the Eligible Start Date set forth in Exhibit B and continuing thereafter for the term of the Agreement:

- (a) General Commitments. The Recipient accepts and agrees to comply with all terms, provisions, conditions, and commitments of this Agreement, including all incorporated documents, and to fulfill all assurances, declarations, representations, and commitments made by the Recipient in its application, accompanying documents, and communications filed in support of its request for financial assistance and throughout the term of this Agreement.
- (b) Authorization and Validity. The execution and delivery of this Agreement, including all incorporated documents, has been duly authorized. This Agreement constitutes a valid and binding obligation of the Recipient, enforceable in accordance with its terms, except as such enforcement may be limited by law.
- (c) No Violations. The execution, delivery, and performance by Recipient of this Agreement, including all incorporated documents, do not violate any provision of any law or regulation in effect as of the Eligible Start Date set forth in Exhibit B, or result in any breach or default under any contract, obligation, indenture, or other instrument to which Recipient is a party or by which Recipient is bound as of the Eligible Start Date set forth in Exhibit B.
- (d) No Litigation. There are no pending or, to Recipient's knowledge, threatened actions, claims, investigations, suits, or proceedings before any governmental authority, court, or administrative agency which affect the financial condition or operations of the Recipient, and/or the Project.
- (e) Solvency. None of the transactions contemplated by this Agreement will be or have been made with an actual intent to hinder, delay, or defraud any present or future creditors of Recipient. As of the Eligible Start Date set forth in Exhibit B, Recipient is solvent and will not be rendered insolvent by the transactions contemplated by this Agreement. Recipient is able to pay its debts as they become due.
- (f) Legal Status and Eligibility. Recipient is duly organized and existing and in good standing under the laws of the State of California, and will remain so during the term of this Agreement. Recipient shall at all times maintain its current legal existence and preserve and keep in full force and effect its legal rights and authority. Recipient shall maintain its eligibility for funding under this Agreement for the term of this Agreement.
- (g) Good Standing. The Recipient is currently in compliance with the state requirements set forth in Exhibit C. Within the preceding ten years, the Recipient has not failed to demonstrate compliance with previous state audit disallowances.
- (h) Insurance. Recipient maintains sufficient insurance coverage considering the scope of this Agreement, including, for example, but not necessarily limited to, General Liability, Automobile Liability, Worker's Compensation and Employer's Liability, Professional Liability, as applicable.

5. Project Completion

The Recipient shall expeditiously proceed with and complete the Project in accordance with this Agreement.

6. Notice

- (a) The Recipient shall notify the Division in writing within five (5) working days of the occurrence of any of the following:
 - (1) Bankruptcy, insolvency, receivership or similar event of the Recipient;
 - (2) Actions taken pursuant to state law in anticipation of filing for bankruptcy;
- (b) The Recipient shall notify the Division within ten (10) working days of any litigation pending or threatened against Recipient regarding its continued existence, consideration of dissolution, or reincorporation;
- (c) The Recipient shall notify the Division promptly of the following:
 - (1) Any proposed change in scope of the Project. Under no circumstances may the Recipient make changes to the scope of the Project without receiving prior review and approval by the Division. Most changes will require an amendment to this Agreement;
 - (2) Cessation of work on the Project where such cessation of work is expected to or does extend for a period of thirty (30) days or more;
 - (3) Any circumstance, combination of circumstances, or condition, which is expected to or does delay Work Completion;
 - (4) Any monitoring activities such that the State Water Board Division of Drinking Water and/or Regional Water Quality Control Board staff may observe and document such activities;
 - (5) Any public or media event publicizing the accomplishments and/or results of this Agreement and provide the opportunity for attendance and participation by state representatives with at least ten (10) working days' notice to the Division; or
 - (6) Work Completion, and Project Completion.

7. Project Access

The Recipient shall ensure that the State Water Board, the Governor of the State, or any authorized representative of the foregoing, will have safe and suitable access to the Project site at all reasonable times during Project construction and thereafter for the term of the obligation.

8. No Obligation of the State; State Budget Act Contingency

Any obligation of the State Water Board herein contained shall not be an obligation, debt, or liability of the State and any such obligation shall be payable solely out of the moneys appropriated by the State Legislature to the State Water Board from the special fund associated with this Agreement.

If the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no force and effect. This provision shall be construed as a condition precedent to the obligation of the State Water Board to make

any payments under this Agreement. In this event, the State shall have no liability to pay any funds whatsoever to Recipient or to furnish any other considerations under this Agreement and Recipient shall not be obligated to perform any provisions of this Agreement. Nothing in this Agreement shall be construed to provide the Recipient with a right of priority for payment over any other recipient. If this Agreement's funding for any Fiscal Year is reduced or deleted by the Budget Act, by Executive Order, or by order of the Department of Finance, the State shall have the option to either cancel this Agreement with no liability accruing to the State, or offer an Agreement amendment to the Recipient to reflect the reduced amount.

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

CITY OF SANTA ROSA:

By: _____

Name: Bennett Horenstein

Title: Director

Date: _____

STATE WATER RESOURCES CONTROL BOARD:

By: _____

Name: Leslie S. Laudon

Title: Deputy Director
Division of Financial Assistance

Date: _____

EXHIBIT A – SCOPE OF WORK

A-1. Completion Dates

The Work Completion Date is established as April 30, 2021. Work occurring after the Work Completion Date, including corrective actions, is not eligible for reimbursement with Grant Funds and cannot be paid for using Match Funds.

A-2. Purpose

This grant is for the benefit of the Recipient. This grant is for the purpose of conducting a Remedial Investigation/Feasibility Study to evaluate remediation of groundwater in the vicinity of the recipient's Freeway Well, including installing and sampling groundwater monitoring wells, performing aquifer testing, and evaluating potential remedial alternatives to address groundwater contamination. The Recipient's receipt of funding under this Agreement is not a commitment to and does not obligate the State Water Board to provide funding for any eventual construction/implementation project.

A-3. Scope of Work

The Recipient agrees to do the following:

1. Project Management

- 1.1 Provide all technical and administrative services as needed for Project completion; monitor, supervise, and review all work performed; and coordinate budgeting and scheduling to ensure the Project is completed within budget, on schedule, and in accordance with approved procedures, applicable laws, and regulations.
- 1.2 Notify the Grant Manager at least fifteen (15) working days in advance of upcoming meetings, workshops, trainings and fieldwork or construction activities.
- 1.3 Develop and update appropriately a detailed Project schedule including key Project milestones, and submit to the Grant Manager.
- 1.4 Conduct periodic and final site visits with the Grant Manager and other staff designated by the Division.
- 1.5 Conduct pre-, during, and post-construction photo monitoring at the Project site and submit to the Grant Manager.

