LITTLE EGBERT
Joint Powers Agency

AGENDA

Meeting of the Little Egbert Joint Powers Agency Board of Directors

Wednesday, July 12th, 2023
8:00 am

Larsen Wurzel and Associates, Inc.
2450 Venture Oaks Way
Suite 240
Sacramento, CA 95833

NOTICE TO THE PUBLIC

For Virtual Public Access:
Meeting Link (via Microsoft Teams):
Click here to join the meeting

Call in:
1-469-294-4078
Meeting number/access code: 266 597 312#

Any member of the public appearing virtually may speak during Public Comment. The Little Egbert Joint Powers Agency will use best efforts to swiftly resolve requests for reasonable modifications or accommodations with individuals with disabilities, consistent with the Americans with Disabilities Act, and resolving any doubt whatsoever in favor of accessibility.

1. **Call to Order**
2. **Roll Call and Opening Remarks**
3. **Public Comment** (New Business)

   This is an opportunity for members of the public to directly address the Board on subject matter not on the agenda within the jurisdiction of the Board.
4. **Agenda Approval**
5. **Consent Items** (Action Items)
   a. **Approval of Meeting Minutes**
      1. June 6th, 2023

      Enclosure 1: Agenda Item 5.a.1 – Meeting Minutes

6. **Board Items** (Action item unless otherwise noted)
    a. Status update on progress toward the Feasibility Study (Informational)
    b. Status update on progress by Department of Water Resources technical team (Informational)
    c. Authorize the Executive Director to execute one or more contracts to support the environmental compliance effort for the Little Egbert Multi-Benefit Project, contingent upon execution of an agreement with the California Department of Water Resources.

        Enclosure 2: Agenda Item 6.c.1 – Statement of Qualifications from MBK

        Enclosure 3: Agenda Item 6.c.2 – Statement of Qualifications from HDR
7. **Other Reports** (Informational)
    a. Executive Director's Report
    b. Assistant Secretary's Report
    c. Director Reports
    d. Counsel Report
8. **Adjourn**
    a. The next meeting of the Board is August 7th, 2023 at 8:30am.

- Any documents related to agenda items that are made available to the Board before the meeting will be available for review by the public by contacting info@lejpa.org.
- If you need reasonable accommodation due to a disability, please contact info@lejpa.org at least 48 hours in advance of the meeting. This contact information may also be used for any questions you may have.
- Public comments are generally limited to three (3) minutes but may be more or less at the discretion of the Board.
- The Board may consider the agenda items listed above in a different order at the meeting, pursuant to the determination of the Board Chair.

ENCLOSURE 1

AGENDA ITEM 5.a.1

LITTLE EGBERT
Joint Powers Agency

MINUTES

Meeting of the Little Egbert Joint Powers Agency Board of Directors

Monday, June 5th, 2023
8:30 am

Larsen Wurzel and Associates, Inc.
2450 Venture Oaks Way
Suite 240
Sacramento, CA 95833

NOTICE TO THE PUBLIC

For Virtual Public Access:
Meeting Link (via Microsoft Teams):
Click here to join the meeting

Call in:
1-469-294-4078
Meeting number/access code: 266 597 312#

Any member of the public appearing virtually may speak during Public Comment. The Little Egbert Joint Powers Agency will use best efforts to swiftly resolve requests for reasonable modifications or accommodations with individuals with disabilities, consistent with the Americans with Disabilities Act, and resolving any doubt whatsoever in favor of accessibility.

1. **Call to Order**

   The meeting was called to order at 8:30am. Director Harris presided.

2. **Roll Call and Opening Remarks**

   Directors Present: Richard Harris, Chair

   Robert Wagner

3. **Public Comment** (New Business)

   There was no public comment.

4. **Agenda Approval**

   Director Wagner moved to approve the agenda.

   Director Harris seconded and it passed by unanimous vote.

   AYES: Harris, Wagner

NOES: (None)

ABSTAIN: (None)

RECUSE: (None)

5. **Consent Items** (Action Items)

   a. **Approval of Meeting Minutes**

      1. May 1st, 2023

         Enclosure 1: Agenda Item 5.a.1 – Meeting Minutes

      Director Wagner moved to approve the consent items.

      Director Harris seconded and it passed by unanimous vote.

      AYES: Harris, Wagner

      NOES: (None)

      ABSTAIN: (None)

      RECUSE: (None)

6. **Board Items** (Action item unless otherwise noted)

   a. Approve Amendment No. 3 to the Larsen Wurzel & Associates contract.

      Enclosure 2: Agenda Item 6.a – LWA Amendment No. 3

      Director Wagner moved to approve Amendment No. 3 to the LWA Contract.

      Director Harris seconded and it passed by unanimous vote.

      AYES: Harris, Wagner

      NOES: (None)

      ABSTAIN: (None)

      RECUSE: (None)

   b. Status update on progress toward the Feasibility Study (Informational)

      Brighton Heard of Westervelt Ecological Services presented an update on the technical teams' progress toward completion of the Feasibility Study. The presentation is attached.

   c. Status update on progress by Department of Water Resources technical team (Informational)

      Megan LeRoy of DWR provided an update on progress by the DWR technical team towards work for the Feasibility Study. The team hosted a pop-up event at Sandy Beach in Rio Vista to gather public input on potential recreation uses at the

Project site. In addition, the team continues to make progress on completing the hydrodynamic modeling for the Study.

d. Authorize Board Chair to approve the amendment to the funding agreement with RD 2084.

Enclosure 3: Agenda Item 6.d – RD 2084 – LEJPA 2nd Amended and Restated Funding Agreement

Director Wagner moved to approve the amended and restated funding agreement with RD 2084.

Director Harris seconded and it passed by unanimous vote.

AYES: Harris, Wagner

NOES: (None)

ABSTAIN: (None)

RECUSE: (None)

7. Financial Management (Informational/Action Item)

a. Adopt FY2023/2024 Budget

Enclosure 4: Agenda Item 7.a – Staff Report on FY23/24 Recommended Budget

Director Wagner moved to approve the Recommended Budget for FY23/24.

Director Harris seconded and it passed by unanimous vote.

AYES: Harris, Wagner

NOES: (None)

ABSTAIN: (None)

RECUSE: (None)

8. Other Reports (Informational)

a. Executive Director's Report

Executive Director Nagy provided an update on agency developments and relevant legislation.

AB 345 moved out of the Assembly. This bill would allow DWR discretion on advanced funding and retention percentages.

The DWR contract with LEJPA is routing for signature.

DWR is serving at the CEQA lead agency for the Little Egbert Multi-Benefit Project and solicited comments from LEJPA on the draft NOP. DWR expects to file the NOP on June 13th and will have a 45-day review period. They will host

three scoping meetings: two virtual meetings on June 26th and June 29th, and one in-person meeting on July 11th.

Executive Director Nagy has been in contact with Solano County Water Agency recently in regard to the Mellin Levee. Staff intend to take a resolution of intent to their Board at the June 8th meeting.

LEJPA is scheduled to present to the Solano County Board of Supervisors on August 8th.

b. Assistant Secretary's Report

Assistant Secretary Baker mentioned that responses to the RFQ for Environmental Compliance support are due on June 9th.

c. Director Reports

Director Harris mentioned that he took a self-guided tour of the Little Egbert Tract with his wife and daughter.

d. Counsel Report

9. Adjourn

a. The next meeting of the Board is July 12th, 2023 at 8am.

Director Wagner moved to adjourn the meeting.

Director Harris seconded and it passed by unanimous vote.

AYES: Harris, Wagner

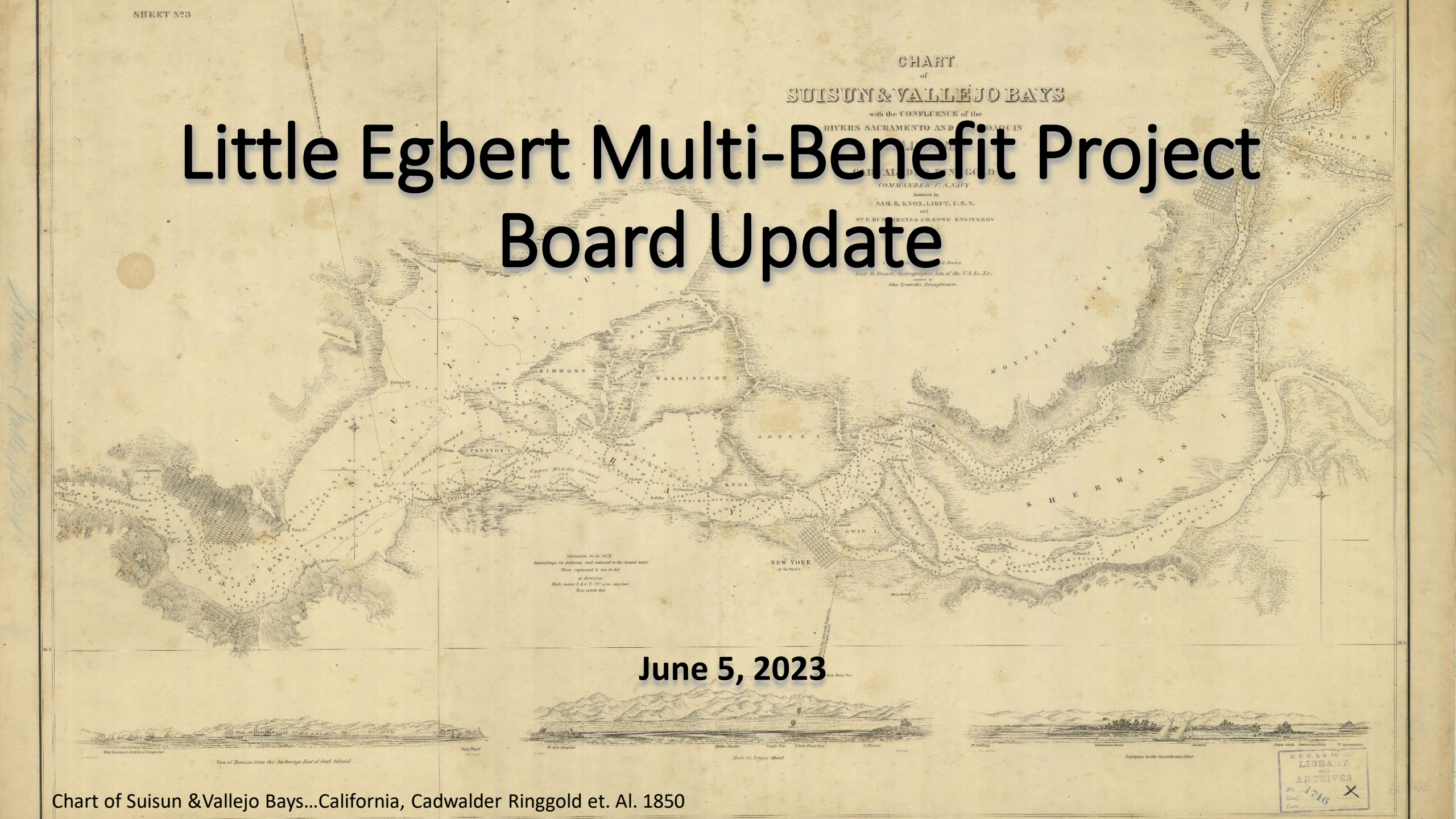
NOES: (None)

ABSTAIN: (None)

RECUSE: (None)

The meeting was adjourned at 9:09am.

- Any documents related to agenda items that are made available to the Board before the meeting will be available for review by the public by contacting info@lejpa.org.
- If you need reasonable accommodation due to a disability, please contact info@lejpa.org at least 48 hours in advance of the meeting. This contact information may also be used for any questions you may have.
- Public comments are generally limited to three (3) minutes but may be more or less at the discretion of the Board.
- The Board may consider the agenda items listed above in a different order at the meeting, pursuant to the determination of the Board Chair.



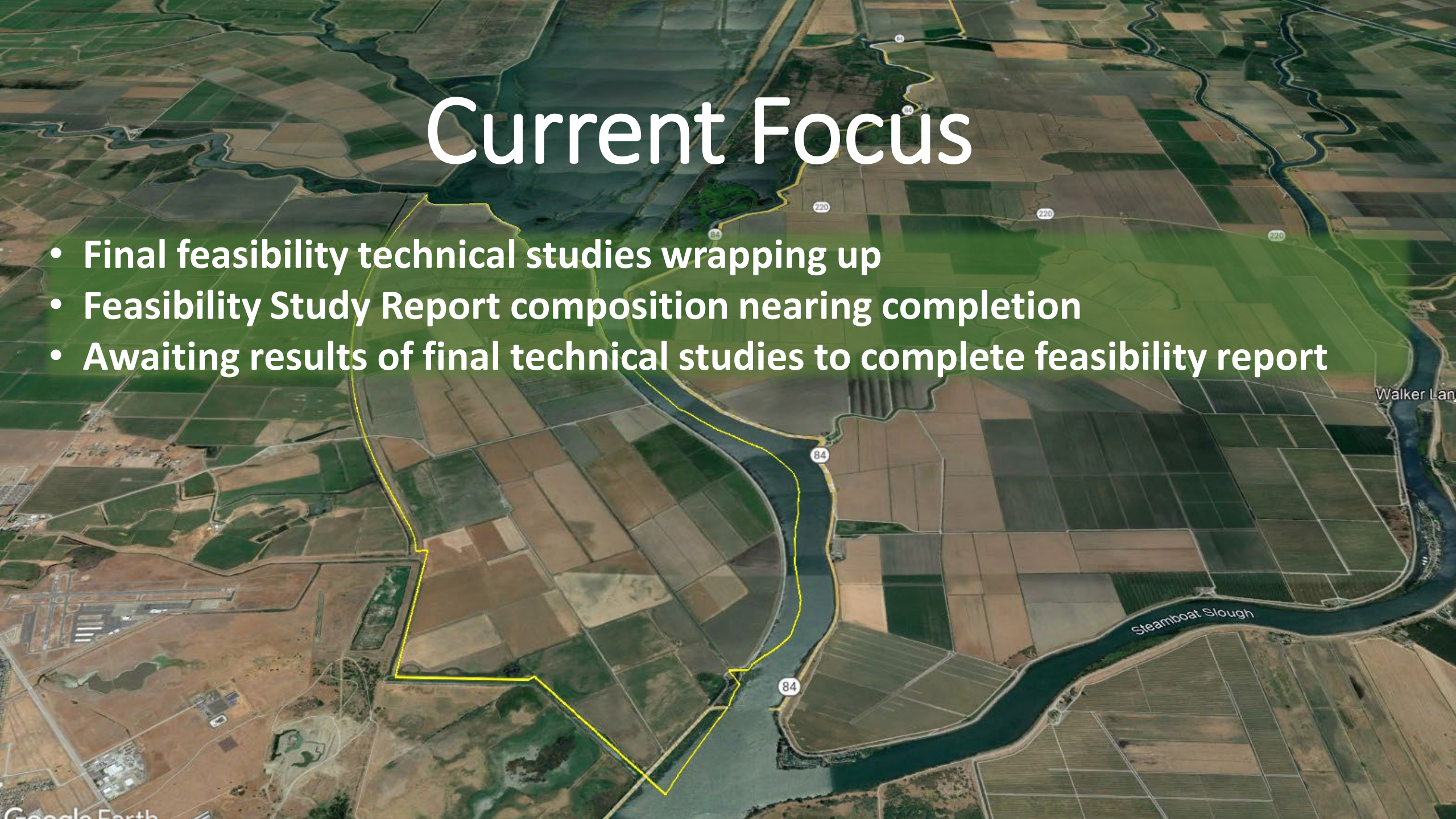
Little Egbert Multi-Benefit Project Board Update

June 5, 2023

Chart of Suisun &Vallejo Bays…California, Cadwalder Ringgold et. Al. 1850

Current Focus

- Final feasibility technical studies wrapping up
- Feasibility Study Report composition nearing completion
- Awaiting results of final technical studies to complete feasibility report



Technical Report Status

Complete

- Geotechnical Investigations – S&W
- Survey Base Map – L&M
- Aquatic and Biological Resources – ESA
- Permitting Needs & Strategy Memo – ESA

Still Awaiting

- Civil Levee Design – HDR
- Hydrology and Hydraulics Modeling – MBK
- Wind & Fetch Analysis – CBEC
- Sedimentation Study – CBEC
- Particle Tracking Analysis – CBEC
- Water Quality Modeling – RMA
- Recreational Features Report – Jacobs/Kearns & West
- Recreational Plans - Jacobs


Questions?
220
220
220
84
84
84
Walker Lan
Steamboat Slough
Google Earth

ENCLOSURE 2

AGENDA ITEM 6.c.1

June 9, 2023

LEJPA-RFQ-23-01

Request for Qualifications for Environmental Compliance Support of Flood Control Infrastructure for the Little Egbert Multi-Benefit Project

PRESENTED BY: Don Trieu, P.E.
MBK ENGINEERS
455 UNIVERSITY AVE. SUITE 100
SACRAMENTO, CA 95825

Table of Contents

Attachments

MBK Key Staff Resumes

Certificate of Insurance

MBK ENGINEERS
Water Resources ◆ Flood Control ◆ Water Rights

WALTER BOUREZ, III, P.E.
DON TRIEU, P.E.
DARREN CORDOVA, P.E.
NATHAN HERSHEY, P.E., P.L.S.
LEE G. BERGFELD, P.E.
BEN TUSTISON, P.E.
THOMAS ENGLER, P.E., CFM
MICHAEL MONCRIEF, P.E.
NICOLE ORTEGA-JEWELL, PMP
KYLE KNUTSON, P.E.
ANNE WILLIAMS, P.E.

FOUNDERS:
ANGUS NORMAN MURRAY
1913-1985
JOSEPH I. BURNS
1926-2021
DONALD E. KIENLEN
1930-2023

Cover Letter

June 9, 2023

Mr. Eric Nagy
Executive Director
Little Egbert Joint Powers Agency
2450 Venture Oaks Way Suite 240
Sacramento, CA 95833
info@lejpa.org

Subject: **Request for Qualifications Number LEJPA-RFQ-23-01, Environmental Compliance Support of Flood Control Infrastructure for the Little Egbert Multi-Benefit Project**

Dear Mr. Nagy:

MBK Engineers (MBK) appreciates the opportunity to submit our Statement of Qualifications (SOQ) to provide *Hydrology and Hydraulics Engineering* support for the environmental compliance of the Little Egbert Multi-Benefit Project (LEMBP) in response to this *Request for Qualifications Number LEJPA-RFQ-23-01*.

The Little Egbert Joint Powers Agency (LEJPA) is seeking assistance from experienced professionals in the development and delivery of flood risk reduction projects across many different disciplines. These projects offer the opportunity to incorporate muti-benefit objectives that were identified in prior feasibility studies, such as, enhancing public safety; providing protection and enhancing natural ecosystem processes; increasing habitat; supporting species; and protecting and providing opportunities for recreation. MBK has extensive experience working on planning, feasibility, and design phases of flood risk reduction projects within the Sacramento River Flood Control Project (SRFCP) and has led the hydrology and hydraulics tasks for all prior phases of the LEMBP project. This experience positions MBK to provide the LEJPA with efficient and effective services and support. For this and other reasons addressed later in this SOQ, we believe MBK is uniquely qualified to support LEJPA and the California

Department of Water Resources (DWR) with technical evaluations necessary to achieve compliance with the California Environmental Quality Act (CEQA).

Don Trieu, as signatory of this document and the designated point of contact for the MBK Team, has the authority to enter into any provision; agreement; or contract resulting from LEJJPA-RFQ-23-01, as a shareholder of MBK. Don will also serve as the Project Manager and Project Technical Lead for any task orders resulting from this RFQ response. Don has successfully provided modeling support to various local, State, and Federal agencies for several years. In the *Qualifications and Experience of Key Team Members* section, we have provided a brief description of the capabilities and experience of each member of the team. Resumes for each Key Team Member have also been included with this submittal.

We hereby certify that MBK has the professional, technical, and financial resources necessary to accomplish the required work efficiently, effectively, and responsibly in the time required. If you have any questions regarding our submittal, please contact me by phone at (916) 456-4400 or by email at trieu@mbkengineers.com.

Sincerely,
MBK ENGINEERS

Don Trieu, P.E.

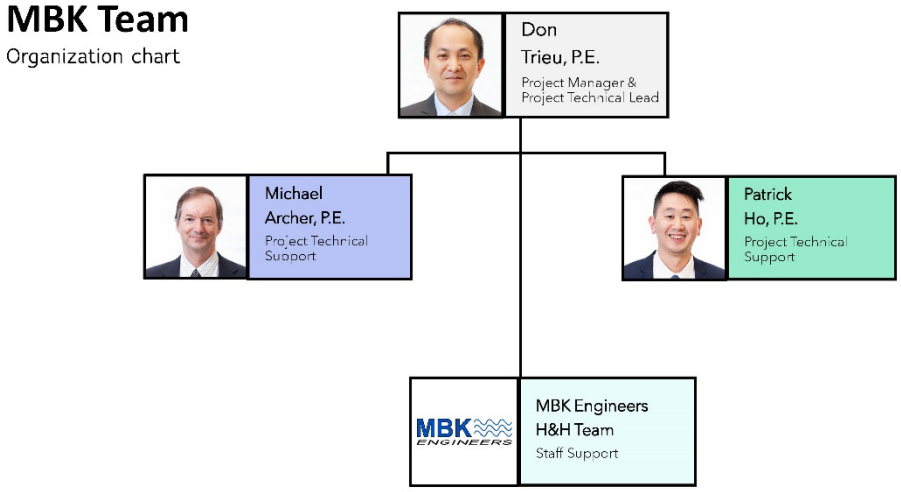
MBK Engineers
455 University Avenue, Suite 100
Sacramento, CA 95825-6579
T: (916) 456-4400 / F: (916) 456-0253
trieu@mbkengineers.com

DUNS No. 07-379-2095

MBK Engineers Board of Directors

Lee Bergfeld, P.E.
Ben Tustison, P.E.
Nate Hershey, P.E., P.L.S.

Consultant Team Organization



The MBK Team will be led by Don Trieu, who serves as both the Project Manager and the Project Technical Lead. Both Michael Archer and Patrick Ho will provide Project Technical Support to the LEMBP, under the direction of Don Trieu. While not considered to be Key Team Members on this project, the entire H&H group at MBK is available for LEMBP support on an as needed basis, as is the rest of the MBK staff. The *Qualifications and Experience of Key Team Members* section of this SOQ provides more information regarding the members and functions of the MBK Team.

