DocuSign Envelope ID: 51D1D41B-3ACE-4541-B11A-DD5C13BD2BDC

FLOOD CONTROL AGENDA ITEM NO.: ___November 21, 2017

Flood Control & Water Conservation DISTRICT

Daniel Woldesenbet, Ph.D., P.E., Director

399 Elmhurst Street • Hayward, CA 94544 • (510) 670-5480 • www.acpwa.org

November 7, 2017

The Honorable Board of Supervisors
County Administration Building
1221 Oak Street, Suite 536
Oakland, CA 94612-4305

Dear Board Members:

SUBJECT: APPROVE AND AUTHORIZE THE PRESIDENT OF THE BOARD OF SUPERVISORS TO EXECUTE THE THIRD AMENDMENT TO AGREEMENT (PROCUREMENT CONTRACT NO. 1861) WITH ALAMEDA COUNTY WATER DISTRICT FOR THE FINAL DESIGN AND CONSTRUCTION DOCUMENTS OF THE FISH PASSAGE FACILITY IN THE ALAMEDA CREEK FLOOD CONTROL CHANNEL (ZONE 5, LINE A), FREMONT, ALAMEDA COUNTY

RECOMMENDATION:

Approve Amendment No. 3 to the Cost Sharing Agreement (Procurement Contract No. 1861) with the Alameda County Water District (ACWD) for the Alameda County Flood Control and Water Conversation District (District) to provide additional funds to finalize the design and construction documents of the Fish Passage Facility in the Alameda Creek Flood Control Channel (Zone 5, Line A) in Fremont, increasing the District's cost share in the not-to-exceed amount from $3,275,440 to $3,494,229 ($218,789 increase), with no change to the term of the agreement from July 31, 2007 until completion and acceptance of all work by both parties.

SUMMARY/DISCUSSION:

On July 31, 2007, your Board approved and executed a Cost Sharing Agreement between the Alameda County Flood Control and Water Conservation District (District) and the Alameda County Water District (ACWD) for Development of Preliminary Design of a Fish Passage Facility in the Alameda Creek Flood Control Channel (Zone 5, Line A), in Fremont. On June 19, 2012, your Board approved and executed the first amendment to fund additional work including environmental and design services for the Fish Passage Facility. On July 12, 2016, your Board approved and executed the second amendment to fund additional work to revise the design of the lower portion of the Fish Passage Facility to interface with the District's low flow channel to ensure continuity of fish passage upstream through the Fish Passage Facility.

DocuSign Envelope ID: 51D1D41B-3ACE-4541-B11A-DD5C13BD2BDC

The third amendment is necessary to implement the additional work to finalize the design and preparation of construction documents; to update and finalize the structural basis of design report; and to prepare the project Operations and Maintenance manual. This amendment also includes additional work totaling $14,214, which due to timing constraints and the small dollar amount, was included in a separate contract between the design firm and ACWD for permitting support of the Fish Passage Facility. The project is now scheduled to be advertised for bids in fall of 2018.

The District's 50% cost share in the total Not-to-Exceed amount of $3,494,229.00 includes consultant labor cost of $649,996.50 and an estimated 2012 construction cost of $2,844,232.50. Consultant labor includes preliminary engineering, preparation of environmental document and regulatory permitting support, final design, preparation of contract plans, specifications and estimates, preparation of project Operations and Maintenance manual, and consultation with United States Army Corps of Engineers and securing Section 408 permit.

It should also be noted that the letter to your Board on July 12, 2016 for the execution of the second amendment erroneously stated that the District's cost share for amendment no. 2 was $281,207 when in fact the District's actual cost share per the amendment was $125,440. The District's cost share for amendment no. 3 is $218,789.00.

SELECTION AND CRITERIA:

Not Applicable. The cost sharing agreement was executed with the Alameda County Water District.

FINANCING:

There will be no County cost as a result of this action. All costs under this agreement and each subsequent amendment are shared 50/50 between the District and ACWD. Funding for the third amendment in the amount not to exceed $218,789.00 is included in the FY 2017-18 Flood Control District Budget, in Fund 21807 (Zone 5), Organization 270351, Account 610261 (Professional and Specialized Services), Program 50600 (Engineering).

Yours truly,

DocuSigned by:
Bill Lepere
E1FDE9779C684B3...

Daniel Woldesenbet, Ph.D., P.E.
Director of Public Works

Attachment

c: Susan Muranishi, County Administrator
Clerk of the Board
Steve Manning, Auditor - Controller
Kathy Lee, Deputy County Counsel
Stephanie Chan, County Administrator's Office

DW/MT

11/21/17, #34
File 30033

THIRD AMENDMENT
TO AGREEMENT FOR FISH PASSAGE PROJECTS IN THE ALAMEDA CREEK FLOOD CONTROL CHANNEL

(Former title was AGREEMENT FOR DEVELOPMENT OF PRELIMINARY DESIGN OF A FISH PASSAGE FACILITY IN THE ALAMEDA CREEK FLOOD CONTROL CHANNEL)

This Third Amendment ("Third Amendment") is made as of 21ST of November, 2017, by and between the **ALAMEDA COUNTY WATER DISTRICT** ("ACWD") and the **ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT** ("DISTRICT"), collectively, the "Parties."

WHEREAS, on July 31, 2007, ACWD and DISTRICT entered into an Agreement for Development of Preliminary Design of a Fish Passage Facility in the Alameda Creek Flood Control Channel ("Agreement for Fish Passage Facility"); and

WHEREAS, on July 12, 2012, ACWD and DISTRICT entered into the First Amendment for Agreement for Fish Passage Facility; and

WHEREAS, on August 3, 2016, ACWD and DISTRICT entered into the Second Amendment for Agreement for Fish Passage Projects in the Alameda Creek Flood Control Channel ("Agreement for Fish Passage Projects", formerly Agreement for Development of Preliminary Design of a Fish Passage Facility in the Alameda Creek Flood Control Channel); and

WHEREAS, the Agreement for Fish Passage Facility, the First Amendment to Agreement for Fish Passage Facility, and Second Amendment to Agreement for Fish Passage Projects are collectively referred to herein as the "Agreement," and the defined terms in the Agreement will have the same meaning when used in this Third Amendment;

WHEREAS, design of the Fish Passage Facility was substantially complete; and

WHEREAS, subsequent to completion of the final design of the Fish Passage Facility, the Parties agreed to jointly develop a revised design of the lower fishway section of the Fish Passage Facility; and

WHEREAS, prior to completion of the final design of the Fish Passage Facility the

C-1961

Parties received regulatory agency comments regarding the design and the Parties identified additional design revisions to improve facility operability, maintainability and longevity; and

WHEREAS, the Parties agree that the Fish Passage Facility design must incorporate the lower fishway design, design revisions for facility operability, maintainability and longevity, and address regulatory agency comments; and

WHEREAS, due to timing constraints and the relatively small cost for additional support for U.S. Army Corps of Engineers Section 408 Risk Assessment and permitting of the Fish Passage Facility, ACWD included a total of $14,214 of this work in a contract amendment executed between ACWD and GHD on June 1, 2017; and

WHEREAS, the Parties desire to amend the Agreement to update the cost share amounts to include currently known costs for consultant services and fees associated with permitting and design of the Fish Passage Facility;

NOW, THEREFORE, ACWD and DISTRICT ("Parties") agree as follows:

I. AMENDMENT No. 3 TO AGREEMENT FOR FISH PASSAGE PROJECTS

A. Services

1. Paragraph D.1 of the Second Amendment to Agreement for Fish Passage Projects is amended to insert the following paragraph after the first paragraph:

"The consultant services scope of work shall be amended to include (1) regulatory agency permitting support and coordination, (2) preparation of 90% plans specifications and cost estimate (PS&E) for the Fish Passage Facility incorporating the lower fishway, design of a cathodic protection system and flat place fish screen cleaning system, (3) preparation of 100 % Draft PS&E, (4) preparation of a 100% Final PS&E, (5) preparation of a 100% project basis of design report, (6) preparation of final structural basis of design report, and (7) preparation of a project Operations & Maintenance manual. The above mentioned work is described in Exhibit D, attached to this Third Amendment and incorporated by reference herein. Details of the additional Corps of Engineers Section 408 and permitting support work, totaling $14,214, are contained in the attached Exhibit E, attached hereto and incorporated herein."

B. Schedule

Section 3 of the Agreement For Fish Passage Facility is superseded and replaced

in its entirety with the following paragraph:

"3. Schedule. Each Party recognizes that time is of the essence. It is the goal of the Parties to secure the necessary regulatory permits and to complete final design and the construction bid documents containing the Fish Passage Facility no later than September 2018. The Parties agree to cooperate and work diligently to complete all the services and work set forth in this Amendment."

C. Costs

1) Exhibit B to the Agreement is superseded and replaced in its entirety with Exhibit B attached to this Third Amendment.

2) Paragraph 4.A of the Agreement For Fish Passage Facility is superseded and replaced in its entirety with the following paragraphs:

"4.A.1 Each Party will also equally share the actual costs for Environmental and Design Engineering Services that are directly related to the preparation of CEQA Documents, regulatory and Section 408 permitting support; and engineering services for preliminary design of revisions to the lower fishway and for peer review of the District's 30% Low-Flow Channel – Brite Line to RD2 design, preparation of 90% design plans, specifications and cost estimate (PS&E) for the Fish Passage Facility incorporating the lower fishway, final design, construction bid documents and bidding support, and fees related to regulatory permitting and California Environmental Quality Act (CEQA) certification for the Fish Passage Facility. The total cumulative cost for the scope of Environmental and Design Engineering Services and regulatory and CEQA fees described in Exhibit B is currently estimated to be nine hundred ninety-nine thousand nine hundred ninety-three Dollars ($999,993.00).

The DISTRICT will reimburse ACWD for fifty percent (50%) of the total actual cost, not to exceed ($499,996.50), for such CEQA Documents and regulatory permitting support; and engineering services for preparation of preliminary and final design, construction bid documents and bidding support services, and regulatory and CEQA fees within thirty (30) days from the date of DISTRICT's receipt of ACWD's invoice accompanied by such supporting documentation as is reasonably requested by DISTRICT, including the consultant time and expenses for which reimbursement is sought.

II. EFFECT OF AMENDMENT ON THE AGREEMENT

Except for the modifications to the Agreement expressly set forth in this Third Amendment, the terms and conditions of the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Third Amendment to Agreement for Fish Passage Projects in the Alameda Creek Flood Control Channel by their duly authorized officers as of the day and year first written above.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

By: _____
Name: WILMA CHAN
President, Board of Supervisors

ATTEST: _____
Clerk of the Board of Supervisors, Deputy

Date: DEC 01 2017

Approved as to form:
DONNA R. ZIEGLER, County Counsel

_____
Kathy Lee
Deputy County Counsel

ALAMEDA COUNTY WATER DISTRICT

By: _____
Name: Robert Shaver
General Manager

ATTEST: _____
ACWD Secretary

Date: 11-09-17

Approved as to form:
PATRICK T. MIYAKI, ACWD Counsel

_____

Exhibit B

Scope and Estimated Cost
For
Environmental and Design Engineering Services and Regulatory and CEQA Fees

EXHIBIT B
Fish Passage Projects

	Estimated Costs		
	Amendments 1 and 2	Amendment 3	**Total Amendments 1, 2 and 3**
Scope of Environmental and Design Engineering Services			
1. CEQA Documents and Regulatory Permit Support Prepare draft and final initial study and mitigated negative declaration (MND); Respond to comments received on the draft initial study and draft mitigated negative declaration; Prepare final environmental documents including notice of determination; Prepare draft and final biological assessment; Attend and participate in meetings with ACWD, DISTRICT, State and Federal Agencies	$119,695	$0	**$19,695**
2. Final Design and Construction Bid Documents Project Management; Project Meetings; Project QA/QC; Regulatory Agency Permit Support and Coordination; Develop 90%, 100% Draft and 100% Final Plans Specifications, and Opinion of Probable Cost; Project Basis of Design Report; Structural Basis of Design Report; O&M Manual; Section 408 Risk Assessment and Permitting Support	$237,873	$415,931 $14,214	**$668,018**
3. Preliminary Design of Lower Fishway Project Management; Project Meetings; Project QA/QC; Coordination with Regulatory Agencies; Develop 30% Basis of Design Report; Develop 30% Plans, Specifications, Opinion of Probable Cost; Peer review DISTRICT's 30% Low Flow Channel Design	$198,530	$0	**$198,530**
4. Bidding Support Attend pre-bid meeting and site visit; Respond to contractor questions during bid period; Prepare addenda; Prepare conformed document	$6,317	$0	**$6,317**
Permitting and CEQA Fees California Department of Fish and Wildlife (2013 application) SF RWQCB – 401 (2013 deposit) County Clerk Filing Fee – IS/MND NOI County Clerk Filing Fee – CEQA NOD CDFW Environmental Filing Fee – CEQA IS/MND	$0	$7,433	**$7,433**
Totals:	$562,415	$437,578	**$999,993.**
50% Cost Share:	$281,207.50	$218,789	**$499,996.50**

THIRD AMENDMENT
TO AGREEMENT FOR FISH PASSAGE PROJECTS IN THE ALAMEDA CREEK FLOOD CONTROL CHANNEL

(Former title was AGREEMENT FOR DEVELOPMENT OF PRELIMINARY DESIGN OF A FISH PASSAGE FACILITY IN THE ALAMEDA CREEK FLOOD CONTROL CHANNEL)

This Third Amendment ("Third Amendment") is made as of _____, 2017, by and between the **ALAMEDA COUNTY WATER DISTRICT** ("ACWD") and the **ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT** ("DISTRICT"), collectively, the "Parties."

WHEREAS, on July 31, 2007, ACWD and DISTRICT entered into an Agreement for Development of Preliminary Design of a Fish Passage Facility in the Alameda Creek Flood Control Channel ("Agreement for Fish Passage Facility"); and

WHEREAS, on July 12, 2012, ACWD and DISTRICT entered into the First Amendment for Agreement for Fish Passage Facility; and

WHEREAS, on August 3, 2016, ACWD and DISTRICT entered into the Second Amendment for Agreement for Fish Passage Projects in the Alameda Creek Flood Control Channel ("Agreement for Fish Passage Projects", formerly Agreement for Development of Preliminary Design of a Fish Passage Facility in the Alameda Creek Flood Control Channel); and

WHEREAS, the Agreement for Fish Passage Facility, the First Amendment to Agreement for Fish Passage Facility, and Second Amendment to Agreement for Fish Passage Projects are collectively referred to herein as the "Agreement," and the defined terms in the Agreement will have the same meaning when used in this Third Amendment;

WHEREAS, design of the Fish Passage Facility was substantially complete; and

WHEREAS, subsequent to completion of the final design of the Fish Passage Facility, the Parties agreed to jointly develop a revised design of the lower fishway section of the Fish Passage Facility; and

WHEREAS, prior to completion of the final design of the Fish Passage Facility the

Parties received regulatory agency comments regarding the design and the Parties identified additional design revisions to improve facility operability, maintainability and longevity; and

WHEREAS, the Parties agree that the Fish Passage Facility design must incorporate the lower fishway design, design revisions for facility operability, maintainability and longevity, and address regulatory agency comments; and

WHEREAS, due to timing constraints and the relatively small cost for additional support for U.S. Army Corps of Engineers Section 408 Risk Assessment and permitting of the Fish Passage Facility, ACWD included a total of $14,214 of this work in a contract amendment executed between ACWD and GHD on June 1, 2017; and

WHEREAS, the Parties desire to amend the Agreement to update the cost share amounts to include currently known costs for consultant services and fees associated with permitting and design of the Fish Passage Facility;

NOW, THEREFORE, ACWD and DISTRICT ("Parties") agree as follows:

I. AMENDMENT No. 3 TO AGREEMENT FOR FISH PASSAGE PROJECTS

A. Services

1. Paragraph D.1 of the Second Amendment to Agreement for Fish Passage Projects is amended to insert the following paragraph after the first paragraph:

"The consultant services scope of work shall be amended to include (1) regulatory agency permitting support and coordination, (2) preparation of 90% plans specifications and cost estimate (PS&E) for the Fish Passage Facility incorporating the lower fishway, design of a cathodic protection system and flat place fish screen cleaning system, (3) preparation of 100 % Draft PS&E, (4) preparation of a 100% Final PS&E, (5) preparation of a 100% project basis of design report, (6) preparation of final structural basis of design report, and (7) preparation of a project Operations & Maintenance manual. The above mentioned work is described in Exhibit D, attached to this Third Amendment and incorporated by reference herein. Details of the additional Corps of Engineers Section 408 and permitting support work, totaling $14,214, are contained in the attached Exhibit E, attached hereto and incorporated herein."

B. Schedule

Section 3 of the Agreement For Fish Passage Facility is superseded and replaced

in its entirety with the following paragraph:

"3. Schedule. Each Party recognizes that time is of the essence. It is the goal of the Parties to secure the necessary regulatory permits and to complete final design and the construction bid documents containing the Fish Passage Facility no later than September 2018. The Parties agree to cooperate and work diligently to complete all the services and work set forth in this Amendment."

C. Costs

1) Exhibit B to the Agreement is superseded and replaced in its entirety with Exhibit B attached to this Third Amendment.

2) Paragraph 4.A of the Agreement For Fish Passage Facility is superseded and replaced in its entirety with the following paragraphs:

"4.A.1 Each Party will also equally share the actual costs for Environmental and Design Engineering Services that are directly related to the preparation of CEQA Documents, regulatory and Section 408 permitting support; and engineering services for preliminary design of revisions to the lower fishway and for peer review of the District's 30% Low-Flow Channel – Brite Line to RD2 design, preparation of 90% design plans, specifications and cost estimate (PS&E) for the Fish Passage Facility incorporating the lower fishway, final design, construction bid documents and bidding support, and fees related to regulatory permitting and California Environmental Quality Act (CEQA) certification for the Fish Passage Facility. The total cumulative cost for the scope of Environmental and Design Engineering Services and regulatory and CEQA fees described in Exhibit B is currently estimated to be nine hundred ninety-nine thousand nine hundred ninety-three Dollars ($999,993.00).

The DISTRICT will reimburse ACWD for fifty percent (50%) of the total actual cost, not to exceed ($499,996.50), for such CEQA Documents and regulatory permitting support; and engineering services for preparation of preliminary and final design, construction bid documents and bidding support services, and regulatory and CEQA fees within thirty (30) days from the date of DISTRICT's receipt of ACWD's invoice accompanied by such supporting documentation as is reasonably requested by DISTRICT, including the consultant time and expenses for which reimbursement is sought.

II. EFFECT OF AMENDMENT ON THE AGREEMENT

Except for the modifications to the Agreement expressly set forth in this Third Amendment, the terms and conditions of the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Third Amendment to Agreement for Fish Passage Projects in the Alameda Creek Flood Control Channel by their duly authorized officers as of the day and year first written above.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

By:_____
Name: Wilma Chan
President, Board of Supervisors

ATTEST:

_____
Clerk of the Board of Supervisors

Date:_____

Approved as to form:
DONNA R. ZIEGLER, County Counsel

_____
Kathy Lee
Deputy County Counsel

ALAMEDA COUNTY WATER DISTRICT

By:_____
Name: John Weed
President, Board of Directors

ATTEST:

_____
ACWD Secretary

Date:_____

Approved as to form:
PATRICK T. MIYAKI, ACWD Counsel

_____

Exhibit B

Scope and Estimated Cost
For
Environmental and Design Engineering Services and Regulatory and CEQA Fees

EXHIBIT B
Fish Passage Projects

	Estimated Costs		
	Amendments 1 and 2	Amendment 3	**Total Amendments 1, 2 and 3**
Scope of Environmental and Design Engineering Services			
1. CEQA Documents and Regulatory Permit Support Prepare draft and final initial study and mitigated negative declaration (MND); Respond to comments received on the draft initial study and draft mitigated negative declaration; Prepare final environmental documents including notice of determination; Prepare draft and final biological assessment; Attend and participate in meetings with ACWD, DISTRICT, State and Federal Agencies	$119,695	$0	**$19,695**
2. Final Design and Construction Bid Documents Project Management; Project Meetings; Project QA/QC; Regulatory Agency Permit Support and Coordination; Develop 90%, 100% Draft and 100% Final Plans Specifications, and Opinion of Probable Cost; Project Basis of Design Report; Structural Basis of Design Report; O&M Manual; Section 408 Risk Assessment and Permitting Support	$237,873	$415,931 $14,214	**$668,018**
3. Preliminary Design of Lower Fishway Project Management; Project Meetings; Project QA/QC; Coordination with Regulatory Agencies; Develop 30% Basis of Design Report; Develop 30% Plans, Specifications, Opinion of Probable Cost; Peer review DISTRICT's 30% Low Flow Channel Design	$198,530	$0	**$198,530**
4. Bidding Support Attend pre-bid meeting and site visit; Respond to contractor questions during bid period; Prepare addenda; Prepare conformed document	$6,317	$0	**$6,317**
Permitting and CEQA Fees California Department of Fish and Wildlife (2013 application) SF RWQCB – 401 (2013 deposit) County Clerk Filing Fee – IS/MND NOI County Clerk Filing Fee – CEQA NOD CDFW Environmental Filing Fee – CEQA IS/MND	$0	$7,433	**$7,433**
Totals:	$562,415	$437,578	**$999,993.**
50% Cost Share:	$281,207.50	$218,789	**$499,996.50**

EXHIBIT D

October 18, 2017

Ms. Therese Wooding
Alameda County Water District
43885 South Grimmer Boulevard
Fremont, CA 94539

RE: Requested Scope of Work to Finalize the Lower Alameda Creek Fish Passage Project at the RD1 and Shinn Screen Sites

Dear Ms. Wooding:

GHD is pleased to submit this revised scope of work to complete the final design for the Rubber Dam #1 (RD1) and Shinn Screen Sites for the Lower Alameda Creek Fish Passage Project. GHD was authorized by the Alameda County Water District (ACWD, District) to provide design services for the Lower Alameda Creek Fish Passage Project through a consulting services agreement executed on September 13, 2012. GHD has worked very closely with the District and its partners on this important project and diligently performed the contractual scope of work. During the course of the project development, the project has been impacted by several factors outside of our control, causing changes in the original project scope and schedule, and requiring additional work to be performed by GHD and the District project team.

To address the request that tasks be delineated by GHD to help ACWD and their partner the Alameda County Flood Control and Water Conservation District (ACFCD) have a clear understanding of their agreed upon cost share, we have added subtasks to most tasks so we can track and bill our time separately. Based on a total sheet count of 148 sheets in the last submittal, we estimate approximately 45 sheets to be attributed to the Shinn Screens and another 3 sheets attributed to the RD1 bag, for a total of 48 sheets for non-cost share of 32%. That leaves 68% for cost share items.

GHD has developed this draft scope of work to delineate the work required to finalize the design plans, technical specifications, and cost estimates for the RD1/Drop Structure Fish Ladder, RD1 Foundation, Equipment and Control Building modifications, and Shinn Fish Screen Facility, as we understand the project at this time.

We look forward to continuing to work with ACWD to the successful completion of this important project. Please do not hesitate to contact us if you have any questions.

Sincerely,
GHD Inc.

Steve Allen
Project Manager

Tony Petroccitto
Principal

SCOPE OF WORK

The following Tasks define the scope of work.

Task 18.1: Project Management

GHD will perform project management tasks, including maintaining open dialogue between the Project Team and ACWD, tracking and updating the project schedule, invoicing, and managing the effort to provide the deliverables on time and on budget. GHD will also host a one-hour conference call check-in once a month, attended by 1-2 GHD staff, and maintain a decision log and an action item log.

