Proposal for the Design and EA/EIS for Seawall and Citizen's Dock

Crescent City Harbor District

August 14, 2023

→ The Power of Commitment

718 3rd Street
Eureka, CA 95501
USA
www.ghd.com

August 14, 2023

Tim Petrick, CEO/Harbormaster
Crescent City Harbor District
101 Citizens Dock Road
Crescent City, CA 95531

RE: RFP Design and EA/EIS for Seawall and Citizen's Dock

Dear Mr. Petrick,

In planning for the future, the Crescent City Harbor District (Harbor District) remains focused on strategic capital investments that align with current trade and industry demands. The Harbor District aims to develop new maritime commercial opportunities, address infrastructure improvements, and modernize the harbor to meet the current and long-term needs of the commercial fishing fleet and broader community. We understand the importance of this project and the once-in-a-generation opportunity it presents to the community of Crescent City. The design of a new seawall, Citizen's Dock, and parking area will substantially improve functionality, better serve user needs, and address future seasonal and climate impacts. Our expertise in project management, marine and coastal engineering, and environmental compliance aligns perfectly with the Harbor District's vision for growth and sustainability. We have a proven track record of successfully delivering similar projects, and our team's comprehensive understanding of coastal challenges positions us as an ideal partner for this venture.

As a strength offered by our team, GHD's engineering and environmental compliance services are fully integrated, ensuring the project's design strategy will meet the requirements of CEQA, NEPA, and agency permitting requirements from day one. Our comprehensive services include project management, public involvement, interagency coordination, design, and environmental compliance for similar port development projects up and down the west coast and beyond. We understand this project will require out-of-the box creative thinking that checks all the boxes for maximized design functionality, living structures, sea level rise and tsunami considerations, as well as integration with nearby recreational facilities related to coastal access valued by the Coastal Conservancy and members of the community.

The GHD team brings:

- **A driven and schedule-focused management team.** We have selected a California-based and experienced project delivery team, including a client-oriented project manager with a proven track record delivering aggressive schedule projects of similar scale and scope and extensive experience motivating and guiding California coastal and port projects.
- **Extensive CEQA/NEPA and permitting experience.** GHD is deeply familiar with the myriad of analytical and procedural requirements of CEQA and NEPA and is poised to help navigate the Harbor District through the complexities of environmental compliance required for large-scale marine projects.
- **The capacity needed to deliver the entire project.** GHD is a global infrastructure consultant with over 300 planners, scientists, and engineers based in California, and a 50-plus person office in Eureka. The GHD team has the expertise, relationships, staffing capacity and track record needed to deliver this project and advance the Harbor District's vision for updated facilities.

Additionally, we are well-versed in the regulatory frameworks of CEQA, NEPA, U.S. DOT Maritime Administration (MARAD), and other federal and state rules and regulations. Our team is experienced in interacting with permitting agencies and facilitating the successful completion of the CEQA and NEPA processes. We prioritize effective communication and collaboration with all stakeholders and jurisdictional agencies to ensure the smooth progression of projects. While permitting is not included in this phase of the project, GHD realizes it is necessary to ensure the design alternatives and concept design are in fact ultimately permitable in the future. Our commitment to excellence extends to every aspect of our work, including data collection, analysis of potential environmental impacts, and the preparation of environmental documents. We employ industry best practices to provide accurate and comprehensive reports that address all relevant environmental factors.

Our Project Manager, Andrea Hilton, is a seasoned environmental regulatory specialist and project manager with over 18 years of experience leading projects throughout California, including a variety of projects in west coast ports. She is supported by a diverse team

of scientists, engineers, and technical experts and has active professional relationships with local resource agency staff. GHD understands the Harbor District needs to swiftly move through this initial phase of design and completion of CEQA and NEPA to access necessary grant funds. As a tenacious schedule driver, Andrea is committed to an aggressive work schedule that will expeditiously navigate the project's broader team toward the finish line.

GHD is joined by a handful of key specialty subconsultants to fill specific technical needs to complete geotechnical investigations, topography survey and data gathering, historic and archaeological resource assessments, and a marine hydroacoustic study. These firms are highlighted on the included organizational chart, starting on page 6, along with accompanying information about each firm starting on page 11.

We are confident that our team's expertise, dedication, and attention to detail make us the ideal partner for this project. We look forward to discussing this project in more detail and exploring ways in which we can contribute to its successful completion. We believe that GHD's established relationships in the region, combined with our proven experience in design and environmental services, will provide the Harbor District with a reliable depth of resources in navigating environmental processes and approvals with understanding, cost and schedule efficiency, and technical expertise. Should you have any questions regarding this proposal, please contact Andrea Hilton at 707.267.2262 or via email at Andrea.Hilton@ghd.com.

