AGREEMENT FOR ANALYSIS OF EFFECTS OF PROPOSED SCOTT DAM DECOMMISSIONING

This Agreement is made and entered into by and between the County of Lake, hereinafter referred to as "County", and SLR International Corporation, hereinafter referred to as "Contractor", collectively referred to as the "parties".

1. SERVICES. Subject to the terms and conditions set forth in this Agreement, the Contractor shall provide to County the services described in the Scope of Services attached hereto and incorporated herein as Exhibit A at the time and place and in the manner specified therein. In the event of a conflict in or inconsistency between the terms of this Agreement and Exhibit A –Scope of Services, Exhibit B – Fiscal Provisions, and Exhibit C – Compliance Provisions, Exhibit D – SLR Proposal for Analysis, Exhibit E – Clarifications Letter and Budget, and Exhibit F – State of California Funding Agreement, the Agreement shall prevail.

2. TERM. This Agreement shall commence on August 13, 2024, and shall terminate on December 31, 2025, unless earlier terminated as hereinafter provided. In the event County desires to temporarily continue services after the expiration of this Agreement, such continuation shall be deemed on a month-to-month basis, subject to the same terms, covenants, and conditions contained herein.

3. COMPENSATION. Contractor has been selected by County to provide the services described hereunder in Exhibit "A" (*Scope of Services*), attached hereto. Compensation to Contractor shall not exceed Six Hundred Ninety-One Thousand Sixty-Eight Dollars ($691,068).

The County shall compensate Contractor for services rendered, in accordance with the provisions set forth in Exhibit "B" (Fiscal Provisions), attached hereto, provided that Contractor is not in default under any provisions of this agreement. Compensation to Contractor is contingent upon appropriation of federal, state and county funds.

4. TERMINATION. This Agreement may be terminated by mutual consent of the parties or by County upon 30 days' written notice to Contractor.

In the event of non-appropriation of funds for the services provided under this Agreement, County may terminate this Agreement, without termination charge or other liability.

Upon termination, Contractor shall be paid a prorated amount for the services provided up to the date of termination.

5. MODIFICATION. This Agreement may only be modified by a written amendment hereto, executed by both parties; however, matters concerning scope of services which do not affect the compensation may be modified by mutual written consent of Contractor and County executed by the County Administrative Officer, or her Designee.

6. NOTICES. All notices between the parties shall be in writing addressed as follows:

County of Lake
Administration
255 N. Forbes St.
Lakeport, CA 95453
Attn: Stephen Carter

SLR International Corporation
2175 N California Blvd
Walnut Creek, CA 94596

Attn: Dharme Rathnayake, PhD, PE

7. EXHIBITS. The Agreement Exhibits, as listed below, are incorporated herein by reference:

Exhibit A – Scope of Services
Exhibit B – Fiscal Provisions
Exhibit C – Compliance Provisions
Exhibit D – SLR Proposal for Analysis
Exhibit E – Clarifications Letter and Budget
Exhibit F – State of California Funding Agreement

8. TERMS AND CONDITIONS. Contractor warrants that it will comply with all terms and conditions of this Agreement and Exhibits, and all other applicable federal, state and local laws, regulations and policies.

9. INTEGRATION. This Agreement, including attachments, constitutes the entire agreement between the parties regarding its subject matter and supersedes all prior Agreements, related proposals, oral and written, and all negotiations, conversations or discussions heretofore and between the parties.

Executed at Lakeport, California on August 13, 2024.

COUNTY OF LAKE

_____
CHAIR, Board of Supervisors

If applicable
ATTEST:
SUSAN PARKER
Clerk to the Board of Supervisors

By: _____

CONTRACTOR

_____
Jeanine Armstrong Gouin, P.E.
President & US Regional Manager
SLR International Corporation

APPROVED AS TO FORM:
LLOYD GUINTIVANO
County Counsel

By: _____

EXHIBIT "A" – SCOPE OF SERVICES

1. CONTRACTOR RESPONSIBILITIES. *Enumerate those duties the Contractor is required to perform and the time within which the Contractor must perform them.*

1.1 Perform the Scope of Services as detailed in Exhibit "D" – Contractor Proposal, and Exhibit "E" – Clarifications Letter and Budget.

1.2 Regularly meet with County of Lake staff to provide progress updates on the analysis, and partner with County of Lake staff to adjust the Scope of Services, as needed, within the total allotted budget, to provide for a comprehensive and relevant analysis.

1.3 Provide background information and language drawn from the analysis detailed in Exhibits "D" and "E" toward County of Lake Comments and other Submittals to FERC and other regulatory proceedings, as needed.

1.4 Provide information toward grant reporting for the Department of Water Resources, as needed.

1.5 Culminate the analysis with a detailed Final Report and other presentation materials, as needed to communicate the results of the analysis (as described in Exhibits "D" and "E" and/or required under the State Funding Agreement.

2. REPORTING REQUIREMENTS. Contractor shall submit monthly reports in a format approved by County by the 10th of the month following the report period.

3. RECORDS RETENTION. Contractor shall prepare, maintain and/or make available to County upon request, all records and documentation pertaining to this Agreement, including financial, statistical, property, recipient and service records and supporting documentation for a period of five (5) years from the date of final payment of this Agreement. If at the end of the retention period, there is ongoing litigation or an outstanding audit involving the records, Contractor shall retain the records until resolution of litigation or audit. After the retention period has expired, Contractor assures that confidential records shall be shredded and disposed of appropriately.

4. COUNTY RESPONSIBILITIES. *(if applicable) Enumerate those additional County responsibilities which are NOT addressed elsewhere in this agreement. Example: A. County staff will facilitate and process the referrals to the Contractor.*

4.1 Meet with the contractor, as needed

4.2 Consult regarding any necessary changes to the Scope of Services, within budgetary constraints.

4.3 Timely communication and processing of invoices, as described in Exhibit "B."

EXHIBIT "B" – FISCAL PROVISIONS

1. CONTRACTOR'S FINANCIAL RECORDS. Contractor shall keep financial records for funds received hereunder, separate from any other funds administered by Contractor, and maintained in accordance with Generally Accepted Accounting Principles and Procedures and the Office of Management and Budget's Cost Principles.

2. INVOICES.

2.1 Contractor's invoices shall be submitted in arrears on a monthly basis, or such other time that is mutually agreed upon in writing, and shall be itemized and formatted to the satisfaction of the County.

2.2 County shall make payment within 20 business days of an undisputed invoice for the compensation stipulated herein for supplies delivered and accepted or services rendered and accepted, less potential deductions, if any, as herein provided. Payment on partial deliverables may be made whenever amounts due so warrant or when requested by the Contractor and approved by the Assistant Purchasing Agent.

3. AUDIT REQUIREMENTS AND AUDIT EXCEPTIONS

3.1 Contractor warrants that it shall comply with all audit requirements established by County and will provide a copy of Contractor's Annual Independent Audit Report, if applicable.

3.2 County may conduct periodic audits of Contractor's financial records, notifying Contractor no less than 48 hours prior to scheduled audit. Said notice shall include a detailed listing of the records required for review. Contractor shall allow County, or other appropriate entities designated by County, access to all financial records pertinent to this Agreement.

3.3 Contractor shall reimburse County for audit exceptions within 30 days of written demand or shall make other repayment arrangements subject to the approval of County.

4. BUDGET. The detailed budget for this project shall be as documented on page 3 of Exhibit "E," unless otherwise amended by written Agreement of the parties. Funding amounts may be reallocated across indicated categories on written Agreement of the parties. Contractor shall be compensated only for expenses included in the approved budget unless otherwise approved in advance by the County.

5. EXPENDITURE OF FUNDS. *(if applicable)*

5.1 Funds payable through this agreement shall not be used to purchase food or promotional merchandise or to attend conferences unless specifically approved in the budget.

5.2 County reserves the right to refuse payment to Contractor or disallow costs for any expenditure determined to be unreasonable, out of compliance, or inappropriate to the services provided hereunder.

EXHIBIT "C" – COMPLIANCE PROVISIONS

1. INFORMATION INTEGRITY AND SECURITY. Contractor shall immediately notify County of any known or suspected breach of personal, sensitive and confidential information related to Contractor's work under this Agreement.

2. NON-DISCRIMINATION. Contractor shall not unlawfully discriminate against any qualified worker or recipient of services because of race, religious creed, color, sex, sexual orientation, national origin, ancestry, physical disability, mental disability, medical condition, marital status or age.

3. DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

3.1 The Contractor certifies to the best of its knowledge and belief, that it and its subcontractors:

A. Are not presently debarred, suspended, proposed for disbarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;

B. Have not, within a three-year period preceding this Agreement, been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public transaction; violation of federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

C. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity with commission of any of the offenses enumerated in the preceding paragraph; and

D. Have not, within a three-year period preceding this Agreement, had one or more public transactions terminated for cause or default.

3.2 Contractor shall report immediately to County, in writing, any incidents of alleged fraud and/or abuse by either Contractor or Contractor's subcontractor. Contractor shall maintain any records, documents, or other evidence of fraud and abuse until otherwise notified by County.

4. AGREEMENTS IN EXCESS OF $100,000. Contractor shall comply with all applicable orders or requirements issued under the following laws:

4.1 Clean Air Act, as amended (42 USC 1857).
4.2 Clean Water Act, as amended (33 USC 1368).
4.3 Federal Water Pollution Control Act, as amended (33 USC 1251, et seq.)
4.4 Environmental Protection Agency Regulations (40 CFR and Executive Order 11738).

5. INDEMNIFICATION AND HOLD HARMLESS.

Contractor shall indemnify and defend County and its officers, employees, and agents against and hold them harmless from any and all claims, losses, damages, and liability for damages, including attorney's fees and other costs of defense incurred by County, whether for damage to or loss of property, or injury to or death of person, including properties of County and injury to or death of County officials, employees or agents, arising out of, or connected with Contractor's operations hereunder or the performance of the work described herein, unless such damages, loss, injury or death is caused solely by the negligence of County. Contractor's obligations under this Section shall survive the termination of the Agreement.

6. STANDARD OF CARE. Contractor represents that it is specially trained, licensed, experienced and competent to perform all the services, responsibilities and duties specified herein and that such services, responsibilities and duties shall be performed, whether by Contractor or designated subcontractors, in a manner according to generally accepted practices.

7. INTEREST OF CONTRACTOR. Contractor assures that neither it nor its employees has any interest, and that it shall not acquire any interest in the future, direct or indirect, which would conflict in any manner or degree with the performance of services hereunder.

8. DUE PERFORMANCE – DEFAULT. Each party agrees to fully perform all aspects of this agreement. If a default to this agreement occurs then the party in default shall be given written notice of said default by the other party. If the party in default does not fully correct (cure) the default within 30 days of the date of that notice (i.e. the time to cure) then such party shall be in default. The time period for corrective action of the party in default may be extended in writing executed by both parties, which must include the reason(s) for the extension and the date the extension expires.

Notice given under this provision shall specify the alleged default and the applicable Agreement provision and shall demand that the party in default perform the provisions of this Agreement within the applicable time period. No such notice shall be deemed a termination of this Agreement, unless the party giving notice so elects in that notice, or so elects in a subsequent written notice after the time to cure has expired.

9. INSURANCE.

9.1 Contractor shall procure and maintain Workers' Compensation Insurance for all of its employees.

9.2 Contractor shall procure and maintain Comprehensive Public Liability Insurance, both bodily injury and property damage, in an amount of not less than one million dollars ($1,000,000) combined single limit coverage per occurrence, including but not limited to endorsements for the following coverage: personal injury, premises-operations, products and completed operations, blanket contractual, and independent contractor's liability.

9.3 Contractor shall procure and maintain Comprehensive Automobile Liability Insurance, both bodily injury and property damage, on owned, hired, leased and non-owned vehicles used in

connection with Contractor's business in an amount of not less than one million dollars ($1,000,000) combined single limit coverage per occurrence.

9.4 Contractor shall procure and maintain Professional Liability Insurance for the protection against claims arising out of the performance of services under this Agreement caused by errors, omissions or other acts for which Contractor is liable. Said insurance shall be written with limits of not less than one million dollars ($1,000,000).

9.5 Contractor shall not commence work under this Agreement until it has obtained all the insurance required hereinabove and submitted to County certificates of insurance naming the County of Lake as additional insured. Contractor agrees to provide to County, at least 30 days prior to expiration date, a new certificate of insurance.

9.6 In case of any subcontract, Contractor shall require each subcontractor to provide all of the same coverage as detailed hereinabove. Subcontractors shall provide certificates of insurance naming the County of Lake as additional insured and shall submit new certificates of insurance at least 30 days prior to expiration date. Contractor shall not allow any subcontractor to commence work until the required insurances have been obtained.

9.7 For any claims related to the work performed under this Agreement, the Contractor's insurance coverage shall be primary insurance as to the County, its officers, officials, employees, agents and volunteers. Any insurance or self-insurance maintained by County, its officers, officials, employees, agents or volunteers shall be in excess of the Contractor's insurance and shall not contribute with it.

9.8 The Commercial General Liability and Automobile Liability Insurance must each contain, or be endorsed to contain, the following provision:

The County, its officers, officials, employees, agents, and volunteers are to be covered as additional insureds and shall be added in the form of an endorsement to Contractor's insurance on Form CG 20 10 11 85. Contractor shall not commence work under this Agreement until Contractor has had delivered to County the Additional Insured Endorsements required herein.

Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under subdivision (b) of California Civil Code Section 2782.

9.9 Insurance coverage required of Contractor under this Agreement shall be placed with insurers with a current A.M. Best rating of no less than A: VII.

Insurance coverage in the minimum amounts set forth herein shall not be construed to relieve the Contractor for liability in excess of such coverage, nor shall it preclude County from taking other action as is available to it under any other provision of this Agreement or applicable law. Failure of County to enforce in a timely manner any of the provisions of this section shall not act as a waiver to enforcement of any of these provisions at a later date.

9.10 Any failure of Contractor to maintain the insurance required by this section, or to comply with any of the requirements of this section, shall constitute a material breach of the entire Agreement.

10. ATTORNEY'S FEES AND COSTS. If any action at law or in equity is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such part may be entitled.

11. ASSIGNMENT. Contractor shall not assign any interest in this Agreement and shall not transfer any interest in the same without the prior written consent of County except that claims for money due or to become due Contractor from County under this Agreement may be assigned by Contractor to a bank, trust company, or other financial institution without such approval. Written notice of any such transfer shall be furnished promptly to County. Any attempt at assignment of rights under this Agreement except for those specifically consented to by both parties or as stated above shall be void.

12. PAYROLL TAXES AND DEDUCTIONS. Contractor shall promptly forward payroll taxes, insurances, and contributions to designated governmental agencies.

13. INDEPENDENT CONTRACTOR. It is specifically understood and agreed that, in the making and performance of this Agreement, Contractor is an independent contractor and is not an employee, agent or servant of County. Contractor is not entitled to any employee benefits. County agrees that Contractor shall have the right to control the manner and means of accomplishing the result contracted for herein.

Contractor is solely responsible for the payment of all federal, state and local taxes, charges, fees, or contributions required with respect to Contractor and Contractor's officers, employees, and agents who are engaged in the performance of this Agreement (including without limitation, unemployment insurance, social security and payroll tax withholding.)

14. OWNERSHIP OF DOCUMENTS. All non-proprietary reports, drawings, renderings, or other documents or materials prepared by Contractor hereunder are the property of County.

15. SEVERABILITY. If any provision of this Agreement is held to be unenforceable, the remainder of this Agreement shall be severable and not affected thereby.

16. ADHERENCE TO APPLICABLE DISABILITY LAW. Contractor shall be responsible for knowing and adhering to the requirements of Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, (42 U.S.C. Sections 12101, et seq.). California Government Code Sections 12920 et seq., and all related state and local laws.

17. HIPAA COMPLIANCE. Contractor will adhere to Titles 9 and 22 and all other applicable Federal and State statutes and regulations, including the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and will make his best efforts to preserve data integrity and the confidentiality of protected health information.

18. SAFETY RESPONSIBILITIES. Contractor will adhere to all applicable CalOSHA requirements in performing work pursuant to this Agreement. Contractor agrees that in the performance of work under this Agreement, Contractor will provide for the safety needs of its employees and will be responsible for maintaining the standards necessary to minimize health and safety hazards.

19. JURISDICTION AND VENUE. This Agreement shall be construed in accordance with the laws of the State of California and the parties hereto agree that venue of any action or proceeding regarding this Agreement or performance thereof shall be in Lake County, California. Contractor waives any right of removal it might have under California Code of Civil Procedure Section 394.

20. RESIDENCY. All independent contractors providing services to County for compensation must file a State of California Form 590, certifying California residency or, in the case of a corporation, certifying that they have a permanent place of business in California.

21. NO THIRD-PARTY BENEFICIARIES. Nothing contained in this Agreement shall be construed to create, and the parties do not intend to create, any rights in or for the benefit of third parties.

22. PUBLIC RECORDS ACT. Contractor is aware that this Agreement and any documents provided to the County may be subject to the California Public Records Act and may be disclosed to members of the public upon request. It is the responsibility of the Contractor to clearly identify information in those documents that s/he considers to be confidential under the California Public Records Act. To the extent that the County agrees with that designation, such information will be held in confidence whenever possible. All other information will be considered public.

8/28/23

Exhibit D - SLR Proposal for Analysis

Lake County Administrative Office RFP for Analysis of Effects of Proposed Scott Dam Decommissioning - Confidential

County of Lake

255 N. Forbes Street
Lakeport, CA 95453

Prepared by:

SLR International Corporation

2175 N California Blvd, Suite 205, Walnut Creek, California, 94596

SLR Project No.: 102.P21249.00001

June 3, 2024

Table of Contents

Attachments

A. Cover Letter

June 3, 2024

Matthew Rothstein
Lake County's Administrative Office
255 N. Forbes Street
Lakeport, CA 95453

RE: Proposal To support lake County with the Analysis of Effects of proposed Scott Dam Decommissioning – Lake County RFP No. 24-32

RFP Submitted via E-mail to:
LakeCountyPurchasingAgent@lakecountyca.gov

Dear Mr. Rothstein,

SLR International Corporation (SLR) is pleased to submit our proposal as a response to the Lake Couty Request of Proposal (RFP) No. 24-32, dated May 02, 2024, to conduct an analysis of the effects pf Pacific Gas and Energy's (PG&E's) proposed decommissioning of the Scott Dam. SLR has carefully reviewed the RFP and the related documents and understands the County's concerns about the potential environmental, infrastructure, social and economic impacts with respect to PG&E's proposed plans and the initial approval provided by the Federal Energy Regulatory Commission (FERC) for finalizing the plan for Final Surrender Application in early 2025.

As stated in the RFP, we agree it is highly important for county to better understand the true effects of the dam decommissioning as Lake Pillsbury has been a such a vital part of the well being of the County, it's people and the environment for over decades. RFP highlights the importance of Lake Pillsbury, created by Scott Dam, in providing water needs such as agriculture and fire protection, habitat for wildlife, supporting salmonid populations, and acting as a water storage for recreation and stable economic uses in the area. We understand the dam's water releases are crucial for the drinking and agricultural needs of 600,000 Californians.

SLR commits to carefully evaluate the implications of the proposed Scott Dam removal based on the PG&E's proposed plans to provide the County with the understanding of all potential impacts before a final decision is made. Also, if FERC completes the final approval of the PG&E's plan, we know it will be difficult to implement more intermediate measures to mitigate the impacts. It is County's expectation that the selected consultant for this RFP will support the County in finding some mitigation and adaptation measures that can be utilized to seek funding and implement prioritized projects to handle various impacts.

SLR's review of PG&E's initial draft application dated November 2023 indicates the final deadline for comments on the final draft Surrender Application is July 18, 2024. Based on the RFP it will be challenging that the selected consultant will be able to provide the County with any substantive comments with regards to the Surrender Application before this date. Therefore, we suggest the County to request an extension of this date as part of their comments to more comprehensively to include County's comments based on the work performed on this RFP. In order to facilitate an expedited additional response to FERC as part of PG&E's final approval process, *SLR has included a Summary Report Deliverable as part of Task A and can be completed within three-month timeframe from the start of the project.*

SLR is a well established environmental and engineering firm with significant presence in California and the US and brings a wealth of experiences and expertise in previous dam decommissioning and removal experiences. SLR has no current or previous relationships with PG&E with respect to Potter Valley project including Scott Dam or Lake Pillsbury so we have no conflict of interest, and we can perform an independent analysis for the County as requested in the RFP. We also have included local, and California based 2 specialized subconsultants (Danko Technologies and Dabri, Inc.) to support our proposed efforts and they also do not have any conflicts of interest with respect to this project. As requested in the RFP, we have included detailed of our proposed team, approach, scope of work and an estimate of the level of efforts needed to complete this work within the available budget and schedule for the County.

SLR does not have any existing contractual or anticipated future engagements or relationships with Pacific Gas and Electric (PG&E) Company or its parent corporation that would impact our ability to carry out and report the project's analysis in a manner that is unbiased and otherwise consistent with the needs of the County of Lake.

Dharme Rathnayake, Ph.D., PE, is the proposed SLR Project Manager and will be the primary point of contact for the County, and the project will be managed out of our Walnut Creek, CA office.

We look forward to an opportunity to present our proposal to the County and the selection board after you have had time to complete the reviews.

Regards,

SLR International Corporation

Dharme Rathnayake, Ph.D., PE
Senior Principal/Project Manager
415-987-5186
drathnayake@slrconsulting.com

Mohammad Bazargani, PE
Managing Principal
510-384-2680
mbazargani@slrconsulting.com

B. Company Profile

SLR was founded in the United States in July 2000 in Washington state and began working in the state of California in 2013.

For over 20 years, our presence in the US. and 'One Team' culture has allowed SLR to bring the best people together to address the needs of our clients. SLR is committed to engaging individuals within the organization from a variety of locations to provide the best expertise for our teams – delivering seamless service regardless of the physical location of a project site. We are focused on delivering superior technical services to our clients to add value, reduce environmental uncertainties, and minimize environmental-related expenditures. SLR serves a wide range of public and private entities throughout the US. Our technical resources are often shared across disciplines to reinforce the most effective use of personnel and expertise. SLR's priority is to be active advocates for our clients to help create value, reduce uncertainties, and minimize project related risks and expenditures. We believe that the key to building our company's success is reinforcing our clients' success.

SLR's Bay Area and California offices house environmental staff of over 50 scientists, planners, and registered professional engineers and geologists available to support this contract and can also call upon other specialists located throughout the West we can cover all the technical disciplines required by the RFP for timely and cost-effective services to the County., as needed.

SLR in the United States is composed of approximately 500 individuals. Our organization is structured by sector and services as presented below.

SLR Services	Sector Lead	Services Offered & Qualifications
Built Environment Sector	Mark Arigoni	Infrastructure consulting and engineering.
Energy Sector	Andrew Dimitriou	Renewable energy and other alternate sustainable energy solutions.
Infrastructure Sector	Tony Ciriello	Evaluate, plan, and provide design for various transportation and utility projects.
Mining Sector	Jeremy Collyard	Support mine development, compliance, and closure.
Power Sector	Andrew Dimitriou	Plan and design major power systems, including transmission and distribution
Environmental Management, and Planning	Barbara Kuryk	NEPA/CEQA and other permitting. Site assessment and restoration.
Land and Water Services	Scott Miller	Site redevelopment, remediation, and water quality improvement.
Environmental Specialist Services	Deever Bradley	Noise management and monitoring.

SLR has assembled a team of subject matter experts and qualified/experienced staff to support this project with internal SLR team members who can lead various technical disciplines needed for this project. To supplement the SLR team we have also added two small business alliance

partners: Aanko Technologies, Inc., with Wildfire Suppression expertise and Dabri, Inc., with Field Mitigation Monitoring and Cost Estimating expertise, and Lamphier Gregory for CEQA/NEPA support. Our team's specific roles are described in Section C.

Aanko Technologies, Inc. (Aanko), a California - certified Veteran Owner Small Business (VOSB) with wildfire related experience throughout the State of California. Aanko has deep knowledge of place, stakeholders, and hazards, including by a locally led team and partner. Inclusive and creative approach to meaningful stakeholder engagement on climate resilience and proven ability to translate vulnerability assessments into implementable climate resilience actions in the wildfire management areas.

Dabri, Inc. was established in 2001 as a California Corporation and focused their attention on serving the specialized needs of public agencies. Dabri, Inc. had been providing directly or indirectly multi-discipline planning, environmental including biological monitoring, construction management and cost estimating services to public and heavy civil construction projects includes water and waste water, water pipeline, dam/reservoirs, pump stations, infrastructure, security system, roads, runway, bridges, seismic retrofit projects as well as industrial and commercial construction projects throughout California. Dabri is duly certified as a Small Local Business Enterprise (SLEB), Disadvantaged Business Enterprise (DBE), Minority Business Enterprise (MBE), and Woman Business Enterprise (WBE), by the Alameda County, and California Department of Transportation (Caltrans File #32110 and Department of General Service, Certificate #2014093).

Lamphier-Gregory has extensive experience in conducting environmental analyses in accordance with CEQA and NEPA for public agencies throughout the Bay Area. They prepare environmental documents for a diversity of projects ranging from transportation and public infrastructure improvements; from industrial and energy-related projects to schools, parks and other public facilities; and from rural subdivisions to new suburban master-planned communities and urban downtown redevelopment.

Executive Summary

SLR has prepared this proposal as a response to the Lake County RFP) No. 24-32 to conduct an analysis of the effects pf Pacific Gas and Energy's (PG&E's) proposed decommissioning of the Scott Dam. SLR has carefully reviewed the RFP and the related documents and understands the County's concerns about the potential environmental, infrastructure, social and economic impacts with respect to PG&E's proposed plans and the initial approval provided by the Federal Energy Regulatory Commission (FERC) for finalizing the plan for Final Surrender Application in early 2025.

SLR is a nationally known and well-established firm with excellent previous experiences with dam decommissioning and dam removal projects with the full in-house capabilities to address all technical areas needed to evaluate and analyze the impacts. Our proposal presented here follow the outline presented in the RFP and includes SLR information as the prime consultant, information of our proposed specialized subconsultants: Aanko, Dabri and Lamphier & Gregory, our proposed project approach and tasks, proposed organization chart with subject matter experts, proposed timeline, sample work plans, references and disclosure information. The SLR team has no conflicts of intertest to perform this work for the County.