2. General Compliance Requirements/Project Effectiveness and Performance

- 2.1 Submit Global Positioning System (GPS) information or survey data for project site(s) and monitoring location(s) for this Project to the Grant Manager. Submittal requirements for GPS data are available at:
http://www.waterboards.ca.gov/water_issues/programs/grants_loans/grant_info/docs/gps.pdf
- 2.2 Prepare and submit a Monitoring and Reporting Plan (MRP) to the Technical Advisory Committee (TAC) for comment and the Grant Manager for approval. The MRP becomes final upon Grant Manager approval. Any changes to the MRP, including sampling methodology and frequency, must be submitted to the TAC for comment and the Grant Manager for approval. The MRP shall include the following:

- 2.2.1 A Monitoring Plan (MP) that includes the following sections:

- 2.2.1.1 Purpose: Describe the purpose of the MP. The purpose of the MP shall provide the information necessary to address data gaps during the remedial investigation and provide the pre-design data necessary to develop groundwater cleanup alternatives. Describe the relation of the proposed monitoring activities to any other monitoring activities in the Project area.
 - 2.2.1.2 Project Area: Provide a map and narrative description of the anticipated area of plume capture, location of the Project, and location of current and proposed monitoring wells.
 - 2.2.1.3 Sampling Plan: Describe the methodology used and selection of monitoring locations, the frequency of monitoring, the analytical methods that will be utilized, and the process that will be used to make any necessary changes to achieve the purpose of the MP.
 - 2.2.1.4 Field Procedures: Provide a description of field procedures including sample collection methods, equipment decontamination, sample identification and handling, and documentation procedures.
- 2.3 Prepare, maintain, and implement a Quality Assurance Project Plan (QAPP) in accordance with the United States Environmental Protection Agency's (USEPA) QAPP guidance documents (EPA QA/G-5 and EPA QA/R-5). Water quality monitoring data includes physical or chemical monitoring of any groundwater. Submit the QAPP to the Grant Manager for approval. Any costs related to monitoring data collected prior to and not supported by the approved QAPP will not be reimbursed. A template for the USEPA QAPP is available from the Grant Manager.
 - 2.3.1 Upload the final approved document(s) in pdf format to the Financial Assistance Application Submittal Tool (FAAST) system.
- 2.4 Prepare and upload all groundwater analytical data collected in accordance with the MRP to the State Water Board's GeoTracker/GAMA system in Electronic Deliverable Format. Groundwater samples include monitoring well samples, borehole samples, piezometer samples, and samples from drinking water wells. Locational information for these sampling points shall be submitted using the Geo_XY file. Contact the Grant Manager to obtain a Global ID prior to collecting samples.
- 3. Permitting and Environmental Compliance
 - 3.1 Obtain all public agency approvals, entitlements, or permits required for Project implementation before fieldwork begins. If the Project is carried out on lands not owned by the Recipient, the Recipient must obtain adequate rights of way for the useful life of the Project. Submit a list and signed copies of such approvals, entitlements, or permits to the Grant Manager.
 - 3.2 Complete documentation required under the California Environmental Quality Act (CEQA) for the proposed implementation project. Take all required steps to prepare, circulate, and certify the required CEQA document(s). Submit the final CEQA document for the proposed implementation project to the Grant Manager.

4. Technical Advisory Committee

- 4.1 Establish a Technical Advisory Committee (TAC) inviting representatives from the Division, the State Water Board Division of Drinking Water (DDW), the North Coast Regional Water Quality Control Board (Regional Water Board), and other appropriate government agencies. Submit the final list of TAC members, their roles and responsibilities, and affiliations to the Grant Manager for approval.
- 4.2 Convene a kickoff meeting to establish TAC goals and objectives, formalize roles, and create a schedule for future meetings. Submit a summary of the kickoff meeting to the Grant Manager.
- 4.3 Conduct additional TAC meetings in accordance with the schedule developed in Item 4.2 and submit the agendas, meeting minutes, and sign-in sheets for each meeting to the Grant Manager.

5. Stakeholder Advisory Group

- 5.1 Establish a Stakeholder Advisory Group (SAG) consisting of interested parties. Submit a list of the SAG members to the Grant Manager.
- 5.2 Conduct SAG meetings to inform SAG members of Project activities and solicit feedback and comments.
 - 5.2.1 Submit a SAG meeting schedule to the Grant Manager for approval. The SAG meeting schedule must include a minimum of one (1) meeting as determined appropriate by the Grant Manager.
 - 5.2.2 Submit SAG meeting materials, a summary of feedback and comments received from the SAG, and sign-in sheet(s) to the Grant Manager.

6. Remedial Investigation Workplan

- 6.1 The Remedial Investigation Workplan shall describe the tasks and schedule necessary to complete Item 7. Prepare a Remedial Investigation Technical Memorandum Workplan and submit to the TAC for review and the Grant Manager for approval.

The Remedial Investigation Technical Memorandum Workplan shall include, but not be limited to:

- 6.1.1 Describe the records review, data gathering, and compilation of the State Geotracker and EnviroStor data repositories and other publicly available environmental reports for properties close to the Freeway Well site boundaries.
- 6.1.2 Identify the proposed Project area.
- 6.1.3 Describe the objectives of the remedial investigation and the associated tasks and deliverables necessary to address significant data gaps in the Project area.
- 6.1.4 Describe method(s) for collecting baseline water elevation samples for monitoring wells and observation wells in the Project area.

- 6.1.5 Describe the location and construction details for one test boring and a minimum of three (3) monitoring wells, and the rationale for addressing data gaps in the proposed Project area. Groundwater sampling data must be provided that adequately supports the selection of the proposed monitoring well locations consistent with the purpose of the Project.
- 6.1.6 Describe the objectives of aquifer testing and the methods and procedures that will be used for conducting aquifer testing in the Freeway well and monitoring/observation wells, including monitoring/observation wells that will be used to monitor groundwater levels and barometric pressure changes during aquifer testing.
- 6.1.7 Identify the total number and location of pressure transducers that will be installed in the monitoring observation wells for measuring groundwater elevation and barometric pressure during the aquifer tests.

7. Remedial Investigation Report

- 7.1 Conduct an investigation in the Project area in accordance with the approved Remedial Investigation Technical Memorandum Workplan in Item 6.1.
 - 7.1.2 Submit any proposed changes from the approved Remedial Investigation Technical Memorandum Workplan in Item 6.1 that arise during the investigation to the TAC for comment and the Grant Manager for approval.
- 7.2 Prepare a Remedial Investigation Report that summarizes the activities conducted in Items 6.1 and includes the results of each activity. Submit to TAC and the Grant Manager.

The Remedial Investigation Report must include, at a minimum, the following:

- 7.2.1 Summary of Project area's site history, past investigations, and the purpose and scope of the recent investigation.
- 7.2.2 Summary of records review to gather and compile information about the Freeway well, its geologic setting, and threats and impacts to the drinking water aquifer, data collection from the State GeoTracker and Envirostor data repositories and any other publicly available environmental reports, and summary of matrix of properties and businesses that have used chemicals that may have caused contamination in the Freeway Well.
- 7.2.3 Summary of field work activities completed, methods used, and supporting documentation including test boring and monitoring well logs, well development information, water level measurements, and soil and/or groundwater sampling field notes. Submit field notes for all the field work performed to the Grant Manager.
- 7.2.4 Findings of the investigation and supporting documentation including: lithology, analytical results, water levels, depth to groundwater, and groundwater elevations, and groundwater gradient and flow direction, in comparison to regional gradient and flow direction.
- 7.2.5 Evaluation of data collected by the Recipient and others in the Project area and an assessment of the nature and extent of contamination including

contaminant plume maps and time-series plots for identified contaminants of concern.