Sincerely,

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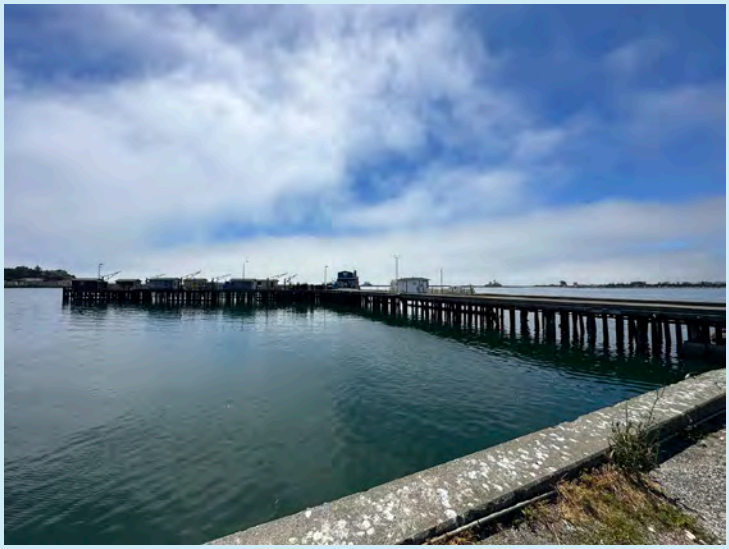
Our Understanding and Approach



Our Project Understanding

GHD understands the Harbor District requires a modern commercial fishing facility capable of effectively handling the current and future needs of the fleet and broader community. The facility saw more than nine million pounds of dungeness crab this past year and struggled with congestion, capacity, and general functionality of the aging Citizen's Dock and seawall.

Built in the 1950s and rebuilt after the 1964 tsunami, the purpose of the facility is to provide seafood processors with a place to purchase and unload catch. The new facility needs to withstand a 50-year tsunami, 100-year storm surges, and 1.5 feet of sea level rise. The project design must provide users with a place to efficiently purchase and unload catch, as well as larger boat loading and unloading services.

Based on the RFP and associated field tour, GHD understands the Harbor District seeks to replace the seawall and Citizen's Dock via a phased construction approach. The seawall will be constructed first while the Citizen's Dock continues to service the fleet. Subsequently, the seawall will temporarily service the fleet while the Citizen's Dock is constructed. GHD understands the Harbor District is looking for a design that offers the following:

- Includes modern hoists on both the seawall and Citizen's Dock
- Accommodates larger vessels
- Reduces congestion, increases flexible storage for crab pots and other related equipment and vehicles, and maximizes overall functionality
- Reduces the amount of time vessels need to wait to unload and load
- Maximizes rent opportunities for the Harbor District
- Integrates EV truck infrastructure, parking, and circulation in the enhanced transportation parking lot
- Considers living structure and public access elements expected by the Coastal Conservancy
- Weighs the cost/benefit of long-term maintenance

Our Approach

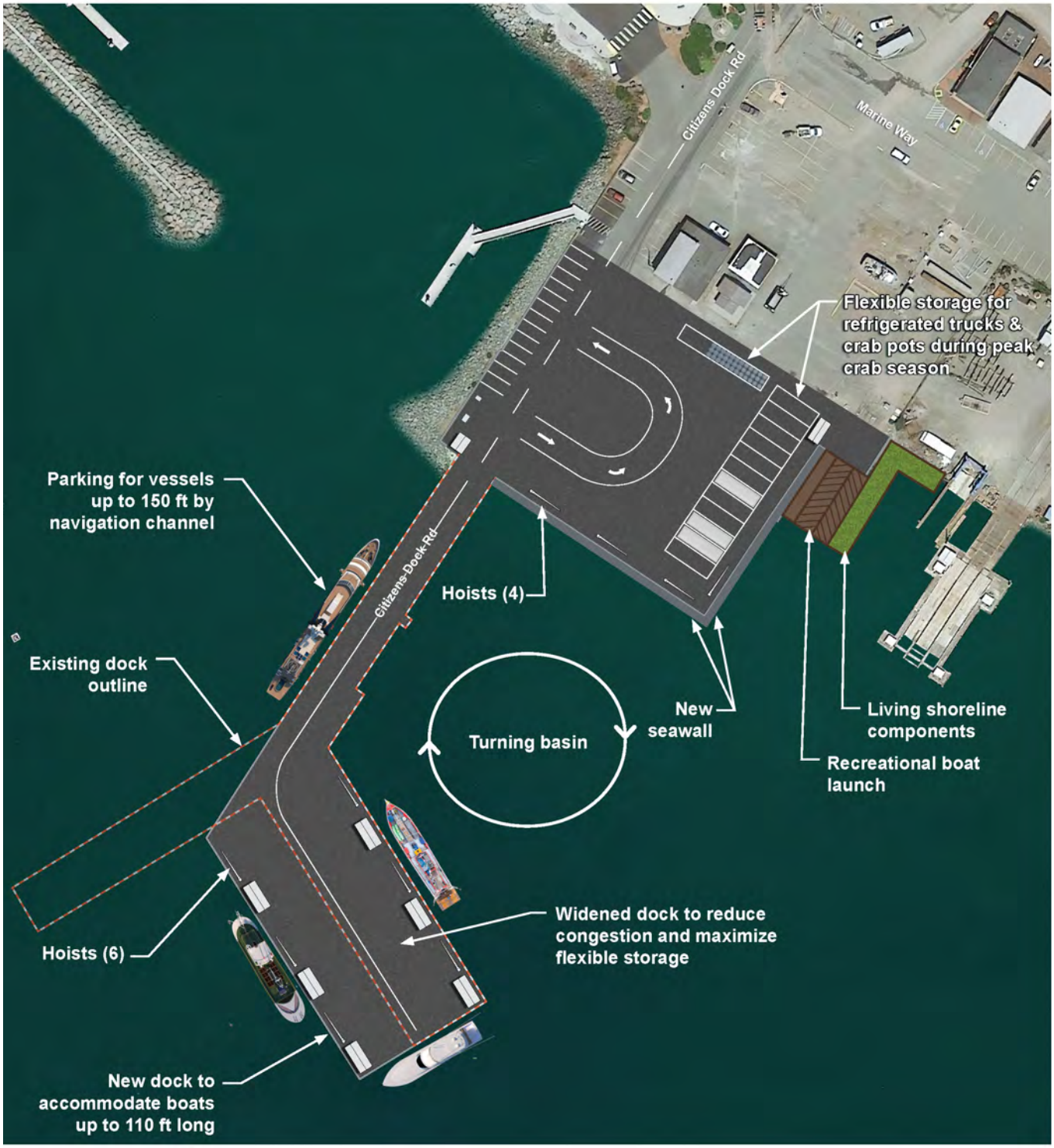
Based on our understanding of the Harbor District's needs, we have brought forward a qualified team to deliver the services requested in the RFP (see Our Team section for our organizational chart). Our team offers integrated design and environmental (CEQA and NEPA) services under one cooperative roof, increasing efficiency, reducing error, and best meeting the Harbor District's needs. GHD understands an expeditious timeline is essential to project success and offers the staff and technical resources to deliver a large-scale endeavor in a brief amount of time.