Qualifications and Experience of Key Team Members

A brief summary of MBK's history and experience performing engineering services in support of water resources projects, including the firm's experience performing work relevant to RFQ number *LEJPA-RFQ-23-01* is below. Additionally, a brief summary for each MBK Key Team member is included in this section. Resumes for all Key Team Member have been included with this SOQ response as Attachment 1.

Firm History and Profile

MBK Engineers is a well-respected consulting engineering firm, located in Sacramento, California, which has provided engineering services in support of water resources projects in California, Oregon, and Nevada for over 50 years. The firm consists of five practice areas: Hydrology and Hydraulics (H&H), System Operations, Delta Levee District Engineer, Water Rights, and Flood Management. The firm's Principals are directly involved in the execution and management of work for which the firm is involved. The close relationship the principals have with the ongoing work has led to a very high understanding of the flood control and water system vulnerabilities and opportunities. MBK has worked with Federal, State, and local agencies to assist them in their project development while striving to improve public safety.

Qualifications

Developing and implementing multi-benefit flood control projects in the Sacramento and San Joaquin valley's requires experience working with multidisciplinary consultants; and Federal, State, and local agencies in order to successfully navigate complex Federal and State regulatory permits and funding requirements. In addition, MBK's comprehensive knowledge of the history; design; and operations and maintenance (O&M) of both the Sacramento River Flood Control Project and the San Joaquin River Flood Control Project (SJRFCP) has helped to formulate beneficial technical analyses. These strong technical contributions have been used to support agencies in their evaluations of flood risk reduction alternatives; and in designing projects that are cost effective, while also meeting all goals and objectives.

The H&H group at MBK has performed hydraulic impact analysis for over 25 projects throughout the California Central Valley. Our extensive understanding of flood control operations and flood control alternatives on both the San Joaquin and Sacramento rivers has provided numerous benefits our clients. MBK has worked closely with local, State, and Federal agencies to navigate the regulatory process in order to draft and implement projects that offer multi-benefits. These multi-benefit projects protect the safety of the public and property, enhance the natural ecosystem processes, and can be used to increase habitat and support species.

MBK helps our clients implement flood risk reduction projects with a well-qualified internal team of 55 engineers, technical staff, and administrative staff. MBK is owned and led by ten principal engineers, six of which support local flood control agencies and Reclamation Districts. There are currently nine engineers in the H&H group. The three key staff members assigned to this Project have a combined 75 years of recent experience working on projects within the SRFCP.

Key Team Members

Don Trieu, P.E. – Project Manager and Project Technical Lead: Don will lead the MBK Team as Project Manager and Project Technical lead, and is available to spend up to 25 percent of his time supporting this Project. Don Trieu has more than 28 years of experience in development of hydraulic and hydrologic models for evaluation of flood control alternatives, hydraulic impact analysis, and design of flood risk reduction projects in the Sacramento and San Joaquin valley. Don has developed, assisted in the development, or advised on the development of both one-dimensional and two-dimensional hydraulic models of the Sacramento River Flood Control Project and the San Joaquin River Flood Control Project. Application of these system hydraulic models throughout the years has been used for plan formulation, alternatives analysis, Federal Emergency Management (FEMA) flood plain mapping, and DWR ULOP/ULDC[1] analysis. As such, Don has developed a deep understanding of the hydraulic performance of the SRFCP and the SJRFCP. This experience has allowed Don to provide strategic and cost-effective advice regarding *Hydrology and Hydraulic Engineering* while meeting the client's goals and objectives.

Patrick Ho, P.E. – Project Technical Support: Patrick will provide technical support and is available to spend up to 30 percent of his time supporting the technical evaluations. Patrick Ho is a Supervising Civil Engineer at MBK Engineers with over 12 years of experience, specializing in supporting hydrologic and hydraulic engineering design and analysis. Patrick works with multi-disciplinary teams to strategically find solutions to engineering and regulatory related assignments. Patrick assists with the development of strategies for MBK's clients, and prepares; reviews; and evaluates technical documentation to support each client's needs through project planning, development, and implementation phases. In addition, Patrick has experience in formulating and implementing automated workflows and systems used to conduct analyses within the hydrologic and hydraulic domain. With these systems, he has developed pipelines that are capable of scaling out onto cloud infrastructures, especially in data and computationally intensive environments, at the request of clients. Under the direction of the Principal Engineer, Patrick provides supervision and technical guidance to engineers and technical staff.

Mike Archer, P.E. – Project Technical Support: Mike will provide technical support and is available to spend up to 25 percent of his time supporting the technical evaluations. Mike Archer is a Supervising Civil Engineer at MBK Engineers, with over 35 years of experience in Water Resource Engineering. Mike supervises and performs hydraulic studies for flood control, floodplain, hydraulic impact, and levee design analysis. He is an expert with the HEC-RAS, RMA2, FESWMS, and FLO-2D hydraulic analysis computer modeling programs. Mike's experience includes development of hydraulic models and analysis for the determination of design water surface elevations, in accordance with ULDC and system-wide hydraulic impacts in the Sacramento and San Joaquin river basins for clients. These clients include the Sacramento Area Flood Control Agency (SAFCA), River Islands at Lathrop, Three Rivers Levee Improvement Authority (TRLIA), American Rivers, and the West Sacramento Area Flood Control Agency (WSAFCA). Mike was involved in the development and quality control review of HEC-RAS and FLO-2D hydraulic simulation models for the California Department of Water Resources Central Valley Floodplain Evaluation and Delineation project.

[1] ULOP – Urban Level of Protection, and ULDC – California Urban Levee Design Criteria

Project Experience and Examples

For many years the MBK Team has provided H&H support to clients across the California Central Valley. The focus of our technical approach has always been to provide our clients with analyses that is sound, feasible, and cost-effective.

In the following section, we elaborate on the experience and capability of the MBK Team do the work desired by the LEJPA. We have included summaries of previous work performed, which provide examples of our expertise in the field of H&H. Additionally, summaries of four projects conducted within the last 10 years are presented below. The client contacts, project dates, and our role in each project has also been included.

Experience

MBK has a long-standing history and extensive experience regarding hydrology and hydraulics within the LEMBP project vicinity and region. Our earliest work dates to 2003, when MBK investigated opportunities as part of the *Lower Sacramento River Regional Project* commissioned by SAFCA. The purpose of the project was to develop and determine if there were opportunities to improve the function of the SRFCP in the downstream reach, mainly in the Yolo Bypass. The features investigated and analyzed to pass a 200-year flood through the SRFCP consisted of widening the Fremont Weir, widening the Sacramento Weir and Sacramento Bypass, creating a setback levee on the upper and lower Elkhorn basins, overflowing the weir on the Deep Water Ship Channel (DWSC), and a degrade of the restricted height levees along Little Egbert Tract. MBK developed the hydraulic model and prepared the hydraulic analysis to assess the performance of the features. The project was completed for SAFCA under the direction of Mr. Tim Washburn (916-202-0724).

In 2005, MBK prepared the preliminary analysis to further investigate the concept of an inlet and outlet weir elevation on Little Egbert Tract for Reclamation District (RD) 2084. The goal of this action was to minimize the erosion of the landside levee slope during a flood event and reduce the volume of water regained within Little Egbert Tract following the flood event.

Project Examples

2014, Lower Sacramento River/Delta North Regional Flood Management Plan, Greg Fabun - WSAFCA

As part of the *Lower Sacramento River/Delta North Regional Flood Management Plan* in 2014, MBK prepared a hydraulic analysis to help assess the performance of structural improvements needed to achieve 200-year level of protection in urban and urbanizing areas including Sacramento, Davis, Woodland, and Rio Vista. This was in addition to conducting assessments of structural improvements that would achieve 100-year level of protection in small Delta legacy communities. Some of the improvements analyzed included vegetation thinning in the Yolo Bypass, widening of the Fremont weir, widening of the Sacramento Weir and Bypass, placing a setback levee on Upper Elkhorn and lower Elkhorn basins, removing the Yolo Shortline Railroad trestle, having the overflow weir divert water into the DWSC and closure structure, and reducing the height of the restricted height levee on Little Egbert Tract. This work was completed for WSAFCA under the direction of Mr. Greg Fabun (916-617-4855).

2017, Little Egbert Tract Multi-Objective Hydraulic Analysis, Tim Washburn – SAFCA

In 2017, MBK prepared a hydraulic analysis to evaluate multi-objective alternatives on Little Egbert Tract that would reduce flood risk, improve habitat, while maintaining agriculture production. Four alternatives were investigated as part of the analysis, which included various combinations of inlet and outlet weirs on the island coupled with a tidal marsh with associated tidal opening and new berms. This analysis was completed for SAFCA under the direction of Mr. Tim Washburn (916-202-0724).

2018, Little Egbert Tract Feasibility Study, Johnathan Kors – Wood Rodgers

In 2018, MBK prepared the hydraulic analysis for the *Little Egbert Tract Feasibility Study.* The objective of the study was to identify and evaluate a full range of land use configurations that maximize the integration of habitat, flood risk reduction, and agricultural benefits of Little Egbert Tract. MBK evaluated six alternatives to gage performance relative to an existing condition and performance relative to a future cumulative condition in the Yolo bypass. This project was completed for Wood Rodgers under the direction of Mr. Jonathan Kors (916-326-5294).

2019, American River Watershed Common Features, Sacramento Weir Widening, Dan Tibbitts – SAFCA

To reduce flood risk to the Sacramento metropolitan area, the U.S. Army Corps of Engineers (USACE) is designing and constructing flood features to reduce stages in the river system, and upgrading the existing levees. One of the features is the Sacramento Weir Widening project, which includes constructing a 1,500-foot-long passive weir, with associated levee; roadway; rail; and fish passage improvements. MBK supported the USACE and SAFCA on hydrology and hydraulic support for evaluation of alternatives and hydraulic impact analysis for the Supplemental EIS/EIR. MBK prepared a hydraulic analysis evaluating various passive weir lengths and heights to ensure the selected preferred alternative met the projects stage reduction objectives, but did not induce more frequent flooding in the Yolo Bypass. The hydraulic effects of constructing a passive weir on the SRFCP has regional effects; MBK prepared the hydraulic impact analysis to support the findings in the Supplemental EIS/EIR. This project was completed for SAFCA under the direction of Mr. Dan Tibbitts (916-205-6258).

2021, Little Ebert Multi-Benefit Project Feasibility Study, Mark Young – Westervelt Ecological Services

Since 2021, MBK has served as the Little Ebert Multi-Benefit Project Feasibility Study Project Lead for hydrology and hydraulics. Four alternatives are currently being evaluated for flood performance for the 100- and 200-year flood events. The hydraulic analysis accounts for a significant number of projects in the Yolo Bypass that are anticipated to be under construction or completed at the time the project moves forward; this analysis is being used to assess the impacts of the alternative, locally and regionally, within the SRFCP. The client for this hydraulic analysis is Westervelt Ecological Services, under the direction of Mark Young (916-646-3644).

Project Management

Don Trieu will serve as the Project Manager and Project Technical Lead for the LEMBP, with Mike Archer and Patrick Ho working in supporting roles. Don will be responsible for developing the H&H scope in close coordination with LEJPA staff, other consultants, and government agencies. In collaboration with support staff, Don will also develop the technical approach to complete the technical evaluations in a cost-efficient way, which includes utilizing existing data and information to the extent possible.

To ensure that tasks performed are within scope, budget, and schedule; collaboration, communication, and the establishment and implementation of project controls will be key. Don will participate in regular project delivery team meetings, and will set up frequent internal team meetings to ensure MBK's scope and technical approach continue to meet the projects goals. In addition, frequent internal coordination meeting will help ensure that support staff are focused and remain motivated. The H&H group at MBK is a well-integrated team, located in one office, and has a significant in-person presence. This greatly enhances the team's ability to collaborate on tasks and complete tasks in an efficient manner. We have developed automated scripting of large amounts of hydraulic model simulation data to quickly and efficiently post-process the data and analyze the results. These scripting tools has given us the ability to meet aggressive project schedules.

To ensure MBK's efforts are within budget, MBK will track the project in Deltek Ajera. Ajera can track budget by task, spent value, and work on a real-time basis. These metrics will be monitored, and action taken, if necessary.

Quality Management

MBK utilizes tools, such as Microsoft Teams and SharePoint, for document management and data sharing. These programs allow for internal staff, LEJPA, consultant team members, and government agencies to collaborate on documents while allowing for version control. These tools reduce the risk to project schedule by limiting loss of materials.

To ensure quality control of technical products, there are two levels of review: 1) Self Certification, and 2) Internal Independent Technical Review. Self-certification is a peer-to-peer review that checks model simulations, post-processed outputs, and deliverables for reasonableness, technical clarity, and appropriateness. Internal ITR will be performed by a senior MBK staff member with a higher level of competency.

Contract Exceptions

MBK has reviewed the terms and conditions of the LEJPA *Standard Contract for Services*, included as Attachment A in the RFQ. All terms and conditions appear acceptable, and no deviations or modifications to the sample contract have been made.

Insurance Requirements

MBK currently holds company insurance policies with the following limits of coverage:

- Comprehensive/General Liability
  - Each occurrence $2,000,000
  - Medical Expenses (Any one person) $ 10,000
  - Personal & Advertising Injury $2,000,000
  - Damages to Rented Premises[2] $1,000,000
  - General Aggregate $4,000,000
  - Products-Completed Operations $4,000,000
- Professional Liability (Per Claim/Per Policy) $1,000,000/$2,000,000
- Umbrella Liability (Each Occ/Aggregate) $2,000,000/$2,000,000
- Automotive Liability $1,000,000
- Worker's Compensation & Employer's Liability $1,000,000

A copy of MBK's Certificate of Insurance has been included as Attachment 2.

[2] Includes Fire Damage.

Attachment 1.
MBK Key Staff Member Resumes

EDUCATION

California State University, Sacramento
Master of Science,
Civil Engineering, 2002

California State University, Sacramento
Bachelor of Science,
Civil Engineering, 1995

REGISTRATIONS

Registered Civil Engineer,
California License No. C058284

Registered Civil Engineer,
Nevada License No. 022815

PROFESSIONAL MEMBERSHIPS

Member, American Society of Civil Engineers

REFERENCES

Pete Ghelfi, Director of Engineering, SAFCA
(916) 874-8733

Helen Swagerty, Director of Development, River Partners
(530) 774-0220

MBK ENGINEERS

Don Trieu, P.E.

Project Hydraulic Technical Lead

Don Trieu has more than 27 years of experience in development of hydraulic and hydrologic models for evaluation of flood control alternatives, hydraulic impact analysis, and design of flood risk reduction projects in the Sacramento and San Joaquin Valley. Don is currently a Principal Engineers at MBK where he helps lead the Hydraulics and Hydrology (H&H) group.

Don has developed, assisted in the development, or advised on development of both one-dimensional and two-dimensional hydraulic models of the Sacramento and San Joaquin River Flood Control Project. Application of these system hydraulic models throughout the years has been used for plan formulation, alternatives analysis, FEMA flood plain mapping, and DWR ULOP/ULDC analysis. As such, Don has developed a deep understanding of the hydraulic performance of the Sacramento and San Joaquin River Flood Control Project. This experience has allowed Don to provide strategic and cost-effective advice regarding *Hydrology and Hydraulic Engineering* while meeting the client's goals and objectives.

RELEVANT EXPERIENCE

Westervelt Ecological Services, Little Egbert Multi-Benefit Project, Rio Vista, CA

As the Principal Hydraulic Engineer, Don was responsible for leading the scoping of the hydraulic analysis, hydraulic model development, and supporting hydraulic analysis for the evaluation of the hydraulic performance of multi-benefit alternatives on 3200 acres of Little Egbert Tract. The hydraulic analysis included both flood and tidal flow regimes. In addition, Don developed reconnaissance level design water surface elevations for Reclamation District 536, Mellin Levee, and the Mellin Levee extension.

Westervelt Ecological Services, Cache Slough Mitigation Bank, Rio Vista, CA

As the Principal Hydraulic Engineer, Don was responsible for leading the scoping of the hydraulic analysis and coordination of a 320 acres mitigation bank southwest of Little Egbert Tract. The project consists of re-establishing tidal marsh and floodplain associated vegetation communities on the property via a new bridge structure under Highway 84.

Wood Rodgers, Rio Vista Flood Risk Reduction Feasibility Study, Rio Vista, CA

As the Principal Hydraulic Engineer, Don was responsible for scoping and managing the hydraulic analysis to investigate structural and non-structural alternatives to reduce the risk of flooding to the City of Rio Vista. MBK Engineers developed design water surface elevations along the Yolo Bypass, Cache Slough, and the Sacramento River in support of the study.

DWR/CVFPB, Yolo Bypass/Cache Slough Complex Programmatic 408 and Master Plan

As the Principal Hydraulic Engineer, Don was responsible for the scoping of the hydraulic analysis; project management; hydraulic model development; and supporting the hydraulic analysis to evaluate an array of multi-benefit

improvement projects in comparison with various baselines, with the goal of developing a master plan for the Yolo Bypass, and for the development of an application for USACE programmatic 408 permitting.

River Partners, Dos Rios Ranch Floodplain Restoration Project, Modesto, CA

As Principal-in-Charge, Don developed a 1D-2D model of the lower San Joaquin River in support of the hydraulic impact analysis for 2100-acre restoration project within the riverbanks of the San Joaquin and Tuolumne River confluence.

TRLIA, Three Rivers Levee Improvement Program, Yuba County

As Principal-in-Charge, Don developed hydraulic models and prepared hydraulic analysis in support of TRLIA's $500M levee improvement project along RD 784 levees on the Yuba, Feather, Bear Rivers. Key features of this program were construction of a six-mile setback levee along the Feather River with 1600 acres of habitat restoration and a two-mile setback levee on the Bear River with 600 acres of habitat.

WSAFCA, Southport Levee Improvement Project, West Sacramento, CA

As Principal-in-Charge, Don was responsible for hydraulic analysis in support of alternatives analysis, system wide hydraulic impact analysis for USACE Section 408, and development of FEMA and DWR ULDC compliant 100- and 200-year water surface elevations. A key project feature is a multi-benefit setback levee created 200 acres of habitat while providing 200-year level of protection for the City of West Sacramento.

Michael Archer, P.E.

Hydraulic Technical Support and Analysis

Mike Archer is a Supervising Civil Engineer at MBK Engineers with over 30 years of experience in Water Resource Engineering. Mike supervises and performs hydraulic studies for flood control, floodplain, hydraulic impact, and levee design analysis. He is an expert with the HEC-RAS, RMA2, FESWMS, and FLO-2D hydraulic analysis computer modeling programs.

Mike's experience includes development of hydraulic models and analysis for the determination of design water surface elevations in accordance with the California Urban Levee Design Criteria (ULDC)and system-wide hydraulic impacts in the Sacramento and San Joaquin River basins for clients including the Sacramento Area Flood Control Agency (SAFCA), River Islands at Lathrop, Three Rivers Levee Improvement Authority (TRLIA), American Rivers, and the West Sacramento Area Flood Control Agency (WSAFCA). He was involved in the development and quality control review of HEC-RAS and FLO-2D hydraulic simulation models for the California Department of Water Resources Central Valley Floodplain Evaluation and Delineation project.

RELEVANT EXPERIENCE

Sacramento Area Flood Control Agency (SAFCA), Yolo Bypass-Cache Slough Complex Programmatic 408, Sacramento River Basin

Hydraulic Engineer. HEC-RAS model development for project formulation and hydraulic impact analysis of the Yolo Bypass-Cache Slough Multi-Benefit Program to support a USACE Programmatic 408 permission request.

SAFCA, Sacramento Weir Expansion Project, Sacramento

Hydraulic Engineer. HEC-RAS model development and hydraulic analysis for design and hydraulic impact determination for the Sacramento Weir Expansion Project.

SAFCA, ULOP Findings, Sacramento Area

Hydraulic Engineer. HEC-RAS model development and hydraulic analysis following the California Urban Levee Design Criteria (ULDC) in support of an Urban Level of Protection (ULOP) finding for Sacramento area levees.

SAFCA, Sacramento River General Reevaluation Report, Sacramento River Basin

Hydraulic Engineer. HEC-RAS model development and hydraulic analysis to evaluate the effects of modifications to the Sacramento River Flood Control Project, including widening of the Fremont and Sacramento Weirs; setbacks of the Upper and Lower Elkhorn Basins Yolo Bypass levees; and modifications to the lower Yolo Bypass on Lower Egbert Tract.

EDUCATION

University of California, Davis
Master of Science
Civil Engineering, 1985

University of Santa Clara
Bachelor of Science
Civil Engineering, 1981

REGISTRATIONS

Registered Civil Engineer,
California License No. C040485

PROFESSIONAL MEMBERSHIPS

Member, American Society of Civil Engineers

Member, Tau Beta Pi – National Engineering Honor Society

PROFESSIONAL SKILLS

HEC-RAS

Microsoft Excel

RMA2

FESWMS

FLO-2D

UNET

MBK ENGINEERS

SAFCA, American River LOMR, Sacramento

Hydraulic Engineer. HEC-RAS model development and hydraulic analysis in support of Letter of Map Revision (LOMR) for the FEMA 1% annual chance base flood elevation for the lower American River.

River Islands at Lathrop, Lathrop, CA

Hydraulic Engineer. HEC-RAS model development and hydraulic analysis for the determination of design water surface elevations, evaluation of hydraulic impacts, and support of ULOP findings submittals for the River Islands at Lathrop project, a phased development project on Stewart Tract in the lower San Joaquin River system.

American Rivers, Paradise Cut Expansion Project

Hydraulic Engineer. HEC-RAS model development and hydraulic analysis for American Rivers and the San Joaquin County Resource Conservation District in support of the refinement, and further studying and planning of the Paradise Cut Expansion Project, originally described in the 2017 Update of the California Department of Water Resources' Central Valley Flood Protection Plan.

Three Rivers Levee Improvement Authority (TRLIA)

Hydraulic Engineer. HEC-RAS model development and hydraulic analysis of the Feather River, Yuba River, and Bear River systems for the determination of ULDC design water surface elevations and FEMA 1% annual chance flood base flood elevations.

WSAFCA, Southport Levee Improvement Project, West Sacramento

Hydraulic Engineer. HEC-RAS model development and hydraulic analysis to determine design water surface elevations and evaluate hydraulic impacts of the Southport Levee Improvement Project, which included the setting back of approximately 3.7 miles of the Sacramento River levee in West Sacramento.

Patrick Ho, P.E.