- 7.2.6 Conclusions identifying any contamination found and/or suspected source of contamination, if possible.
- 7.2.7 Identification of any additional investigations necessary in the Project area or data gaps that should be addressed prior to development of the Feasibility Study, including recommendations for additional groundwater sampling of monitoring wells, if necessary.
- 7.2.8 Description of the quality assurance and quality control procedures outlined in Item 2.3 and implemented during the investigation and the results (Quality Control sample identification, field blank analyses, comparison of duplicate sample results).
- 7.2.9 Description of the results of the aquifer testing outlined in Item 6.1. Provide a description of the assessment of groundwater flow within each aquifer zone over the range of pumping rates that were evaluated in the Freeway well.

8. Feasibility Study Report

- 8.1 Prepare a Feasibility Study Report and submit to the SAG and TAC for comment and the Grant Manager for approval.

The Feasibility Study Report must include, at a minimum, the following:

- 8.1.1 Summary of the Project Area's history, geology, hydrogeology, surface water, local land use, previous investigations, and remedial actions.
- 8.1.2 Summary of the nature and extent of constituents of concern in the impacted media (e.g., soils, groundwater, surface water, etc.) including types of contaminants, concentrations detected, and vertical and lateral extent of the contamination.
- 8.1.3 Summary of the contaminant properties and transport based on soil and aquifer properties.
- 8.1.4 Proposed remedial action objectives that the future proposed implementation project will achieve.
- 8.1.5 Description of the remedial action alternatives that will be evaluated.
- 8.1.6 Evaluation of the remedial action alternatives and options.
- 8.1.7 Estimated total life cycle costs, costs benefit analysis, and estimated schedule for each cleanup alternative evaluated.
- 8.1.8 Description of the rationale for selecting the preferred alternative.

9. Public Outreach

- 9.1 Develop outreach materials including flyers, posters, brochures, and advertisements, and update the website and associated social media web pages to

include Project progress and outcomes. Provide copies of the outreach materials and web links to the Grant Manager.

- 9.2 Conduct a minimum of one (1) public workshop, inviting relevant non-governmental organizations and disadvantaged community representatives, prior to finalization of the Feasibility Study Report in Item 8.1. Submit the workshop materials, sign-in sheet(s), and photo documentation of the workshop to the Grant Manager.

A-4. Disclosure

The Recipient shall include the following disclosure statement in any document, written report, or brochure prepared in whole or in part pursuant to this Agreement:

"Funding has been provided in full or in part through an agreement with the State Water Resources Control Board using funds from Proposition 1. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does mention of trade names or commercial products constitute endorsement or recommendation for use."

A-5. Reporting

- (a) **Progress Reports.** The Recipient shall submit quarterly progress reports, using a format provided by the Grant Manager, within forty-five (45) days following the end of the calendar quarter (March, June, September, and December) to the Grant Manager. Progress Reports shall provide a brief description of activities that have occurred, milestones achieved, monitoring results (if applicable), and any problems encountered in the performance of the work under this Agreement during the applicable reporting period. Reporting shall be required even if no grant-related activities occurred during the reporting period. The Recipient shall document all activities and expenditures in progress reports, including work performed by contractors.
- (b) **As Needed Information or Reports.** The Recipient agrees to provide expeditiously, during the term of this Agreement, such reports, data, and information as may be reasonably required by the Division, including but not limited to material necessary or appropriate for evaluation of the funding program or to fulfill any reporting requirements of the state or federal government.
- (c) **Final Reports.** At the conclusion of the Project, the Recipient must submit the following to the Grant Manager:
- (1) **Draft Final Project Report.** Prepare and submit to the Grant Manager, for review and comment, a draft Final Project Report in a format provided by the Grant Manager.
 - (2) **Final Project Report.** Prepare a Final Project Report that addresses, to the extent feasible, comments made by the Grant Manager on the draft Final Project Report. Submit one (1) reproducible master copy and an electronic copy of the final. Upload an electronic copy of the final report in pdf format to the FFAST system.
 - (3) **Final Project Summary.** Prepare a brief summary of the information contained in the Final Project Report, using a format provided by the Grant Manager. Include accomplishments, recommendations, and lessons learned, as appropriate. Upload an electronic copy of the Final Project Summary in pdf format to the FFAST system.

A-6. Submittal Schedule

Failure to provide items by the due dates indicated in the table below may constitute a material violation of this Agreement. However, the dates in the "Estimated Due Date" column of this table may be adjusted as necessary during the Disbursement Period with Grant Manager approval. All work or submittals must be achieved with relevant submittals approved by the Division prior to the Work Completion Date, and the final Disbursement Request submitted, prior to the Final Disbursement Request Date set forth in Exhibit B.

As applicable for specific submittals, the Recipient shall plan adequate time to solicit, receive, and address TAC comments prior to submitting the final submittal.

ITEM	DESCRIPTION OF SUBMITTAL	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT A-3 PROJECT-SPECIFIC SCOPE OF WORK			
1.	Project Management		
1.2	Notification of Upcoming Meetings, Workshops, and Trainings		Ongoing
1.3	Detailed Project Schedule	60 Days after Execution	
1.4	Periodic and Final Site Visits		As Needed
1.5	Pre-, During, and Post-Construction Photos		Ongoing
2.	General Compliance Requirements/Project Effectiveness and Performance		
2.1	GPS Information		Ongoing
2.2	Monitoring and Reporting Plan (MRP)		January 2019
2.3	Quality Assurance Project Plan (QAPP)		November 2019
3.	Permitting and Environmental Compliance		
3.1	List of Approvals, Entitlements or Permits for the Planning Project		February 2019
3.2	Final CEQA Documentation	Completed	
4.	Technical Advisory Committee (TAC)		
4.1	List of TAC Members	90 Days after Execution	
4.2	Summary of Kickoff Meeting		Ongoing
4.3	Agendas, Meeting Minutes, and Sign-In Sheet(s)		90 Days after Execution
5.	Stakeholder Advisory Group (SAG)		
5.1	List of SAG Members		November 2018
5.2.1	Meeting Schedule		December 2018

ITEM	DESCRIPTION OF SUBMITTAL	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT A-3 PROJECT-SPECIFIC SCOPE OF WORK			
5.2.2	Meeting Materials, Summary of Feedback and Comments, and Sign-In Sheet(s)		Ongoing
6.	Remedial Investigation Workplan		
6.1	Remedial Investigation Workplan		December 2018
7.	Remedial Investigation Reporting		
7.1.2	Proposed Changes from Approved Workplan(s)		As Needed
7.2.	Remedial Investigation Report		April 2020
7.2.3	Summary of Field Work Activities		April 2020
8.	Feasibility Study Report		
8.1	Feasibility Study Report		January 2021
9.	Public Outreach		
9.1	Outreach Material and Web Links		April 2019
9.2	Workshop Materials, Sign-in Sheet(s) and Photo Documentation		July 2019
EXHIBIT A-5 REPORTING			
(a)	Progress Reports	Quarterly	
(b)	As Needed Information or Reports		
(c)	Final Reports		
(c)(1)	Draft Final Project Report	January 31, 2021	
(c)(2)	Final Project Report	March 31, 2021	
(c)(3)	Final Project Summary	Before Final Disbursement Request	
EXHIBIT B – FUNDING PROVISIONS			
4 (b)	Final Disbursement Request	May 31, 2021	
9 (b)(4)	Disbursement Requests	Quarterly	

EXHIBIT B – FUNDING PROVISIONS

B-1. Project Funding

Subject to the terms of this Agreement, the State Water Board agrees to provide Grant Funds in the amount of up to FOUR HUNDRED EIGHTY-EIGHT THOUSAND EIGHT HUNDRED THIRTY-SIX DOLLARS (\$488,836).