Task 18.1 Deliverables:

- Monthly invoicing with related progress memorandum and schedule updates; and
- Maintain and provide an updated Decision Log and Action Log for use on the monthly conference calls.

Subtask 18.1.1: Project Management for cost share items
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.1.2: Project Management for ACWD items (no cost share)
(Time allocated for other ACWD project elements (ACWD only, no cost share)

Subtask 18.2: Project Quality Assurance/Quality Control (QA/QC)

GHD will perform internal review of all deliverables prior to submitting them to ACWD. QA/QC will be conducted by senior GHD staff experienced in each particular discipline. QA/QC includes overall review of the project deliverables to ensure interdisciplinary coordination.

Subtask 18.2 Deliverables:

- GHD completed project review tracking forms QSF-016.

Subtask 18.2.1: Project QA/QC for cost share items
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.2.2: Project QA/QC for ACWD items (no cost share)
(Time allocated for other ACWD project elements ACWD items, no cost share)

Task 18.3: Regulatory Assistance

Through the following subtasks, GHD will provide regulatory agency assistance through the process of final design in order for ACWD to receive project permits. Time will be allocated to specific subtasks below.

Task 18.3 Deliverables:

- No deliverables for this task; see subtasks below for deliverables.

Subtask 18.3.1: Additional USACE Section 408 Coordination

GHD will assist with additional hydraulic modeling using HEC-RAS and Mike models, with additional

structural support, write technical memos and emails regarding the hydraulic and structural results, answer various USACE questions, and participate in multiple conference calls.

Subtask 18.3.1 *Deliverables:*

- Deliverables may be emails, structural calculation summaries, document reviews, technical memorandums, attendance at meetings, and other items as appropriate.

Subtask 18.3.1: Regulatory Assistance ACOE 408 cost share item
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.4: Other Agency Coordination

This task is for coordinating with resource agencies such as California Department of Fish and Wildlife, National Marine Fisheries Service and the Regional Water Quality Control Board.

Subtask 18.4 *Deliverables:*

- Deliverables may be emails, calculations, document reviews, technical memorandums, or other items requested under this task and as budget allows for this Task.

Subtask 18.4.1: Other Regulatory Assistance for cost share items
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask .18.4.2: Other Regulatory Assistance for ACWD items (No Cost Share)
(Time allocated for ACWD project elements: ACWD only, no cost share)

Subtask 18.5: Shinn Screen Submergence Variance Assistance

GHD will assist ACWD with items related to their Shinn screen submergence variance request by providing hydraulic calculations, writing technical memos, attending calls, and answering questions as requested and as budget allows.

Subtask 18.5 *Deliverables:*

- Deliverables may be emails, calculations, document reviews, technical memorandums, or other items requested under this task and as budget allows.

Subtask .18.5: Shinn Screen Submergence Variance Assistance (ACWD item)
(Time allocated for ACWD project elements: ACWD only, no cost share)

Task 18.6: Develop 90% Lower Fishway and Screen Cleaner

Elements of the previously submitted Final Design Plans, Specifications, and Cost Estimate (PS&E), dated December 15, 2013, must be modified or replaced to reflect ACWD's completed Rubber Dam 1 Fabric Replacement Project and ACFCD planned future projects in the area, as well as address previously received resource agency comments to the Final Design PS&E. GHD will revise the design of these elements and incorporate them into the Final Design PS&E. This updated package will first be submitted to ACWD as part of the 90% PS&E in Task 18.9. Time will be allocated to specific subtasks below.

Subtask 18.6.1: Develop design for lower pool and weir fishway and guidewall

The 30% design for the lower pool and weir fishway was developed by GHD under a separate design scope. Under this Subtask GHD will build on the previously completed 30% design, including addressing

comments from the regulatory agency design review meeting, to develop the lower pool and weir fishway and guidewall to the 90% design. The passage conditions for Pacific lamprey will be reassessed based on recent findings from assessments of other fish passage facilities, and design modifications will be made as needed as part of this task.

Assumptions:

- GHD, as part of a separate design scope, developed the 30% design and related 30% basis of design report for the lower fishway and guidewall so that the hydraulics and function of these project components have been developed to 30% and the related AutoCAD drawings are available to develop the designs for the work of Subtask 18.6.1 as defined herein.
- Should there be a separate materials evaluation completed for the 30% design, likely an evaluation of concrete versus rip rap, a decision would need to be made regarding any change in materials by November 22, 2017 in order to adhere to the project schedule. If no change in direction is provided to GHD by November 22, then GHD would proceed with developing the 30% design elements as shown.
- GHD will incorporate ACWD comments to the draft 90% submittal plans into the 90% PS&E package as part of Task 18.9.

Subtask 18.6.1 Deliverables:

- Written responses to comments received from the 30% BODR agency review meeting. Response to comments will be provided electronically prior to preparation of 90% PS&E.

Subtask 18.6.1: 90% Design Lower Fishway cost share item
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.6.2: Fishway Screen Cleaner Modifications

GHD developed the screen cleaner design based on direction provided through the design process including the preferred type of screen cleaner (mechanical) and the desire to avoid a custom built screen cleaner. The 95% design incorporated a mechanical brush cleaning system that had been used for other similar screens. The 95% design cleaning system included parts that extended above the grate of the fishway. Some 95% review comments asked about the potential for conflict with the nearby trash rake, and openings in the grate around the mechanical system. GHD will evaluate alternate screen cleaner systems that could fit under the grate to address some or all of the comments and will complete the following items:

- Review information provided by ACWD for alternate screen cleaner systems;
- Coordinate with screen cleaner manufacturers;
- Identify alternative screen cleaner system(s) with a goal of having all or most of the screen cleaner system below the fishway surface grate;
- Write a brief technical memorandum (TM) summarizing three types of cleaning options (air, water, and mechanical) and evaluating up to two options (one being a mechanical brush system alternative similar to the Woodbridge facility, and potentially an air or water spray option), with a recommended solution. TM to include PDF of CAD plan and section views of alternative concepts to help convey space required to accommodate the cleaning equipment and controls; and a planning level opinion of probable construction costs for comparison purposes;
- Provide the technical memorandum for review and comment;

- Conduct a conference call to discuss options and design recommendations;
- Written responses to review comments on the draft TM. Any comments not incorporated will be flagged and explained. Responses to comments will be provided electronically prior to beginning work on the 90% PS&E.
- GHD will incorporate the selected equipment and address comments to the TM into the 90% PS&E package as part of Task 18.9

Subtask 18.6.2 Deliverables:

- Technical Memoranda of the Screen Cleaner Alternatives;
- Written responses to TM comments. Any comments not incorporated will be flagged and explained. Responses to comments will be provided electronically prior to beginning work on the 90% PS&E; and
- Provide meeting minutes from the conference call, including a decision log and action item list.

Subtask 18.6.2: Fishway Screen Cleaner Modifications cost share item
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.7: Corrosion Evaluation and Design

GHD will perform a corrosion evaluation and provide recommendations for a cathodic protection system. GHD will design and incorporate the cathodic protection system into the project design as follows:

- Obtain up to four (4) soil samples at representative locations. The soil samples will be obtained by hand digging at depths of up to 36 inches below ground surface;
- Coordinate laboratory analysis of soil samples obtained for the following parameters: as-received resistivity, saturated resistivity, pH, chloride ion concentration and sulfate ion concentration;
- Prepare a letter report providing an analysis of the corrosivity of the soil based on the laboratory data and recommendations for corrosion control for a period of not less than 25 years;
- Prepare a corrosion control design and specifications for cathodic protection;

Subtask 18.7 Deliverables:

- Draft Corrosion Evaluation and Recommendation Report;
- Written responses to comments on the draft Corrosion Evaluation and Recommendations Report. Any comments not incorporated will be flagged and explained. Responses to comments to be provided electronically along with the final report and draft 90% cathodic protection submittal, and
- Final Corrosion Evaluation and Recommendation Report along with response to comments from draft report;
- Draft 90% plans and technical specifications submittal for cathodic protection system

- Written responses to comments on the draft 90% submittal. Any comments not incorporated will be flagged and explained. Responses to comments to be provided electronically to ACWD prior to developing the 90% PS&E, and
- GHD will incorporate comments of the draft 90% submittal into the 90% PS&E package as part of Task 18.9

Subtask 18.7.1: 90% Design Corrosion Eval & Design for cost share items
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.7.2: 90% Design Corrosion Eval & Design for ACWD items (no cost share)
(Time allocated for other ACWD project elements: ACWD only, no cost share)

Task 18.8 RD 1 Fabric Submittals, Construction Drawings and Control Building Modifications

Subtask 18.8.1 Review and Incorporate Rubber Dam 1 Submittals and Construction Drawings
Construction to replace the existing RD1 fabric with new fabric was recently completed. Modifications were made to the dam foundation to install a new fabric anchoring system and provisions for future seismic strengthening. As part of the contract, the Rubber Dam System Supplier (RDSS) will also design replacement RD1 instrumentation, control systems, and fill pumps and fill/drain piping; GHD will review the RD1 fabric replacement as-built drawings and the RDSS design submittals to ensure there are no conflicts between the RDSS and GHD designs, identify any additional material or equipment (interface material) needed to integrate the RDSS specified equipment and materials with the existing GHD design to provide a fully functioning system; and design and include the interface material items in the 90%, PS&E submittal.

Assumptions:

- RDSS submittals include but are not limited to:
  - Coordination drawings;
  - Process and Instrumentation Diagrams (P&IDs);
  - Rubber Dam System and Related system Design Narratives (SDNs);
  - Design of supply and drain lines and connections to rubber bladder;
  - Design of rubber dam inflation and deflation system;
  - Design of safety system and related control equipment;
  - Design of stand-alone control panel and associated control equipment;
  - Design of back-up mechanical deflation system;
  - Design of plunge pool anti-abrasion sheet;
  - Assessment of plunge pool approach; and
  - Review comments pertaining to the RDSS specified system.
- RDSS submittals will be provided to GHD by November 1, 2017
- GHD will review drawings and submittals, coordinate fish ladder design with the RDSS design and plunge pool comments, attend conference calls, attend meetings in person, or perform related work as requested by ACWD and as budget allows.

Subtask 18.8.1 Deliverables

- Provide written responses to RDSS review comments. Responses to comments to be provided electronically to ACWD prior to beginning work on the 90% PS&E.
- Incorporate the RDSS design and the interface material items into the 90% PS&E and submit the package to ACWD as part of Task 18.9.

- Provide meeting minutes from the conference call, including a decision log and action items.
- Provide a list of and designate/specify any additional material/equipment needed to interface the RDSS provided/designed/specified equipment with GHD's design; if additional material and equipment is not needed, provide written confirmation that the RDSS design has been reviewed and additional items are not required.
- Provide meeting minutes from discussions with the RDSS, including a decision log and action item list.

Subtask 18.8.1: Review & Incorporate Rubber Dam 1 Submittals and Const Drawings (no cost share)
(Time allocated for ACWD project elements: ACWD only, no cost share)

Subtask 18.8.2 Rubber Dam 1 Control Building Modifications

GHD will design modifications to the RD1 control building to allow for installation and maintenance of Rubber Dam 1 equipment within the building. These include addition of a manual (non-electric) jib crane mounted on the bottom floor; adjustments (considering bottom floor equipment placement) to the previously designed intermediate floor (steel support beams and grating), existing at grade concrete floor; and installation of a pre-fabricated roof access hatch (six-foot by six-foot estimated maximum size).

GHD will review the RDSS submittals from previous tasks and explore manufacturer options for the roof hatch and jib crane. GHD will develop a Technical Memoranda (TM) that summarizes two manufacturer options considered and suggested products to be used for the roof hatch and jib crane. TM will include manufacturer cut sheets, and PDF figures of draft layout of roof hatch on roof, layout of intermediate floor, and layout of the jib crane. TM will be submitted to ACWD for review and comment. GHD will develop an extension to the RD1 control building for a six feet wide concrete slab on grade foundation with one outside access door and one window on opposite end;

Based on ACWD review of TM, GHD will develop draft 90% plans and technical specifications for submittal and review.

Subtask 18.8.2 Deliverables

- Technical Memoranda of the two manufacturer options considered and suggested products to be used for the roof hatch and jib crane;
- Written responses to TM comments. Any comments not incorporated will be flagged and explained. Responses to comments will be provided electronically to ACWD prior to beginning work on the draft 90% plans and specifications submittal; and
- Draft 90% plans and technical specifications submittal for the control building modifications
- Written responses to comments on the draft 90% submittal. Any comments not incorporated will be flagged and explained. Responses to comments to be provided electronically to ACWD prior to developing the 90% PS&E package, and
- GHD will incorporate ACWD comments of the draft 90% submittal into the 90% PS&E package as part of Task 18.9

Subtask 18.8.2: 90% ACWD Control Building Modifications (ACWD, no cost share)
Time allocated for ACWD Control Building Modifications: ACWD only, no cost share)

Task 18.9: 90% Submittal Plans, Specifications and Opinion of Probable Construction Cost

GHD will integrate the above work elements to prepare a complete project 90% submittal that includes the lower pool and weir fishway and guidewall, the screen cleaner modifications, the cathodic protection design, ACWD's completed Rubber Dam 1 Fabric Replacement Project, modifications to the RD1 control building, as well as other comments received from prior submittals.

Specific items included in this task:

- Incorporate the change from a 10-foot tall rubber bag replacement to a 13-foot tall rubber bag replacement which would include indicating the new dimension on the plans, incorporating into the new structural calculations, but not changing the design for a new ponded water surface elevation as the operational depth and design is still based on a 10-foot impoundment;
- Revise structural calculations based on USACE Section 408 permit process to address the new plunge pool and the new 2016 California Building Code (CBC) structural parameters;
- Modify the technical specifications so that the Contractor will be responsible for contracting directly with ISI or the approved screen manufacturer instead of ACWD procuring those services separately; and
- Add an additional electrical cabinet at the Shinn site.
- Develop the opinion of probable construction costs to match the measurement and payment items developed by and provided by ACWD.

GHD will prepare and incorporate the design of these elements into the Final Design PS&E. This updated package will be submitted as a complete project 90% PS&E package.

Task 18.9 Deliverables:

- 90% complete plans, technical specifications, opinion of probable construction costs and associated calculations;
- Electronic submittal of 90% PS&E, in .DOC, .XLSX, .DWG, and .PDF file formats; and
- Six (6) hard copies of the 90% PS&E (three sets each for ACWD and ACFCD, Plans in 11"x17") size.

Subtask 18.9.1: 90% PS&E Submittal for cost share items
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.9.2: 90% PS&E Submittal for ACWD items (no cost share)
(Time allocated for other ACWD project elements: ACWD only, no cost share)

Task 18.10: Develop Draft 100% Plans, Specifications and Opinion of Probable Construction Cost

GHD will utilize the 90% PS&E as well as other comments received from prior submittals to develop the Draft 100% design PS&E. Based on comments received, GHD will:

- Finalize the design of the RD1/Drop Structure fish Ladder (including lower fishway and guidewall

and RD1 screen cleaner), Rubber Dam 1 equipment and controls, Rubber Dam 1 control building and foundation modifications, corrosion protection system, lamprey passage, and Shinn fish screen facility;

- Provide written response to review comments received on the 90% submittal;
- Conduct a design review meeting prior to completion of District review; and
- Prepare draft meeting minutes including a decision log and action item log.

Subtask 18.10 Deliverables:

- Written responses to 90% comments to be submitted electronically. Any comments not incorporate to be explained; Comments to be provided electronically prior to preparation of the draft 100% PS&E. Electronic submittal of the draft 100% Submittal, in .DOC, .XLXS, .DWG, and .PDF file formats;
- Six (6) hard copies of the draft 100% Submittal. (three sets each for ACWD and ACFCD, Plans in 11"x17);
- Meeting minutes, including a decision log and action item log, from the design review meeting.

Subtask 18.10.1: 100% Draft PS&E for Cost Share Items
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.10.2: 100% Draft PS&E for ACWD Items (No Cost Share)
(Time allocated for other ACWD project elements: ACWD, no cost share)

Task 18.11 100% Final Plans, Specifications and Opinion of Probable Construction Cost

GHD will address all review comments on the Draft 100% PS&E, incorporate and revise PS&E accordingly, develop and submit the bid ready 100% Final Stamped/Signed Submittal to ACWD. The bid ready documents shall include a "statement of special inspection" consistent with Chapter 17 of the CBC.

Task 18.11 Deliverables:

- Written responses to comments received on Draft 100% PS&E. This should be provided electronically prior to preparation of 100% final PS&E for stamping/signatures. Any comments not incorporated need to be explained;
- Electronic submittal of final stamped/signed 100% Final PS&E, in .DOC, .XLSX, .DWG, and .PDF file formats; and
- Six (6) hard copies of final stamped/signed 100% Final PS&E (three sets each for ACWD and ACFCD; Plans in 22"x34" size).

Subtask 18.11.1: 100% Final PS&E for Cost Share Items
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.11.2: 100% Final PS&E for ACWD Items (No Cost Share)
(Time allocated for other ACWD project elements: ACWD, no cost share)

Task 18.12: Update Structural Basis of Design Report (Optional)

GHD will update the previously completed Draft structural Basis of Design Report (Structural BODR), dated

June 6, 2014, to be consistent with the final design. The previous Structural BODR included project elements such as the 10-foot high rubber bag at RD1, the roughened channel in the lower fishway, and other project components that have changed as part of the project. The Structural BODR will be updated to include the description and structural analysis of the final project components. GHD will provide a Draft 100% submittal of the structural BODR for review and comment. Based on the review comments received, GHD will finalize and submit a stamped/signed Final 100% Structural BODR.

Assumptions:

- GHD, under a separate design scope, developed the 30% design and related 30% Basis of Design report for the lower fishway and guidewall so that the structural aspects of these project components have been developed to 30%; and the 30% Basis of Design Report is available to finalize the lower fishway and guidewall portions for the purposes of developing the Structural BODR under Task 6.0 as described herein. This task is optional.

Task 18.12 Deliverables:

- Provide one (1) electronic PDF file and Word file (including all individual exhibits and maps) of the draft 100% submittal of the structural BODR for review and comment. This will be provided electronically along with the Draft 100% PS&E, prior to preparation of the Final 100% PS&E for stamping/signatures. Any comments not incorporated will be flagged and explained;
- Provide one (1) electronic PDF file and Word file (including all individual exhibits and maps); and
- Six (6) bound hardcopies of the Final 100% stamped and signed RD1/Shinn structural BODR. (three copies each for ACWD and ACFCD; Plans in 11"x22" size).

Subtask 18.12.1: Structural BODR for cost share items
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.12.2: Structural BODR for ACWD items (no cost share)
(Time allocated for other ACWD project elements: ACWD only, no cost share)

Subtask 18.13: Lower Alameda Creek Fish Passage Improvements Final 100% Basis of Design Report (BODR)

GHD will update the previously completed 65% Lower Alameda Creek Fish Passage Improvements Basis of Design Report (BODR) dated February 2013, to be consistent with the final design. The previous BODR included project elements such as the roughened channel in the lower fishway and the water burst flat plate fish screen cleaner. GHD will review and address comments from the 65% BODR if provided. GHD will provide a Draft 100% submittal of the BODR for review and comment. Based on the review comments received, GHD will finalize and submit a stamped/signed Final 100% BODR.

The BODR will be updated to incorporate revisions to the design of the following elements:

- Lower pool and weir fishway and guidewall;
- RD1/Drop Structure Fish Screen Cleaner;
- Corrosion protection system;
- RD1 foundation, equipment and control building modifications including roof modifications to provide for equipment and maintenance access;

- Plunge pool;
- Rubber Dam 1 RDSS supplied information; and
- Shinn Fish Screen Facility design revisions.

Assumptions:

- GHD will, under separate design scope, develop the 30% design and related 30% Basis of Design Report for the lower fishway and guidewall so that the hydraulics and function of these project components have been developed to 30%; and the 30% Basis of Design Report is available to finalize the lower fishway and guidewall portions into this BODR under Task 18.13 as described herein.

Subtask 18.13 Deliverables:

- Provide one (1) electronic PDF file and Word file (including all individual exhibits and maps) of the Draft 100% BODR for review and comment. This will be provided electronically along with the draft 100% PS&E, prior to preparation of Final 100% PS&E for stamping/signatures. Any comments not incorporated will be flagged and explained;
- Provide one (1) electronic PDF file and Word file (including all individual exhibits and maps); and
- Six (6) bound hardcopies of the stamped and signed Final 100% BODR. (three copies each for ACWD and ACFCD).

Subtask 18.13.1: Project BODR for cost share items
Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.13.2: Project BODR for ACWD items (no cost share)
(Time allocated for other ACWD project elements: ACWD only, no cost share)

Task 18.14: Operation and Maintenance Manual

GHD will develop and submit the final Operation and Maintenance (O&M) Manual after receiving review comments to the draft O&M manual previously submitted, dated March 2013, and incorporating final design information determined at the conclusion of final design and input from regulatory agencies. GHD will provide a final draft O&M Manual for review and comment. Based on comments received, GHD will finalize, sign and stamp the O&M Manual.

Assumptions:

- GHD will, under separate design scope, develop the O&M manual for the RD3 project; and the RD3 O&M manual is available to finalize this O&M manual under Task 18.14 as described herein.

Task 18.14 Deliverables:

- Provide one (1) electronic PDF file and Word file (including all individual exhibits and maps) of the draft submittal of the RD1/Shinn O&M Manual for review and comment. This will be provided electronically along with the Draft 100% PS&E, prior to preparation of Final 100% PS&E for stamping/signatures. Any comments not incorporated will be flagged and explained;
- Provide one (1) electronic PDF file and Word file (including all individual exhibits and maps); and

- Six (6) bound hardcopies of the Final 100% RD1/Shinn O&M Manual (three copies each for ACWD and ACFCD).

Subtask 18.14.1: O&M Manual for cost share items
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.14.2: O&M Manual for ACWD items (no cost share)
(Time allocated for other ACWD project elements: ACWD only, no cost share)

Task 18.15 Address Additional Comments:
In consideration of the passage of time, the 2013 Final Design plans and specifications have been re-reviewed and comments provided to GHD. GHD will review these additional comments and respond to the comments as to whether there are additional clarifications needed or if the comments will be addressed in the next appropriate submittal. A budget allowance for this task has been provided and GHD will proceed with reviewing and responding to comments as the budget allows. Should the effort to respond to comments exceed the allotted budget allowance GHD will provide written notification.

Revisions include the following elements:

- Maintenance access for sluice pipe vault, fish screen, and auxiliary water vault;
- Mechanical ventilation of Shinn Screen meter vault;
- Revising existing embedded rung design at outlet of Shinn screens to be a 16-inch fixed width with 7" rung clearance;
- Potential revisions to the plunge pool to address potential for fish stranding; to include development of one alternate pipe drain option with a valve or stop-log controlled inlet and/or outlet, one brief summary memo describing the alternative, one meeting with NOAA to discuss and receive comments, and incorporation of the selected alternative into the design contract plans, specifications and estimates. Developing more than one alternative is not included.
- Conduct a conference call to discuss plunge pool options and design recommendations;
- GHD will incorporate the above items into the 90% PS&E package as part of Task 18.9

Subtask 18.15.1: Fishway and Fish Passage elements (ACWD and ACFCD cost share)
(Time allocated for Fishway and Fish Passage elements: ACWD and ACFCD cost share)

Subtask 18.15.2: Fishway and Fish Passage elements for ACWD items (no cost share)
(Time allocated for other ACWD project elements: ACWD only, no cost share)

PROJECT SCHEDULE

Following are the project start and completion milestones dates. A project gantt chart schedule is attached for interim submittals.