Hydraulic Technical Support and Analysis

Patrick Ho is a Supervising Engineer at MBK Engineers, who specializes in supporting hydrologic and hydraulic (H&H) engineering design and analysis. Patrick works with multi-disciplinary teams to strategically find solutions to engineering, and regulatory related assignments. Patrick assists with the development of strategies for MBK's clients and prepares, reviews, and evaluates technical documentation to support their needs through project planning, development, and implementation phases.

In addition, Patrick has experience in formulating and implementing automated workflows and systems used to conduct analyses within the hydrologic and hydraulic domain. With these systems, he has developed pipelines that are capable of scaling out onto cloud infrastructures especially in data and computationally intensive environments at the request of clients. Under the direction of the Principal Engineer, Patrick provides supervision and technical guidance to engineers and technical staff.

EDUCATION

Georgia Institute of Technology, Atlanta,
Master of Science
Computer Science, 2022

California State University, Sacramento
Master of Science,
Civil Engineering, 2014

Oregon State University
Bachelor of Science
Computer Science, 2016

University of California, Davis
Bachelor of Science
Civil Engineering, 2007

REGISTRATIONS

Registered Civil Engineer,
California License No. C076677
Nevada License No. 029105
Washington License No. 21025399

RELEVANT EXPERIENCE

Little Egbert Tract Multi-Benefit (LEMBP) Project Feasibility Study, Solano County, CA

The 2023 LEMBP feasibility study is led by the California Department of Water Resources and developed by a multi-discipline team of consultants and agency staff. The multi-benefit aspect of the study incorporates analyses in flood risk reduction, agricultural economy, climate change resilience, and habitat enhancement. Patrick supported the H&H analysis in this study and participated in the plan formulation of the H&H analyses by working with a team of ecologist, biologists, geotechnical engineers, and civil engineers to develop H&H models and alternatives to quantify feasibility of various alternatives.

Cache Slough Mitigation Bank, Solano County, CA

The Cache Slough Mitigation Bank is a tidal habitat restoration project east of Rio Vista, California. The project restores agricultural lands to become a high-quality tidal habitat. Patrick supported the team with formulating H&H related analyses, including sizing fish-friendly hydraulic structures, impacts analyses, sea level rise and flood risk analyses. Patrick also supported the client with the development of mitigation bank prospectus that are related to H&H.

Sacramento Area Flood Control Agency, Elk Slough Flood Control and Habitat Improvement Project Reconnaissance Study, Clarksburg, CA

Appraisal level assessment to inform additional studies of flood control improvement and fisheries benefits by analyzing connectivity of Elk Slough with the Sacramento River and enhancing fish migratory pathways within the Delta. Patrick provided H&H analyses of proposed gates on Elk slough at Sacramento River and Elk Slough at Sutter Slough. He worked closely with a team of fish biologists to screen modeling results based on suitable hydraulic criteria which were used to measure the success of various operations and alternatives. The project moved forward to the next phase of study.

Three Rivers Levee Improvement Authority (TRLIA) Climate Change Resiliency Project, Yuba County, CA

TRLIA initiated an effort to identify actions to further reduce flood risk and ensure that their levee system is adaptable to climate change, specifically, actions that would be needed to pass the 500-year flood event. Patrick supported the project

design team through alternatives analyses, environmental documentation, hydraulic impacts analyses, and hydraulic design, which were then used to support screening level, 30% design, and 65% design. He was also involved with development of the hydraulic models and computational workflow to support the Central Valley Hydrology Study (CVHS) event selection process, used to identify the design flood event.

Attachment 2.
Certificate of Insurance

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 4/1/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER HUB International Insurance Services Inc. PO Box 255387 Sacramento CA 95865 License#: 0757776	**CONTACT NAME:** Carol Dunn **PHONE (A/C, No, Ext):** 916-480-4182 **FAX (A/C, No):** 916-993-7282 **E-MAIL ADDRESS:** carol.dunn@hubinternational.com
INSURED MBKENGI-01 MBK Engineers 455 University Avenue, Suite 100 Sacramento CA 95825	**INSURER(S) AFFORDING COVERAGE** — **NAIC #** **INSURER A :** Valley Forge Insurance Company — 20508 **INSURER B :** National Fire Insurance Company of Hartford — 20478 **INSURER C :** Continental Casualty Company — 20443 **INSURER D :** Travelers Casualty & Surety Company of America — 31194 **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** 1664437258 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X **COMMERCIAL GENERAL LIABILITY** ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☒ POLICY ☐ PRO-JECT ☐ LOC ☐ OTHER:			C 2088940153	4/1/2023	4/1/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG 	$ 2,000,000 $ 1,000,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000 $
A	**AUTOMOBILE LIABILITY** X ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY			BUA 6080872140	4/1/2023	4/1/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) 	$ 1,000,000 $ $ $ $
C	X **UMBRELLA LIAB** ☒ OCCUR **EXCESS LIAB** ☐ CLAIMS-MADE ☐ DED ☐ RETENTION $			6080844435	4/1/2023	4/1/2024	EACH OCCURRENCE AGGREGATE 	$ 2,000,000 $ 2,000,000 $
B	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		WC 6080869724	4/1/2023	4/1/2024	X PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
D	Professional Liability			107813109	4/1/2023	4/1/2024	Limit Per Policy Limit Per Claim Deductible Per Claim	$2,000,000 $1,000,000 $100,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Evidence of Insurance Only.

CERTIFICATE HOLDER

PROOF OF INSURANCE

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ENCLOSURE 3

AGENDA ITEM 6.c.2

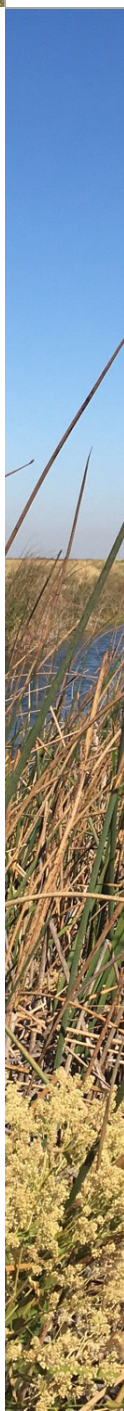
LITTLE EGBERT
Joint Powers Agency

Statement of Qualifications

Environmental Compliance Support of Flood Control Infrastructure for the Little Egbert Multi-Benefit Project

LEJPA-RFQ-23-01

June 9
2023



01 Introductory Letter

June 9, 2023

Mr. Eric Nagy, Executive Director
Little Egbert Joint Powers Agency
info@lejpa.org

RE: Statement of Qualifications (SOQ) for Environmental Compliance Support of Flood Control Infrastructure for the Little Egbert Multi-Benefit (LEMB) Project (LEJPA RFQ 23-01)

Dear Mr. Nagy,

The Little Egbert Joint Power Agency (LEJPA/Agency) has an important goal of reducing flood risk, to protect and enhance natural ecosystem processes, increase habitat and support species, and protect and enhance opportunities for recreation, while being mindful of sea-level rise and climate change. In order to meet this objective, LEJPA needs a consultant to provide technical evaluations necessary for environmental compliance for the construction of flood control infrastructure of the Little Egbert Multi-Benefit Project. HDR Engineering, Inc. (HDR) has customized a team that covers the range of disciplines outlined in the request for qualifications (RFQ). You'll recognize many of the names as individuals you've worked with closely. By selecting the HDR team, you will benefit from the following:

- **A team familiar with your project, staff, policies, and standards that will result in our continued efficient and streamlined project delivery.** We have demonstrated our professionalism and efficiency through working with you on the planning and preliminary and conceptual design for the Little Egbert Tract. We know your staff and understand your procedures. Daniel Jabbour, our proposed project manager, has served as design lead for improvements of over 27 miles of levees and has successfully led large teams under difficult circumstances and aggressive project schedules. He has relevant knowledge of this project having served as the design lead for the Little Egbert Feasibility Study project. Daniel will be responsible for managing the overall contract and will be your primary point-of-contact. He will be supported by Daniel Teak, our proposed technical lead, who has 13 years of experience in water resources and civil engineering on flood control projects and whose design experience includes designing levees, flood walls, and other flood protection features, as well as project management for projects with multiple sponsors.
- **Extensive levee and flood control expertise will allow us to minimize risks while delivering project on schedule and within budget.** As an integrated firm, HDR provides a total spectrum of services for clients, including levee evaluation and design and flood control. HDR has provided design for thousands of miles of levees throughout the United States, including 140 miles of levees that are critical for flood control protection in northern California. We have designed levees ranging from relatively simple earth embankment less than 1/4 mile long to complex systems more than 44 miles long. HDR's extensive experience on levee projects spans the entire design process and their designs are backed by the experience that comes with the successful construction and operation of levee projects throughout California.
- **Our team's experience working together will provide efficiency and responsiveness to your needs.** The HDR team includes subconsultants who have effectively partnered with HDR on past flood control and

restoration projects throughout California, including working with LEJPA and Westervelt Ecological Services on the Little Egbert Multi-Benefit (LEMB) project. Our subconsultants include:

- MBK Engineers (MBK) – Hydrology and Hydraulic (H&H)
- Shannon & Wilson – Geology and Geotechnical Engineering
- Environmental Science Associates (ESA) – Environmental Planning

We built our team with skills and resources to assist you in any capacity. We offer the right resources to tackle and complete any assignment and have the professional, technical, and financial resources adequate to accomplish the work efficiently, effectively, and responsibly in the required time. We are committed to providing consistent management and key personnel throughout the project. As an employee-owned company, we hold ourselves accountable and take personal responsibility to see things through. HDR is licensed by the Secretary of State to conduct business in the State of California. Our California license number is 1279161.

HDR is an international firm with more than 11,000 employee-owners in 208 offices. HDR Inc. includes five subsidiaries: HDR Engineering, Inc.; HDR Architecture, Inc.; HDR Construction Control Corporation; HDR Environmental, Operations, and Construction; and HDR International. As such, the list of our firm's officers, directors, and associates will be impractical to include. Therefore, the list below includes individuals for HDR Engineering, Inc. in Northern California who are authorized to commit and bind HDR for this important project:

- **Holly Kennedy**, PE (CA No. 74682), is the Northern California Area Operations Manager. As HDR's Senior Vice President, she has the signatory authority to bind HDR to the provisions of this RFQ and contract awarded pursuant to it.
  Business Address: 2365 Iron Point Road, Suite 300, Folsom, CA 95630
  Phone: 925.465.2717; Email: Holly.Kennedy@hdrinc.com

- **Dave Zuber**, PG (CA No. 5933), PMP, is a Vice President and Northern California Water Business Group Manager. Dave will be involved in the project reviews that will occur throughout project execution. These reviews facilitate communication between project leads and operational management on the status of a project and identify areas where actions may be required to improve project performance.
  Business Address: 2379 Gateway Oaks, Suite 200, Sacramento, CA 95833
  Phone: 916.679.8784; Email: Dave.Zuber@hdrinc.com

- **Linc To** is a Senior Vice President and Northern California Water Client Development Leader. Linc will serve as principal-in-charge on this project and will make sure the necessary resources are available to the project manager to successfully deliver your project.
  Business Address: 2365 Iron Point Road, Suite 300, Folsom, CA 95630
  Phone: 415.385.9477; Email: Linc.To@hdrinc.com

- **Daniel Jabbour**, PE (CA No. 63110) is the proposed project manager and the primary point-of-contact for this project.
  Business Address: 2365 Iron Point Road, Suite 300, Folsom, CA 95630
  Phone: 916.817.4943; Email: Daniel.Jabbour@hdrinc.com

We look forward to the opportunity to continue to serve on this important project. If you have any questions regarding our statement of qualifications, please contact Holly Kennedy at Holly.Kennedy@hdrinc.com/925.465.2717 or Daniel Jabbour at Daniel.Jabbour@hdrinc.com/916. 817.4943.

Sincerely,
HDR Engineering, Inc.

Holly L.L. Kennedy, PE (CA No. 74682)
Senior Vice President

Daniel M. Jabbour, PE (CA No. 63110)
Project Manager

23-10372520: DMJ/JHu

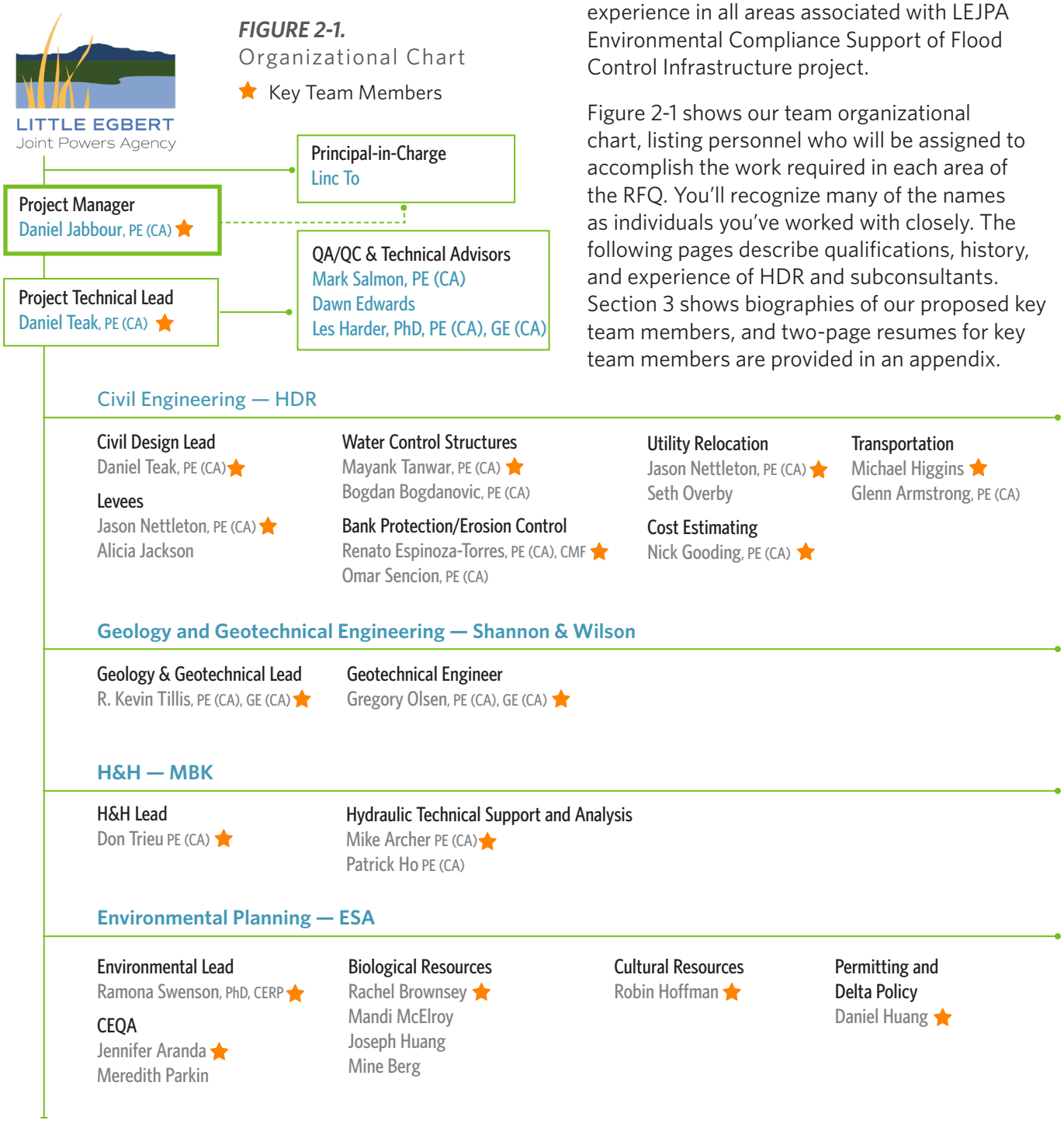
02 Consultant Team Organization

The successful completion of any project requires technical and managerial skills in the assigned personnel, as well as an understanding of the client's needs. For this project, we have assembled the team based on the key qualifications of the firms, expertise of individual personnel, knowledge of the Little Egbert project site and the broader Yolo Bypass levee system, and strong relationships working together. Our team has focused experience in all areas associated with LEJPA Environmental Compliance Support of Flood Control Infrastructure project.

Figure 2-1 shows our team organizational chart, listing personnel who will be assigned to accomplish the work required in each area of the RFQ. You'll recognize many of the names as individuals you've worked with closely. The following pages describe qualifications, history, and experience of HDR and subconsultants. Section 3 shows biographies of our proposed key team members, and two-page resumes for key team members are provided in an appendix.

FIGURE 2-1.
Organizational Chart

★ Key Team Members



HDR (Prime Consultant)

Civil Engineering

Founded in 1917, HDR is a multidisciplinary environmental, planning, engineering, architectural, and consulting firm that excels at helping clients manage a wide variety of projects. For more than a century, HDR has worked with clients to restore and sustain water resources around the world. With more than 11,000 employee-owners in 208 offices worldwide, HDR has the resources to meet clients' needs. Our professionals are adept at partnering on multidisciplinary teams to develop creative strategies and solutions that are beyond the scope of a traditional architecture and engineering firm.

HDR's staff in northern California have served critical roles in the major water resources projects in the Central Valley for more than two decades. This includes work for federal, state, and local agencies, including USACE, Sacramento Area Flood Control Agency (SAFCA), Sutter Butte Flood Control Agency (SBFCA), Bureau of Reclamation (Reclamation), California Department of Water Resources (DWR), Three Rivers Levee Improvement Authority (TRLIA), local water and reclamation districts, and Caltrans.

Levees

HDR has provided design for thousands of miles of levees throughout the U.S., including 140 miles of levees that are critical for flood control protection in northern California, ranging from relatively simple earth embankment levees less than 1/4 mile long to complex systems several miles long. HDR provides full interdisciplinary design services for flood control facilities.

Water Control Structures

HDR has experience providing full interdisciplinary design of water control structures, including gates and outlet structures found in dam and levee systems. We possesses structural, mechanical, and electrical expertise in design, construction, and commissioning of gates, spillways, energy dissipation structures, intake towers, and penstocks. We are also skilled in providing full interdisciplinary design of pump stations in almost any imaginable configuration.

Bank Protection/Erosion Control

HDR has experience with bank protection design for levees to increase life span and effectiveness. For example, during the Napa River/Napa Creek Flood Project, HDR analyzed and designed low flow channel lining and bank protection features suitable for withstanding erosive shear stresses associated with increased velocities induced by project conditions. We have also developed bank protection designs for USACE as part of their emergency response after multiple flood events.

Cost Estimating

The availability of current cost and pricing data is essential to developing timely, accurate, and detailed cost estimates. Cost estimating is a critical service that we provide on virtually all of our planning and design projects or studies. We have fully automated systems for preparation of the full range of cost estimates, from preliminary feasibility cost estimates to detailed construction cost estimates at each stage of any project.

Haul Route/Roadways and Utilities

HDR has experience providing full interdisciplinary assessment, planning, and design of levees and dams to integrate essential utilities. We understand how to coordinate and oversee utility potholing activities, establish roadway and utility corridors to minimize the impacts on levee remediation projects, and design levees to meet transportation network requirements while meeting levee remediation standards.

Other Engineering-Related Services

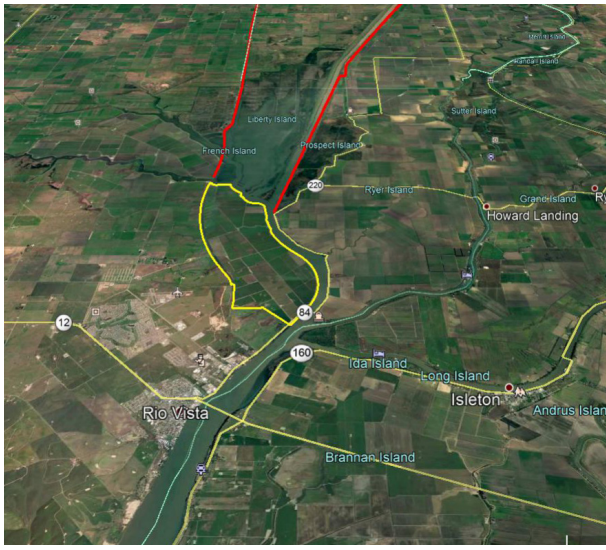
HDR's team members, including proposed Project Manager Daniel Jabbour, have long-term experience providing other relevant engineering services that LEJPA may require, including borrow plans, flood channel realignment, levee alignment, haul route configuration, and utility relocation. Examples of projects include the USACE Sacramento District American River Common Features Project and the TRLIA Levee Repairs and Setback Levees Project.

ESTABLISHED 1917

11,199 EMPLOYEE OWNERS

208 LOCATIONS WORLDWIDE

MORE THAN 500 MULTIDISCIPLINARY STAFF IN NORTHERN CALIFORNIA



Our team has a long history of working together. We have collaborated on many technically challenging projects, including the LEMB project, and we're confident our team will deliver the right solutions.

Subconsultants

Shannon & Wilson—Geology and Geotechnical Engineering

Since 1954, Shannon & Wilson has provided geotechnical engineering services to clients. They provide geotechnical design services on a range of projects, from the technically complex with major capital improvement costs to smaller-scale projects with limited budgets. Their goal is to be the leader by providing innovative geotechnical and geologic design that provides value to their clients through reduced construction costs and sound engineering solutions.

In the past decade, the firm's water resources work has been primarily for levee districts, municipal improvement districts, conservation agencies, water agencies, and private landowners. More than half of this work has been on flood protection infrastructure projects, including design and/or evaluation on 30 dams and hundreds of miles of levees.

MBK Engineers—H&H Engineering

MBK is a well-respected consulting engineering firm, located in Sacramento, California, which has provided engineering services in support of water resources projects in California, Oregon, and Nevada for over 50 years.

MBK has worked with federal, state, and local agencies to assist them in their project development while striving to improve public safety. The H&H group at MBK has performed hydraulic impact analysis for over 25 projects throughout the Central Valley. Their extensive understanding of flood control operations and flood control alternatives on both the San Joaquin and Sacramento rivers has provided numerous benefits to their clients. MBK has worked closely with agencies to navigate the regulatory process in order to draft and implement projects that offer multi-benefits. These multi-benefit projects protect the safety of the public and property, enhance the natural ecosystem processes, and can be used to increase habitat and support species.

Environmental Science Associates—Environmental Planning

ESA is a 100-percent employee-owned environmental consulting firm with over 50 years of experience providing services to clients in the public, private and non-profit sectors. Their over 600 employee-owners are environmental scientists, planners, engineers, cultural resource specialists, data science experts and other professionals dedicated to forming enduring partnerships and raising industry standards.

