PROPOSITION 1 WATER RECYCLING RESEARCH

THE WATER RESEARCH FOUNDATION

AND

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

RESEARCH GRANT

RESEARCH TO ADVANCE POTABLE AND NON-POTABLE REUSE IN CALIFORNIA

AGREEMENT NO. D1705003

GRANT FUNDS: $3,500,000

ELIGIBLE START DATE: MARCH 1, 2018
RESEARCH COMPLETION DATE: FEBRUARY 28, 2021
FINAL DISBURSEMENT REQUEST DATE: MARCH 31, 2021
RECORDS RETENTION TERM END DATE: FEBRUARY 28, 2057

WHEREAS,

1. The State Water Board is authorized to provide funding under this Agreement pursuant to Article 4 of Chapter 7 of Division 26 of the Water Code (Prop 13) and sections 79765 - 79768 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 13 and Prop 1, and establishes the terms and conditions of the funding agreement.

3. The State Water Board adopted Resolution No. 2017-0034, which authorizes the Deputy Director of the Division and their designee to award and execute Proposition 13 and Proposition 1 grant agreements and amendments for recycled water research and development included on the Water Recycling Research and Development Funding List. On the Water Recycling Research and Development Funding List, the State Water Board awarded funding to the Recipient to conduct the research described in Exhibit A of this agreement.

4. The State Water Board proposes to provide financial assistance for eligible costs of the Research, 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 13 and Prop 1.

5. This grant is for the benefit of the Recipient to advance water recycling research and development, and is not for the planning or construction of a water recycling project as defined in section 79135 of the Water Code.

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

1. Definitions

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

"Agreement" means this research 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.

"Deputy Director" means the Deputy Director of the Division.

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

"Disbursement Request" means the form used by the Recipient to document and request reimbursement of Research 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 this Agreement.

"Division of Water Quality (DWQ) Technical Coordinator" is a senior in DWQ who will oversee the research portfolio in the Water Recycling Research and Development Funding List in Resolution No.

2017-0034 and will ensure that the research is consistent with the statutory requirements of Proposition 13 and Proposition 1 and the Water Recycling Funding Program guidelines. The DWQ Technical Coordinator may participate in Research-related meetings and conference calls as an observer.

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

"Event of Default" means the occurrence of any of the following events: (a) any representation or warranty made by the Recipient under this Agreement proves to be incorrect in any material respect, (b) the Recipient's failure to observe or perform any covenant, condition, or provision contained in Exhibit B of this Agreement, (c) the failure of the Recipient to perform any covenant or condition under this Agreement and such failure shall remain unremedied for a period of 30 days, unless expressly waived by the Division, (d) the failure of the Recipient to keep in full force and effect its legal existence and any rights, licenses, permit, or privileges to conduct its business, or the occurrence of any material restraint on Recipient's business by a government agency or by court order (e) initiations of proceedings seeking liquidation, reorganization, or other relief with respect to the Recipient or its debts, or for the appointment of a receiver, trustee, custodian or conservator with respect to the Recipient or any part of its assets, or similar event, (f) a material adverse change in the business, operations, or condition (financial or otherwise) of Recipient.

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

"Force Account" means the use of the Recipient's own employees or equipment.

"Generally accepted accounting principles (GAAP)" means the uniform accounting and reporting procedures set forth in publications of the American Institute of Certified Public Accountants or its successor, or by any other generally accepted authority on such procedures, and includes, as applicable, the standards set forth by the Governmental Accounting Standards Board or its successor.

"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 Research.

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

"Grant Manager" means the person designated by the State Water Board to manage performance of this Agreement.

"Guidelines" means the Water Recycling Funding Program Guidelines, as amended by the State Water Board on June 16, 2015.

"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 Research (i.e., costs that are not directly related to the Research). Examples of Indirect Costs include, but are not limited to: central service costs; general administration of the Recipient; non-research specific accounting and personnel services performed within the Recipient's organization; depreciation or use allowances on buildings and equipment; the costs of operating and maintaining non-research specific facilities; tuition and conference fees; generic overhead or markup; and taxes.

"Issue Area Team (IAT)" means a group of scientists, engineers, and other subject matter experts selected by the Recipient with the responsibility of developing a program of research, which consists of the highest priority research needs in their assigned subject-matter area, on an annual basis. Individuals on an IAT are responsible for monitoring research needs in their areas of expertise and work as a team to develop the research approach and tasks for each research project description, review and/or draft the

schedules and budgets based on the scopes of work, and recommend potential Project Advisory Committee members to the Recipient. The IAT will review all of the research project descriptions, identify the highest priority research, and make recommendations for a program of research to the Research Advisory Council for review. The Recipient currently has three subgroups of the Water Reuse and Desalination IAT relevant to this Research: Potable Reuse, Agricultural Reuse, Industrial Reuse and Produced Water. The State Water Board has two technical liaisons on the Potable Reuse IAT subgroup, and one technical liaison on the Agricultural Reuse and Industrial Reuse and Produced Water IAT subgroups.

"Match Funds" means non-obligatory funds provided by the Recipient towards the Research Costs.

"Material Event" means the failure of the Recipient to observe or perform any covenant in this Agreement, including any of the following: a) revenue shortfalls; (b) adverse findings by the Regional Water Quality Control Board or DDW; (c) any false warranty or representation made by the Recipient relevant to this Agreement; (d) any event set forth in section 1.8 of this Agreement.

"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 Advisory Committee" means a group of scientists, engineers, and other relevant backgrounds selected by the Recipient to provide expert scientific review and technical oversight for each Research component. The Project Advisory Committee reviews Research objectives, request for proposals, and proposals and makes recommendations for Research awards, as well as providing technical oversight and objective feedback to the Research Teams through the Recipient.