Throughout the project, GHD will work with the Harbor District to ensure the expectations of the project funders (e.g., Coastal Conservancy and MARAD) are met based on grant requirements. This includes successful completion of the required CEQA and NEPA processes, which will analyze the environmental effects of the selected design. Technical studies required to support CEQA and NEPA will be completed by GHD or our expert specialty team members (see Our Team for information on teaming subconsultants).

Our Maritime & Coastal design experts will bring national experience to the Harbor District while offering local service with our Eureka-based leadership and environmental compliance staff. GHD brings value-added service to the Harbor District with our experience working with state and federal funding agencies that align with the Harbor District's needs. GHD seeks a long-term relationship with the Harbor District that can better support the local agency into the future by leveraging additional funding resources to see this project and others through to construction and beyond.

Our Approach Continued

The Harbor District has a unique opportunity to revamp the dock and seawall structures to benefit the community and the businesses for years to come. There can be several variations for the new dock and possibly increasing the footprint of the seawall to enhance the business usage and public experience. The alternative shown keeps the total plan area footprint of the structure same as existing but just realigning the deck can allow for better movement of the public and goods. The L-shaped dock will allow more room for pedestrians while allowing easier maneuvering of trucks and/or provide more space for storage of the seafood catch. Several vessels can berth at the dock on each side and access additional hoists on the seawall without interference. The space between the inboard side of the dock and the seawall will include ample turning area for a selection of vessels. The area behind the seawall will be repaved to provide additional flexible storage and parking and the area will be remarked for traffic to ease congestion. A new boat ramp with kayak launch access will bring more users to the waterfront to experience the workings of the dock up close. The shoreline will be enhanced with features that promote beneficial marine growth and habitat. GHD will work closely with the Harbor District and other stakeholders to develop an alternative that can make the Harbor District's vision for growth and prosperity of the region a reality.



Our Team

Team Organizational Chart

The organization chart shows our proposed team with roles and hierarchy so that it is clear to all involved how work is communicated, from support staff and subconsultants through our PM and QA/QC, and to the Harbor District.

We also have access to a large network of additional resources, if needed, to deliver a quality project within budget and on schedule to help the Harbor District achieve its goals.

Resumes

We have provided detailed resumes for all key staff and subconsultants on our organizational chart in Appendix A.

Principles-in-Charge

Charles Smith*, AICP, LEED AP BD+C
CEQA/NEPA

Jeremy Svehla, PE
Maritime and Coastal Design

Project Manager

Andrea Hilton

QA/QC

Craig Lewis, PE, SE
DESIGN

Kristine Gaspar
CEQA/NEPA

DESIGN

Satish Chilka, PE - Marine Structural
Bob Sherwood, PE - Waterfront Engineer
Stephanie Gould, PE - Structural Engineer
Rick Guggiana, PE - Utilities (Electrical)
Luke Halonen, PE - Utilities (Water)

CEQA/NEPA

Kerry McNamee - Environmental Planner
Miles Hartnett - Biologist
Mindi Curran, PG - Geology and Hazardous Materials
Christian Hernandez - Environmental Planner
Chryss Meier - Air Quality/Climate Planner

SEA LEVEL RISE

Brett Vivyan, PE, QSD/P

PUBLIC AND AGENCY OUTREACH

Kristin Orth-Gordinier - Environmental Planner

SUBCONSULTANTS

GEOTECHNICAL
Crawford & Associates, Inc.
Geotechnical Engineering

SECTION 106/CULTURAL RESOURCES
Roscoe & Associates

HYDRO ACOUSTIC
Illingworth & Rodkin, Inc.