SLR commits to carefully evaluate the implications of the proposed Scott Dam removal based on PG&E's proposed plans to provide the County with the understanding of all potential impacts before a final decision is made. Dr. Rathnayake will lead the team based in the SLR Walnut Creek Office. We have developed a scope/schedule/budget to meet the RFP requirements.

C. Work Plan

Below we have introduced the Scope Summary Table per RFP requirements to address how we plan to provide the services, introductions of tasks and subtask, proposed duration for each task for completion and our anticipated subcontractor support. A proposed Organization Chart is presented below Scope Summary Table, including bios of key staff. A more detailed Gantt chart to illustrate our proposed overall schedule is included at the end of this section.

TASK No.	SUBTASKS	DESCRIPTION OF TASK	PROPOSED APPROACH	PROPOSED TIMELINE[1]	TEAM AND SUBCONTRACTORS
A	A1. Recreation	Assess the impacts on recreation resources due to the removal of PG&E recreation facilities and the draining of Lake Pillsbury.	• Develop an inventory of existing PG&E resources to be removed including type of facilities and usage data. • Develop an inventory of other private and USFS recreation resources that could experience an increase or decrease in usage due to PG&E recreation resources being removed. Include usage data. • Review local general plans to gain an understanding of recreation needs in the area.	8/5/24 to 9/4/24 ***(We have assumed the start date 8/5/24 allowing the County to go through the selection and award process, however SLR is available to start the work much earlier than this date, if needed)***	SLR
A	A2. Wildfire Suppression	Assess the impacts to fire suppression due to the draining of Lake Pillsbury, water from which is used to fight wildfires.	• Review existing local and regional fire management plans. • Develop an inventory of existing fire suppression facilities and resources. Include existing response times and anticipated response times after the draining of Lake Pillsbury.	8/5/24 to 9/4/24	SLR and Aanko

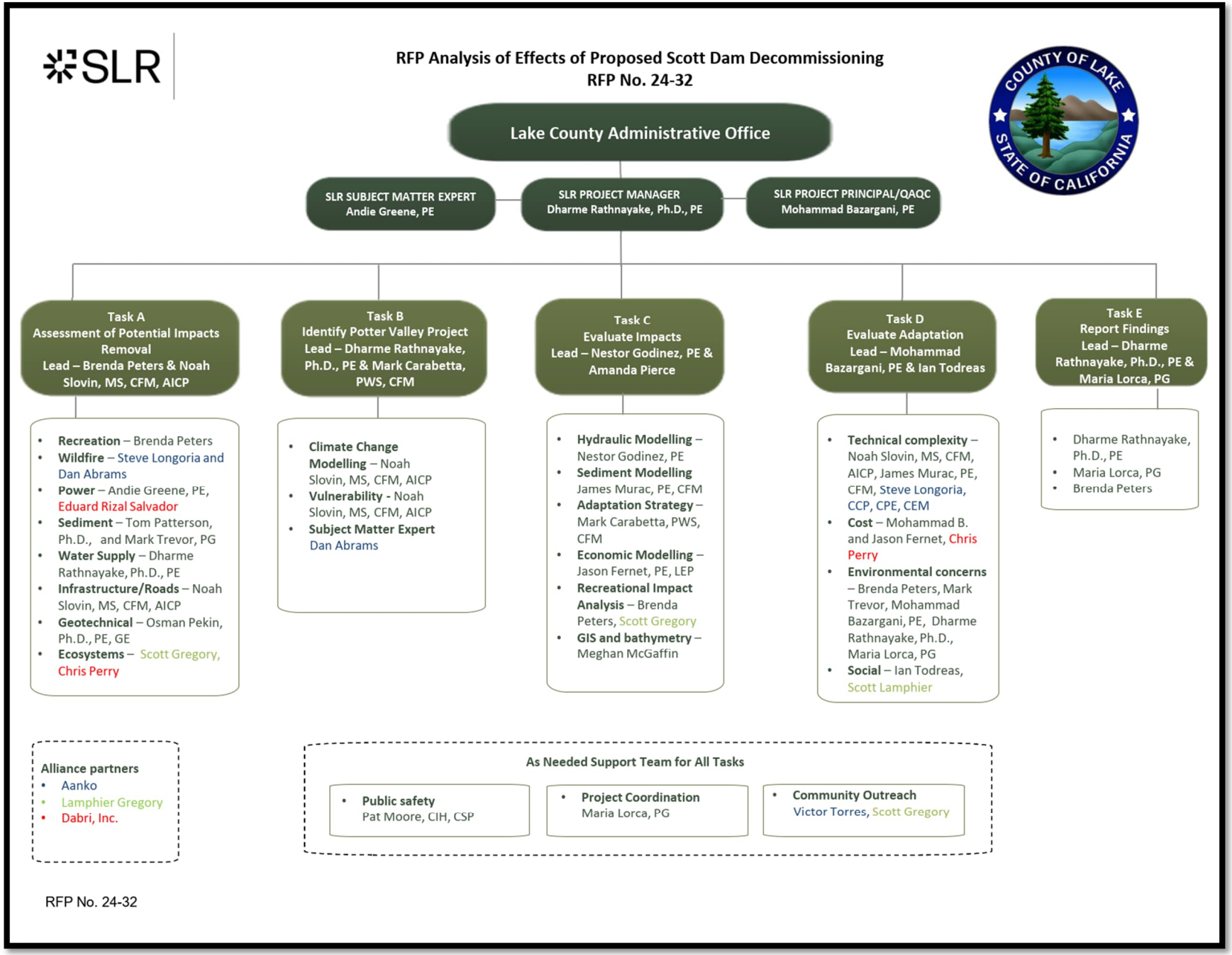
[1] The proposed timeline is subject to change

TASK No.	SUBTASKS	DESCRIPTION OF TASK	PROPOSED APPROACH	PROPOSED TIMELINE[1]	TEAM AND SUBCONTRACTORS
A	A.3 Ecosystem	Assess the potential impacts to habitat, wetlands, threatened and endangered species, Tule Elk, and fisheries due to the of Removal to Lake County	• Conduct habitat assessment up to .5 miles around Lake Pillsbury and other facilities to be removed. • Document wetlands • Document any threatened and endangered species • Develop an inventory of existing fish population upstream of PG&E facilities, within the lake, and downstream of PG&E facilities. • Develop a list of native species that will potentially occur the waterways following dam removal.	8/5/24 to 9/4/24	SLR and Lamphier Gregory
A	A.4 Power	Assess the potential reduction in power due to the removal of the power generation facilities, and the need to construct new facilities.	• Document power previously generated at the Scott Dam facilities • Document power generation replacement	9/4/24 to 10/4/24	SLR and Dabri
A	A.5 Sediment	Assess the increase in sedimentation downstream of Lake Pillsbury and potential impacts to fisheries and other species below the dam.	• Review existing PG&E data regarding sedimentation in the Upper Eel River watershed and Lake Pillsbury. • Review PG&E generated GIS and bathymetry data	9/4/24 to 10/4/24	SLR
A	A.6 Water Supply	Assess the impacts of the decreased water supply in the study area.	• Determine quantity of water supply to be removed. • Verify number of water customers currently supplied by Lake Pillsbury. • Identify potential replacement water supply	9/4/24 to 10/4/24	SLR and Dabri
A	A.7 Infrastructure	Assess traffic impacts due to increase in construction workers and debris hauls.	• Identify dam debris haul roads (up to major highway/freeway) • Identify number and size of • Verify condition of haul roads • Verify road capacities	9/4/24 to 10/4/24	SLR, Dabri and Aanko

TASK No.	SUBTASKS	DESCRIPTION OF TASK	PROPOSED APPROACH	PROPOSED TIMELINE[1]	TEAM AND SUBCONTRACTORS
A	A.8 Others	Assess the potential economic impacts to the local communities due to decreased recreation opportunities and decreased water supply to farmers. Assess visual scaring from water removal in Lake Pillsbury. Assess the potential for cultural artifacts resurfacing once the lake is drained. ***SLR will provide a summary report to assist the County in providing comments to PG&E Surrender Application to FERC.***	• Determine economic impacts to local communities. • Determine visual impacts of dam removal. • Determine potential loss of cultural artifacts based on a literature review of PG&E files. • ***SLR will work with the County to request extension to the public comment period for the final Surrender Application.***	9/14/24 to 10/4/24	SLR and Lamphier Gregory
B	B.1 Climate Change Modelling	Identify Potter Valley Project Decommissioning and Climate Change Scenarios	• Document existing conditions and potential impacts from climate change (wet and dry years) • Review existing climate action plans, county or regional • Model potential impacts from climate change after removal of Lake Pillsbury and PG&E facilities.	9/19/24 to 11/4/24	SLR
B	B.2 Vulnerability	Identify the vulnerability of dam rupture if the dam is not removed and flooding downstream if dam is removed	• Reviewing existing documentation regarding the vulnerability of the existing dam and the potential for rupture and flooding. • Analysis the potential for flooding without the dam. • Analysis lowering the lake level to maintain some water supply and capture excess water during a flood event.	10/4/24 to 11/4/24	SLR and Aanko
C	C.1 Hydraulic Modelling	Evaluate impacts to hydraulic conditions and develop adaptation strategies	• Review existing conditions with respect to hydraulic modeling • Perform hydraulic modeling of the full dam removal and partial dam removal scenarios	11/1/24 to 12/16/24	SLR

TASK No.	SUBTASKS	DESCRIPTION OF TASK	PROPOSED APPROACH	PROPOSED TIMELINE[1]	TEAM AND SUBCONTRACTORS
C	C.2 Sediment Modelling	Evaluate impacts to resources due to a change in sediment flows due to dam removal.	• Review existing PG&E data with respect to hydraulic modelling. • Perform sediment transport analysis for full dam removal and partial dam removal scenarios	12/2/24 to 12/31/24	SLR
C	C.3 Adaptation Strategy	Develop Adaptation Strategies	• Use modelling data and other data collected in previous tasks to develop adaption strategies	12/2/24 to 12/31/24	SLR and Lamphier & Gregory
C	C.4 Economic Modelling	Evaluate economic impacts to communities affected by the PG&E Pottery Valley project.	• Perform economic modelling to estimate economic losses and/or benefits	12/2/24 to 12/31/24	SLR
C	C.5 Recreational Impact Analysis	Evaluate recreational alternatives to replace lost recreational options	• Based on data collected previously, review alternate recreational options to replace lost recreational options.	1/2/25 to 1/31/25	SLR and Lamphier & Gregory
C	C.6 GIS and Bathymetry	Evaluate impacts to the existing lakebed and develop adaptation strategies	• Review existing PG&E GIS and bathymetry data. • Determine if additional GIS and bathymetry data needs to be developed. • Develop alternate stream bed alignments that will create fisheries and recreational opportunities.	11/1/24 to 11/29/24	SLR
D	D.1 Technical Complexity	Evaluate adaptation strategies for potential implementation.	• Analysis the technical complexity of adaptive scenarios that are developed to determine feasibility. Detailed adaption strategies to evaluate technical complexities • Analize alternate and new technologies	1/2/25 to 1/31/25	SLR and Aanko
D	D.2 Cost	Evaluate adaptation strategies for potential cost implementation	• Develop standard costing format for existing and adaptive strategies	1/2/25 to 1/31/25	SLR and Dabri
D	D.3 Environmental Concerns	Evaluate environmental concerns associated with adaptation strategies.	• Evaluate CEQA/ NEPA aspects of adaptative strategies. • Analize ESG concerns • Evaluate material handling and reuse	1/2/25 to 2/21/25	SLR

TASK No.	SUBTASKS	DESCRIPTION OF TASK	PROPOSED APPROACH	PROPOSED TIMELINE[1]	TEAM AND SUBCONTRACTORS
E		Report Findings	• Prepare a draft and final report	Draft report by 2/28/2025 Final report by 3/30/2025	SLR


SLR
RFP Analysis of Effects of Proposed Scott Dam Decommissioning
RFP No. 24-32
Lake County Administrative Office
SLR SUBJECT MATTER EXPERT
Andie Greene, PE
SLR PROJECT MANAGER
Dharme Rathnayake, Ph.D., PE
SLR PROJECT PRINCIPAL/QAQC
Mohammad Bazargani, PE
Task A
Assessment of Potential Impacts Removal
Lead – Brenda Peters & Noah Slovin, MS, CFM, AICP
Recreation – Brenda Peters
Wildfire – Steve Longoria and Dan Abrams
Power – Andie Greene, PE, Eduard Rizal Salvador
Sediment – Tom Patterson, Ph.D., and Mark Trevor, PG
Water Supply – Dharme Rathnayake, Ph.D., PE
Infrastructure/Roads – Noah Slovin, MS, CFM, AICP
Geotechnical – Osman Pekin, Ph.D., PE, GE
Ecosystems – Scott Gregory, Chris Perry
Task B
Identify Potter Valley Project
Lead – Dharme Rathnayake, Ph.D., PE & Mark Carabetta, PWS, CFM
Climate Change Modelling – Noah Slovin, MS, CFM, AICP
Vulnerability - Noah Slovin, MS, CFM, AICP
Subject Matter Expert Dan Abrams
Task C
Evaluate Impacts
Lead – Nestor Godinez, PE & Amanda Pierce
Hydraulic Modelling – Nestor Godinez, PE
Sediment Modelling James Murac, PE, CFM
Adaptation Strategy – Mark Carabetta, PWS, CFM
Economic Modelling – Jason Fernet, PE, LEP
Recreational Impact Analysis – Brenda Peters, Scott Gregory
GIS and bathymetry – Meghan McGaffin
Task D
Evaluate Adaptation
Lead – Mohammad Bazargani, PE & Ian Todreas
Technical complexity – Noah Slovin, MS, CFM, AICP, James Murac, PE, CFM, Steve Longoria, CCP, CPE, CEM
Cost – Mohammad B. and Jason Fernet, Chris Perry
Environmental concerns – Brenda Peters, Mark Trevor, Mohammad Bazargani, PE, Dharme Rathnayake, Ph.D., Maria Lorca, PG
Social – Ian Todreas, Scott Lamphier
Task E
Report Findings
Lead – Dharme Rathnayake, Ph.D., PE & Maria Lorca, PG
Dharme Rathnayake, Ph.D., PE
Maria Lorca, PG
Brenda Peters
Alliance partners
Aanko
Lamphier Gregory
Dabri, Inc.
As Needed Support Team for All Tasks
Public safety
Pat Moore, CIH, CSP
Project Coordination
Maria Lorca, PG
Community Outreach
Victor Torres, Scott Gregory
RFP No. 24-32

The selected project team has extensive experience and capabilities in the areas that meet the project requirements. The key staff of the proposed project team include Dharme Rathnayake, PhD, P.E., Andie Greene, PE, Brenda Peters, Mohammad Bazargani, P.E., Noah Slovin, MS, CFM, AICP, Mark Carabetta, PWS, CFM, Nestor Godinez, PE, Amanda Pierce, Ian Todreas, and Maria Lorca, PG. A summary paragraph highlighting experience and expertise of these key staff and key support staff are presented below.

Dharme Rathnayake, Ph.D., PE, Senior Principal (Proposed Project Manager and Lead for Task B and Task E, also Supporting Staff for Task A, D, and E) (SLR) - Dharme Rathnayake has more than 35 years of experience as a senior project manager/principal civil and water sources engineer, including hydrology and reservoir management, geotechnical engineering including evaluation of dams, facility civil infrastructure, security/sustainability, and environmental management projects; material and debris management planning projects, waterfront improvement projects including sediment management within west coast and other states within US. These projects focused on project planning, environmental review/mitigation, security assessments per Department of Homeland Security (DHS), security designs to meet US Coast Guard, FEMA grant management, and oversight of implementation of design-bid build or design-build project. Dr. Rathnayake experience include Napa River Flood and Levee Management, Curby Linda Creek Flood Control, and East Bay Municipal (EBMUD) Water Supply system improvement work.

Dr. Rathnayake has a proven record of project formulation, initial budgeting, permitting, cost estimation, bid document preparation (30/60/90/AFC), bid review, contract management and stakeholder presentations with respect to many capital improvement projects including port and waterfront projects. He is well experienced in federal, state, and local regulations including the Safe Drinking Water Act, Clean Water Act, Clean Air Act, California Environmental Quality Act (CEQA), hazardous material management including local county/city requirements.

Andie Greene, PE, Senior Principal (Proposed Subject Matter Expert and Supporting Staff for Task A) (SLR) - Andie Greene is SLR's Technical Discipline Lead for the Water Resource Engineering team. He manages 17 Water Resource Engineers and Scientists located in four offices in Vermont, New York, and Connecticut. Andie has over 30 years of experience in project management, design, and construction review on a variety of complex stream restoration, dam removal, and bank stabilization projects with an emphasis on coastal riverine settings and fish passage. He also has experience in the design of urban civil infrastructure and utility projects including gravity sewers, storm drainage, gas and water utilities, as well as recreational and park projects.

Andie has served as the Lead Project Manager and the designated Design Lead for stream restoration and stream stabilization projects since 2010 in conjunction with consecutive contracts with the New York City Department of Environmental Protection as part of their Stream Management program in the west Hudson River Catskill's water supply system. The goal of these projects is to reduce sediment from entering the NYC water supply reservoirs in compliance with the Filtration Avoidance Determination in consultation with the US Environmental Protection Agency (EPA).

Mohammad Bazargani, PE., Senior Principal (Proposed Project Principal/QAQC and Lead for Task D) (SLR) - Mohammad Bazargani has more than 26 years of experience in environmental project and program management in the San Francisco Bay Area for a variety of industrial and commercial sectors including landfills, sawmills, pulp and paper, industrial recycling operations, rail yards, transformer manufacturing and recycling operations, bulk fuel storage

facilities and fuel transfer stations and pipelines. His experience includes site investigation and design; storm water and sediment management plans; development of lifecycle costs, assessment of liability and financial risk analysis associated with construction and remediation projects. He has managed soil excavation/remediation, design and implementation of groundwater/leachate remediation systems, and groundwater remediation projects using ex-situ and in-situ remediation techniques.

Brenda Peters (Proposed Lead for Task A and Supporting Staff for Task C, D, and E) (SLR) Brenda Peters has forty years of experience in managing interdisciplinary environmental teams and projects. She has in-depth knowledge of Federal, State, and local environmental laws and regulations, including the National Environmental Policy Act and the California Environmental Quality Act. Also has proven record of reliability in coordinating and preparing legally defensible environmental compliance documents. Skilled in building productive, cohesive teams, leading by example and providing guidance and mentorship to improve individual and team performance and career development.

Ms. Peters was the Program Manager for Crane Valley Dam (Sierra Foothills) Seismic Retrofit Project. The major components of the project include reservoir drawdown, vegetation removal on approximately 30 acres, development of a quarry, dewatering at the toe of the dam, dredging sediment upstream of the dam, dam buttressing, core wall stabilization, raising the dam crest and reconstructing the dam crest road, and quarry reclamation. During a 13-month period, Ms. Peters managed the preparation and development of an Environmental Assessment (EA) for the Federal Energy Regulatory Commission (FERC) with accompanying technical plans (Dust Control Plan, Wishon Quarry Operation and Reclamation Plan, Vegetation Management Plan, Fish and Turtle Relocation and Recovery Plan, Fire Prevention and Suppression Plan, Traffic Control Plan, Sign and Notification Plan, and Baseline Water Quality Sampling and Analysis Report), an Environmental Impact Report (EIR), and a Mitigation Monitoring Plan for the Department of Water Resources. She managed the preparation of multiple permit applications, including Special Use Permit and Road Use Permit for the U.S. Forest Service, 404 Wetland Alternatives Analysis for the U.S. Army Corps of Engineers, 401 Water Certification for the Regional Water Quality Control Board, and a Streambed Alteration Agreement for the California Department of Fish and Game. While under construction she managed the implementation of the Mitigation Monitoring Plan. Tasks include daily compliance tracking and preparation of monthly mitigation compliance reports that are submitted to responsible agencies.

Noah Slovin, MS, CFM, AICP (Proposed Co-lead for Task A and Supporting Staff for Task B and D) (SLR) - Noah Slovin is a Senior Resiliency Planner with experience working with communities to understand the best approaches for building resilience to natural disasters and climate change based on the uniquely local needs and experiences of residents, businesses, and policy-makers. As a graduate student at University of Massachusetts Amherst, Noah worked with UMass Cooperative Extension on a project to change the way governments approach hazard mitigation to consider the long-term sustainability of different types of interventions from social, economic, environmental, and physical perspectives, with the ultimate goal of reducing the burden put on local communities to maintain poorly-design mitigation infrastructure.

In his current position, Noah uses his deep understanding of policy frameworks, climate science, vulnerability assessment, hazard mitigation best practices, and the realities of local government limitations to engage communities in collaborative planning processes to identify practical, applicable, fundable actions that can be taken to reduce risks and increase resilience.

Noah is skilled in public and stakeholder engagement, municipal planning, GIS analysis, and data-driven vulnerability analysis. He is particularly interested in using collaborative planning to achieve sustainable and equitable outcomes.

Tom Patterson, Ph.D. (Proposed Supporting Staff for Task A) (SLR) - Dr. Tom Patterson has over 30 years of experience as an environmental specialist working on site investigation, design, and construction; risk assessment; geochemistry; mine waste and mine water management including containment dams; and environmental fate and transport analyses for hazardous waste and mining sites. Primary industrial sectors I have worked in are mining and minerals, aerospace, electronics, wood treatment, and hazardous waste. Areas of technical expertise include geochemistry, evaluation of baseline water chemistry and impacts, environmental remediation, strategic planning and cost analysis, sediment management, project management, ground water fate and transport, performing multi-pathway risk assessments for federal and state Superfund sites, support for environmental decision-making using the risk-based approach, and data analysis to support risk assessments and impact evaluations. Expert on issues of perchlorate in the environment (occurrence, sources, remediation, treatment, health effects, regulatory issues, etc.).

Mark Trevor, PG (Proposed Supporting Staff for Task A and D) (SLR) - Mark Trevor has over 20 years of experience as a senior geologist working in mining and other industrial sectors. His work has ranged from mine post-closure environmental compliance to field investigations and remediation. He has conducted environmental, hydrogeologic and geotechnical investigations including geotechnical studies, waste discharge reporting, NPDES permitting and compliance, tailings and overburden seep detection and management, underground workings assessments, mineral exploration, and health/ecological risk assessment. Among his current projects, Mark manages post-closure compliance monitoring for three closed California gold mines and assists with permitting and compliance for ongoing mine development, operational, and closure-related environmental projects in North America.

Osman Pekin, Ph.D., PE, GE (Proposed Supporting Staff for Task A) (SLR) - Osman Pekin is a principal with forty years of experience in geotechnical and seismic engineering. He provides integrated geotechnical engineering for the multi-disciplinary needs of planners, value engineering facilitators, designers, design-builders, and contractors. He serves clients in flood control, dams/ levees, water/ wastewater, mining, dredging, shoring, transportation, and buildings. He is also experienced in risk management, forensics, remedial design, and expert witness. He has been named a Fellow of the ASCE for his contributions to the profession. He has worked on high-profile projects nationally and internationally.

Mark Carabetta, PWS, CFM (Proposed Co-lead for Task B and Supporting Staff for Task C) (SLR) - Mark Carabetta is the US Manager of Climate Resilience Planning who has developed and led numerous projects and studies relating to rivers and wetlands across the eastern United States and Canada. These include hydrologic and hydraulic modeling and analyses, geomorphic assessments, flood mitigation analyses, ecological assessments, design of channel restoration and aquatic organism passage projects, and regulatory permitting. He is a Professional Wetland Scientist and Certified Floodplain Manager with over 30 years of experience.

Nestor Godinez, PE (Proposed Lead for Task C) (SLR) - Nestor Godinez has sixteen years of experience in civil, hydrology, hydraulics, site restoration, and major civil and earth work projects. His project experience includes storm water management systems, water balance modelling, hydrologic and hydraulic analyses, grading design, construction quality assurance, and utility layout. He has designed storm water management systems and surface drainage grading for

mining, landfill, and commercial projects; performed quality assurance activities for environmental remediation and geosynthetic liner projects, prepared layouts of utility systems for commercial projects, performed dam breach inundation analyses, and developed water balance models for mining projects.

Amanda Pierce, PE (Proposed Co-lead for Task C) (SLR) - Amanda Pierce is a licensed Professional Engineer. She has applied her expertise to Water Resource Engineering and project management. Her experience includes hydrologic and hydraulic modeling, surface water management and planning, water quality, flood mitigation, and stream restoration. In addition, Amanda has coordinated with federal and local agencies for environmental permitting and grant management. Her aptitude and experience make her an excellent addition to SLR's group of engineers that support our service lines and industry sectors.

James Murac, PE, CFM (Proposed Supporting Staff for Task C) (SLR) - Jim Murac is a Principal Water Resources Engineer, Professional Engineer (PE), and Certified Floodplain Manager (CFM) at SLR specializing in projects connecting nature-based solutions to the built environment, as well as the restoration of natural systems to pre-disturbance conditions using geomorphological and bio-engineered designs for coastal and riverine systems in the mountains and on the shorelines of the Northeastern United States. He has expertise in dam decommissioning, removal and restoration in various projects within the US. He is an experienced project manager for large-scale Water Resource design projects including post flood disaster assessment, flood mitigation, coastal resiliency, river channel and floodplain restoration, geomorphic analysis and habitat assessment, shoreline and bank stabilizations, stormwater flooding and drainage system evaluation, dam removal and sediment management, and bridge scour analyses in the Northeast.

Jason Fernet, PE, LEP (Proposed Supporting Staff for Task C) (SLR) - Mr. Fernet is a Professional Engineer and Connecticut Licensed Environmental Professional with SLR based in Hartford, CT. Mr. Fernet has over 22 years of experience as an engineer in engineering design, and preparing construction specifications, decommissioning, decontamination, and demolition (DDD) management, hazardous and PCB waste management and multimedia permitting in various sectors across the United States. He has prepared remedial designs, feasibility studies, project cost estimates and construction bid documents, and managed remedial activities at complex sites undergoing clean-up and redevelopment under expedited schedules. He has also provided third-party review, agency negotiations on environmental cleanup-related issues.