"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 The Water Research Foundation.

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

"Research" means the Research funded pursuant to this Agreement and as described in Exhibit A and in the documents incorporated by reference herein.

"Research Advisory Council" means individuals selected by the Recipient with specific areas of expertise and experience from water and wastewater utilities, engineering and consulting firms, manufacturers and suppliers, academia, and federal and state agencies. The Research Advisory Council reviews research descriptions developed by the IAT. The Research Advisory Council is responsible for reviewing a list of research projects for the year that meets the budget allocations set by the Recipient and then submits the list to the Recipient for approval. The State Water Board has one technical liaison on the Research Advisory Council.

"Research Completion" means the Recipient's submittal of all work set forth under Exhibit A for review and approval by the Division and as determined by the Division, and that the Research is complete to the reasonable satisfaction of the Division. The Division may require corrective work to be performed. Any work occurring after the Research Completion Date will not be reimbursed under this Agreement.

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

"Research Costs" means the incurred costs of the Recipient which are: (a) eligible under this Agreement, (b) allowable costs as defined under the Guidelines, and (c) reasonable, necessary and allocable by the Recipient to the Research under GAAP.

"Research Manager" means an employee of the Recipient designated to fulfill the requirements of the grant and the Research components and is assigned to manage at least one of the components. The Research Manager will coordinate with the Project Advisory Committees, Research Teams, and Project Director for their assigned Research components.

"Research Team" means a group responsible for the fulfillment of the research objectives for each component and which will interact with the Project Advisory Committee through the Research Manager.

"State" means State of California.

"State Water Board" means the California State Water Resources Control Board.

"Year" means calendar year unless otherwise expressly indicated.

2. Party Contacts

The Party Contacts during the term of this Agreement are:

State Water Board	The Water Research Foundation
Section: Division of Financial Assistance	
Name: Sandeep Kals, Grant Manager	Name: Julie Minton, Project Director
Address: 1001 I Street, 16th Floor	Address: 1199 N. Fairfax St., Suite 900
City, State, Zip: Sacramento, CA 95814	City, State, Zip: Alexandria, VA 22314
Phone: (916) 341-5415	Phone: (571) 699-0023
Fax: (916) 341-5707	Fax:
Email: Sandeep.Kals@waterboards.ca.gov	Email: jminton@waterrf.org

Direct inquiries to:

State Water Board	The Water Research Foundation
Section: Division of Financial Assistance	
Name: Kari Holzgang, Program Analyst	Name: Kim Van Eyzeren, Grant Contact
Address: 1001 I Street, 17th Floor	Address: 6666 W. Quincy Avenue
City, State, Zip: Sacramento, CA 95814	City, State, Zip: Denver, CO 80235
Phone: (916) 341-5461	Phone: (303) 347-6113
Fax: (916) 341-5296	Fax: (303) 730-0851
Email: Kari.Holzgang@waterboards.ca.gov	Email: kvaneyzeren@waterrf.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 & INCORPORATED DOCUMENTS
EXHIBIT B - FUNDING TERMS
EXHIBIT C - GENERAL 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 this Agreement.

(a) General Recipient Commitments The Recipient shall comply with all terms, provisions, conditions, and commitments of this Agreement, including all incorporated documents, and to fulfill all assurances, declarations, representations, and commitments in its application, accompanying documents, and communications filed in support of its request for financial assistance.

(b) Authorization and Validity. The execution and delivery of this Agreement, including all incorporated documents, has been duly authorized by the Recipient. 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 date set forth on the first page hereof, 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 date set forth on the first page hereof.

(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 materially affect the financial condition or operations of the Recipient.

(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 date set forth on the first page hereof, 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 independently represents its eligibility and covenants to maintain its eligibility for funding under this Agreement through Research Completion.

(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, and Professional Liability insurance.

5. Research Completion

The Recipient shall expeditiously proceed with and complete the work under this Agreement.

6. Notice

(a) The Recipient shall notify the Division within ten (10) 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;

(3) Material Events; or

(4) Any litigation pending or threatened against the Recipient regarding its continued existence, consideration of dissolution, or disincorporation.

(b) The Recipient shall notify the Division within ten (10) working days of any litigation pending or threatened against the Recipient regarding its continued existence, consideration of dissolution, or disincorporation.

(c) The Recipient shall notify the Division promptly of the following:

(1) Any proposed change in the scope of the Research. Under no circumstances may the Recipient make changes to the scope of the Research without receiving prior review and approval by the Division. Most changes will require an amendment to this Agreement;

(2) Cessation of all major work on the Research 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 Research Completion;

(4) Any Research monitoring, demonstration, or other implementation 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) Research Completion.

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

THE WATER RESEARCH FOUNDATION:

By: _____

Name: Robert C. Renner

Title: Co-Chief Executive Officer

Date: 3/27/18

By: _____

Name: Melissa L. Meeker

Title: Co-Chief Executive Officer

Date: 3/28/18

STATE WATER RESOURCES CONTROL BOARD:

By: _____

Name: Leslie S. Laudon

Title: Deputy Director
Division of Financial Assistance

Date: 3/30/18

EXHIBIT A – SCOPE OF WORK

A-1. Completion Date

The Research Completion Date is established as FEBRUARY 28, 2021. Work occurring after the Research Completion Date, including corrective actions, is not eligible for reimbursement with Grant Funds.