B-2. Match Funds

- (a) The Recipient agrees to provide Match Funds in the amount of FOUR HUNDRED EIGHTY-NINE THOUSAND THIRTY DOLLARS (\$489,030).
- (b) This Match Funds amount is based on the budget, funding sources, and amounts submitted by the Recipient in its application and during the negotiation of this Agreement. Any Match Funds changes or adjustments requested by the Recipient must be approved, in advance and in writing, by the Grant Manager and may require an amendment to this Agreement.
- (c) Only expenses that would be considered eligible under the Guidelines will be counted towards the Recipient's Match Funds.
- (d) Any costs incurred prior to the adoption of Proposition 1 on November 4, 2014, will not count towards the Recipient's Match Funds.
- (e) If, at Work Completion, the Recipient has provided Match Funds in an amount that is less than the Match Funds amount set forth above, the State Water Board may proportionately reduce the Grant Funds amount and/or Recipient's Match Funds amount, upon approval of the Deputy Director of the Division, provided the reduced amount(s) satisfy statutory requirements and Guidelines.

B-3. Estimated Reasonable Total Project Cost

The estimated reasonable cost of the total Project is NINE HUNDRED SEVENTY-SEVEN THOUSAND EIGHT HUNDRED SIXTY-SIX DOLLARS (\$977,866).

B-4. Funding Dates

- (a) The Eligible Start Date is JANUARY 19, 2018. Otherwise eligible costs incurred prior to this date will not be reimbursed.
- (b) The Final Disbursement Request Date is MAY 31, 2021. The Deputy Director of the Division may extend this date for good cause. Extensions may require an amendment to this Agreement. All Disbursement Requests must be submitted to the Division such that they are received prior to this date. Late Disbursement Requests will not be honored, and remaining amounts will be deobligated.

B-5. Funding Conditions and Exclusions

- (a) This Agreement reflects planning funding only. If the Recipient desires implementation/construction funding, the Recipient must apply for implementation/construction funding, and execute an implementation/construction funding agreement. Costs associated with the implementation/construction phase of the possible eventual implementation/construction project are not eligible for reimbursement under this Agreement.

- (b) The State Water Board's disbursement of funds hereunder is contingent on the Recipient's compliance with the terms and conditions of this Agreement.
- (c) Grant Funds may not be used for any Indirect Costs. Any Disbursement Request submitted including Indirect Costs will cause that Disbursement Request, in its entirety, to be disputed and will not be paid until the dispute is resolved. This prohibition applies to the Recipient and any subcontract or sub-agreement for work on the Project that will be reimbursed with Grant Funds pursuant to this Agreement. (Gov. Code, § 16727.)

B-6. Budget Summary

LINE ITEM	GRANT FUNDS	MATCH FUNDS	TOTAL PROJECT COSTS
Direct Project Administration Costs	\$0	\$53,216	\$53,216
Planning/Design/Engineering/Environmental	\$222,424	\$51,389	\$273,813
Construction/Implementation	\$252,966	\$380,144	\$633,110
Monitoring/Performance	\$0	\$0	\$0
Outreach	\$13,446	\$4,281	\$17,727
TOTAL	\$488,836	\$489,030	\$977,866

B-7. Budget Flexibility

- (a) Subject to the prior review and approval of the Grant Manager, adjustments between existing line item(s) may be used to defray allowable direct costs up to fifteen percent (15%) of the total Grant Funds, including any amendment(s) thereto. Line item adjustments in excess of fifteen percent (15%) require an Agreement amendment. If the detailed budget includes an amount for the Recipient's personnel costs, that amount is based on the hours, classifications, and rates submitted by the Recipient in its application. Any changes to the hours, classifications, and rates must be approved, in advance and in writing, by the Grant Manager.
- (b) The Recipient may submit a request for an adjustment in writing to the Grant Manager. Such adjustment may not increase or decrease the total grant amount. The Recipient shall submit a copy of the original Agreement budget sheet reflecting the requested changes and shall note proposed changes by striking out the original amount(s) followed with proposed change(s) in bold and underlined. Budget adjustments deleting a budget line item or adding a new budget line item shall require a formal amendment. The Division may also propose budget adjustments.
- (c) The sum of adjusted line items shall not exceed the total budget amount.

B-8. Amounts Payable by the Recipient

The Recipient agrees to pay any and all costs connected with the Project including, without limitation, any and all Project Costs. If the Grant Funds are not sufficient to pay the Project Costs in full, the Recipient shall nonetheless complete the Project and pay that portion of the Project Costs in excess of available Grant Funds, and shall not be entitled to any reimbursement therefor from the State Water Board.

B-9. Disbursement of Grant Funds; Availability of Grant Funds

- (a) The State Water Board's obligation to disburse Grant Funds is contingent upon the availability of sufficient funds to permit the disbursements provided for herein. If sufficient funds are not available for any reason, including but not limited to failure of the State government to appropriate funds necessary for disbursement of Grant Funds, the State Water Board shall not be obligated to make any disbursements to the Recipient under this Agreement. This provision shall be construed as a condition precedent to the obligation of the State Water Board to make any disbursements under this Agreement. Nothing in this Agreement shall be construed to provide the Recipient with a right of priority for disbursement over any other recipient. If any disbursements due the Recipient under this Agreement are deferred because sufficient funds are unavailable, it is the intention of the State Water Board that such disbursement will be made to the Recipient when sufficient funds do become available, but this intention is not binding. If this Agreement's funding for any fiscal year is reduced or deleted by the Budget Act, by Executive Order, or by order of the Department of Finance, the State shall have the option to either cancel this Agreement with no liability occurring to the State, or offer an amendment to the Recipient to reflect the reduced amount.
- (b) Except as may be otherwise provided in this Agreement, disbursement of Grant Funds will be made as follows:
 - (1) Upon execution and delivery of this Agreement, the Recipient may submit a Disbursement Request for eligible Project Costs as well as to support Match Funds as specified in this Exhibit from the Project Costs through submission to the State Water Board using the Disbursement Request form provided by the Grant Manager.
 - (2) Disbursement Requests shall contain the following information:
 - a. The date of the request;
 - b. The time period covered by the request, i.e., the term "from" and "to";
 - c. The total amount requested;
 - d. Documentation of Match Funds used;
 - e. Original signature and date (in ink) of the Recipient's Project Director or his/her designee; and,
 - f. The Final Disbursement Request shall be clearly marked "FINAL DISBURSEMENT REQUEST" and shall be submitted NO LATER THAN MAY 31, 2021.
 - (3) Disbursement Requests must be itemized based on the line items specified in the budget in this Exhibit. Disbursement Requests must be complete, signed by the Recipient's Project Director or his/her designee, and addressed to the Grant Manager as set forth in the Party Contacts section of this Agreement. Disbursement Requests submitted in any other format than the one provided by the State Water Board will cause a Disbursement Request to be disputed. In the event of such a dispute, the Grant Manager will notify the Recipient. Payment will not be made until the dispute is resolved and a corrected Disbursement Request submitted. The Grant Manager has the responsibility for approving Disbursement Requests. Project Costs incurred prior to the Eligible Start Date of this Agreement will not be reimbursed.