October 31, 2017	Notice to Proceed
September 6, 2018	100% (Final) Submittal – Plans, Specifications and Estimate

ASSUMPTIONS

The above scope of work is based on the following assumptions:

- This scope of work would be authorized as an amendment to the existing agreement, and unless noted otherwise herein, all terms and conditions of the original agreement will remain in effect;
- This scope of work relates only to the RD1 fish ladder, related RD1 rubber bag replacement, RD1 building and equipment modifications, and the Shinn Screen facilities. Work not specifically defined in tasks above are not included in this scope of work;
- RD3 facilities are being designed under a separate scope of work;
- RD3 O&M manual will be completed before the O&M manual in this scope of work and will be used as a template to develop the O&M manual in this scope of work. RD2 modifications and low flow channel design are being designed by others; and
- Engineering services during construction are not included in the current contract or this amendment. Engineering services during construction, or construction-related services, can be performed upon mutual agreement of additional scope and budget.

Lower Alameda Creek Fish Passage Project @ RD1+Shinn Screen Sites
GHD Fee Estimate Summary with Cost Share Breakdown

Task	Subtask	Description	Total	To be shared @ 50%	ACWD Only
18.1	**Project Management**		$40,544		
	18.1.1	Project Management for cost share items		$ 27,570	
	18.1.2	Project Management for ACWD items (no cost share)			$ 12,974
18.2	**Project QA/QC**		$15,531		
	18.2.1	Project QA/QC for cost share items		$ 10,561	
	18.2.2	Project QA/QC for ACWD items (no cost share)			$ 4,970
18.3	**Assistance ACOE 408**				
	18.3.1	Regulatory Assistance ACOE 408 cost share item	$16,207	$ 16,207	$ -
18.4	**Other Regulatory Assistance**		$78,540		
	18.4.1	Other Regulatory Assistance for cost share items		$ 53,407	
	18.4.2	Other Regulatory Assistance for ACWD items (no cost share)			$ 25,133
18.5	**Shinn Screen Submergence Variance Assistance (ACWD item)**		$5,344		$ 5,344
18.6	**Develop 90% Lower Fishway and Screen Cleaner**				
	18.6.1	90% Design Lower Fishway cost share item	$51,538	$ 51,538	$ -
	18.6.2	Fishway Screen Cleaner Modifications cost share item	$24,986	$ 24,986	$ -
18.7	**90% Design Corrosion Eval & Design**		$26,753		
	18.7.1	90% Design Corrosion Eval & Design for cost share items		$ 18,192	
	18.7.2	90% Design Corrosion Eval & Design for ACWD items (no cost share)			$ 8,561
18.8	**RD1 Fabric Submittals, Const Drawings & Control Building Modifications (ACWD items)**		$90,666		
	18.8.1	Review & Incorporate Rubber Dam 1 Submittals and Const Drawings			$ 56,136
	18.8.2	90% ACWD Control Building Modifications (ACWD, no cost share)			$ 34,530
18.9	**90% PS&E Submittal**		$82,241		
	18.9.1	90% PS&E Submittal for cost share items		$ 55,924	
	18.9.2	90% PS&E Submittal for ACWD items (no cost share)			$ 26,317
18.10	**100% Draft PS&E Submittal**		$47,567		
	18.10.1	100% Draft PS&E for Cost Share Items		$ 32,346	
	18.10.2	100% Draft PS&E for ACWD Items (No Cost Share)			$ 15,221
18.11	**100% Final PS&E Submittal**		$40,412		
	18.11.1	100% Final PS&E for Cost Share Items		$ 27,480	
	18.11.2	100% Final PS&E for ACWD Items (No Cost Share)			$ 12,932
18.12	**Structural BODR**		$15,795		
	18.12.1	Structural BODR for cost share items		$ 10,741	
	18.12.2	Structural BODR for ACWD items (no cost share)			$ 5,054
18.13	**Project BODR**		$42,391		
	18.13.1	Project BODR for cost share items		$ 28,826	
	18.13.2	Project BODR for ACWD items (no cost share)			$ 13,565
18.14	**Operations and Maintenance Manual**		$16,596		
	18.14.1	O&M Manual for cost share items		$ 11,285	
	18.14.2	O&M Manual for ACWD items (no cost share)			$ 5,311
18.15	**Address additional ACWD review comments**		$68,925		
	18.15.1	Address additional ACWD review comments for cost share items		$ 46,869	
	18.15.2	Address additional ACWD review comments for ACWD items (no cost share)			$ 22,056
		Total	**$664,035**	**$ 415,931**	**$ 248,104**

	Name	Duration	Start	Finish
1	Notice to Proceed	0 days	10/31/17 8:00 AM	10/31/17 8:00 AM
3	Task 18.1: Project Managment	238 days	10/31/17 8:00 AM	9/27/18 5:00 PM
5	**Task 18.4: Other Regulatory Assistance**	**237 days**	**11/1/17 8:00 AM**	**9/27/18 5:00 PM**
6	Task 18.4: Other Regulatory Assistance	237 days	11/1/17 8:00 AM	9/27/18 5:00 PM
7	Task 18.5: Shinn Screen Submergence Variance Assistance	151 days	11/1/17 8:00 AM	5/30/18 5:00 PM
9	**Task 18.6: Develop 90% Lower Fishway and Screen Cleaner**	**102 days**	**10/31/17 8:00 AM**	**3/21/18 5:00 PM**
11	**Subtask 18.6.1: 90% Design Lower Pool, Fishway and Guidewall**	**102 days**	**10/31/17 8:00 AM**	**3/21/18 5:00 PM**
12	ACWD Deadline for Review Comments	1 day	10/31/17 8:00 AM	10/31/17 5:00 PM
13	GHD Review Comments Provided	10 days	11/1/17 8:00 AM	11/14/17 5:00 PM
14	GHD Provide Written Response to Review Comments	1 day	11/14/17 8:00 AM	11/14/17 5:00 PM
15	ACWD Review GHD Response to Comments	5 days	11/15/17 9:00 AM	11/22/17 9:00 AM
16	GHD Develop 90% Lower Pool and Weir Fishway and Guidewall Design	80 days	11/23/17 8:00 AM	3/14/18 5:00 PM
17	GHD Submits 90% Lower Pool and Weir Fishway and Guidewall Design	1 day	3/14/18 7:00 AM	3/14/18 5:00 PM
18	ACWD Reviews 90% Lower Fishway Submittal and Provides Comment	5 days	3/15/18 7:00 AM	3/21/18 5:00 PM
20	**Subtask 18.6.2: Fishway Screen Cleaner Modification**	**66 days**	**12/1/17 8:00 AM**	**3/2/18 5:00 PM**
21	GHD Develops 90% RD1 Screen Cleaner Modifications	53 days	12/1/17 8:00 AM	2/13/18 5:00 PM
22	GHD Submits 90% RD1 Screen Cleaner Modifications	1 day	2/13/18 8:00 AM	2/13/18 5:00 PM
23	ACWD Reviews 90% RD1 Screen Cleaner Mods. Submittal and Provides Comment	13 days	2/14/18 8:00 AM	3/2/18 5:00 PM
24	Conference Call to Review Submittal	4 days	2/27/18 8:00 AM	3/2/18 5:00 PM
26	**Task 18.7: Corrosion Evaluation Design**	**87 days**	**10/31/17 8:00 AM**	**2/28/18 5:00 PM**
27	GHD Develops Draft Corrosion Report	34 days	10/31/17 8:00 AM	12/15/17 5:00 PM
28	GHD Submits Draft Corrosion Report	1 day	12/15/17 8:00 AM	12/15/17 5:00 PM
29	ACWD Reviews Draft Corrosion Report and Provides Comment	12 days	12/18/17 8:00 AM	1/2/18 5:00 PM
30	GHD Develops Final Corrosion Report, Response to ACWD Comment, & Draft 90% Cathodic Prot. Plans & Specs	26 days	1/3/18 8:00 AM	2/7/18 5:00 PM
31	GHD Submits Final Corrosion Report, Response to ACWD Comment, & Draft 90% Cathodic Prot. Plans and Specs	1 day	2/7/18 8:00 AM	2/7/18 5:00 PM
32	ACWD Reviews Final Report and Draft 90% Submittal	5 days	2/8/18 8:00 AM	2/14/18 5:00 PM
33	GHD Develops Response to ACWD Review Comments	10 days	2/15/18 8:00 AM	2/28/18 5:00 PM
34	GHD Submits Response to ACWD Review Comments	1 day	2/28/18 8:00 AM	2/28/18 5:00 PM
36	**Task 18.8: RD1 Fabric Submittals, Const. Drawings, & Control Building Mods**	**117 days**	**11/1/17 8:00 AM**	**4/12/18 5:00 PM**
37	**Task 18.8.1 RDSS Information/Submittals Provided to GHD**	**117 days**	**11/1/17 8:00 AM**	**4/12/18 5:00 PM**
38	GHD Review RDSS Review Comments	58 days	11/1/17 8:00 AM	1/19/18 5:00 PM
39	GHD Provide Written Response to RDSS Review Comments	1 day	1/19/18 8:00 AM	1/19/18 5:00 PM
40	ACWD Reviews GHD Response to Comments and Provides Comment	10 days	1/22/18 9:00 AM	2/5/18 9:00 AM
41	GHD Reviews and Incorperates 90% RD1 Design Submittal Comments into Plans	48 days	2/8/18 8:00 AM	4/12/18 5:00 PM
43	**Task 18.8.2 GHD Develop TM of Suggested Products**	**86 days**	**11/1/17 8:00 AM**	**2/28/18 5:00 PM**
44	GHD Develop TM of Suggested Products	33 days	11/1/17 8:00 AM	12/15/17 5:00 PM
45	GHD Submits TM of Suggested Products	1 day	12/15/17 8:00 AM	12/15/17 5:00 PM
46	ACWD REviews TM of Suggested Products	12 days	12/18/17 8:00 AM	1/2/18 5:00 PM
47	GHD Develop Response to ACWD Review Comments	8 days	1/3/18 8:00 AM	1/12/18 5:00 PM
48	GHD Submits Response to ACWD Review Comments	1 day	1/12/18 8:00 AM	1/12/18 5:00 PM
49	GHD Develop Draft 90% Plans & Specs of Building Modifications	18 days	1/15/18 8:00 AM	2/7/18 5:00 PM
50	GHD Submits Draft 90% Plans & Specs of Building Modifications	1 day	2/7/18 8:00 AM	2/7/18 5:00 PM
51	ACWD Reviews Draft 90% Plans & Specs of Building Modifications	5 days	2/8/18 8:00 AM	2/14/18 5:00 PM
52	GHD Develops Response to ACWD Review Comments	10 days	2/15/18 8:00 AM	2/28/18 5:00 PM
53	GHD Submits Response to ACWD Review Comments	1 day	2/28/18 8:00 AM	2/28/18 5:00 PM
55	**Task 18.9: 90% Submittal PSE**	**63 days**	**1/31/18 8:00 AM**	**4/27/18 5:00 PM**
56	GHD Provides Pre-90% Submittal Response to Previous Review Comment	1 day	1/31/18 8:00 AM	1/31/18 5:00 PM
57	ACWD Review Pre-90% Submittal Response to Comments and Provide Comment	10 days	2/1/18 8:00 AM	2/14/18 5:00 PM
58	GHD Develops 90% PSE	41 days	2/15/18 8:00 AM	4/12/18 5:00 PM
59	GHD Submits 90% Submittal PSE	1 day	4/13/18 8:00 AM	4/13/18 5:00 PM
60	ACWD Review 90% Submittal and Provide Comment	11 days	4/13/18 8:00 AM	4/27/18 5:00 PM
62	**Task 18.10: Develop Draft 100% PSE**	**54 days**	**4/30/18 8:00 AM**	**7/12/18 5:00 PM**
63	GHD Provides 90% Submittal Response to Previous Review Comment	10 days	4/30/18 8:00 AM	5/11/18 5:00 PM
64	ACWD Review 90% Submittal Response and Provide Comment	5 days	5/14/18 8:00 AM	5/18/18 5:00 PM
65	GHD Develops 100% Plans, Specifications, and Opinion of Probable Cost	37 days	4/30/18 8:00 AM	6/19/18 5:00 PM
66	GHD Submits Draft 100% PSE Submittal	1 day	6/20/18 8:00 AM	6/20/18 5:00 PM
67	ACWD Reviews Draft 100% Submittal and Provides Comment	16 days	6/21/18 8:00 AM	7/12/18 5:00 PM
69	**Task 18.11 100% Final PSE**	**40 days**	**7/13/18 8:00 AM**	**9/6/18 5:00 PM**
70	GHD Provides Draft 100% Review Comments Response	5 days	7/13/18 8:00 AM	7/20/18 5:00 PM
71	ACWD Reviews GHD Comment Responses	5 days	7/23/18 8:00 AM	7/27/18 5:00 PM
72	GHD Develops final 100% PSE Submittal	40 days	7/13/18 8:00 AM	9/6/18 5:00 PM
73	GHD Provides Final 100% PSE Submittal	1 day	9/6/18 8:00 AM	9/6/18 5:00 PM
75	**Task 18.12: Update Structural Basis of Design Report**	**118 days**	**1/8/18 8:00 AM**	**6/28/18 5:00 PM**
76	GHD Develops Draft Structural BODR	69 days	1/8/18 8:00 AM	4/12/18 5:00 PM
77	GHD Submits Draft Structural BODR	1 day	4/12/18 8:00 AM	4/12/18 5:00 PM
78	ACWD Reviews Draft Structural BODR and Provies Comment	16 days	4/13/18 8:00 AM	5/4/18 5:00 PM
79	GHD Develops Final Structural BODR	33 days	5/7/18 7:00 AM	6/20/18 5:00 PM
80	GHD Submits Final Structural BODR	1 day	6/20/18 7:00 AM	6/20/18 5:00 PM
82	**Task 18.13: Lower Alameda Creek Fish Passage Improvements 100% BODR**	**118 days**	**1/8/18 8:00 AM**	**6/28/18 5:00 PM**
83	GHD Develops Draft Project BODR	69 days	1/8/18 8:00 AM	4/12/18 5:00 PM
84	GHD Submits Draft Project BODR	1 day	4/12/18 8:00 AM	4/12/18 5:00 PM
85	ACWD Reviews Draft Project BODR and Provies Comment	16 days	4/13/18 8:00 AM	5/4/18 5:00 PM
86	GHD Develops Final Project BODR	33 days	5/7/18 7:00 AM	6/20/18 5:00 PM
87	GHD Submits Final Project BODR	1 day	6/20/18 7:00 AM	6/20/18 5:00 PM
89	**Task 18.14: Operation and Maintenance Manual**	**118 days**	**1/8/18 8:00 AM**	**6/28/18 5:00 PM**
90	GHD Develops Draft Operation and Maintenance Manual	69 days	1/8/18 8:00 AM	4/12/18 5:00 PM
91	GHD Submits Draft Operation and Maintenance Manual	1 day	4/12/18 8:00 AM	4/12/18 5:00 PM
92	ACWD Reviews Draft O&M Manual and Provies Comment	16 days	4/13/18 8:00 AM	5/4/18 5:00 PM
93	GHD Develops Final Operation and Maintenance Manual	33 days	5/7/18 7:00 AM	6/20/18 5:00 PM
94	GHD Submits Final Operation and Maintenance Manual	1 day	6/20/18 7:00 AM	6/20/18 5:00 PM

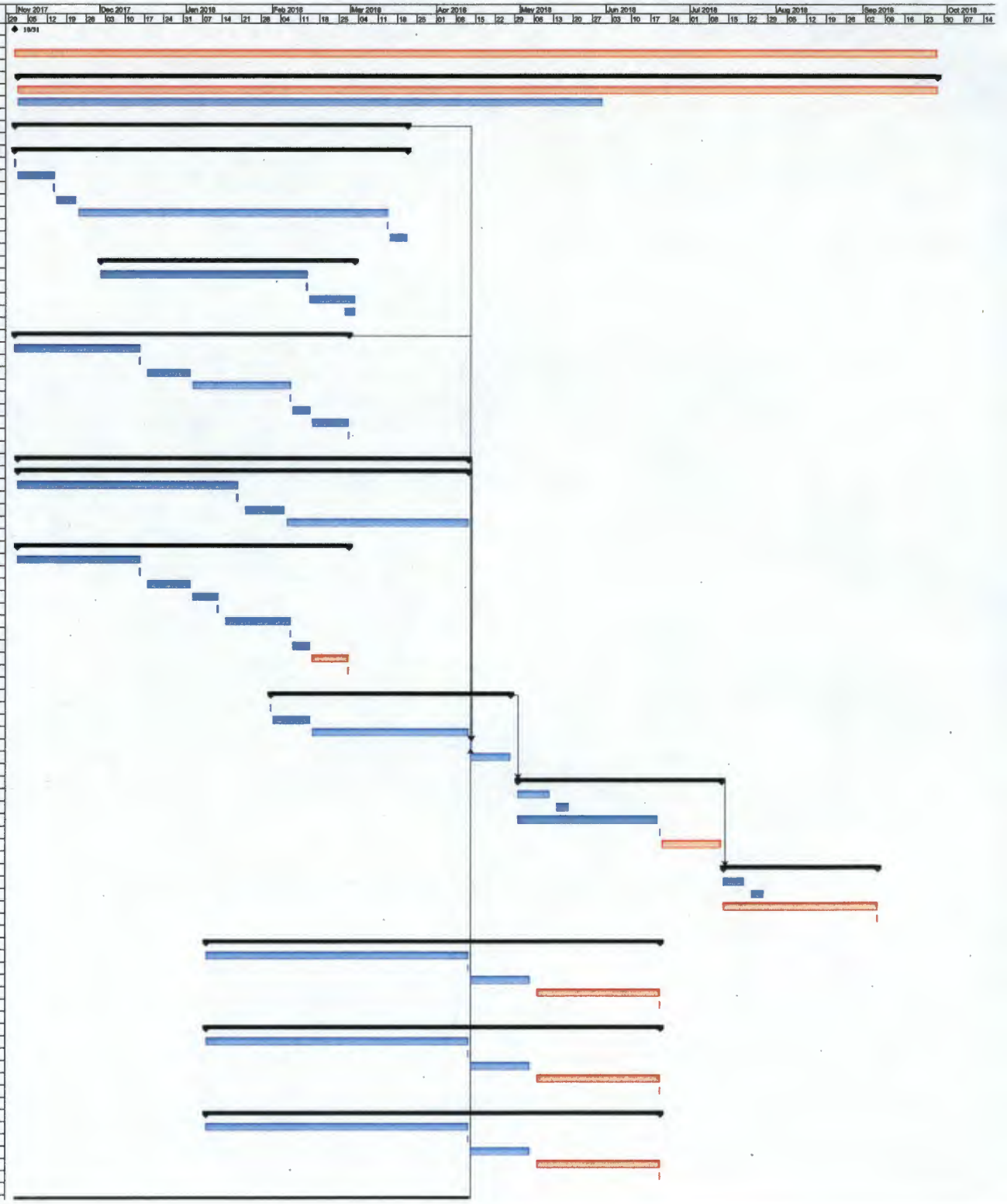


EXHIBIT E

Agreement No. 4143-A

ALAMEDA COUNTY WATER DISTRICT
AGREEMENT # 4143-A

FIRST AMENDMENT
TO CONTRACT FOR PROFESSIONAL SERVICES

This First Amendment ("Amendment") to the Contract for Professional Services is made as of June 1, 2017, by and between the ALAMEDA COUNTY WATER DISTRICT ("DISTRICT") and GHD, Inc. ("CONSULTANT").

WHEREAS, DISTRICT engaged CONSULTANT to provide professional services in connection with Lower Alameda Creek Fish Passage Project ("Agreement"), Job 21083, 21019; and

WHEREAS, DISTRICT desires to obtain professional services in connection with ACWD Rubber Dam No. 1/ACFCD Drop Structure Fishway Project, Job 21012; and

WHEREAS, CONSULTANT's proposal dated January 17, 2017, included these services as optional, which proposal is attached hereto and incorporated herein as Attachment 1; and

WHEREAS, DISTRICT and CONSULTANT desire to amend the Agreement to provide for the provision of the optional services set forth in Attachment 1.

NOW, THEREFORE, the parties agree as follows:

A. Scope of Work. Section 2, "Scope of Services," of the Agreement is amended to add the following paragraph:

> The scope of CONSULTANT's services also shall consist of the following generally described additional services: perform a system evaluation, develop a risk assessment report, and interact with the Corps to support the delivery of a USACE Section 408 permission for the ACWD Rubber Dam No. 1/ACFCD Drop Structure Fishway Project, all as more specifically described in Attachment 1.

B. Schedule and Time of Completion. Section 3, "Schedule and Time of Completion," of the Agreement is amended to add the following paragraph:

> CONSULTANT shall begin the services set forth in Attachment 1 within 10 days after the DISTRICT issues a Notice to Proceed and shall complete all of the services set forth in Attachment 1 in

accordance with the Project Schedule included as part of Attachment 1.

C. Compensation. Section 9, "Compensation," of the Agreement is amended to add the following paragraph:

CONSULTANT shall perform all of the work set forth in Attachment 1 for the ACWD Rubber Dam No. 1/ACFCD Drop Structure Fishway Project for a sum not to exceed Fourteen Thousand Two Hundred Fourteen Dollars ($14,214.00) ("Amendment Amount"). The Amendment Amount shall include all labor, materials, taxes, profit, overhead, insurance, subcontractor costs, and all other costs and expenses incurred by CONSULTANT.

D. Effect on Agreement. Except for the modifications to the Agreement expressly set forth in this Amendment, the terms and conditions of the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this First Amendment to the Contract for Professional Services by their duly authorized officers as of the day and year first written above.

CONSULTANT:
GHD, INC.