ESA has been dedicated to the principles of sustainability for over three decades, both in terms of their internal operations as well as the focus of their professional services. Combining rigorous science with practical engineering solutions, they specialize in multi-objective projects that result in sustainable flood protection, water quality improvement, ecosystem restoration, and recreational benefits.

03 Qualifications and Experience of Key Team Members

Biographies of our proposed key team members are provided below. The amount of involvement is expected to fluctuate based on project schedule and specific project needs. Key members will be available to support the project as needed. Generally, involvement is expected to be an average of 35%-70% depending on the roles and responsibilities of the individuals and the phases of work. It is our understanding that some periods will require higher levels of involvement and others less. Two-page resumes for key team members are provided in an appendix.

Daniel Jabbour, PE – PROJECT MANAGER

Daniel has 24 years of experience in project management, design, feasibility studies, plans and specifications, cost estimation, alternatives analyses, and construction administration. Daniel has successfully led large multi-disciplinary team in designing and delivering large complex levee and flood control projects throughout northern California including Little Egbert Tract, multiple SBFCA FRWL projects, and multiple TRLIA Yuba River Levee and Western Pacific Interceptor Canal (WPIC) projects. During the Oroville spillway emergency, Daniel led a team of engineers that put two design packages out to construction in matter of a few months. Work was fast paced and required coordination with DWR, manufacturers, contractors, and the multidisciplinary team. Concurrently, levee distress was observed along the three-mile stretch of the Feather River West Levee (FRWL). SBFCA kicked off an emergency levee repair project.

Daniel Teak, PE – PROJECT TECHNICAL LEAD & DESIGN LEAD

Daniel has 13 years of experience on flood control projects. His design experience includes levees, flood walls, and other flood protection features, as well as project management. His project experience includes civil design and flood control in support of ecosystem restoration and watershed rehabilitation and restoration projects, including preliminary engineering and alternatives analyses, planning formulation reports, feasibility studies, and plans, specifications, and estimates. Daniel is the deputy project manager on the Little Egbert Tract project. He was also the civil lead and project manager for the South San Francisco Bay Reach 1 Levee Project, which included 4,400 feet of flood protection levees.

Jason Nettleton, PE – LEVEES & UTILITY RELOCATION

Jason has experience in a variety of civil engineering tasks, including preparing plans and specifications, quantity take offs, and opinions of probable construction costs, as well as providing support during construction. His experience includes roadway design, site design, hydrology analysis/studies, storm drain design, forcemain sewer design, urban land development design, roadway widening design, and commercial site design. Jason provided civil engineering support to prepare plans, specifications, quantity takes offs, and opinion of probable construction costs for approximately 12 miles of levee improvements for SBFCA's FRWL project.

Mayank Tanwar, PE – WATER CONTROL STRUCTURES

Mayank is a structural engineer with 11 years of experience and has demonstrated his skills in structural engineering by delivering successful projects. Mayank was the designated structural engineer for the seismic evaluation of the concrete piers for SAFCA's Folsom Dam Design project and for the analysis and design of a 40-foot-wide swing gate structure for USACE's South Bay Shoreline Reach 1 Levee Design project.

Renato Espinoza-Torres, PE, CMF – BANK PROTECTION/EROSION CONTROL

Renato has more than 16 years of experience working on water resources engineering, hydrology and hydraulics, flood modeling, habitat restoration, drainage, and erosion control projects. His responsibilities have included project and staff management, engineering analyses, H&H modeling, field investigations, flood mapping, drainage design, erosion design, preparing reports, developing design documents, cost estimating, and construction services. For SBFCA Engineering Design Services in the Oroville Wildlife Area and Feather River project, Renato analyzed and designed various hydraulic structures along the east levee of the Feather River for erosion control.

Nick Gooding, PE – COST ESTIMATING

Nick has 15 years of experience in water resources, environmental restoration, and flood protection. He has experience in MCACES cost estimating for flood protection, water resources, environmental restoration, and military site improvement. Nick has developed cost estimates for projects in Northern California, Nevada and Hawaii. His experience includes FEMA floodplain processing assignments, including several task orders under the FEMA Region IX Indefinite Delivery/Indefinite Quantity Contract for Coastal and/or Riverine Studies/Restudies. For the SBFCA FRWL project, Nick provided programmatic cost estimating in the early phases of the project, as well as design level estimates as the project progressed.

Michael Higgins – TRANSPORTATION

Mike began his transportation career at Caltrans and brings more than 20 years of experience delivering a variety of transportation projects, from planning through construction. His experience includes coordination with Caltrans, agricultural property owners, levee reclamation districts, U.S. Coast Guard, and other regulatory entities to deliver the Broadway Bridge Feasibility Study across the Sacramento River and the Navy Drive Bridge replacement across the San Joaquin River. Mike has successfully delivered several projects requiring Caltrans oversight, which required navigation of the Caltrans encroachment and project initiation development process.

R. Kevin Tillis, PE, GE – GEOLOGY AND GEOTECHNICAL LEAD

Kevin has practiced geotechnical engineering for nearly 40 years. His experience includes management of complex levee, dam, and earthwork projects for local and state agencies. His recent experience includes planning, design, and implementation of construction for over 100 miles of levees in the Sacramento-San Joaquin Delta. Kevin has an excellent track record for pushing projects through the design phase into and through the completion of construction. He has worked on a variety of marsh restoration, flood control, and waterfront structure projects. Many of these projects overlie weak deposits of marine soil and peat. As the lead geotechnical engineer for the LEMB project, Kevin led the effort for design of the levees, including seepage and stability analysis.

SHANNON & WILSON

Gregory Olsen, PE, GE – GEOTECHNICAL

Greg has more than 10 years of experience in geotechnical engineering. He has performed geotechnical investigations for a variety of public works, flood control, environmental, and industrial projects. These projects include levee rehabilitation, landslide repair, wetlands restoration, site grading, and foundation construction. Greg performs and reviews geotechnical engineering analyses, including slope stability, seepage, settlement, seismic deformation, lateral foundation capacity, and axial foundation capacity. He manages field staff performing construction observation and testing for grading, shallow foundations, pile and pier foundations, and lime treatment. As the senior geotechnical engineer on the LEMB project, Greg wrote geotechnical reports to support the implementation planning and feasibility study phases of the project.

MBK ENGINEERS

Don Trieu, PE – H&H LEAD

Don has more than 27 years of experience in the development of H&H models for evaluation of flood control alternatives, hydraulic impact analysis, and design of flood risk reduction projects in the Sacramento and San Joaquin valleys. He is currently a principal engineer at MBK where he helps lead the H&H group. Don has been involved in development of both one-dimensional and two-dimensional hydraulic models of the Sacramento and San Joaquin River Flood Control Project. As principal hydraulic engineer for the LEMB project, Don was responsible for leading the scoping of the hydraulic analysis, hydraulic model development, and supporting hydraulic analysis for the evaluation of the hydraulic performance of multi-benefit alternatives on 3,200 acres of the Little Egbert Tract.

MBK ENGINEERS

Mike Archer, PE – HYDRAULIC TECHNICAL SUPPORT & ANALYSIS

Mike has over 30 years of experience in water resource engineering. He supervises and performs hydraulic studies for flood control, floodplain, hydraulic impact, and levee design analysis. He is an expert with the HEC-RAS, RMA2, FESWMS, and FLO-2D hydraulic analysis computer modeling programs. Mike's experience includes development of hydraulic models and analysis for the determination of design water surface elevations in accordance with the California Urban Levee Design Criteria and system-wide hydraulic impacts in the Sacramento and San Joaquin River basins for clients including SAFCA, River Islands at Lathrop, TRLIA, American Rivers, and the West Sacramento Area Flood Control Agency. He was involved in the development and QC review of HEC-RAS and FLO-2D hydraulic simulation models for the DWR Central Valley Floodplain Evaluation and Delineation project.

ESA

Ramona Swenson, PhD, CERP – ENVIRONMENTAL LEAD

Ramona is a restoration ecologist and fisheries scientist with 26 years of experience. Her expertise encompasses water resources, aquatic ecology, fisheries, habitat restoration, adaptive management, water policy, and conservation planning. She has extensive experience with ecosystem restoration in the Sacramento-San Joaquin River Delta, and the application of adaptive management for restoration and land management, effectiveness monitoring, and research. She has prepared CEQA/NEPA environmental documents, Biological Assessments for Endangered Species Act compliance, and other permit applications. She is a recognized expert on the tidewater goby, a federal endangered species of estuarine fish. For the LEMB project, Ramona serves as project manager for ESA's support with biological and cultural resource surveys, permitting of baseline geotechnical investigations, and technical input on the design and feasibility study.

ESA

Jennifer Aranda – CEQA

Jennifer has over 20 years of experience as a project manager, successfully managing small- to large-scale, complex projects for public- and private-sector clients, such as DWR, California Department of Parks and Recreation, State Water Resources Control Board, U.S. Bureau of Reclamation, Napa County, Placer County, Sacramento Municipal Utility District, El Dorado Irrigation District, and Placer County Water Agency. She has long-term experience in CEQA compliance, water issues, and federal, state, and local regulations and processes. Jennifer is coordinating with the project team on permitting and environmental documentation strategy support for the LEMB Project.

ESA

Rachel Brownsey – BIOLOGICAL RESOURCES

Rachel is a restoration ecologist specializing in restoration planning, implementation, and long-term management and monitoring in a wide range of ecosystems. She is a trained delineator of aquatic resources and has expertise in the assessment of impacts to biological resources and development of mitigation plans within California's regulatory framework. Rachel has prepared dozens of permit applications and coordinated with regulatory agency staff to verify project compliance with environmental regulations. She has extensive knowledge of California floristics, plant community ecology, and weed science, and has conducted scientific surveys and research in these fields. For the LEMB Project, Rachel oversaw wildlife and vegetation surveys, provided input on the wetland delineation, and prepared a biological resources constraints memorandum, and a biological assessment.

ESA

Robin Hoffman – CULTURAL RESOURCES

Robin has 15 years of experience in environmental consulting as project manager, principal investigator, task manager, archaeologist, cultural anthropologist, and historian. His work has ranged from feasibility studies to data recovery and Programmatic Agreements, with project deliverables including plans and reports for survey and inventory, testing and evaluation, data recovery, and monitoring; environmental document sections for National Environmental Policy Act (NEPA) and CEQA; National Historic Preservation Act Section 106 Programmatic Agreements; and constraints analyses. Robin has considerable experience with Native American consultation throughout California. He is the cultural resources task manager and principal investigator for the LEMB Project.

ESA

Daniel Huang – PERMITTING AND DELTA POLICY

Daniel is a biologist with 11 years of experience in biological resources and water resources management. He has over eight years of private consulting and three years of public agency experience. His primary roles at ESA include preparing permit applications (e.g., Clean Water Act 404, 1600 Lake and Streambed Alteration Notification, 401 Water Quality Certification); preparing biological resource survey reports; authoring technical resource sections for CEQA and NEPA documents; developing adaptive managements plans for habitat restoration projects in the Delta, and providing environmental compliance and permitting support for the California High Speed Rail Project. Daniel is providing support on the permitting strategy for the LEMB Project.

REFERENCE:
Mark Young, Westervelt Ecological Services
T: 916.646.3644

TEAM:

- Daniel Jabbour (HDR project manager)
- Daniel Teak (HDR deputy project manager)
- Linc To (HDR principal-in-charge)
- Les Harder (QA/QC)
- Dawn Edwards (Westervelt project manager)
- Alicia Jackson (CADD)
- Glenn Armstrong (transportation)
- Seth Overby (civil engineering EIT)
- Mark Salmon (QA/QC)
- Don Trieu (H&H lead)
- Patrick Ho (H&H analysis)
- Kevin Tillis (principal geotechnical engineer)
- Greg Olsen (senior geotechnical engineer)
- Ramona Swenson (environmental lead)
- Jennifer Aranda (CEQA)
- Daniel Huang (permitting)
- Rachel Brownsey (ecologist/botanist)
- Robin Hoffman (cultural resources)
- Joseph Huang (wildlife biologist)
- Mandi McElroy (wildlife biologist)

Little Egbert Multi-Benefit Project

LEJPA | Westervelt Ecological Services | 2021-Ongoing

The proposed HDR team has worked together on the LEMB Project as a subconsultant to Westervelt. The goal of the project is to improve flood flow capacity in the lower Yolo Bypass, protect farmland by reducing flood flows against aging levees, and create tidal marsh and riparian habitats to support endangered Delta fish and wildlife.

HDR provided planning and preliminary/conceptual design for the Little Egbert Tract. The project site is approximately 3,100 acres located in the Sacramento-San Joaquin River Delta. It is currently under agricultural cultivation and most of the property has a restricted-height levee under flowage easements on the north and east along Cache Slough. The intent of the restricted-height levee is to allow high flows from the Yolo Bypass to enter and pass through the Little Egbert Tract. The following flood control features are considered:

- Levee improvements to the Reclamation District 536 Levee, Solano County Levee 44, Mellin Levee Extension, and Mellin Levee to protect against flood flow and tidal erosion caused by sea-level rise, prevent levee through- and under-seepage, and address levee penetrations and encroachments
- Breach openings in the Solano County Levee 28/RD 2084 restricted-height levee to allow flow through the levees at peak flood flows, provide stage reduction on surrounding levees, and have less-than-significant flood velocities on adjacent levees
- Installation of a Water Control Structure at the interface of the RD 536 and Solano County 44 levees to prevent Yolo Bypass flood waters from backing up into communities and accommodate local agricultural irrigation needs

ESA provided support with biological and cultural resource surveys, permitting of baseline geotechnical investigations, and technical input on the design and feasibility study. They conducted wildlife and vegetation surveys, provided input on the wetland delineation, and prepared a biological resources constraints memorandum, USFWS Biological Assessment, and NWP 6 pre-construction notification materials to obtain permits for geotechnical survey.

Shannon & Wilson has been responsible for geotechnical engineering for the project. They were the supporting the effort for design of the levees, including seepage and stability analysis. Shannon & Wilson developed a Drilling Program Plan for USACE and managed the field exploration, which included borings, test pits, and Cone Penetration Tests. They performed engineering analysis, including seepage, stability, settlement, and seismic deformation to support the feasibility study for the project.

MBK was responsible for leading the scoping of the hydraulic analysis, hydraulic model development, and supporting hydraulic analysis for the evaluation of the hydraulic performance of multi-benefit alternatives on 3,200 acres of the Little Egbert Tract. The hydraulic analysis included both flood and tidal flow regimes. In addition, MBK developed reconnaissance-level design water surface elevations for Reclamation District 536, Mellin Levee, and the Mellin Levee Extension.

Feather River West Levee (FRWL) Improvement

SBFCA | 2010-Ongoing

HDR is providing SBFCA with engineering services for the rehabilitation of 44 miles of FRWL. The goal of the project is to repair the FRWL so that it can be accredited to meet FEMA standards for providing protection against the 100-year flood event and to repair the levee so that the upper 36 miles of levee meet the new state standard of 200-year flood protection for urban areas. The HDR team conducted geotechnical explorations, identified levee deficiencies, and presented remediation alternatives to address specific deficiencies. A Pre-Formulation Design Report was prepared to discuss and summarize alternatives, design criteria, selection criteria, and recommend a preferred alternative to move to design. HDR prepared erosion assessments of the FRWL and rock slope protection designs to address slope erosion issues. HDR team coordinated with and obtained approvals from DWR, USACE, and CVFPB. The project design team had to find innovative but practical design approaches to complete levee repairs that were needed for more than 85% of the 44 miles of the levee with the limited local funds available.

REFERENCE:
Michael Bessette, SBFCA
T: 530.415.0983

TEAM:
- Daniel Jabbour (project manager, task lead)
- Alicia Jackson (CADD)
- Seth Overby (civil support)

Lookout Slough Tidal Habitat Restoration and Flood Improvement

Ecosystem Investment Partners | 2018-Ongoing

The Lookout Slough Tidal Habitat Restoration and Flood Improvement Project will create approximately 3,000 acres of natural freshwater tidal marsh in the Cache Slough Complex in the northern Sacramento-San Joaquin Delta and increase the regional flood conveyance capacity of the Yolo Bypass. As a subconsultant to Ecosystem Investment Partners, ESA has provided services since 2018 that include 2D hydrodynamic and wind-wave analyses to support the project team's civil designer levee design, erosion countermeasure design, and permitting through the Central Valley Flood Protection Board encroachment permit and USACE Section 408 permission process; vegetation colonization surveys and other analyses to support permitting and crediting; cultural resources surveys and permitting support; and preparation of the Final Environmental Impact Report and Final Environmental Assessment required for CEQA and NEPA, respectively. ESA continues to support EIP with restoration engineering and environmental compliance during construction.

REFERENCE:
David Urban, Ecosystem Investment Partners
T: 443.921.9441

TEAM:
- Robin Hoffman (principal investigator)
- Daniel Huang (water resources analysist)

Southport Levee Improvement Project

WSAFCA | 2018

From 2008 to 2018, MBK assisted WSAFCA with their levee improvement program, a program aimed at making sure that the community of West Sacramento meets both FEMAs 100-year and the State of California's 200-year levee protection requirements. The $80M Southport Levee Improvement Project consisted of levee improvements along 5.6 miles of the west levee of the Sacramento River. Portions of the project included a new levee setback approximately 800 feet from the existing levee. This reach of the Sacramento River is downstream of key flow splits in the Sacramento River Flood Control Project. MBK's extensive H&H experience proved to be instrumental in the design to make sure that the project did not have a significant hydraulic impact. A 2D RMA model of the Sacramento River was developed by Don Trieu to support the alternatives analysis, USACE Section 408 permitting, and design of the project.

REFERENCE:
Greg Fabun, WSAFCA
T: 916.617.4855

TEAM:
- Don Trieu (principal-in-charge)
- Mike Archer (hydraulic engineer)

05 Project Management

HDR will serve as the Prime Consultant for this project and will provide the single source of project management, responsible directly to LEJPA for the project's completion. Daniel Jabbour will serve as HDR project manager and your primary point-of-contact. During the Oroville Spillway emergency in 2017, he guided a team of engineers that put two design packages out to construction in matter of a few months. The fast-paced work required coordination with DWR, manufacturers, contractors, and the multidisciplinary team. Concurrently, levee distress was observed along the three-mile stretch of the Feather River West Levee, with SBFCA issuing an emergency repair order. This required him to oversee a separate multidisciplinary team to quickly prepare design and deliver a construction package.

Daniel Jabbour and project technical lead Daniel Teak will work together to understand and define data needs, project goals, deliverables, schedules, and pertinent project information. The project manager is responsible for overall project delivery and making sure the team meets quality requirements. Specifically, HDR's project manager will work with the project technical lead to make sure project deliverables, schedule, and expectations are clear. As project technical lead, Daniel Teak will be responsible for preparing deliverables and making sure appropriate technical aspects have been incorporated in accordance with applicable criteria.

Project Management Plan (PMP)

Daniel Jabbour's proven ability to manage flood infrastructure projects will set the tone for this team, and for your project to be considered a success, work must be completed on schedule, within budget, and error free. At the start of each project, HDR's project managers prepare a Project Management Plan (PMP)

Effective Project Management

The mainstay of a project is the Project Management Plan (PMP). The PMP defines the vision; implementation strategy; schedule and budget criteria; and the policies, procedures, and standards for the project.

The PMP is the master reference document for the team and provides guidance to subconsultants engaged throughout the life of the program, from inception through planning, design, and construction. The PMP provides a level of continuity and standardization to facilitate time and cost-effective communications and decision-making.

The PMP serves as a formal process for reviewing, evaluating, prioritizing, documenting, approving, implementing, and maintaining all aspects of a project.

to document all information necessary to execute a successful project. In addition to being the source for subconsultants and LEJPA, the PMP will comply with local, state, and federal guidelines and requirements.

Daniel Jabbour will create a PMP that defines the vision, implementation strategy, schedule and budget criteria, and policies, procedures, and standards for the project. The PMP is the master reference document for the team and provides guidance to individuals and organizations engaged throughout the life of the project, from inception through planning, design, and construction. It provides a level of continuity and standardization to facilitate time and cost-effective communications and decision-making. The PMP serves as a formal process to monitor risks, minimize costs, reduce scope creep, and identify potential schedule impacts.

Among the key items defined in the PMP are project resources, including client contact information, project description, scope of work, deliverables, budget, administration procedures, and filing requirements. It also covers communication methods, such as use of intranet sites, electronic documentation, written documentation, and working remotely.

Quality Management and Safety Plans

Daniel Jabbour will develop the PMP to include a project-specific Quality Management Plan and a Safety Plan that helps maintain high levels of quality and a safe work environment. Quality starts with our senior management and continues through every level of the project team, including our subconsultants. Subconsultant performance is a critical factor in both the quality and cost effectiveness of our work.

Document and Project Controls

Document controls are essential for efficiently executing a project and minimizing risks. We maintain project records and manage document work flow and communications through Primavera Contract Management, a secure, web-based environment that provides instant access to users from any web-accessed location. For filing requirements (e.g., location, structure, specific processes, and usage expectations), we identify any special processes to be when securing restricted files. We also verify that team members are tracking and recording documents as an integral part of everyday work. This approach protects critical information from being lost or destroyed, facilitates ease in close-out, allows for documentation to be archived properly, and supports our quality management approach.

Effective project controls prevent problems, expedite issue resolutions, and eliminate misunderstandings through accurate record keeping that is available and quantifiable by all for real time evaluation. Our project controls are outlined and defined in the PMP. Through project controls, we monitor the budget, cost, schedule, and scope of work changes.

Scope, Budget, and Schedule

We track project costs through an automated Oracle system. Timesheets will be input by staff and reviewed by Project Manager Daniel Jabbour for any discrepancies; if necessary, he has the authority to revise costs related to the project. We will record, project, and monitor costs throughout the project. Budget control includes overseeing project quantities and making sure that the scope is being efficiently followed and that any elements that may influence costs are addressed before they become problems. Daniel Jabbour will also establish cost metrics and review trends over the course of the project to confirm material costs and productivity rates that may impact the Project.

In cooperation with LEJPA, we will develop a master schedule to serve as a roadmap for the project. The schedule identifies commitments, priorities, and sequence requirements, allowing us to efficiently outline the level of effort and resources for the project. Our proactive approach uses integrated Project Management Information System (PMIS) tools to allow us to identify and resolve critical risks earlier and mitigate potential program-wide impacts to cost and schedule.