- (4) Grant Funds must be requested quarterly via Disbursement Request for eligible costs incurred during the reporting period of the corresponding Progress Report, describing the activities and expenditures for which the disbursement is being requested. Each Disbursement Request must be accompanied by a Progress Report. Failure to provide timely Disbursement Requests may result in such requests not being honored.
- (5) The Recipient agrees that it will not submit any Disbursement Requests that include any Project Costs until such cost has been incurred and is currently due and payable by the Recipient, although the actual payment of such cost by the Recipient is not required as a condition of Disbursement Request. Supporting documentation (e.g., receipts) must be submitted with each Disbursement Request as well as to support Match Funds claimed, if any. The amount requested for administration costs must include a calculation formula (i.e., hours or days worked times the hourly or daily rate = total amount claimed). Disbursement of Grant Funds will be made only after receipt of a complete, adequately supported, properly documented, and accurately addressed Disbursement Request.
- (6) The Recipient will not seek reimbursement of any Project Costs that have been reimbursed from other funding sources.
- (7) Recipient shall use Grant Funds within 30 days of receipt to reimburse contractors, vendors, and other Project Costs. Any interest earned on Grant Funds shall be reported to the State Water Board and will either be required to be returned to the State Water Board or deducted from future disbursements. In the event that the Recipient fails to disburse Grant Funds to contractors or vendors within thirty (30) days from receipt of the Grant Funds, the Recipient shall immediately return such Grant Funds to the State Water Board. Interest shall accrue on such Grant Funds from the date of disbursement through the date of mailing of Grant Funds to the State Water Board. If the Recipient held such Grant Funds in interest-bearing accounts, any interest earned on the Grant Funds shall also be due to the State Water Board.
- (8) Recipient shall submit its final Disbursement Request no later than the Final Disbursement Request Date specified herein unless prior approval is granted by the Division. If the Recipient fails to do so, then the undisbursed balance of this Agreement will be deobligated.
- (9) The Recipient agrees that it will not request a disbursement unless that cost is allowable, reasonable, and allocable.
- (10) Notwithstanding any other provision of this Agreement, no disbursement shall be required at any time or in any manner that is in violation of or in conflict with federal or state laws, policies, or regulations.
- (11) The Recipient agrees that it shall not be entitled to interest earned on undisbursed Grant Funds.
- (12) Any reimbursement for necessary travel and per diem shall be at rates not to exceed those set by the California Department of Human Resources. These rates may be found at <http://www.calhr.ca.gov/employees/Pages/travel-reimbursements.aspx>. Reimbursement will be at the State travel and per diem amounts that are current as of the date costs are incurred by the Recipient. No travel outside the State of California shall be reimbursed unless prior written authorization is obtained from the Grant Manager.
- (13) The Recipient must include any other documents or requests required or allowed under this Agreement.

B-10. Withholding of Disbursements and Material Violations

- (a) Notwithstanding any other provision of this Agreement, the Recipient agrees that the State Water Board may retain an amount equal to ten percent (10%) of the Grant Funds until Project Completion. Any retained amounts due to the Recipient will be promptly disbursed to the Recipient, without interest, upon Project Completion.
- (b) The State Water Board may withhold all or any portion of the funds provided for by this Agreement in the event that:
 - (1) The Recipient has materially violated, or threatens to materially violate, any term, provision, condition, or commitment of this Agreement; or
 - (2) The Recipient fails to maintain reasonable progress toward Project Completion.

B-11. Remaining Balance

In the event the Recipient does not request all of the Grant Funds encumbered under this Agreement, any remaining Grant Funds revert to the State.

B-12. Fraud and Misuse of Public Funds

All Disbursement Requests submitted shall be accurate and signed under penalty of perjury. Any and all Project Costs submitted pursuant to this Agreement shall only be for the tasks set forth herein. The Recipient shall not submit any Disbursement Request containing costs that are ineligible or have been reimbursed from other funding sources unless required and specifically noted as such (i.e., match costs). Any eligible Project Costs for which the Recipient is seeking reimbursement shall not be reimbursed from any other source. Double or multiple billing for time, services, or any other eligible Project Cost is illegal and constitutes fraud. Any suspected occurrences of fraud, forgery, embezzlement, theft, or any other misuse of public funds may result in suspension of disbursements of Grant Funds and/or termination of this Agreement requiring the repayment of all Grant Funds disbursed hereunder. Additionally, the Deputy Director of the Division may request an audit and refer the matter to the Attorney General's Office or the appropriate district attorney's office for criminal prosecution or the imposition of civil liability. (Civ. Code, §§ 1572-1573; Pen. Code, §§ 470, 489-490.)

EXHIBIT C – STANDARD TERMS AND CONDITIONS

C-1. Accounting and Auditing Standards

The Recipient shall maintain GAAP-compliant Project accounts, including GAAP requirements relating to the reporting of infrastructure assets.

C-2. Amendment

No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties and approved as required. No oral or written understanding or agreement not incorporated in this Agreement is binding on any of the parties.

C-3. Assignability

This Agreement is not assignable by the Recipient, either in whole or in part.

C-4. Audit

- (a) The Division, at its option, may call for an audit of financial information relative to the Project, where the Division determines that an audit is desirable to assure program integrity or where such an audit becomes necessary because of state or federal requirements. Where such an audit is called for, the audit shall be performed by a certified public accountant independent of the Recipient and at the cost of the Recipient. The audit shall be in the form required by the Division.
- (b) Audit disallowances will be returned to the State Water Board. Failure to comply with audit disallowance provisions shall disqualify the Recipient from participating in State Water Board funding programs.

C-5. [Reserved]

C-6. [Reserved]

C-7. Claims

Any claim of the Recipient is limited to the rights, remedies, and claims procedures provided to the Recipient under this Agreement.

C-8. Competitive Bidding

Recipient shall adhere to any applicable state or local ordinance for competitive bidding and applicable labor laws.

C-9. Compliance with Law, Regulations, etc.