By: _____
~~President or~~ Vice President

Name: _____

By: _____
Secretary or Assistant Secretary

DISTRICT:
ALAMEDA COUNTY WATER DISTRICT

By: _____/ADH
Manager of Engineering and Technology Services

FOR
Name: Ed Stevenson

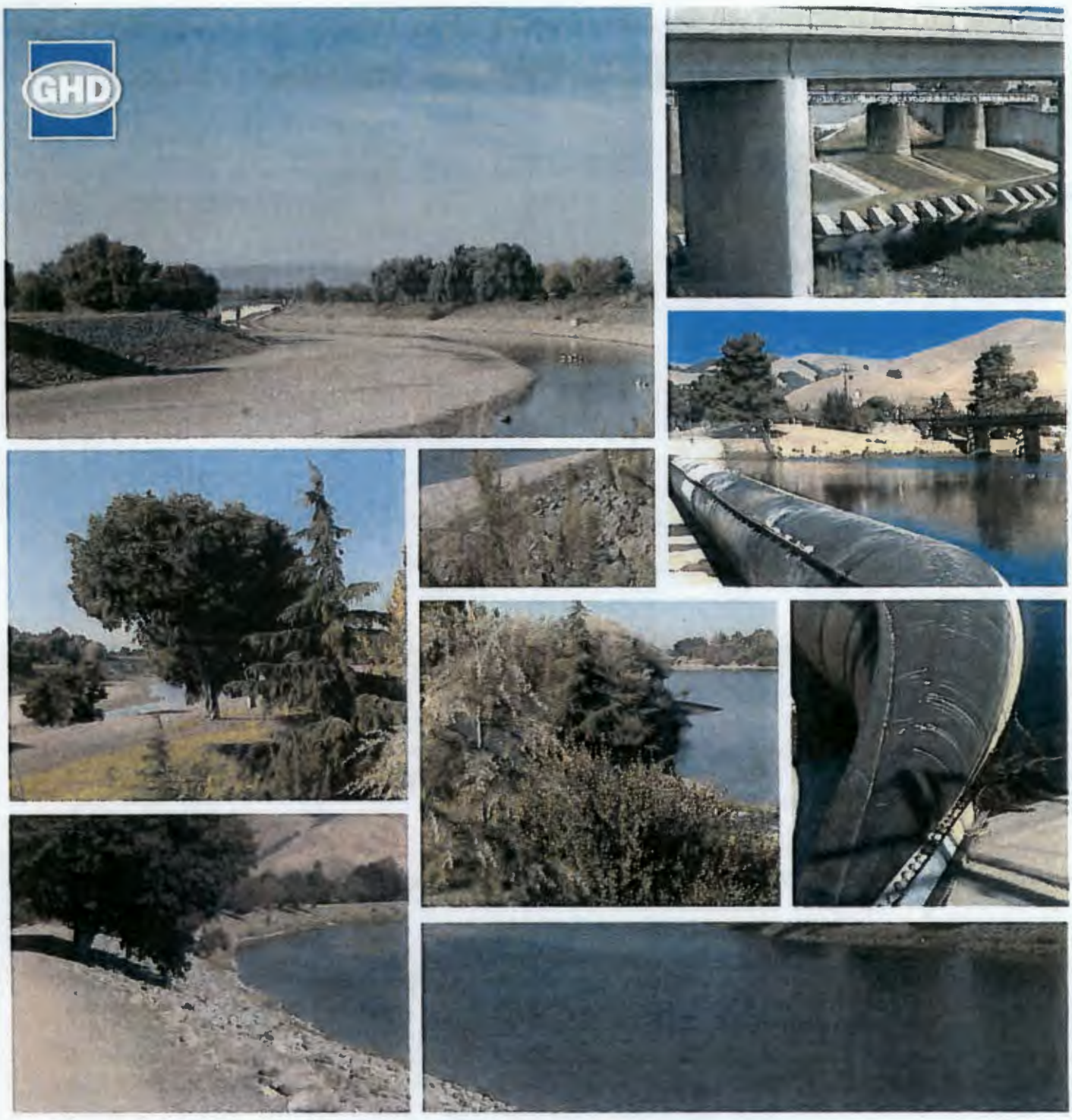
ATTEST:

_____
District Secretary

Attachment 1

EXHIBIT A

PROPOSAL: VOLUMES 1 AND 2



Alameda County Water District

Proposal for Engineering Consulting Services in Support of the

Lower Alameda Creek Fish Passage Improvements; Risk Assessment for USACE 408 Permission

GHD Inc. :: January 17, 2017

1. Administrative Documents

GHD Inc.
718 3rd Street, Eureka, CA 95501
T 707 443 8326 W www.ghd.com

January 17, 2017

Alameda County Water District
43885 South Grimmer Boulevard
Fremont, CA 94538
Attn: Ed Stevenson, Manager of Engineering and Technology Services

RE: Lower Alameda Creek Fish Passage Improvement; Risk Assessment for USACE Section 408 Permission, Jobs 21012, 21083, 21019

Dear Mr. Stevenson,

GHD appreciates the opportunity to submit our proposal to assist the Alameda County Water District (ACWD) with the USACE 408 permitting process for the Lower Alameda Creek Fish Passage Improvement project. GHD has been working with the ACWD and with Project Engineer Shane O'Nesky to develop the project design, to prepare supporting analysis and documentation, to coordinate with various regulatory and non-regulatory agencies, and to assist the ACWD in navigating the various issues that arise to keep the project moving successfully forward. GHD, with our geotechnical subconsultant Kleinfelder, remains committed to this project, looking forward to helping guide the ACWD through the U.S. Army Corps of Engineers (USACE) Section 408 permitting process.

The ACWD has committed its staff and resources to making fish passage improvements to its facilities, actively doing so for over a decade. GHD understands that delays due to the USACE 408 permitting process have been frustrating, impeding implementation of these crucial fish passage projects. GHD knows well the strong desire of ACWD staff, management, and the Board to bring the USACE 408 permitting process to a successful conclusion.

GHD also understands, based on similar experience with such permission for related facilities, that the ACWD's requested schedule to award a contract for this work by February 9, 2017 and to receive Section 408 permission from USACE by August 31 will not be easy to meet. Thus, professional and personal connections with the USACE San Francisco District can be very beneficial. Our project principal, Tony Petroccitto, has a professional relationship with Lt Col John Morrow, the current District Commander. This relationship allows our team to feel confident we will be able to set up required agency meetings in a timely manner, which will be crucial for meeting the ACWD's project schedule. Additionally, GHD's project approach proposes scheduling all of our meetings at project inception to help solidify everyone's commitment to reaching a timely resolution to this process. Once all desired meetings scheduled, the GHD team will be able to assist in building upon the ACWD's own relationship with Mr. John Cheng and others at the USACE Readiness Branch. This strategy will help to build momentum for the project, build trust amongst those sitting in the same room, and ultimately reduce the potential risk of surprise comments or additional requests from the internal review within USACE.

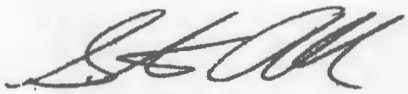
The GHD team is well positioned to guide/assist the District through the USACE 408 permitting process, as:

- GHD has the necessary project knowledge and explicit experience to efficiently begin without delay, making our team (which is led by key members of the team who have already provided design and supporting analysis/documentation for the Lower Alameda Creek Fish Passage Improvement project) uniquely positioned to cost-effectively meet the ACWD's ambitious schedule;

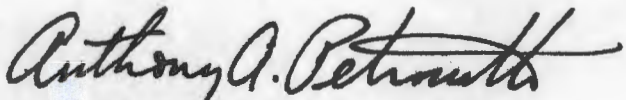
- GHD has a positive working relationship with the USACE fostered by a professional relationship with the commander of the San Francisco District;
- GHD has demonstrably navigated the USACE regulatory process, which includes experience with 404 and 408 permits;
- GHD has previously developed necessary background information, which we can efficiently modify, stamp, and stand behind to successfully fulfil the USACE 408 permitting process.

On behalf of our team we thank you for your time and consideration of our proposal. We look forward to continuing our productive working relationship with the ACWD, helping the District through the USACE 408 permitting process.

Sincerely,
GHD INC.



Steve Allen, PE
Project Manager



Tony Petroccitto, PE, LEED AP
Principal-in-Charge

Table of Contents

1	1. Administrative Documents
3	2. Project Understanding and Scope of Work
9	3. Project Staffing Plan
12	4. Company Experience and References
15	5. Project Schedule
16	6. Estimated Level of Effort
17	7. Exceptions to the ACWD Contract for Professional Services Agreement Standard Form
18	8. Resumes of Proposed Staff
	9. Resumes/Qualifications of Proposed Subcontractors of Outside Firms

2. **Project** Understanding and Scope of Work

View of channel and Shinn Pond from the grandstand

Project Understanding

GHD has been very involved with the Alameda County Water District's (ACWD) planned fish passage projects, which has included the proposed improvements at Rubber Dam (RD) 1, RD3, and the Shinn Diversion, and most recently regarding the proposed modifications to RD2 and the low flow channel that connects to RD1. As defined in the ACWD's RFP for engineering consulting services in support of Jobs 21012, 21083, and 21019, the proposed improvements at RD1, RD3, and the Shinn Diversion (and specifically their aggregate improvements to the channel) are defined collectively as the "Fish Passage Project." GHD has developed most of the background documents that ACWD is making available as part of this project, and, since Summer 2015, has been on hold with our existing contract to finalize the design of RD3 while ACWD has waited for final review comments from the U.S. Army Corps of Engineers (USACE) Readiness Branch before finalizing the design.

The USACE Readiness Branch has been aware of the project since 2013, and they have participated in meetings with ACWD, which in some cases has involved GHD's participation. The USACE Readiness Branch has requested additional information, along with providing preliminary feedback. Communications from the USACE Readiness Branch in 2015 (John Cheng email, July 31, 2015) stated that "Our hydraulic reviewer communicated with Shane in April and had no further comments afterward." From the same email: "...our geotechnical reviewer who completed his review a while back...has no objections to the project at this point so most of his comments are minor."

The USACE structural reviewer asked to see the structural software files GHD used to produce the fishway structural analysis results on pages 18 to 29 of GHD's Structural Calculations document. Communications from the USACE Readiness Branch (John Cheng email, August 27, 2015) stated, "Our reviewer has evaluated the attachments and determined that the fishway's concrete wall design is acceptable." GHD is also aware there have been questions about the inflatable bag anchorage system, and ACWD has recently, successfully replaced the inflatable bag at RD1. GHD has not seen the final as-built anchorage details from that project.

Mr. Cheng also mentioned the then-draft status of the Engineer Regulation 1110-2-1806 updates, which provides guidance on USACE seismic design standards. Since RD3's foundation is to be modified, the work will have to abide by the new seismic regulation. The new Regulation No. 1110-2-1806 was published May 31, 2016. Mr. Cheng noted the USACE Readiness Branch would be available to discuss the implementation of this guidance, as well as comments on the fishway project, in a meeting.

GHD understands there have been subsequent discussions and meetings between ACWD and USACE, in part resulting in the development of this RFP to provide a Risk Assessment to USACE for review. We understand that the USACE Readiness Branch has reviewed the scope of work included in this RFP.
Per Section 3.0 of the RFP, the ACWD's project goal is to assess the likely hazards and to evaluate an increase in risk to life safety and/or an increased risk of subsequent damage to infrastructure, property, or the environment as a result of the implementation of the Fish Passage Project. The USACE will use this risk assessment to identify any particular areas of concern and help inform the level of detail that will be needed in their subsequent Section 408 evaluation.

GHD attended a recent Levee State-of-the-Practice Symposium (April 22, 2016) which featured a presentation by Michael Kynett, the Levee Safety Program Manager for USACE. This overview of the USACE semi-qualitative Risk Assessment process for levees was useful and relevant to this project. Subsequent discussions about this semi-qualitative Risk Assessment process and our own project experience with USACE indicate this process, like many others, depends upon solid technical information and a positive, trusting relationship between the USACE, the local sponsor, and their consultants in order to reach a timely solution. Fortunately, our GHD team has developed solid technical information backed by a productive working relationship with the USACE.

What GHD has not yet completed for this project is the risk analysis portion of the semi-qualitative Risk Assessment process. This process is intended to provide a framework for evaluating risks beyond the traditional deterministic engineering approach, to combine the already-completed data collection and technical analysis with experience and judgment about potential failure modes and risk estimates. GHD's team is multidisciplinary, is knowledgeable about the project details, has experience with USACE, and brings decades of applicable project experience to this effort.

In fact, based on our experience working with USACE, GHD suggests holding one additional meeting with USACE not originally requested in the RFP. Specifically, we suggest one additional meeting between the Project Kick-Off meeting and the presentation of findings of a draft Risk Assessment Report. Our suggested additional meeting would allow GHD and the ACWD to discuss draft findings prior to submitting the draft Risk Assessment Report. During this meeting, GHD and the ACWD will present findings to date and discuss any data gaps or questions about how best to present the findings in the draft Risk Assessment Report. This additional dialogue helps all involved to better understand what the USACE would like to see and how they would like to see it, building more trust and collaboration prior to submitting the draft Risk Assessment Report. Our suggestion is further clarified in **Task 6**.

Based on experience working with ACWD, GHD suggests adding additional meetings with ACWD prior to each meeting with USACE so that draft presentation materials and topics can be reviewed and discussed before meeting with USACE. Our suggestion is further clarified in **Task 7**.

GHD is confident that through working with ACWD, using our already-completed data collection and technical analysis, and leveraging our team's positive working relationship with the USACE, we can develop a Risk Assessment that will be acceptable to the USACE so ACWD's Fish Passage project can move forward.

Scope of Work

Task 1. Review and Site Assessment

GHD has already prepared most of the required background documents, and several staff personnel have recently visited the site. Key members of our team will perform a site visit in order to observe existing conditions in the project area and assess any changes after completion of the previous design activities. GHD has not seen the final as-built anchorage details and related items from the recently replaced inflatable bag at RD1. GHD will conduct a brief review of related background and design documents to establish a basis for completing the risk-related evaluations.

Deliverables: None for this task.

Assumptions:

- In addition to other relevant information for this project, the ACWD will provide as-built anchorage details and related items from the recently replaced inflatable bag at RD1.

Task 2. Evaluate Impact of Fish Passage Project on Channel Hydraulics

As part of the Fish Passage design project, GHD completed a hydraulic analysis to evaluate potential impacts due to the proposed fish passage improvements. The existing hydraulic analysis was based on a well-established deterministic approach that has been extensively applied to USACE flood control channel design (EM 1110-2-1601) and Federal Emergency Management Agency (FEMA) floodplain mapping (44 CFR Parts 59, 60, 65 and 70). To meet the 408 permission process requirement, technical information that articulated the system performance will need to translate to risk based description. In basic terms, "risk" is a function of a probability of occurrences and respective consequences. USACE engineering manuals, such as EM 1110-2-1619, outline a risk-based analysis process for flood damage reduction studies. Balancing the need of the 408 permission process with project-specific conditions, GHD has adopted an abbreviated approach to define the hydraulic risk associated with the proposed Fish Passage Project improvements.

The existing hydraulic analysis defined the creek water surface elevation under pre-project and post-project conditions. GHD will utilize the existing HEC-RAS hydraulic model and input to the HEC-FDA model to analyze and regenerate the creek hydraulic data based on the Annual Exceedance Probability (AEP).

The existing hydraulic analysis concluded that the proposed Fish Passage Project improvement will increase the creek's water surface elevation, but as it is anticipated to be within the existing freeboard limit, levee overtopping is unlikely. Therefore, it is not anticipated that the project could significantly alter the Expected Annual Damage (EAD), and, instead of developing an updated EAD analysis, GHD will qualitatively describe how the project will not result in flood damage increase. If needed or requested by the USACE, GHD can include the EAD analysis as an optional task.

Deliverables: None for this task. Outcomes from this task will be included as part of **Task 5** and **Task 6**.

Assumptions:

- GHD will confirm our analysis approach at our initial meeting with the USACE San Francisco District's Readiness Branch.
- A full EAD analysis will not be required.

Task 3. Evaluation of Seismic Risk Effects

Based on review of the most recent reports prepared by the GHD/Kleinfelder team for the Fish Passage Project, GHD will assess the potential for seismic damage to the existing facilities and the proposed project, pre- and post-project. In our opinion, the information needed to perform the assessment is contained in the existing documents. This information will be consolidated to provide the documentation required for completion of the 408 permit application.

Potential geotechnical impacts will be evaluated through review of data in the existing reports. Impacts, including liquefaction, settlement, and slope instability, will be evaluated. Using the guidance in EM-1110-2-1619, we will evaluate the Probable Failure and Nonfailure Points to characterize the potential risk from the project. Our seismic risk analysis will generally follow the guidance in ER 1110-2-1806. The extent of potential damage and impacts to life safety, property, and the environment will be characterized. Based on prior work experience in similar situations, GHD and Kleinfelder do not anticipate significant adverse effects.

If warranted, we will recommend additional tasks to mitigate the potential effects. While we believe the required information developed to date will be sufficient, it is possible that USACE may require a Probalistic or Deterministic Seismic Hazard Analysis (P/DSHA).

Deliverables: None for this task. Outcomes from this task will be included as part of **Task 5** and **Task 6**.

Assumptions:

- GHD will confirm our analysis approach at our initial meeting with the USACE San Francisco District's Readiness Branch.

Task 4. Evaluation of Other Risk Effects

GHD will qualitatively characterize the potential for damage to or malfunction of electrical, communications, structural, mechanical, hydraulic, and all other engineering systems of the existing facilities and proposed Fish Passage Project.

GHD will determine the incremental increase in subsequent effects from the damage or malfunction associated with the Fish Passage Project. This entails the potential for damage to the RD3 facility, other ACWD facilities, and non-ACWD facilities and infrastructure in the flood control channel and embankments adjacent to and downstream of RD3. GHD will also qualitatively characterize the potential for increased risk to life safety, property, and the environment from the addition of the Fish Passage Project.

Deliverables: None for this task. Outcomes from this task will be included as part of **Task 5** and **Task 6**.

Assumptions:

- We'll confirm our analysis approach at our initial meeting with the USACE SF District's Readiness Branch.
- Any evaluations beyond the qualitative characterization are not included.

Task 5. Development of Risk Assessment Report

GHD will compile relevant information from previously completed work and information developed from the above tasks into a stand-alone Risk Assessment Report that details GHD's findings for RD3 and the Shinn Screens. Kleinfelder will provide input for the relevant geotechnical portions of the Risk Assessment Report, synthesizing information contained in Kleinfelder's previous reports for the project and surrounding area.

The report will encompass a summary determination statement, based on engineering judgement, declaring whether the change from pre- to post-construction conditions are significant regarding water surface elevation (from **Task 2**), increased risk to life safety, property, or the environment from seismically induced damage (from **Task 3**), and other hazard effects (from **Task 4**).

The report will include narrative sections with background information, an executive summary, a detailed discussion of findings, and appendices for relevant drawings, reports, calculations, and other information to support the report findings.

Deliverables:

- Draft findings will be summarized in a draft PowerPoint presentation for ACWD review prior to being used for presentation to the USACE
- Draft findings will be summarized in a final PowerPoint presentation based on ACWD review comments
- A draft Risk Assessment Report will be submitted to the ACWD via email and/or CD in MS Word and PDF formats
- An updated draft Risk Assessment Report will be prepared based on ACWD review comments and be submitted to ACWD via email and/or CD in MS Word and PDF formats
- A draft version of the final Risk Assessment Report will be prepared based on USACE review comments and submitted to the ACWD via email and/or CD in MS Word and PDF formats
- A final Risk Assessment Report will prepared based on ACWD review comments and be submitted to ACWD via email and/or CD in MS Word and PDF formats

Assumptions:

- A Risk Assessment Report covering the proposed fish passage project at RD1 is not included.
- GHD will confirm our analysis approach at our initial meeting with the USACE San Francisco District's Readiness Branch.
- The ACWD will provide specific review comments on the draft PowerPoint presentation.
- The ACWD will provide specific review comments on the draft Risk Assessment Report.
- The ACWD will provide specific review comments on the draft Risk Assessment Report.
- The ACWD will submit the required deliverables to USACE.

Task 6. Interaction with USACE

GHD will work closely with the ACWD to develop a productive interaction with the USACE San Francisco District's Readiness Branch, which will include several meetings, at their office located in San Francisco (1455 Market Street). Five meetings are proposed as follows:

- *Meeting 1:* Discussion of Approach to Obtain 408 Permission — This initial Kick-Off meeting provides for a discussion of approach to developing the Risk Assessment Report that will help facilitate the USACE to Provide 408 Permission for the project.
- *Meeting 2:* Discussion of Draft Findings — This second meeting allows GHD and the ACWD to present findings to date, and discuss any data gaps or questions about how best to present the findings in the draft Risk Assessment Report.
- *Meeting 3:* Presentation of Draft Risk Assessment Report — This third meeting allows GHD and ACWD to present the draft Risk Assessment report and explain how issues discussed from the second meeting were addressed.

- *Meeting 4:* Receive Comments from USACE — This fourth meeting allows the USACE to present their review comments of the draft Risk Assessment Report to GHD and ACWD to discuss how to address any outstanding issues.
- *Meeting 5:* Presentation of Final Risk Assessment Report Findings — This fifth and final meeting allows GHD and the ACWD to present the final Risk Assessment Report and explain how review comments from the fourth meeting were addressed.

Deliverables:

- Agenda for use at the first meeting with the USACE (both hard copies and electronic PDF files)
- Agenda and draft findings summarized in a PowerPoint presentation for use at the second meeting with the USACE (both hard copies and electronic PDF files)
- Agenda, draft Risk Assessment Report, and key issues summarized in a PowerPoint presentation for use at the third meeting with the USACE (both hard copies and electronic PDF files)
- Agenda for use at the fourth meeting with the USACE (both hard copies and electronic PDF files)
- Agenda, draft Risk Assessment Report, and key issues summarized in a PowerPoint presentation for use at the fifth meeting with the USACE (both hard copies and electronic PDF files)

Assumptions:

- GHD will confirm our analysis approach at our initial meeting with the USACE San Francisco District's Readiness Branch.

Task 7. Project Management

GHD will perform project management tasks, including maintaining open dialogue between the GHD Project Team and the ACWD, tracking and updating the project schedule, invoicing, and managing the effort to provide the deliverables on time and on budget.

GHD will perform internal review of all deliverables prior to submitting them to the ACWD. QA/QC will be conducted by senior GHD team staff experienced in each particular discipline, as well as general oversight to ensure the project discipline's deliverables are coordinated.

GHD will participate in a project coordination meeting once every three months at the ACWD headquarters.

GHD will participate in a web-based meeting with the ACWD prior to each USACE meeting to review and discuss draft deliverables to be used at the meetings with USACE.

Deliverables:

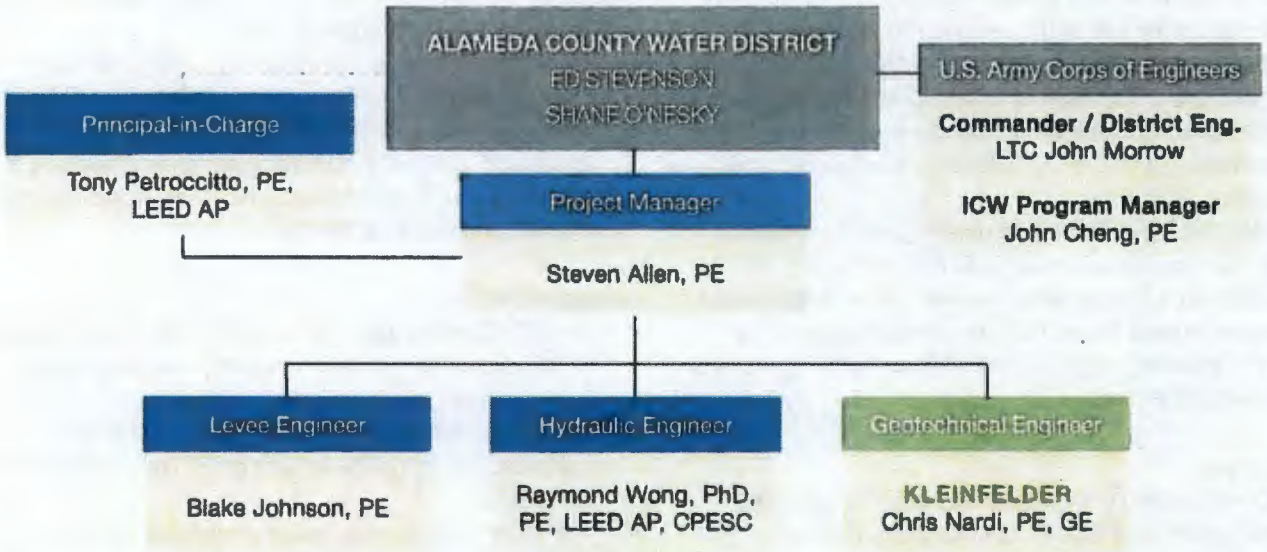
- Monthly invoicing with related progress memorandum and schedule updates
- An updated Decision and Action Log, maintained and provided for use at the project coordination meeting held once every three months
- Draft agenda for use at the first meeting with the USACE (electronic MS Word, PowerPoint, and PDF files)
- Draft agenda and draft findings summarized in a PowerPoint presentation for use at the second meeting with the USACE (electronic MS Word, PowerPoint, and PDF files)
- Draft agenda, draft Risk Assessment Report, and key issues summarized in a PowerPoint presentation for use at the third meeting with the USACE (electronic MS Word, PowerPoint, and PDF files)
- Draft agenda for use at the fourth meeting with the USACE (electronic MS Word, PowerPoint, and PDF files)
- Draft agenda, draft Risk Assessment Report, and key issues summarized in a PowerPoint presentation for use at the fifth meeting with the USACE (electronic MS Word, PowerPoint, and PDF files)

Assumptions:

- The ACWD will organize and provide the meeting space for the project coordination meeting held once every three months
- The ACWD will provide specific feedback on the submitted draft agenda for use at the first meeting with the USACE.
- The ACWD will provide specific feedback on the submitted draft agenda and draft findings summarized in a PowerPoint presentation for use at the second meeting with the USACE.
- The ACWD will provide specific feedback on the submitted draft agenda, draft Risk Assessment Report, and key issues summarized in a PowerPoint presentation for use at the third meeting with the USACE.
- The ACWD will provide specific feedback on the submitted draft agenda for use at the fourth meeting with the USACE.
- The ACWD will provide specific feedback on the submitted draft agenda, draft Risk Assessment Report, and key issues summarized in a PowerPoint presentation for use at the fifth meeting with the USACE.