SURVEY
Points West Surveying Co.

HISTORIAN
JRP Historical Consulting, LLC

GHD California Offices

Having a local presence and experience is a key to project success. When you are local to the project site, you have knowledge of the environment, including climatic, seismic, and wind conditions, threatened and endangered species, local regulatory agency requirements and concerns, and local and state building department requirements for processing permit applications and applicable codes and criteria. Moreover, understanding and addressing community needs ensures a holistic and socially responsible approach to construction. It is especially important to be familiar with local and state fire marshal requirements, as they are key to the approval of plans and specifications for construction.

Strong Leadership

Project success happens because of strong leadership. Our team of professionals has the experience, resources and vision to successfully deliver any assignment that may arise from this RFQ.

Meet our Project Manager Andrea Hilton, MS

Andrea understands integrating design and environmental compliance on marine development projects from the initial concept development through the construction phase is critical to success.

Andrea's professional experience has focused on planning, implementing, and monitoring ecosystem restoration projects; collaborative resource management planning and negotiation; and regulatory oversight. She frequently leads NEPA, CEPA, technical studies, and environmental permitting.

Andrea is actively working on large-scale projects in the Port of Alaska, Humboldt Bay, Port of Long Beach, and Port of Los Angeles.

As the Project Manager and main point of contact with the Harbor District, Andrea will work with team members to deliver the integrated design and environmental services customized to meet the present and long-term needs of the Crescent City commercial fishing fleet and the Harbor District.

Why Andrea?

Driven Project Manager

Tenacious schedule driver

Specializes in NEPA, CEQA, permitting, and natural resource management

Environmental leader on port development projects throughout California and beyond

- **Located in Eureka, CA**

> ***Our team understands this project is a key undertaking for the Crescent City Harbor District. We are ready to do our part to make this a success.***
>
> *- Andrea Hilton, MS | Project Manager*

Team Biographies

GHD's experienced team has the skills, resources, and vision to deliver a successful project that aligns with community goals. Our team members were carefully selected based on their technical expertise, track record, availability, and passion for the project. We have a streamlined leadership structure, ensuring effective coordination with the Harbor District and the ability to provide innovative solutions through our experience and creativity. Each key team member brings specialized expertise and has worked on similar projects, particularly in California. We have honed our skills to efficiently complete complex, high-profile, small community projects, seamlessly integrating with Harbor District staff. Below are brief biographies highlighting why each team member was chosen, showcasing their capabilities and relevant experience. Rest assured, each team member is committed to dedicating the necessary time to ensure the success of your project.

● *Indicates team members located at our local Eureka office*

Management and QA/QC

Charles Smith, AICP, LEED AP BD+C

Principle-in-Charge – **CEQA/NEPA**

Charles has over 25 years of experience in environmental impact assessment services for planning, development, and public works infrastructure projects. He has held leadership roles in project/program management, operations management, business development, and corporate programs in education/ professional development. Charles' professional interests include CEQA/NEPA compliance, public works infrastructure, land use planning, and sustainable development.

Jeremy Svehla, PE ●

Principal-in-Charge – **Maritime and Coastal Design**

Jeremy has a strong background in coastal engineering and water resources, managing large-scale projects focused on habitat restoration, flood reduction, and coastal resiliency. Jeremy will provide technical review of all PS&E. His skills encompass habitat restoration design, grant writing, geomorphic assessments, hydrodynamic modeling, and SLR adaptation planning. His dedication to excellence earned him the title of "Engineer of the Year" by the ASCE San Francisco Section North Coast Branch in 2015.

Craig Lewis, PE, SE

QA/QC – **Design**

Craig has 30 years of experience with the design and analysis of structural elements for port infrastructure, coastal and utility systems. He has also performed static and dynamic analyses using various finite element structural programs and has extensive experience with seismic design. He has direct experience with design details, both new construction and repair/retrofit, and has worked with various design codes and standards, including American Institute of Steel Construction (AISC), American Concrete Institute (ACI), California Building Code (CBC), and American Petroleum Institute (API). He has developed replacement, repair and retrofit details for bulkheads, piers, and wharves. He has conducted several extensive waterfront facility site inspections and field surveys to determine the above and below water condition of marine structures.

Kristine Gaspar

QA/QC – **CEQA/NEPA**

Kristine's experience includes 28 years of environmental planning, CEQA compliance, greenhouse gas analysis, resource agency permitting, data research and analysis, and grant writing. She has been involved in environmental analysis on a wide variety of projects from public infrastructure projects to land use development projects, including schools, quarry expansions, mixed-use, and residential projects. She has managed both project-level and programmatic EIRs. She is currently the Project Manager for the Ellis Creek Water Recycling Facility EIR Addendum, and served as QC review for Fire Station No.6, Menlo Park IS/ MND and the Central Coast Transfer Station EIR. Kristine is GHD's lead expert on environmental review of greenhouse gas emissions. Her projects are often complex with multiple deadlines.