The Recipient agrees that it shall, at all times, comply with and require its contractor and subcontractors to comply with all applicable federal and state laws, rules, guidelines, regulations, and requirements. Without limitation of the foregoing, the Recipient agrees that, to the extent applicable, the Recipient shall:

- (a) Comply with the Guidelines; and
- (b) Comply with and require compliance with the list of state laws (cross-cutters) in Section C-32 of this Agreement.

C-10. Conflict of Interest

The Recipient certifies that its owners, officers, directors, agents, representatives, and employees are in compliance with applicable state and federal conflict of interest laws.

C-11. Damages for Breach Affecting Tax-Exempt Status or Federal Compliance

In the event that any breach of any of the provisions of this Agreement by the Recipient shall result in the loss of tax-exempt status for any bonds of the State or any subdivision or agency thereof, including bonds issued on behalf of the State Water Board, or if such breach shall result in an obligation on the part of the State or any subdivision or agency thereof to reimburse the federal government by reason of any arbitrage profits, the Recipient shall immediately reimburse the State or any subdivision or agency thereof in an amount equal to any damages paid by or loss incurred by the State or any subdivision or agency thereof due to such breach. In the event that any breach of any of the provisions of this Agreement by the Recipient shall result in the failure of Grant Funds to be used pursuant to the provisions of this Agreement, or if such breach shall result in an obligation on the part of the State or any subdivision or agency thereof to reimburse the federal government, the Recipient shall immediately reimburse the State or any subdivision or agency thereof in an amount equal to any damages paid by or loss incurred by the State or any subdivision or agency thereof due to such breach.

C-12. Disputes

- (a) The Recipient may appeal a staff decision within 30 days to the Deputy Director of the Division or designee, for a final Division decision. The Recipient may appeal a final Division decision to the State Water Board within 30 days. The Office of the Chief Counsel of the State Water Board will prepare a summary of the dispute and make recommendations relative to its final resolution, which will be provided to the State Water Board's Executive Director and each State Water Board Member. Upon the motion of any State Water Board Member, the State Water Board will review and resolve the dispute in the manner determined by the State Water Board. Should the State Water Board determine not to review the final Division decision, this decision will represent a final agency action on the dispute.
- (b) This clause does not preclude consideration of legal questions, provided that nothing herein shall be construed to make final the decision of the State Water Board, or any official or representative thereof, on any question of law.
- (c) Recipient shall continue with the responsibilities under this Agreement during any dispute.

C-13. Financial Management System and Standards

The Recipient agrees to comply with federal standards for financial management systems. The Recipient agrees that, at a minimum, its fiscal control and accounting procedures will be sufficient to permit preparation of reports required by the federal or state government and tracking of Project Costs to a level of expenditure adequate to establish that such Grant Funds have not been used in violation of federal or state law or the terms of this Agreement.

C-14. Governing Law

This Agreement is governed by and shall be interpreted in accordance with the laws of the State of California.

C-15. Income Restrictions

The Recipient agrees that any refunds, rebates, credits, or other amounts (including any interest thereon) accruing to or received by the Recipient under this Agreement shall be paid by the Recipient to the State Water Board, to the extent that they are properly allocable to Project Costs for which the Recipient has been reimbursed by the State Water Board under this Agreement.

C-16. Indemnification and State Reviews

The parties agree that review or approval of Project documents by the State Water Board is for administrative purposes only, including conformity with application and eligibility criteria, and expressly not for the purposes of design defect review or construction feasibility, and does not relieve the Recipient of its responsibility to engage in proper planning. To the extent permitted by law, the Recipient agrees to indemnify, defend, and hold harmless the State Water Board, and its officers, employees, and agents (collectively, "Indemnified Persons"), against any loss or liability arising out of any claim or action brought against any Indemnified Persons from and against any and all losses, claims, damages, liabilities, or expenses, of every conceivable kind, character, and nature whatsoever arising out of, resulting from, or in any way connected with (1) the Project or the conditions, occupancy, use, possession, conduct, or management of, work done in or about, or the planning, design, acquisition, installation, or construction, of the Project or any part thereof; (2) the carrying out of any of the transactions contemplated by this Agreement or any related document; (3) any violation of any applicable law, rule or regulation, any environmental law (including, without limitation, the Federal Comprehensive Environmental Response, Compensation and Liability Act, the Resource Conservation and Recovery Act, the California Hazardous Substance Account Act, the Federal Water Pollution Control Act, the Clean Air Act, the Toxic Substances Control Act, the Occupational Safety and Health Act, the Safe Drinking Water Act, the California Hazardous Waste Control Law, and California Water Code Section 13304, and any successors to said laws), rule or regulation or the release of any toxic substance on or near the Project; or (4) any untrue statement or alleged untrue statement of any material fact or omission or alleged omission to state a material fact necessary to make the statements required to be stated therein, in light of the circumstances under which they were made, not misleading with respect to any information provided by the Recipient for use in any disclosure document utilized in connection with any of the transactions contemplated by this Agreement. To the fullest extent permitted by law, the Recipient agrees to pay and discharge any judgment or award entered or made against Indemnified Persons with respect to any such claim or action, and any settlement, compromise or other voluntary resolution. The provisions of this section shall survive the term of this Agreement and the discharge of the Recipient's Obligation hereunder.

C-17. Independent Actor

The Recipient, and its agents and employees, if any, in the performance of this Agreement, shall act in an independent capacity and not as officers, employees, or agents of the State Water Board.

C-18. Integration

This Agreement is the complete and final Agreement between the parties.

C-19. Non-Discrimination Clause

- (a) During the performance of this Agreement, Recipient and its contractors and subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, sexual orientation, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status, denial of family care leave, or genetic information, gender, gender identity, gender expression, or military and veteran status.

- (b) The Recipient, its contractors, and subcontractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment.
- (c) The Recipient, its contractors, and subcontractors shall comply with the provisions of the Fair Employment and Housing Act and the applicable regulations promulgated thereunder. (Gov. Code, §12990, subds. (a)-(f) et seq.; Cal. Code Regs., tit. 2, § 7285 et seq.) Such regulations are incorporated into this Agreement by reference and made a part hereof as if set forth in full.
- (d) The Recipient, its contractors, and subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
- (e) The Recipient shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Agreement.

C-20. No Third Party Rights

The parties to this Agreement do not create rights in, or grant remedies to, any third party as a beneficiary of this Agreement, or of any duty, covenant, obligation, or undertaking established herein.

C-21. [Reserved]

C-22. Other Assistance

If funding for Project Costs is made available to the Recipient from sources other than this Agreement, the Recipient shall notify the Division. The Recipient may retain such funding up to an amount which equals the Recipient's local share of Project Costs. To the extent allowed by requirements of other funding sources, excess funding shall be remitted to the State Water Board.

C-23. Permits; Contracting; Disqualification

The Recipient shall comply in all material respects with all applicable federal, state and local laws, rules and regulations. Recipient shall procure all permits, licenses and other authorizations necessary to accomplish the work contemplated in this Agreement, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work.