3. **Project** Staffing Plan

The following organizational chart shows the personnel we have assembled for this Section 408 Permission Project for the Alameda County Water District (ACWD), as well as how Project Manager Steven Allen will facilitate all work and communication before it reaches the ACWD. Following the org chart are brief biographical descriptions of each team member's experience and role on our team. As will be described further in **Section 4**, we bring the geotechnical expertise of Chris Nardi (Kleinfelder) to our team. He is indicated below with a **green bold** font. Detailed project experience and applicable certifications/education are shown on our resumes in **Sections 8 and 9**.



Steven Allen, PE
Project Manager

Role and responsibilities on this project: As Project Manager, Steven Allen will serve as our team's main point of contact with the ACWD. Mr. Allen will be responsible for managing GHD's internal staff, as well as our subconsultant, Kleinfelder. Mr. Allen will also be responsible for making the contracted deliverables to ACWD on time and within budget. Mr. Allen will attend the USACE meetings to represent GHD's overall approach to the 408 process.

Brief biography: Mr. Allen joined GHD in December of 1999 after ten years of heavy equipment construction experience. Since then he has developed expertise in hydrology/hydraulics, ecosystem mitigation, wetland and floodplain design, restoration of stream function, assessment and design of various types of fish passage facilities, bio-engineering techniques, stream crossings, stormwater management and design, culvert and bridge design, site and roadway design, construction services and documents, project permitting, and regulatory compliance in sensitive environments in California, Oregon, Nevada, and the Commonwealth of the Northern Marianas Islands.

Mr. Allen enjoys and appreciates the interaction and iterative approach required for hydraulic projects that must comply with complex planning and permitting requirements with agencies such as the U.S. Army Corps of Engineers (USACE), California Department of Fish & Wildlife (CDFW), NOAA Fisheries, Regional Water Quality Control Board (RWQCB), and the CA State Coastal Commission (CCC). As demonstrated by over 20 years of experience in flood control, fish passage, and related diversion and dam improvements—including serving as Project Manager for the ACWD's Fish Passage and Fish Screening Projects, which prepared the documents that serve as the basis of the project for this proposal—Mr. Allen has worked extensively with the USACE regarding 404, Nationwide, and 408 permitting processes.

Tony Petroccitto, PE, LEED AP
Principal-in-Charge

Role and responsibilities on this project: As the project principal overseeing Mr. Allen's and GHD's work on this project, Tony Petroccitto will be responsible for making sure GHD's QA/QC process is followed on all contracted deliverables. Mr. Petroccitto will also attend the USACE meetings with Mr. Allen to support GHD's overall approach to the 408 process.

Brief biography: Mr. Petroccitto has over 32 years of experience in civil and environmental engineering for the planning, design, environmental review, and permitting of many facilities and infrastructure projects. He has managed many environmental restoration projects, serving as the Program Manager for GHD's IDIQ contract with the U.S. Fish & Wildlife Service (USFWS; 2008-ongoing), under which GHD has designed many fish passage and fish screening projects. This work often includes cooperating with multiple stakeholders, such as private developers, public review agencies and departments, regulatory agencies, and construction contractors, and understanding the complex permitting requirements and process for such resource and regulatory agencies as the USACE San Francisco District (with whom he's developed a professional relationship care of LTC John Morrow), the San Francisco Bay Conservation and Development Commission (BCDC), RWQCB, USFWS, CDFW, Environmental Protection Agency (EPA), U.S. Coast Guard, CCC, and State Lands Commission. Mr. Petroccitto has also previously served as Principal or Project Manager on projects for the ACWD, including on the Fish Passage and Fish Screening Projects, as well as for the Canyon Heights Tank Replacement and the Ohlone Tank Rehabilitation.

Raymond Wong, PhD, PE, LEED AP, CPESC
Hydraulic Engineer

Role and responsibilities on this project: Raymond Wong is our senior hydraulic engineer on the project, responsible for developing and addressing many of the risks relating to the channel hydraulics of Alameda Creek. Dr. Wong will also attend the USACE meetings with Mr. Allen and Mr. Petroccitto to represent the channel system hydraulics related to the 408 process.

Brief biography: Dr. Wong has nearly a decade of specialization in water resources engineering, watershed planning, flood management, urban stream restoration, and urban infrastructure design, with a technical emphasis on planning, hydrology, hydraulic, modeling, and geomorphology. He has served as lead hydraulic engineer or QA/QC Manager for hydraulic engineering for flood control and fish passage improvement projects not only for the ACWD (with Steve, Tony, and Chris), but for similarly sized agencies, special districts, and municipalities throughout Northern California, such as the Santa Clara Valley Water District, the Mendocino County Water District, the Santa Clara Valley Transportation Agency, the California Water Service Company (CalWater), the City of Fortuna, the City of San Carlos, and the San Francisco Public Utility Commission.

Through research and professional practice, especially regarding research and review of flood control capacity and feasibility for capital improvement programs and/or USACE-built structures and channels, Dr. Wong has extensive knowledge on design and management of flood control systems in the San Francisco Bay Area.

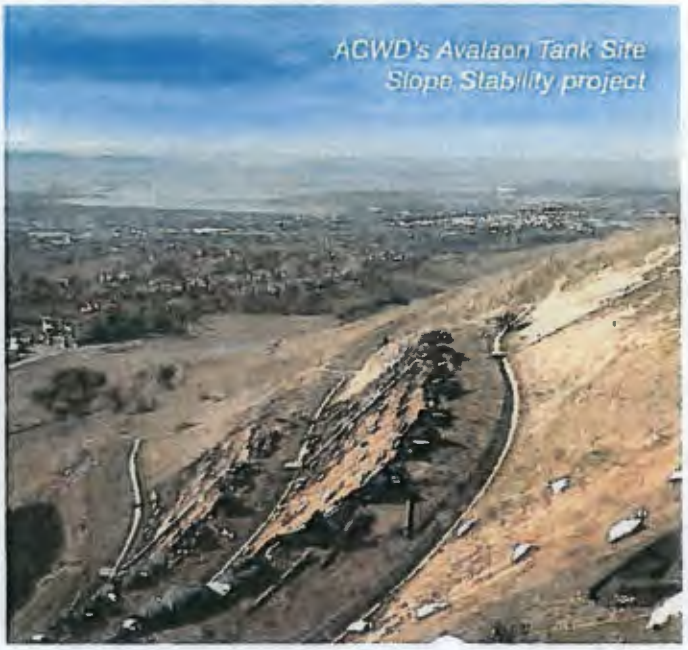
Blake Johnson, PE
Levee Engineer

Role and responsibilities on this project: Mr. Johnson will serve as our senior levee engineer on this project and will be responsible for developing and addressing many of the risks relating to Alameda Creek's channel and levee system. Mr. Johnson will also attend the USACE meetings with our project team to represent the channel and levee system related to the 408 process.

Brief biography: Blake Johnson has over 27 years of civil engineering experience, managing projects for flood control design and construction, hydrology and hydraulics, drainage design, erosion control, and roadway design. This has often involved the preparation and review of civil engineering design calculations, reports, master plans, improvement plan sets, engineering estimates, specifications, Stormwater Pollution Prevention Plans (SWPPP), and water quality documentation. Mr. Johnson routinely interacts directly with permitting and federal agencies, specifically with the U.S. Army Corps of Engineers (USACE) for , contracting directly with the agency throughout Northern California and Hawaii. .

Mr. Johnson has provided design engineering for federal, State, and local districts' projects and is well experienced in coordinating with public entities; complying with their stringent requirements and established cost limitations; participating in highly interactive design processes; and ensuring deliverables meet all applicable codes, standards, regulations, laws, and licensing requirements, as well as the jurisdictional agency's design criteria guidelines. This has notably included supporting the USACE, Sacramento Area Flood Control Agency, and Three Rivers Levee Improvement Authority with Section 408 for the modification of federal projects (flood control).

ACWD's Stevenson-Lago Los Osos Diversion Repair project



ACWD's Avalaon Tank Site Slope Stability project

Chris Nardi, PE, GE
Geotechnical Engineer

Role and responsibilities on this project: Mr. Nardi is the senior geotechnical engineer on the project, manaing Kleinfelder's effort to address the project's geotechnical questions and provide the qualitative and technical information needed to complete this scope of work. Mr. Nardi will be the main point of contact between Kleinfelder and GHD. Mr. Nardi will utilize internal Kleinfelder staff with relevant experience necessary to address the geotechnical issues relating to this project in order to assure the ACWD that all work will be completed on time. Mr. Nardi will also attend the USACE meetings with the rest of our project team to represent the geotechnical issues related to the 408 process.

Brief biography: Mr. Nardi has 38 years of experience in geotechnical, hazardous waste, and civil engineering for projects predominantly involving levees, dams, embankments, and related earth structures; landslides; wetland design; and investigation and closure of hazardous waste sites. He has directed and performed numerous subsurface explorations and laboratory studies for environmental and geotechnical projects, reviewed and compiled field and laboratory data, and prepared technical reports. Specifically, he has performed engineering analyses for design of shallow and deep foundations; slope stability analyses for landslide evaluation and repair; design for dams and embankments, surface impoundments, and landfills; prepared plans, specifications, and cost estimates for geotechnical and hazardous waste projects; and has provided construction oversight. Many water-related projects Mr. Nardi has overseen have required interaction with such regulatory agencies as USACE and RWQCB during permitting activities, explicitly Nationwide and Section 408 permits.

Notably, this experience includes working on the GHD team for the Lower Alameda Creek Fish Passage Improvement Project for the ACWD, where Mr. Nardi developed recommendations to meet applicable USACE guidelines for work on and around project levees (this geotechnical data directly supports the ACWD in their 408 permit application.) He has also served the ACWD with similar work in the past two years, providing geotechnical investigation, civil design and construction for the repair of the Stevenson-Lago Los Osos Diversion Pipe (which ACWD used in the USACE permitting process to implement the work under a Nationwide Permit), and evaluated alternatives for the Kaiser Pond Diversion Pipe, wherein preliminary design information was used by the ACWD in their discussions with USACE and RWQCB to evaluate permitting requirements.

4. Company Experience and References

GHD Inc.

GHD is one of the world's leading engineering and environmental consulting companies. Established in 1928, GHD employs more than 8,500 people across five continents, serving clients in the global markets of environment, water, energy and resources, property and buildings, and transportation. Wholly owned by its people, GHD is a global network of engineers, architects, landscape architects, planners, scientists, project managers, and economists collaborating to deliver sustainable outcomes for our clients and the community.

GHD regularly works with the U.S. Army Corps of Engineers (USACE) across the country, and specifically on the West Coast, in a variety of roles. This work spans the expertise of our multidisciplinary staff to address multiple aspects of projects, from environmental-focused 404 permitting, to multiple Nationwide permits, to levee-focused 408 permitting. GHD coordinates and interacts often with the USACE San Francisco and Sacramento Districts on a multitude of projects, as well as through our staff with the Society of American Military Engineers (SAME) and American Society of Civil Engineers (ASCE). Our Principal-in-Charge, Tony Petroccitto, is the Regional Vice President of the SAME, San Francisco Post.

Our proposed Levee Engineer, Blake Johnson, brings almost three decades of engineering experience with a multitude of levee projects for special districts, notably as a technical advisor for the USACE, contracting directly through the Corps regarding levee repairs and systems improvements, certification, and related flood control measures.

Mr. Johnson has been involved with some of the most complicated levee projects in Northern California. As a Design Manager, he worked closely with the USACE Sacramento District and the Sacramento Area Flood Control Agency to improve the Sacramento River and American River levees to remove the Natomas Basin from the Federal Emergency Management Agency (FEMA) 100-year floodplain. Mr. Johnson is also the District Engineer for Bradford Island Reclamation District 2059 in Contra Costa County, CA, providing design, construction, and emergency assistance for flood related projects. In addition, he was Project Manager and Construction Manager for the Three Rivers Levee Improvement Program, where Mr. Johnson had to coordinate closely with the USACE to ensure designs and construction would be FEMA-accredited and accepted by the USACE under the 408 permit requirements.
Our team's lead hydraulic engineer, Raymond Wong, has worked on the Alameda County Water District's (ACWD) Fish Passage Project as the technical lead for the evaluation of channel hydraulics for pre- and post-construction HEC-RAS hydraulic analysis (which has subsequently been submitted to the USACE). Additionally, his doctorate dissertation reviewed and evaluated the USACE Alameda Creek Flood Control Project, and included testing on stochastic hydraulic analysis, as well as working with the USACE Hydraulic Engineering Center in Davis for the Corte Madera Creek in Marin County. Currently, Dr. Wong is serving on a nuclear power plant cooling water intake project (1,000,000-gallons-per-minute capacity) on the Mississippi River, where GHD is directly collaborating with the USACE on both the hydraulic analysis and the subsequent permitting needs. The USACE Engineering Research and Development Center (ERDC) team is acting as a subconsultant contracted under GHD to support our team in the hydrodynamic analysis for the above project.

Kleinfelder

As a California-based company founded in Stockton in 1961, Kleinfelder has a 55-year history of providing geotechnical and related professional engineering services to public agencies. The Oakland office has conducted numerous projects throughout the surrounding areas, resulting in a deep understanding of local soils, geotechnical/geological considerations, and seismic conditions, as well as familiarity with local regulatory agencies and their staff, such as with the California Department of Water Resources Division of Safety of Dams (DSOD).

In the Bay Area, Kleinfelder has a long history of teaming with GHD on significant infrastructure projects, including for the ACWD's Fish Passage Project and the Vallejo Ferry Maintenance Facility. GHD and Kleinfelder have developed an efficient working relationship and understand each other's internal QA/QC processes.

Kleinfelder also has extensive experience working with state and federal regulatory agencies and their associated local agency guidelines. These include the California Department of Water Resources (DWR), DSOD and Division of Flood Management (DFM), the USACE, the Natural Resources Conservation Service (NRCS), Federal Energy Regulatory Commission (FERC), U.S. Bureau of Reclamation (USBR), the Building Industry Association (BIA), and the U.S. Fish & Wildlife Service (USFWS).

References

The following lists reference projects and contacts for our team, demonstrating GHD's competence to perform the work required for this project. All work has been undertaken within the past six (6) years.

As is the case in the previous section of this proposal, Kleinfelder's references are indicated by a green bold font.

Lower Alameda Creek Fish Passage Projects – RD3 Final Design
Fremont, CA

Duration: May 2014 – Present
Description: GHD provided final design documents for the RD3 fish ladder facilities. This work involved developing the 95% with the 100% PS&E submittals, preparing the final bid-ready submittal, and conducting bidding support services to be completed once the 408 permitting process is completed.

Reference Contact:
Shane O'Nesky, Project Engineer
Alameda County Water District (ACWD)
43885 South Grimmer Boulevard
Fremont, CA 94538
510.668.4489

Relevance to ACWD's Project: GHD's design team, which included current team member Kleinfelder, conducted the preliminary design investigations, and prepared the preliminary design documents (geotechnical report, structural calculations, hydraulic analysis memos, and current design plans) upon which this proposal's Section 408 permission is based.

Lower Alameda Creek Fish Passage Projects – RD1, RD3, and Shinn Screens
Fremont, CA

Duration: May 2012 – 2014
Description: GHD provided project assessment, preliminary design, and the basis of design report for the RD1, RD3, and Shinn Screens fish passage facilities, including the 65% PS&E submittal for all three projects, and the 95% and 100% PS&E submittals for RD1 and the Shinn Screens.

Reference Contact:
Therese Wooding, PE, Project Manager
Alameda County Water District
43885 South Grimmer Boulevard
Fremont, CA 94538
510.668.4483

Relevance to ACWD's Project: GHD's design team, which included current team member Kleinfelder, conducted the preliminary design investigations, and prepared the preliminary design documents (geotechnical report, structural calculations, hydraulic analysis memos, and current design plans) upon which this proposal's Section 408 permission is based.

Stevenson Lago-Los Osos Diversion Repair
Fremont, CA

Duration: April 2014 – Present
Description: In early February 2014, erosion at the discharge end of the Stevenson Pond-Lago Los Osos diversion pipeline induced a catastrophic failure of the outlet pipe, underlying subgrade, and portions of the embankment during a regional storm event. Kleinfelder designed a cost-effective repair that was implemented within the available time allowing the ACWD to get back the storage space they needed for groundwater recharge.

Project challenges:

- Due to the ongoing drought, all work needed to be completed by October 15, 2014 (a 6-month window for investigation, design and construction) so that water could be stored.
- Constraining the selected repair to the original footprint to preclude a period for permitting.
- Achieving a low enough water level prior to construction so that the repair could be implemented without significant dewatering.

Reference Contact:
Jason Ching, PE, Project Manager
Alameda County Water District
43885 South Grimmer Boulevard
Fremont, CA 94538
510.668.4481

Relevance to ACWD's Project: For this project, Kleinfelder conducted geotechnical and geologic services for repair of the diversion pipes similar to this proposal's scope of work, including seepage, slope stability, erosion, and assorted risk assessments. Related, Kleinfelder also prepared plans and specifications for selected remedial alternatives, and has provided the ACWD with services during construction: acting as Resident Engineer and conducting construction observation and testing.

Avalon Tank Site Slope Stability
Fremont, CA

Duration: November 2015 – Present
Description: Kleinfelder provided a cost-effective option to permanently mitigate potential slope instability at the Avalon

Tank site consistent with the ACWD's budget constraints. Kleinfelder has helped diagnose the cause and assess the degree of severity of the soil movement, identify options for addressing the instability, provide criteria for selection of the preferred alternative, determine the appropriate CEQA approach, and document the work in a Basis of Design Report. Project challenges involved working within a developed area, steep slopes and limited access, potential biological concerns, and the ACWD's budgeting process for major projects.

Reference Contact:
Therese Wooding, PE, Project Manager
Alameda County Water District
43885 South Grimmer Boulevard
Fremont, CA 94538
510.668.4483

Relevance to ACWD's Project: Much of Kleinfelder's work on this project for the ACWD (innovative designs for slope protection, geotechnical and geologic services, preliminary evaluation and selection of alternative for Basis of Design Report) confirm Kleinfelder's familiarity with both the ACWD and this proposal's required work.

American River Common Features Project

Sacramento, CA
(Reference for our team's Levee Engineer, Blake Johnson)

Duration: March 2010 – July 2012
Description: Blake Johnson was responsible for this complex project authorized by the Water Resources Development Act (WRDA) of 1996 and 1999. After determining project features specific to the Natomas area were likely to exceed the authorized project cost, a project General Reevaluation Report (GRR) was initiated. Work involved civil design support to develop plans and cross-sections depicting a full array of alternatives, plus feasibility level unit costs for those alternatives, in specific support of USACE's Post Authorization Change report and GRR. Developed 60% plans and specifications for specified study reaches of the Natomas Basin in specific support of a developing environmental document. Mr. Johnson and his team provided plans, specifications, and quantities, which included cement bentonite cutoff way, slope flattening, utility relocations, roadway improvements, and detours.

Reference Contact:
Dan Tibbitts, PE, Principal Engineer
(Formerly with USACE Sacramento District)
Sacramento Area Flood Control Agency (SAFCA)
1007 7th Street, 7th Floor
Sacramento, CA 95814
916.875.0639

Relevance to ACWD's Project: The documentation prepared by Mr. Johnson was used to support Section 408 for modification of the federal project. Additionally, the American River Common Features project demonstrates direct experience with the USACE.

On-Call Flood Control Services

Bradford Island Reclamation District 2059
Contra Costa County, CA
(Reference for our team's Levee Engineer, Blake Johnson)

Duration: May 2015 – Present
Description: Blake Johnson has monitored the levee system to meet State standards, reviewed encroachment permits, and met with State and federal officials related to flood control issues such as grants, updated standards, and maintenance requirements. Mr. Johnson has also reported to the Board of Trustees regarding levee design criteria, maintenance needs, funding needs, etc.

Reference Contact:
Angelia Tant, Office Manager
Bradford Island Reclamation District 2059
Mailing Address: PO Box 1059
19 Minaret Road – Overnight Mailing
Oakley, CA 94561
925.209.5480

Relevance to ACWD's Project: As District Engineer for Bradford Island, Mr. Johnson was responsible for maintenance requiremenrs and design (civil, structural, and geotechnical) of the levee system. This work, along with coordination with State, federal, and local officials for permitting, design review, and funding opportunities, resembles multidisciplinary work required by the ACWD for this 408 permission project.