Design

Satish Chilka, PE
Structural – Marine

With 15 years of structural engineering experience, Satish has specialized knowledge in planning, design, analysis, construction document preparation, quality control review, and construction support services for waterfront structures. He has led several multi-disciplinary projects through design and construction. His experience includes design and analysis of piers, access ramps, gangways and also performing hydrodynamic mooring analysis of the landing float and ferry vessels. Other project experience includes hydrodynamic mooring analyses for large crude-carriers, inspections and rehabilitations of pier structures, design, and analysis of floating steel caissons (dry dock gates), and offshore wind energy projects.

Bob Sherwood, PE
Waterfront Engineer

Bob is a civil/waterfront engineer with over 24 years of experience on a wide range of projects, including the design of boat docks and marinas, boat launch ramp facilities, plazas and promenades, bulkheads and shore protection, utilities and landside improvements, and harbor dredging projects. He has also been involved with the inspections of shore protection, bridges, docks, wharves, and bulkheads both above and below water. He has assisted clients with initial planning and feasibility studies including obtaining grants for waterfront facilities and is typically involved with a project from the planning stages through design and to the end of construction.

Stephanie Gould, PE
Structural Engineer

Stephanie is a civil engineer with 14 years of experience on structural, water and wastewater infrastructure, and transportation projects involving retaining wall design, bridge/culvert design, fish passage structure design, building renovation structural design, hydraulic design and roadway design. Her professional area of focus is structural, retaining wall and bridge engineering, having designed several retaining walls and vehicular and pedestrian bridge sub- and super structures, tank and generator foundations, light foundations, and concrete fish passage structures. She also has experience in project management and civil site design including grading and earthwork/geotechnical design and she has experience in the design of water quality storm water systems, including the development of SWPPP and SWFP documents for various transportation projects. Stephanie is skilled in AutoCAD/Civil 3D, MSEW, Snail, CTAbut, Shoring Suite and Enercalc.

Rick Guggiana, PE, LEED AP, CDT
Utilities – Electrical

Rick has over 20 years of experience in the electrical, controls, and instrumentation fields. He was the lead electrical engineer for the UC Davis South Entry District project and was also responsible for the campus-wide 12-kV modeling effort. He has extensive experience in site and building power, medium voltage distribution, lighting, motor controls, electrical system studies, Supervisory Control and Data Acquisition (SCADA) systems, and instrumentation. Rick completed the electrical system assessment and planning for the UC Santa Cruz Marine Science Campus. As a LEED Accredited Practitioner, Rick has expertise in energy saving technologies.

Luke Halonen, PE
Utilities – Water

Luke is a licensed civil engineer with over eight years of experience in delivering a variety of civil infrastructure projects. His professional area of focus is hydraulic design of linear infrastructure, including design of associated site improvements. Project types include water transmission, distribution, storage, and booster pump stations, stormwater conveyance and Low Impact Development (LID) stormwater treatment systems, and sanitary sewer collection systems including lift stations, associated project site design and grading, and pedestrian and bicycle facilities. Projects involve planning, environmental compliance, design, permitting, and construction. Roles on projects include, project manager, project engineer, construction manager, discipline lead, and technical reviewer. Luke's experience also includes a broad range of planning, hydraulic modeling, and analysis capabilities.

Brett Vivyan, PE, QSD/P

Sea Level Rise

Brett works on diverse environmental and civil engineering projects. With expertise in project development, hydrodynamic modeling, and design execution, he has held roles such as project manager, project engineer, construction manager, and construction inspector. His specialties encompass sea level rise, river hydraulics, fish passage design, flood control, climate change vulnerabilities, stream and wetland restoration, water and wastewater treatment, hydraulic engineering, and transportation improvements. Brett has contributed significantly to GHD's restoration projects in Northern California, particularly in sea level rise assessments, environmental impact reports, and regulatory compliance.

Environmental Compliance and Public Outreach

Kerry McNamee

Environmental Planner

Kerry has 9 years of experience in environmental compliance, project management, restoration design, and conservation planning. She is an adept project manager with a strong background in leading large-scale ecosystem restoration projects. Kerry has completed Biological Assessments for Section 7 ESA consultations and is experienced as a wetlands and biological resource scientist. Kerry has authored numerous biological reports and conducted assessments for endangered species. With expertise in habitat evaluation and mitigation, she is well-suited for environmental analysis in California.

Miles Hartnett

Biologist

Miles is a wildlife biologist with a background in aquatic biology, restoration ecology, botany, and wetland science. He has completed biological, botanical, and wetland field investigations along with surveys for nesting birds, and special status species. Miles also has experience in environmental permitting, including Lake and Streambed Alteration Agreements (1600 permits) with the California Department of Fish and Wildlife (CDFW), Regional Board Clean Water Act Section 401 water quality certifications, U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 permits, and California Coastal Commission (CCC) Coastal Development Permits.