A-2. Background

The State Water Board adopted the Policy for Water Quality Control for Recycled Water (Recycled Water Policy) on February 3, 2009, and amended it on January 22, 2013. The Recycled Water Policy includes goals to increase the use of recycled water over 2002 volumes by at least one million acre-feet per year by 2020 and by at least two million acre-feet per year by 2030. The State Water Board also included a mandate in the Recycled Water Policy to increase the use of recycled water by 200,000 acre-feet per year by 2020 and an additional 300,000 acre-feet per year by 2030. To achieve these goals and mandates, additional research is needed to enhance the scientific understanding of non-potable and potable water reuse in California. In December 2016, the State Water Board passed Resolution No. 2016-0061, stating it supports and encourages the use of recycled water by providing funding support for research that will fill critical knowledge gaps.

A-3. Purpose

This grant is for the benefit of the Recipient. The purpose of this grant is to enhance the understanding of potable and non-potable water reuse applications in California. The Recipient will on an annual basis develop, prioritize, and identify potable and non-potable recycled water research using their long-standing multi-phased process. Each year, the Recipient convenes multiple subject-specific Issue Area Teams (IATs) (e.g., Water Reuse and Desalination IAT, Intelligent Water Systems IAT, Sustainable Integrated Water Management IAT, which are allocated a budget for their research area for the year. The IAT will develop and identify the highest priority research within their area of expertise and budget and recommend a list of research projects to the Research Advisory Council (RAC). The RAC will review the proposed research recommendations from all of the IATs and develop a program of research within the allocated budget for the year that is reviewed and approved by the Recipient's Board.

For this agreement, the Recipient will utilize the Water Reuse and Desalination IAT to develop and prioritize a list of potable and non-potable recycled water research needs in 2018 and in 2019. The Research in Components 1 and 2 of this Agreement were selected using the 2017 iteration of the process described above. In 2018 and 2019, the Recipient will submit a list of prioritized research descriptions and budgets to the Grant Manager and DWQ Technical Coordinator who will then select the research that would furthest expand the scientific understanding of reuse in California. The Grant Manager and DWQ Technical Coordinator will then recommend a final Research list to the Deputy Director of the Division of Financial Assistance (DFA) for consideration of approval. The Grant Manager and DWQ Technical Coordinator will subsequently amend the grant agreement to update the scope of work based on the Research identified in the approved 2018 list, and then again to include the Research in the approved 2019 list. The funding for the Research will not exceed $3.5 million. This phased approach will ensure that as the scientific information in this field rapidly progresses, that the highest research priorities are identified and funded on an annual basis.

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 to develop or support a "water recycling project" as defined in Water Code section 79135.

A-4. Scope of Work

The Recipient agrees to do the following:

1. Grant Administration

1.1 Provide all technical and administrative services needed for Research Completion; monitor, supervise, and review all work performed; and coordinate budgeting and scheduling to ensure the Research 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, webinars, and trainings.

1.3 Conduct Research status review meetings as requested by the Grant Manager and DWQ Technical Coordinator.

1.4 Submit a summary of total Research Costs including any Match Funds to the Grant Manager and DWQ Technical Coordinator.

1.5 Conduct meetings related to the Research in such a way to ensure that such meetings are not held in states that are identified by the Attorney General pursuant to Government Code section 11139.8, subd.(e)., unless otherwise approved by the Grant Manager. The list of states identified by the Attorney General can be found here: https://oag.ca.gov/ab1887 (or other web address in effect at the time). The Grant Manager and DWQ Technical Coordinator may be required to travel to attend meetings related to the Research in order to manage performance of this Agreement but shall not travel to meetings held in states that are identified by the Attorney General pursuant to Government Code section 11139.8 subd.(e).

1.6 Submit any documents developed to disseminate findings from this Research to the Grant Manager and DWQ Technical Coordinator.

2. Research Implementation

Phase 1: Research Identified in 2017

2.1 Evaluation of Constituents of Emerging Concern Removal by Ozone/Biologically Activated Filtration Treatment (Component 1)

Objectives: Analyze the efficiency of removing constituents of emerging concern (CECs) using ozone/biologically activated filtration (BAF) treatment compared to reverse osmosis (RO) treatment considering variations in water quality, treatment train design, and operations. Develop design and operational guidelines for the potable reuse industry to use ozone/BAF treatment systems.

2.1.1 Establish and oversee an ozone/BAF Project Advisory Committee (ozone/BAF PAC) of ozone/BAF experts. Submit all *curricula vitae* for members of the ozone/BAF PAC to the Grant Manager and DWQ Technical Coordinator. The ozone/BAF PAC shall:

2.1.1.1 Develop and solicit a request for proposals to meet the research objectives of Component 1 and submit to the Grant Manager and DWQ Technical Coordinator for comment.

2.1.1.2 Review and rank proposals based on criteria provided by the Recipient and select and oversee an ozone/BAF Research Team. Submit the completed selection criteria, winning proposal, research timeline, and *curricula vitae* for members of the ozone/BAF Research Team to the Grant Manager and DWQ Technical Coordinator. The ozone/BAF Research Team shall:

2.1.1.2.1 Conduct a literature review from peer-reviewed literature, published and unpublished data from related Recipient-funded research, and past and existing treatment facilities to compile data to quantify CEC removal and correlate removal efficiency with treatment train design, operations, and water quality parameters.

2.1.1.2.2 Analyze the data compiled in 2.1.1.2.1 to identify critical variables affecting CEC and total organic carbon (TOC) removal, compare CEC and TOC removal performance of ozone/BAF and RO treatment systems, evaluate the role of low-pressure membranes in ozone/BAF systems, characterize failure frequency and post-treatment needs of ozone/BAF systems, and characterize public health implications of ozone/BAF effluent.

2.1.1.2.3 Identify CECs (or groups of CECs) that may persist through ozone/BAF systems but are typically removed by RO-based treatment trains and evaluate the need for post-treatment of ozone/BAF effluent.

2.1.1.2.4 Develop recommendations for future research to facilitate the implementation of ozone/BAF in potable reuse applications.