Meghan McGaffin (Proposed Supporting Staff for Task C) (SLR) - Meghan McGaffin is the US GIS Technical Discipline Manager with 20 years of experience working in GIS and survey data management including bathymetric data, having started her career in the field mapping out the sewer network for a local municipality. Since then, she has continued to build networks between people, projects, and of course data. Meghan has served on numerous local, regional, and state GIS committees and organizations intent on fostering the improvement of GIS. She brings a holistic, interdisciplinary approach to executing successful projects across multiple disciplines. Meghan has significant expertise with the ESRI suite of GIS software products for data development & management, spatial analysis, and map creation. She has experience with ArcGIS Pro, ArcGIS Online, ArcGIS Enterprise, and a wide range of additional software products. Meghan leads SLR's United States GIS User Group, providing news, training, and best practices to over 60 GIS staff across the county. She also developed and leads SLR's Bi-Annual Innovation and Technology Week, a company-wide event promoting and highlighting technological and social innovations to provide education and networking opportunities to staff across the United States

Ian Todreas (Proposed Co-lead for Task D) (SLR) - Ian Todreas is SLR's Community Outreach and Sustainability Solutions expert and has more than 25 years of experience advising public sector agencies, including ports and airports, on clean air and climate mitigation and adaptation strategies. For US EPA's diesel emissions reduction program (DERA), he managed regional outreach and engagement activities for 20 years to educate and inform diesel fleet owners and operators on clean diesel strategies and federal funding opportunities to underwrite them. For ports specifically, he developed informational materials and convened workshops and events targeting tugboat and dray truck operators at Mississippi River ports and at the ports of New York and New Jersey, respectively. At the Port of Wilmington, Delaware, he worked with neighborhood advocacy groups training them in how to work with port operators to reduce local emissions and noise from truck traffic using EPA's *Community Action Roadmap: Empowering Near-Port Communities*. He helped facilitate hands-on sessions for local community members to help them organize, expand their network, and amplify their voices when speaking with port officials. Ian also served as a lead writer for EPA's case study on San Pedro Bays Ports' Clean Air Action Plan, which involved interviewing port operators, EPA officials, and local environmental advocates to highlight lessons learned from the ports' groundbreaking sustainability efforts deployed over a 20-year period. The case study was subsequently published on EPA's website.

Maria Lorca, PG (Proposed Lead for Project Coordinator and Co-lead for Task E and Supporting Staff for Task D) (SLR) - Maria E. Lorca is a licensed Professional Geologist in the state of California with 10 years of experience in hydrogeology and environmental geology. She has extensive experience in providing developers, municipalities and attorneys with geologic and hydrogeologic assessments, restoration plans, expert witness reports and field investigations, including soil and groundwater evaluations. Maria has a deep understanding of hydrology and has used this experience to conduct hydrogeological investigations and quality analyses in California and other US states.

Pat Moore, CIH, CSP (Proposed Lead for Public Safety) (SLR) - Pat Moore is a Certified Industrial Hygienist (CIH) and Certified Safety Professional (CSP) with over 25 years of extensive health, safety and environmental (HSE) experience involving public safety, general industry and construction.

He currently serves as the HSE Advisor for SLR International Corporation (SLR) for the United States operations in the lower 48 States. He is responsible for developing and/or reviewing project-specific HSE plans, allocating of HSE resources, continuous development, and improvement of the SLR accident-prevention program, facilitating HSE Coordinator and office safety council meetings, developing, and reviewing company policies, providing leadership in motivational factors in safety, and guiding managers in safety leadership qualities.

Pat also provides contract health and safety consulting services to various companies and industries both within the United States and abroad. He is proficient at health and safety program auditing/assessments, personnel, and area air monitoring, performing indoor air quality assessments, ventilation surveys, workstation ergonomic assessments, and occupational noise assessments. He is also proficient at developing and presenting Occupational Safety and Health Administration (OSHA)-related training classes.

Dan Abrams (Proposed Supporting Staff for Task B and Lead for Community Outreach) (Aanko) - Dan is a nationally acclaimed retired Fire Chief and Paramedic. He has over 40 years in the fire service including wildfire management and has been the San Mateo County (CA) Fire Academy Director and the Primary Instructor for Fire Science at the College of San Mateo. Dan's accolades include a Presidential Citation for his response to Hurricane Katrina, and a California

Governor's Citation for Incident Command of the 2009 San Bruno California Natural Gas Pipeline Explosion caused by Pacific Gas and Electric Company. He Has written comprehensive emergency management plans and has trained city staffs on National Incident Management System (NIMS) and Incident Command System (ICS) compliance. He is a Certified Fire Technology and ICS instructor.

Steve Longoria, CCP, CPE, CEM (Proposed Supporting Staff for Task D) (Aanko) - Over 42 years of progressive and highly successful experience in assessing, designing and deploying safety, security and emergency management projects including wildfire management and systems in the public and private sectors. Only person in Department of Defense history officially recognized as top expert in three different career classifications: Antiterrorism, Security & Safety during 21-year U.S. Air Force military career.

Victor Torres (Proposed Supporting Staff for Task D) (Aanko) - Over 14 years successful experience in wildfire assessment, firefighting, and vegetation management. Worked as CalFire Fire Engineer for ten years prior to being a consultant with Aanko since 2022 for the public and private sector. Victor is bilingual (fluent in Spanish).

Chris Perry (Proposed Supporting Staff for Task A and Task D) (Dabri) - Mr. Perry is biologist with over 13 years of experience in the environmental field. For the last six years Mr. Perry has worked as an environmental inspector and biological monitor in the San Francisco Bay Area. He has conducted pre-clearance surveys for a number of T&E species including; California Tiger Salamander, California red legged frogs, San Francisco garter snakes, mission blue butterflies, Central California Coast (CCC) coho and steelhead, Alameda Whipsnake, and tidewater gobies. Mr. Perry has had experience capturing and relocating the majority of these species during construction activities. For two years Mr. Perry worked as a California red-legged frog (CRLF) biologist (NPS permit) supervising a team of biological monitors who were responsible for removing CRLFs prior to and during construction. He also has experience with marine mammal monitoring, as well as presence-absence surveys for other T&E species including valley longhorn elderberry beetle (VELB), Palila (a critically endangered Hawaiian honeycreeper), snowy plover, and spotted owl. In addition, Mr. Perry worked certified as a QSP and has been responsible for conducting inspections to ensure SWPPP compliance; including, site evaluation and assessment, erosion control planning, and monitoring the installation of erosion control devices. He has been responsible for daily surveys to ensure that erosion control fabric, silt fencing, drain inlet protection, and wattles were functioning properly. Mr. Perry has also been responsible for general environmental inspections to certify that noise, dust, and visual impacts are properly mitigated, and that hazardous materials were identified and disposed of properly. Mr. Perry has considerable experience conducting surveys for raptors and nesting birds for compliance with the Migratory Bird Treaty Act. His work has included establishing buffer zones to protect nesting birds (including burrowing owls, bald and golden eagles), using GPS/GIS to map nest locations, and monitoring active nests and fledglings prior to construction.

Eduard Rizal Salvador (Proposed Supporting Staff Task A) (Dabri) - Mr. Salvador has eleven (11) years of professional experience as a Construction Manager, Resident Engineer & Field & Testing and Commissioning. He has thirteen (13) years of professional experience as a QA/QC Engineer/Inspector/Superintendent in Civil, architectural, Interior Works, landscaping & Irrigation works, Electrical, Mechanical, Pipe Laying Works, Fire-fighting, HVAC, Sanitary & Electro-Mechanical Works, Building Management Systems & SCADA Systems. He is specialized in runway, Multistory Buildings, Airports, Sewerage Plants & Facilities Construction, Hospitals, Roads, Highways & Bridges (infrastructure), Railways, Residential & Mass Housing Projects, Villas, Shopping Malls, Light Rail Transit (LRT) systems & facilities, Offshore and Onshore

Breakwaters, Wharves and Bridges facility and fabrication and pre-stressing of pre-cast concrete piles, beams & Steel Structures

Scott Gregory (Proposed Supporting Staff for Task A and Task D) (LG) - Mr. Gregory brings over 35 years of professional experience in the preparation of environmental documents and certain technical disciplines, including ecosystem assessment, serving as environmental consultant to cities, counties, other governmental agencies and private developer clients. His wide range of environmental work has provided him with a high level of competency and knowledge of both the CEQA process and the substantive requirements of CEQA documents. Throughout his career, Mr. Gregory has developed a strong interest in working with communities to resolve complex land use and environmental issues.

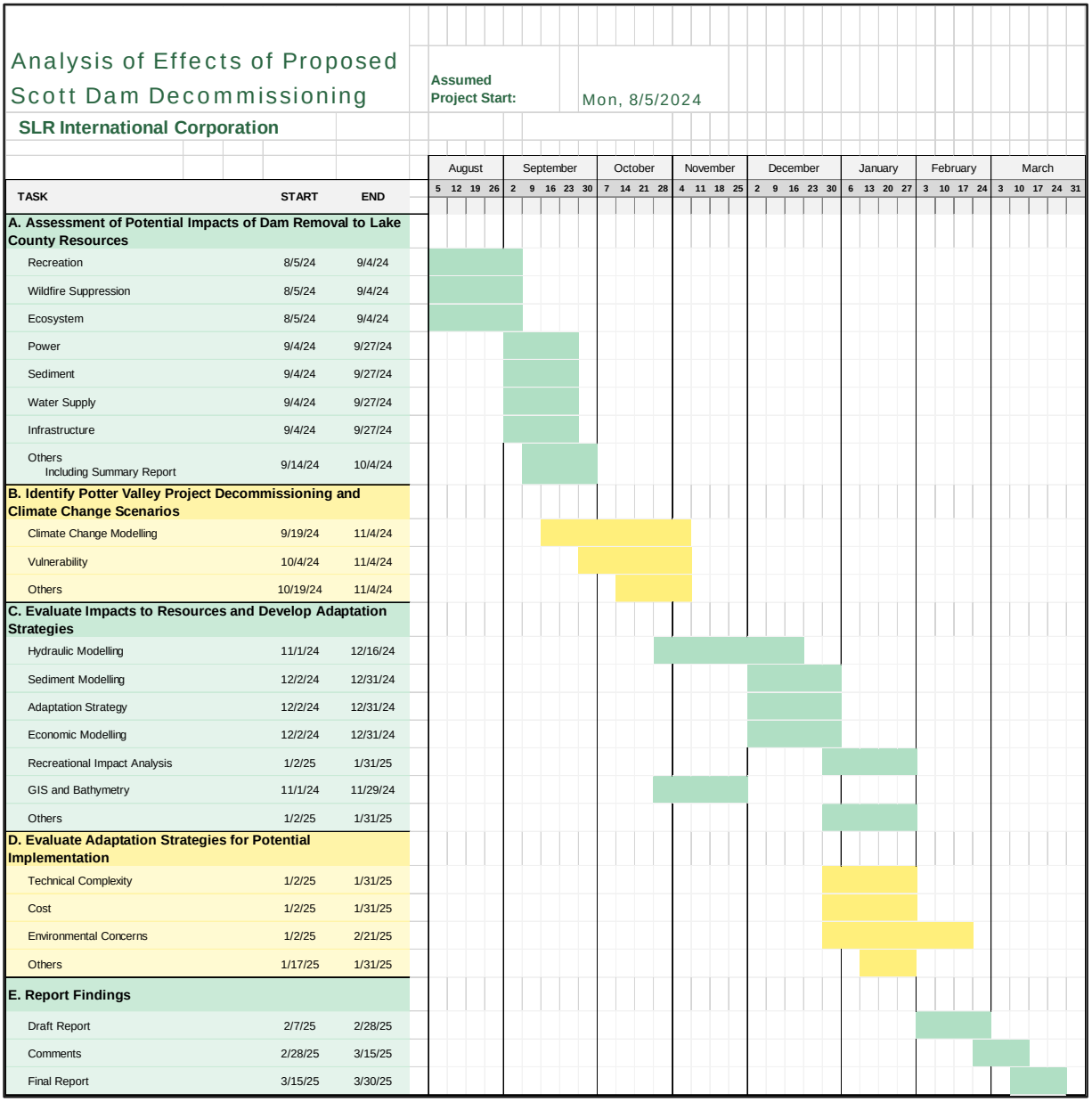
Proposed Project Schedule (Assumed Start Date 8/5/2024)

Analysis of Effects of Proposed Scott Dam Decommissioning

SLR International Corporation

Assumed Project Start: Mon, 8/5/2024

TASK	START	END
A. Assessment of Potential Impacts of Dam Removal to Lake County Resources		
Recreation	8/5/24	9/4/24
Wildfire Suppression	8/5/24	9/4/24
Ecosystem	8/5/24	9/4/24
Power	9/4/24	9/27/24
Sediment	9/4/24	9/27/24
Water Supply	9/4/24	9/27/24
Infrastructure	9/4/24	9/27/24
Others Including Summary Report	9/14/24	10/4/24
B. Identify Potter Valley Project Decommissioning and Climate Change Scenarios		
Climate Change Modelling	9/19/24	11/4/24
Vulnerability	10/4/24	11/4/24
Others	10/19/24	11/4/24
C. Evaluate Impacts to Resources and Develop Adaptation Strategies		
Hydraulic Modelling	11/1/24	12/16/24
Sediment Modelling	12/2/24	12/31/24
Adaptation Strategy	12/2/24	12/31/24
Economic Modelling	12/2/24	12/31/24
Recreational Impact Analysis	1/2/25	1/31/25
GIS and Bathymetry	11/1/24	11/29/24
Others	1/2/25	1/31/25
D. Evaluate Adaptation Strategies for Potential Implementation		
Technical Complexity	1/2/25	1/31/25
Cost	1/2/25	1/31/25
Environmental Concerns	1/2/25	2/21/25
Others	1/17/25	1/31/25
E. Report Findings		
Draft Report	2/7/25	2/28/25
Comments	2/28/25	3/15/25
Final Report	3/15/25	3/30/25



D. Samples of Work Plans

SLR has included two sample work plans for two similar projects as presented below. Please note that these workplans prepared by Milone & MacBroom, Inc. (MMI), which is now SLR (MMI was acquire by SLR in 2019). Each example includes project background, scope of work, project schedule.

- High St. Dam Decommissioning project
- Quinapoxet Dam project

The MMI staff who completed these projects are now SLR employees and will be available and involved to support Scott Dam Decommissioning project.

D.1 High St. Dam Decommissioning, Bridgewater, MA

Project Understanding

Site History

On the morning of Sunday, June 24th 1862 a massive explosion in one of the steam boilers leveled the forge shop of the Bridgewater Iron Works, shattering windows in the village and sending iron chunks over a mile away. Varying accounts of the tragedy place the death toll at about seven, with twenty serious injuries. Reportedly the remnants of the forge shop were left for twenty years to remind workers of the dangers associated with iron working.

Prior to this tragedy, Stanley Iron Works Park had a long history of iron manufacturing dating back to the earliest settlers in the area. A blacksmith shop was first constructed here after the Town River was dammed in the late 1600's and early 1700's. A second iron mill was constructed after the Revolutionary War, following lifting of the prohibition of Iron Working by the British Parliament. During the industrial revolution, iron manufacturing flourished at the site. Cannons used in the war of 1812 were manufactured here as well as components for the iron clad warships used during the Civil War. Iron manufacturing continued on the site in the early 20th century after it was purchased by the Stanley Works of New Britain CT, known for its manufacturing of hand tools. By the 1850s, the plant employed 250 men, and was entering the height of its production, consuming 6,000 tons of coal to power massive 20-foot diameter lathes and 10-ton forging presses.

Stanley Works initiated a significant investment on the site in the early 1900's to expand production. In 1904, the century old dam was rebuilt. Upon demolition, it was discovered that the existing timber foundation was solid and the dam was rebuilt in six weeks by Rivers & Young of Holyoke MA. At the same time, the old water mill was replaced with a small building and a generator to convert water power into electricity. The foundation to the old generator building and the submerged turbine are still present about midway down the right-hand channel.

As is the case with many industrial sites in New England, all that remains of the original Iron works are the foundations of old buildings and other remnants of a previous era, and the dam and impoundment created to provide a source of energy for manufacturing. The dam is often the last remnant of a historically industrial site.

Project Goals

The Jenkins Pond Dam is falling into disrepair and is described as "in an unsafe condition." It is no longer used in industrial processes and does not provide any appreciable flood control benefits to the community. The primary goals of this project are twofold: to accommodate fish passage through the Jenkins Pond Dam; and to remove the potential hazard of dam failure. Dam removal or partial removal are likely to be two of the most viable alternatives in meeting the stated goals of the project, while being economically feasible. A key task in the feasibility study will be the evaluation of alternatives on behalf of TNC and project partners. Conventional alternatives include partial removal, downstream in-channel rock rapids, new fish ladders, and bypass channels. The project will seek to collect data, analyze the existing impoundment and dam, computationally assess the alternatives, and provide a summary of the feasibility and effectiveness of each one at meeting the project goals to inform future decision-making.

Site Constraints

The Town River and its tributaries meander in a generally southerly direction from their headwaters in Stoughton, South Easton, and West Bridgewater before flowing into the Taunton River in Bridgewater. The Taunton River eventually flows to Mt. Hope Bay and Narragansett Bay. The dams at this site (Jenkins Pond MA00327 and High Street- Jenkins Pond Channel dam MA00466) act in tandem to create the impoundment (referred to as Jenkins Pond). The dams form an obstruction to fish passage, which at one time was mitigated through the construction of a fish ladder at the Jenkins Pond dam.

Any dam removal feasibility study will have to take special care to consider potential upstream infrastructure. The High Street bridge is located approximately 135 feet upstream of the dam and spans the impounded Town River. While the Town River crossing at High Street is referred to as a bridge, in reality it consists of four stone masonry culverts of varying widths and approximately seven feet in height. The culverts are submerged by the water that is impounded by the dam at the elevation of flow over the spillway. Any dam removal alternative will have to carefully consider the potential scour to these newly exposed culvert sidewalls or the potential for stream channel elevations to head cut below the elevation of the bottom of the culverts. It will be important that any dam removal scenario does not destabilize the culverts and roadway, potentially causing failure. It is assumed that replacement of the bridge is an expense that is not contemplated with the current funding sources.

Upstream of the High Street bridge is the Lincoln Athletic Association (LAA) building and parking lot. The building, parking, and recreational amenities on this triangular shaped parcel completely cover the small quarter-acre lot that has frontage on High Street to the south. The LAA building is less than 5 feet from the edge of Jenkins Pond on the northeast and is only approximately 4 feet higher than the water surface elevation. The edge of the pond adjacent to the building is a vertical stone masonry wall that extends below the water line. Lowering of the impoundment caused by a dam removal will have to consider possible changes to the saturation of the soil behind the wall and below the foundation of the building. Such changes in soil saturation could cause soil migration, and possible movement of the building or destabilization of its foundation.

It appears as though the Jenkins Pond impoundment extends more than 4,000 feet upstream past the Reynolds Landing Conservation Area in West Bridgewater. The River Bend Country Club is also located along this section of Town River on the east side and extends to East Center Street (State Route 106). It is unknown if the golf course utilizes any direct extraction of water from Town River. However, the River Bend Country Club website states "*The front nine is wide open and plays along the Town River with water, hazards and wind affecting every hole*". Any changes to the impoundment water surface elevations through dam removal must consider potential impacts to groundwater levels along the reach of Town River adjacent to the golf course. Lowering of groundwater may impact the play of the golf course holes, water levels of ponds, irrigation and turf management operations, and golf course water hazards.

Project Approach

The MMI approach to dam removals blends art and science together to design with both nature and the community. Ecological success, including fish passage and stream/wetland restoration, is essential. The overall process to removing unneeded or abandoned dams is to characterize the project setting, prepare topographic and natural resource maps, study the watershed's hydrology and river morphology, perform hydraulic analysis, evaluate alternatives, and prepare construction documents. Public participation is often an active part of the process.

Fish Passage

Our approach to providing fish passage at Jenkins Pond Dam will be similar to our work with many other removals of post-colonial mill dams. For instance, a hydrologic and hydraulic analysis will be necessary to support design and permit applications in future phases of work. More importantly, the hydraulics will inform the type of channel designs contemplated in the feasibility assessment and conceptual level cost opinions. The hydrologic and hydraulic analysis is critical to understanding the potential changes to the river upstream of the dam in different scenarios and how these may impact upstream infrastructure.

A key task in the feasibility study will be the evaluation of alternatives on behalf of TNC and project partners. Conventional alternatives include partial removal, downstream in-channel rock rapids, new fish ladders, and bypass channels. Fish ladders are feasible but do not resolve dam safety issues, nor do they achieve river continuity. As such, the focus is anticipated to be centered on dam removal or partial dam removal. With full dam removal, one would have to re-establish the upstream channel across the pools or allow natural evolution. Sediment management options include:

- Natural stabilization of sediments.
- Relocation of the sediment to the pond perimeter.
- Removal of sediments.
- Sediment stabilization in-situ; or
- A combination of the above measure

As part of the assessment process, the impounded sediments will be physically probed to evaluate sediment depths and to determine the existence and/or location of the channel thalweg or the original pre-dam channel. Upstream channel options include:

- Natural erosion along the pool thalweg.
- Creating a new channel to mimic the pre-dam channel; or
- Creating a new channel alignment and grade.

As part of the initial field investigations, MMI will conduct a geomorphic assessment and evaluate the preferred equilibrium, width, depth, gradient, pattern, and profile features to support creation of a natural channel. Assessment of such channel parameters in the region, and the identification of a stable reference reach can help inform the design relative to Aquatic Organism Passage (AOP) through the post-removal project site.

An interesting alternative that has the potential to be feasible is a partial dam removal in conjunction with rock rapids and pools downstream of the dam. MMI has designed a number of these rock rapid type channels to provide fish passage where site constraints or full dam removal is not possible.

Based upon the height of the Jenkins Pond Spillway, there is a significant vertical rise in the elevation between the existing stream channel downstream of the dam and the High Street culvert inverts. The dam is also located approximately 130 feet downstream of the High Street Bridge, which would necessitate a fairly steep channel slope between these two locations after dam removal. A rock rapids and pools would allow a greater vertical rise in elevation as compared to a natural stream channel. A post-dam removal natural channel through this section of the former impoundment may be too deep at the High Street Bridge, causing possible scour to the culverts. The rock rapids approach may also allow for a partial dam removal, starting downstream of the dam site.

Under the partial removal option, the spillway would be removed while constructing a section of rapids starting downstream of the dam within the existing confined stone masonry channel walls. The rapids would intersect the spillway at approximately mid height or higher. A partial removal would include a grade control structure or would retain a portion of the abutments on either side of the spillway itself, which would hold the impounded sediments in place and a stream channel through the impoundment to be at or near the elevation of the existing pond bottom or slightly above to maintain some impoundment.

The advantages to a partial dam removal approach at this site include:

- The rock rapids would provide a vertical rise in channel elevation over a shorter distance, thus eliminating a channel that is set below the existing grade of the upstream High Street culverts; and

- Partial dam removal will hold a significant volume of sediment in place, negating the need to remove as much sediment as a full dam removal.

Hydrology

Understanding a watershed's hydrology is critical to the success of river restoration and dam removal projects. Milone & MacBroom will investigate both flood flows to be able to assess post-dam removal channel stability and the susceptibility of sediment to migration, and "normal" flows that affect fish passage and habitat. Normally, the peak flows for the 2-, 10-, 25-, 50-, 100-, and 500-year events are evaluated, along with the seasonal and mean monthly average flows to assess fish passage.

Multiple sources and methods exist for developing hydrologic data. Developing a full rainfall runoff model may be too complex for such a large watershed, therefore, we propose that existing peak flow data be compiled from many sources and assessed for validity.

The USGS *StreamStats* web application provides useful and easily accessible information for hydrology data such as peak flows, low flows, bankfull geometry, and watershed size. However, due to the unique geology found in eastern Massachusetts, the regression equations used in the application are unable to provide reliable estimates of riverine peak flows or a reliable delineation of contributing watershed at the Jenkins Pond Dam site.

Given the above, it is anticipated that gauging information from the surrounding area will provide the most accurate flow information for Town River. Four such gauges operated by the United States Geologic Survey (USGS) exist within an approximately ten-mile radius, three of which have greater than 50 years of record. The gauge located on the Taunton River downstream of the Jenkins Pond site has 87 years of record and will provide very valuable information for the project.

MMI will perform a Bulletin 17b analysis on the gauges in question and transfer the flows to the project site based upon the drainage area. These flows will then be compared to the flows reported by the Federal Emergency Management Agency (FEMA) in their Flood Insurance Study (FIS) and assessed for reasonableness.

The drainage area will be delineated based upon USGS Topographic mapping, which may not account for some of the unique underground connectivity of waterways in this region, but any additional information that can be publicly found or provided to MMI will be used to refine the delineation to be as accurate as possible.

Geomorphic Analysis

As with many channels in forested areas, the upstream and downstream reaches have considerable woody material in and along the banks adding to habitat. Our geomorphic analysis of the project site will consider the river's shape and form as a function of natural process. We use empirical site data and theoretical assessments to help ensure the final channel through the former impoundment has the proper slope, width, depth, and alignment to be stable, enable fish passage, and has favorable habitat.

Hydraulic Modeling

Hydraulic modeling using the newly released Version 5.0.3 of HEC-RAS is proposed. HEC-RAS enables evaluation of existing and future proposed conditions relative to water surface elevation, velocity, and shear stress throughout the study area to appropriately evaluate fish passage, sediment stability, and infrastructure scour susceptibility.

Because the Jenkins Pond Dam impounds water for almost 2 miles upstream, a significant amount of bathymetric survey would be required to develop new hydraulic modeling of the impounded area. However, since the Federal Emergency Management Agency (FEMA) has studied the river in detail, with a Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) recently revised as November 2016, a significant amount of information can be utilized for the feasibility assessment. For a nominal fee, the technical backup data can be requested from FEMA. Such data is typically in a deprecated format, often over 30 years old; however, it can be converted and utilized to recreate the hydraulic modeling used by FEMA, which includes cross sections within the impoundment.

We propose that the FEMA hydraulic information be obtained, converted, updated, and utilized to represent the current conditions of the impoundment. Then the modeling will be modified to reflect the proposed site modifications associated with each alternative to evaluate hydraulic changes and potential impacts.