Mindi Curran, PG

Geology and Hazardous Materials

Mindi is an experienced geologist specializing in Northern California and Southern Oregon. She has worked on various geological, environmental, and hydrological projects. Her expertise includes site characterization, hazardous materials assessments, subsurface investigations, water quality studies, corrective action plans, hydrologic studies, and regulatory coordination. Mindi is also skilled in technical writing, including report writing, editing, and providing recommendations. Additionally, she has assisted with stream habitat restoration, including geomorphic mapping, gravel augmentation, hydraulic modeling, and photogrammetry.

Christian Hernandez

Environmental Planner

Christian is an environmental scientist with education and experience in plant identification and habitat mapping. He has conducted CEQA and NEPA compliance for cities, counties, and NGOs with projects ranging from roads and transportation to environmental restoration. He has botanical knowledge to conduct database pre-scoping, rare-plant surveys, and can assist with wetland delineations. Christian also has completed federal grant proposals for communities throughout the state.

Chryss Meier

Air Quality Planner

Chryss is an experienced environmental planner specializing in air quality and greenhouse analysis. With 18 years of experience, she has prepared compliance documents for CEQA and NEPA, covering various projects like general plans, schools, redevelopment, and transportation improvements. Chryss has managed the preparation of EIRs, IS/MNDs, Categorical Exemptions, and CEQA-Plus packages. Her expertise includes air quality and GHG emissions, and she has utilized computer models like CalEEMod, EMFAC, and CALINE for analysis. She has also provided training courses and led meetings with public agencies, interest groups, and consultants.

Kristin Orth-Gordinier

Public and Agency Outreach

Kristen is an environmental planner and social scientist. She will provide public and agency outreach support for this project. Within the last six years, she has co-developed and led in-person public meetings, facilitated online workshops, and conducted online surveys for various environmental projects. She will help Harbor District develop a communication approach to strategically connect with the local community and stakeholders. She will be key to helping you keep the community informed how this project will improve and benefit the community at large. Having facilitated several environmental project public meetings, Kristen is skilled at facilitating in-person and online workshops, collecting feedback from community collaborators, and providing necessary research.

Subconsultants

Roscoe & Associates Cultural Resources Consultants | Archaeology

Roscoe and Associates (RA) is a cultural resources consulting firm providing professional cultural resources management services to federal, state, and local agencies; Northwest California Tribes; and private individuals. RA personnel have extensive experience implementing and complying with the full range of State and Federal legislative laws and regulations regarding prehistoric and historic cultural resources.

Roscoe & Associates possesses education and experience that exceed existing consultant qualification requirements. RA staff has the personnel, facilities, and equipment necessary to efficiently and promptly complete a variety of tasks, including project inventory, site mapping, excavation, NAGPRA, CEQA, and NEPA assistance, historical research, identification, and management of cultural resources as dictated by federal and state laws, determining the eligibility of sites for the California Register of Historic Resources, the National Register of Historic Places, and as Traditional Cultural Properties, ethnographic consulting, and construction monitoring.

Located: Bayside, CA

JRP Historical Consulting, LLC | Expert Historian Services

JRP Historical Consulting, LLC (JRP) has over 40 years of experience conducting historical research investigations throughout California and has an outstanding record of producing quality work. Founded in 1981, the firm specializes in historical research studies for the NEPA, the National Historic Preservation Act (NHPA) Section 106, and the CEQA compliance concerning historic architectural/built environment resources. JRP produces a full range of compliance documents for historic resources, serving various federal, state, and local agencies.

The firm's work encompasses field surveys of historic resources and cultural landscapes, analysis of project conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, and preparation of survey and evaluation reports and cultural resources chapters. Additionally, they undertake National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) evaluations and nominations, Findings of Effect/Impacts Analyses, and Memoranda of Agreement/Programmatic Agreements. JRP also conducts treatment work such as Historic American Building Survey/ Historic American Engineering Record documentation, cultural

resource management plans, and various creative mitigation strategies. Moreover, JRP excels in producing graphic illustrations for their historic resource studies and possesses capabilities in GIS field recordation, mapping, and database management. The firm has nearly a dozen qualified staff members who meet the Secretary of the Interior's Professional Qualification Standards under History and Architectural History.

Furthermore, JRP's principals and staff boast extensive experience in assisting agencies with State Historic Preservation Officer consultation. They regularly participate in public hearings and coordinate with federal, state, and local agencies.

JRP has extensive experience conducting historic resources studies in Del Norte County and for water harbor facilities. In Del Norte County, some of JRP's recent experiences include work on Caltrans' Last Grade Project adjacent to U.S. 101 south of Crescent City, California Highway Patrol's Crescent City Area Office, U.S. Forest Service Six Rivers National Forest, and California Office of Emergency Services / California Department of General Services' Red Mountain Communications Site Relocation Project. The firm has also conducted historic resources studies for the San Francisco Marina Improvement and Remediation Project (West Marina Yacht Harbor and East Harbor), the Port of San Luis Breakwater Repair Project near Avila Beach in San Luis Obispo County, and the San Pedro, Middle, and Long Beach Harbor Breakwaters Repair Project at the Port of Los Angeles / Port of Long Beach. Additionally, JRP recently worked closely with GHD on the City of Arcata's Old Arcata Road Improvements Project.