2.1.1.2.5 Develop a draft guidance document for use by the potable reuse industry that contains design and operational guidelines to optimize ozone/BAF treatment systems for CEC removal and submit to the ozone/BAF PAC, Grant Manager, and DWQ Technical Coordinator for comment.

2.1.1.2.6 Develop a final guidance document incorporating any comments received in Item 2.1.1.2.5 and submit to the ozone/BAF PAC, Grant Manager, and DWQ Technical Coordinator.

2.1.1.2.7 Develop a draft report summarizing the work completed in items 2.1.1.2.1 through 2.1.1.2.4 and submit to the ozone/BAF PAC, Grant Manager, and DWQ Technical Coordinator for comment.

2.1.1.2.8 Develop a final report incorporating any comments received in Item 2.1.1.2.7 and submit it to the ozone/BAF PAC, Grant Manager, and DWQ Technical Coordinator.

2.1.1.3 Provide recommendations, technical oversight, and objective feedback to the ozone/BAF Research Team.

2.1.1.4 Oversee the ozone/BAF Research Team efforts, and review reports, interim information, and draft submittals.

2.2 Understanding Wastewater Treatment Performance on Advanced Water Treatment Processes and Finished Water Quality (Component 2)

Objective: Investigate the impact of the quality of primary, secondary, and tertiary wastewater treatment (WWT) on advanced water treatment (AWT) feed and finished water quality, including economic and performance tradeoffs.

2.2.1 Establish and oversee a WWT PAC. Submit *curricula vitae* for members of the WWT PAC to the Grant Manager and DWQ Technical Coordinator. The WWT PAC shall:

2.2.1.1 Develop and solicit a request for proposals to meet the research objective for Component 2, and submit to the Grant Manager and DWQ Technical Coordinator for comment.

2.2.1.2 Review and rank proposals based on criteria provided by the Recipient and select a WWT Research Team. Submit the completed selection criteria, winning proposal, research timeline and *curricula vitae* for members of the WWT Research Team to the Grant Manager and DWQ Technical Coordinator. The WWT Research Team shall:

2.2.1.2.1 Collect and collate existing water quality data (both influent and effluent) from a minimum of six (6) pilot or full-scale WWT and AWT facilities, including ozone/biologically active filtration-based systems and reverse osmosis-based systems. Selected AWT facilities must receive feedwater from a range of primary, secondary, and tertiary treatment processes, and feedwater quality must represent a range of possible water qualities.

2.2.1.2.2 Document changes in primary, secondary, and tertiary treatment performance using the data collected in item 2.2.1.2.1, and identify impacts on AWT system operation and water quality. Define all side streams and return flows and their associated impacts on system operations and water quality. Evaluate potential impacts of primary, secondary, and tertiary treatment processes on subsequent AWT processes.

2.2.1.2.3 Evaluate the potential for improvements in AWT efficiency and performance through primary, secondary, and tertiary treatment process modifications for each AWT facility identified in 2.2.1.2.1.

2.2.1.2.4 Evaluate the capital, operations, and maintenance costs of primary, secondary, tertiary treatment and

AWT facilities. Evaluate economic and performance tradeoffs between levels of conventional wastewater treatment and the corresponding levels of AWT needed to meet direct potable water quality that is protective of public health and meets regulatory requirements.

2.2.1.2.5 Identify any additional treatment needed to meet direct potable water quality that is protective of public health and meets regulatory requirements and make recommendations for future research.

2.2.1.2.6 Develop a draft report describing the work completed in items 2.2.1.2.1 through 2.2.1.2.5 and submit it to the WWT PAC, Grant Manager, and DWQ Technical Coordinator for comment.

2.2.1.2.7 Develop a final report incorporating any comments received in Item 2.2.1.2.6, and submit it to the WWT PAC, Grant Manager, and DWQ Technical Coordinator.

2.2.1.3 Provide recommendations, technical oversight, and objective feedback to the WWT Research Team.

2.2.1.4 Oversee the WWT Research Team efforts, and review reports, interim information, and draft submittals.

<u>Phase 2: Research Identified in 2018</u>

2.3 Potable and Non-Potable Water Reuse Research Projects for 2018

Objective: Using the Recipient's established research process in collaboration with the Grant Manager and DWQ Technical Coordinator, the Recipient will identify and fund the highest priority potable and non-potable (including urban, agricultural, industrial, and produced water) reuse Research for 2018 that will expand the scientific understanding of recycled water in California, including advances in fields such as source control, treatment technologies; monitoring of treatment system performance; water quality monitoring including pathogens, constituents of emerging concern, surrogates, and indicator compounds; data collection, integration, management, and interpretation for advanced water treatment systems; operations and operators; antibiotic resistant bacteria, antibiotic resistance genes, and mobile genetic elements; concentrate treatment and management.

2.3.1 In 2018, convene at least the following subgroups of the Water Reuse and Desalination Issue Area Team (IAT): Potable Reuse, Agricultural Reuse, and Industrial and Produced Water Reuse, and submit a list of IAT members and their affiliations to the Grant Manager and DWQ Technical Coordinator. Each IAT subgroup shall:

2.3.1.1 Develop the research approach and tasks for each research project description, draft the schedules and budgets, and recommend potential Project Advisory Committee members to the Recipient.

2.3.1.2 Review and refine the research project descriptions.

2.3.1.3 Prioritize the research project descriptions based on their potential to expand reuse in the State, and submit a prioritized list of research project descriptions to the Recipient that is within the budget allocated to the IAT for the year by the Recipient.

2.3.2 Review the research priorities of the IAT subgroups and submit a prioritized list of research projects (Proposed 2018 Research List) to the Grant Manager and DWQ Technical Coordinator for approval and research selection (Approved 2018 Research List). The Proposed 2018 Research List shall include research descriptions and estimated budgets for each research priority.