Post-Dam Impoundment Restoration

An important step in the dam removal process is understanding and predicting how the river will behave as it flows across the bottom of the former impoundment. Milone & MacBroom researched and developed a predictive model to assess post-dam removal channels and we have used it successfully in the recent removal of the Plymco Dam in Massachusetts (2014 and 2015) and Ed Bills Dam in Lyme, Connecticut (2015). This provides guidance as to whether or not to intervene and create a new channel across the impoundment or allow the river to heal by itself.

During sediment probing, we will seek to locate the pre-dam channel and map the pond bottom to assess where the post-dam channel is likely to be and if it is acceptable. If needed, landscaping and planting plans can be developed by our certified ecologists. After dam breach or removal, rivers respond by having an increased gradient due to the lower downstream water level. The response is predicted by reviewing stream processes such as scour and deposition potential, which are driven by the available level of energy, called specific stream power (SSP). This will be an integral part of our design analysis.

Sediment Management

Dams and their impoundments often trap and impound sediment. Even a minor release over a short period of time can cover downstream channel substrate in low-velocity zones. Our sediment management strategies include natural processes (allow erosion of clean material if it will not harm downstream areas); regulated slow release (gradual breach and water drawn down to

encourage slow sediment release); limited sediment removal (remove hot spots or pre-form a channel across the pool bottom); relocation (move and relocate sediment, on site, within the footprint of the dry pool site); excavate and remove (usually reserved for contaminated material or excessive volumes); or stabilize in place. Nevertheless, Milone & MacBroom will inspect the pond from the water and probe the bottom to confirm if and where sediments are present. Sampling of significant deposits may be appropriate.

Protection of Wetlands and Aquatic Life / Invasive Species Management

Inland wetlands and watercourses are regulated at the local, state, and federal levels. While dam removal is widely recognized as providing a positive benefit to aquatic communities and ecosystems, great care must be taken to ensure that: (1) the removal occurs in a manner that does not harm downstream aquatic life or riparian ecology; (2) the channel is designed appropriately to carry low and high flows that support fish passage while protecting against head cutting and erosion; and (3) long-term riparian corridor health is maintained through the prevention of widespread invasive species.

Reducing water levels is likely to influence adjacent wetlands, particularly those located on alluvial sediments deposited in the original elongated pool and adjacent areas with permeable soils. MMI ecologists will inspect wetlands and their vegetation, review wetland and soil maps, and search databases for rare or endangered species. Of special concern are the potential for invasive species and the need for invasive control plans.

Public Outreach

Public outreach is often an important element of dam removal projects. Our public outreach approach has five elements: (1) collection of data; (2) understanding of the needs of the stakeholders and of the project; (3) acquiring knowledge of how to produce the maximum results with the available budget; (4) choosing the right communication tools; and (5) appropriately distributing findings and recommendations. Using these tools, the project team can implement comprehensive community relations programs and carry out specific short-term outreach activities.

We pride ourselves in presenting technical information, listening to project stakeholders and the public, and providing feedback in an understandable format. We prepare presentations that allow us to describe our technical work in language that the general public can understand. The team is experienced in preparing presentation materials including PowerPoint, Photo Shop, and artistic renderings.

SCOPE OF WORK

The following tasks are proposed based on information presented in the RFP, a field visit by Milone & MacBroom, and our background and experience at similar dam removal feasibility studies.

Task 1: Project Management

We recognize that TNC values open and frequent communication, and we have budgeted sufficient time for such purpose. Throughout the course of this project, the Milone & MacBroom project manager will coordinate project tasks; perform project-related managerial tasks; receive and execute direction from TNC; schedule work; maintain project records, technical data, drawings, and reports; maintain financial records; and coordinate with project partners. The following specific tasks are proposed under this task:

1.1 Project Kick-Off – At the outset of this project, Milone & MacBroom will participate in an initial project kick-off meeting with TNC, Project Partners (DER & DMF), and the dam owner to confirm project vision, goals and objectives; establish a detailed project schedule; and set interim submission dates. We assume this meeting will be held on site in Bridgewater. In preparation for the meeting, a project plan and schedule will be prepared that details work activities, sequence of events/milestones, and submittal of deliverables. The plan and schedule will be updated during the course of the contract.

1.2 Project Coordination – Provide ongoing coordination with TNC and project stakeholders throughout the project, both formally and informally through phone calls, email, and written updates. Integrate outcome of coordination into work products.

1.3 Conference Calls – Arrange for periodic conference calls with TNC and others as appropriate throughout the project. This scope assumes two conference calls per month beginning in April 2017 through August 2017.

1.4 Monthly Project Updates – A brief project status update will be prepared each month that summarizes progress, critical issues, interim submission dates, and overall schedule. The project is anticipated to begin in April 2017 and conclude in August 2017.

1.5 Project Coordination Meetings – Project team members will attend one project planning meeting in addition to the kick-off meeting in Task 1.1. The meeting will be scheduled following completion of data collection, hydrologic and hydraulic analysis, and upstream infrastructure evaluation and prior to the alternatives analysis. This scope assumes that two team members will attend in person and one additional team member will be available by conference call.

1.6 Maintenance of Project Files – Milone & MacBroom maintains a full-time IT Director and a paperless filing system that is backed up and stored on a daily basis. We have web capabilities for the transfer and sharing of large files and databases, which we make available to all of our clients at no cost. Throughout the course of this project, we will maintain files for work product, including reports, plans, correspondence, meeting notes, drawings, and laboratory results. Such files will be transferred to TNC and DER upon project completion. Reports and compiled final work product will be provided in pdf format. Project base mapping and preliminary design will be provided in pdf and AutoCAD format. Modeling input and output data will be provided as well.

Task 1 Deliverables

- Project Plan and Schedule
- Monthly Updates
- Meeting Summaries
- Project Files

Task 2: Data Collection and Site Investigations

2.1 Review of Existing Resource Materials – A significant amount of data has been collected and reviewed during the proposal preparation. Under this task, additional data, mapping, reports, and information will be collected and reviewed as available from TNC, DER, DMF, the Town of Bridgewater, utility providers, other project partners and stakeholders, and state

agencies. This information may include dam inspection reports, bridge construction plans, past studies, watershed history, information regarding abutting property owners, information on historical diadromous fish runs and/or fisheries, threatened or endangered species, existing archeological or historical reports, mapping of the project area, aerial photographs, natural resource information, geologic data and mapping, hydrologic data and analysis, fisheries data, FEMA data, modeling, and reporting, and sediment data. A resource listing will be developed. As part of data collection, Sanborn Fire Insurance maps will also be reviewed for the area in order to identify the industrial processes of the historic Bridgewater Iron Works along this reach of the Town River.

2.2 Identification of Wetlands and Resource Areas – A Milone & MacBroom wetland scientist will identify, characterize, and flag resource areas within the immediate vicinity of the dam subject to the provisions of the Rules and Regulations of the Massachusetts Wetlands Protection Act and Section 404 of the Clean Water Act. Wetlands will be delineated using the methodology provided in the United States Army Corps of Engineers (USACE) *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. Resource area boundaries and flags will be collecting using handheld GPS and incorporated into project base mapping. This task includes establishment of data plots and completion of USACE wetland data forms. Wetland delineation will extend from approximately 100 feet downstream of the dam to approximately 500 feet upstream of the High Street Bridge. Wetland scientists will visually assess and characterize wetlands within the immediate project area. USACE transect forms will be completed, and a GIS map of depicting wetland community types will be prepared along with a brief wetland report for future use in MEPA filing.

2.3 Topographic and Bathymetric Survey – Undertake topographic survey of the immediate dam area, appurtenances, the High Street Bridge, and the impoundment between the dam and High Street. Survey will include several cross sections within the river channel, and visible utilities sufficient for feasibility assessment, including potential construction access and staging areas. The survey will be completed in horizontal datum NAD 83 and vertical datum NAVD 88. At this phase of work, survey of the full impoundment upstream of High Street is not included as it extends approximately 2 miles. Additional survey may be warranted in future advanced phases of engineering design but is not believed to be essential for feasibility assessment.

2.4 Impoundment Investigation – Perform an assessment of the impoundment upstream of the dam by boat. Photo document the condition of the banks, vegetation, flow control structures, intakes, discharges, tributaries, and infrastructure that are nearby or affected by the impoundment or its drawdown. Sediment probing will be completed in the impoundment to refusal sufficient for sediment depth mapping, quantifying the volume of mobile sediment above the dam, identifying the top of the impoundment, and as input for hydraulic and sediment transport modeling. Up to three composite sediment samples will be collected from inside the impoundment and taken to a laboratory for grain size analysis for use in evaluating sediment transport. Quantification of impounded sediment volume will be computed following field investigations.

2.5 Assessment of Site Features – Perform a visual inspection of the dam and areas surrounding the dam, High Street Bridge, and downstream channel. Site inspection will include the dam, the retaining walls, the surrounding riparian corridor, visible infrastructure,

and adjacent properties. Up to two pebble counts will be conducted downstream of the dam to characterize the sediment in the free-flowing channel. Geomorphic assessment of the channel immediately downstream of the dam and upstream beyond the influence of the impoundment will be performed to the extent that natural segments of channel can be found. Bankfull width and depth will be field verified and compared to regional hydraulic geometry curves. The streambed and banks, riparian cover, and channel structure will be noted. Assess the construction of the dam; and measure the spillway height, width, depth, and geometry. Measure and photo document low flow controls and outlet works. Identify and record visible utilities or other barriers to construction access to the dam and spillway.

2.6 Project Base Mapping – Using MassGIS LiDAR data and field survey collected in Task 2.3, a base map will be compiled at a scale of 1"=40' with field topography with 1' contour intervals and LiDAR data with 2' contour intervals. Base mapping will include detail on the dam site, High Street Bridge and the impoundment between. The LiDAR will extend from the downstream bridges at Oak Street through the impoundment approximately 2 miles to the bridges at Route 28 and the tributary bridges at Route 106.

2.7 Technical Memorandum – Summarize existing conditions in a brief technical memorandum. An initial assessment will be made of potential impacts of dam removal on adjacent infrastructure, utilities, and properties; potential stream morphology and habitat characteristics following restoration; potential impact of dam removal on adjacent resource areas; and potential extent of stream headcut following dam removal. This initial assessment will be examined further and quantified as the analysis and design proceeds.

Task 2 Deliverables

- List of Resource Information
- Project Base and Bathymetric Mapping in electronic (pdf) and AutoCAD (dwg) format
- USACE Wetland Determination Forms and GIS Mapping Depicting Wetland Community Types
- Technical Memorandum (summarizing existing conditions, base mapping, and quantification of impounded sediment volume)

Task 3: Hydrologic and Hydraulic Analysis

3.1. Hydrologic Assessment – The contributing watershed of the Town River at the Jenkins Pond Dam is approximately 55 square miles, although this is subject to further verification. Under this task, the contributing watershed will be checked using available MassGIS drainage basin shapefiles, USGS *StreamStats* data, and review of USGS quadrangle maps. USGS *Streamstats* will be run, although it is anticipated that the results will be invalid due to the unique geology of Eastern Massachusetts. FEMA flow information will be collected from the Flood Insurance Study (FIS). A Bulletin 17b assessment will be run using the HEC-SSP software package for the four available gauges nearby, and the results will be transferred to the site and compared with the other available peak flow information. Low flow information will be obtained from the Taunton River Gauge downstream of the site and transferred to the site using the watershed transfer location.

3.2. Existing Conditions Hydraulic Modeling – Develop an Existing Conditions hydraulic model using the USACE HEC-RAS software and the technical data collected from FEMA. This may involve converting a deprecated model such as HEC-2 to HEC-RAS. A FEMA Duplicate

Effective model will be created. The model will then be copied to an Existing Conditions Model and modified, if necessary, to correct any errors or add additional cross sections necessary to model dam removal. If additional data is required, the model will be supplemented using available LIDAR data.

3.3. Proposed Conditions Modeling – Develop concept alternatives to the extent necessary to model proposed conditions and evaluate potential changes in velocity and water surface elevation. Modeling will assess predicted water depths, velocities, shear, and water surface profiles over the range of flows assessed in Task 3.1. Modeling results will be evaluated relative to potential sediment transport, effect on water quality, and fish passage as well as aquatic habitat improvements. The analysis will inform the Feasibility Analysis.

3.4. Sediment Stability Assessment – Following characterization of channel bed material through grain size analysis and pebble counts as well as geomorphic assessment of the stream channel, utilize the results of proposed conditions HEC-RAS output to evaluate shear stress and compare against the resistance of the existing and anticipated post-construction bed material. Results will also be compared to an upstream reference channel reach. Subsequently, the SAM module within HEC-RAS will be used to model sediment transport. Such an analysis will inform spillway removal design as well as channel design relative to long-term stability and control of downstream sediment transport. Sediment and channel stability surrounding physical structures that are to remain (such as walls) will be included in this assessment.

3.5. Technical Memorandum – Prepare draft and final technical memoranda to summarizes the hydraulic and hydrologic assessment and key findings and data relative to preliminary design specifics.

Task 3 Deliverables

- Digital HEC-RAS Model Input and Output Files (editable non-pdf version)

Task 4: Sediment Sampling, Analysis, and Management Plan

Sediment sampling for chemical analysis will be completed under this task. Five sediment samples from within the impoundment will be collected and tested at a State of Massachusetts certified testing laboratory. The results will be evaluated by a Milone & MacBroom Licensed Environmental Professional. This task will occur in consultation with, and include field assistance from TNC and DER staff.

4.1. Review Existing Information – Review existing data, mapping, and information provided by TNC and DER and review for potential sources of sediment contamination in the upstream watershed to inform analysis and management. Based upon the historic use of the site, it may be necessary to test the material downstream of the dam. This will be further evaluated upon review of historical information and mapping.

4.2. Estimate Mobile Sediment – Based upon field data, observations, and computations developed as part of Tasks 2.4 and 2.6 and modeling under Task 4, estimate the total and mobile portion of impounded sediment to inform sample collection and design alternatives.

4.3. Sediment Testing Plan – Develop a sediment testing plan to assess sediment quality, including grain size distribution and quantity following guidelines in 314 CMR 9.00. The Plan will identify proposed locations and methods of investigations, and parameters to be tested.

4.4. Sediment Chemical Sampling – Collect five sediment samples in accordance with the approved sediment testing plan. Samples will be collected by boat using clear lexan tubing driven into the soft sediments. The tubing is contained within a steel housing to facilitate penetration of the tubing to the firmer, natural river bed, if encountered. The samples will be composited vertically and placed into appropriately labelled laboratory containers. All samples will be placed on ice following sampling. The samples will be delivered to a Massachusetts certified environmental testing laboratory and each sample will be analyzed for the following constituents:

- Heavy Metals (Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, and Zinc)
- Polyaromatic Hydrocarbons
- Polychlorinated biphenyls
- Extractable Petroleum Hydrocarbons (EPH)
- Organo-Chlorine Pesticides
- Total Organic Carbon
- Percent Water
- Grain Size (Sieve Nos. 4, 10, 40, 60, 200)

Lab detection limits will meet those found in 314 CMR 9.07(2)(b)(6).

4.5. Sediment Sampling Analysis Memorandum – Present the results of the sediment evaluation in a memorandum in draft format for partner comment, prior to finalizing.

Task 4 Deliverables

- Draft and Final Sediment Sampling Plan
- Chain of Custody Forms
- Lab Results (pdf and Microsoft excel formats)
- Draft and Final Sediment Sampling Analysis Memorandum

Task 5: Upstream Infrastructure Evaluation

5.1 High Street Bridge investigation – Perform an investigation of the four stone culverts under High Street for the main stem of river flow. It is assumed that this work will be performed after June 30, 2017 when the water levels may be drawn down by the removal of the boards at the upstream end of the right-hand side channel. This work may be conducted from a boat or with the use of waders depending on the depth of water after the drawdown. This investigation will be performed by a structural bridge engineer and a geotechnical engineer, with a focus on bridge scour. An investigation of the precast concrete culvert under High Street to the southern channel will also be included as part of this task. Information relative to the existing utilities in High Street will also be collected, including the utility pipe visible on the surface of the shoulder on the east side of High Street. Photograph and probe/measure the abutment, piers, and footings.

5.2 Lincoln Athletic Association Investigation – Perform a structural review of the Lincoln Athletic Association property as it relates to the Jenkins Pond Impoundment. The vertical stone masonry wall along the eastern face of the building and within 5 feet of the impoundment will be investigated by the same team and as part of Task 5.1. No invasive testing is proposed of the building materials. A visual investigation will also be performed of the building interior and floor slab.

5.3 Upstream Bridge Investigations – Based upon the FEMA profile of the study reach of Town River, the impoundment influences water surfaces for almost 2 miles upstream. The bridge at Route 28 on Town River is near the limit of this influence, as are the two bridges on Route 106 that convey tributaries of Town River. Field investigate these three stream crossings to evaluate foundation conditions and susceptibility to bridge scour as well as the opening size and shape. As part of this task, research the existing bridge plans from MassDOT District 5 offices. Photograph and probe/measure the abutment, piers, and footings.

5.4 Geotechnical Borings – Conduct a subsurface exploration program at the High Street Bridge crossing, near the Lincoln Athletic Association building and the dam abutments to establish subgrade conditions. The principle objective is to provide soils data including soil type and consistency, and ledge and/or groundwater depth. The program will include the following:

- A site visit by our Geotechnical Engineer prior to drilling to mark out boring locations and to investigate the site.
- A boring program to undertake two (2) Type B drilled borings at the bridge, one (1) at the Lincoln Athletic Association building and one (1) at the left dam abutment. Two days of drilling are assumed.
- Coordination of the services of the boring contractor to execute the program
- Collection of continuous split spoon samples from the borings extending 25 to 35 feet below grade
- Laboratory testing of the samples for grain size
- If bedrock is encountered, core to a depth of five (5) feet and establish rock quality designation (RQD).
- It is assumed that a police detail will be required for traffic control for the borings to be conducted in the roadway.

5.5 Evaluation of Impacts to Groundwater Elevations and Surface Water Withdrawals – Subsequent to alteration or removal of the dam, the local base level control for groundwater elevations (along the river) will change. This may affect water-table ponds and wells. Surface water intakes along the river could also be affected, if any exist along the golf course or the upstream impoundment.

Develop a simple, uncalibrated groundwater model to evaluate changes to groundwater elevations in the vicinity of the river subsequent to dam removal or alteration. Elevation data will be taken from existing LiDAR, FEMA FIS cross sections, and other existing information. Geologic data will be taken from existing geologic and hydrogeologic maps and reports.

Review records of surface water withdrawals from the river using Water Resources Management Act registrations and permit databases, and conduct reconnaissance-level

observations of such intakes. Potential impacts to intakes will be characterized, and potential improvements to intakes will be identified to maintain their viability. This task will be initiated prior to June 30, while the water levels are at the spillway level and will be completed after the flash boards are removed and the water levels within the impoundment have been drawn down several feet.

5.6 Technical Memorandum – Summarize infrastructure findings in a brief technical memorandum. This will elaborate on the initial assessment of potential impacts of dam removal on adjacent infrastructure, utilities, and properties, and possible stream headcut following dam removal. It will also include an analysis by our Geotechnical Engineer of the results of the borings.

Task 5 Deliverables

- Technical Memorandum

Task 6: Alternatives Analysis and Feasibility Report

6.1 Feasibility Study - Determine the feasibility of repairing, removing, or modifying the dam based on its current condition, sediment management options, fish passage needs, and the impacts to upstream infrastructure from changes to the impoundment water levels. The advantages and disadvantages will be evaluated for all three scenarios and will consider species, seasonal needs, swimming speeds, depth of flow, cover, and channel morphology. During the alternatives analysis the following four scenarios will be considered:

- No action
- Full Dam removal
- Partial Dam removal
- Repair or reconstruct the dam to maintain the current pool elevation – This alternative would include the feasibility of a new fish ladder to improve fish passage or a by-pass channel around the dam.

Among the factors to be considered in the alternative designs are:

- Costs opinions and benefits of no action, dam repair/reconstruction, full dam removal, and partial dam removal;
- Fish passage design(s) and restored river characteristics under variable flow conditions;
- Impacts to the Lincoln Athletic Association building and the High Street Bridge Culverts;
- Sediment management options.

6.2 Concept Design - Prepare Concept Design sketches for two of the alternatives identified in Task 6.1. The two preferred Concept Designs will be selected in consultation with the Project Team based on preliminary findings of the previous work phases. If a concept design for dam repair is selected, it will primarily focus on the method to achieve fish passage.

6.3 Alternatives Analysis meeting – Upon completion of Tasks 6.1, Milone & MacBroom will coordinate an alternatives analysis meeting with the TNC, DER, and the project partners to present the analysis. Copies of materials will be disseminated to the project partners, along

with meeting minutes and a summary of comments to be implemented in the Final Feasibility Report.

6.4 Final Report – Prepare draft and final report of Alternatives Analysis and Feasibility Report and compile all task deliverables.

6.5 Photo Rendering – Prepare one photo rendering/simulation of the preferred design alternative, as selected by the Project Team.

Task 6 Deliverables

- Draft and final copies of the Feasibility Study Report with Concept sketches and photo rendering.

SCHEDULE

The scope of services will be initiated based on completion of a fully executed contract between Milone & MacBroom and TNC and following issuance of Notice to Proceed by DER. A portion of the above scope will be completed prior to June 30, 2017, consistent with the TNC fiscal year. Additional scope elements are expected to extend through August 31, 2017.

D.2 Quinapoxet Dam, MA

Project Background

Site History: The Boston metropolitan area population grew rapidly through the end of the 19th century, in part due to the advent of indoor plumbing. Planners at the time had not anticipated this level of development and the water supply to the city became inadequate. Wachusett Reservoir was constructed in Clinton on the South Branch of the Nashua River in order to meet Boston's water supply needs for the first quarter of the 20th century. The work was completed in 1905 and the reservoir was filled in 1908. The seven square mile reservoir with 63 billion gallons of water doubled greater Boston's water supply system and at the time was the largest public water supply reservoir in the world.

The Quinapoxet River enters Wachusett Reservoir from the west where a semi-circular dam was constructed across the river in the Oakdale Village of West Boylston. The dam was constructed in the early 1900s as part of the Wachusett Reservoir construction project. The original 1902 design plans refer to the dam as "*the circular concrete dam on the Quinapoxet River, Wachusett Reservoir Section 10*." The Massachusetts Department of Conservation and Recreation (DCR) Office of Dam Safety (ODS) inventory of dams lists this dam as the Quinapoxet Accretion Dam – MA Dam #02523. The term "accretion dam" has created some confusion regarding the construction and original purpose of this dam.

Normally, dams are constructed across an existing river channel and the dam structure itself extends vertically above the stream bed to create an impoundment of water behind the dam above the normal stream channel elevation. This change in the river hydraulics slows the velocity of the river and subsequently causes any sediment that is carried in the river to settle out behind the dam as the velocity slows. Almost all dams therefore accumulate sediment in their impoundments. However, this is not the case with the Quinapoxet Accretion Dam.

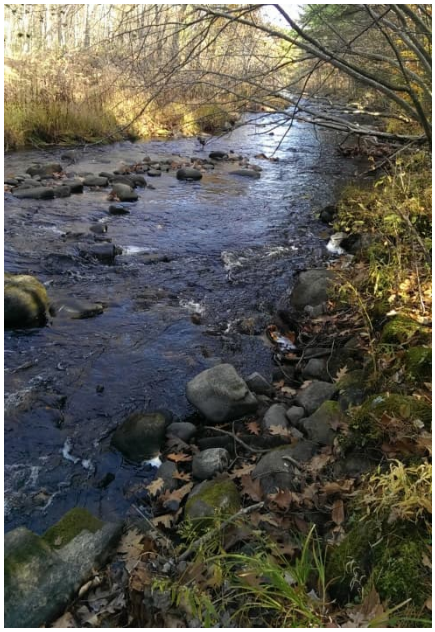
The Metropolitan Water and Sewerage Board annual reports from the early 20th century reference the following activities: *"excavating earth and gravel from shallow portions of the reservoir at Oakdale, for enlarging a portion of the channel of the Quinapoxet River west of the Worcester, Nashua, & Portland Division, building a concrete dam across the Quinapoxet River at the upper end of this channel."* Review of the original construction drawings, photo documentation, and the original channel profile shows that the crest of the Quinapoxet Dam spillway is only slightly higher than the channel upstream of the dam by a couple feet. This is evident in the photograph shown here where the spillway is near the same elevation as the rocky cobble streambed. The spillway height of nine feet was created by excavating and removing the channel *downstream* of the dam to the Wachusett Reservoir. The dam was constructed, not to impound and trap sediment upstream of the dam, but to allow lowering of the gradient of the downstream channel reach for the purpose of reducing velocities so that accretion could occur in the channel prior to entering the reservoir.

The original design intent of the Quinapoxet Dam is critical to understanding the next phase of investigation and design of dam removal alternatives. With a spillway constructed at essentially the upstream channel bed elevation, there is likely to be relatively little *accumulated* sediment upstream of the dam and therefore a reduced risk of high volumes of contaminated materials. In other words, much of the sediment that would usually be accumulated deposits is likely original stream bed. The exception is the area along the left bank which is now above the river elevation and vegetated.

Site Setting, Constraints, and Opportunities Relative to Dam Removal:

Physical and Hydraulic Setting – The Quinapoxet Dam is located due east of State Route 190 in West Boylston, Massachusetts, upstream of a series of sediment basins that were constructed along the Stillwater River. These downstream sediment basins overflow into the Wachusett Reservoir. As can be seen in the adjacent photograph, the Quinapoxet Dam is located amidst the picturesque setting of the MWRA's Oakdale Transfer Facility at the outlet of the Quabbin Aqueduct. The dam is a 250-foot long, 18-foot high earthen embankment and stone masonry structure. The most visually compelling component of the dam is its 135-foot long 9-foot high stone masonry and concrete arched spillway. The earthen embankment portion is limited to the right side, adjacent to the granite block transfer station.

The Mass Central Rail Trail is located on river left, approximately 100 feet from the dam. This is a very active recreational trail for walkers, bikers, and runners and is the primary vista to the site and the spillway.



The impoundment extends only 400 to 500 feet upstream of the dam. It is shallow and fairly narrow, which is not surprising given the history and construction. Approximately 1,000 feet upstream of the dam, flow splits around a vegetated island, where the river is free-flowing, with a rocky cobble bottom, shown in the photograph to the right. The river is located within an un-numbered FEMA designated floodplain and, based on a review of FEMA mapping, the entire area appears to be under the backwater influence of the downstream reservoir and sediment basins.