06 Quality Management

Quality begins with a mindset shared by the members of our team. It starts by clearly understanding our clients' expectations and making a commitment to meeting them every time with every project. We will deliver quality service to you by preparing a Quality Management Plan that is consistent with the goals for quality established by LEJPA. We communicate this clearly to our project team and make sure that we meet those goals in our project activities.

We have a history of providing quality services, while being sensitive to our clients' needs. This goal is achieved with our in-house QC program, which is designed to accomplish three major objectives:

- Provide senior-level guidance throughout the project
- Eliminate redundant work and miscommunicated efforts
- Provide consistency in deliverables

Quality at HDR begins with the receipt of each contract. A QA team, consisting of Daniel Teak, our proposed project technical lead, QA manager, and other senior staff, not directly involved in the project, will provide guidance and independent reviews. Upon notice of award, our project manager will prepare a Project Management Plan that will provide project guidance from project initiation to closeout.

Draft materials will be independently reviewed before final production by matching the best-suited staff to the specific needs. For this project, Mark Salmon and Les Harder will provide independent reviews. In addition, we will constantly be open to search for ways to benefit each task by employing economical thinking and ideas, without sacrificing quality.

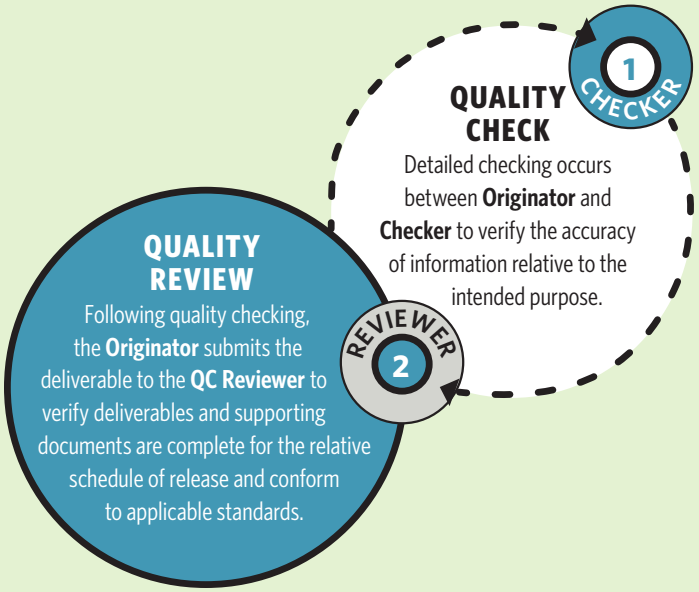
Our goal is to always provide our clients with the best possible consulting resources. We do this by specifically selecting subconsultant teaming partners for the services required on each project. Subconsultants are an integral part of our project team and subconsultant management is an essential part of overall project management. We have built a reputation as a strong and fair teaming partner. We have long-standing relationships with subconsultants who will be working on your project.

Quality starts with senior management and continues through every level of the project team, including our subconsultants. Subconsultant performance is a critical factor in both the quality and cost effectiveness of our work. Our subconsultant teaming partners will receive a briefing on the project management plan and the quality management plan so they understand the established project procedures and standards.

Quality Management System

Our goal is to set the industry benchmark for excellence in services. We accomplish this through work well done, staying true to purpose, and exercising discipline.

Project reviews occur throughout project execution to facilitate communication between the project manager and HDR management. Managing the quality of deliverables is essential to minimizing cost and schedule overruns on projects.



07 Contract Exceptions and Insurance Requirements

We have reviewed the sample contract terms and conditions included in the RFQ and propose the following exceptions. Requested additions are shown in blue bold text, and requested deletions are shown in red strike-through text.

Agreement

5. Invoicing and Payment

LEJPA shall approve or disapprove said invoice or billing within ~~**twenty (20)**~~ **fifteen (15)** days following receipt thereof, and shall pay, within thirty (30) days approval, all approved invoices and billings.

11. Indemnification

If requested by LEJPA, CONSULTANT agrees to participate, at its own expense, in the defense of a claim to provide testimony or to produce documents or other information relevant to the defense of the claim. **If the claim is subject to CONSULTANT's indemnification obligation as set forth above, such support will be at CONSULTANT's own expense. Otherwise, such support will be considered additional services and the parties will agree upon an equitable adjustment to CONSULTANT's compensation.**

16. Termination

LEJPA shall have the right to terminate this Agreement at any time by serving upon CONSULTANT thirty (30) days advance written notice of termination. **However, LEJPA will not terminate for cause without providing CONSULTANT written notice of the breach and a period of ten (10) days to cure.**

Insurance Requirements

HDR has maintained professional liability insurance in force continually since 1958 for the protection of clients and us. Sample Certificate of our insurance coverage is provided on the following page.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 06/16/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Willis Towers Watson Midwest, Inc. c/o 26 Century Blvd P.O. Box 305191 Nashville, TN 372305191 USA	CONTACT NAME: Willis Towers Watson Certificate Center PHONE (A/C, No, Ext): 1-877-945-7378 FAX (A/C, No): 1-888-467-2378 E-MAIL ADDRESS: certificates@willis.com
INSURED HDR Engineering, Inc. 1917 South 67th Street Omaha, NE 68106	INSURER A : Liberty Mutual Fire Insurance Company — NAIC # 23035 INSURER B : Ohio Casualty Insurance Company — NAIC # 24074 INSURER C : Liberty Insurance Corporation — NAIC # 42404 INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** W21262337 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X Contractual Liability X Deductible: $100,000 GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT X LOC OTHER:	Y	Y	TB2-641-444950-031	06/01/2021	06/01/2022	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 1,000,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY X Comp/Coll X Ded. $1,000	Y	Y	AS2-641-444950-041	06/01/2021	06/01/2022	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 2,000,000 $ $ $
B	UMBRELLA LIAB X OCCUR X EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 0	Y	Y	EUO(22)57919363	06/01/2021	06/01/2022	EACH OCCURRENCE AGGREGATE	$ 10,000,000 $ 10,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: No If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	WA7-64D-444950-011	06/01/2021	06/01/2022	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Workers Compensation Deductible - $250,000

Certificate Holder is named as Additional Insured on General Liability, Automobile Liability and Umbrella/Excess Liability on a Primary, Non-contributory basis where required by written contract. Waiver of Subrogation applies on General Liability, Automobile Liability, Umbrella/Excess Liability and Workers Compensation where required by written contract. Umbrella/Excess policy is Follows Form over General Liability, Auto Liability and Employers Liability.

CERTIFICATE HOLDER	CANCELLATION
Sample	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Alicia J. Pavelko

ACORD 25 (2016/03) The ACORD name and logo are registered marks of ACORD

SR ID: 21227135 BATCH: 2132293

Appendix
Resumes

Daniel Jabbour, PE — PROJECT MANAGER

FIRM
HDR Engineering, Inc.

EDUCATION
Bachelor of Science, Engineering, University of the Pacific

REGISTRATIONS
Professional Civil Engineer, California, No. 63110

INDUSTRY TENURE
24 years

Daniel has 24 years of experience in project management, design, feasibility studies, plans and specifications, cost estimation, alternatives analyses, and construction administration. He has successfully led large teams under difficult circumstances and aggressive project schedules. During the Oroville Spillway emergency Daniel led a team of engineers that put two design packages out to construction in matter of a few months. Work was fast paced and required coordination with DWR, manufacturers, contractors, and the multidisciplinary team supporting DWR. Concurrently, levee distress was observed along the three-mile stretch of the Feather River West Levee though the City of Yuba City. SBFCA kicked off an emergency levee repair project. Daniel led a multidisciplinary team to prepare design, coordinate with SBFCA and agencies, and deliver a construction package in a matter of a few months. Daniel has served as civil lead on various levee projects, including Little Egbert Tract, multiple SBFCA Feather River West Levee projects, and multiple TRLIA Yuba River Levee and WPIC West Levee projects. Daniel has served as lead on designs and improvements for over 27 miles of levees. His experience includes bank protection, mass grading, borrow analysis and design, site design and development, roadway utility infrastructure planning, layout and grading plans, earthwork balance, and master planning studies for utilities. His multidisciplinary projects have included coordination with clients, local counties and cities, local flood control agencies, state and federal agencies, and utility companies.

RELEVANT EXPERIENCE

Westervelt Ecological Services, Planning and Preliminary/Conceptual Design for the Little Egbert Tract, *Solano County, California*

Daniel is HDR's project manager for the planning and preliminary/conceptual design for the Little Egbert Tract. The project site is approximately 3,100 acres located in the Sacramento-San Joaquin River Delta. It is currently under agricultural cultivation and most of the property has a restricted-height levee under flowage easements on the north and east along Cache Slough. The intent of the restricted-height levee is to allow high flows from the Yolo Bypass to enter and pass through the Little Egbert Tract.

SBFCA, Feather River West Levee (FRWL) Improvement Project, *Sacramento, California*

HDR completed geotechnical and civil analyses and generated a Pre-Design Formulation Report for the west bank of the FRWL. Daniel identified project improvements and developed designs for the rehabilitation, restoration, and necessary improvements to 44 miles of the FRWL. He was the technical lead for the design of approximately 16 miles of levee along the FRWL. He led the preparation of the Pre-Design Formulation Report, which summarized project design criteria, rehabilitation measures, project alternatives, and cost. He was the lead on preparing improvement plans and specifications that included cutoff walls, seepage berms, associated borrow plans, and bank protection at two locations. Daniel's duties also included preparing basis of design reports, technical memoranda outlining the design, Engineering Considerations for Field Personnel reports, and bid documents. Daniel also provided construction administration support, attended weekly construction meetings,

DANIEL JABBOUR, PE (CONTINUED)

reviewed and responded to contractor requests for information, reviewed project submittals, and provided design changes to meet changing field conditions.

DWR, Oroville Spillway Recovery Project, Civil Engineering Support, *Oroville, California*
During the Oroville spillway emergency, Daniel led a team of engineers that put two design packages out to construction in matter of a few months. Work was fast paced and required coordination with DWR, manufacturers, contractors, and the multidisciplinary team supporting DWR. Daniel was responsible for the development of construction access roadways, staging areas, stockpile areas, and batch plant areas for the recovery effort. He assisted in the development of grading concepts and improvement plans, development of the project specifications, development of quantities, preparation of a civil basis of design, and provided reviews of civil plans and specifications.

SBFCA, Oroville Wildlife Area Flood Stage Reduction, *Oroville, California*
Daniel was the project manager for this project, which included flood control, ecosystem restoration, and recreational improvements to the Area's D-Unit. The project site was approximately 1,500 acres, located to the east of the Feather River. The project augmented existing system of inflow and outflow weirs to safely divert additional floodwaters through the D-Unit and reduce flood stages within the Feather River. HDR provided interdisciplinary design, engineering, and construction support. The team conducted geotechnical explorations and analysis, provided alternatives for a new inflow weir, and prepared designs that included a new gabion weir, improvements to an existing sheet pile weir, a new box culvert outlet to the Feather River to support fish passage, grading of existing and new channels to facilitate fish passage, a new levee to divert flows and reduce fish stranding, incorporated invasive species removal, and drainage improvements.

Three Rivers Levee Improvement Authority (TRLIA), Levee Repairs and Setback Levee Projects, *Yuba County, California*
Daniel was the project manager for the preparation of the design package for the Upper Yuba Levee Improvement Project, approximately 20,000 LF of levee improvements for the Western Pacific Interceptor Canal. His responsibilities included the preparation of the plans, specifications, and design documentation reports, as well as managing communication with the client and approving agencies.

SAFCA, Natomas Levee Improvement Program, *Sacramento, California*
Daniel was the civil engineer responsible for Sacramento River East Levee Phases 1 and 1B construction coordination. His responsibilities included attending construction meetings, reviewing construction submittals, answering requests for information, and coordination with other engineering firms, the construction manager, and the client to address contractor needs.

WSAFCA, Southport Levee Improvement Project, *West Sacramento, California*
Daniel provided civil engineering for the alternative analyses, design, and preparation of feasibility reports, plans, specifications, cost estimates, design documentation reports, data reports, and environmental and permitting documentation.

Daniel Teak, PE — PROJECT TECHNICAL LEAD/DESIGN LEAD

Daniel has 13 years of experience in water resources and civil engineering on flood control projects, focusing primarily in the public sector. His design experience includes designing levees, flood walls, and other flood protection features, as well as project management for projects with multiple sponsors. His project experience includes civil design and flood control in support of ecosystem restoration and watershed rehabilitation and restoration projects, including preliminary engineering and alternatives analyses, planning formulation reports, feasibility studies, and PS&Es. Recently, Daniel was Civil Lead and Project Manager for the South San Francisco Bay Reach 1 Levee Project, which included 4,400 feet of flood protection levees as part of a large ecosystem restoration project. Daniel provides civil analyses, environmental review in support of CEQA/NEPA, and permitting support.

FIRM
HDR Engineering, Inc.

EDUCATION
Bachelor of Science, Civil Engineering, California State University, Sacramento

REGISTRATIONS
Professional Civil Engineer, California, No. 81245

INDUSTRY TENURE
15 years

RELEVANT EXPERIENCE

USACE, San Francisco, South San Francisco Bay Shoreline Levee Design, *Alviso, California*
Daniel was the project manager for the Reach 1 Levee design project, which consisted of 4,400 feet of flood risk reduction levee in South San Francisco Bay, as an integral part of an expansive salt pond restoration program. Daniel is also the project manager for the Shoreline Closure Structure crossing Union Pacific Railroad (UPRR) tracks. The closure structure intersects at the proposed levee alignment and will provide flood protection across the UPRR alignment.

WSAFCA, Southport Levee Improvement Project Early Implementation Program, *West Sacramento, California*
As civil engineer, Daniel led development of natural resources protection and tree removal and assisted in quantity development and cost estimating. He served as the Specifications Lead for the project, which included providing engineering services to WSAFCA for initiation of 60% design work on the preferred levee improvements for Segments A, C, D, E, and G of the Southport Program. This fourth phase of the project involved preparation of contract documents, including final construction plans, specifications, estimates, and general and special provisions; an EIS for public release; and associated project permit applications.

City of West Sacramento, West Sacramento Levee Evaluation Project, Environmental Compliance and Risk Analysis, *West Sacramento, California*
As civil engineer, Daniel provided environmental compliance and risk analysis engineering support services for the proposed program to improve the levees protecting the City, which included describing the activities required to manage the development of several supplemental technical products by subcontractors for levees system protecting the City. These supplemental technical products included a programmatic environmental document and an economic and risk analysis evaluation.

DANIEL TEAK, PE (CONTINUED)

Valley Water, Anderson Dam Seismic Retrofit Planning and Environmental Consulting Services, *Morgan Hill, California*

As civil engineer, Daniel assisted in the development and preparation of planning study documents, including the Problem Definition Report, Planning Study Report, and CEQA/NEPA documents, as well as permitting. The ultimate outcome of the planning services was to recommend a preferred alternative to resolve the seismic deficiencies in the dam embankment from the maximum creditable earthquake; resolve and remediate, if necessary, the outlet works for the potential fault rupture risk from a maximum creditable earthquake; and review and revise, as needed, the Probable Maximum Flood and routing study to address possible deficiencies with the spillway.

City of Sunnyvale, Operations and Maintenance Implementation Plan, *Sunnyvale, California*

As civil engineer, Daniel was the lead engineer on this project, which involved development of an Operations and Maintenance Implementation Plan to assist the City of Sunnyvale in managing repairs and maintenance efforts for the existing levees surrounding the City's oxidation ponds. The Plan will be used by City staff and includes general plans, details, and specifications for levee repairs.

DWR, Central Valley Flood Protection Plan (CVFPP), Sacramento River Basin and San Joaquin Basin Feasibility Studies, *Sacramento, California*

Daniel served as a water resources engineer for completing the Sacramento River Basin and the San Joaquin Basin Feasibility Studies, providing senior advice and planning services. The studies were prepared under FloodSAFE, a multifaceted initiative to improve integrated flood management in the State. The broad goals of the CVFPP included reducing the chance of flooding, reducing the consequences of flooding, sustaining economic growth, protecting and enhancing ecosystems, promoting the sustainability of the flood management system. Daniel assisted with establishing the plan formulation process, developing the basis of design report, establishing the hydraulic impact assessment process and thresholds, as well as formulating and refining alternatives. The planning process is considering existing conditions, sea-level rise, and climate change. The system-wide approach will consist of local regional plans coupled with improvements to DWR's State Plan of Flood Control and associated programs.

Federal Emergency Management Agency (FEMA) Region IX Contract, *California, Arizona, Nevada*

As civil engineer, Daniel provided engineering design services for this contract with FEMA Region IX to provide flood insurance studies/restudies throughout California, Arizona, and Nevada. Work under this contract included collecting and entering map needs assessment parameters into the national database; conducting H&H modeling; determining flood hazard areas; producing flood insurance studies, including digital flood insurance rate maps; coordinating with local community officials, FEMA, and FEMA review contractors; participating in public involvement meetings; developing flood disaster recovery maps; developing post-fire emergency evacuation maps; and implementing FEMA's provisionally accredited levee process.

Jason Nettleton, PE — LEVEES & UTILITY RELOCATION

Jason has experience in a variety of civil engineering tasks, including preparing plans and specifications, quantity take offs, and opinions of probable construction costs, as well as providing support during construction. His experience includes roadway design, site design, hydrology analysis/studies, storm drain design, forcemain sewer design, urban land development design, roadway widening design, and commercial site design. Jason provided civil engineering support to prepare plans, specifications, quantity takes-offs, and opinion of probable construction costs for approximately 12 miles of levee improvements for SBFCA's FRWL project.

FIRM
HDR Engineering, Inc.

EDUCATION
Bachelor of Science, Civil Engineering, California State University, Sacramento

REGISTRATIONS
Professional Civil Engineer, California, No. 73184

INDUSTRY TENURE
18 years

RELEVANT EXPERIENCE

SBFCA, Feather River West Levee Engineering Design Services for Project Area D, *Sutter County, California*
Jason helped to prepare plans, specifications, quantity takes-offs, and opinion of probable construction costs for approximately 12 miles of levee improvements along Project Area D of the FRWL. Improvements included cutoff wall construction, geometry corrections, and berm design.

SBFCA, Design Services during Construction in Project Areas Band D, *Sutter County, California*
HDR's design team is performing additional design services as necessary during the construction phase of Project Areas B and D in the FRWL. Jason helped to prepare improvement plans for design changes, reviewed contractor submittals, responses to contractor RFIs, and assisted in resolving construction related issues.

SBFCA, Laurel Avenue Site, Final Design, *Sutter County, California*
HDR provided geotechnical and civil evaluations and design for approximately one mile of levee improvements. Jason helped to prepare plans, specifications, quantity take-offs, and opinion of probable construction costs. Improvements on the Laurel Avenue project included cutoff wall construction, geometry corrections, and utility relocations.

SBFCA, Oroville Wildlife Area, Civil Design for Levee Improvements, *Yuba County, California*
HDR prepared geotechnical and civil designs for various improvements within the Oroville Wildlife Area D-Unit. Work included design of a new gabion weir, grading for parking improvements, grading for access, culvert placement, rock slope protection, and concrete roadway. Jason took lead on preparing the civil improvement plans, specifications, quantity take-offs, and opinion of probable construction costs.

TRLIA, Western Pacific Interceptor Canal, *Yuba County, California*
HDR is providing civil engineering and environmental services for the Western Pacific Interceptor West Levee. Jason prepared plans, specifications, quantity take offs, and opinion of probable construction costs for the project. Improvements included cutoff wall construction, geometry corrections, and landside improvement.

SAFCA, Sacramento River East Levee Improvement Project, *Sacramento, California*
Jason provided engineering services related to improving levees on the

JASON NETTLETON, PE (CONTINUED)

Natomas East Main Drainage Canal Arcade Creek and on the Sacramento River East Levee from the American River to Freeport.

San Francisquito Creek Joint Powers Authority, Flood Improvement Project, *Menlo Park, California*

Jason provided engineering design of the flood protection elements needed to protect homes, businesses, and other facilities in the cities Palo Alto and East Palo Alto downstream of Highway 101. The intent of the project was to provide conveyance of the 1% design flood flow through the area of consideration, from the downstream face of East Bayshore Road (east frontage road to Highway 101) to San Francisco Bay.

San Francisquito Creek Joint Powers Authority, SAFER Bay Project, *Menlo Park, California*

Jason provided engineering support for the feasibility study report detailing preliminary field investigation, conceptual alternatives, construction phasing, and engineering cost estimates. His work included a bid-ready set of construction documents for tidal flood protection improvements that incorporated forward-thinking design and emerging techniques that minimize construction costs and maximize opportunities for ecosystem and recreational/connectivity enhancements.

USACE, Sacramento Weir Widening Project, *Sacramento, California*

Jason supported the preparation of plans, specifications, quantity takes offs, design documentation report, ECIFP, and opinion of probable construction costs. He led the utility relocation design and coordination with PG&E, AT&T, and Fiber Optic for the project.

USACE, Mobile District, Repair 7th Division Road and Extension Including Stormwater Improvements, *Fort Hunter Liggett, California*

HDR is responsible for preparation of Design-Build Solicitation for Repair 7th Division Road and Extension, including stormwater improvements at Fort Hunter Liggett. Jason was responsible for preparation of cantonment-wide stormwater and roadway preliminary design (65% level design). He also prepared a preliminary construction plans and preliminary cost estimate and a construction phasing plan, as required, which will be utilized by Fort Hunter Liggett as a basis for future stormwater planning and design projects.

DWR, Oroville Spillway Incident Response, *Oroville, California*

Jason was part of HDR's on-site monitoring personnel who assisted DWR with the emergency response to the spillway failure at Oroville Dam in February and March of 2017. Staff conducted field monitoring, and construction support around the clock for a wide variety of tasks on and around the Oroville Dam emergency effort.

Mayank Tanwar, PE — WATER CONTROL STRUCTURES

Mayank is a structural engineer with 11 years of experience and has demonstrated his skills in structural engineering by delivering successful projects. Mayank was the designated structural engineer for the seismic evaluation of the concrete piers for SAFCA's Folsom Dam Design project and for the analysis and design of a 40-foot-wide swing gate structure for USACE's South Bay Shoreline Reach 1 Levee Design project.

FIRM
HDR Engineering, Inc.