2.3.3 Develop the research objective(s), scope of work, budget, submittals, and submittal schedule for each research project on the Approved 2018 Research List, which will be provided by the Grant Manager, and submit this information to the Grant Manager and DWQ Technical Coordinator.

2.3.4 The Recipient shall not commence work on the Approved 2018 Research List until (1) the Grant Manager has reviewed the information submitted by the Recipient in Item 2.3.3 and the Division has determined which research priorities to fund, and (2) this Agreement is amended in writing and executed by the Recipient and the State Water Board to incorporate a detailed scope of work, budget, and any other terms that the State Water Board determines is necessary or desirable for funding the Approved 2018 Research List. Pursuant to the terms of Exhibit B to this Agreement, any costs incurred by the Recipient in connection with this Phase 2 of Article A-4, Scope of Work prior to amendment of this Agreement are not eligible for reimbursement.

Phase 3: Research Priorities Identified in 2019

2.4 Potable and Non-Potable Water Reuse Research Projects for 2019

Objective: Using the Recipient's established research process in collaboration with the Grant Manager and DWQ Technical Coordinator, the Recipient will identify and fund the highest priority potable and non-potable (including urban, agricultural, industrial, and produced water) reuse Research for 2019 that will expand the scientific understanding of recycled water in California, including advances in fields such as source control, treatment technologies; monitoring of treatment system performance; water quality monitoring including pathogens, constituents of emerging concern, surrogates, and indicator compounds; data collection, integration, management, and interpretation for advanced water treatment systems; operations and operators; antibiotic resistant bacteria, antibiotic resistance genes, and mobile genetic elements; concentrate treatment and management.

2.4.1 In 2019, convene at least the following subgroups of the Water Reuse and Desalination Issue Area Team (IAT): Potable Reuse, Agricultural Reuse, and Industrial and Produced Water Reuse, and submit a list of IAT members and their affiliations to the Grant Manager and DWQ Technical Coordinator. Each IAT subgroup shall:

2.4.1.1 Develop the research approach and tasks for each research project description, draft the schedules and budgets, and recommend potential Project Advisory Committee members to the Recipient.

2.4.1.2 Review and refine the research project descriptions.

2.4.1.3 Prioritize the research project descriptions based on their potential to expand reuse in the State, and submit a prioritized list of research project descriptions to the Recipient that is within the budget allocated to each IAT subgroup for the year by the Recipient.

2.4.2 Review the research priorities of the IAT subgroups and submit a prioritized list of research projects list (Proposed 2019 Research List) to the Grant Manager and DWQ Technical Coordinator for approval and research selection (Approved 2019 Research List). The Proposed 2019 Research List shall include research descriptions and estimated budgets for each research priority.

2.4.3 Develop the research objective(s), scope of work, budget, submittals, and submittal schedule for each research project on the Approved 2019 Research List, which will be provided by that Grant Manager, and submit this information to the Grant Manager and DWQ Technical Coordinator.

2.4.4 The Recipient shall not commence work on the Approved 2019 Research List until (1) the Grant Manager has reviewed the information submitted by the Recipient in Item 2.4.3 and the Division has determined which research priorities to fund, and (2) this Agreement is amended in writing and executed by the Recipient and the State Water Board to incorporate a detailed scope of work, budget, and any other terms that the State Water Board determines is necessary or desirable for funding the Approved 2019 Research List. Pursuant to the terms of Exhibit B to this Agreement, any costs incurred by the Recipient in connection with this Phase 3 of Article A-4, Scope of Work prior to amendment of this Agreement are not eligible for reimbursement.

A-5. 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-6. 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) Annual Progress Summaries. The Recipient shall prepare and submit an Annual Progress Summary, using a format provided by the Grant Manager, annually by November 15 that covers the time period from October 1 of the previous year through September 30 of the current year to the Grant Manager. The summary must be no more than five (5) pages, and shall include pictures as appropriate. The summary shall include, at a minimum, the following:

(1) A summary of the conditions the Research is meant to alleviate, the Research objective, the scope of the Research, and a description of the approach used to achieve the Research objective.

(2) A summary of the progress made to date, significant milestones achieved, and the current schedule of completing the Research.

(d) Final Reports. At the conclusion of the Research, the Recipient must submit the following to the Grant Manager:

(1) Draft Final Research Report. Prepare and submit to the Grant Manager, for review and comment, a draft Final Research Report in a format provided by the Grant Manager.

(2) Final Research Report. Prepare a Final Research Report that addresses, to the extent feasible, comments made by the Grant Manager on the draft Final Research Report. Submit one (1) reproducible master copy and an electronic copy of the final.

(3) Final Research Summary. Prepare a brief summary of the information contained in the Final Research Report, using a format provided by the Grant Manager, and include accomplishments, recommendations, and lessons learned, as appropriate.

A-7. Submittal Schedule

Failure to provide items by the due dates indicated in the Submittal Schedule below may constitute a material violation of this Agreement. However, the dates in the "Estimated Due Date" column of this Submittal Schedule 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 Research Completion Date, and the final Disbursement Request submitted prior to the Final Disbursement Request Date set forth in Exhibit B.