Project Approach

This section provides the specific approach for each element of the dam removal project.

Dam Removal Approach – It is likely that the 250-foot long earth embankment on river right will need to remain, since it is located upstream of the powerhouse and protects the building during flood events. The right spillway training wall is also contiguous with the shaft #1 aqueduct discharge and will also likely need to remain to protect and avoid destabilization of the powerhouse and tunnel. Removal of the spillway may require the structural buttressing of the right training wall with a concrete wall. Due to the critical infrastructure along the right bank and downstream of the dam, full dam removal may not be feasible at this site. It is a reasonable assumption that that the earth embankment or dike will need to remain to protect the powerhouse and aqueduct. Complete removal of the semi-circular spillway, however, is a more likely scenario. Removal of the spillway would allow for the full restoration of the river channel without any man-made obstructions. The left bank fishway and training wall also holds potential for removal without impacting the railroad embankment that is parallel to and left of the river. The short section of earth embankment to the left of the left training wall may be desirable to retain, as this may be an opportunity to provide public access to the river from the Mass Central Rail Trail which follows the old railroad embankment.

Also critical to the spillway removal design is that the downstream channel elevation will need to be maintained, since that is where the Quabbin Reservoir Aqueduct discharges. Therefore, the downstream channel cannot be filled. This leaves the option of carving the channel back into the upstream reach, while maintaining a fish passable slope, depth and velocity over a desirable range of flows. Bed material and armoring will need to be properly designed such that it will not be susceptible to erosion. Defining subsurface conditions will be critically important to the design.

A number of similarities exist between the Quinapoxet Dam site and the Briggsville Dam removal. At Briggsville, sediment had accumulated behind the dam, requiring the removal and management of a large quantity of sediment, and construction of a fish passable channel that was steep, with a great deal of stream power. While it is anticipated that much of the material behind the Quinapoxet Dam may be native, it too may need to be excavated, managed, and carefully designed to overcome slope and sediment management, while remaining fish passable.

Infrastructure and Utilities – Construction of the Wachusett Reservoir was a westward expansion of Boston's municipal water supply system at the turn of the 20th century. By 1919, there were

renewed concerns about potential water supply shortages for the city, and the Quabbin Reservoir, located further to the west, was constructed to meet those needs. The interconnection from Quabbin Reservoir was constructed and the aqueduct known as shaft #1 discharges to the Quinapoxet River channel just downstream of the semi-circular dam. The powerhouse and tunnel discharge infrastructure are all located immediately behind the earth embankment portion of the dam. This critical infrastructure will need to be incorporated into any dam removal scenario.

Construction Access – Vehicular access to the dam site is readily available from River Road, which is gated at its terminus (shown in the photograph to the right). Often access to a dam is limited to only one end and crossing the river with equipment is necessary to get to the other end of the dam. The Quinapoxet Dam site has the unusual benefit of easy access to both sides of the river and therefore both ends of the dam. River Road on river right would provide easy construction access to the Quabbin Shaft #1 powerhouse, which is located adjacent to right end of the dam. The Mass Central Rail Trail parallels the river on the left side and can be entered from Thomas Street only a few hundred feet downstream of the dam. Permission to use the Rail Trail will need to be investigated to determine its feasibility. If the trail is a viable construction access, it runs in very close proximity to the left end of the dam and provides access to the upstream channel along the old Whiting Place roadway. Whiting Place was abandoned during construction of the Quinapoxet Dam at the turn of the century and previously crossed the river a few hundred feet upstream of the dam. The old stone masonry bridge abutments are still visible at the river's edge. Consequently there is an old wood road along this alignment that runs from the river to the Rail Trail. Only some minor clearing of small trees would be required to utilize this old roadway.

Sediment Stability – Perhaps the most important element of a removal design at this site is the long-term stability of the channel. Determining whether the Quinapoxet River is a threshold channel will be a key initial step, requiring the channel material to be characterized through grain size analysis and/or pebble counts, analysis of shear stress in HEC-RAS, and comparison against the resistance of the post-construction bed material. This will provide a Yes/No answer relative to the erosion potential, using the relationship of shear (γrs) to $5D_{50}$. Such data analysis can then be compared to an upstream reference channel reach. Use of the SAM module within HEC-RAS will also be used to model sediment transport. While split flow analysis may be warranted upstream at the island, undertaking two-dimensional modeling at this site is not anticipated.

Sediment Management – Historical records indicate that the first manufacturing in the area of the Quinapoxet Dam was wire fabric and cotton cloth. Later it expanded to saw mills and cotton spinning. Whiting Mill (hence the road name Whiting Place) was the largest and last mill just upstream of the dam and reportedly manufactured cotton, light sheeting, and shoe drills. Typically, historical manufacturing raises a red flag relative to sediment quality. However, due to the unusual construction of the dam to maintain the upstream channel bed elevation at its historical elevation, there is likely to be minimal sediment accumulation behind the dam. The observed soil conditions indicate that the majority of the material has a grain size of gravel, cobbles and some boulders with lesser amounts of fine grain sediment. Due to the nature of the

material size, it may be advantageous to use a backhoe to excavate and sample the sediment. A backhoe could utilize the Mass Central Rail Trail and either gain access to the river at the left abutment of the dam or the historic Whiting Place wood road. This would allow sampling of the sediment along the left side of the river close to the dam. A number of test pits could be excavated working upstream along the left side of the river.

Dam Classification – The February 2007 dam inspection by Fuss & O'Neill identified the Quinapoxet Dam as a non-jurisdictional structure based upon an impoundment size of 4.5 acre-feet and a height of 9 feet. In June 2007, GZA conducted a more detailed Phase 1 dam inspection and reported the dam to be 18 feet high with 75 acre-feet of storage and therefore classified it as an intermediate size dam with a significant hazard potential. MMI's review of the two reports indicates that Fuss & O'Neil used the height of the *spillway* and not the height of the *dam* to compute impoundment size, and is incorrect. While the Office of Dam Safety database maintains the non-jurisdictional designation, MMI believes this to be in error, as the regulations do not allow for this designation for structures over 15 feet high or greater than 50 acre-feet of storage. This equates to a higher liability and a responsibility to conduct more frequent inspections. While the issue of dam designation does not materially affect its removal, it does place a greater sense of importance and urgency.

SCOPE OF WORK

The objectives of this project phase include completing preliminary feasibility investigation and engineering designs and assembling supporting materials (e.g. design report, cost estimate) in preparation for supporting the MEPA permit coordination process. The Scope of Work includes the following tasks and deliverables:

Task 1 – Project Management

MMI recognizes that DER values open and frequent communication and has budgeted sufficient time for such purpose. Throughout the course of this project, the MMI project manager will coordinate project tasks; perform project-related managerial tasks; receive and execute direction from DER; schedule work; maintain project records, technical data, drawings, and reports; maintain financial records; and coordinate with project partners. The following specific tasks are proposed under this task:

1.1 Project Kick-Off – At the outset of this project, MMI will participate in an initial project kick-off meeting with DER, Project Partners (including MWRA), and the dam owner (DCR) to confirm project vision, goals and objectives; establish a detailed project schedule; and set interim submission dates. MMI assumes this meeting will be held on site in West Boylston. In preparation for the meeting, a project plan and schedule will be prepared that details work activities, sequence of events/milestones, and submittal of deliverables. The plan and schedule will be updated during the course of the contract.

1.2 Project Coordination – Provide ongoing coordination with DER and project stakeholders throughout the project, both formally and informally through phone calls, email, and written updates. Integrate outcome of coordination into work products.

1.3 Conference Calls – Arrange for periodic conference calls with DER and others as appropriate throughout the project. This scope assumes two conference calls per month beginning in December 2014 through June 2015.

1.4 Monthly Project Updates – A brief project status update will be prepared each month that summarizes progress, critical issues, interim submission dates, and overall schedule. The project is anticipated to begin in December 2014 and conclude in June 2015.

1.5 Project Coordination Meetings – Project team members will attend two project planning meetings in addition to the kick-off meeting in Task 1.1. The first project meeting will be completed following submission of hydrologic and hydraulic analysis. The second meeting will be completed following submission of the preliminary design plans. This scope assumes that two team members will attend in person and one additional team member will be available by conference call.

Task 1 Deliverables

- Attendance at a Project kickoff meeting in West Boylston w/ copy of Attendance Sheet
- Project Plan and Schedule, with updates as necessary
- Monthly Updates
- Meeting Summaries
- Project Files

Task 2: Data Collection and Site Investigations

This task includes services as needed for MMI to synthesize existing information (e.g. DCR & MWRA reports and data, assessor's maps, DPW utility information, FEMA study, etc. as available), perform field data collection, and develop a project base map. Specific data collection activities will include:

2.1 Review of Existing Resource Materials / Due Diligence Review – A significant amount of data has been collected and reviewed during the proposal preparation. Under this task, additional data, mapping, reports, and information will be collected and reviewed as available from DER, MWRA, DCR, the Town of West Boylston, utility providers, other project partners and stakeholders, and state agencies. This information may include but is not limited to an analysis of records of the local Board of Health, Fire Department, and/or Department of Public Works, the Department's Bureau of Waste Site Cleanup, knowledge of historic land uses, information on prior dredging projects and discharges, dam inspection reports, bridge construction plans, past studies, watershed history, information regarding abutting property owners, information on historical diadromous fish runs and/or fisheries, threatened or endangered species, existing archeological or historical reports, mapping of the project area, aerial photographs, natural resource information, geologic data and mapping, hydrologic data and analysis, fisheries data, FEMA data, modeling, and reporting, and sediment data. MMI shall compile the necessary and relevant information related to the Quinapoxet Dam site and impoundment as per the directives of 314 CMR 9.07(2). A resource listing will be developed. As part of data collection, Sanborn Fire Insurance maps will also be obtained for the area in order to identify the industrial uses of the historic mills along this reach of the Quinapoxet River during the late 1800s. This information will be presented in the draft sampling plan (Task 3.4).

2.2 Identification of Wetlands and Resource Areas – An MMI wetland scientist will identify, characterize, and flag resource areas within the immediate vicinity of the dam subject to the provisions of the Rules and Regulations of the Massachusetts Wetlands Protection Act and Section 404 of the Clean Water Act. Wetlands will be delineated using the methodology provided in the U.S. Army Corps of Engineers (USACOE) *Interim Regional Supplement to*

the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. Resource area boundaries and flags will be collected using hand-held GPS, and incorporated into project base mapping. This task includes establishment of data plots and completion of USACE wetland data forms. Wetland delineation will extend from approximately 100 feet downstream of the dam to approximately 500 feet upstream. Wetland scientists will visually assess and characterize wetlands within the immediate project area. USACOE transect forms will be completed and a GIS map of depicting wetland community types will be prepared, along with a brief wetlands report for subsequent use in MEPA filing.

2.3 Topographic and Bathymetric Survey – Undertake topographic survey of the dam, appurtenances, and upstream impoundment, including approximately 10 cross sections within the river channel, and visible utilities sufficient for engineering design and permitting, including potential construction access and staging areas. Obtain MassGIS 2011 LiDAR elevation data to supplement field survey. The survey will be completed in horizontal datum NAD 83 and vertical datum NAVD 88.

2.4 Site Investigation – Perform a visual inspection of the Quinapoxet Dam and areas upstream and downstream of the dam. Site inspection will include the dam, the retaining walls, the surrounding riparian corridor, visible infrastructure, and adjacent properties. The streambed and banks, riparian cover, and channel structure will be noted. As part of the site investigation, undertake geomorphic assessment immediately downstream of the dam and upstream beyond the influence of the impoundment. Check actual bankfull width and depth and compare them to regional hydraulic geometry curves. Gain an initial understanding of channel form, sediment stability, and erosion-prone volume of fine grained sediments. Sediment probing will be completed in the impoundment to refusal, sufficient for sediment depth mapping, quantifying the volume of mobile sediment above the dam, identifying the top of the impoundment, and as input for hydraulic and sediment transport modeling. Pebble counts will be conducted and/or substrate material will be collected for use in evaluating sediment transport. Quantification of impounded sediment volume will be conducted following field investigations. As an optional task, in-water test pits could be undertaken, perhaps with an MRWA or DCR backhoe with observation by MMI staff, to better quantify sub-bed materials.

2.5 Test Pits – Coordinate and observe in-water test pits to better quantify sub-bed materials. The actual test pits will be undertaken by MRWA or DCR with observation by MMI staff.

2.6 Assessment of Site Features – An assessment will be made based upon data collected and visual field inspections relative to utilities, parcel lines, the dam and any surrounding infrastructure in the upstream and downstream areas that could be affected by the impoundment.

2.7 Project Base Mapping – Using MassGIS LiDAR data and field survey collected in Task 2.3, a base map will be compiled at a scale of 1” = 30’ feet with field topography with one foot contour intervals and LiDAR data with 2 foot contour intervals. Base mapping will include detail on the dam as well as a longitudinal profile of the riverbed beginning downstream of the dam and extending upstream of the extent of the impoundment.

2.8 Technical Memorandum – Summarize existing conditions in a brief technical memorandum. An initial assessment will be made of potential impacts of dam removal on adjacent

infrastructure, utilities, and properties, potential stream morphology and habitat characteristics following restoration; potential impact of dam removal on adjacent resource areas; and potential extent of stream head-cut following dam removal. This initial assessment will be examined further and quantified as the analysis and design proceeds.

Task 2 Deliverables

- List of Resource Information (pdf)
- Project Base and Bathymetric Mapping in electronic (pdf) and AutoCAD (DWG) format
- USACE Wetland Determination Forms and GIS Mapping Depicting Wetland Community Types
- Technical Memorandum (summarizing existing conditions, base mapping, and quantification of impounded sediment volume)
- All field data in native format and notes

Task 3: Sediment Sampling Analysis and Management Plan

Sediment sampling and chemical analysis shall be completed under this task. The results will be evaluated by an MMI Licensed Environmental Professional. The sediment sampling will be predicated upon the results of the sediment volume quantification and assessment in Task 2. This task will occur in consultation with and include field assistance from DER staff.

3.1 Review Existing Information – Review existing data, mapping, and information provided by MWRA, including MWRA's Due Diligence Review and review for potential sources of sediment contamination in the upstream watershed to inform analysis and management. Based upon the historic use of the site, it may be necessary to test the material downstream of the dam. This will be further evaluated upon review of historical information and mapping.

3.2 Estimate Mobile Sediment – Based upon field data, observations, and computations developed as part of tasks 2.4 and 2.5 and modeling under Task 4, estimate the total and mobile portion of impounded sediment to inform sample collection and design alternatives.

3.3 Sediment Transport Assessment – At a conceptual level, analyze the transport capabilities and mobility of sediment after dam removal with the goal of assessing the fate, transport, and disposal options of impounded sediment and understanding the volume of sediment transported over time. We recommend that this task be conducted in parallel with Task 4, such that it can be informed by the sediment transport analysis to be undertaken from a modeling perspective. Appropriate management options will be identified based on sediment quality and quantity, as well as the sensitive project setting. The cost and feasibility of each option will be analyzed, recognizing that sediment management must consider the sensitive drinking water supply in the downstream reservoir.

3.4 Sediment Testing Plan – Develop a sediment testing plan to assess sediment quality, including grain size distribution and quantity following guidelines in 314 CMR 9.00. The Plan will identify proposed locations and methods of investigations, and parameters to be tested. It is anticipated that DER will coordinate with DEP and their review. Based on comments received, a final sediment testing plan will be prepared.

3.5 Sediment Sampling - Collect sediment samples in accordance with the approved sediment testing plan. Samples will be collected by advancing a hand augur through the sediment until refusal is encountered. The samples will be composited vertically and placed into

appropriately labelled laboratory containers. All samples will be placed on ice following sampling. The samples will be delivered to a Massachusetts certified laboratory and the each sample will be analyzed for the following:

- Heavy Metals (Arsenic, Cadmium, Chromium III and VI, Copper, Lead, Mercury, Nickel, and Zinc)
- Polyaromatic Hydrocarbons
- Polychlorinated biphenyls
- Extractable Petroleum Hydrocarbons (EPH)
- Organo-Chlorine Pesticides
- Total Organic Carbon
- Percent Water
- Grain Size (Sieve Nos. 4, 10, 40, 60, 200)

Lab detection limits will meet or exceed those found in 314 CMR 9.07(2)(b)(6). The sampling plan will include background sample locations upstream of the dam and impoundment as well as downstream locations.

3.6 Technical Memorandum – Present the sediment management plan in a Draft Technical Memorandum for partner comment. (Task 4.5)

Task 3 Deliverables

- Draft and Final Sediment Sampling Plan (pdf)

If optional task executed the following deliverables will be provided:

- Chain of Custody Forms (pdf)
- Lab Results (pdf and MX excel formats)
- Draft and Final Sediment Sampling Analysis Memorandum (pdf)

Task* 4: *Hydrologic and Hydraulic Analysis

4.1 Hydrologic Assessment – The contributing watershed to the Quinapoxet Dam is 57 square miles. Hydrologic data includes ten years of data collected at the USGS stream gauging station on the Quinapoxet River in Holden, Massachusetts. Under this task, the contributing watershed will be delineated using available MassGIS drainage basin shapefiles, USGS *StreamStats* data, and review of USGS quadrangle maps. Using the Wandles Eastern Massachusetts regression equation, we will also compute the estimated flows at the project site for typical low flows, bankfull flows, 5-year, 10-year, and 100-year storm return frequency events.

4.2 Existing Conditions Hydraulic Modeling – Develop an Existing Conditions hydraulic model using the Corps of Engineer's Hydraulic Engineering Center River Analysis System (HEC-RAS) software and stream cross sections and survey collected under Task 2.

4.3 Proposed Conditions Modeling – Develop concept alternatives to the extent necessary to model a range of proposed conditions to evaluate potential changes in velocity and water surface elevation. Modeling will assess predicted water depths, velocities, and water surface profiles over the range of flows assessed in Task 4.1. Modeling results will be evaluated relative to potential sediment transport, effect on water quality, and fish passage for trout and landlocked salmon as well as aquatic habitat improvements. The analysis will inform the preliminary design in Task 5.

4.4 Sediment Stability Assessment – Following characterization of channel bed material through grain size analysis and pebble counts as well as geomorphic assessment of the stream channel, utilize the results of proposed conditions HEC-RAS output to evaluate shear stress and compare against the resistance of the existing and anticipated post-construction bed material. Results will also be compared to an upstream reference channel reach. Subsequently, the SAM module within HEC-RAS will be used to model sediment transport. Such an analysis will inform spillway removal design as well as channel design relative to long-term stability and control of downstream sediment transport. Sediment and channel stability surrounding physical structures that are to remain (such as walls) will be included in this assessment.

4.5 Technical Memorandum – Prepare draft and final technical memoranda to summarizes the H&H assessment and key findings and data relative to preliminary design specifics.

Task 4 Deliverables

- Digital HEC-RAS Model Input and Output Files (editable non-pdf version)
- Draft and Final Modeling and Sediment Stability Assessment Technical Memoranda, including sediment management plan (pdf)

Task 5: Engineering Design Preliminary engineering designs, construction cost estimates, and basis of design memorandum as necessary for supporting the MEPA permit coordination process shall be completed under this task.

5.1 Preliminary Design Plans – Following consensus on the design approach, prepare preliminary design plans (to approximate 50% completion) suitable to begin project permitting. Plans will depict proposed removals, channel restoration measures and any scour countermeasures, stabilization measures, and will include regulated resource area lines including bordering vegetated wetlands, inland bank, ordinary high water, lands subject to flooding, and land under water.

5.2 Opinion of Probable Construction Cost – Prepare a preliminary opinion of probable construction cost.

5.3 Basis of Design Memorandum – Prepare a brief basis of design memorandum that describes and conveys the design intent, rationale, and design computations, suitable for submittal with the MEPA filing. This memorandum will build upon the technical memorandums prepared under prior tasks.

5.4 Submittal – Submit electronic (pdf) and two (2) hard copies of the preliminary design plans and memorandum.

Task 5 Deliverables

- Draft and Final Preliminary Design Plans (pdf)
- Draft and Final Basis of Design Memorandum and Opinion of Probable Construction Cost (pdf)

SCHEDULE

- The Scope of Services will be initiated based on completion of a fully executed contract between Milone & MacBroom and the Department of Fish and Game, Division of Ecological Restoration and following issuance of Notice to Proceed by DER. Figure 1 provides the schedule by tasks as outlined above. All deliverables will be submitted in final form no later than June 30, 2015.

E. References

Reference Project 1: High St Dam Decommissioning, Bridgewater, MA

Over the life of the Town River in Bridgewater, MA there have been many significant changes to adapt to the needs of the people. In 1850 a bridge was built across the river to connect peoples living on both sides of the river. In 1919, a dam was constructed (known as the High Street Dam) to supply hydro-

energy to a local mill. Both of these projects, which were useful at their time of construction, in 2018 were seen as hazards to the wildlife and community.

SLR was initially commissioned by The Nature Conservancy (TNC) to conduct a feasibility analysis for the removal of High Street Dam and the restoration of the 2.5-mile impounded portion of the Town River.

SLR concluded that the removal of the dam and restoring the riverbed would provide significant benefit to the community (improving flood resiliency) and improve herring and other fish's ability to access the Atlantic Ocean to spawn. However, with the removal of the dam, SLR identified that structural integrity of High Street Bridge (located 150 feet upriver of the dam) would be significantly impacted.

SLR began work on developing a feasibility plan that would address both the High Street Dam and High Street Bridge, knowing that addressing one without addressing the other would leave the community vulnerable to potentially sudden and catastrophic failure.

Solution

Knowing that the dam was slated to be removed, SLR worked with the Town of Bridgewater to address and design a modern replacement for the High Street Bridge.

The replacement structure was designed to be a 55-foot span steel girder bridge with reinforced

concrete deck. The bridge would be founded on cast-in-place abutments supported by drilled shafts socketed into the bedrock. The modern bridge was designed with climate resilience in mind, able to withstand 500-year-floods.

When the design for the new bridge was approved, SLR continued to support the project by helping the town apply for federal funding for the project and oversaw construction of the bridge.

Impact

The project was completed with both the dam removed and the new bridge completed in November 2023.

The Town River, no longer impeded by the old bridge and dam, is modernized to meet the needs of the community. Fish and canoers are now able to travel through the area without issue, the properties around Town River are at significantly less risk of flooding, and the area is now prepared for another 150 years of use.

Client Reference

Michael Dutton
Town Manager
Town of Bridgewater, 66 Central Square
Bridgewater, MA 02324
(508) 697-0919 Ext. 1285
mdutton@braintreema.org

Reference Project 2: Stevenot Reservoir – CA

Stevenot Dam is a freshwater reservoir under the jurisdiction of the California Division of Safety of Dams (DSOD).

It is an approximate 60-foot tall earth embankment dam built in 1987, to provide water for mining operations in the area. With its main dam and its saddle dam, it impounds 150 AF and is fed by water purchased from Union Public Utility District.

A concrete-encased, 18-inch diameter steel pipe at the dam foundation level serves as both an inlet and an outlet, with associated valves and hydraulic controls. Based on its seismic stability considerations and other factors, its Hazard Class is ranked as Significant. In 2023, the slide gate valve at the pond bottom experienced a malfunction.

Our Role

SLR has provided a wide range of services for this dam. Geotechnical engineering services assessed its static and seismic stability. Monitoring program has been developed to obtain quarterly readings of the piezometers, checking the functioning of chimney drain and measuring subdrain flows of the dam which was constructed in an area of underground springs. The monitoring program also includes survey of pond levels, visual condition assessments, and checking InSAR (satellite) measurements of ground movements on and around the dam. SLR executed a Failure Mode and Effects Analysis (FMEA), including facilitation of a workshop. SLR's inundation analysis assessed the potential impacts of a theoretical catastrophic failure on the downstream portions of Carson Creek. For this study, HEC_RAS modeling of inundation and HEC_HMS modeling of flood wave hydrographs were developed. To diagnose the deficiencies related to valve malfunctioning at the pond bottom, SLR used an underwater

Remote Operated Vehicle (ROV) and based on inspection results made repair recommendations. We have also performed an alternatives study, looking at various options including repairs, dam removal, and permanent lowering of the pond to achieve non jurisdictional status.

Services

- Geotechnical Engineering
- Inundation Study
- Failure Modes and Effects Analysis
- Assessment of Dam Controls
- Inspection and Monitoring
- Underwater ROV Inspection
- Reporting

Highlights

- SLR's comprehensive engineering services is providing valuable input to help our client formulate the optimum solution and risk management strategies for this dam.

Client Reference

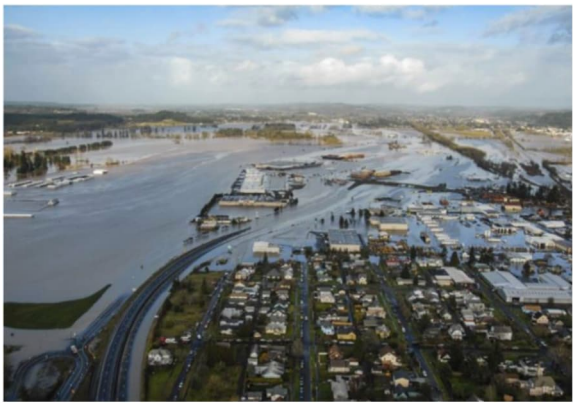
BHP
Tenaya Brown, P.Eng.
PO Box 790
Miami, Arizona 85539
(775) 737-8893
tenaya.brown@bhp.com

Reference Project 3: Chehalis River Flood Strategy and Investment Plan, City and Portk of Chehalis, WA

Working with the City of Chehalis, Port of Chehalis, and Chehalis River Basin Flood Authority to assess and develop a focused project framework for sustainable and resilient actions for flood risk reduction and management. The study includes the assessment of the Chehalis River, Dillenbaugh Creek, Dilly Twig Creek, Berwick Creek, and the Newaukum River.