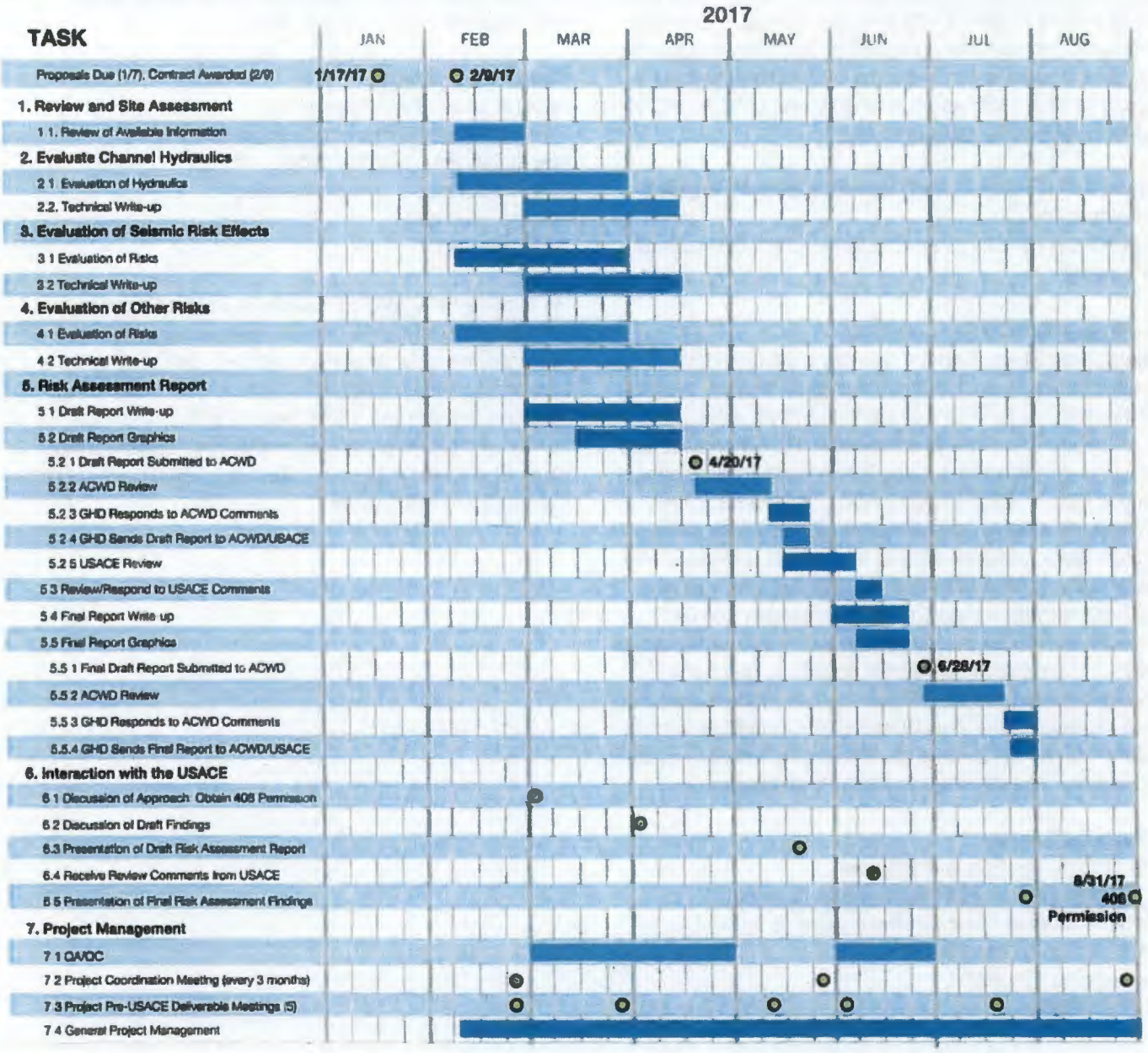
5. Project Schedule

The GHD Team has developed the detailed project schedule below that correlates to the tasks and sub-tasks also listed in our estimated level of effort in **Section 6.** Our proposed schedule begins with contract award on February 9, 2017, and culminates with receiving Section 408 permission from the USACE by August 31, 2017.

We have identified submittal milestones, allotted for the review times requested by the Alameda County Water District (ACWD), and included key meeting dates. Two key submittals (the draft and final draft of the Risk Assessment report) require a full three weeks requested by the ACWD for review.

Other more minor submittals of draft agendas or interim project submittals do not include three weeks for the ACWD's review in order to meet the available time between the start and finish dates outlined in the RFP.

In our experience, review times required by regulatory agencies vary greatly depending upon what is being reviewed and the availability of key staff to conduct those reviews, as is the case in the USACE. We have also developed our schedule to accomodate holding one additional meeting with USACE, which we've described in our proposal in **Section 2.**



6. Estimated Level of Effort

GHD has developed an estimated level of effort to assist the Alameda County Water District (ACWD) with the U.S. Army Corps of Engineers (USACE) 408 permitting process. We are not including rate schedules or cost breakdowns in this section. That information will be submitted in a separate, sealed envelope in accordance with the ACWD's RFP.

We have estimated our level of effort to complete the scope of work outlined in our proposal, which is included below and presented in a spreadsheet tabular format. Each task and subtask, as well as each individual staff member, has a discrete summaries of hours, or person-hours, categorized by role. We have included the same for our subcontractor, Kleinfelder.

To address the RFP's request to break down the fee estimate by project site (RD1, RD3, and Shinn Screens), we have included the effort for all three sites in the spreadsheet to optimize the economy of time and expense, and we should proceed with RD1 being included until the first USACE meeting. After the first USACE meeting, should there be specific concerns regarding RD1 that could delay the 408 approval of all three projects, then ACWD could make that decision and remove RD1 from our remaining scope and fee at that time. Our assumptions are listed below to meet ACWD requirements to have the level of effort broken out per project.

Should the ACWD decide not to pursue inclusion of RD1 after the first USACE meeting, the following adjustments can be mada accordingly:

1. Reduce the hours for Task 2 by 20%
2. Reduce the hours for Task 3 by 15%
3. Reduce the hours for Task 4 by 15%
4. Reduce the hours for Task 5 by 15%
5. The remaining tasks (Task 1, Task 6, and Task 7) would not change
6. The remaining hours are for RD3 and Shinn Screens, estimated to be split 55%/45% respectively

ACWD Risk Assessment for USACE Section 408

			PRIME GHD										SUBCONSULTANTS					
													KLEINFELDER					
Task Description		Staff Title	Petrucelle PIC	Allen PM	Wong Hydraulics	Johson Levee	Short Civil	Byrd Civil	Lewis Structural	Southworth Electrical	Davis CADD/GIS	Casella Admin	Total Hours	Williams & Zahr Prin and QA/QC	Nardi PM	Proj Engineer	CADD	Admin	Total Hours
RD3 and Shinn Screens USACE 408 Assistance																			
Task	1	Review and Site Assessment											0						0
	1.1	Review of Available Information	1	4	4	4							13		4	8			12
Task	2	Evaulate Channel Hydraulics											0						0
	2.1	Evaluation of Hydraulics		2	16	2	4	24					48						0
	2.2	Technical Write-up		1	12	2	2	4					21						
Task	3	Evaluation of Seismic Risk Effects											0						0
	3.1	Evaluation of Risks		1					8				9	14	14	46			74
	3.2	Technical Write-up		1					2				3	2	4	10		4	
Task	4	Evaluation of other Risk Effects											0						0
	4.1	Evaluation of Risks	2	6	4	6	6	4	4	4			36		4	8			12
	4.2	Technical Write-up	1	2	4	4	4	4	4	4			27		1	4		2	7
Task	5	Risk Assessment Report											0						0
	5.1	Draft Report Write-up	1	8	4	8	2	4	2	2		4	35	2	2	8		2	12
	5.2	Draft Report Graphics		1	1	1		4			8		15		1	2	8		11
	5.2.1	Draft Report Submitted to ACWD April 20		1								1	2						0
	5.2.2	ACWD 3 Week Review											0						0
	5.2.3	GHD respond to ACWD comments	2	6	3	3	3		2	2		2	23		2	2			4
	5.2.4	GHD Provides Draft Report to ACWD - USACE		1								1	2						0
	5.2.5	USACE 3 Week Review											0						0
	5.3	Review/Respond to USACE Comments	4	6	4	4	3						21		2	2		1	6
	5.4	Final Report Write-up	1	8	4	8	2	4	2	2		4	35	2	2	6		2	12
	5.5	Final Report Graphics		1	1	1					4		7		1	2	4		7
	5.5.1	Final Draft Report Submitted to ACWD June 28		1								1	2						0
	5.5.2	ACWD 3 Week Review											0						0
	5.5.3	GHD respond to ACWD comments	2	6	3	3	3		2	2		2	23		2	2			4
	5.4.4	GHD Provides Final Report to ACWD - USACE		1								1	2						0
Task	6	Intersection with Corps											0						0
	6.1	Discussion of Approach to Obtain 408 Permission	4	12	6	6						2	30	2	6				8
	6.2	Discussion of Draft Findings	4	12	6	6						2	30	2	6				8
	6.3	Presentation of Draft Risk Assessment Report	4	12	6	6						2	30	2	6				8
	6.4	Receive Review Comments from USACE	4	12	6	6						2	30	2	6				8
	6.5	Presentation of Final Risk Assessment Report Findings	4	12	6	6						2	30	2	6				8
Task	7	Project Management											0						0
	7.1	QA/QC	12	8	8	8							36	8	4				12
	7.2	Project Coordination Meeting (every 3 months)	8	12	8	8							36		4				4
	7.3	Project Pre-USACE Meetings (5 meetings)	16	24	16	16							72		12				12
	7.4	General Project Management	4										4		8			8	16
		Person Hour Totals	74	181	132	106	29	48	26	16	12	26	532	30	97	96	12	19	244

7. Exceptions to the ACWD Contract for Professional Services Agreement Standard Form

GHD has reviewed the Alameda County Water District's (ACWD) Contract for Professional Services Agreement, included in Appendix A of the RFP. There are a few specific provisions to which we take exception. We've clarified below. For requested additions we have used CAPITAL LETTERS. We have struck out requested deletions.

7. Responsibility; Indemnification

Page 4 of 13, line 10 in this section:

"...Liabilities arise out of the NEGLIGENT performance (or non-performance) of this Agreement OR BREACH OF CONTRACT."

Page 5 of 13, line 2 on this page:

"...further agrees to ~~defend~~ THE EXTENT OF CONSULTANT'S RELATIVE DEGREE OF FAULT, FUND THE DEFENSE OF any and all such actions, suits, or claims, and pay all charges..."

Page 5 of 13, line 6 on this page:

"If any FINAL judgment is rendered..."

Page 5 of 13, line 10 on this page:

"...is based on the CONSULTANT'S RELATIVE DEGREE OF FAULT UNDER THIS agreement to indemnify as set forth in this section."

Page 6 of 13, lines 5-8 on this page (*Note that nothing a GHD representative signs will create privity of contract between our insurer and the ACWD, and the insurer is not bound by this agreement*):

"The policy(ies) will be primary insurance ~~and the insurance companies providing the policy(ies) will be liable for the full amount of any loss or claim for which CONSULTANT is liable up to and including the total limit of liability,~~ without right of contribution from any other..."

In the attachment entitled "Non-Disclosure Agreement and Release of Confidential Documents/Information," Section 2, Page 1:

"Consultant agrees to hold the Confidential Information ~~in trust~~ and confidence and Consultant agrees..."

Exceptions to ACWD standard PSA were negotiated between ACWD and GHD to be more consistent with the existing design agreement for the fish passage projects. The executed PSA form contains the agreed upon terms.

8. Resumes of Proposed Staff

Tony Petroccitto, PE, LEED AP
Principal-in-Charge

Education. B.S. Environmental Resources Engineering, Humboldt State University, 1984

Certifications / Licenses.
- Professional Civil Engineer: CA, OR, WA, HI
- LEED Accredited

Principal-in-Charge :: **Flood Control Channel Fish Passage and Fish Screening Projects | Alameda County Water District, CA** :: Mr. Petroccitto served as principal for these fish passage projects within a USACE-built flood control channel to help groundwater recharge for a water supply with two large inflatable rubber dams (RD1 and RD3) on Alameda Creek. In addition to meeting with various regulatory agencies (U.S. Army Corps of Engineers [USACE], CA Department of Fish & Wildlife [CDFW], NOAA Fisheries, Division of Safety of Dams [DSOD], and Regional Water Quality Control Board [RWQCB], as well as BART, UPRR, EBRPD, and PG&E), GHD participated in and prepared permit supporting documents, such as the USACE Jurisdictional Determination and hydraulic technical memo in support of the USACE 404 and 408 permitting process.

Project Manager :: **Middle Harbor Habitat Design | U.S. Army Corps of Engineers | Oakland, CA** :: Mr. Petroccitto managed the design of a combined steel sheet pile wall and rock jetty containment structure to contain approximately 6 million cubic yards of dredged material from the deepening of the Port of Oakland's shipping channels to 50 feet to accommodate larger vessels. The site will be restored to support several habitats, including deepwater habitat, shallow water habitat in which eelgrass will be planted, and a tidal marsh habitat. Complex hydrodynamic modeling was performed to determine the current and wave characteristics in the habitat. The project team interacted with and worked cooperatively with the Technical Advisory Committee, which featured representatives from National Marine Fisheries Service (NMFS) and U.S. Fish & Wildlife Service (USFWS), as well as local interest groups such as the Audubon Society, to develop the design.

Principal-in-Charge :. **Lower Mokelumne River Dam Replacement, Fish Ladder, and Streambed Restoration | Woodbridge Irrigation District, CA** :: Mr. Petroccitto oversaw the replacement of an antiquated 167-foot-long concrete and timber dam and fish ladder. Project responsibilities involved the design of a new concrete dam with Obermeyer gates, a three-part fish ladder system, a mechanical operations building, restroom facilities, a fish processing laboratory, and a fish viewing room. **The project received the ACEC Grand Award in 2008.**

Project Manager :: **Ohlone Tank Rehabilitation | Alameda County Water District, CA** :: Mr. Petroccitto managed the seismic retrofit of a 1.5-million-gallon (MG) reservoir. The project also included new yard piping and a control building.

Project Manager :: **Canyon Heights Tank Replacement | Alameda County Water District, CA** :: Mr. Petroccitto managed the design of a 0.5 MG reservoir. The project also included completion of the CEQA review process.

Principal-in-Charge :: **Fish Passage and Screening: Busse, Grain Camp, and Sodhouse Dams – Malheur National Wildlife Refuge | U.S. Fish & Wildlife Service | Narrows, OR** :: Mr. Petroccitto provided evaluation and complete engineering design for three new fish ladders at existing dam diversions and four new fish screens at existing diversion canals. **The project received the ACEC Oregon Honor Award in 2012.**

Principal-in-Charge :: **Aquaculture Pilot Project – Hagerman National Fish Hatchery | U.S. Fish & Wildlife Service | Hagerman, ID** :: Mr. Petroccitto oversaw this design-build project for the Hagerman Hatchery for a new fish rearing aquaculture project. The process involved a new concept of rearing fish with circular tanks. Process vendor PR Aqua provided the rearing and recirculation equipment. A new pilot process provided provisions for 50% recirculation of supply water, with drum filter, pump station, and gas separation tower for carbon dioxide stripping and oxygen injection.

Principal-in-Charge :: **Bridge Replacement – Hagerman National Fish Hatchery | U.S. Fish & Wildlife Service | Hagerman, ID** :: Mr. Petroccitto oversaw the design for replacement of a vehicle access bridge at the Hagerman Hatchery. The existing one-lane bridge over Riley Creek was the only access onto the hatchery and various other installations. Project design included development of numerous precast bridge alternatives to minimize permitting impacts while maintaining access into the hatchery during construction.

Principal-in-Charge :: **Bollinger Road Channel Improvements, Fish Passage, and Bike Trail Widening | City of Cupertino, CA** :: Mr. Petroccitto oversaw HEC-RAS modeling and subsequent design of channel improvements to Calabazas Creek, including fish passage and widening of the crossing of Bollinger Road over the creek for bicycle traffic. The project required close coordination with Santa Clara Valley Water District, the USACE, CDFW, and NMFS.

Steven Allen, PE
Project Manager

Education. B.S. Environmental Resources Engineering, Humboldt State University, 1996

Certifications / Licenses.
- Professional Civil Engineer: CA

Project Manager :: **Flood Control Channel Fish Passage and Fish Screening Projects | Alameda County Water District, CA** :: Mr. Allen managed these fish passage projects within a USACE-built flood control channel to help groundwater recharge for a water supply with two large inflatable rubber dams (RD1 and RD3) on Alameda Creek. Work included hydrologic and hydraulic (H&H) modeling, geotechnical investigations, and civil, structural, and electrical engineering for the development and design of two fish passage facilities and fish screens at the Shinn Diversion to allow for juvenile and adult migrating salmonids' passage. This involved the assessment of inflatable dam replacement options, development of alternatives to improve fish passage, meeting with various regulatory agencies (USACE, CDFW, NOAA Fisheries, DSOD, and RWQCB, as well as BART, UPRR, EBRPD, and PG&E). GHD participated in and prepared permit supporting documents, such as the USACE Jurisdictional Determination and hydraulic technical memo in support of the USACE 404 and 408 permitting process.

Project Manager :: **Upper Penitencia Creek / Alum Rock Park Fish Passage Improvements | Santa Clara Valley Transportation Agency; City of San Jose, CA** :: Mr. Allen led the design of the streambed and structural improvements within the Park. The project addressed three goals identified in a 2001 riparian management plan: 1. Enhance biological diversity; 2. restore hydrology; 3. reduce sediment input; and 4. protect cultural and historical resources. The project not only improved fish passage and enhanced habitat conditions within the creek, it improved the enjoyment and education of Alum Rock Park's 100,000 yearly visitors, many of whom are students. **The project received the ASCE Region 9 Environmental Project of the Year Award in 2013.**

Project Manager :: **Bear Gulch Upper Diversion Intake and Fishway Design | California Water Service Company | Woodside, CA** :: Mr. Allen oversaw design alternatives evaluation and the development of design and construction documents to screen the existing intake at their upper diversion on Bear Gulch, and to provide adult steelhead passage over the dam. As part of developing the 30% design, the project team developed multiple systems to address the coarse sediment load carried by Bear Gulch, which currently limits the diversion rate and requires difficult-to-permit in-channel maintenance. This involved meetings with regulatory agencies (CDFW, NOAA, USACE, RWQCB) for the preparation of permit supporting documents.

Project Manager :: **Stonybrook Creek Fish Passage Barrier Removal Project | Alameda County, CA** :: Mr. Allen led this design project to remove two fish passage barrier culverts on Polomares Road, complying with current fish passage design criteria. This required coordination with NOAA Fisheries, CDFW, USACE, RWQCB, and the Center for Ecosystem Management and Restoration (CEMAR) to define the project's physical limits and design constraints. Work involved a topographic survey, soils engineering report, geomorphic evaluation, H&H modeling, conceptual plans, site review meetings and final construction drawings. Completed 2016.

Project Manager :: **Bear Gulch Station 3 Flow Measurement Weirs | CalWater | Woodside, CA** :: CalWater retained GHD 2008-2013 to design improvements and oversee construction for Pump Station 3 on Bear Gulch. Tasks included: 1) Developing a strategy for gauging stream flow to guide operation of the pumps and monitor bypass flow compliance; and 2) designing in-stream structures to provide a reliable gauging site, as well as adequate water depth at the intake screen to meet regulatory requirements for fish protection. GHD provided structural engineering and designed steel weir plates that can be removed during summer low flows when the diversion is not operating.

Principal-in-Charge / Designer :: **Grape Creek Fish Passage Improvements | Sonoma County Water Agency; Sonoma County Department of Transportation and Public Works, CA** :: Grape Creek, a tributary to Dry Creek in Sonoma County, is listed on the "Ten Waters to Watch," a collection of rivers, streams, and shores chosen by the nation's leading authorities on aquatic conservation to be healthier habitats for the many flora and fauna who call these areas home. GHD designed a pool and weir fishway with four concrete v-notch weirs. This was a multi-year, multi-agency, multi-stakeholder effort that improves passage conditions for salmonids while maintaining the structural integrity of the bridge and upstream channel. **The project received the ASCE Region 9 Small Project of the Year Award in 2014.**

Project Manager :: **Bridge Replacement and Bioengineered Bank Stabilization for Salmon Creek School | Occidental, CA** : Mr. Allen led this storm damage repair project, which required a bridge replacement, a bioengineered streambank stabilization site, and a culvert replacement site. GHD provided a hydrologic analysis to determine design peak flows, an open-channel hydraulic analysis through both project sites utilizing the USACE HEC-RAS model, and design of bioengineered streambank revetment. The new bridge consists of a 75-foot long free span with drilled piers.

Project Principal .: **Rohner Creek Flood Control and Habitat Improvement Project | City of Fortuna, CA** :: This ongoing project involves a 2-D hydrologic and hydraulic analysis of Rohner Creek and the adjoining floodplain, as well as the subsequent design of flood reduction alternatives. Involvement included the hydrologic (HEC-HMS) and 2-D hydraulic modeling (MIKE) of Rohner Creek, a "creek survey," calibration of the hydrologic model to gauged storm events, and development of potential flood reduction alternatives.

Raymond Wong, PhD, PE, LEED AP, CPESC

Hydraulic Engineer

Education. Ph.D. Environmental Planning, University of California Berkeley, 2014; M.S. Environmental Engineering (Fluid Mechanics and Hydrology), Stanford University, 2002

Certifications / Licenses.
- Professional Civil Engineer: CA
- LEED Accredited
- Certified Professional in Erosion and Soil Control

QA/QC Hydraulic Technical Lead :: **Flood Control Channel Fish Passage and Fish Screening Projects | Alameda County Water District, CA** :: Dr. Wong reviewed the channel hydraulic design for these fish passage projects within a USACE-built flood control channel to help groundwater recharge for a water supply with two large inflatable rubber dams (RD1 and RD3) on Alameda Creek. GHD participated in and prepared permit supporting documents, such as the USACE Jurisdictional Determination and hydraulic technical memo in support of the USACE 404 and 408 permitting process.

Lead Hydraulic Engineer :: **Lower Berryessa Creek Improvement Project | Santa Clara Valley Water District, CA** :: Dr. Wong is serving as Lead Hydraulic Engineer on this project to evaluate improvement alternatives at the Lower Berryessa Creek, to protect the City of Milpitas from the 100-year storm event. As the lead hydraulic engineer, Dr. Wong's team is responsible for the hydraulic analysis to evaluate the sensitivity of different improvement components within a wide range of alternative scenarios and creek alignment options. Based on the analysis results, a series of design criteria, including the levee crest elevation, channel geometries, and railroad culvert sizing, were recommended for the improvement design. The study results also revealed the need to improve downstream conveyance at the Lower Penitencia Creek in order to avoid backwater induced flooding at Lower Berryessa Creek.

Hydraulic Engineer / Geomorphologist :: **Upper Penitencia Creek / Alum Rock Park Fish Passage Improvements | Santa Clara Valley Transportation Agency, CA** :: Dr. Wong led the hydraulic design of the streambed and structural improvements within the Park. The project: 1. Enhanced biological diversity; 2. restored hydrology; 3. reduced sediment input; and 4. protected cultural and historical resources. **The project received the ASCE Region 9 Environmental Project of the Year Award in 2013.**

Hydraulic Engineer :: **Rohner Creek Flood Control and Habitat Improvement Project | City of Fortuna, CA** :: This ongoing project involves a 2-D hydrologic and hydraulic analysis of Rohner Creek and the adjoining floodplain, as well as the subsequent design of flood reduction alternatives. The objective of the initial study was to analyze the Rohner Creek watershed and identify potential flood reduction improvements to reduce the frequency of flooding events within the FEMA flood hazard zone. Involvement included the hydrologic (HEC-HMS) and 2-D hydraulic modeling (MIKE) of Rohner Creek, a "creek survey," calibration of the hydrologic model to gauged storm events, and development of potential flood reduction alternatives.

Researcher :: **Flood Control Projects Evaluation | U.S. Army Corps of Engineers | San Francisco Bay Region, CA** :: Dr. Wong conducted the systematic review of the pre-1986 WRDA USACE Flood Control Projects in the tidal zone with direct outfall to the Bay. Evaluation included original project justification and cost benefit analysis, project hydraulic performance, in-channel sediment deposition, and long term operation and maintenance obligations from the local sponsor. The study informed issues with USACE planning processes and broader issues of utilizing structural technology as a flood management mean.

Researcher :: **Corte Madera Creek Sediment and Sedimentation Study | U.S. Army Corps of Engineers | Marin County, CA** :: Dr. Wong conducted a research study to evaluate the dominant modes of sediment-induced capacity failure in the County's flood control channel. The study verified the existing channel capacity and its sensitivity based on various sediment management schemes, and this impacted the ongoing watershed flood protection CIP and the pending USACE Unit 4 project formulation. The study included background research on the 1982 flood analysis, stochastic sediment and hydraulic modeling in HEC-RAS with a HEC-WAT shell for random parameter processing, failure mode sensitivity analysis, and a critique on the issues of sediment and flood management in the context of USACE project planning, design, and implementation.