ITEM	DESCRIPTION OF SUBMITTAL	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT A-4 RESEARCH-SPECIFIC SCOPE OF WORK			
1.	Grant Administration		
1.2	Notification of meetings, workshops, webinars, and trainings		15 Working Days Prior
1.3	Status Review Meetings		As Needed
1.4	Summary of Total Research Cost with Match Funds	March 31, 2021	
1.6	Documents Developed to Disseminate Findings from this Research		Ongoing
2.	Research Implementation		
Phase 1: Research Identified in 2017			
2.1	Evaluation of Constituents of Emerging Concern Removal by Ozone/Biological Activated Filtration Treatment (Component 1)		
2.1.1	*Curricula Vitae* for Members of the Ozone/BAF PAC		July 2018
2.1.1.1	Request for Proposals		September 2018
2.1.1.2	Completed Selection Criteria, Winning Proposal, Research Timeline, and *Curricula Vitae* for Members of the Ozone/BAF Research Team		November 2018
2.1.1.2.5	Draft Guidance Document from Ozone/BAF Research Team	November 30, 2020	
2.1.1.2.6	Final Guidance Document from Ozone/BAF Research Team	December 31, 2020	
2.1.1.2.7	Draft Report from Ozone/BAF Research Team	November 30, 2020	
2.1.1.2.8	Final Report from Ozone/BAF Research Team	December 31, 2020	
2.2	Understanding Wastewater Treatment Performance on Advanced Water Treatment Processes and Finished Water Quality (Component 2)		
2.2.1	*Curricula Vitae* for Members of the WWT PAC		July 2018
2.2.1.1	Request for Proposals		September 2018
2.2.1.2	Completed Selection Criteria, Winning Proposal, Research Timeline, and *Curricula Vitae* for Members of the WWT Research Team		November 2018

ITEM	DESCRIPTION OF SUBMITTAL	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT A-4 RESEARCH-SPECIFIC SCOPE OF WORK			
2.2.1.2.6	Draft Report from WWT Research Team	November 30, 2020	
2.2.1.2.7	Final Report from WWT Research Team	December 31, 2020	
Phase 2: Research Identified in 2018			
2.3	Potable and Non-Potable Water Reuse Research Projects for 2018		
2.3.1	List of 2018 IAT Members and their Affiliation for the IAT Relevant to the Research		April 2018
2.3.2	Proposed 2018 Research List	June 30, 2018	
2.3.3	Research Objective(s), Scope of Work, Budget, Submittals, and Submittal Schedule for Each Research Project on Approved 2018 Research List	July 31, 2018	
Phase 3: Research Identified in 2019			
2.4	Potable and Non-Potable Water Reuse Research Projects for 2019		
2.4.1	List of 2019 IAT Members and their Affiliation for the IAT Relevant to the Research		April 2019
2.4.2	Proposed 2019 Research List	April 30, 2019	
2.4.3	Research Objective(s), Scope of Work, Budget, Submittals, and Submittal Schedule for each Research Project on Approved 2019 Research List	May 31, 2019	
EXHIBIT A-5 REPORTING			
(a)	Progress Reports		Quarterly
(b)	As Needed Information or Reports		As Needed
(c)	Annual Progress Summaries	Annually by November 30	
(d)	Final Reports		
(d)(1)	Draft Final Research Report	December 31, 2020	
(d)(2)	Final Research Report	January 31, 2021	
(d)(3)	Final Research Summary	Before Research Completion Date	
EXHIBIT B – FUNDING PROVISIONS			
3(b)	Final Disbursement Request	March 31, 2021	
8(b)(4)	Disbursement Requests		Quarterly

EXHIBIT B – FUNDING TERMS

B-1. Research Funding

The maximum amount of Grant Funds that may be available under this agreement is THREE MILLION FIVE HUNDRED THOUSAND DOLLARS ($3,500,000).

Subject to the terms of this Agreement, the State Water Board agrees to provide Grant Funds in the amount not to exceed FOUR HUNDRED THOUSAND DOLLARS ($400,000) for Research Costs for Phase 1 of A-4 "Scope of Work" upon receipt of the submittals in Phase 1 (Components 1 and 2) per Section A-7 of Exhibit A.

Subject to the terms of this Agreement, the State Water Board may provide Grant Funds in an amount not to exceed TWO MILLION ONE HUNDRED FIFTY THOUSAND DOLLARS ($2,150,000) for Research Costs for Phase 2 of A-4 "Scope of Work" upon the Recipient's submittal of items for Phase 2 (2.3.1-2.3.3 per Section A-7 of Exhibit A), the Division's determination of which research priorities to fund, and amendment of this Agreement to incorporate a detailed scope of work, budget, and any other terms that the State Water Board determines are necessary or desirable for funding Research on the 2018 Approved Research List. Any costs incurred by the Recipient in connection with this Phase 2 of Article A-4, Scope of Work prior to amendment of this Agreement are not eligible for reimbursement.

Subject to the terms of this Agreement, the State Water Board may provide Grant Funds in an amount not to exceed NINE HUNDRED FIFTY THOUSAND DOLLARS ($950,000) for Research Costs for Phase 3 of A-4 "Scope of Work" upon the Recipient's submittal of items for Phase 3 (2.4.1-2.4.3 per Section A-7 of Exhibit A), the Division's determination of which research priorities to fund, and amendment of this Agreement to incorporate a detailed scope of work, budget, and any other terms that the State Water Board determines is necessary or desirable for funding Research on the 2019 Approved Research List. Any costs incurred by the Recipient in connection with this Phase 3 of Article A-4, Scope of Work prior to amendment of this Agreement are not eligible for reimbursement.

B-2. Estimated Reasonable Total Research Cost

The estimated reasonable cost of the total Research is THREE MILLION FIVE HUNDRED THOUSAND DOLLARS ($3,500,000).

B-3. Funding Dates

(a) The Eligible Start Date is MARCH 1, 2018. Otherwise eligible costs incurred prior to this date will not be reimbursed.

(b) The Final Disbursement Request Date is MARCH 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-4. Funding Conditions and Exclusions

The State Water Board's disbursement of funds hereunder is contingent on the Recipient's compliance with the terms and conditions of this Agreement.