Project activities include the following:

- Gathering and analysis of background data on historic, existing, and future conditions flooding and hazards as well as current risk and flood management or action plans and practices
- Identifying priority action and high-risk areas
- Field and desktop assessments of priority areas and areas of concern
- Hydrology and hydraulic analysis
- Developing recommended flood risk reduction measures, planning or policy changes, and management actions such as emergency action or response planning
- Action benefit cost analysis
- Public outreach and workshops
- Agency and stakeholder outreach and coordination



Our Services

- Landowner and Public Outreach
- Geomorphic assessment
- Hydraulic assessment
- Flood risk reduction planning and
- Management

Client Reference
Celest Wilder, CFM
Capital Improvement Project Manager
City of Chehalis Public Works
2007 NE Kresky Avenue
Chehalis, WA 98532
360-748-0238
cwilder@ci.chehalis.wa.us

Reference Project 4: Quinapoxet Project

SLR was retained by the Massachusetts Division of Ecological Restoration (MA DER) to conduct an initial feasibility study and provide hydraulic modeling for the removal of the Quinapoxet Dam. The dam is a 250 foot long, 18-foot-high earthen embankment and stone masonry structure. The most visually compelling component of the dam is its 135-foot-long foot high stone masonry and concrete arched spillway.

Project goals included fish passage and wildlife restoration, naturalization of riverine hydrology, sediment management, and protection of water quality. Preliminary design plans were prepared for three dam removal scenarios, without causing impact to the Massachusetts Water Resources Authority (MWRA) water supply operations connecting the Quabbin Reservoir to the Wachusett Reservoir.

SLR is currently retained by MWRA to prepare design plans and regulatory permits to remove the existing dam. A portion of the project will result in the conversion of land under water to bordering vegetated wetlands.

Services

- Survey & Mapping
- Engineering
- Wetland Delineation
- Hydrologic & Hydraulic

- Analysis
- Sediment Analysis
- Management

Client Reference

John Gregoire
Program Manager, Reservoir Operations
Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129
617-799-8855 (C)
508-424.3608 (O)
john.gregoire@mwra.com

F. Cost Proposal

SLR understands that this budget proposed here is nonbinding and we'll be glad to discuss and negotiate with the County as indicated in the RFP.

TASK	SLR Total Hours	SLR Expenses	SLR Cost $	Subconsultant Lamphier Gregory/$210 per hour		Subconsultant Dabri, Inc./$210 per hour		Subconsultant Aanko Technologies, Inc./$210 per hour		Lamphier Gregory Cost $	Dabri Cost $	Aanko Cost $	Project Total Hours	Estimated Fees
				Hours	Lamphier Expenses	Hours	Dabri Expenses	Hours	Aanko Expenses					
Task A - Assessment of Potential Impacts of Dam Removal to Lake County Resources														
A.1 Recreation	48	$200	$8,120									$0	48	$8,120
A.2 Wildfire Supression	8		$2,120										8	$2,120
A3. Ecosystem	80		$18,800	16	$200					$3,560			96.0	$22,360
A.4 Power	8		$2,120			40	$200	86	$200		$8,600	$18,060	48	$10,720
A.5 Sediment	40		$10,600										40	$10,600
A.6 Water Supply	40		$10,600										40	$10,600
A.7 Infrastructure	66		$12,930			32					$6,720		98	$19,650
A.8 Other	40		$10,600	24						$5,040			64	$15,640
Subtotal	330		$75,890	40		72		86		$8,600	$15,320	$18,060	442	$99,810.00
Task B - dentify Potter Valley Project Decommissioning and Climate Change Scenarios														
B.1 Climate Change Modelling	240		$54,000										240	$54,000
B.2 Vulnerability	240		$54,000					100		$0		$21,000	400	$75,000
Subtotal	480		$108,000									$0	640	$129,000
Task C - Evaluate Impacts to Resources and Develop Adaptation Strategies														
C.1 Hydraulic Modeling	200		50600										200	$50,600
C.2 Sediment Modeling	200		50600										200	$50,600
C.2 Recreation Impact Analysis	80		$18,800	32						$6,720			112	$18,800
C.3 Adaptation Strategy	320		$56,600	32				80		$6,720			432	$63,320
C.5 Recreational Impact Analysis	72		$10,600										72	$10,600
C.6 GIS and Bathymetry	200		$50,600										200	$50,600
Subtotal	1072		$237,800										1216	$244,520
Task D - Evaluate Adapatation Strategies for Potential Implementation														
D.1 Technical Complexity	160		$33,600					80				$16,800	240	$50,400
D.2 Cost	80		$21,200					80				$16,800	160	$38,000
D.3 Environmental Concerns	160		$33,600										160	$33,600
Subtotal	400		$88,400										560	
Task E - Report Findings	240		$33,600										240	$33,600
Subtotal	240		$543,690							$30,640	$30,640	$90,720		
												Total Hours	3098	
													Total Budget	$695,690

G. Disclosures

SLR confirms that neither the company nor any of its executives or key team members have any financial interests in Scott Dam, Lake Pillsbury, or the surrounding areas.

SLR has not previously worked with Pacific Gas and Electric Company (PG&E).

SLR has not been involved in any projects related to Scott Dam or Lake Pillsbury.

SLR and our subconsultants have identified no potential conflicts of interest related to this project. We have no relationships, either business, financial, or personal, with any entities or individuals who could be affected by the decommissioning of Scott Dam.

A copy of SLR subcontractors signed disclosure letters have been included as Attachment A.

Attachment A Disclosure Letter from Subconsultants

Lake County Administrative Office RFP for Analysis of Effects of Proposed Scott Dam Decommissioning

Lake County Administrative Office

June 3, 2024

Aanko Technologies, Inc.
Safety & Security Solutions
1320B S. Main St. Suite 191, Salinas CA 93901
1-415-408-8004 www.aanko.com

To: County of Lake Administrative Office
Attn: Matthew Rothstein
255 N. Forbes Street
Lakeport, CA 95453

Subject: PG&E Disclosure Statement for RFP No. 24-32

Aanko Technologies Inc. does not have any existing contractual or anticipated future engagements or relationships with Pacific Gas and Electric (PG&E) Company or its parent corporation that would impact our ability to carry out and report the project's analysis in a manner that is unbiased and otherwise consistent with the needs of the County of Lake.

Any questions concerning this disclosure may be addressed to the undersigned.

Respectfully,

Steve Longoria, CCP, CPP, CPE, CPM, CBPATS, CPTED, TLO
Chief Executive Officer
Aanko Technologies Inc.
steve.longoria@aanko.com
aanko.com

Dabri, Inc.
850 S Van Ness Avenue
San Francisco, CA 94110
Phone: (415) 839-8142
CA Licence# 804774

May 31, 2024

To: County of Lake Administrative Office
Attn: Matthew Rothstein
255 N. Forbes Street
Lakeport, CA 95453

Subject: PG&E Disclosure Statement for RFP No. 24-32

To Whom It May Concern:

Dabri does not have any existing contractual or anticipated future engagements or relationships with Pacific Gas and Electric (PG&E) Company or its parent corporation that would impact our ability to carry out and report the project's analysis in a manner that is unbiased and otherwise consistent with the needs of the County of Lake. Any questions concerning this disclosure may be addressed to the undersigned.

Respectfully,

Domonique Kaur
Principal

Lamphier-Gregory

Urban Planning
Environmental Analysis

June 3, 2024

To: County of Lake Administrative Office
Attn: Matthew Rothstein
255 N. Forbes Street
Lakeport, CA 95453

Subject: PG&E Disclosure Statement for RFP No. 24-32

Lamphier-Gregory does not have any existing contractual or anticipated future engagements or relationships with Pacific Gas and Electric (PG&E) Company or its parent corporation that would impact our ability to carry out and report the project's analysis in a manner that is unbiased and otherwise consistent with the needs of the County of Lake.

Any questions concerning this disclosure may be addressed to the undersigned.

Respectfully,

Scott Gregory
Scott Gregory, President
Lamphier-Gregory

Exhibit E - Clarifications Letter and Budget

2175 N California Blvd, Suite 205, Walnut Creek, California, 94596

July 8, 2024

Attention: Mr. Matthew Rothstein
Lake County's Administrative Office
255 N. Forbes Street
Lakeport, CA 95453

SLR Project No.: 102.P21249.00001

RE: SLR's Clarifications and Responses with Respect to June 3 2024, SLR Proposal to Lake County for Analysis of Effects of Proposed Scott Dam Decommissioning, RFP#24-32 – Confidential

Dear Mr. Rothstein:

SLR would like to thank you for taking your time on July 3rd, 2024, to discuss in detail our approach to support Lake County with the Analysis of Effects of Proposed Scott Dam Decommissioning. We appreciate the discussion with us on County's concerns with the potential environmental, infrastructure, social and economic impacts with respect to PG&E's proposal plans. As discussed, we understand the initial approval provided by the Federal Energy Regulatory Commission (FERC) for finalizing the plan for Final Surrender Application is in early 2025. As you indicated we further understand that FERC has extended the final comment due date by six months to consider final approval by incorporating all comments including comments form the County.

As discussed during our call on July 3rd, we are providing the following clarifications and responses to supplement our proposal dated June 3rd, 2024. We understand the importance of evaluating the regional economic effects of the Scott Dam Decommissioning and we have adjusted our budget accordingly.

- SLR will focus on evaluating the various aspects of the Dam Decommissioning Analysis completed by PG&E, their consultant and others, rather than reanalyzing in detail hydraulic and hydrologic impacts created by dam decommissioning.
- The position of the Lake County Board is that the proponent has not demonstrated the full effects of the dam removal, proposed mitigation measures and potential economic impacts..
- Because the County does not have regulatory authority, the County would like SLR to provide recommendations on mitigation and economic impacts to be considered by FERC.
- SLR's comments will be provided to FERC and other agencies in letter report format, either directly to be submitted to FERC by SLR or the County with a cover letter attached to it.
- It's important to better understand all the effects of the removal, how it will affect the County and local revenue bases.
- Adaptation strategies will further include SLR assessment on impacts on property value, recreational revenues and infrastructure improvement costs.
- SLR will focus on adaptation strategies to address various impacts in more detail to include debris management, sediment management and disposal, water quality management, fish passage and long-term watershed management.

- SLR understands that the County will seek approval from the Department of Water Resources (DWR) on SLR's proposed approach (workplan) in line with current funding provided for this project by DWR.
- Consistent with the proposed detailed tasks (Tasks A-E) and based on our discussion on July 3rd, SLR has updated the proposed sub-tasks and cost table to include sub-tasks A.8 (which was previously considered part of "Others" now A.9), A.9, C.4 (previously missing from our original cost table), E.1(draft final report) and E.2 (addressing comments and allocation of project contingencies) as listed below.
    - A.8 Economic Analysis - Determine economic impacts due to loss of property value, rental revenue and sale tax.
    - A.9 Others – As previously proposed in our June 3rd proposal
    - C.4 Economic Modelling – Perform economic modelling to estimate economic losses and/or benefits.
    - E.1 Draft and Final Report – As previously proposed
    - E.2 Addressing Comments
    - Allocation of Project Contingencies (A nominal 3% of the proposed total budget)

Please contact undersigned if you have any further questions.

Regards,

SLR International Corporation

Dharme Rathnayake, Ph.D., PE
Senior Principal
drathnayake@slrconsulting.com

Mohammad Bazargani, PE
Senior Principal
mbazargani@slrconsulting.com

Attachments Updated SLR Proposed Cost Estimate Table

cc Patrick Sullivan
Lloyd Guintivano
Glen March
Stephen Carter Jr.

Revised Cost Estimate 7/8/24
RFP for Analysis of Effects of Proposed Scott Dam Decommissioning
Lake County Administrative Office - Confidential

TASK	Technical Advisor $180/hr	SLR Total Hours	SLR Expenses	SLR Cost $	Subconsultant Lamphier Gregory/$210 per hour		Subconsultant Dabri, Inc./$210 per hour		Subconsultant Aanko Technologies, Inc./$210 per hour		Lamphier Gregory Cost $	Dabri Cost $	Aanko Cost $	Project Total Hours	Estimated Cost
					Hours	Lamphier Expenses	Hours	Dabri Expenses	Hours	Aanko Expenses					
Task A - Assessment of Potential Impacts of Dam Removal to Lake County Resources															
A.1 Recreation		48	$200	$8,120										48	$8,120
A.2 Wildfire Supression		8		$2,120										8	$2,120
A3. Ecosystem		40		$9,400	16	$200					$3,560			56	$12,960
A.4 Power		8		$2,120			40	$200	86	$200		$8,600	$18,260	134	$28,980
A.5 Sediment		40		$10,600										40	$10,600
A.6 Water Supply		40		$10,600										40	$10,600
A.7 Infrastructure		40		$7,960			32					$6,720		72	$14,680
A.8 Economic Analysis		76		$14,300										76	$14,300
A.9 Other		40		$10,600	24						$5,040			64	$15,640
Subtotal		340		$75,820	40		72		86		$8,600	$15,320	$18,260	538	$118,000
Task B - Identify Potter Valley Project Decommissioning and Climate Change Scenarios															
B.1 Climate Change Modelling		230		$51,950										230	$51,950
B.2 Vulnerability		230		$51,950					100				$21,000	330	$72,950
Subtotal		480		$103,900							$0	$0	$21,000	560	$124,900
Task C - Evaluate Impacts to Resources and Develop Adaptation Strategies															
C.1 Hydraulic Modeling		170		$42,650										170	$42,650
C.2 Sediment Modeling		170		$42,650										170	$42,650
C.3 Adaptation Strategy		280		$56,600	32				40		$6,720		$8,400	352	$71,720
C.4 Economic Modelling		193		$39,815										193	$39,815
C.5 Recreational Impact Analysis		135		$26,195	32						$6,720			167	$32,915
C.6 GIS and Bathymetry		200		$50,600										200	$50,600
Subtotal		1148		$258,510	64				40		$13,440	$0	$8,400	1252	$280,350
Task D - Evaluate Adapatation Strategies for Potential Implementation															
D.1 Technical Complexity		140		$30,500					80				$16,800	220	$47,300
D.2 Cost		90		$22,750					80				$16,800	170	$39,550
D.3 Environmental Concerns		150		$32,050										150	$32,050
Subtotal		380		$85,300					160		$0	$0	$33,600	540	$118,900
Task E - Report Findings															
E.1 Draft and Final Report		110		$20,510										110	$20,510
E.2 Response to FERC Comments		40		$8,280										40	$8,280
Subtotal		150		$28,790							$0	$0	$0	150	$28,790
Project Subtotal				$552,320							$22,040	$15,320	$81,260	3040	$670,940
														Contingency (3%)	$20,128
														Total Budget	$691,068

Exhibit "F" State Funding Agreement

For review and initial:

MTR ---------- 6/12/2024 ----------

Matthew Rothstein Date

Matthew.rothstein@lakecountyca.gov

STATE OF CALIFORNIA

CALIFORNIA NATURAL RESOURCES AGENCY

DEPARTMENT OF WATER RESOURCES

AGREEMENT NUMBER: 4600015984

FUNDING AGREEMENT BETWEEN THE STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES AND COUNTY OF LAKE

FOR THE

LAKE COUNTY RESOURCE ASSESSMENT, IMPACT ANALYSIS, AND ADAPTATION STRATEGY EVALUATION PROJECT

A PART OF THE CRITICAL WATER MANAGEMENT PROGRAM

FUNDED BY

THE BUDGET ACT OF 2016

FUNDING AGREEMENT BETWEEN

THE STATE OF CALIFORNIA (DEPARTMENT OF WATER RESOURCES) AND

LAKE COUNTY

4600015984

CRITICAL WATER MANAGEMENT PROGRAM

THIS FUNDING AGREEMENT is entered into by and between the Department of Water Resources of the State of California, herein referred to as the "State" and the County of Lake, a public agency in the State of California, duly organized, existing, and acting pursuant to the laws thereof, herein referred to as the "Grantee," which parties do hereby agree as follows:

1. PURPOSE. State shall provide funding through the Critical Water Management Program from the Budget Act of 2016 (Stats. 2016, ch. 23, § 2) to the Grantee to assist in financing the Lake County Resource Assessment, Impact Analysis, and Adaptation Strategy Evaluation Project (Project).
2. TERM OF FUNDING AGREEMENT. The term of this Funding Agreement begins on the date this Funding Agreement is initially executed by State, through final payment plus three (3) years unless otherwise terminated or amended as provided in this Agreement. However, all work shall be completed by December 31, 2026, and no funds may be requested after April 30, 2027.
3. PROJECT COST. The reasonable cost of the Project is estimated to be $700,000.
4. FUNDING AMOUNT. The maximum amount payable by the State under this Agreement shall not exceed $700,000. Any additional costs are the responsibility of the Grantee.
5. BASIC CONDITIONS. State shall have no obligation to disburse money for the Project under this Funding Agreement until Grantee has satisfied the following conditions:
   A. For the term of this Funding Agreement, Grantee submits timely Quarterly Progress Reports as required by Paragraph 12, “Submission of Reports.”
   B. Grantee submits all deliverables as specified in Paragraph 12 of this Funding Agreement and in Exhibit A.
   C. Prior to the commencement of construction or implementation activities, Grantee shall submit the following to the State:
      i. Final plans and specifications certified by a California Registered Civil Engineer as to compliance for the Project as listed in Exhibit A of this Funding Agreement.
      ii. Work that is subject to the California Environmental Quality Act (CEQA) and or environmental permitting shall not proceed under this Funding Agreement until the following actions are performed:
         a. Grantee submits to the State all applicable environmental permits as indicated on the Environmental Information Form to the State, and
         b. Documents that satisfy the CEQA process are received by the State, and
         c. Grantee receives written concurrence from the State of the Lead Agency’s CEQA document(s) and State notice of verification of environmental permit submittal.

   State’s concurrence of Lead Agency’s CEQA documents is fully discretionary and shall constitute a condition precedent to any work (i.e., construction or implementation activities) for

which it is required. Once CEQA documentation has been completed, State will consider the environmental documents and decide whether to continue to fund the Project or to require changes, alterations, or other mitigation. Grantee must also demonstrate that it has complied with all applicable requirements of the National Environmental Policy Act (NEPA) by submitting copies of any environmental documents, including environmental impact statements, Finding of No Significant Impact, mitigation monitoring programs, and environmental permits as may be required prior to beginning construction/implementation.

6. DISBURSEMENT OF FUNDS. State will disburse to Grantee the amount approved, subject to the availability of funds through normal State processes. Notwithstanding any other provision of this Funding Agreement, no disbursement shall be required at any time or in any manner which is in violation of, or in conflict with, federal or state laws, rules, or regulations pursuant to any federal statute or regulation. Any and all money disbursed to Grantee under this Funding Agreement shall be deposited in a separate account and shall be used solely to pay Eligible Project Costs.

7. ELIGIBLE PROJECT COST. Grantee shall apply State funds received only to Eligible Project Costs in accordance with applicable provisions of the law and Exhibit B. Eligible Project Costs include the reasonable costs of studies, engineering, design, land and easement acquisition, legal fees, preparation of environmental documentation, environmental mitigations, monitoring, and project construction. Reimbursable administrative expenses are the necessary costs incidental but directly related to the Project included in this Agreement. Work performed on the Project after April 18, 2024, shall be eligible for reimbursement.

   Costs that are not eligible for reimbursement include, but are not limited to the following items:

   A. Costs incurred prior to April 18, 2024.

   B. Operation and maintenance costs, including post-construction performance and monitoring costs.

   C. Purchase of equipment not an integral part of the Project.

   D. Establishing a reserve fund.

   E. Monitoring and assessment costs for efforts required after Project construction is complete.

   F. Replacement of existing funding sources for ongoing programs.

   G. Payment of federal or state taxes.

   H. Costs incurred as part of any necessary response and cleanup activities required under the Comprehensive Environmental Response, Compensation, and Liability Act; Resource Conservation and Recovery Act; Hazardous Substances Account Act; or other applicable law.

   I. Support of existing agency requirements and mandates (e.g., punitive regulatory agency requirement).

   J. Purchase of land in excess of the minimum required acreage necessary to operate as an integral part of a project, as set forth and detailed by engineering and feasibility studies, or land purchased prior to April 18, 2024.

   K. Overhead and indirect costs. “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 funded project (i.e., costs that are not directly related to the funded project). Examples of Indirect Costs include but are not limited to: central service costs; general administration of the Grantee; non-project-specific accounting and personnel services performed within the Grantee’s organization; depreciation or use allowances on buildings and

equipment; the costs of operating and maintaining non-project-specific facilities; tuition; conference fees; and, generic overhead or markup. This prohibition applies to the Grantee and any subcontract or sub-agreement for work on the Project that will be reimbursed pursuant to this Agreement.

8. METHOD OF PAYMENT. After the disbursement requirements in Paragraph 5 "Basic Conditions" are met, State will disburse the whole or portions of State funding to Grantee, following receipt from Grantee via US mail or Express mail delivery of a "wet signature" invoice, or an electronic invoice certified and transmitted via DocuSign for costs incurred, including Cost Share, and timely Quarterly Progress Reports as required by Paragraph 12, "Submission of Reports." Payment will be made no more frequently than monthly, in arrears, upon receipt of an invoice bearing the Funding Agreement number. State will notify Grantee, in a timely manner, whenever, upon review of an Invoice, State determines that any portion or portions of the costs claimed are not eligible costs or is not supported by documentation or receipts acceptable to State. Grantee may, within thirty (30) calendar days of the date of receipt of such notice, submit additional documentation to State to cure such deficiency(ies). If Grantee fails to submit adequate documentation curing the deficiency(ies), State will adjust the pending invoice by the amount of ineligible or unapproved costs.

   Invoices submitted by Grantee shall include the following information:

   A. Costs incurred for work performed in implementing the Project during the period identified in the particular invoice.

   B. Costs incurred for any interests in real property (land or easements) that have been necessarily acquired for the Project during the period identified in the particular invoice for the implementation of the Project.

   C. Invoices shall be submitted on forms provided by State and shall meet the following format requirements:

      i. Invoices must contain the date of the invoice, the time period covered by the invoice, and the total amount due.

      ii. Invoices must be itemized based on the categories (i.e., tasks) specified in Exhibit B. The amount claimed for salaries/wages/consultant fees must include a calculation formula (i.e., hours or days worked times the hourly or daily rate = the total amount claimed).

      iii. One set of sufficient evidence (i.e., receipts, copies of checks, timesheets) must be provided for all costs included in the invoice.

      iv. Each invoice shall clearly delineate those costs claimed for reimbursement from the State's funding amount, as depicted in Paragraph 4, "Funding Amount."

      v. Invoices can be submitted by one of the following methods.

         a. Via email to the State's Project Manager at Fahad.Md-Golam-Rabbani@water.ca.gov

         b. Mail the invoice with the original "wet signature" to the following address: Md Golam Rabbani Fahad, Department of Water Resources, North Central Region Office, 3500 Industrial Boulevard, West Sacramento, CA 95691

   All invoices submitted shall be accurate and signed under penalty of law. Any and all costs submitted pursuant to this Agreement shall only be for the tasks set forth herein. The Grantee shall not submit any invoice containing costs that are ineligible or have been reimbursed from other funding sources unless required and specifically noted as such (i.e., match costs/cost share). Any eligible costs for which the Grantee 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 plus interest. Additionally, the State may request an audit pursuant to Paragraph D.5 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, §§ 115, 470, 487-489.)

9. WITHHOLDING OF DISBURSEMENTS BY STATE. If State determines that the Project is not being implemented in accordance with the provisions of this Funding Agreement, or that Grantee has failed in any other respect to comply with the provisions of this Funding Agreement, and if Grantee does not remedy any such failure to State's satisfaction, State may withhold from Grantee all or any portion of the State funding and take any other action that it deems necessary to protect its interests. Where a portion of the State funding has been disbursed to the Grantee and State notifies Grantee of its decision not to release funds that have been withheld pursuant to Paragraph 10, the portion that has been disbursed shall thereafter be repaid immediately as directed by State. State may consider Grantee's refusal to repay the requested disbursed amount a contract breach subject to the default provisions in Paragraph 10, "Default Provisions." If State notifies Grantee of its decision to withhold the entire funding amount from Grantee pursuant to this Paragraph, this Funding Agreement shall terminate upon receipt of such notice by Grantee and the State shall no longer be required to provide funds under this Funding Agreement and the Funding Agreement shall no longer be binding on either party.

10. DEFAULT PROVISIONS. Grantee will be in default under this Funding Agreement if any of the following occur:

    A. Substantial breaches of this Funding Agreement, or any supplement or amendment to it, or any other agreement between Grantee and State evidencing or securing Grantee's obligations.

    B. Making any false warranty, representation, or statement with respect to this Funding Agreement, the application, or any documents filed to obtain grant funding.

    C. Failure to operate or maintain the Project in accordance with this Funding Agreement.

    D. Failure to make any remittance required by this Funding Agreement, including any remittance recommended as the result of an audit conducted pursuant to Paragraph D.5.

    E. Failure to submit timely progress reports.

    F. Failure to routinely invoice State.

    G. Failure to meet any of the requirements set forth in Paragraph 11, "Continuing Eligibility."

    Should an event of default occur, State shall provide a notice of default to the Grantee and shall give Grantee at least ten (10) calendar days to cure the default from the date the notice is sent via first-class mail to the Grantee. If the Grantee fails to cure the default within the time prescribed by the State, State may do any of the following:

    A. Declare the funding disbursed be immediately repaid.

    B. Terminate any obligation to make future payments to Grantee.

    C. Terminate the Funding Agreement.

    D. Take any other action that it deems necessary to protect its interests.

In the event State finds it necessary to enforce this provision of this Funding Agreement in the manner provided by law, Grantee agrees to pay all costs incurred by State including, but not limited to, reasonable attorneys' fees, legal expenses, and costs.

11. CONTINUING ELIGIBILITY. Grantee must meet the following ongoing requirement(s) to remain eligible to receive State funds:

    A. Grantee must adhere to the protocols developed pursuant to The Open and Transparent Water Data Act (Wat. Code, § 12406) for data sharing, transparency, documentation, and quality control.

    B. If the Grantee diverting surface water, the Grantee must maintain compliance with diversion reporting requirements as outlined in Water Code section 5100 et seq.

    C. If applicable, maintain compliance with the Urban Water Management Planning Act (Wat. Code, § 10610 et seq.).

    D. If applicable, maintain compliance with Sustainable Water Use and Demand Reduction requirements outlined in Water Code Section 10608, et seq.

    E. On March 4, 2022, the Governor issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. The EO may be found at: https://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia-Ukraine-Executive-Order.pdf. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under State law. The EO directs DWR to terminate funding agreements with, and to refrain from entering any new agreements with, individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the State determine that the Grantee is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this Agreement. The State shall provide the Grantee advance written notice of such termination, allowing the Grantee at least 30 calendar days to provide a written response. Termination shall be at the sole discretion of the State.