For any work related to this Agreement, the Recipient shall not contract with any individual or organization on the State Water Board's List of Disqualified Businesses and Persons that is identified as debarred or suspended or otherwise excluded from or ineligible for participation in any work overseen, directed, funded, or administered by the State Water Board program for which funding under this Agreement is authorized. The State Water Board's List of Disqualified Businesses and Persons is located at http://www.waterboards.ca.gov/water_issues/programs/enforcement/fwa/dbp.shtml. The Recipient shall not contract with any party who is debarred or suspended or otherwise excluded from or ineligible for participation in federal assistance programs under Executive Order 12549, "Debarment and Suspension."

C-24. Public Records

The Recipient acknowledges that, except for a subset of information regarding archaeological records, the Project records and locations are public records, including but not limited to all of the submissions accompanying the application, all of the documents incorporated by reference into this Agreement, and all reports, Disbursement Requests, and supporting documentation submitted hereunder.

C-25. Prevailing Wages

The Recipient agrees to be bound by all applicable provisions of State Labor Code regarding prevailing wages. The Recipient shall monitor all agreements subject to reimbursement from this Agreement to ensure that the prevailing wage provisions of the State Labor Code are being met.

C-26. Professionals

The Recipient agrees that only professionals with valid licenses in the State of California will be used to perform services under this Agreement where such services are called for. All technical reports required pursuant to this Agreement that involve planning, investigation, evaluation, design, or other work requiring interpretation and proper application of engineering, architecture, or geologic sciences shall be prepared by or under the direction of persons registered to practice in California. All technical reports must contain the statement of the qualifications of the responsible registered professional(s). Technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

C-27. Public Funding

This Project is publicly funded. Any service provider or contractor with which the Recipient contracts must not have any role or relationship with the Recipient, that, in effect, substantially limits the Recipient's ability to exercise its rights, including cancellation rights, under the contract, based on all the facts and circumstances.

C-28. Recipient's Responsibility for Work

The Recipient shall be responsible for all work and for persons or entities engaged in work performed pursuant to this Agreement, including, but not limited to, contractors, subcontractors, suppliers, and providers of services. The Recipient shall be responsible for responding to any and all disputes arising out of its contracts for work on the Project. The State Water Board will not mediate disputes between the Recipient and any other entity concerning responsibility for performance of work.

C-29. Records

Without limitation of the requirement to maintain Project accounts in accordance with GAAP, the Recipient agrees to:

- (a) Establish an official file for the Project, which shall adequately document all significant actions relative to the Project.
- (b) Establish separate accounts, which will adequately and accurately depict all amounts received and expended on the Project, including all assistance funds received under this Agreement.
- (c) Establish separate accounts, which will adequately depict all income received which is attributable to the Project, specifically including any income attributable to assistance funds disbursed under this Agreement.
- (d) Establish an accounting system, which will accurately depict final total costs of the Project, including both direct and indirect costs. Indirect Costs are not eligible for funding under this Agreement.
- (e) Establish such accounts and maintain such records as may be necessary for the State to fulfill federal reporting requirements, including any and all reporting requirements under federal tax statutes or regulations.

- (f) If Force Account is used by the Recipient for the Project, accounts will be established which reasonably document all employee hours charged to the Project and the associated tasks performed by each employee. Indirect Force Account costs are not eligible for funding. This prohibition applies to the Recipient and any subcontract or sub-agreement for work on the Project that will be reimbursed with Grant Funds pursuant to this Agreement. (Gov. Code § 16727.)
- (g) Maintain separate books, records and other material relative to the Project.
- (h) Retain such books, records, and other material for itself and for each contractor or subcontractor who performed work on this Project for a minimum of thirty-six (36) years after Work Completion. The Recipient shall require that such books, records, and other material be subject at all reasonable times (at a minimum during normal business hours) to inspection, copying, and audit by the State Water Board, the Bureau of State Audits, the Internal Revenue Service, the Governor, or any authorized representatives of the aforementioned, and shall allow interviews during normal business hours of any employees who might reasonably have information related to such records. The Recipient agrees to include a similar right regarding audit, interviews, and records retention in any subcontract related to the performance of this Agreement. The provisions of this section shall survive the term of this Agreement.

C-30. Related Litigation

The Recipient is prohibited from using Grant Funds or Match Funds to pay costs associated with any litigation the Recipient pursues. Regardless of whether the Project or any eventual construction project is the subject of litigation, the Recipient agrees to complete the Project funded by the Agreement or to repay all Grant Funds plus interest to the State Water Board.

C-31. Rights in Data

The Recipient agrees that all data, plans, drawings, specifications, reports, computer programs, operating manuals, notes, and other written or graphic work produced in the performance of this Agreement are subject to the rights of the State as set forth in this section. The State shall have the right to reproduce, publish, and use all such work, or any part thereof, in any manner and for any purposes whatsoever and to authorize others to do so. If any such work is copyrightable, the Recipient may copyright the same, except that, as to any work which is copyrighted by the Recipient, the State reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, and use such work, or any part thereof, and to authorize others to do so, and to receive electronic copies from the Recipient upon request.

C-32. State Cross-Cutter Compliance

Recipient represents and certifies that, to the extent applicable, it is in compliance with the following conditions precedent and agrees that it will continue to maintain compliance during the term of this Agreement:

- (a) Agricultural Water Management Plan Consistency. A Recipient that is an agricultural water supplier as defined by section 10608.12 of the Water Code must comply with the Agricultural Water Management Planning Act. (Wat. Code, § 10800 *et seq.*)
- (b) California Environmental Quality Act (CEQA). Implementation and construction activities must comply with CEQA and potentially other environmental review requirements, including the National Environmental Policy Act (NEPA). Proceeding with work subject to CEQA and/or NEPA without environmental clearance by the State Water Board shall constitute a breach of a material provision of this Agreement.
- (c) Charter City Project Labor Requirements. (Labor Code, § 1782 and Pub. Contract Code, § 2503.)

(1) Prevailing Wage

Where Recipient is a charter city or a joint powers authority that includes a charter city, Recipient certifies that no charter provision nor ordinance authorizes a construction project contractor not to comply with the Labor Code's prevailing wage rate requirements, nor, within the prior two (2) years (starting from January 1, 2015, or after) has the city awarded a public works contract without requiring the contractor to comply with such wage rate requirements according to Labor Code section 1782.

(2) Labor Agreements

Where Recipient is a charter city or a joint powers authority that includes a charter city, Recipient certifies that no charter provision, initiative, or ordinance limits or constrains the city's authority or discretion to adopt, require, or utilize project labor agreements that include all the taxpayer protection antidiscrimination provisions of Public Contract Code section 2500 in construction projects, and that Recipient is accordingly eligible for state funding or financial assistance pursuant to Public Contract Code section 2503.