Located: Davis, CA

Illingworth & Rodkin | Marine Hydro Acoustic Assessment

Firm Description

Founded in 1987, Illingworth & Rodkin, Inc. (I&R) provides a complete range of consulting services in acoustics, hydroacoustics, and vibration to governmental agencies, private sector clients, and other environmental and design professionals. They have completed thousands of projects in the past 35 years in architectural acoustics, community noise and vibration, industrial noise and vibration control, hydroacoustics, tire/pavement noise research, and air quality studies. I&R is experienced with local, state, and federal environmental regulatory processes. I&R's main office that will serve the needs of this proposal is located near Cotati, California.

Noise Assessment and Control

I&R specializes in the assessment and control of environmental noise. They provide its services directly to governmental agencies and private sector clients and acts as a subconsultant to other environmental and design professionals. I&R has completed close to 4,500 projects involving environmental noise, transportation noise studies, industrial noise control, and building acoustics. They are considered one of the leading consulting firms in the West Coast that provide a full range of testing and design services for the abatement of transportation noise and vibration. A large number of transportation noise studies ranging from environmental impact assessments to developing comprehensive mitigation measures for residential, commercial and other types of existing and proposed developments have been conducted. While most of the work is conducted in Northern California, the firm has completed projects throughout California and the western United States. I&R combines a strong theoretical and a thorough empirical approach to noise and vibration studies. I&R has extensive experience with the computer models used for transportation noise assessment and staff has been trained in the use of the latest Traffic Noise Model. They recognize the strengths and weaknesses of the computer models, and their principals have consistently emphasized the importance of performing hands-on investigations in the area, becoming thoroughly familiar with the various parameters that would affect the noise environment and one's ability to predict future conditions, and conducting thorough and comprehensive measurements to assist in the analysis.

Underwater Acoustics

I&R began developing specific underwater measurement capability in 2000 during the construction of the new East Span of the San Francisco-Oakland Bay Bridge (SFOBB). Over the last 22 years, they have had the privilege of contributing to numerous challenging and exciting projects with government agencies and private sector contractors. This has led to their experience in predicting and measuring all types of underwater construction and demolition sounds, and noise mitigation methods. Much of this work has been focused on pile installation involving a variety of techniques including vibratory, impact, and drilling methods. I&R has also predicted and monitored underwater noise from demolition techniques including explosions and mechanical concrete and rock chipping. Based on contributions from them, the California Department of Transportation and the U.S. Navy have developed compendiums of empirical underwater sound measurement data for pile driving that are widely nationally and internationally used. These data are used regularly for predicting underwater noise levels used to assess the potential impact on fishes, marine mammals, and other endangered species. The U.S. National Marine Fisheries Services (NMFS) division of the National Oceanic Atmospheric Administration (NOAA), or NOAA Fisheries, has developed guidance for predicting underwater sound impacts using the data in these compendiums. I&R also has experience with some more novel applications such as underwater cable laying, noise from offshore platforms, and channel deepening projects.

Located: Cotati, CA

Crawford & Associates, Inc. | Geotechnical Engineering

Crawford & Associates, Inc. (Crawford) was founded in 2012 out of the desire to provide creative solutions and responsive service to our clients and to provide growth opportunities for our employees.

In 2016, Crawford acquired Taber Consultants, one of the nation's oldest Geotechnical Engineering companies. The principals of both firms bring significant Geotechnical Engineering experience on a wide variety of projects throughout Northern California. Crawford has experience working with various oversight agencies including Counties, Cities, Caltrans, Regional Transit, Building Departments, Regional Water Quality Control Board, DWR, ArmyCorp, DSA, UPRR, CA Fish and Wildlife, Water and Irrigation Districts, Utilities and Environmental Health Departments.

Services include Geotechnical Engineering, Engineering Geology, Inspection and Materials Testing, Environmental and Hazardous Materials Assessments, and Expert Witness.

Over the past 40+ years, staff at Crawford have provided services in Geotechnical Engineering, Design and Construction Services on many project types, including:

- Roadways and Pavement
- Water and Wastewater Facilities
- Bridges, Interchanges, and Rail Projects
- Pipelines, Tanks and Pump Stations
- Parks and Trails
- Landslide Control/Storm Damage
- Levees, Dams and Quarries
- Hazardous Material Technical Memo
- Environmental Site Assessments
- Schools, Hospitals, and Commercial

Crawford's services are almost exclusively for public works projects and agencies with specialties in roads, pavements, bridges, storm damage, pipelines, water and wastewater systems, dams and levees. Our staff of 31 includes 11 Professional Civil Engineers, 3 Geotechnical Engineers, 3 Professional Geologists, and 2 Certified Engineering Geologists. Over the past 30+ years, staff at Crawford have completed geotechnical and geologic investigations for numerous federally funded capital improvement program projects.

Crawford often teams up with various DBE firms, such as drilling, traffic control, and other firms to meet DBE goals for contracts. We will provide specific DBE information for each independent project.