EDUCATION
Master of Science, Civil Engineering, North Carolina State University

Bachelor of Science, Civil Engineering, National Institute of Technology, Kurukshetra, Haryana, India

REGISTRATIONS
Professional Civil Engineer, California, No. 93283

INDUSTRY TENURE
11 years

RELEVANT EXPERIENCE

SAFCA, Folsom Dam Temperature Control Shutters Concrete Pier Analysis, *Folsom, California*
Mayank was the designated structural engineer for the seismic evaluation of the concrete piers. The tasks included the finite element modeling of the temperature control shutters structure in SAP2000, post processing of results, and preparing the design report. He performed response spectra analysis of the temperature control shutters structure in SAP2000 using frame and solid elements. The added mass approach was used to include hydrodynamic effect per the guidelines listed in USACE EM 1110-2-6051. Mayank also checked the failure modes (flexural, sliding shear, diagonal shear, etc.) per the guidelines listed in USACE EM 1110-2-6053, and prepared analyze report to summarize the results.

USACE, San Francisco District, South San Francisco Bay Shoreline Closure Structure, *Santa Clara County, California*
Mayank was the designated structural engineer for the analysis and design of 40-foot-wide swing gate structure. The tasks included the finite element modeling of the swing gate structure, concrete monolith, plans, specifications, and design report. He performed finite element analysis of the swing gate structure in SAP2000 analysis software. The model consisted of frame and shell elements. Mayank followed the guidelines listed in ETL 1110-2-584 to perform the design. The results obtained from SAP2000 were checked by performing a separate calculation MathCAD for a typical frame member. Mayank also developed specifications, plans, and a design report for the project.

Merced Irrigation District, McSwain Dam Spillway Right Abutment Improvements, *Snelling, California*
Mayank was the lead structural engineer for the design of the right abutment wall. The tasks included the analysis and design of the right abutment wall, specifications, and plans. The design was performed in Mathcad software per the guidelines listed in USACE EM 1110-2-2100 and EM 1100-2-2104.

City of San Diego Public Utilities Department, Murray Dam Near Term Repairs Improvement Project, *San Diego, California*
Mayank was the designated structural engineer for the analysis and design of a platform and ladder located Bay 12-13 of the Murray Dam. The tasks included ladder and platform installation and development of maintenance repair plans and specifications. Mayank performed the analysis and design of the work platform in SAP2000.

MAYANK TANWAR, PE (CONTINUED)

The design was performed per the guidelines listed in ASCE 7-16/IBC 2018. Mayank then provided sketches to the CAD drafting team to help them in developing the installation plans. He also prepared maintenance repair plans for the various type of defects located at Murray Dam and developed specification, plans, and calculation package as a part of deliverable.

Sacramento Municipal Utility District, Ice House Dam Radial Gate Platform Anchor Bolt Assessment, *El Dorado County, California*

Mayank prepared a condition assessment memo on the anchor bolts located at the radial gate platform. The memo included condition assessment findings, potential cause of defects, and alternative for remediation.

DWR, Seismic Evaluation of Castaic Dam Outlet Works, *Los Angeles County, California*

Mayank was the designated structural engineer for the seismic evaluation of the Castaic Dam Outlet Works. The task included seismic evaluation of all the BFVs supports and their anchorage located at the stream release facility and turnout facility. Mayank performed analysis for all the BFVs pedestals in MATHCAD per the guidelines listed in ASCE 7-16. He also prepared a design report summarizing the results.

DWR, Pyramid Dam Intake Structure Analysis, *Los Angeles County, California*

Mayank drafted the review summary memo for the documents received from the client. He prepared design analysis criteria and a modeling workplan report and submitted it to the client for review. He also created and circulated meeting minutes memos for biweekly progress meetings held with the client. He was also involved in the Linear Elastic Time History Analysis of the intake structure.

Los Angeles Department of Water and Power, Santa Anita Dam Spillway Modification, *Los Angeles County, California*

Mayank served as the designated structural engineer providing support for the ongoing construction of the Ogee spillway. The tasks included monitoring the critical concrete pours of the ogee spillway, post-concrete-pour inspection, preparing and submitting the site visit memos, reviewing the contractor submittals, and responding to RFIs.

Los Angeles Department of Water and Power, Santa Anita Dam Hoist Building Retrofit, *Los Angeles County, California*

Mayank was the assigned structural engineer for evaluation of the existing hoist building. The building was modified to provide a clear passage for 262D Skid Steer Loader. Mayank performed analysis of the structure in SAP2000 for all the applicable load combinations, including seismic and wind. He carried out Mathcad calculations for the design of the column base plates per AISC Design Guide 1. He then composed the design report and coordinated with the CAD team to produce the construction drawings.

DWR, Oroville Dam, *Butte County, California*

Mayank served as the designated structural engineer for the analysis and design of steel Pressure Relief Wall and work platform. The steel platform was analyzed and designed in SAP2000 for the applicable load combinations. The applicable limit states were verified per AISC 360-16. The pressure relief wall analysis and design were conducted in Mathcad. The connections for the PRW is designed to fail in tension under specific static hydrostatic load to prevent the flooding of the RVOS chamber.

Renato Espinoza-Torres, PE, CMF — BANK PROTECTION/EROSION CONTROL

Renato has over 16 years of experience in water resources engineering, hydraulic modeling, hydrology, dam safety, aqueduct analyses, and erosion projects. His responsibilities have included project management, staff management, performing H&H engineering in support of civil design, conducting field investigations, flood mapping, flood risk analysis, drainage design, planning studies, hydraulic analyses to inform aqueduct operations, preparing reports and design documents (plans, specifications and estimates), and providing construction services. Renato has a working knowledge in design-oriented software, including: ArcGIS Pro, HEC-RAS (1D & 2D), HEC-HMS, HEC-DSS, FLOW-3D, GlobalMapper, LP360, AutoCAD, Flow Master, Culvert Master, and SewerCAD.

FIRM
HDR Engineering, Inc.

EDUCATION
Bachelor of Science, Civil Engineering, California State University, Sacramento

REGISTRATIONS
Professional Civil Engineer, California, No. 83215

INDUSTRY TENURE
16 years

RELEVANT EXPERIENCE

SBFCA, Engineering Design Services in the Oroville Wildlife Area and Feather River, *California*

Renato analyzed and designed various hydraulic structures along the east levee of the Feather River for erosion control. Hydraulic analyses included deriving design parameters from a two-dimensional TuFlow model. These were used to design the width and thickness of spillway for the weirs, sizing revetment requirements, design weir aprons, and defining the extents of rock revetment for erosion protection. Renato also modified an existing HEC-RAS model to determine the extents of a levee erosion site and develop hydraulic analysis parameters. Renato used the results of the hydraulic analysis and erosion assessment to design the rock slope protection armor repair of a 1,000-foot section of levee, using federal and state design guidelines and regulations for erosion control.

DWR, Cedar Spring Dam Supplemental Erosion Assessment, Hydraulics and Erosion Design, *California*

As the hydraulics and erosion design engineer for this project, Renato developed a 2D HEC-RAS hydraulic model and a simplified HEC-HMS model to evaluate the erosion potential along the right side of the main Cedar Spring dam spillway. Renato used the parameters calculated with the 2D model to size rock and design the riprap slope protection.

Merced Irrigation District, Exchequer Release Decision, *California*

As technical lead, Renato developed a detailed HEC-RAS model to inform the releases from the Exchequer Dam gated spillway and estimate erosion rates. This task involved developing a detailed geometry of the spillway and evaluating various boundary conditions to generate flow-elevation rating curves for structures downstream of the release. The results of this task were used to determine the potential impacts to channels and structures downstream of the gated spillway, and determine adequate spillway releases.

DWR, California Aqueduct Subsidence Program, *California*

As DWR's lead hydraulic modeling consultant, Renato developed a detailed HEC-RAS model to assist in the operations of the California Aqueduct within the San Luis and San Joaquin Field Divisions. The hydraulic model extends from the Dos Amigos

RENATO ESPINOZA-TORRES, PE (CONTINUED)

Pumping Plant to the Buena Vista Pumping plant. It includes check structures, turnouts, overchutes, and was calibrated using field data. DWR 2016 LiDAR data was used to account for ongoing land subsidence. The model was developed to inform pool capacities, operational limits, optimize energy demand at pumping plants, gate operations, and evaluate design alternatives for fixes to the subsiding SWP facilities. The model is a key component to the ongoing efforts to operate, maintain, and repair the California Aqueduct.

DWR, Central Valley Flood Evaluation and Delineation Program (CVFED) Combined Riverine and Overland Flow Hydraulic Models, *California*

Renato served as the lead modeler in the development of an unsteady HEC-RAS hydraulic model. The detailed model covered the lower San Joaquin River basin and included 14 streams with cross section, lateral structures, bridges, inline structures, culverts, and floodplain storage areas. Renato also served as the lead modeler in the development of the system-wide unsteady HEC-RAS hydraulic model for the entire San Joaquin River basin. The model included additional reaches and floodplain areas, including 225 square miles of HEC-RAS 2D components. The HEC-RAS 2D modeling areas included varying mesh cell sizes for detailed floodplain hydraulics modeling, 2D area connections, 2D breaklines, and connections between 1D/2D components. Renato and his team used the system-wide model for a series of levee failure simulations for the cities of Stockton, Lathrop, and Manteca. The resulting inundation floodplains were processed in GIS and developed into informational floodplain maps for the State of California.

USACE, Folsom Dam Water Control Manual, *Folsom, California*

Renato served as a project engineer in the development of the updated Folsom Dam Water Control Manual. Tasks included evaluating dam releases for existing and proposed conditions and quantifying their impacts to the American River streambed conditions. This effort involved using various model outputs to identify areas of potential impact to streambed stability, quantify the impacts, and provide comparisons between various alternatives.

DWR, CVFED Senate Bill 1278/ Assembly Bill 1965 Urban Level of Flood Protection Informational Maps, *California*

Renato served as the lead modeler in performing the hydraulic analysis to simulate a series of levee failures and the resulting inundation for the cities of Stockton, Lathrop, and Manteca. He developed levee breach criteria and breach hydrographs and performed overland flow simulations using the FLO-2D models. The resulting inundation floodplains were used to create informational floodplain maps for the State of California.

DWR, CVFED San Joaquin River System-wide Model Development, *California*

Renato served as the lead modeler in the development of a system-wide unsteady HEC-RAS hydraulic model for the San Joaquin River basin. This task consisted of expanding the previous task order model to include additional reaches and floodplain areas, including 225 square miles of HEC-RAS 2D components. Renato also developed hydrographs for storms of various return periods using a reservoir system simulation (HEC-ResSim) model.

Nick Gooding, PE — COST ESTIMATING

Nick has 15 years of experience in water resources, environmental restoration, and flood protection. He has experience in MCACES cost estimating for flood protection, water resources, environmental restoration, and military site improvement. Nick has developed cost estimates for projects in Northern California, Nevada and Hawaii. His experience includes FEMA floodplain processing assignments, including several task orders under the FEMA Region IX Indefinite Delivery/Indefinite Quantity Contract for Coastal and/or Riverine Studies/Restudies. For SBFCA FRWL project Nick provided programmatic cost estimating in the early phases of the project, as well as design level estimates as the project progressed.

FIRM
HDR Engineering, Inc.

EDUCATION
Bachelor of Science, Civil Engineering, California State University, Sacramento

REGISTRATIONS
Professional Civil Engineer, California, No. C79872

INDUSTRY TENURE
15 years

RELEVANT EXPERIENCE

SBFCA, Feather River West Levee Remediation, *Sutter and Butte Counties, California*
HDR provided engineering services for rehabilitation and restoration of 44 miles of the FRWL. The goal of the project was to rehabilitate the levee to meet FEMA accreditation standards and to meet the State of California 200-year standard of flood protection for the portions of levee near urban areas. Nick provided programmatic cost estimating in the early phases of the project, as well as design level estimates as the project progressed.

SBFCA, Engineering Design Services, *Sutter and Butte Counties, California*
HDR completed geotechnical and civil analyses and generated a Pre-Design Formulation Report for the west bank of the FRWL. HDR identified project improvements and developed 30% design for the rehabilitation restoration and necessary improvements to 44 miles of the FRWL. Nick provided civil engineering support on the project.

USACE, Sacramento District, American River Common Features, *California*
Nick performed cost estimating for various levee projects along the Sacramento and American rivers. These projects included a diverse range of levee remediation, including cutoff walls, seepage and stability berms, and jet grouting. Projects also included erosion repair measures such as riprap revetment and slope repair.

SAFCA, Sacramento River East Levee Improvement Project, *Sacramento, California*
HDR was hired to develop alternatives and assist in design of levee improvements to control under-seepage for 5.9 miles of levee in the Pocket area of Sacramento. Nick developed the programmatic cost estimate to compare alternative fixes for the project reaches and assisted in site investigation and quantity takeoffs in order to develop an accurate estimate. He was also the technical lead for several design features and specification development. He is currently developing the construction cost estimate as design progresses.

SAFCA, Natomas Levee Improvement Program Sacramento River Levee Reaches 1, 2, 4B, and 5A, *Sacramento, California*
HDR provided a drainage study, predesign, design, environmental documentation, permitting assistance, bid period, and construction support

NICK GOODING, PE (CONTINUED)

services for Reaches 1, 2, 4B, and 5A of the Sacramento River Levee (east bank) in the Natomas area, which protects a portion of RD1000. Nick provided programmatic cost estimating in the early phases of the project, as well as design level estimates as the project progressed.

West Sacramento Area Flood Control Agency, Southport EIP Levee Improvement, *West Sacramento, California*
Nick participated in the program-level and design-level cost estimates for several miles of cutoff walls, seepage berms, and setback levees including quantity takeoffs and unit price and bid schedule development. He also worked on the specification package and provided review of other contract documents.

USACE, Sacramento, Yuba River Basin General Reevaluation Report, *Yuba County, California*
HDR prepared a General Reevaluation Report for the project area as a result of higher implementation costs due to increased underseepage problems. The project included levee modifications on 16 miles of the Yuba River left bank, Bear River north levee, Feather River east levee, and the Western Pacific Interceptor Canal. Nick provided quantity takeoffs for the various repair plans analyzed in the report. The plans included various combinations of repairs and levels of protection. Nick also prepared the project report and coordinated work between the various disciplines involved.

TRLIA, Levee Repairs and Setback Levee Projects, *Marysville, California*
Nick developed bid schedules, unit pricing, and quantity takeoffs for the Bear River and WPIC levee improvements through final design. He also participated in the WPIC design and specifications, particularly working on the interface with the nearby railroad and accommodating the RD784 levee access requirements.

USACE, Sacramento District, Marysville Ring Levee, *Yuba River Basin, California*
HDR prepared a feasibility-level alternative analysis for the Phase 2 portion of the Marysville Ring Levee by reviewing existing engineering reports, geotechnical engineering data, and historical records. Nick prepared the cost estimates for all project alternatives in support of the USACE decision document.

USACE, Sacramento District, Periodic Inspection for Levee Systems near Merced, Chowchilla, Mendota, Madera, Courtland, Rio Vista, Solano County, West Sacramento, Tracy, Lathrop, Stockton, Modesto, Crows Landing, Chester, and Fairfield, *California*
HDR performed a levee safety periodic inspection on the levee systems. The inspected levee systems consisted of multiple segments located throughout Central and Northern California. The purpose of the periodic inspection was to verify proper operation and maintenance, evaluate operational adequacy and structural stability, review design criteria to identify changes in current design standards, identify features to monitor over time, and improve the ability to communicate the overall condition. Nick served as a field team lead on several inspections lasting up to three weeks at a time. He also led the reporting and documentation of the collected field data for these inspections.

Michael Higgins — TRANSPORTATION

With over 20 years of transportation project delivery, funding, and planning experience Mike's background spans a variety of multi-disciplined projects, from early planning through construction. Mike has managed and delivered roadway widening projects, rail crossings and signalized intersections and railroad grade separations, as well as projects on the state highway/freeway system. Mike brings extensive experience managing these projects through planning, CEQA/NEPA, and the design phases to get them shovel ready. He has successfully helped local agencies secure regional, state and federal competitive funds through effective grant writing and benefit/cost analysis support.

FIRM
HDR Engineering, Inc.

EDUCATION
Bachelor of Science, Environmental Studies, California State University, Humboldt

INDUSTRY TENURE
20 years

RELEVANT EXPERIENCE

San Joaquin Regional Rail Commission, Stockton Diamond Grade Separation, *Stockton, California*
Mike is the project manager for the preliminary engineering and environmental approvals phase for a project to grade separate two major rail lines in downtown Stockton. Stakeholders include the Fresno subdivision of the UPRR and the Stockton subdivision of BNSF railroad. The Stockton Diamond Grade Separation project has the potential to transform the local community, and HDR's in-house team of engineers, environmental and transportation planners, and strategic communications are poised to help the client deliver a transformative project with wide-ranging benefits. This project includes agency coordination with Caltrans, City of Stockton, San Joaquin Area Flood Control Agency, and San Joaquin Council of Governments.

City of Elk Grove, SR 99 Auxiliary Lanes PSR, *Elk Grove, California*
Mike was the project manager responsible for delivering a Project Study Report to enable five auxiliary lane segments on SR 99 and eligibility for funding through the SR 99 Program of Proposition 1B. The draft report was completed in three months to meet a California Transportation Commission meeting deadline. The report was delivered in conjunction with Caltrans, District 3, who prepared several technical studies. Mike worked with them to prepare the preliminary geometrics, design exceptions, cost estimates, Complete Streets concepts at key interchanges, and address prioritization of the five segments.

Placer County Transportation Planning Agency, Interstate 80/SR 65 Interchange Improvements, *Placer County, California*
Mike was the environmental coordinator for the Project Approval/ Environmental Document phase for a $400 million system interchange reconstruction in Placer County. The project involved numerous ramp, mainline, local-street, high-occupancy vehicle, mixed-flow, drainage, and structure improvements to Interstate 80 and SR 65. Responsibilities included coordinating with the environmental subconsultant, Caltrans, and the engineering team to deliver on an accelerated schedule; leading strategy discussions with the engineering and environmental teams, Caltrans, and

MICHAEL HIGGINS, PE (CONTINUED)

resource agencies to avoid/minimize impacts to sensitive species and their critical habitat; and expediting overall project development and review process to achieve client goals.

Port of Stockton, Fyffe Avenue Grade Separation, *Stockton, California*
Mike's role as the project manager focuses on the complete final design for a new grade separation at the Port's West Complex entrance. HDR is providing alternatives analysis, updated traffic forecasts and analysis, utility coordination, roadway geometrics, structure type selection and design, lighting/signal design, railroad and California Public Utilities Commission coordination, geotechnical analysis, and drainage design. HDR prepared final design for a new grade separation at the Port's West Complex entrance. Project activities included SB1 funding support, updated traffic forecasts and analysis, utility coordination, roadway geometrics, structure type selection, cost estimates, and final PS&E.

Port of Stockton, Vision 2040 Planning, *Stockton, California*
With a team of port planners and engineers, Mike led the efforts as the project manager to prepare a long range planning document for the Port of Stockton. Dubbed the "Vision 2040 Plan," the team worked with Port Operations, Planning, Marketing, and Real Estate staff to develop a realistic range of Port growth projections. The team also assessed existing landside, waterside, and utility infrastructure; summarized tenant lease expirations and identified lease agreement modifications; analyzed regulatory, technical, and fiscal challenges; and conducted strengths, weaknesses, opportunities, and threats analysis to support prioritization of Port planning efforts. The project also involved a prioritization of infrastructure investments based on Port growth plans and other considerations, and an evaluation of revenue potential for tenant relocation and lease modification scenarios.

City of Davis, Yolo Rail Relocation, *Davis, California*
Mike led the team to support a multi-agency effort to assess the economic viability of relocating mainline and shortline rail in Yolo County. The multi-jurisdictional working group included Yolo County, the cities of Davis, West Sacramento, and Woodland, and the Yolo County Transportation District. Project efforts included preparation of cost estimates for the relocation segments and phases, and supporting exhibits to communicate the overall segment phasing plan.

Port of Stockton, Navy Drive Bridge Replacement, *Stockton, California*
Mike was the project manager for the replacement of this Highway Bridge Program-funded, two-lane movable swing bridge with a new four-lane removable span bridge across the San Joaquin River. Mike and his team took over environmental documentation from a previous firm and prepared new traffic analyses, prepared new technical studies, and secured environmental approval to prevent a lapse in federal funds. Project included preparing the necessary administrative and funding requirements through Caltrans Local Assistance. Other work activities included bridge type selection, Section 106 consultation due to the bridge's historic significance, and securing permits through the U.S. Coast Guard, State Lands Commission, CVFPCB, CDFW, and USACE.

R. Kevin Tillis, PE, GE — GEOLOGY AND GEOTECHNICAL LEAD

FIRM
Shannon & Wilson

EDUCATION
Master of Science, Civil Engineering, University of California, Berkley

Bachelor of Science, Civil Engineering, University of Illinois

REGISTRATIONS
Professional Geotechnical Engineer, California, No. GE2160

Professional Civil Engineer, California, No. C41180

INDUSTRY TENURE
40 years

Kevin has practiced geotechnical engineering in the San Francisco Bay Area for nearly 40 years. He is responsible for day-to-day operations of the firm, while concurrently managing and overseeing numerous geotechnical engineering projects each year. His experience includes management of complex levee, dam, and earthwork projects for local and state agencies. His recent experience includes planning, design, and implementation of construction for over 100 miles of levees in the Sacramento-San Joaquin Delta. Kevin has an excellent track record for pushing projects through the design phase into and through the completion of construction. He has worked on a variety of marsh restoration, flood control, and waterfront structure projects. Many of these projects overlie weak deposits of marine soil and peat. Kevin has planned, designed and implemented construction for over 100 miles of levee in the Sacramento-San Joaquin River Delta and Suisun Marsh.

RELEVANT EXPERIENCE

Westervelt Ecological Services, Little Egbert Multi-Benefit Project, *Solano County, California*
Kevin has been the lead geotechnical engineer for the project. The project includes a flood conveyance component and a marsh restoration component. An approximately 3,500-acre parcel will be restored to tidal action by breaching existing levees. About 5 miles of existing levees will be rehabilitated as part of the project. Kevin led the effort for design of the levees including seepage and stability analysis.

Reclamation District 2028, Bacon Island Levee Improvements, *San Joaquin County, California*
Kevin has been the lead geotechnical engineer for Reclamation District 2028 for 30 years. The more significant project was raising and widening the levee from Bacon Island Bridge to Mandeville Island Bridge. Kevin directed the subsurface investigation for the levee alignment and the borrow investigation. He developed the design sections for the levee embankment. Under his supervision, his staff provided grading observation and materials testing during construction. One aspect of work on Bacon Island was the development of an island-wide geotechnical data report. Kevin led the compilation of the existing data (borings, cone penetration test [CPT], and lab data) into a single comprehensive report. The data report has been a valuable resource for subsequent projects on the island.