Project Manager :: **Los Angeles River Ecosystem Restoration Integrated Feasibility Report Review | U.S. Army Corps of Engineers | LA, CA** :: Dr. Wong reviewed the proposed $453 million in projects' feasibility and EIR studies based on project justification, habitat restoration quality, life cycle operation and maintenance requirements, social benefits, and flood risk management. As part of the review, Dr. Wong and his project team interviewed project stakeholders to better understand the project opportunities and constraints. The published review to USACE highlighted a number of issues with the project, with the most significant comment on the project neglecting the flood risk management objective as directed in Water Resources Development Act (WRDA) 2007.

Project Manager :: **Hydraulic Investigation of a Transmission Pipeline in the Bear Gulch District | CalWater | Woodside, CA** :: As part of the fish passage improvement project at the Bear Gulch Creek in Woodside, Dr. Wong led the evaluation of the impacts to the water diversion system as a result of a dam removal. In addition, GHD assessed the existing capacity of the water transmission pipeline between the creek and the reservoir, and suggested potential improvements to enhance transmission capacity.

QA/QC Manager :: **H&H Analysis | SMART, CA** :: Served as quality control on the H&H evaluation determining if either proposed impovements or existing structures would be sufficient to meet design criteria for SMART Civil Track Pathway North and South Segments.

Blake Johnson, PE
Levee Engineer

Education. B.S. Civil Engineering, California State University, Sacramento, 1997

Certifications / Licenses.
- Professional Civil Engineer: CA

Project Manager :: **American River Common Features Project | U.S. Army Corps of Engineers, Sacramento District | Natomas Basin, CA** :: Mr. Johnson led this complex project authorized by the WRDA of 1996 and 1999. After determining project features specific to the Natomas area were likely to exceed the authorized project cost, a project General Reevaluation Report (GRR) was initiated. GHD provided civil design support to develop plans and cross-sections depicting a full array of alternatives, plus feasibility-level unit costs for those alternatives, specifically in support of USACE's Post Authorization Change report and GRR. GHD then developed 60% plans and specifications for specified study reaches of the Natomas Basin to develop environmental documentation. Mr. Johnson provided plans, specifications, and quantities for cement bentonite cutoff way, slope flattening, utility relocations, roadway improvements, and detours.

Project Manager :: **Emergency Levee Repair Program | U.S. Army Corps of Engineers | Central Valley, CA** :: Mr. Johnson led technical assistance for flood damaged projects throughout the Central Valley. Work involved a combination of planning, surveying, design, preparation of plans and specifications, cost estimating, preparation of environmental documents, independent technical review, and engineering during construction services. Over 100 sites were repaired as part of this Public Law (PL) 84 99 repair program.

Technical Advisor :: **Marysville Ring Levee | U.S. Army Corps of Engineers | Northern CA** :: Mr. Johnson was responsible for providing evaluation and design of levee improvements for 10 sites along the Feather and Yuba Rivers The work included analyzing seepage and slope stability; establishing the need for levee remediation; determining the locations for remediation; developing alternative methods of remediation; preparing construction plans and specifications; identifying utility relocations, rights-of-way, and temporary construction easement requirements; and formulating an MCACES cost estimate.

Design Manager :: **Natomas Levee Improvement Program | Sacramento Area Flood Control Agency, CA** :: GHD provided levee design services for repairs on approx. 12 miles of levees on the lower Sacramento and American Rivers. Mr. Johnson worked directly with the USACE and State to address necessary permits, including 408 and construction requirements, as well as for the relocation of utilities. He also provided engineering services during construction.

Technical Lead / Construction Manager :: **Bear River, Yuba River, and Western Pacific Interceptor Canal Levee Repair Projects, Phases 1, 2, and 4 | Three Rivers Levee Improvement Authority | Yuba County, CA** :: Mr. Johnson was responsible for the design and construction of approximately 6 miles of levee rehabilitation and two pump stations for Yuba County and RD 784—which included the Western Pacific Interceptor Canal, Yuba River, and Bear River levees—to retain FEMA certification for 100 year flood protection. Tasks included developing plans and specifications; working directly with USACE (for 408 determination), the Central Valley Flood Protection Board, and CDFW for necessary permits and construction requirements; and working with utility agencies for the relocation of utilities.

Technical Advisor / QC Reviewer :: **Yuba River Basin | U.S. Army Corps of Engineers | Northern CA** :: Mr. Johnson was responsible for preparing a GRR as a result of higher implementation costs due to increased underseepage problems within the Yuba Basin. The project included levee modifications on 6.1 miles of the left bank of the Yuba River upstream of the confluence with the Feather River and 10 miles of levee on the left bank of the Feather River downstream of the confluence of the Yuba River. As a result of the report, the project scope was expanded to include flood risk reduction and ecosystem restoration, and to increase flood protection against the 0.5% Annual Exceedance Probability (200 year) flood event.

Project Manager :: **Shoreline and Harbor Inspections | U.S. Army Corps of Engineers, HI; American Samoa** :: Mr. Johnson led visual inspections of shoreline protection and harbor structures for the purpose of assisting the local maintaining agencies with the necessary maintenance requirements of projects constructed by the USACE.

Project Manager :: **Periodic Inspections (PI) for Levee Systems | U.S. Army Corps of Engineers, HI** :: Mr. Johnson led PIs on the levee systems consisting of multiple segments located throughout the Hawaiian islands (Maui, Kauai, and Hawaii), in order 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.

Project Manager :: **Flood Risk Assessment for Sewer Interceptor System Facilities | Sacramento Regional Co. Sanitation District, CA** :: Mr. Johnson led a team to evaluate the current level of protection and impacts of the 100 year and 200 year storm events caused by local flooding and/or levee failure on the Sacramento River. He conducted an alternatives analysis and recommended procedures and improvements that would provide the additional flood protection.

Technical Advisor :: **San Francisquito Flood Improvement | San Francisquito Creek Joint Powers Authority | Palo Alto, CA** :: GHD provided flood protection elements needed to protect homes, businesses, and other facilities in the cities of Palo Alto and East Palo Alto, downstream of Highway 101. The intent of the project is to provide conveyance of the 1% design flood through the area of consideration, from East Bayshore Road to San Francisco Bay

Section 9

Resumes/Qualifications of Proposed Subcontractors or Outside Firms

Chris Nardi, PE, GE

Lead Geotechnical Engineer

Education
MS, Geotechnical Engineering
University of California, Berkeley
California
BS, Civil Engineering California State University, Chico California

Registrations
Professional Engineer, Civil No. 33379, CA
Geotechnical Engineer, No. 628, CA

Professional Affiliations
American Society of Civil Engineers
International Society of Soil Mechanics and Foundation Engineers
Chi Epsilon National Civil Engineering Honor Society

Experience
38 years

Mr. Nardi has 38 years of experience in geotechnical, hazardous waste, and civil engineering for a wide variety of projects. Representative projects include levees, dams, embankments, and related earth structures; low- to mid-rise structures; research and development buildings; office and industrial parks; underground utility studies; school sites; landslides; wetland design; investigation and closure of hazardous waste sites; and major residential subdivisions. Waste-related projects have included landfill studies, soil and groundwater studies, surface spills, environmental assessments, and surface impoundment closure design, engineering, and construction.

Mr. Nardi has worked on projects as Project Director/Principal Investigator, Task Leader, and Field Engineer. He has directed and performed numerous subsurface explorations and laboratory studies for environmental and geotechnical projects, reviewed and compiled field and laboratory data, and prepared technical reports. He has performed engineering analyses for design of shallow and deep foundations, slope stability analyses for landslide evaluation and repair, design of dams and embankments, surface impoundments and landfills, and prepared plans, specifications, and cost estimates for geotechnical and hazardous waste projects. Many water-related projects have required interaction with project team members and regulatory agencies including USACE and RWQCB, during permitting activities such as Nationwide and 408 permits.

He has provided oversight during construction of earthwork, foundation, and infrastructure projects. Mr. Nardi has managed staff in a small geotechnical group including engineers and technicians. In this capacity he was charged with assigning work and reviewing work products. He has been involved with developing new client relationships and preparing proposals.

Project Experience

Stevenson-Lago Los Osos Diversion Repair, Fremont, CA. Project Manager and Lead Geotechnical Engineer for the geotechnical investigation, civil design and construction for the repair of the Stevenson-Lago Los Osos Diversion Pipe. The project was an emergency repair so the schedule was fast-tracked. Subsurface conditions were evaluated using soil borings. Representative soil samples were collected for laboratory testing. Engineering analyses were performed to evaluate slope stability and seepage conditions. A geotechnical report was prepared, a repair for the twin 78-inch diameter pipes and embankment was designed and plans and specifications were prepared. Elements of the work were used by the District in the permitting process with Corps of Engineers to implement the work under a Nationwide Permit. During construction Mr. Nardi oversaw Kleinfelder staff performing resident engineer services and assisted the District through the construction of the repair. (Project Term: 2014-2015; Client/Organization: Alameda County Water District)

Avalon Tank Site Stability Improvement, Fremont, CA. Project Manager and Lead Geotechnical Engineer for project. Kleinfelder is completing a scope of work to help diagnose the cause and assess the degree of severity of the soil movement, identify options for addressing the instability, provide criteria for selection of the preferred alternative, determine the appropriate CEQA approach, and document the work in a Basis of Design Report. Identification and evaluation of potential viable options to improve, reduce and or permanently mitigate the slope have been evaluated. Kleinfelder has characterized five potential alternatives, including a "do-nothing" alternative as a baseline, so that key variables for each potential repair scheme can be compared. The results of our alternatives evaluation will be incorporated into design of a preferred slope instability mitigation measure. Our assessment of the alternatives includes a general description of each concept, estimated initial costs, estimated life time (50-year) maintenance costs, advantages and disadvantages, construction challenges, short- and long-term environmental impacts, as well as Net Present Value cost estimates. (Project Term: 2015-2016; Client/Organization: Alameda County Water District)

Mayhew Reservoir Vista Grande Lot 17, Job 110.7114, Fremont, CA. Project Manager and Lead Geotechnical Engineer for project. Lot 17 is a property below the reservoir and a remnant lot from a 2006 development left due to the geotechnical issues in the area and that cannot be developed until ACWD and the City of Freemont determine that the suite is suitable for development. The owner of Lot 17 proposed to subdivide the lot into three new residential parcels and commissioned a geotechnical analysis. Kleinfelder is performing site reconnaissance to observe existing conditions. (Project Term: 2016; Client/Organization: Alameda County Water District)

Lower Alameda Creek Fish Passage Improvements Project and Shinn Diversion Structure, Fremont, CA. As a sub to the overall design lead provided geotechnical engineering services for the design of fishways and screens to improve passage conditions for anadromous fish (steelhead and Chinook salmon). Completed geotechnical investigations and analysis for design of fish passage structures around RD1 and RD3 and the Shinn Diversion structure. Provided recommendations for design of slopes and retaining structures, foundations and seismic considerations. Recommendations were developed to meet applicable USACE guidelines for work on and around project levees and geotechnical data was included by the District in their 408 permit application. (Project Term: 2008-2013; Client/Organization: GHD/Alameda County Water District)

Kaiser Pond Diversion Pipe Project, Fremont, CA. Project manager for Kleinfelder's effort to evaluate alternatives to repair or replace the diversion pipe between the Kaiser Above Hayward Fault and Below Hayward Fault Ponds. Work is ongoing and will eventually include evaluating and selecting a preferred alternative and preparing plans and specifications for the selected alternative. This work was follow-on from an earlier geotechnical evaluation of the internal levee as part of the scope of the Stevenson-Lago Los Osos Diversion Repair. In developing the preferred alternative, preliminary design information was by the District in their discussions with USACE and RWQCB to evaluate permitting requirements. (Project Term: 2016-2017; Client/Organization: Alameda County Water District)

Las Gallinas Levee Evaluation (Conceptual Level), San Rafael, Marin County, California. Geotechnical Engineer for the geotechnical evaluation of the Las Gallinas Levees in San Rafael, California for flood control certification by FEMA and USACE. The project consisted of performing about 5 CPTs to depths of approximately 80 feet and 13 hollow stem and limited access borings to depths up to 20 feet within the levee fill along approximately 5 miles of levees. Engineering analyses was performed to assess the various mitigation measures available along the levee and consisted of seepage and static and seismic slope stability seepage analyses. Evaluated potential repair alternatives and prepared Alternatives Analysis report consistent with USACE and FEMA guidance. Assisted County with permitting activities (including 408 permit) with USACE San Francisco District (Project Term: 2008-2015; Client/Organization: County of Marin, Department of Public Works)

On-call Geotechnical Engineering Services, Santa Clara Valley Water District, San Jose, California. Provide geotechnical engineering and review activities for task order assignments related to Kleinfelder's current on-call contract for geotechnical engineering services with the District. To date, major projects have included floodwall design and channel stability evaluations for the San Francisquito Creek Flood Control Project in East Palo Alto and Palo Alto; and the proposed new maintenance shed at the Coyote Pumping Plant in Morgan Hill. (Project Term: 2011-2017; Client/Organization: Santa Clara Valley Water District)

Natomas Levee Improvement Program, Sacramento & Sutter Counties, California. Task leader and responsible engineer for borrow studies and construction of improvements for the Natomas Basin levees. Coordinated borrow studies for six areas involving over two dozen properties. Developed field and laboratory testing programs in support our engineering analyses and future construction. Coordinated engineering and technician support during construction of 12 miles of cutoff walls up to 115 feet deep and levees improvements involving several million cubic yards of soil. (Project Term: 2006-2013; Client/Organization: Sacramento Area Flood Contract Authority)

Los Vaqueros Recreational Facility Relocation, Contra Costa County, CA. As part of the design-build team, represented Kleinfelder as the geotechnical engineer-of-record for the project during design and construction. Mr. Nardi managed the geotechnical investigation for relocating the existing Los Vaqueros Reservoir recreation facilities as part of the Los Vaqueros Reservoir Expansion project, which included raising the existing dam. The facilities to be relocated included the main access road, the marina building, marina docks and fishing piers, and parking lots. In addition, the existing causeway at the northern end of the existing facilities will be raised (approximately 50 feet) above the proposed new pool elevation. Portions of the

existing access road between the park entrance and where the new access road will start will also be repaired. The investigation consisted of borings and test pits, laboratory testing, geotechnical analyses and preparation of a report. During construction, provided geotechnical oversight and responded to conditions encountered in the field. (Project Term: 2011-2012; Client/Organization: Teichert/Contra Costa Water District)

Fagan Creek Bank Distress at Napa County Airport, Napa County, CA. Project manager/senior engineer for a limited geotechnical investigation that included site reconnaissance and soil sampling for two sections of eroded creek bank along Fagan Creek within the Napa County Airport, following severe storms and flood flows. A visual reconnaissance of the two damaged areas was performed and soil samples for testing were collected. Developed repair recommendations based on our observations and laboratory test results. Prepared plans, specifications and engineering estimates for repair of the damaged areas and provided assistance during the bid process. Provided construction monitoring and testing services during implementation of the creek bank repairs. (Project Term: 2008-2009; Client/Organization: County of Napa, Department of Public Works)

www.ghd.com

GHD Inc.
718 3rd Street, Eureka, CA 95501
T 707 443 8326 W www.ghd.com

January 17, 2017

Alameda County Water District (ACWD)
43885 South Grimmer Boulevard
Fremont, CA 94538
Attn: Ed Stevenson, Manager of Engineering and Technology Services

RE: Lower Alameda Creek Fish Passage Improvement; Risk Assessment for USACE Section 408 Permission, Jobs 21012, 21083, 21019 – Volume 2: Proposal Cost Data

Dear Mr. Stevenson,

GHD appreciates the opportunity to submit our proposal to assist ACWD with the USACE 408 permitting process. Our proposal is included in a separate envelope in accordance with the RFP's guidelines.

We have estimated our effort to complete the work outlined in our proposal, on a time and expense basis, with a "not to exceed" amount which is presented in a spreadsheet tabular format. Each task and subtask, as well as each individual staff member, have discrete summaries of hours, rates, and subtotals.

Prevailing wage rates are accounted for as we understand this is a public works project. Since our scope of work does not involve any field work or other project roles defined by the Department of Industrial Relations, we do not believe any prevailing wage rates will apply to our project team for this particular phase of the project. Please let us know if you have a different interpretation of prevailing wage rates.

To address the RFP's request to break down the fee estimate by project site (RD1, RD3, and Shinn Screens), we have included the effort for all three sites in the spreadsheet to optimize the economy of time and expense, and we should proceed with RD1 being included until the first USACE meeting. After the first USACE meeting, should there be specific concerns regarding RD1 that could delay the 408 approval of all three projects, then the ACWD could make that decision and remove RD1 from our remaining scope and fee at that time. Our assumptions are listed below to meet ACWD requirements to have the fee broken out per project.

Should the ACWD decide not to pursue inclusion of RD1 after the first USACE meeting, the following adjustments can be made accordingly:

1. Reduce the effort for Task 2 by 20%, which is tabulated in the last column
2. Reduce the effort for Task 3 by 15%, which is tabulated in the last column
3. Reduce the effort for Task 4 by 15%, which is tabulated in the last column
4. Reduce the effort for Task 5 by 15%, which is tabulated in the last column
5. The remaining tasks (Task 1, Task 6, and Task 7) would not change
6. The remaining hours are for RD3 and Shinn Screens, estimated to be split 55%/45% respectively

If you have any questions or wish to discuss our proposal in further detail, please feel free to contact us at your earliest convenience. On behalf of our team, we thank you for your time and consideration of our proposal. We look forward to continuing our productive working relationship to help the ACWD through the USACE 408 permitting process.

Sincerely,
GHD INC.

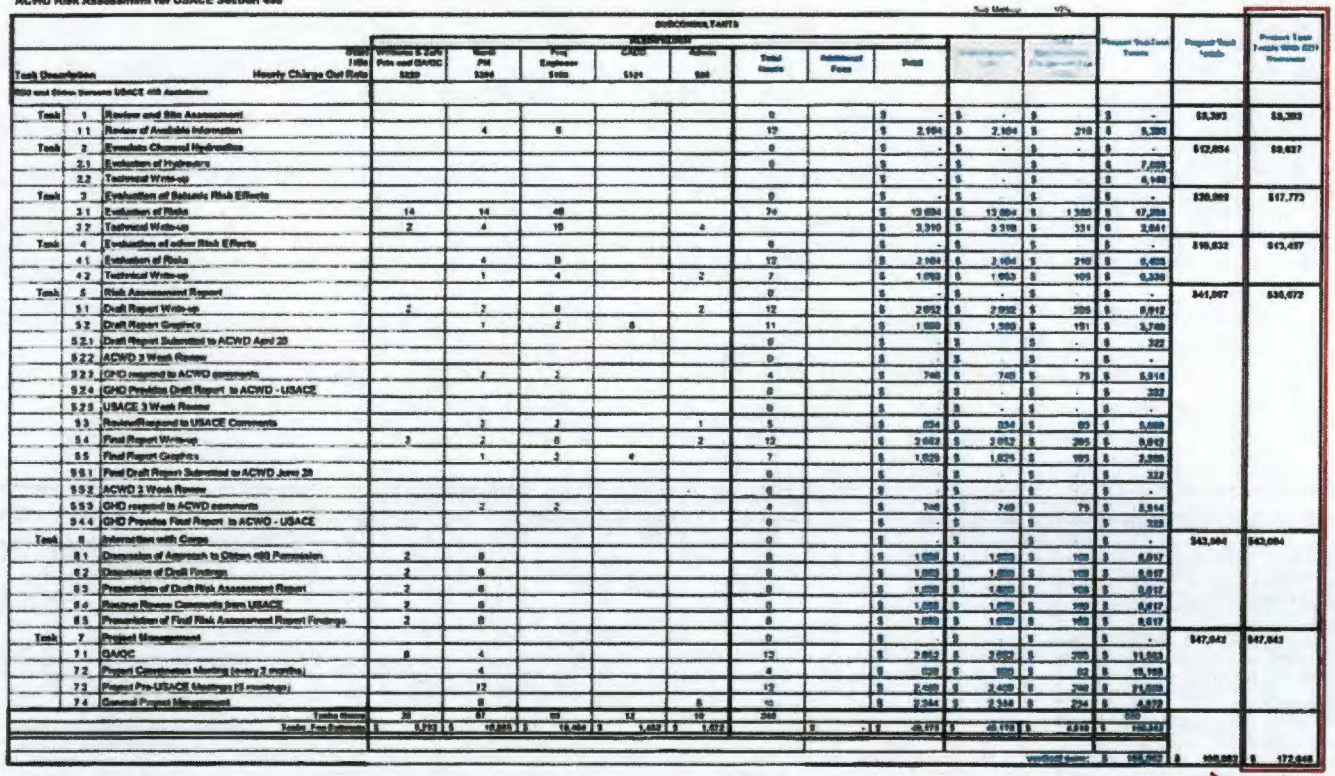
Steve Allen, PE
Project Manager

Tony Petroccitto, PE, LEED AP
Principal-in-Charge

ACWD Risk Assessment for USACE Section 408

Task		Description	Staff Title / Hourly Charge Out Rate	Principal PM $250	Senior Engineer $230	Senior Engineer $230	Senior Engineer $230	Project Engineer $190	Project Engineer $190	Project Engineer $190	Project Engineer $190	Project Engineer $190	Project Engineer $190	Total Hours	Expenses	Labor	Total
000 and Strive Secure USACE 408 Assistance																	
Task	1	Review and Site Assessment															
	1.1	Review of Available Information		1	4	4	4							13	$ -	$ 2,235	$ 2,235
Task	2	Evaluate Channel Hydraulics												0	$ -	$ -	$ -
	2.1	Evaluation of Hydraulics			2	16	2	4	24					48	$ 288	$ 7,600	$ 7,888
	2.2	Technical Write-up			1	12	2	2	4					21	$ 126	$ 4,020	$ 4,146
Task	3	Evaluation of Seismic Risk Efforts												0	$ -	$ -	$ -
	3.1	Evaluation of Risks			1					8				9	$ 54	$ 2,030	$ 2,084
	3.2	Technical Write-up			1					2				3	$ 18	$ 600	
Task	4	Evaluation of other Risk Efforts												0	$ -	$ -	$ -
	4.1	Evaluation of Risks		2	8	4	4	8	4	4	4			38	$ 216	$ 6,900	$ 7,116
	4.2	Technical Write-up		1	2	4	4	4	4	4	4			27	$ 162	$ 5,015	$ 5,177
Task	5	Risk Assessment Report												0	$ -	$ -	$ -
	5.1	Draft Report Write-up		1	8	4	8	2	4	2	2		4	35	$ 210	$ 6,545	$ 6,755
	5.2	Draft Report Graphics			1	1	1		4			8		15	$ 90	$ 1,900	$ 2,000
	5.2.1	Draft Report Submitted to ACWD April 28			1								1	2	$ 12	$ 310	$ 322
	5.2.2	ACWD 3 Week Review												0	$ -	$ -	$ -
	5.2.3	GHD respond to ACWD comments		2	8	3	3	3		2	2		2	25	$ 138	$ 4,555	$ 4,693
	5.2.4	GHD Provides Draft Report to ACWD - USACE			1								1	2	$ 12	$ 310	$ 322
	5.2.5	USACE 3 Week Review												0	$ -	$ -	$ -
	5.3	Review/Respond to USACE Comments		4	8	4	4	3						21	$ 126	$ 4,585	$ 4,691
	5.4	Final Report Write-up		1	8	4	8	2	4	2	2		4	35	$ 210	$ 6,545	$ 6,755
	5.5	Final Report Graphics			1	1	1					4		7	$ 42	$ 1,110	$ 1,152
	5.5.1	Final Draft Report Submitted to ACWD June 28			1								1	2	$ 12	$ 310	$ 322
	5.5.2	ACWD 3 Week Review												0	$ -	$ -	$ -
	5.5.3	GHD respond to ACWD comments		2	8	3	3	3		2	2		2	25	$ 138	$ 4,555	$ 4,693
	5.5.4	GHD Provides Final Report to ACWD - USACE			1								1	2	$ 12	$ 310	$ 322
Task	6	Interaction with Corps												0	$ -	$ -	$ -
	6.1	Discussion of Approach to Obtain 408 Permission		4	12	8	8						2	30	$ 180	$ 6,600	$ 6,780
	6.2	Discussion of Draft Findings		4	12	8	8						2	30	$ 180	$ 6,600	$ 6,780
	6.3	Presentation of Draft Risk Assessment Report		4	12	8	8						2	30	$ 180	$ 6,600	$ 6,780
	6.4	Review Review Comments from USACE		4	12	8	8						2	30	$ 180	$ 6,600	$ 6,780
	6.5	Presentation of Final Risk Assessment Report Findings		4	12	8	8						2	30	$ 180	$ 6,600	$ 6,780
Task	7	Project Management												0	$ -	$ -	$ -
	7.1	QA/QC		12	8	8	8							36	$ 216	$ 8,420	$ 8,636
	7.2	Project Coordination Meeting (every 3 months)		8	12	8	8							36	$ 888	$ 8,120	$ 9,208
	7.3	Project Pre-USACE Meetings (8 meetings)		16	24	16	16							72	$ 1,882	$ 16,640	$ 18,372
	7.4	General Project Management		4										4	$ 1,274	$ 1,020	$ 2,294
		Tasks Hours		72	191	153	150	35	48	26	16	12	24	628			
		Tasks Fee Estimate		$ 18,000	$ 37,950	$ 29,070	$ 28,500	$ 7,610	$ 9,360	$ 5,040	$ 3,040	$ 1,200	$ 2,280		$ 5,082	$ 127,552	$ 132,634

Amount awarded by ACWD on 2/9/17 as the Original Agreement.