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 Research that will be reimbursed with Grant Funds pursuant to this Agreement. (Gov. Code, § 16727.)

B-5. Budget Summary

LINE ITEM	GRANT FUNDS	TOTAL RESEARCH COSTS
Direct Research Administration Costs	$0	$0
Research		
Phase 1 Research	$400,000	$400,000
Phase 2 Research	$2,150,000	$2,150,000
Phase 3 Research	$950,000	$950,000
Equipment	$0	$0
Monitoring/Performance	$0	$0
Education/Outreach	$0	$0
TOTAL	$3,500,000	$3,500,000

B-6. Budget Flexibility

(a) Subject to the prior review and approval of the Grant Manager, adjustments between existing line items may be used to defray allowable direct costs up to fifteen percent (15%) of the Grant Funds amount, 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-7. Amounts Payable by the Recipient

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

B-8. 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 Research Costs 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. Original signature and date (in ink) of Recipient's Project Director or their designee; and

e. The Final Disbursement Request shall be clearly marked "FINAL DISBURSEMENT REQUEST" and shall be submitted NO LATER THAN MARCH 31, 2021.

(3) Disbursement Requests must be itemized based on the line items specified in the budget in this Exhibit. Disbursement Requests must be signed by the Project Director or their designee and must be addressed to the Grant Manager as set forth in the Party Contacts section of this Agreement. Requests for disbursement 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. Disbursement Requests must be complete and signed by the Recipient's Project Director or their designee. Research 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 Research Costs until such costs have been incurred and are currently due and payable by the Recipient; although, the actual payment of such costs by the Recipient is not required as a condition of the Disbursement Request. Supporting documentation (e.g., receipts)

must be submitted with each Disbursement Request. 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 Research Costs that have been reimbursed from other funding sources.

(7) The Recipient shall use Grant Funds within thirty (30) days of receipt to reimburse contractors, vendors, and other Research 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) The 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-9. 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 Research Completion. Any retained amounts due to the Recipient will be promptly disbursed to the Recipient, without interest, upon Research 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 Research Completion.

B-10. 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-11. Fraud and Misuse of Public Funds

All Disbursement Requests submitted shall be accurate and signed under penalty of perjury. Any and all 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. Any eligible 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 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 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 – GENERAL TERMS AND CONDITIONS

C-1. Access and Public Records

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 Research site at all reasonable times during Research work. The Recipient acknowledges that, except for a subset of information regarding archaeological records, the Research records and locations are public records including, but not limited to, all of the submissions accompanying the application, all of the documents incorporated by Exhibit A, and all reports, Disbursement Requests, and supporting documentation submitted hereunder.

C-2. Amendment

No amendment or variation of the terms of this Agreement shall be valid unless made in writing and signed by both the Recipient and the Deputy Director or designee. Requests for amendments shall be made in writing and directed to the Grant Manager and Deputy Director. No oral 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, without the consent of the State Water Board in the form of a formal written amendment to this Agreement.

C-4. Audits and Accounting Standards

(a) The Division may call for an audit of financial information relative to the Research if the Division determines that an audit is desirable to assure program integrity or if an audit becomes necessary because of state or federal requirements. If 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) The Recipient shall maintain accounts in accordance with GAAP as issued by the Governmental Accounting Standards Board or its successor. The Recipient agrees that, at a minimum, its fiscal control and accounting procedures will be sufficient to permit preparation of reports for the tracking of Grant Funds to a level of expenditure adequate to establish that such funds have not been used in violation of state law or the terms of this Agreement.

C-5. Claims

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

C-6. Competitive Bidding

The Recipient shall adhere to any applicable state or local ordinance for competitive bidding and applicable labor laws. If the Recipient is a private entity, any construction contracts related in any way to the Research shall be led by competitive bid procedures that ensure award of such contracts to the lowest responsible bidders. The Recipient shall not award a construction contract until a summary of bids and identification of the selected lowest responsible bidder is submitted to and approved in writing by the

Division. The Recipient must provide a full explanation if the Recipient is proposing to award a construction contract to anyone other than the lowest responsible bidder.

C-7. Compliance with Law

The Recipient shall, at all times, comply with and require its contractors and subcontractors to comply with all applicable federal and state laws, rules, guidelines, regulations, and requirements.

C-8. 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-9. 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-10. 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) The Recipient shall continue with the responsibilities under this Agreement during any dispute.

(d) This Section 6 relating to disputes does not establish an exclusive procedure for resolving claims within the meaning of Government Code sections 930 and 930.4.

C-11. Governing Law

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

C-12. 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 costs for which the Recipient has been reimbursed by the State Water Board under this Agreement.

C-13. Indemnification and State Reviews

The parties agree that review or approval of Research plans and specifications 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 properly plan, design, construct, operate, and maintain the Research. To the extent permitted by law, the Recipient agrees to indemnify, defend, and hold harmless the State Water Board, and any trustee, and their officers, employees, and agents, if any (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 Research or the conditions, use, possession, conduct, or management of, work done in or about, or the planning, design, acquisition, installation, or construction, of the Research 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 Research; 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. The Recipient shall also provide for the defense and indemnification of the Indemnified Parties in any contractual provision extending indemnity to the Recipient in any contract let for the performance of any work under this Agreement, and shall cause the Indemnified Parties to be included within the scope of any provision for the indemnification and defense of the Recipient in any contract or subcontract. 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-14. 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-15. Insurance

The Recipient shall maintain any insurance necessary to protect against losses that might disrupt or delay the Research or otherwise cause a material violation of this Agreement.