12. SUBMISSION OF REPORTS. The submittal and approval of all reports is a requirement for the successful completion of this Funding Agreement. Reports shall meet generally accepted professional standards for technical reporting and shall be proofread for content, numerical accuracy, spelling, and grammar prior to submittal to State. All reports shall be submitted to the State's Project Manager and shall be submitted via email or DWR's "Grant Review and Tracking System" (GRanTS). If requested, Grantee shall promptly provide any additional information deemed necessary by State for the approval of reports. Reports shall be presented in the formats described in the applicable portion of Exhibit F. The timely submittal of reports is a requirement for initial and continued disbursement of State funds. Submittal and subsequent approval by the State, of a Project Completion Report is a requirement for the release of any funds retained for such project.

    A. Quarterly Progress Reports: Grantee shall submit Quarterly Progress Reports to meet the State's requirement for disbursement of funds. Quarterly Progress Reports shall be sent directly to the Project Manager via email or uploaded via GRanTS, and the State's Project Manager notified of upload. Quarterly Progress Reports shall, in part, provide a brief description of the work performed, Grantee's activities, milestones achieved, any accomplishments and any problems encountered in the performance of the work under this Funding Agreement during the reporting period. The first Quarterly Progress Report should be submitted to the State no later than three months after the execution of the agreement with

future reports then due on successive three-month increments based on the invoicing schedule and this date.

B. Project Completion Report: Grantee shall prepare and submit to State a Project Completion Report for the Project. Grantee shall submit the Project Completion Report within ninety (90) calendar days of project completion. The Project Completion Report shall include, in part, a description of actual work done, any changes or amendments to the Project, and a final schedule showing actual progress versus planned progress, copies of any final documents or reports generated or utilized during the Project. The Project Completion Report shall also include, if applicable, certification of final project by a registered civil engineer, consistent with Standard Condition D.17, "Final Inspections and Certification of Registered Civil Engineer". A DWR "Certification of Project Completion" form will be provided by the State.

13. OPERATION AND MAINTENANCE OF PROJECT. For the useful life of construction and implementation projects and in consideration of the funding made by State, Grantee agrees to ensure or cause to be performed the commencement and continued operation of the Project, and shall ensure or cause the Project to be operated in an efficient and economical manner; shall ensure all repairs, renewals, and replacements necessary to the efficient operation of the same are provided; and shall ensure or cause the same to be maintained in as good and efficient condition as upon its construction, ordinary and reasonable wear and depreciation excepted. The State shall not be liable for any cost of such maintenance, management, or operation. Grantee or their successors may, with the written approval of State, transfer this responsibility to use, manage, and maintain the property. For purposes of this Funding Agreement, "useful life" means period during which an asset, property, or activity is expected to be usable for the purpose it was acquired or implemented; "operation costs" include direct costs incurred for material and labor needed for operations, utilities, insurance, and similar expenses, and "maintenance costs" include ordinary repairs and replacements of a recurring nature necessary for capital assets and basic structures and the expenditure of funds necessary to replace or reconstruct capital assets or basic structures. Refusal of Grantee to ensure operation and maintenance of the Project in accordance with this provision may, at the option of State, be considered a breach of this Funding Agreement and may be treated as default under Paragraph 10, "Default Provisions."

14. NOTIFICATION OF STATE. Grantee shall promptly notify State, in writing, of the following items:

A. Events or proposed changes that could affect the scope, budget, or work performed under this Funding Agreement. Grantee agrees that no substantial change in the scope of the Project will be undertaken until written notice of the proposed change has been provided to State and State has given written approval for such change. Substantial changes generally include changes to the scope of work, schedule or term, and budget.

B. Any public or media event publicizing the accomplishments and/or results of this Funding Agreement and provide the opportunity for attendance and participation by State's representatives. Grantee shall make such notification at least 14 calendar days prior to the event.

C. Discovery of any potential archaeological or historical resource. Should a potential archaeological or historical resource be discovered during construction, the Grantee agrees that all work in the area of the find will cease until a qualified archaeologist has evaluated the situation and made recommendations regarding preservation of the resource, and the State has determined what actions should be taken to protect and preserve the resource. The Grantee agrees to implement appropriate actions as directed by the State.

D. The initiation of any litigation or the threat of litigation against the Grantee regarding the Project or that may affect the Project in any way.

E. Final inspection of the completed work on a project by a Registered Civil Engineer, in accordance with Standard Condition D.17, "Final Inspections and Certification of Registered Civil Engineer." Grantee shall notify the State's Project Manager of the inspection date at least 14 calendar days prior to the inspection in order to provide State the opportunity to participate in the inspection.

15. NOTICES. Any notice, demand, request, consent, or approval that either party desires or is required to give to the other party under this Funding Agreement shall be in writing. Notices may be transmitted by any of the following means:

    A. By delivery in person.

    B. By certified U.S. mail, return receipt requested, postage prepaid.

    C. By "overnight" delivery service, provided that next-business-day delivery is requested by the sender.

    D. By electronic means.

    E. Notices delivered in person will be deemed effective immediately on receipt (or refusal of delivery or receipt). Notices sent by certified mail will be deemed effective given ten (10) calendar days after the date deposited with the U. S. Postal Service. Notices sent by overnight delivery service will be deemed effective one business day after the date deposited with the delivery service. Notices sent electronically will be effective on the date of transmission, which is documented in writing. Notices shall be sent to the below addresses. Either party may, by written notice to the other, designate a different address that shall be substituted for the one below.

16. PERFORMANCE EVALUATION. Upon completion of this Funding Agreement, Grantee's performance will be evaluated by the State and a copy of the evaluation will be placed in the State file and a copy sent to the Grantee.

17. PROJECT REPRESENTATIVES. The Project Representatives during the term of this Funding Agreement are as follows:

Department of Water Resources	County of Lake
Arthur Hinojosa	Susan Parker
Manager, Division of Regional Assistance	County Administrative Officer
P.O. Box 942836	255 N. Forbes St.
Sacramento, CA 94236	Lakeport, CA 95453
Phone: (916) 902-6713	Phone: (707) 263-2580
Email: Arthur.Hinojosa@water.ca.gov	Email: Susan.Parker@lakecountyca.gov

Direct all inquiries to the Project Manager:

Department of Water Resources	County of Lake
Md Golam Rabbani Fahad	Matthew Rothstein
Engineer, Water Resources	Chief Deputy County Administrative Officer
North Central Region Office	255 N. Forbes St.
3500 Industrial Boulevard	Lakeport, CA 95453
West Sacramento, CA 95670	Phone: (707) 263-2580
Phone: (916) 296-9176	Email:Matthew.Rothstein@lakecountyca.gov
Email: Fahad.Md-Golam-Rabbani@water.ca.gov	

Either party may change its Project Representative or Project Manager upon written notice to the other party.

18. STANDARD PROVISIONS AND INTEGRATION. This Funding Agreement is complete and is the final Agreement between the parties. The following Exhibits are attached and made a part of this Funding Agreement by this reference:

Exhibit A – WORK PLAN

Exhibit B – BUDGET

Exhibit C – SCHEDULE

Exhibit D – STANDARD CONDITIONS

Exhibit E – GRANTEE'S AUTHORIZING RESOLUTION

Exhibit F – REPORT FORMATS AND REQUIREMENTS

Exhibit G – STATE AUDIT DOCUMENT REQUIREMENTS

Exhibit H – INFORMATION NEEDED FOR ESCROW PROCESSING AND CLOSURE

Exhibit I – APPRAISAL SPECIFICATIONS

IN WITNESS WHEREOF, the parties hereto have executed this Funding Agreement.

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

Arthur Hinojosa, Manager
Division of Regional Assistance

Date 6/12/2024

COUNTY OF LAKE

Susan Parker

Susan Parker, County Administrative Officer

Date 6/12/2024

Approved as to Legal Form and Sufficiency

James Herink For

Robin Brewer, Assistant General Counsel
Office of General Counsel

Date 6/12/2024

Approved as to Legal Form and Sufficiency

Lloyd Guintivano, County Counsel
County Counsel

Date 6/12/2024

Exhibit A

WORK PLAN

Project Title: Lake County Resource Assessment, Impact Analysis, and Adaptation Strategy Evaluation Project

Grantee: County of Lake

Project Description: The Project is comprised of evaluating the potential impacts of the removal of Scott Dam and the loss of Lake Pillsbury on access to water for the surrounding community, wildfire suppression, utilities, ecosystem and environment, recreation, sediment, and infrastructures.

This Project also includes evaluating strategies for implementing adaptation measures and preparing cost estimates to implement the adaptation strategies.

Task 1 – Project Administration

This task includes project administration, invoicing, and reporting.

Project administration includes working with DWR to develop and execute the Grant Agreement, administration of the Project including overseeing the budget and schedule, making payments to engineers and contractors after inspections and/or approval of work, and other activities related to the completion of the Project. Includes attending weekly/monthly meetings (as needed) with the DWR Project Manager.

Invoicing includes preparing and submitting invoices and appropriate backup documentation to the DWR Project Manager describing the work completed and listing the costs incurred during the billing cycle.

Reporting includes preparing and submitting progress reports. Prepare quarterly reports and submit them to DWR. Prepare the draft Grant Completion Report and submit it to DWR for comments. Prepare the final Grant Completion Report, incorporating DWR comments. All reports should be prepared as specified in Exhibit F of this Agreement.

This task also includes filling out the Environmental Information Form (EIF). Prepare CEQA documentation and obtain all the required permits and agreements with other entities to complete the Project as needed as needed.

Deliverables:

- Invoices and supporting documents
- Quarterly progress reports
- Draft Grant completion report
- Final Grant completion report
- Environmental Information Form
- CEQA documentation/ required permits and agreements

Task 2 – Existing Condition Evaluation

This task includes evaluating the existing conditions of the areas that the Grantee anticipates impacts on due to the removal of Scott Dam and the loss of Lake Pillsbury. The potential impacts are on water supply, wildfire suppression, utilities, ecosystem and environment, recreation, sediment, and infrastructures.

Deliverable:

- The report includes the existing condition
- Photos

Task 3 – Impact Analysis and Adaptation Strategy Evaluation

This task includes evaluating the potential impacts of the removal of Scott Dam and the loss of Lake Pillsbury on access to water for the surrounding community, wildfire suppression, utilities, ecosystem and environment, recreation, sediment, infrastructures, and others.

This task also includes identifying the adaptation strategies, preparing respective cost estimates for all the areas that have potential impacts, and preparing the impact analysis and adaptation strategy evaluation report.

Task 3.1 – Assessment of Potential Impacts

This subtask includes the evaluation of potential impacts and alternatives due to the removal of Scott Dam and the loss of Lake Pillsbury. The areas that have potential impacts to be analyzed include:

- Water Supply – There has been concern expressed that wells in the area servicing private and United States Forest Service (USFS) interests may go dry if groundwater is no longer available. It is likely Lake Pillsbury impacts the depth and recharge of the groundwater supply in the watershed.
- Wildfire Suppression – According to the USFS, Lake Pillsbury serves as an important water resource in fire suppression.
- Utilities
- Ecosystem and Environment – The area around Lake Pillsbury has developed over the last century dependent on the lake as a resource. Wildlife, fish, vegetation, and the surrounding community currently rely on it.
- Recreation – The current access to recreation focuses on Lake Pillsbury-related activities.
- Sediment – Pacific Gas & Electric (PG&E) has indicated it intends to leave most of the sediment and construction debris on site. If these materials are not mobilized in a careful, measured manner, such as in a major storm event, there could be detrimental consequences.
- Infrastructure - The decommissioning process entails significant movement of heavy equipment and material across a road network that already faces significant strain.

Task 3.2 – Identify Climate Change Scenarios

This subtask includes performing modeling of existing conditions, plus one or two decommissioning scenarios. This subtask also includes performing climate change modeling and scenarios that explore extreme drought and flood conditions in the Upper Eel River watershed.

Task 3.3 – Evaluate Impacts to Resources and Develop Adaptation Strategies

Technical impact analysis includes hydrological, hydraulic, and sediment modeling of the Upper Eel River and Lake Pillsbury; recreational impacts analysis; geographic information system (GIS) and bathymetry data analysis, and economic modeling. Once impacts are identified, potential adaptation strategies will be developed.

Task 3.4 – Evaluate Adaptation Strategies for Potential Implementation

This subtask includes evaluating factors like technical complexity, cost, environmental concerns, and social and other considerations related to implementing adaptation strategies.

Deliverable:

- Report including impact analysis and adaptation strategy evaluation
- Cost estimates
- Photos

Exhibit B

BUDGET

All work associated with the Project must be completed prior to payment of retention. Backup documentation for cost share will not be reviewed for the purposes of invoicing. The Grantee is required to maintain all financial documents related to the Project in accordance with Exhibit G (State Audit Document Requirements for Grantees).

Task	Funding Amount
Task 1 – Project Administration	$35,0000
Task 2 – Existing Condition Evaluation	$140,000
Task 3 – Impact Analysis and Adaptation Strategy Evaluation	$525,000
Total	**$700,000**

Exhibit C

SCHEDULE

Task	Start Date	End Date
Task 1 – Project Administration	04/18/2024	12/31/2026
Task 2 – Existing Condition Evaluation	04/18/2024	12/31/2026
Task 3 – Impact Analysis and Adaptation Strategy Evaluation	04/18/2024	12/31/2026

Exhibit D

STANDARD CONDITIONS

D.1. ACCOUNTING AND DEPOSIT OF FUNDING DISBURSEMENT:

A. Separate Accounting of Funding Disbursements: Grantee shall account for the money disbursed pursuant to this Funding Agreement separately from all other Grantee funds. Grantee shall maintain audit and accounting procedures that are in accordance with generally accepted accounting principles and practices, consistently applied. Grantee shall keep complete and accurate records of all receipts and disbursements on expenditures of such funds. Grantee shall require its contractors or subcontractors to maintain books, records, and other documents pertinent to their work in accordance with generally accepted accounting principles and practices. Records are subject to inspection by State at any and all reasonable times.

B. Disposition of Money Disbursed: All money disbursed pursuant to this Funding Agreement shall be deposited in a separate account, administered, and accounted for pursuant to the provisions of applicable law.

C. Remittance of Unexpended Funds: Grantee shall remit to State any unexpended funds that were disbursed to Grantee under this Funding Agreement and were not used to pay Eligible Project Costs within a period of sixty (60) calendar days from the final disbursement from State to Grantee of funds or, within thirty (30) calendar days of the expiration of the Funding Agreement, whichever comes first.

D.2. ACKNOWLEDGEMENT OF CREDIT AND SIGNAGE: Grantee shall include appropriate acknowledgement of credit to the State for its support when promoting the Project or using any data and/or information developed under this Funding Agreement. Signage shall be posted in a prominent location at Project site(s) (if applicable) or at the Grantee's headquarters and shall include the Department of Water Resources color logo and the following disclosure statement: "Funding for this project has been provided in full or in part from the State Department of Water Resources." The Grantee shall also include in each of its contracts for work under this Agreement a provision that incorporates the requirements stated within this Paragraph.

D.3. AMENDMENT: This Funding Agreement may be amended at any time by mutual agreement of the Parties, except insofar as any proposed amendments are in any way contrary to applicable law. Requests by the Grantee for amendments must be in writing stating the amendment request and the reason for the request. Requests solely for a time extension must be submitted at least 90 days prior to the work completion date set forth in Paragraph 2. Any other request for an amendment must be submitted at least 180 days prior to the work completion date set forth in Paragraph 2. State shall have no obligation to agree to an amendment.

D.4. AMERICANS WITH DISABILITIES ACT: By signing this Funding Agreement, Grantee assures State that it complies with the Americans with Disabilities Act (ADA) of 1990, (42 U.S.C. § 12101 et seq.), which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA.

D.5. AUDITS: State reserves the right to conduct an audit at any time between the execution of this Funding Agreement and the completion of the Project, with the costs of such audit borne by State. After completion of the Project, State may require Grantee to conduct a final audit to State's specifications, at Grantee's expense, such audit to be conducted by and a report prepared by an independent Certified Public Accountant. Failure or refusal by Grantee to comply with this provision shall be considered a breach of this Funding Agreement, and State

may elect to pursue any remedies provided in Paragraph 10 or take any other action it deems necessary to protect its interests. The Grantee agrees it shall return any audit disallowances to the State.

Pursuant to Government Code section 8546.7, the Grantee shall be subject to the examination and audit by the State for a period of three (3) years after final payment under this Funding Agreement with respect of all matters connected with this Funding Agreement, including but not limited to, the cost of administering this Funding Agreement. All records of Grantee or its contractor or subcontractors shall be preserved for this purpose for at least three (3) years after receipt of the final disbursement under this Agreement.

D.6. BUDGET CONTINGENCY: If the Budget Act of the current year covered under this Funding Agreement does not appropriate sufficient funds for this program, this Funding Agreement shall be of no force and effect. This provision shall be construed as a condition precedent to the obligation of State to make any payments under this Funding Agreement. In this event, State shall have no liability to pay any funds whatsoever to Grantee or to furnish any other considerations under this Funding Agreement and Grantee shall not be obligated to perform any provisions of this Funding Agreement. Nothing in this Funding Agreement shall be construed to provide Grantee with a right of priority for payment over any other Grantee. If funding for any fiscal year after the current year covered by this Funding Agreement 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 Funding Agreement with no liability occurring to State or offer a Funding Agreement amendment to Grantee to reflect the reduced amount.

D.7. CEQA: Activities funded under this Funding Agreement, regardless of funding source, must be in compliance with the California Environmental Quality Act (CEQA). (Pub. Resources Code, § 21000 et seq.) Any work that is subject to CEQA and funded under this Agreement shall not proceed until documents that satisfy the CEQA process are received by the State's Project Manager and the State has completed its CEQA compliance. Work funded under this Agreement that is subject to a CEQA document shall not proceed until and unless approved by the Department of Water Resources. Such approval is fully discretionary and shall constitute a condition precedent to any work for which it is required. If CEQA compliance by the Grantee is not complete at the time the State signs this Agreement, once State has considered the environmental documents, it may decide to require changes, alterations, or other mitigation to the Project; or to not fund the Project. Should the State decide to not fund the Project, this Agreement shall be terminated in accordance with Paragraph 10.

D.8. CHILD SUPPORT COMPLIANCE ACT: The Grantee acknowledges in accordance with Public Contract Code section 7110, that:

A. The Grantee recognizes the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Family Code section 5200 et seq.; and

B. The Grantee, to the best of its knowledge, is fully complying with the earnings assignment orders of all employees and is providing the names of all new employees to the New Hire Registry maintained by the California Employment Development Department.

D.9. CLAIMS DISPUTE: Any claim that the Grantee may have regarding performance of this Agreement including, but not limited to, claims for additional compensation or extension of time, shall be submitted to the DWR Project Representative, within thirty (30) days of the Grantee's knowledge of the claim. State and Grantee shall then attempt to negotiate a

resolution of such claim and process an amendment to this Agreement to implement the terms of any such resolution.

D.10. COMPETITIVE BIDDING AND PROCUREMENTS: Grantee's contracts with other entities for the acquisition of goods and services and construction of public works with funds provided by State under this Funding Agreement must be in writing and shall comply with all applicable laws and regulations regarding the securing of competitive bids and undertaking competitive negotiations. If the Grantee does not have a written policy to award contracts through a competitive bidding or sole source process, the Department of General Services' *State Contracting Manual* rules must be followed and are available at: https://www.dgs.ca.gov/OLS/Resources/Page-Content/Office-of-Legal-Services-Resources-List-Folder/State-Contracting.

D.11. COMPUTER SOFTWARE: Grantee certifies that it has appropriate systems and controls in place to ensure that state funds will not be used in the performance of this Funding Agreement for the acquisition, operation, or maintenance of computer software in violation of copyright laws.

D.12. CONFLICT OF INTEREST: All participants are subject to State and Federal conflict of interest laws. Failure to comply with these laws, including business and financial disclosure provisions, will result in the application being rejected and any subsequent contract being declared void. Other legal action may also be taken. Applicable statutes include, but are not limited to, Government Code section 1090 and Public Contract Code sections 10410 and 10411, for State conflict of interest requirements.

A. Current State Employees: No State officer or employee shall engage in any employment, activity, or enterprise from which the officer or employee receives compensation or has a financial interest, and which is sponsored or funded by any State agency, unless the employment, activity, or enterprise is required as a condition of regular State employment. No State officer or employee shall contract on his or her own behalf as an independent contractor with any State agency to provide goods or services.

B. Former State Employees: For the two-year period from the date, he or she left State employment, no former State officer or employee may enter into a contract in which he or she engaged in any of the negotiations, transactions, planning, arrangements, or any part of the decision-making process relevant to the contract while employed in any capacity by any State agency. For the twelve-month period from the date, he or she left State employment, no former State officer or employee may enter into a contract with any State agency if he or she was employed by that State agency in a policy-making position in the same general subject area as the proposed contract within the twelve-month period prior to his or her leaving State service.

C. Employees of the Grantee: Employees of the Grantee shall comply with all applicable provisions of law pertaining to conflicts of interest, including but not limited to any applicable conflict of interest provisions of the California Political Reform Act. (Gov. Code, § 87100 et seq.)

D. Employees and Consultants to the Grantee: Individuals working on behalf of the Grantee may be required by the Department to file a Statement of Economic Interests (Fair Political Practices Commission Form 700) if it is determined that an individual is a consultant for Political Reform Act purposes.

D.13. DELIVERY OF INFORMATION, REPORTS, AND DATA: Grantee agrees to expeditiously provide throughout the term of this Funding Agreement, such reports, data, information, and certifications as may be reasonably required by State.

D.14. DISPOSITION OF EQUIPMENT: Grantee shall provide to State, not less than 30 calendar days prior to submission of the final invoice, an itemized inventory of equipment purchased with funds provided by State. The inventory shall include all items with a current estimated fair market value of more than $5,000.00 per item. Within 60 calendar days of receipt of such inventory, State shall provide Grantee with a list of the items on the inventory that State will take title to. All other items shall become the property of Grantee. State shall arrange for delivery from Grantee of items that it takes title to. Cost of transportation, if any, shall be borne by State.

D.15. DRUG-FREE WORKPLACE CERTIFICATION: Certification of Compliance: By signing this Funding Agreement, Grantee, its contractors or subcontractors hereby certify, under penalty of perjury under the laws of State of California, compliance with the requirements of the Drug-Free Workplace Act of 1990 (Gov. Code, § 8350 et seq.) and have or will provide a drug-free workplace by taking the following actions:

A. Publish a statement notifying employees, contractors, and subcontractors that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees, contractors, or subcontractors for violations, as required by the Government Code section 8355.

B. Establish a Drug-Free Awareness Program, as required by Government Code section 8355 to inform employees, contractors, or subcontractors about all of the following:

   i. The dangers of drug abuse in the workplace,

   ii. Grantee's policy of maintaining a drug-free workplace,

   iii. Any available counseling, rehabilitation, and employee assistance programs, and

   iv. Penalties that may be imposed upon employees, contractors, and subcontractors for drug abuse violations.

C. Provide, as required by Government Code section 8355, that every employee, contractor, and/or subcontractor who works under this Funding Agreement:

   i. Will receive a copy of Grantee's drug-free policy statement, and

   ii. Will agree to abide by terms of Grantee's condition of employment, contract, or subcontract.

D.16. EASEMENTS: Where the Grantee acquires property in fee title or funds improvements to real property already owned in fee by the Grantee using State funds provided through this Funding Agreement, an appropriate easement or other title restriction providing for floodplain preservation and agricultural and/or wildlife habitat conservation for the subject property in perpetuity, approved by the State, shall be conveyed to a regulatory or trustee agency or conservation group acceptable to the State. The easement or other title restriction must be in the first position ahead of any recorded mortgage or lien on the property unless this requirement is waived by the State.

Where the Grantee acquires an easement under this Agreement, the Grantee agrees to monitor and enforce the terms of the easement, unless the easement is subsequently transferred to another land management or conservation organization or entity with State

permission, at which time monitoring and enforcement responsibilities will transfer to the new easement owner.

Failure to provide an easement acceptable to the State may result in termination of this Agreement.

D.17. FINAL INSPECTIONS AND CERTIFICATION OF REGISTERED CIVIL ENGINEER: Upon completion of the Project, Grantee shall provide for a final inspection and certification by a California Registered Civil Engineer that the Project has been completed in accordance with submitted final plans and specifications and any modifications thereto and in accordance with this Funding Agreement.

D.18. GOVERNING LAW: This Funding Agreement is governed by and shall be interpreted in accordance with the laws of the State of California.

D.19. GRANTEE'S RESPONSIBILITIES: Grantee and its representatives shall:

A. Faithfully and expeditiously perform or cause to be performed all project work as described in Exhibit A (Work Plan) and in accordance with Project Exhibit B (Budget) and Exhibit C (Schedule).

B. Accept and agree to comply with all terms, provisions, conditions, and written commitments of this Funding Agreement, including all incorporated documents, and to fulfill all assurances, declarations, representations, and statements made by Grantee in the application, documents, amendments, and communications filed in support of its request for funding.

C. Comply with all applicable California, federal, and local laws and regulations.

D. Implement the Project in accordance with applicable provisions of the law.

E. Fulfill its obligations under the Funding Agreement and be responsible for the performance of the Project.

F. Obtain any and all permits, licenses, and approvals required for performing any work under this Funding Agreement, including those necessary to perform design, construction, or operation and maintenance of the Project. Grantee shall provide copies of permits and approvals to State.

G. Be solely responsible for design, construction, and operation, and maintenance of the Project. Review or approval of plans, specifications, bid documents, or other construction documents by State is solely for the purpose of proper administration of funds by State and shall not be deemed to relieve or restrict responsibilities of Grantee under this Agreement.

H. Be solely 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 Grantee shall be responsible for any and all disputes arising out of its contracts for work on the Project, including but not limited to payment disputes with contractors and subcontractors. The State will not mediate disputes between the Grantee and any other entity concerning responsibility for performance of work.

D.20. INDEMNIFICATION: Grantee shall indemnify and hold and save the State, its officers, agents, and employees, free and harmless from any and all liabilities for any claims and damages (including inverse condemnation) that may arise out of the Project and this Agreement, including any breach of this Agreement. Grantee shall require its contractors or subcontractors

to name the State, its officers, agents and employees as additional insureds on their liability insurance for activities undertaken pursuant to this Agreement.