Bethel Island Municipal Improvement District, Bethel Island Levees, *Bethel Island, California*
Kevin was the principal geotechnical engineer for assessing an 11.5-mile levee system on Bethel Island for compliance with FEMA National Flood Insurance Program. The analysis considered existing design criteria of the levee system and compared it to the National Flood Insurance Program criteria. Kevin inspected the levees and performed seepage, stability, and seismic performance analyses, including liquefaction and deformation of the levees. He developed alternatives to reduce and/or control seepage through and beneath the levees, including internal cutoffs and widened/buttressed levees to increase the path of seepage.

R. KEVIN TILLIS, PE, GE (CONTINUED)

DWR, Dutch Slough Restoration Project, Reclamation District 2137, *Contra Costa County, California*
Kevin is the principal geotechnical engineer on behalf of Reclamation District 2137 for the Dutch Slough Restoration Project. The project goal is to restore three tracts of land to tidal wetlands and will include 2 million cubic yards of grading and 4 miles of new levee. Kevin is the lead engineer for all geotechnical aspects, including design of the new levees. He also led an extensive data collection program including borings, CPTs, and exploratory test pits.

Reclamation District 830, Jersey Island Levee Improvements, *Contra Costa County, California*
Kevin has been the principal geotechnical engineer for Reclamation District 830 on Jersey Island since 2001. He has inspected the 16 miles of levee on numerous occasions. His inspections included evaluating seepage from the levee face and levee toe, investigating cracking and deformation, and evaluating impacts of burrowing animals, including beavers and ground squirrels. Kevin has led the design for rehabilitation of the 16-mile system, with 9 miles completed and about 7 miles partially completed. A comprehensive report has been completed for the rehabilitation of the levee system with work proceeding as funding is available.

DWR and Reclamation District 108, Wallace Weir, *Yolo County, California*
Kevin has provided geotechnical engineering for the design and construction of the Wallace Weir project. Wallace Weir is located within the Yolo Bypass, at the downstream end of the Knights Landing Ridge Cut. The project consists of an earthen weir, nominally 500 feet long plus a concrete structure intended to capture salmon that stray into the Yolo Bypass. Kevin evaluated seepage, stability and uplift pressure on the concrete structure. He led the implementation of the subsurface investigation program, including development of drilling plans for review by the Flood Board and USACE. Kevin also helped to identify and evaluate offsite borrow material.

USACE, Sacramento District, Mid-Valley Project, Sites 9 –11, *Yolo County, California*
Kevin was the project manager and lead geotechnical engineer for design of levee improvements for three sites as part of USACE's Mid-Valley Project. As the project manager, Kevin oversaw the project through a full set of plans and specifications by the civil designer. The project's main features were improvements to control seepage through both the levee fill and the sandy foundation material. The designs of the three sites included two depths of cutoff walls, with nominal depths of 25 feet and 110 feet.

Reclamation District 756, Bouldin Island Levee Improvements, *San Joaquin County, California*
Kevin has provided geotechnical engineering for Reclamation District 756 for 20 years. He was geotechnical engineer for major levee improvements on Bouldin Island before the founding of Hultgren–Tillis Engineers in 1993. Projects on Bouldin Island included replacement of a pump station. The project included design of driven pile foundations and a sheetpile retaining structure. The pump station included drilling borings followed by design to develop parameters for lateral and vertical pile capacity, lateral loading, and base support. The project included piping from the pump station over the crest of the existing levee for discharge into the adjacent waterway.

Gregory Olsen, PE, GE — GEOTECHNICAL

Greg has more than 11 years of experience practicing geotechnical engineering. He has performed geotechnical investigations for a variety of public works, flood control, environmental, and industrial projects. These projects include levee rehabilitation, landslide repair, wetlands restoration, site grading, and foundation construction. Greg performs and reviews a variety of geotechnical engineering analyses, including slope stability, seepage, settlement, seismic deformation, lateral foundation capacity, and axial foundation capacity. He manages field staff performing construction observation and testing for grading, shallow foundations, pile and pier foundations, and lime treatment.

FIRM
Shannon & Wilson

EDUCATION
Master of Science, Civil and Environmental Engineering, California Polytechnic State University, San Luis Obispo, California

Bachelor of Science, Civil Engineering, California Polytechnic State University, San Luis Obispo, California

REGISTRATIONS
Professional Geotechnical Engineer, California, No. 3146

Professional Civil Engineer, California, No. 82690

INDUSTRY TENURE
11 years

RELEVANT EXPERIENCE

Westervelt Ecological Services, Little Egbert Multi-Benefit Project, *Solano County, California*
Greg was the senior geotechnical engineer on this project, which consists of restoring approximately 3,150-acres of farmland to habitat to optimize flood risk reduction and provide habitat benefits. The project will modify two USACE Project levees. Greg developed a Drilling Program Plan for USACE and managed the field exploration, which included borings, test pits, and CPTs. He managed and performed engineering analysis, including seepage, stability, settlement, and seismic deformation to support the feasibility study for the project. Greg wrote geotechnical reports to support the implementation planning and feasibility study phases of the project.

Knightsen Wetland Restoration Project, *Contra Costa County, California*
The project consists of converting approximately 645 acres of farmland into a variety of habitats. The project will include construction of approximately two miles of levee to protect neighboring parcels from the newly created tidal wetland. As senior geotechnical engineer, Greg performed the geotechnical investigation for the project, which included logging borings, CPTs, and test pits. Greg performed seepage, slope stability, and seismic deformation analysis for the project and developed alternatives for the project to mitigate impacts to neighboring property. Greg authored the draft geotechnical report for the project.

Potrero Marsh Restoration Project, *Solano County, California*
The project includes restoring existing land to tidal wetlands by modifying existing levees. The basic concept is under development. As senior geotechnical engineer, Greg performed a borrow site investigation for the project, which included logging test pits, performing laboratory testing, and developing recommendations for potential uses of on-site soils. Greg is also managing the geotechnical investigation for the levees, which includes drilling boring, performing CPTs, and analyzing the stability and settlement performance of the levees in the before- and after-project configuration.

Grizzly King Marsh Restoration Project, *Solano County, California*
The project consists of breaching an existing levee with the neighboring

GREGORY OLSEN, PE, GE (CONTINUED)

Tule Red parcel and creating tidal habitat. The project will include raising an existing county road to function as a levee. As senior geotechnical engineer, Greg performed a borrow site investigation for the project to evaluate the suitability of onsite material for levee fill, which included logging test pits and performing laboratory testing. Greg also managed the settlement and slope stability analysis for the project and developed the geotechnical investigation report.

Sacramento River West Bank Seepage Mitigation Project, *Yolo County, California*

The project consisted of constructing a drained seepage berm along an approximately 9,000-foot segment of the USACE project levee along the west bank of the Sacramento River. As senior geotechnical engineer, Greg prepared a Drilling Program Plan to explore conditions at the site and coordinated the field investigation, which included logging borings. He performed seepage analysis and prepared a geotechnical investigation report to support the repair. He observed construction of the seepage berm to check conformance with the geotechnical recommendations.

Tule Red Wetland Restoration Project, *Solano County, California*

The project consisted of buttressing an existing 2.4-mile-long bayfront levee embankment to allow restoration of approximately 350 acres of tidal marsh. As senior geotechnical engineer, Greg performed an initial site investigation that consisted of a visual risk assessment regarding the integrity of the existing levees. Greg managed the geotechnical investigation for strengthening the levee, including logging subsurface drilling and test pits and directing laboratory testing. He performed engineering analyses, including slope stability using computer program Slope/W and consolidation settlement. Greg provided recommendations for staged construction on the soft ground beneath the planned levee buttress. He also observed construction of the buttress to check conformance with the geotechnical recommendations.

Wallace Weir Fish Rescue Facility, *Yolo County, California*

The project consisted of replacing an existing weir with an earthen weir and concrete structure with Obermeyer gates and a fish trap. The facility is designed to capture fish that have errantly swum off course of the Sacramento River and into the Colusa Basin. As senior geotechnical engineer, Greg performed geotechnical analysis for a sheetpile cutoff and retaining wall for the concrete structure, bearing capacity analysis for the concrete structure mat foundation, and slope stability and settlement analysis for the earthen weir embankment. Greg prepared the geotechnical report for the project.

Don Trieu, PE — H&H LEAD

Don Trieu has more than 27 years of experience in development of H&H models for evaluation of flood control alternatives, hydraulic impact analysis, and design of flood risk reduction projects in the Sacramento and San Joaquin Valley. Don is currently a principal engineer at MBK where he helps lead the H&H group. Don has developed, assisted in the development, or advised on development of both 1D and 2D hydraulic models of the Sacramento and San Joaquin River Flood Control Project. Application of these system hydraulic models throughout the years has been used for plan formulation, alternatives analysis, FEMA flood plain mapping, and DWR ULOP/ULDC analysis. As such, Don has developed a deep understanding of the hydraulic performance of the Sacramento and San Joaquin River Flood Control Project. This experience has allowed Don to provide strategic and cost-effective advice regarding H&H engineering while meeting the client's goals and objectives.

FIRM
MBK Engineers

EDUCATION
Master of Science, Civil Engineering, California State University, Sacramento

Bachelor of Science, Civil Engineering, California State University, Sacramento

REGISTRATIONS
Professional Civil Engineer, California, No. C058284

INDUSTRY TENURE
27 years

RELEVANT EXPERIENCE

Westervelt Ecological Services, Little Egbert Multi-Benefit Project, *Rio Vista, California*
As the principal hydraulic engineer, Don was responsible for leading the scoping of the hydraulic analysis, hydraulic model development, and supporting hydraulic analysis for the evaluation of the hydraulic performance of multi-benefit alternatives on 3,200 acres of Little Egbert Tract. The hydraulic analysis included both flood and tidal flow regimes. In addition, Don developed reconnaissance level design water surface elevations for Reclamation District 536, Mellin Levee, and the Mellin Levee Extension.

Westervelt Ecological Services, Cache Slough Mitigation Bank, *Rio Vista, California*
As the principal hydraulic engineer, Don was responsible for leading the scoping of the hydraulic analysis and coordination of a 320 acres mitigation bank southwest of Little Egbert Tract. The project consists of re-establishing tidal marsh and floodplain associated vegetation communities on the property via a new bridge structure under Highway 84.

Wood Rodgers, Rio Vista Flood Risk Reduction Feasibility Study, *Rio Vista, California*
As the principal hydraulic engineer, Don was responsible for scoping and managing the hydraulic analysis to investigate structural and non-structural alternatives to reduce the risk of flooding to the City of Rio Vista. MBK Engineers developed design water surface elevations along the Yolo Bypass, Cache Slough, and the Sacramento River in support of the study.

DWR/CVFPB, Yolo Bypass/Cache Slough Complex Programmatic 408 and Master Plan, *California*
As the principal hydraulic engineer, Don was responsible for the scoping of the hydraulic analysis; project management; hydraulic model development; and supporting the hydraulic analysis to evaluate an array of multi-benefit improvement projects in comparison with various baselines, with the goal of developing a master plan for the Yolo Bypass, and for the

DON TRIEU, PE (CONTINUED)

development of an application for USACE programmatic 408 permitting.

River Partners, Dos Rios Ranch Floodplain Restoration Project, *Modesto, California*
As principal-in-charge, Don developed a 1D-2D model of the lower San Joaquin River in support of the hydraulic impact analysis for 2,100-acre restoration project within the riverbanks of the San Joaquin and Tuolumne River confluence.

TRLIA, Three Rivers Levee Improvement Program, *Yuba County, California*
As principal-in-charge, Don developed hydraulic models and prepared hydraulic analysis in support of TRLIA's $500M levee improvement project along Reclamation District 784 levees on the Yuba, Feather, Bear Rivers. Key features of this program were construction of a six-mile setback levee along the Feather River with 1,600 acres of habitat restoration and a two-mile setback levee on the Bear River with 600 acres of habitat.

WSAFCA, Southport Levee Improvement Project, *West Sacramento, California*
As principal-in-charge, Don was responsible for hydraulic analysis in support of alternatives analysis, system-wide hydraulic impact analysis for USACE Section 408, and development of FEMA and DWR ULDC compliant 100- and 200-year water surface elevations. A key project feature is a multi-benefit setback levee created 200 acres of habitat while providing 200-year level of protection for the City of West Sacramento.

Mike Archer, PE — HYDRAULIC TECHNICAL SUPPORT & ANALYSIS

FIRM
MBK Engineers

EDUCATION
Master of Science, Civil Engineering, University of California, Davis

Bachelor of Science, Civil Engineering, University of Santa Clara

REGISTRATIONS
Professional Civil Engineer, California, No. C040485

INDUSTRY TENURE
30 years

Mike Archer is a supervising civil engineer at MBK Engineers with over 30 years of experience in water resource engineering. Mike supervises and performs hydraulic studies for flood control, floodplain, hydraulic impact, and levee design analysis. He is an expert with the HEC-RAS, RMA2, FESWMS, and FLO-2D hydraulic analysis computer modeling programs. Mike's experience includes development of hydraulic models and analysis for the determination of design water surface elevations in accordance with the California Urban Levee Design Criteria (ULDC) and system-wide hydraulic impacts in the Sacramento and San Joaquin River basins for clients including SAFCA, River Islands at Lathrop, TRLIA, American Rivers, and the West Sacramento Area Flood Control Agency (WSAFCA). He was involved in the development and quality control review of HEC-RAS and FLO-2D hydraulic simulation models for DWR Central Valley Floodplain Evaluation and Delineation project.

RELEVANT EXPERIENCE

SAFCA, Yolo Bypass-Cache Slough Complex Programmatic 408, *Sacramento River Basin, California*
Mike was the hydraulic engineer during HEC-RAS model development for project formulation and hydraulic impact analysis of the Yolo Bypass-Cache Slough Multi-Benefit Program to support a USACE Programmatic 408 permission request.

SAFCA, Sacramento Weir Expansion Project, *Sacramento*
Mike was the hydraulic engineer during HEC-RAS model development and hydraulic analysis for design and hydraulic impact determination for the Sacramento Weir Expansion Project.

SAFCA, Urban Level of Flood Protection (ULOP) Findings, *Sacramento Area, California*
Mike was the hydraulic engineer during HEC-RAS model development and hydraulic analysis following the California Urban Levee Design Criteria (ULDC) in support of ULOP finding for Sacramento area levees.

SAFCA, Sacramento River General Reevaluation Report, *Sacramento River Basin, California*
Mike was the hydraulic engineer during HEC-RAS model development and hydraulic analysis to evaluate the effects of modifications to the Sacramento River Flood Control Project, including widening of the Fremont and Sacramento Weirs, setbacks of the Upper and Lower Elkhorn Basins Yolo Bypass levees, and modifications to the lower Yolo Bypass on Lower Egbert Tract.

SAFCA, American River Letter of Map Revision, *Sacramento, California*
Mike was the hydraulic engineer during HEC-RAS model development and hydraulic analysis in support of Letter of Map Revision for the FEMA 1% annual chance base flood elevation for the lower American River.

River Islands at Lathrop, *Lathrop, California*
Mike was the hydraulic engineer during HEC-RAS model development and hydraulic analysis for the determination of design water surface elevations,

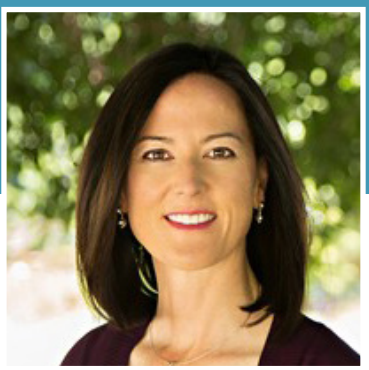
MIKE ARCHER, PE (CONTINUED)

evaluation of hydraulic impacts, and support of ULOP findings submittals for the River Islands at Lathrop project, a phased development project on Stewart Tract in the lower San Joaquin River system.

American Rivers, Paradise Cut Expansion Project, *California*
Mike was the hydraulic engineer during HEC-RAS model development and hydraulic analysis for American Rivers and the San Joaquin County Resource Conservation District in support of the refinement, and further studying and planning of the Paradise Cut Expansion Project, originally described in the 2017 Update of DWR's Central Valley Flood Protection Plan.

Three Rivers Levee Improvement Authority, *California*
Mike was the hydraulic engineer during HEC-RAS model development and hydraulic analysis of the Feather River, Yuba River, and Bear River systems for the determination of ULDC design water surface elevations and FEMA 1% annual chance flood base flood elevations.

WSAFCA, Southport Levee Improvement Project, *West Sacramento, California*
Mike was the hydraulic engineer during HEC-RAS model development and hydraulic analysis to determine design water surface elevations and evaluate hydraulic impacts of the Southport Levee Improvement Project, which included the setting back of approximately 3.7 miles of the Sacramento River levee in West Sacramento.



Ramona Swenson, PHD, CERP — ENVIRONMENTAL LEAD

Ramona is a restoration ecologist and fisheries scientist with 26 years of experience. Her expertise encompasses water resources, aquatic ecology, fisheries, habitat restoration, adaptive management, water policy, and conservation planning. She has extensive experience with ecosystem restoration in the Sacramento-San Joaquin River Delta, and the application of adaptive management for restoration and land management, effectiveness monitoring, and research. She has prepared CEQA/NEPA environmental documents, Biological Assessments for Endangered Species Act compliance, and other permit applications (Section 404/401, CESA ITP, Delta Plan Consistency Determination). She is a recognized expert on the tidewater goby, a federal endangered species of estuarine fish. Prior to joining ESA, Ramona served The Nature Conservancy for eight years as Senior Ecologist, developing plans for resource management, conservation, and restoration of natural ecosystems and working landscapes throughout the Central Valley, including the Cosumnes River.

FIRM
Environmental Science Associates

EDUCATION
Doctor of Philosophy, Integrative Biology, University of California, Berkeley

Bachelor of Art, Biology, Swarthmore College, Pennsylvania

REGISTRATIONS
Certified Ecological Restoration Professional (CERP #0268), Society for Ecological Restoration

INDUSTRY TENURE
26 years

RELEVANT EXPERIENCE

Westervelt Ecological Services, Little Egbert Multi-Benefit Project, *Rio Vista, California*

The LEMB Project will be designed to improve flood flow capacity in the lower Yolo Bypass, protect farmland by reducing flood flows against aging levees, and create tidal marsh and riparian habitats to support endangered Delta fish and wildlife. Ramona serves as project manager for ESA's support with biological and cultural resource surveys, permitting of baseline geotechnical investigations, and technical input on the design and feasibility study. ESA conducted wildlife and vegetation surveys, provided input on the wetland delineation, and prepared a biological resources constraints memorandum, USFWS Biological Assessment, and NWP 6 pre-construction notification materials to obtain permits for geotechnical survey (CVFPB encroachment permit, Section 408 approval from the USACE and FESA Section 7 consultation with USFWS). Ramona oversaw a wildlife hazard analysis study, including 12 months of bird and wildlife surveys consistent with FAA protocols, to evaluate changes in bird strike hazard risk under the proposed project. She is supporting the feasibility study by providing habitat design input, ecological criteria for alternatives screening, and biological basis of design.

Westervelt Ecological Services, Tule Red Tidal Restoration Project, *Suisun City, California*

Ramona served as ESA's project manager for a 420-acre tidal wetlands restoration project in Suisun Marsh. This project was the first to fulfill the 8,000-acre tidal wetland restoration obligations of the State Water Project/ Central Valley Project's Operations Criteria and Plan (OCAP) Biological Opinions for delta smelt, Chinook salmon, and longfin smelt. The project also contributes to the Suisun Marsh Plan's objectives of restoring 5,000-7,000 acres tidal wetlands and is a California EcoRestore project. ESA supported the design, coordinated permitting, developed the adaptive management and monitoring plan, and assisted mitigation crediting

RAMONA SWENSON, PHD, CERP (CONTINUED)

at this former duck club. Ramona evaluated functional benefits for Section 404/401 permitting, provided technical input for mitigation crediting, prepared the Biological Assessment for Section 7 consultation, and completed the Delta Plan Consistency Determination. She prepared Tule Red Adaptive Management and Monitoring Plan, oversaw the first two years of post-construction compliance and performance monitoring, coordinated research among agencies and partners and prepared annual reports in compliance with permitting requirements.

DWR, Delta Conveyance Project Compensatory Mitigation Plan. *Sacramento-San Joaquin Delta, California*

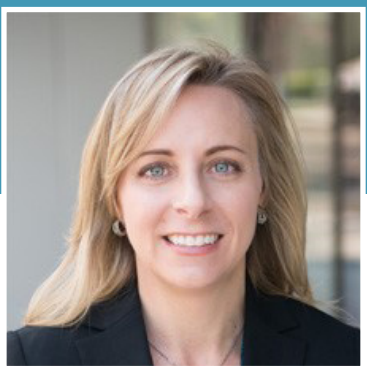
Ramona serves as ESA's project manager to develop a Compensatory Mitigation Plan for the proposed Delta Conveyance Project. Working with a team of biologists, restoration ecologists, and engineers, she is supporting the following tasks: identification of mitigation needs based on potential impacts and mitigation ratios for 404/401 jurisdictional waters, natural communities, and protected species habitats; identification of opportunities for habitat creation and mitigation bank credits; and design of initial mitigation sites (freshwater wetland, riparian, giant garter snake habitat). She coordinates with engineers to assess impacts from mitigation construction. She is leading preparation of the Compensatory Mitigation Plan in support of the Draft CEQA/NEPA document and permitting.

DWR and Wagner & Bonsignore Consulting Engineers, Grizzly Slough Floodplain Restoration Project, *Thornton, California*

Ramona serves as deputy project manager to restore floodplain and riparian habitat on 498-acres in the Cosumnes River Preserve. ESA provided planning, design, engineering and permitting services. Ramona coordinated surveys (cultural resources, hazardous substances, biological resources), identified opportunities and constraints for restoration and long-term management, and provided design criteria for target species and habitats. Ramona helped secure $8.1M in Proposition 1 funding for implementation. She prepared the adaptive management and monitoring plan and contributed to the design (setback levee, channels, grading and revegetation). She provided technical support for state and federal permitting, negotiations with regulatory agencies and outreach to neighboring landowners.