C-16. Integration

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

C-17. Non-Discrimination Clause

(a) The Recipient shall not travel to, or hold any meetings in, states that are identified by the Attorney General pursuant to Government Code section 11139.8 and listed at https://oag.ca.gov/ab1887 (or other web address in effect at the time) in connection with the Research.

(b) The Recipient shall comply with Government Code section 11135 and the implementing regulations (Cal. Code Regs, tit. 2, § 11140 et seq.), including, but not limited to, ensuring that no person is unlawfully denied full and equal access to the benefits of, or unlawfully subjected to discrimination in the operation of, the Research on the basis of sex, race, color, religion, ancestry, national origin, ethnic group identification, age, mental disability, physical disability, medical condition, genetic information, marital status, or sexual orientation as such terms are defined under California law.

(c) If Grant Funds are used to acquire or improve real property, the Recipient shall include a covenant of nondiscrimination running with the land in the instrument effecting or recording the transfer of such real property.

(d) The Recipient shall comply with the federal American with Disabilities Act of 1990 and implementing regulations as required by Government Code section 11135(b).

(e) The Recipient's obligations under this section shall survive the term of this Agreement.

(f) 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.

(g) 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.

(h) 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.

(i) 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.

(j) The Recipient shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under this Agreement.

C-18. No Obligation of the State

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 monies encumbered pursuant to this Agreement.

C-19. 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-20. Other Assistance

If funding for Research 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 Research Costs. To the extent allowed by requirements of other funding sources, excess funding shall be remitted to the State Water Board.

C-21. Permits, Subcontracting, and Remedies

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. Signed copies of any such permits or licenses shall be submitted to the Division before the Research begins.

The Recipient shall not contract or allow subcontracting with excluded parties. The Recipient shall not contract with any party who is 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 this funding is authorized. 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

C-22. Prevailing Wages

The Recipient agrees to be bound by all applicable provisions of the 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-23. 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-24. Public Funding

This Research 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-25. 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 Research. The State Water Board will not mediate disputes between the Recipient and any other entity concerning responsibility for performance of work.

C-26. Records

(a) Without limitation of the requirement to maintain Research accounts in accordance with GAAP, the Recipient shall:

(1) Establish an official file for the Research which adequately documents all significant actions relative to the Research;

(2) Establish separate accounts which will adequately and accurately depict all amounts received and expended on the Research, including all assistance funds received under this Agreement;

(3) Establish separate accounts which will adequately depict all income received which is attributable to the Research, specifically including any income attributable to assistance funds disbursed under this Agreement;

(4) Establish an accounting system which will accurately depict final total costs of the Research, including both direct and indirect costs;

(5) 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; and

(6) If Force Account is used by the Recipient for any phase of the Research, other than for planning, design, and construction engineering and administration provided for by allowance, accounts will be established which reasonably document all employee hours charged to the Research and the associated tasks performed by each employee. Indirect Force Account costs are not eligible for funding.

(b) The Recipient shall maintain separate books, records and other material relative to the Research. The Recipient shall also retain such books, records, and other material for itself and for each contractor or subcontractor who performed or performs work on this research for a minimum of thirty-six (36) years after Research Completion. The Recipient shall require that such books, records, and other material are 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, or any authorized representatives of the aforementioned. The Recipient shall allow and shall require its contractors to 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 duty regarding audit, interviews, and records retention in any contract or subcontract related to the performance of this Agreement. The provisions of this section shall survive the term of this Agreement.

C-27. Related Litigation

Under no circumstances may the Recipient use Grant Funds from any disbursement under this Agreement to pay costs associated with any litigation the Recipient pursues against the State Water

Board or any Regional Water Quality Control Board. Regardless of the outcome of any such litigation, and notwithstanding any conflicting language in this Agreement, the Recipient agrees to repay all of the disbursed Grant Funds plus interest in the event that Recipient does not complete the Research.

C-28. Reports

The Recipient shall provide expeditiously, during the term of this Agreement, any reports, data, and information 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-29. 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-30. State Cross-Cutters

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

(a) If Recipient is a water diverter, Recipient must maintain compliance with Water Code section 5103, subdivision (e)(2)(A) by submitting monthly diversion reports to the Division of Water Rights of the State Water Board.

(b) If Recipient is an "urban water supplier" as defined by Water Code section 10617, Recipient must charge each customer for actual water volume measured by water meter according to the requirements of Water Code sections 526 and 527. Section 527 further requires that such suppliers not subject to section 526 install water meters on all municipal and industrial service connections within their service area by 2025.

(c) If Recipient is a state or local public agency and the proposed action is covered by the Delta Plan, Recipient must submit certification of research consistency with the Delta Plan to the Delta Stewardship Council according to the requirements of Water Code section 85225 and California Code of Regulations, title 23, section 5002.

(d) 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-31. State Water Board Action; Costs and Attorney Fees

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 Research, 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-32. Termination; Immediate Repayment; Interest

(a) This Agreement may be terminated by written notice prior to Research Completion, at the option of the State Water Board, upon an Event of Default, or 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-33. Timeliness

Time is of the essence in this Agreement.

C-34. 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-35. Venue

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-36. 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 this 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

1. If Recipient is an "urban water supplier" as defined by Water Code section 10617, the Recipient certifies that the Recipient and this Research complies with the Urban Water Management Planning Act (Water Code, § 10610 et seq.). This shall constitute a condition precedent to this Agreement.

2. If Recipient is an agricultural water supplier as defined by Water Code section 10608.12, Recipient must comply with Agricultural Water Management Planning requirements as mandated by Water Code section 10852.

3. If Recipient is an "urban water supplier" as defined by Water Code section 10617 or an "agricultural water supplier" as defined by Water Code section 10608.12, Recipient must comply with water conservation measures established by SBx7-7. (Water Code, Sec. 10608.56.).