ACWD Risk Assessment for USACE Section 408

Task Description		Hourly Charge Out Rate	Williams & Zafir Pm and QA/QC $220	Nerd PM $204	Proj Engineer $150	CADD $121	Admin $80	Total Hours	Additional Fees	Total	[illegible]	[illegible]	Project Sub-Task Totals	Project Task Totals	Project Task Totals With [illegible] Resources
			SUBCONSULTANTS												
			ALLEGHENY												
RDD and Other Bureaus USACE 408 Assistance															
Task	1	Review and Site Assessment						0		$ -	$ -	$ -	$ -	$8,393	$8,393
	1.1	Review of Available Information		4	6			12		$ 2,104	$ 2,104	$ 210	$ 5,393		
Task	2	Evaluate Channel Hydraulics						0		$ -	$ -	$ -	$ -	$12,054	$8,627
	2.1	Evaluation of Hydraulics						0		$ -	$	$	$ 7,[illegible]		
	2.2	Technical Write-up								$ -	$ -	$	$ 4,140		
Task	3	Evaluation of Seismic Risk Effects						0		$ -	$	$	$ -	$20,[illegible]	$17,773
	3.1	Evaluation of Risks	14	14	40			74		$ 13,[illegible]	$ 13,[illegible]	$ 1,[illegible]	$ 17,[illegible]		
	3.2	Technical Write-up	2	4	10		4			$ 3,310	$ 3,310	$ 331	$ 2,041		
Task	4	Evaluation of other Risk Effects						0		$ -	$	$	$ -	$10,632	$13,457
	4.1	Evaluation of Risks		4	8			12		$ 2,104	$ 2,104	$ 210	$ 6,[illegible]		
	4.2	Technical Write-up		1	4		2	7		$ 1,[illegible]	$ 1,[illegible]	$ 105	$ 6,[illegible]		
Task	5	Risk Assessment Report						0		$ -	$ -	$ -	$ -	$41,067	$36,672
	5.1	Draft Report Write-up	2	2	8		2	12		$ 2,052	$ 2,052	$ 205	$ 9,012		
	5.2	Draft Report Graphics		1	2	8		11		$ 1,[illegible]	$ 1,[illegible]	$ 151	$ 3,740		
	5.2.1	Draft Report Submitted to ACWD April 20						0		$ -	$	$ -	$ 322		
	5.2.2	ACWD 3 Week Review						0		$ -	$ -	$ -	$ -		
	5.2.3	GHD respond to ACWD comments		2	2			4		$ 740	$ 740	$ 75	$ 5,914		
	5.2.4	GHD Provides Draft Report to ACWD - USACE						0		$ -	$ -	$ -	$ 322		
	5.2.5	USACE 3 Week Review						0		$ -	$ -	$ -	$ -		
	5.3	Review/Respond to USACE Comments		2	2		1	5		$ 834	$ 834	$ 83	$ 5,[illegible]		
	5.4	Final Report Write-up	2	2	8		2	12		$ 2,052	$ 2,052	$ 205	$ 9,012		
	5.5	Final Report Graphics		1	2	4		7		$ 1,[illegible]	$ 1,[illegible]	$ 105	$ 2,[illegible]		
	5.5.1	Final Draft Report Submitted to ACWD June 20						0		$ -	$ -	$ -	$ 322		
	5.5.2	ACWD 3 Week Review						0		$ -	$ -	$ -	$ -		
	5.5.3	GHD respond to ACWD comments		2	2			4		$ 740	$ 740	$ 75	$ 5,914		
	5.4.4	GHD Provides Final Report to ACWD - USACE						0		$ -	$	$	$ 322		
Task	6	Interaction with Corps						0		$ -	$	$	$ -	$43,[illegible]	$43,[illegible]
	6.1	Discussion of Approach to Obtain 408 Permission	2	8				8		$ 1,[illegible]	$ 1,[illegible]	$ 100	$ 8,017		
	6.2	Discussion of Draft Findings	2	8				8		$ 1,[illegible]	$ 1,[illegible]	$ 100	$ 8,017		
	6.3	Presentation of Draft Risk Assessment Report	2	8				8		$ 1,[illegible]	$ 1,[illegible]	$ 100	$ 8,017		
	6.4	Receive Review Comments from USACE	2	8				8		$ 1,[illegible]	$ 1,[illegible]	$ 100	$ 8,017		
	6.5	Presentation of Final Risk Assessment Report Findings	2	8				8		$ 1,[illegible]	$ 1,[illegible]	$ 100	$ 8,017		
Task	7	Project Management						0		$ -	$	$	$ -	$47,[illegible]	$47,[illegible]
	7.1	QA/QC	8	4				12		$ 2,[illegible]	$ 2,[illegible]	$ 205	$ 11,[illegible]		
	7.2	Project Coordination Meeting (every 2 months)		4				4		$ [illegible]	$ [illegible]	$ 82	$ 15,[illegible]		
	7.3	Project Pre-USACE Meetings (5 meetings)		12				12		$ 2,[illegible]	$ 2,[illegible]	$ 240	$ 21,[illegible]		
	7.4	General Project Management		8			8	16		$ 2,344	$ 2,344	$ 234	$ 4,[illegible]		
		Tasks Hours	30	87	60	12	10	240					550		
		Tasks Fee Subtotals	$ 5,[illegible]	$ 10,[illegible]	$ 10,[illegible]	$ 1,[illegible]	$ 1,[illegible]		$ -	$ 40,[illegible]	$ 40,[illegible]	$ 4,[illegible]	$ 186,[illegible]		
												verified sum:	$ 186,[illegible]	$ 186,[illegible]	$ 172,648

Amount awarded under Amendment #1: $14,214 [186,862-172,648].

Fee Schedule

2016 USA West Fee Schedule

Principals:	
Level E	$185 – 205
Level F	$220 - 250
Associates:	
Level D	$160 - 170
Level E	$180 – 195
Level F	$215 - 240
Specialist:	
Level B	$170
Level C	$180
Level D	$190
Level E	$210 - 230
Level F	$250
Engineers:	
Level A	$110 – 115
Level B	$115 – 125
Level C	$135 – 145
Level D	$150 – 165
Level E	$175 – 195
Level F	$210 – 235
Geologists/Hydrogeologists:	
Level A	$110
Level B	$120
Level C	$130 - 150
Level D	$155 – 180
Level E	$185 – 200
Level F	$210
Environmental Planners:	
Level A	$115
Level B	$125
Level C	$130
Level D	$135 – 150
Level E	$160 – 190
Level F	$205 – 210
Environmental Chemists:	
Level A	$115
Level B	$125
Level C	$130
Level D	$135 – 150
Level E	$160 – 190

Environmental Scientists:	
Level A	$95 - 105
Level B	$110 - 120
Level C	$125 – 130
Level D	$130 – 145
Level E	$160 – 175
Level F	$195 – 205
Industrial Hygienists / Safety Professionals:	
Level A	$105
Level B	$115 – 120
Level C	$125 – 135
Level D	$145 - 160
Level E	$170 – 180
Technicians/Technologists:	
Level A	$80
Level B	$95
Level C	$110 – 115
Level D	$120 – 135
Level E	$140 – 155
Level F	$170 - 190
Draft/CADD:	
Level A	$75
Level B	$85 – 90
Level C	$95
Level D	$110 – 120
Level E	$125 – 155
Level F	$165
Technical Apprentices:	$80 - 90
Intern:	$73.00
Administrative Support:	$62.00

Employee time will be billed in accordance with the fees listed above. These rates are subject to change on a semi-annual basis. For other than professional employees, time spent over 8 hours per day, time spent on swing shifts, and time spent on Saturdays will be charged at 1.5 times the hourly billing rate. Work on Sundays will be charged at 2.0 times the hourly billing rate and holiday work will be charged at 2.5 times the hourly billing rate. All field personnel charges are portal to portal. Professional employees will not be charged out at premium charge rates for overtime work.

Expenses and other similar project related costs are billed out at cost plus 15%. The cost of using equipment and specialized supplies is billed on the basis of employee hours dedicated to projects. Our rates are:

A. Office consumables: $6.00/hr

B. Environmental Dept/Construction Inspector consumables: $11.00/hr

C. Survey Field consumables: $15.00/hr

D. Various Environmental, Construction and Land Surveying equipment: At market B. C. D.

Payment for work and expenses is due and payable upon receipt of our invoice. Amounts unpaid thirty (30) days after the issue date of our invoice shall be assessed a service charge of one and one half (1.5) percent per month.

(*) These rates do not apply to forensic-related services, or to work for which Prevailing Wage obligations exist. It is the responsibility of the client to notify GHD Inc in writing if Prevailing Wage obligations are applicable, in which case the fees will be adjusted proportionate to the increase in labor cost.

KLEINFELDER
Bright People Right Solutions

Hourly Rate Schedule

PROFESSIONAL STAFF RATES*

Professional	$	133/ hour
Staff Professional	$	145/ hour
Project Professional	$	168/ hour
Senior Professional	$	185/ hour
Principal Professional	$	205/ hour
Senior Principal Professional	$	229/ hour
Project Manager	$	205/ hour
Senior Project Manager	$	279/ hour
Designer/Drafter	$	121/ hour
Senior Designer/Drafter	$	135/ hour
Project Controls Professional	$	131/ hour
Senior Project Controls Professional	$	188/ hour

TECHNICAL STAFF RATES

Technician	$	89/ hour
Senior Technician	$	105/ hour
Inspector	$	105/ hour
Senior Inspector	$	126/ hour
Construction Manager	$	163/ hour

ADMINISTRATIVE STAFF RATES

Administrator	$	88/ hour
Project Administrator	$	115/ hour

Minimum Charges for Office Time Per Day ..... One Hour at Applicable Rate

Kleinfelder reserves the right to adjust the fee schedule on projects not completed within 180 days from the contract signature date.

Public works projects or projects receiving public funds may be subject to Prevailing Wage laws. The above rates do not apply to projects subject to prevailing wages. Hourly rates for those projects will be supplied separately.

* Applies to all professional rates including but not limited to civil, mechanical, chemical, electrical, geotechnical and environmental engineers; industrial hygienists; geologists; hydrogeologists; hydrologists; and computer specialists.

Hourly rates assume that other direct costs will be billed and reimbursed by the client. Kleinfelder reserves the right to adjust the fee schedule on projects where other direct costs are not reimbursed.

EXHIBIT B

NON-DISCLOSURE FORMS

(Consultant NDA)

(Sub-Consultant NDA)

ALAMEDA COUNTY WATER DISTRICT

NON-DISCLOSURE AGREEMENT
AND RELEASE OF CONFIDENTIAL DOCUMENTS/INFORMATION

This Non-Disclosure Agreement (Agreement) is made as of this 17th day of July 2017, between the Alameda County Water District (District) and **GHD, Inc.** (Consultant).

WHEREAS, the District will make available certain Confidential Information, as defined below, to Consultant for the following purposes: to **provide services for Lower Alameda Creek Fish Passage Projects, Job 21083 and 21019** ("Disclosure Purposes").

WHEREAS, the Confidential Information is security sensitive information, the disclosure of which will cause irreparable damage to the District and the public.

WHEREAS, the District will make available the Confidential Information to Consultant subject to the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth in this Agreement, the parties agree as follows:

1. "Confidential Information" means all information received, directly or indirectly, pursuant to this Agreement relating to the District or District facilities that the District informs the Consultant is confidential information, including without limitation the District's **facility drawings, reports, O&M manuals, permits, agreements, correspondence, and work product.**

   "Confidential Information" also includes access the District provides the Consultant to restricted areas to view, observe, and inspect District facilities that are not open to and not accessible to the public, and any and all photographs, drawings, sketches, plans, designs, notes, and narratives taken or prepared by Consultant of these District facilities in any form. The Consultant may not take photographs of any District facility unless expressly authorized by the District.

2. Consultant agrees to hold the Confidential Information in trust and confidence and Consultant agrees that the Confidential Information will be used only as necessary for the Disclosure Purposes described above, and the Confidential Information will not be used for any other purpose. Consultant will not use the Confidential Information in any way, directly or indirectly, that is damaging or harmful to the District or District facilities. Consultant agrees not to disclose the Confidential Information to any third party without the express written consent of the District. District consents to the disclosure of Confidential Information to the following subconsultants: **Kleinfelder, Inc.** Prior to the disclosure of the Confidential Information to any subconsultant, including the subconsultant(s) approved above, Consultant must arrange for the subconsultant to execute a Non-Disclosure Agreement with the same terms and conditions as this Agreement and naming the District as a third party beneficiary of the Non-Disclosure Agreement. The Consultant must provide a copy of the Non-Disclosure Agreement signed by the subconsultant to the District before the Consultant discloses the Confidential Information to any subconsultant.

3 By accepting and using the Confidential Information, Consultant expressly agrees to treat the Confidential Information as confidential. Consultant will implement safeguards and procedures to prevent the disclosure of the Confidential Information, including the following: (1) restricting disclosure of Confidential Information to Consultant employees on a "need to know" basis as necessary for the Disclosure Purposes; (2) marking the information as "CONFIDENTIAL" and providing Consultant's employees adequate instructions with regard to the use and disclosure of the Confidential Information; and (3) treating and handling the Confidential Information with the same degree of care that the Consultant uses for its own confidential information.

4. Consultant may make copies or reproductions of the Confidential Information only for the purposes authorized by this Agreement, and for no other purpose. Copies and reproductions in any form, including but not limited to paper copies and electronically formatted copies, of the Confidential Information shall not be made for or retained for distribution to any third party.

5. All confidential information that is distributed or made available for review for an approved use shall be recorded in a log by Consultant. The log shall include the name of each individual having access to the Confidential Information, the individual's identification information (e.g., valid driver's license number or identification card number), company name, address and phone number. Consultant must provide the District with the logs promptly upon request.

6. At the conclusion of the proposed work for which the Confidential Information was furnished, or upon demand by District, the logs, all Confidential Information and any copies of the Confidential Information shall be given to District. Consultant may not retain copies of the Confidential Information for any purpose.

7. Consultant agrees that the Confidential Information will at all times remain the property of District and owned by the District.

8. The District assumes no responsibility whatsoever with respect to the completeness, sufficiency, accuracy, or interpretations of any Confidential Information that are provided to Consultant pursuant to this Agreement. In addition, District provides no warranty or guarantee, either express or implied, that the conditions indicated in the Confidential Information are representative of the actual existing site conditions or future as-built conditions of the subject location.

9. Consultant agrees to indemnify, defend, and hold harmless District, its directors, officers, employees, or agents from and against any claims, damages, losses, liabilities, and cost suffered by the District arising from the Consultant's breach of this Agreement.

10. The unauthorized disclosure or improper use of the Confidential Information by Consultant will cause irreparable harm, and that in addition to any other legal rights and remedies, the District will be entitled to equitable remedies, including temporary and permanent injunctive relief, without the necessity of posting a bond or other security.

11. Consultant may not assign this Agreement without the express written consent of District.

12. The prevailing party in any action between the parties arising from this Agreement shall be entitled to recover, in addition to any other relief awarded, its costs and expenses incurred in any such proceeding, including, without limitation, its reasonable fees for attorneys. Any failure to enforce any provision of this Agreement shall not constitute a waiver thereof or of any other provision.

13. This Agreement is governed by the laws of the State of California.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their duly authorized officers as of the day and year first above written.

Consultant
GHD, Inc.

By: _____

Name: Steven Allen

Title: Principal Vice President

District:
ALAMEDA COUNTY WATER DISTRICT

By: _____ FOR

Name: Ed Stevenson

Title: Manager of Engineering and Technology Services

For Office Use Only

Received Stamp Received By

REC'D by ACWD
JUL 17 2017
WATER RES.

cc: Ed Stevenson, ACWD
Consultant
Original to File

SUBCONSULTANT NON-DISCLOSURE AGREEMENT
AND RELEASE OF CONFIDENTIAL DOCUMENTS/ INFORMATION

This Non-Disclosure Agreement (Agreement) is made as of this 17th day of July, 2017, between **GHD, Inc.** (Consultant) and Kleinfelder Inc (Subconsultant).

WHEREAS, the Consultant will make available certain Confidential Information, as defined below, to the Subconsultant for the following purposes: to provide professional services for the Alameda County Water District (District) **Lower Alameda Creek Fish Passage Projects, Job 21083 and 21019** ("Disclosure Purposes").

WHEREAS, the Confidential Information is security sensitive information, the disclosure of which will cause irreparable damage to the District and the public.

WHEREAS, the Consultant will make available the Confidential Information to Subconsultant subject to the terms and conditions of this agreement.

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth in this Agreement, the parties agree as follows:

1. "Confidential Information" means all information received, directly or indirectly, pursuant to this Agreement relating to the District or District facilities that the District informs the Consultant and/or Subconsultant is confidential information, including without limitation, the District's **facility drawings, reports, O&M manuals, permits, agreements, correspondence, and work product.**.

   "Confidential Information" also includes access the District or Consultant provides the Subconsultant to restricted areas to view, observe, and inspect District facilities that are not open to and not accessible to the public, and any and all photographs, drawings, sketches, plans, designs, notes, and narratives taken or prepared by Subconsultant of these District facilities in any form. The Subconsultant may not take photographs of any District facility unless expressly authorized by the District or Consultant.

2. Subconsultant agrees to hold the Confidential Information in trust and confidence and Subconsultant agrees that the Confidential Information will be used only as necessary for the Disclosure Purposes described above, and the Confidential Information will not be used for any other purpose. Subconsultant will not use the Confidential Information in any way, directly or indirectly, that is damaging or harmful to the District or District facilities. Subconsultant agrees not to disclose the Confidential Information to any party without the express written consent of the District. Prior to the disclosure of the Confidential Information to any party, Subconsultant must arrange for the party to execute a Non-Disclosure Agreement with the same terms and conditions as this Agreement and naming the District as a third party beneficiary of the Non-Disclosure Agreement. The Subconsultant must provide a copy of the executed Non-Disclosure Agreement to the Consultant and the District before the Subconsultant discloses the Confidential Information to any party.

3 By accepting and using the Confidential Information, Subconsultant expressly agrees to treat the Confidential Information as confidential. Subconsultant will implement safeguards and procedures to prevent the disclosure of the Confidential Information, including the following: (1) restricting disclosure of Confidential Information to Subconsultant employees on a "need to know" basis as necessary for the Disclosure Purposes; (2) marking the information as "CONFIDENTIAL" and providing Subconsultant's employees adequate instructions with regard to the use and disclosure of the Confidential Information; and (3) treating and handling the Confidential Information with the same degree of care that the Subconsultant uses for its own confidential information.

4. Subconsultant may make copies or reproductions of the Confidential Information only for the purposes authorized by this Agreement, and for no other purpose. Copies and reproductions in any form, including but not limited to paper copies and electronically formatted copies, of the Confidential Information shall not be made for or retained for distribution to any party.

5. All confidential information that is distributed or made available for review for an approved use shall be recorded in a log by Subconsultant. The log shall include the name of each individual having access to the Confidential Information, the individual's identification information (e.g., valid driver's license number or identification card number), company name, address and phone number. Subconsultant must provide the District and Consultant with the logs promptly upon request.

6. At the conclusion of the proposed work for which the Confidential Information was furnished, or upon demand by District or Consultant, the logs, all Confidential Information and any copies of the Confidential Information shall be given to District and Consultant. Subconsultant may not retain copies of the Confidential Information for any purpose.

7. Subconsultant agrees that the Confidential Information will at all times remain the property of District and owned by the District.

8. The District assumes no responsibility whatsoever with respect to the completeness, sufficiency, accuracy, or interpretations of any Confidential Information that are provided to Subconsultant pursuant to this Agreement. In addition, District provides no warranty or guarantee, either express or implied, that the conditions indicated in the Confidential Information are representative of the actual existing site conditions or future as-built conditions of the subject location.

9. Subconsultant agrees to indemnify, defend, and hold harmless District and Consultant, and their respective directors, officers, employees, or agents from and against any claims, damages, losses, liabilities, and costs suffered by the District or Consultant arising from the Subconsultant's breach of this agreement.

10. The unauthorized disclosure or improper use of the Confidential Information by Subconsultant will cause irreparable harm, and that in addition to any other legal rights and remedies, the District will be entitled to equitable remedies, including temporary and permanent injunctive relief, without the necessity of posting a bond or other security.

11. Subconsultant may not assign this Agreement without the express written consent of the Consultant.

12. The prevailing party in any action between the parties arising from this Agreement shall be entitled to recover, in addition to any other relief awarded, its costs and expenses incurred in any such proceeding, including, without limitation, its reasonable fees for attorneys. Any failure to enforce any provision of this Agreement shall not constitute a waiver thereof or of any other provision.

13. The Alameda County Water District is hereby named as a third party beneficiary of this Agreement, or of any duty, covenant, obligation or undertaking established herein. As a third party beneficiary, Consultant and Subconsultant agree that the District may require Consultant to enforce, or District may enforce, the terms and conditions of this Agreement.

14. This Agreement is governed by the laws of the State of California.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement by their duly authorized officers as of the day and year first above written

Subconsultant.

KLEINFELDER, INC.

By: Christopher R. Nardi

Name: CHRISTOPHER R. NARDI

Title: PROJECT MGR/PRIN. PROFESSIONAL

Consultant:
GHD, INC.

By:

Name: STEVEN ALLEN

Title: PRINCIPAL / VICE PRESIDENT