D.21. INDEPENDENT CAPACITY: Grantee, and the agents and employees of the Grantee, in the performance of the Funding Agreement, shall act in an independent capacity and not as officers, employees, or agents of the State.

D.22. INSPECTION OF BOOKS, RECORDS, AND REPORTS: During regular office hours, each of the parties hereto and their duly authorized representatives shall have the right to inspect and to make copies of any books, records, or reports of either party pertaining to this Funding Agreement or matters related hereto. Each of the parties hereto shall maintain and shall make available at all times for such inspection accurate records of all its costs, disbursements, and receipts with respect to its activities under this Funding Agreement. Failure or refusal by Grantee to comply with this provision shall be considered a breach of this Funding Agreement, and State may withhold disbursements to Grantee or take any other action it deems necessary to protect its interests.

D.23. INSPECTIONS OF PROJECT BY STATE: State shall have the right to inspect the work being performed at any and all reasonable times during the term of the Grant. This right shall extend to any subcontracts, and Grantee shall include provisions ensuring such access in all its contracts or subcontracts entered into pursuant to its Funding Agreement with State.

D.24. LABOR CODE COMPLIANCE: The Grantee agrees to be bound by all the provisions of the Labor Code regarding prevailing wages and shall monitor all contracts subject to reimbursement from this Agreement to assure that the prevailing wage provisions of the Labor Code are being met. Current Department of Industrial Relations (DIR) requirements may be found at: http://www.dir.ca.gov/lcp.asp. For more information, please refer to DIR's *Public Works Manual* at: http://www.dir.ca.gov/dlse/PWManualCombined.pdf. The Grantee affirms that it is aware of the provisions of section 3700 of the Labor Code, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance, and the Grantee affirms that it will comply with such provisions before commencing the performance of the work under this Agreement and will make its contractors and subcontractors aware of this provision.

D.25. MODIFICATION OF OVERALL WORK PLAN: At the request of the Grantee, the State may at its sole discretion approve non-material changes to the portions of Exhibits A, B, and C that concern the budget and schedule without formally amending this Funding Agreement. Non-material changes with respect to the budget are changes that only result in reallocation of the budget and will not result in an increase in the amount of the State Funding Agreement. Non-material changes with respect to the Project schedule are changes that will not extend the term of this Funding Agreement. Requests for non-material changes to the budget and schedule must be submitted by the Grantee to the State in writing and are not effective unless and until specifically approved by the State's Program Manager in writing.

D.26. NONDISCRIMINATION: During the performance of this Funding Agreement, Grantee and its contractors or subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex (gender), sexual orientation, race, color, ancestry, religion, creed, national origin (including language use restriction), pregnancy, physical disability (including HIV and AIDS), mental disability, medical condition (cancer/genetic characteristics), age (over 40), marital/domestic partner status, gender identity, and denial of medical and family care leave or pregnancy disability leave. Grantee and its contractors or subcontractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and

harassment. Grantee and its contractors or subcontractors shall comply with the provisions of the California Fair Employment and Housing Act (Gov. Code, § 12990.) and the applicable regulations promulgated thereunder (Cal. Code Regs., tit. 2, § 11000 et seq.). The applicable regulations of the Fair Employment and Housing Commission are incorporated into this Agreement by reference. Grantee and its contractors or subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

Grantee shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Funding Agreement.

D.27. OPINIONS AND DETERMINATIONS: Where the terms of this Funding Agreement provide for action to be based upon, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

D.28. PERFORMANCE BOND: Where contractors are used, the Grantee shall not authorize construction to begin until each contractor has furnished a performance bond in favor of the Grantee in the following amounts: faithful performance (100%) of contract value, and labor and materials (100%) of contract value. This requirement shall not apply to any contract for less than $25,000.00. Any bond issued pursuant to this paragraph must be issued by a California-admitted surety. (Pub. Contract Code, § 7103; Code Civ. Proc., § 995.311.)

D.29. PRIORITY HIRING CONSIDERATIONS: If this Funding Agreement includes services in excess of $200,000, the Grantee shall give priority consideration in filling vacancies in positions funded by the Funding Agreement to qualified recipients of aid under Welfare and Institutions Code section 11200 in accordance with Public Contract Code section 10353.

D.30. PROHIBITION AGAINST DISPOSAL OF PROJECT WITHOUT STATE PERMISSION: The Grantee shall not sell, abandon, lease, transfer, exchange, mortgage, hypothecate, or encumber in any manner whatsoever all or any portion of any real or other property necessarily connected or used in conjunction with the Project, or with Grantee's service of water, without prior permission of State. Grantee shall not take any action, including but not limited to actions relating to user fees, charges, and assessments that could adversely affect the ability of Grantee to meet its obligations under this Funding Agreement, without prior written permission of State. State may require that the proceeds from the disposition of any real or personal property be remitted to State.

D.31. PROJECT ACCESS: The Grantee shall ensure that the State, the Governor of the State, or any authorized representatives 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 this Agreement.

D.32. REMAINING BALANCE: In the event the Grantee does not submit invoices requesting all of the funds encumbered under this Funding Agreement, any remaining funds revert to the State. The State will notify the Grantee stating that the Project file is closed, and any remaining balance will be disencumbered and unavailable for further use under this Funding Agreement.

D.33. REMEDIES NOT EXCLUSIVE: The use by either party of any remedy specified herein for the enforcement of this Funding Agreement is not exclusive and shall not deprive the party using such remedy of, or limit the application of, any other remedy provided by law.

D.34. RETENTION: The State shall withhold ten percent (10%) of the funds requested by the Grantee for reimbursement of Eligible Project Costs until the Project is completed and Final

Report is approved. Any retained amounts due to the Grantee will be promptly disbursed to the Grantee, without interest, upon completion of the Project.

D.35. RIGHTS IN DATA: Grantee 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 Funding Agreement shall be made available to the State and shall be in the public domain to the extent to which release of such materials is required under the California Public Records Act. (Gov. Code, § 6250 et seq.) Grantee may disclose, disseminate and use in whole or in part, any final form data and information received, collected, and developed under this Funding Agreement, subject to appropriate acknowledgement of credit to State for financial support. Grantee shall not utilize the materials for any profit-making venture or sell or grant rights to a third party who intends to do so. The State shall have the right to use any data described in this Paragraph for any public purpose.

D.36. SEVERABILITY: Should any portion of this Funding Agreement be determined to be void or unenforceable, such shall be severed from the whole and the Funding Agreement shall continue as modified.

D.37. SUSPENSION OF PAYMENTS: This Funding Agreement may be subject to suspension of payments or termination, or both if the State determines that:

A. Grantee, its contractors, or subcontractors have made a false certification, or

B. Grantee, its contractors, or subcontractors violates the certification by failing to carry out the requirements noted in this Funding Agreement.

D.38. SUCCESSORS AND ASSIGNS: This Funding Agreement and all of its provisions shall apply to and bind the successors and assigns of the parties. No assignment or transfer of this Funding Agreement or any part thereof, rights hereunder, or interest herein by the Grantee shall be valid unless and until it is approved by State and made subject to such reasonable terms and conditions as State may impose.

D.39. TERMINATION BY GRANTEE: Subject to State approval which may be reasonably withheld, Grantee may terminate this Agreement and be relieved of contractual obligations. In doing so, Grantee must provide a reason(s) for termination. Grantee must submit all progress reports summarizing accomplishments up until termination date.

D.40. TERMINATION FOR CAUSE: Subject to the right to cure under Paragraph 10, the State may terminate this Funding Agreement and be relieved of any payments should Grantee fail to perform the requirements of this Funding Agreement at the time and in the manner herein, provided including but not limited to reasons of default under Paragraph 10.

D.41. TERMINATION WITHOUT CAUSE: The State may terminate this Agreement without cause on 30 days' advance written notice. The Grantee shall be reimbursed for all reasonable expenses incurred up to the date of termination.

D.42. THIRD PARTY BENEFICIARIES: The parties to this Agreement do not intend to create rights in, or grant remedies to, any third party as a beneficiary of this Agreement, or any duty, covenant, obligation or understanding established herein.

D.43. TIMELINESS: Time is of the essence in this Funding Agreement.

D.44. TRAVEL: Travel includes the reasonable and necessary costs of transportation, subsistence, and other associated costs incurred by personnel during the term of this Funding Agreement. Any reimbursement for necessary travel and per diem shall be at rates not to exceed those set by the California Department of Human Resources for excluded employees. 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. No travel outside the State of California shall be reimbursed unless prior written authorization is obtained from the State.

D.45. UNION ORGANIZING: Grantee, by signing this Funding Agreement, hereby acknowledges the applicability of Government Code sections 16645 through 16649 to this Funding Agreement. Furthermore, Grantee, by signing this Funding Agreement, hereby certifies that:

A. No State funds disbursed by this Funding Agreement will be used to assist, promote, or deter union organizing.

B. Grantee shall account for State funds disbursed for a specific expenditure by this Funding Agreement to show those funds were allocated to that expenditure.

C. Grantee shall, where State funds are not designated as described in (b) above, allocate, on a pro rata basis, all disbursements that support the program.

D. If Grantee makes expenditures to assist, promote, or deter union organizing, Grantee will maintain records sufficient to show that no State funds were used for those expenditures and that Grantee shall provide those records to the Attorney General upon request.

D.46. VENUE: The State and the Grantee 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, or in the United States District Court in and for the Eastern District of California. The Grantee hereby waives any existing sovereign immunity for the purposes of this Agreement.

D.47. WAIVER OF RIGHTS: None of the provisions of this Funding Agreement shall be deemed waived unless expressly waived in writing. It is the intention of the parties here to that from time to time either party may waive any of its rights under this Funding Agreement unless contrary to law. Any waiver by either party of rights arising in connection with the Funding Agreement shall not be deemed to be a waiver with respect to any other rights or matters, and such provisions shall continue in full force and effect.

Exhibit E

GRANTEE'S AUTHORIZING RESOLUTION

RESOLUTION NO. 2024-24

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF LAKE AUTHORIZING THE GRANT APPLICATION, ACCEPTANCE, AND EXECUTION FOR THE POTTER VALLEY PROJECT DECOMMISSIONING– LAKE COUNTY WATER SUPPLY IMPACT AND TECHNICAL ASSESSMENT

WHEREAS, County of Lake proposes to implement the Potter Valley Project Decommissioning– Lake County Water Supply Impact and Technical Assessment;

WHEREAS, County of Lake has the legal authority and is authorized to enter into a funding agreement with the State of California; and

WHEREAS, County of Lake is seeking grant funding from the California Department of Water Resources for the Potter Valley Project Decommissioning– Lake County Water Supply Impact and Technical Assessment;

THEREFORE, BE IT RESOLVED by the Board of Supervisors of the County of Lake as follows:

1. The County of Lake County Administrative Officer, or designee, is hereby authorized and directed to prepare and file an application and other documentation for funding with the Department of Water Resources, and take such other actions as necessary or appropriate to obtain grant funding.

2. The County of Lake County Administrative Officer, or designee, is hereby authorized and directed to execute the funding agreement with the Department of Water Resources and any amendments thereto.

3. The County of Lake County Administrative Officer, or designee, is hereby authorized and directed to submit any required documents, invoices, and reports required to obtain grant funding.

CERTIFICATION I hereby certify that the foregoing Resolution was duly and regularly adopted by the Board of Supervisors of the County of Lake at the meeting held on February 27, 2024, motion by Supervisor Crandell and seconded by _____, motion passed by the following vote:

RESOLUTION NO. 2024-24

AYES: Supervisor Crandell, Green, Pyska, and Sabatier

NOES: None

ABSTAIN: None

ABSENT: Supervisor Simon

Bruno Sabatier (Mar 4, 2024 16:06 PST)

Bruno Sabatier

Chair, Board of Supervisors

Attest:

BOARD OF SUPERVISORS LAKE COUNTY, CAL

Johanna Delong (Mar 4, 2024 08:42 PST)

Susan Parker

Clerk of the Board

Approved as to Form:

Lloyd Guintivano (Jun 5, 2024 08:37 PDT)

Lloyd Guintivano

County Counsel

Exhibit F

REPORT FORMATS AND REQUIREMENTS

The following reporting formats should be utilized. Please obtain State approval prior to submitting a report in an alternative format.

1. PROGRESS REPORTS

Progress reports shall generally use the following format. This format may be modified as necessary to effectively communicate information.

PROJECT STATUS

Describe the work performed during the time period covered by the report including but not limited to:

PROJECT INFORMATION

- Legal matters
- Engineering Evaluations
- Environmental matters
- Status of permits, easements, rights-of-way, rights of entry, and approvals as may be required by other State, federal, and/or local agencies
- Major accomplishments during the quarter (i.e., tasks completed, milestones met, meetings held or attended, press releases, etc.)
- Issues/concerns that have, will, or could affect the schedule or budget, with a recommendation on how to correct the matter
- Describe differences between the work performed and the work outlined in the Overall Work Plan, including change orders
- Demonstrate financial ability to pay local cost share of Eligible Project Costs required to complete the Project
- Estimate the percentage completion of the overall project
- Identify key issues that need to be resolved
- Photos documenting progress

COST INFORMATION

- Provide a list showing all project costs incurred during the time period covered by the report by the Grantee and each contractor working on the Project and which of these costs are Eligible Project Costs
- A discussion on how the actual budget is progressing in comparison to the project budget included in the Overall Work Plan
- A list of any changes approved to the budget in accordance with Funding Agreement and a revised budget, by task, if changed from latest budget in the Overall Work Plan
- A discussion of whether there have been any changes to the Grantee’s finance plan for payment of the Grantee’s share of Eligible Project Costs

SCHEDULE INFORMATION

- A schedule showing actual progress versus planned progress
- A discussion on how the actual schedule is progressing in comparison to the original or last reported schedule
- A list of any changes approved to the Schedule in accordance with Funding Agreement and a revised schedule, by task, if changed from latest reported schedule

2. PROJECT COMPLETION REPORT

Project Completion Reports shall generally use the following format.

EXECUTIVE SUMMARY – Should include a brief summary of project information and include the following items:

- Brief description of work proposed to be done in the original application
- Description of actual work completed and any deviations from the work plan identified in the Funding Agreement

REPORTS AND/OR PRODUCTS – The following items should be provided

- Final Evaluation report
- Electronic copies of any data collected, not previously submitted
- As-built drawings
- Final geodetic survey information
- Self-Certification that the Project meets the stated goal of the funding agreement (e.g. 100-year level of flood protection, HMP standard, PL-84-99, etc.)
- Project photos
- Discussion of problems that occurred during the work and how those problems were resolved
- A final project schedule showing actual progress versus planned progress

COSTS AND DISPOSITION OF FUNDS – A list showing:

- The date each invoice was submitted to State
- The amount of the invoice
- The date the check was received
- The amount of the check (If a check has not been received for the final invoice, then state this in this section.)
- A summary of the payments made by the Grantee for meeting its cost sharing obligations under this Funding Agreement.
- A summary of final funds disbursement including:

- Labor cost of personnel of agency/ major consultant /sub-consultants. Indicate personnel, hours, rates, type of profession, and reason for consultant, i.e., design, CEQA work, etc.
- Evaluation cost information, shown by material, equipment, labor costs, and any change orders
- Any other incurred cost detail
- A statement verifying separate accounting of funding disbursements

- Summary of project cost including the following items:
  - Accounting of the cost of project expenditure;
  - Include all internal and external costs not previously disclosed; and
  - A discussion of factors that positively or negatively affected the project cost and any deviation from the original project cost estimate.

ADDITIONAL INFORMATION – Any relevant additional Information should be included.

Exhibit G

STATE AUDIT DOCUMENT REQUIREMENTS

The following provides a list of documents typically required by State Auditors and general guidelines for Grantees. List of documents pertains to both State funding and Grantee's Cost Share, if any, and details the documents/records that State Auditors would need to review in the event of this Funding Agreement is audited. Grantees should ensure that such records are maintained for three (3) years after final disbursement pursuant to this Agreement.

State Audit Document Requirements

Internal Controls

1. Organization chart (e.g., Agency's overall organization chart and organization chart for the State funded Program/Project).
2. Written internal procedures and flowcharts for the following:
   a) Receipts and deposits
   b) Disbursements
   c) State reimbursement requests
   d) Expenditure tracking of State funds
   e) Guidelines, policy, and procedures on State-funded Program/Project
3. Audit reports of the Agency internal control structure and/or financial statements within the last two years.
4. Prior audit reports on the State funded Program/Project.

State Funding:

1. Original Funding Agreement, any amendment(s), and budget modification documents.
2. A listing of all grants, loans, or subventions received from the State.
3. A listing of all other funding sources for the Program/Project.

Contracts:

1. All subcontractor and consultant contracts and related or partners' documents, if applicable.
2. Contracts between the Agency and member agencies as related to the State-funded Program/Project.

Invoices:

1. Invoices from vendors and subcontractors for expenditures submitted to the State for payments under the Funding Agreement.
2. Documentation linking subcontractor invoices to State reimbursement, requests, and related Funding Agreement budget line items.
3. Reimbursement requests submitted to the State for the Funding Agreement.

Cash Documents:

1. Receipts (copies of warrants) showing payments received from the State.
2. Deposit slips (or bank statements) showing deposits of the payments received from the State.

3. Cancelled checks or disbursement documents showing payments made to vendors, subcontractors, consultants, and/or agents under the grants or loans.
4. Bank statements showing the deposit of the receipts.

Accounting Records:

1. Ledgers showing entries for funding receipts and cash disbursements.
2. Ledgers showing receipts and cash disbursement entries of other funding sources.
3. Bridging documents that tie the general ledger to requests for Funding Agreement reimbursement.

Administration Costs:

1. Supporting documents showing the calculation of administration costs.

Personnel:

1. List of all contractors and Agency staff that worked on the State funded Program/Project.
2. Payroll records including timesheets for contractor staff and the Agency personnel who provided services charged to the program

Project Files:

1. All supporting documentation maintained in the project files.
2. All Funding Agreement related correspondence.

Exhibit H

INFORMATION NEEDED FOR ESCROW PROCESSING AND CLOSURE

The Grantee must provide the following documents to the State Project Representative during the escrow process. Property acquisition escrow documents must be submitted within the term of this Funding Agreement and after a qualified appraisal has been approved.

- Name and Address of Title Company Handling the Escrow
- Escrow Number
- Name of Escrow Officer
- Escrow Officer's Phone Number
- Dollar Amount Needed to Close Escrow
- Legal Description of Property Being Acquired
- Assessor's Parcel Number(s) of Property Being Acquired
- Copy of Title Insurance Report
- Entity Taking Title as Named Insured on Title Insurance Policy
- Copy of Escrow Instructions in Draft Form Prior to Recording for Review Purposes
- Copy of Final Escrow Instructions
- Verification that all Encumbrances (Liens, Back Taxes, and Similar Obligations) have been Cleared Prior to Recording the Deed to Transfer Title
- Copy of Deed for Review Purposes Prior to Recording
- Copy of Deed as Recorded in County Recorder's Office
- Copy of Escrow Closure Notice

Exhibit I

APPRAISAL SPECIFICATIONS

For property acquisitions funded this Funding Agreement, the Grantee must submit an appraisal for review and approval by the Department of General Services or DWR's Real Estate Branch prior to reimbursement or depositing State funds into an escrow account. All appraisal reports, regardless of report format, must include all applicable Appraisal Specifications below. Appraisals for a total compensation of $150,000 or more shall be reported as a Self-Contained Appraisal Report. Appraisals for a total compensation of less than $150,000 may be reported as a Summary Appraisal Report, which includes all information necessary to arrive at the appraiser's conclusion. Appraisal Specifications 14, 16, 21, 23-25, and 28 shall be narrative analysis regardless of the reporting format.

1. Title page with sufficient identification of appraisal assignment.
2. Letter of transmittal summarizing important assumptions and conclusions, value estimate, date of value and date of report.
3. Table of contents.
4. Assumptions and Limiting Conditions, Extraordinary Assumptions, and Hypothetical Conditions as needed.
5. Description of the scope of work, including the extent of data collection and limitations, if any, in obtaining relevant data.
6. Definition of Fair Market Value, as defined by Code of Civil Procedure, section 1263.320.
7. Photographs of subject property and comparable data, including significant physical features and the interior of structural improvements, if applicable.
8. Copies of Tax Assessor's plat map with the subject marked along with all contiguous assessor's parcels that depict the ownership.
9. A legal description of the subject property, if available.
10. For large, remote or inaccessible parcels, provide aerial photographs or topographical maps depicting the subject boundaries.
11. Three-year subject property history, including sales, listings, leases, options, zoning, applications for permits, or other documents or facts that might indicate or affect use or value.
12. Discussion of any current Agreement of Sale, option, or listing of subject property. This issue required increased diligence since state agencies often utilize non-profit organizations to quickly acquire sensitive-habitat parcels using Option Agreements. However, due to confidentiality clauses, the terms of the Option are often not disclosed to the state. If the appraiser discovers evidence of an Option or the possible existence of an Option, and the terms cannot be disclosed due to a confidentiality clause, then the appraiser is to cease work and contact the client.
13. Regional, area, and neighborhood analyses. This information may be presented in a summary format.
14. Market conditions and trends including identification of the relevant market area, a discussion of supply and demand within the relevant market area, and a discussion of the relevant market factors impacting demand for site acquisition and leasing within the relevant market area. This information may be presented in a summary format.
15. Discussion of subject land/site characteristics (size, topography, current use, elevations, zoning and land use issues, development entitlements, General Plan designation, utilities, offsite

improvements, access, land features such as levees and creeks, offsite improvements, easements and encumbrances, covenants, conditions and restrictions, flood and earthquake information, toxic hazards, water rights, mineral rights, toxic hazards, taxes and assessments, etc.).

16. Description of subject improvements including all structures, square footage, physical age, type of construction, quality of construction, condition of improvements and/or identification of any permanent plantings. Discussion of construction cost methodology, costs included and excluded, accrued depreciation from all causes, remaining economic life, items of deferred maintenance and cost to cure, and incurable items. Construction cost data must include cost data source, date of estimate or date of publication of cost manual, section and page reference of cost manual, copies of cost estimate if provided from another source, replacement or reproduction cost method used, and supporting calculations including worksheets or spreadsheets.
17. Subject property leasing and operating cost history, including all items of income and expense.
18. Analysis and conclusion of the larger parcel for partial taking appraisals. For partial taking appraisals, Appraisal Specifications generally apply to the larger parcel rather than an ownership where the larger parcel is not the entire ownership.
19. Include a copy of a recent preliminary title report (within the past year) as an appraisal exhibit. Discuss the title exceptions and analyze the effect of title exceptions on fair market value.
20. For appraisals of partial takings or easements, a detailed description of the taking or easement area including surface features and topography, easements, encumbrances or improvements including levees within the subject partial take or easement, and whether the take area is characteristic of the larger parcel. Any characteristics of the taking area, including existing pre-project levees that render the take area different from the larger parcel must be addressed in the valuation.
21. Opinion of highest and best use for the subject property, based on an in depth analysis supporting the concluded use which includes the detail required by the complexity of the analysis. Such support typically requires a discussion of the four criteria of tests utilized to determine the highest and best use of a property. If alternative feasible uses exist, explain and support market, development, cash flow, and risk factors leading to an ultimate highest and best use decision.
22. All approaches to market value applicable to the property type and in the subject market. Explain and support the exclusion of any usual approaches to value.
23. Map(s) showing all comparable properties in relation to the subject property.
24. Photographs and plat maps of comparable properties.
25. In depth discussion of comparable properties, similarities and differences compared to the subject, adjustments to the comparable data, and discussion of the reliability and credibility of the data as it relates to the indicated subject property value. Improved comparable sales which are used to compare to vacant land subject properties must include an allocation between land and improvements, using methodology similar to methodology used in item 16 above to estimate improvement value when possible, with an explanation of the methodology used.
26. Comparable data sheets.
    a) For sales, include information on grantor/grantee, sale/recordation dates, listed or asking price as of the date of sale, highest and best use, financing, conditions of sale, buyer motivation, sufficient location information (street address, post mile, and/or distance from local landmarks

such as bridges, road intersections, structures, etc.), land/site characteristics, improvements, source of any allocation of sale price between land and improvements, and confirming source.

b) For listings, also include marketing time from list date to effective date of the appraisal, original list price, changes in list price, broker feedback, if available.

c) For leases, include significant information such as lessor/lessee, lease date and term, type of lease, rent and escalation, expenses, size of space leased, tenant improvement allowance, concessions, use restrictions, options, and confirming source. When comparing improved sales to a vacant land subject, the contributory value of the improvements must be segregated from the land value.

27. For appraisals of easements, a before and after analysis of the burden of the easement on the fee, with attention to how the easement affects highest and best use in the after condition. An Easement Valuation Matrix or generalized easement valuation references may be used ONLY as a reference for a secondary basis of value.

28. For partial taking and easement appraisals, valuation of the remainder in the after condition and analysis and identification of any change in highest and best use or other characteristics in the after condition, to establish severance damages to the remainder in the after condition, and a discussion of special and general benefits, and cost to cure damages or construction contract work.

29. There are occasions where properties involve water rights, minerals, or salable timber that require separate valuations. If an appraisal assignment includes water rights, minerals, or merchantable timber that requires separate valuation, the valuation of the water rights, minerals, or merchantable timber must be completed by a credentialed subject matter specialist.

30. For partial taking and easement appraisals, presentation of the valuation in California partial taking acquisition required format.

31. Implied dedication statement.

32. Reconciliation and final value estimate. Include analysis and comparison of the comparable sales to the subject, and explain and support conclusions reached.

33. Discussion of any departures taken in the development of the appraisal.

34. Signed Certification consistent with the language found in Uniform Standards of Professional Appraisal Practice.

35. If applicable, in addition to the above, appraisals of telecommunication sites must also provide:

a) A discussion of market conditions and trends including identification of the relevant market, a discussion of supply and demand within the relevant market area and a discussion of the relevant market factors impacting demand for site acquisition and leasing within the relevant market area.

b) An analysis of other (ground and vault) leases comparable to subject property. Factors to be discussed in the analysis include the latitude, longitude, type of tower, tower height, number of rack spaces, number of racks occupied, placement of racks, power source and adequacy, back-up power, vault and site improvements description and location on site, other utilities; access, and road maintenance costs.