Delta Stewardship Council, Delta Levee Investment Strategy, *Sacramento, California*

As senior ecologist, Ramona provided technical support to develop a decision support tool for prioritizing Delta levee maintenance. The Delta Levee Investment Strategy, led by the Delta Stewardship Council, updates priorities for State investments in the Delta levee system to reduce the likelihood and consequences of levee failures, to protect people, property, and State interests, while advancing the coequal goals of improving water supply reliability, restoring the Delta ecosystem, and protecting and enhancing the values of the Delta as an evolving place. Ramona developed metrics of ecosystem function (habitat value, conserved lands, restoration potential); presented methods and outputs to stakeholders, experts and DWR; and collaborated on the dynamic graphical decision support tool that integrated various rankings of islands based on their risks and values.



Jennifer Aranda PE — CEQA

Jennifer has over 20 years' experience as a project manager, successfully managing small- to large-scale, complex projects for public- and private-sector clients such as DWR, California Department of Parks and Recreation, State Water Resources Control Board, U.S. Bureau of Reclamation, Napa County, Placer County, Sacramento Municipal Utility District, El Dorado Irrigation District, and Placer County Water Agency. She has extensive experience in CEQA compliance, water issues, and federal, state, and local regulations and processes.

FIRM
Environmental Science Associates

EDUCATION
Bachelor of Science, Environmental Biology and Management with a Minor in Environmental and Natural Resources Economics, University of California, Davis

INDUSTRY TENURE
20 years

RELEVANT EXPERIENCE

Westervelt Ecological Services, LEMB Project CEQA Documentation, Technical Studies and Permitting, *Solano County, California*
Jennifer is coordinating with the project team on permitting and environmental documentation strategy support for the LEMB Project, in consultation with Westervelt, LEJPA, and DWR. The Little Egbert project will be designed to improve flood flow capacity in the lower Yolo Bypass, protect Solano County farmland by reducing flood flows against aging agricultural levees, and create tidal marsh and riparian habitats to support endangered Delta fish and wildlife.

Westervelt Ecological Services, Potrero Marsh Tidal Restoration Project CEQA Documentation, Technical Studies, Permitting, and Construction Monitoring, *Solano County, California*
Jennifer is managing the preparation of the CEQA document for the Potrero Marsh Tidal Restoration Project. Located in the Suisun Marsh, the project would restore approximately 489 acres of existing managed wetlands to tidal habitat to support listed fish species and satisfy mitigation requirements for operations of the State Water Project for DWR.

DWR, Georgiana Slough Fish Barrier Project CEQA Addenda, *Sacramento County, California*
Jennifer managed the preparation of three CEQA Addenda to the IS/MND for the Georgiana Slough Non-Physical Barrier Study. The project was a multi-year evaluation of engineering alternatives to reduce the diversion of juvenile salmonids into the interior Delta. The study proposed a floating fish guidance structure to evaluate its efficacy at guiding outmigrating juvenile Chinook salmon and steelhead toward away from Georgiana Slough. An addendum was prepared to cover three geotechnical borings that were determined to be needed in the Sacramento River to evaluate the soil profiles in the vicinity of proposed piles, and ultimately place the piles in the most effective configuration.

Delta Stewardship Council, Delta Plan Amendments Program Environmental Impact Reports, *California*
Jennifer provided CEQA support in the preparation of two Program EIRs for various Delta Plan Amendments. The first project consisted of proposed amendments to the Delta Plan, including the Delta Levee Investment and Risk Reduction Strategy Amendment; Conveyance, Storage Systems, and the Operation of Both Amendment; and Performance

JENNIFER ARANDA (CONTINUED)

Measures Amendment. The second project consisted of a proposed amendment to the Delta Plan related to ecosystem restoration in the Sacramento–San Joaquin Delta and Suisun Marsh. The Delta Plan is a comprehensive plan designed to guide the actions and projects of other federal, state, and local agencies that are related to the Delta and the Suisun Marsh.

DWR, Tisdale Weir Rehabilitation and Fish Passage Project EIR and Permitting, *Sutter County, California*
Jennifer managed the preparation of an EIR and permit applications for the Tisdale Weir Rehabilitation and Fish Passage Project. The project proposes to rehabilitate the Tisdale Weir to extend its design life by 50 years and add a fish passage facility to the weir.

Napa County Planning, Building and Environmental Services, Initial Studies for Multiple Track I Vineyard Erosion Control Plan Applications, *Napa County, California*
Jennifer is the project manager for the preparation of Initial Studies for multiple pending Track I vineyard erosion control plan applications in Napa County, including: Eisele Vineyard Estate, Metamorphosis Wines LLC Ovid Vineyards, Hess Collection Winery Persson Vineyard, Wappo Land Company LLC Vineyards, Mt. Veeder Vineyards, Shannon Ranches Mitsuko Vineyard, Darioush Estate Curry Lane Vineyard, Quantum Limit Vineyards, Shafer Blodgett Vineyards, Project Pioneer Vineyard, Cathiard Vineyard, Silver Oaks Cellars Carmelite Vineyard, Liao Vineyard, Winrod Vineyards, Veeder Ridge LLC, and Regusci Simone Vineyard.

U.S. Bureau of Reclamation and West Stanislaus Irrigation District, West Stanislaus Irrigation District Fish Screen Project IS/EA, *Stanislaus County, California*
Jennifer managed the preparation of an IS/EA for the installation of a fish screen intake and pump station along the San Joaquin River, as well as intake canal improvements and flood and wildlife habitat enhancements that would benefit the San Joaquin River National Wildlife Refuge. Jennifer also coordinated with the project team on the completion of the environmental permitting documents for the project.

DWR, Delta Islands and Levees Feasibility Study Project, *Contra Costa County, California*
Jennifer managed the scoping for the preparation of an IS for the Delta Islands and Levees Feasibility Study Project. With the project, USACE and DWR propose to restore approximately 340 acres of tidal marsh habitat in the Delta. The project involved regular coordination with USACE as the NEPA lead agency and DWR as the CEQA lead agency.

DWR, Suisun Marsh Salinity Control Gates Refurbishment Project CEQA Addendum, *Solano County, California*
Jennifer provided CEQA support for the preparation of a CEQA Addendum to the to the Suisun Marsh Habitat Management, Preservation, and Restoration Plan Final EIS/EIR for the removal of an overpour of concrete and grout at the bottom of the Suisun Marsh Salinity Control Gates Bay 1 stoplog slots.

Rachel Brownsey — BIOLOGICAL RESOURCES

Rachel is a restoration ecologist specializing in restoration planning, implementation, and long-term management and monitoring in a wide range of ecosystems. She is a trained delineator of aquatic resources and has expertise in the assessment of impacts to biological resources and development of mitigation plans within California's regulatory framework. Over the years, Rachel has prepared dozens of permit applications and coordinated with regulatory agency staff to verify project compliance with environmental regulations. She has extensive knowledge of California floristics, plant community ecology, and weed science, and has conducted scientific surveys and research in these fields.

FIRM
Environmental Science Associates

EDUCATION
Master of Science, Horticulture and Agronomy, University of California, Davis

Bachelor of Science, Plant Biology, University of California, Davis

INDUSTRY TENURE
12 years

RELEVANT EXPERIENCE

Westervelt Ecological Services, Little Egbert Multi-Benefit Project, *Solano County, California*
The Little Egbert project will be designed to improve flood flow capacity in the lower Yolo Bypass, protect Solano County farmland by reducing flood flows against aging agricultural levees, and create tidal marsh and riparian habitats to support endangered Delta fish and wildlife. ESA completed permitting of baseline geotechnical investigations, which required an encroachment permit application to CVFPB, Section 408 approval from the USACE and FESA Section 7 consultation with USFWS. Rachel oversaw wildlife and vegetation surveys, provided input on the wetland delineation, and prepared a biological resources constraints memorandum, USFWS Biological Assessment, and NWP 6 pre-construction notification materials.

Westervelt Ecological Services and DWR, Tule Red Tidal Restoration Project, *Solano County, California*
The Tule Red Project included planning, surveys, wetland delineation, permitting, environmental documentation, and mitigation crediting of 420-acres of restored tidal wetlands in Suisun Marsh. ESA supported the design, coordinated permitting, developed the adaptive management and monitoring plan, and assisted mitigation crediting at this former duck club. The project's purpose was to partially fulfill compensatory mitigation requirements for the State Water Project/Central Valley Project's OCAP, to address federally- and state-listed fish such as delta smelt, chinook salmon, and longfin smelt, and benefit sensitive terrestrial species such as the salt marsh harvest mouse. Rachel conducted a wetland delineation at the 472-acre study area, which includes both tidal and non-tidal wetlands. She also conducted an early-season special-status plant survey of tidal marsh along Grizzly Bay and helped prepare the draft Adaptive Management and Monitoring Plan. Rachel also designed and coordinated vegetation monitoring for pre-breach baseline conditions since 2017 and post-breach performance monitoring in 2020 and 2021. Rachel coordinated and led the baseline vegetation monitoring, which included data collection of vegetation cover and composition. Data were collected in stratified random plots based on the habitat conceptual design. She analyzed regional Suisun Marsh tidal wetland vegetation to serve as

RACHEL BROWNSEY (CONTINUED)

reference conditions for assessment of revegetation progress.

Ecosystem Investment Partners, Tides End Restoration Project, *Solano County, California*

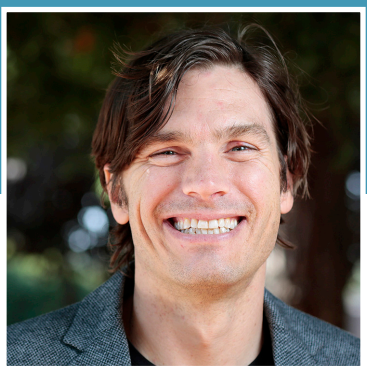
The Tides End Project will create over 2,000 acres of freshwater tidal marsh and managed floodplain habitat in the southern Bypass/Cache Slough Complex in the northern Sacramento-San Joaquin Delta. In addition to the Tides End Project being located at the upper end of the intertidal zone, it is uniquely positioned in the Yolo Bypass floodway, affording the opportunity to increase floodplain activation by intercepting managed releases from operation of the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project (Big Notch). ESA has provided restoration planning and design services to assist the client in due diligence activities including 2D hydrodynamic and hydraulic analyses, biological and cultural resource surveys, and preliminary engineering design. ESA continues to support the client with engineering and strategic planning related to environmental compliance, permitting, and future project implementation. The Tides End Project is within the priority habitat restoration areas delineated in the 2008 USFWS Biological Opinion Delta Smelt Crediting Decision Model and could potentially create creditable acres for Delta Smelt that will satisfy DWR's obligations under the Delta Smelt Biological Opinion. The project could create substantial habitat for salmonids under the Salmonid Biological Opinion, and is consistent with the minimum additive contributions to habitat restoration described in the Term Sheet for Voluntary Agreements.

American Rivers, Restoration Planning at River Garden Farms, Floodplain Restoration Design and Engineering Services, *Yolo County, California*

Rachel joined ESA's multi-disciplinary team in supporting American Rivers in planning the design and implementation of a suite of restoration sites at River Garden Farm in Yolo County, California. In addition to preparing environmental compliance documentation and permits for the Project, ESA is designing two floodplain restoration sites that would reconnect working lands adjacent to the Sacramento River to restore functional floodplain habitat and improve riverine habitat quality for Chinook salmon, Steelhead, and other native fishes while remaining compatible with existing agricultural activities at River Garden Farms. Rachel, working with a team of resource specialists, helped to develop restoration concept designs at the China Bend and Jungle sites, and has provided expert input on biological resources and permitting considerations and environmental review for the concept designs.

Delta Wetlands Project, Sacramento-*San Joaquin River Delta, California*

Rachel analyzed and assembled technical reports and regulatory documents to write a Compensatory Mitigation Plan for a complex Delta water storage project that will deliver high-quality water to parts of central and southern California. She also analyzed project alternatives in the context of the Clean Water Act's section 404(b)(1) guidelines to provide a basis for identifying the least environmentally damaging practicable alternative—a requirement for project NEPA and Clean Water Act compliance—and helped prepare the supplemental environmental impact statement terrestrial wildlife section.



Robin Hoffman — CULTURAL RESOURCES

FIRM
Environmental Science Associates

EDUCATION
Master or Arts, Latin American and Iberian Studies, University of California, Santa Barbara

Bachelor of Arts, Anthropology (Archaeology Emphasis), Central Washington University

REGISTRATIONS
Register of Professional Archaeologists, No. 989675

INDUSTRY TENURE
18 years

Robin is a registered professional archaeologist and meets the Secretary of the Interior's Professional Qualifications Standards for Archeology and History, and Society for California Archaeology Professional Qualifications for principal investigator. Robin has 15 years of experience in environmental consulting as project manager, principal investigator, task manager, archaeologist, cultural anthropologist, and historian. His work has ranged from feasibility studies to data recovery and programmatic agreements, with project deliverables including plans and reports for survey and inventory, testing and evaluation, data recovery, and monitoring; environmental document sections for NEPA EIS, EA and CEQA; National Historic Preservation Act Section 106 Programmatic Agreements; and constraints analyses, among others. Robin's work has included coordination with California State Office of Historic Preservation, National Park Service, U.S. Bureau of Land Management, Advisory Council on Historic Preservation, U.S. Army, U.S. Air Force, U.S. Coast Guard, USACE, California Department of Transportation, State Water Resources Control Board, DWR, Department of General Services, Department of Corrections and Rehabilitation, and a number of other federal, state, and local agencies. Robin also has considerable experience with Native American consultation.

RELEVANT EXPERIENCE

Westervelt Ecological Services, Little Egbert Multi-Benefit Project, *Solano County, California*
The LEMB Project will be designed to improve flood flow capacity in the lower Yolo Bypass, protect Solano County farmland by reducing flood flows against aging agricultural levees, and create tidal marsh and riparian habitats to support endangered Delta fish and wildlife. ESA completed permitting of baseline geotechnical investigations, which required an encroachment permit application to CVFPB, Section 408 approval from the USACE and FESA Section 7 consultation with USFWS. Robin is the cultural resources task manager and principal investigator for this multi-benefit project. Tasks include background research, pedestrian and subsurface archaeological survey, documentation and evaluation of resources, Tribal consultation support, and document authoring.

Westervelt Ecological Services, Cache Slough Mitigation Bank Project, *Solano County, California*
Robin is the cultural resources task manager and principal investigator for this project associated with development of a private commercial mitigation bank on a 350-acre parcel at the southern end of the Yolo Bypass. Tasks include background research, pedestrian survey, and document authoring. Deliverable will be a CRIER. The work is for CEQA and Section 106 compliance, with lead agencies to be determined.

Ecosystem Investment Partners, Lookout Slough Tidal Habitat Restoration and Flood Improvement Project, *Solano County, California*
Robin was principal investigator and report co-author for this project involving restoration of approximately 3,000 acres of tidal marsh in Solano County. Tasks included background research, pedestrian survey,

ROBIN HOFFMAN, PE (CONTINUED)

documentation and evaluation of resources, document co-authoring, and supporting Native American consultation. Deliverable was a CRIER. The work was for Section 106 and CEQA compliance, with USACE and DWR as lead agencies.

American Rivers, Inc., River Garden Farms Floodplain Restoration Project, *Yolo County, California*
Robin is the cultural resources task manager and principal investigator for this floodplain restoration project adjacent to the Sacramento River, in Yolo County. Tasks include background research, field survey, document authoring, and supporting Native American consultation. Deliverable will be a CRIER. The work is for Section 106 and CEQA compliance, with USACE as lead agency for Section 106 and the CEQA lead agency still to be determined.

DWR, Lower Elkhorn Basin Levee Setback Project, *Yolo County, California*
Robin is the cultural resources task manager and principal investigator for the implementation phase of this large and complex project involving the construction of approximately seven miles of setback levees in the Lower Elkhorn Basin along the east side of the Yolo Bypass, and the north side of the Sacramento Bypass. The project also includes the removal of existing levees that will be set back, removal of portions of local reclamation district cross levees, and improvement or relocation of related infrastructure. Tasks include development of the Archaeological and Tribal Cultural Resources Monitoring Plan, assisting with tribal consultation, managing and staffing archaeological and tribal cultural resources construction monitoring, and monitoring reporting. The work is for Section 106 and CEQA compliance, with USACE and DWR as lead agencies.

DWR, Storm Damage DWR Rehabilitation Phase 4 and 5 Repair Sites, Butte, Colusa, Glenn, Sacramento, San Joaquin, Sutter, and Yolo Counties, California
Robin is the cultural resources task manager and principal investigator for this multi-year project involving levee damage repairs at 29 locations throughout northern California. Tasks include development of the Archaeological and Tribal Cultural Resources Monitoring Plan, assisting with tribal consultation, managing and staffing archaeological and tribal cultural resources construction monitoring; and monitoring reporting. The work is for Section 106 and CEQA compliance, with USACE and DWR as lead agencies.

Daniel Huang — PERMITTING AND DELTA POLICY

FIRM
Environmental Science Associates

EDUCATION
Master of Environmental Science and Management, University of California, Santa Barbara

Bachelor of Science, Aquatic Biology, University of California, Santa Barbara

INDUSTRY TENURE
11 years

Daniel is a biologist with 11 years of work experience in biological resources and water resources management. He has over eight years of private consulting and three years of public agency experience. His primary roles at ESA include preparing permit applications (e.g., Clean Water Act 404, 1600 Lake and Streambed Alteration Notification, 401 Water Quality Certification), preparing biological resource survey reports, authoring technical resource sections for CEQA and NEPA documents, developing adaptive managements plans for habitat restoration projects in the Delta, and providing environmental compliance and permitting support for the California High Speed Rail Project.

RELEVANT EXPERIENCE

Westervelt Ecological Services, Little Egbert Multi-Benefit Project, Rio Vista, California
The Little Egbert project will be designed to improve flood flow capacity in the lower Yolo Bypass, protect Solano County farmland by reducing flood flows against aging agricultural levees, and create tidal marsh and riparian habitats to support endangered Delta fish and wildlife. Daniel is providing support on the permitting strategy for this project.

Westervelt Ecological Services, Little Egbert Tract Geotechnical Explorations, *Rio Vista, California*
This project involves geotechnical sampling to take place throughout a 3,500 acre site being considered as a wetland habitat restoration site. Daniel prepared the preconstruction notification for nationwide permit 6 for the USACE and the 401 Notice of Intent for submission to the Central Valley Regional Water Quality Control Board.

Ecosystem Investment Partners, Lookout Slough Tidal Habitat Restoration Project, *Solano County, California*
The project will restore a 3,000-acre site in the Cache Slough region at the lower end of the Yolo Bypass within the Sacramento-San Joaquin Delta to tidal wetlands. The project is being pursued as part of the California EcoRestore initiative, which aims to advance 30,000 acres of critical Delta habitat restoration and enhancement. Daniel prepared a technical memorandum describing the impacts of the project on salinity concentrations at nearby D-1641 compliance stations and at Contra Costa Water District water supply intakes. He also prepared another technical memorandum of the impact of the project on the tidal prism and tidal influence in Delta channels in the vicinity of the restoration site.

Delta Stewardship Council, Ecosystem Amendment, *Sacramento, California*
The Delta Plan is a comprehensive plan designed to guide the actions and projects of other federal, state, and local agencies that are related to the Sacramento-San Joaquin Delta and the Suisun Marsh. Daniel provided technical scientific support to the Delta Stewardship Council on the Ecosystem Restoration chapter update of the Delta Plan. This work included drafting a scientific synthesis paper of habitat restoration that includes an assessment of scientific understanding of ecological process-based restoration developed in the years since the release of the Delta Plan. Additionally, Daniel helped draft a revised Delta Plan ecosystem restoration chapter narrative, which provides

DANIEL HUANG (CONTINUED)

background and support for the Delta Stewardship Council's updated policies, recommendations, and performance measures pertaining to ecosystem restoration in the Delta and Suisun Marsh. Daniel also prepared the terrestrial biological resources section for the EIR for this ecosystem amendment.

DWR, Tisdale Weir Rehabilitation and Fish Passage Project, *Sutter County, California*

This project will rehabilitate the Tisdale Weir and will include a fish passage facility that would be designed to provide sufficient flows to attract and provide passage for adult upstream migrating fish (salmon and sturgeon) from the Tisdale Bypass to the Sacramento River. Daniel participated in the field survey component for the wetland delineation and the biological resources reconnaissance, and prepared the reports summarizing the findings. Sensitive biological resources evaluated for the project include riparian forest, western yellow-billed cuckoo, giant garter snake, pallid bat, Chinook salmon, and green sturgeon. Daniel prepared the biological resources section of the EIR for the project, which addressed both terrestrial wildlife and fisheries resources. Daniel prepared the 404 Clean Water Act Individual Permit Application, the 401 Water Quality Certification, the USFWS Biological Assessment, and the 1600 Streambed Alteration Notification.

DWR, Grizzly Slough Floodplain Restoration Project, *Thornton, California*

This project will restore floodplain and riparian habitat on the 498-acre Grizzly Slough property, owned by DWR. Located on the Cosumnes River in the east Delta, this project will meet goals of DWR's North Delta Project and help mitigate impacts of DWR's Delta levee maintenance. Daniel prepared an analysis of different options to incorporate protection of agricultural land as an approach to provide a source of recurring revenue to support maintenance and management of the site and maintain habitat for native avian species dependent on working agricultural lands. Daniel prepared the adaptive management plan for the Grizzly Slough Project and developed the documentation for the certification of consistency with the Delta Plan. Daniel also prepared the 401 water quality certification application, the Central Valley Flood Protection Board encroachment permit application, and the National Marine Fisheries Service BA for impacts to Chinook salmon, Central Valley steelhead, and North American green sturgeon.

American Rivers, Paradise Cut Conservation and Flood Management Project, *San Joaquin County, California*

The Paradise Cut Expansion Project seeks to decrease peak flows during potential flood events and improve and enhance habitat. Paradise Cut was constructed as a bypass for high flows on the San Joaquin River. The proposed project is investigating how lands along the San Joaquin River (above the Paradise Cut Weir) can be used as an overflow area to siphon off the peak flows and then safely and more slowly release those flows back into Paradise Cut. The project will also seek to enhance and restore riparian habitat to benefit terrestrial species such as Swainson's hawk and riparian brush rabbit. Daniel helped to prepare a memorandum, which summarized permitting requirements and anticipated mitigation requirements pertaining to water quality and biological resources protection to help guide early planning considerations.

2365 Iron Point Road, Suite 300
Folsom, California 95630
916.817.4700

hdrinc.com

We practice increased use of sustainable materials and reduction of material use.