- (d) Contractor and Subcontractor Requirements. (Labor Code, §§ 1725.5 and 1771.1.) To bid for public works contracts, Recipient acknowledges that Recipient and Recipient's subcontractors must register with the Department of Industrial Relations.
- (e) Delta Plan Consistency Findings. (Wat. Code, § 85225 and Cal. Code of Regulations, title 23, § 5002.) If Recipient is a state or local public agency and the proposed action is covered by the Delta Plan, Recipient will submit a certification of project consistency with the Delta Plan to the Delta Stewardship Council prior to undertaking the implementation/construction project associated with this Project.
- (f) Eminent Domain Prohibited. (Wat. Code, § 79711.) Where land acquisition is otherwise authorized under this Agreement, Grant Funds and Match Funds shall not be used to acquire land via eminent domain.
- (g) Governor's Infrastructure Plan. (Gov. Code, § 13100.) The Recipient shall ensure that the Project shall maintain consistency with section 13100 of the Government Code (five-year infrastructure plan).
- (h) Groundwater Monitoring. (Wat. Code, § 10920.) The Recipient shall comply with Water Code section 10920 et seq., which requires groundwater monitoring and reporting of groundwater elevations.
- (i) Remediation Costs Limited. (Wat. Code, § 79771.) Grant Funds shall not be used to pay any share of the costs of remediation recovered from parties responsible for the contamination of a groundwater storage aquifer, but may be used to pay costs that cannot be recovered from responsible parties. Recipients that have received Grant Funds for remediating groundwater storage aquifers shall exercise reasonable efforts to recover the costs of groundwater cleanup from the parties responsible for the contamination. Funds recovered from responsible parties may only be used to fund treatment and remediation activities.
- (j) State Water Board's Drought Emergency Water Conservation regulations. (Cal. Code of Regulations, Title 23, article 22.5.) The Recipient will include a discussion of its implementation in Progress Reports submitted pursuant to this Agreement.
- (k) SBx7-7: Sustainable Water Use and Demand Reduction (Wat. Code, § 10608 et seq.). SBx7-7 conditions the receipt of a water management grant or loan for urban water suppliers on achieving gallons per capita per day reduction targets with the end goal of a twenty percent (20%)

reduction by 2020. Recipients that are urban water suppliers shall provide proof of compliance with SBx7-7.

- (l) Sustainable Groundwater Management Act (SGMA) Compliance. Wat. Code, § 10720-10737.8. To the extent required under SGMA, the Recipient shall comply with the following:
 - (1) If, after July 1, 2017, the Project is or will be located in a non-adjudicated high- or medium-priority California Statewide Groundwater Elevation Monitoring (CASGEM) basin, the Recipient shall ensure that a Groundwater Sustainability Agency (GSA) has formed or an alternative has been submitted to DWR. (Wat. Code, § 10735.2 (a)(1).)
 - (2) If, after January 31, 2020, the Project is or will be located in a non-adjudicated high- or medium CASGEM basin that is subject to critical conditions of overdraft, the Recipient shall ensure that the Project is consistent with an adopted Groundwater Sustainability Plan (GSP).
 - (3) If, after January 31, 2022, the Project is or will be located in a non-adjudicated high- or medium CASGEM basin that is not subject to critical conditions of overdraft, the Recipient shall ensure that the Project is consistent with an adopted GSP.
- (m) Urban Water Demand Management. (Wat. Code, § 10631.5.) If Recipient is an "urban water supplier" as defined by Water Code section 10617, Recipient certifies that it is implementing water demand management measures approved by the Department of Water Resources.
- (n) Urban Water Management Planning Act. (Wat. Code, § 10610 et seq.). If Recipient is an "urban water supplier" as defined by Water Code section 10617, the Recipient certifies that it has submitted an Urban Water Management Plan that has been deemed complete by the Department of Water Resources and is in compliance with that plan. This shall constitute a condition precedent to this Agreement.
- (o) Urban Water Supplier. (Wat. Code, §§ 526 and 527.) If Recipient is an urban water supplier as defined by Water Code section 10617, it shall have complied and maintain compliance with sections 526 and 527 of the Water Code relating to installation of meters and volumetric charging.
- (p) Water Diverter. (Wat. Code, § 5103.) If Recipient is a water diverter, Recipient must maintain compliance by submitting monthly diversion reports to the Division of Water Rights of the State Water Board.
- (q) Water Quality Compliance. (Wat. Code, § 79707.) The Recipient shall ensure that the Project shall maintain consistency with Division 7 of the Water Code (commencing with section 13000) and Government Code section 13100.
- (r) Water Quality Monitoring. (Wat. Code, § 79704.) If water quality monitoring is required as part of the Project, the Recipient shall collect and report water quality monitoring data to the State Water Board in a manner that is compatible and consistent with surface water monitoring data systems or groundwater monitoring data systems administered by the State Water Board.
- (s) Wild and Scenic Rivers. (Wat. Code, § 79711.) The Recipient shall ensure that the Project will not have an adverse effect on the values upon which a wild and scenic river or any other river is afforded protections pursuant to the California Wild and Scenic Rivers Act or the federal Wild and Scenic Rivers Act.

C-33. State Water Board Action; Costs and Attorney Fees

The Recipient agrees that any remedy provided in this Agreement is in addition to and not in derogation of any other legal or equitable remedy available to the State Water Board as a result of breach of this Agreement by the Recipient, whether such breach occurs before or after completion of the Project, and exercise of any remedy provided by this Agreement by the State Water Board shall not preclude the State Water Board from pursuing any legal remedy or right which would otherwise be available. In the event of litigation between the parties hereto arising from this Agreement, it is agreed that each party shall bear its own costs and attorney fees.

C-34. Termination; Immediate Repayment; Interest

- (a) This Agreement may be terminated at any time at the option of the State Water Board, upon violation by the Recipient of any material provision of this Agreement after such violation has been called to the attention of the Recipient and after failure of the Recipient to bring itself into compliance with the provisions of this Agreement within a reasonable time as established by the Division.
- (b) In the event of such termination, the Recipient agrees, upon demand, to immediately repay to the State Water Board an amount equal to Grant Funds disbursed hereunder, accrued interest, penalty assessments, and additional payments. In the event of termination, interest shall accrue on all amounts due at the highest legal rate of interest from the date that notice of termination is mailed to the Recipient to the date all monies due have been received by the State Water Board.

C-35. Timeliness

Time is of the essence in this Agreement.

C-36. Unenforceable Provision

In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement have force and effect and shall not be affected thereby.

C-37. [Reserved]

C-38. Venue

The State Water Board and the Recipient hereby agree that any action arising out of this Agreement shall be filed and maintained in the Superior Court in and for the County of Sacramento, California.

C-39. Waiver and Rights of the State Water Board

Any waiver of rights by the State Water Board with respect to a default or other matter arising under the Agreement at any time shall not be considered a waiver of rights with respect to any other default or matter.

Any rights and remedies of the State Water Board provided for in this Agreement are in addition to any other rights and remedies provided by law.

EXHIBIT D – SPECIAL CONDITIONS

Recipient acknowledges and agrees to the following special conditions:

1. Pursuant to Water Code section 79771 subdivision (c), during the term of the Agreement, the Recipient shall exercise reasonable efforts to recover the costs of groundwater cleanup from the parties responsible for the contamination. Any such funds recovered shall be used to fund treatment and remediation activities. If the Recipient recovers funds from any responsible parties, the Recipient shall immediately notify the Division. The amount of this Agreement may be reduced to reflect the recovered funds.