Located: Sacramento, Modesto, Pleasanton, Rocklin, and Ukiah

Points West Surveying Co. | Survey

Points West Surveying Company (PWS), located in Arcata, California, is an S-Corporation co-owned by Michael D. Pulley, PLS, and Jesse N. Buffington, PLS. PWS a Small Business Enterprise per the SBA Size Standard for NAICS 541370 (under $4.5 million). PWS was formed in 2007 to serve a variety of clients, both public and private, for a surveying profession that has become increasingly specialized. PWS was founded by David A. Crivelli, PLS and Mr. Pulley, who have known each other and worked together for over 25 years. In 2022 Mr. Crivelli partially retired and Jesse N. Buffington became a co-owner after working for PWS for 14 years.

PWS's clients include several engineering firms that no longer have Land Survey departments. These companies concentrate on civil engineering design and rely on PWS for their surveying needs. Public clients include the City of Crescent City, the City of Arcata, the City of Eureka, Humboldt Community Services District, Resort Improvement District No. 1, the County of Del Norte, and the County of Humboldt. Our reputation for the highest quality survey work has enabled us to remain busy, even during periods of economic downturn. We deliver timely and accurate surveys within budgets and deadlines. Our business model has been to exceed our clients' expectations, so they return to us for future projects.

PWS enjoys a great reputation for quality work thanks to our highly qualified staff. We have a team of 8 individuals ready to perform this work, three of which are licensed surveyors. PWS is registered with the Department of Industrial Relations (DIR# 1000000677).

We are familiar with provisions for State and Federally Funded Projects requirements including Prevailing Wage requirements, Apprenticeship requirements, preparation of Certified Payroll Records and Labor Compliance forms, preparation of DBE forms, compliance with DIR wage and overtime requirements, and Davis-Bacon requirements.

PWS currently has approximately 50 ongoing jobs in different phases. This includes all types of development projects, but with three licensed surveyors we distribute the work so that it all gets done in a timely manner. With four completely outfitted survey trucks and four dedicated field crew members, we quickly respond our clients' needs. We understand the importance of timing for grant funded projects and all our employees are flexible in their schedule. If a project has a set timeline, we get it done on schedule.

PWS employs the latest equipment including Leica robotic total stations and Topcon HiPer V RTK for GPS. The HiPer V connects with both GPS (USA) and GLONASS (Russian) satellites for near perfect reception in any location. This technology has proven essential and helps PWS provide clients accurate data on the State Plane Coordinate system, allowing seamless integration into GIS databases. Computer Aided Drafting (CAD) utilizing current Autocad Infrastructure Design Suite Software (Civil 3D 2022) and photo quality HP wide format plotters produce accurate and clear products.

Located: Arcata, CA

Our Qualifications and Services

GHD provides environmental, planning and engineering, digital, and construction services to private and public sector clients. Operating globally and delivering services locally, we offer the Harbor District the ability to develop a working relationship with our local staff while having access to our global experience base. Put simply, we work where you work.

Firm Information

Established in 1928, GHD is a wholly-owned subsidiary - a privately held international environmental and engineering firm owned by our people and operating across five continents. We are one of the world's leading professional services companies operating in the global markets of Environment, Transportation, Water, Energy & Resources, and Property & Buildings. Our people can offer decades of knowledge, as well as a deep understanding of the challenges facing businesses and communities today. We deliver projects with high standards of safety, quality, and ethics across the entire asset value chain. Driven by a client service-led culture, we connect the knowledge, skill, and experience of our people with innovative practices, technical capabilities, and robust systems to create lasting community benefits.

GHD California Office Locations

- Cameron Park
- Concord
- Emeryville
- Eureka
- Fresno
- Irvine
- Long Beach
- Redding
- Roseville
- Sacramento
- San Diego
- San Francisco
- San Luis Obispo
- Santa Rosa

Design Services

Maritime developments often pose unique challenges. They must be sensitively designed, attractive, functional, cost-effective and environmentally sustainable. The design must take into account coastal processes, including the effects of severe storms and elevated water levels, winds, tides, and currents.

GHD's Maritime & Coastal practice provides full suite of services in planning and feasibility studies, investigations, stakeholder consultation, permits and approvals, design development, documentation, and supervision of construction of maritime facilities, to assist our clients to achieve optimal outcomes for their projects.

Our approach is based on a consistent, company- wide strategy of technical excellence, client responsiveness and looking forward; designing outcomes that are sustainable and resilient and not just for today. The core services include:

- Strategic/Master Planning
- Waterfront, Marina and Floating Dock Design
- Living Shoreline Design
- Marine Structural Design
- Waterfront Inspections & Condition Assessments
- Sea Level Rise and Wave Run-Up Analysis
- Resilience and Vulnerability Assessments
- Shore Protection and Design
- Navigation
- Wave Modelling
- Dynamic Mooring Analysis
- Marsh/Wetland Protection and Restoration
- Coastal & Estuarine Processes
- Coastal Geomorphology
- Sediment Management (including contaminated sediment)
- Dredging

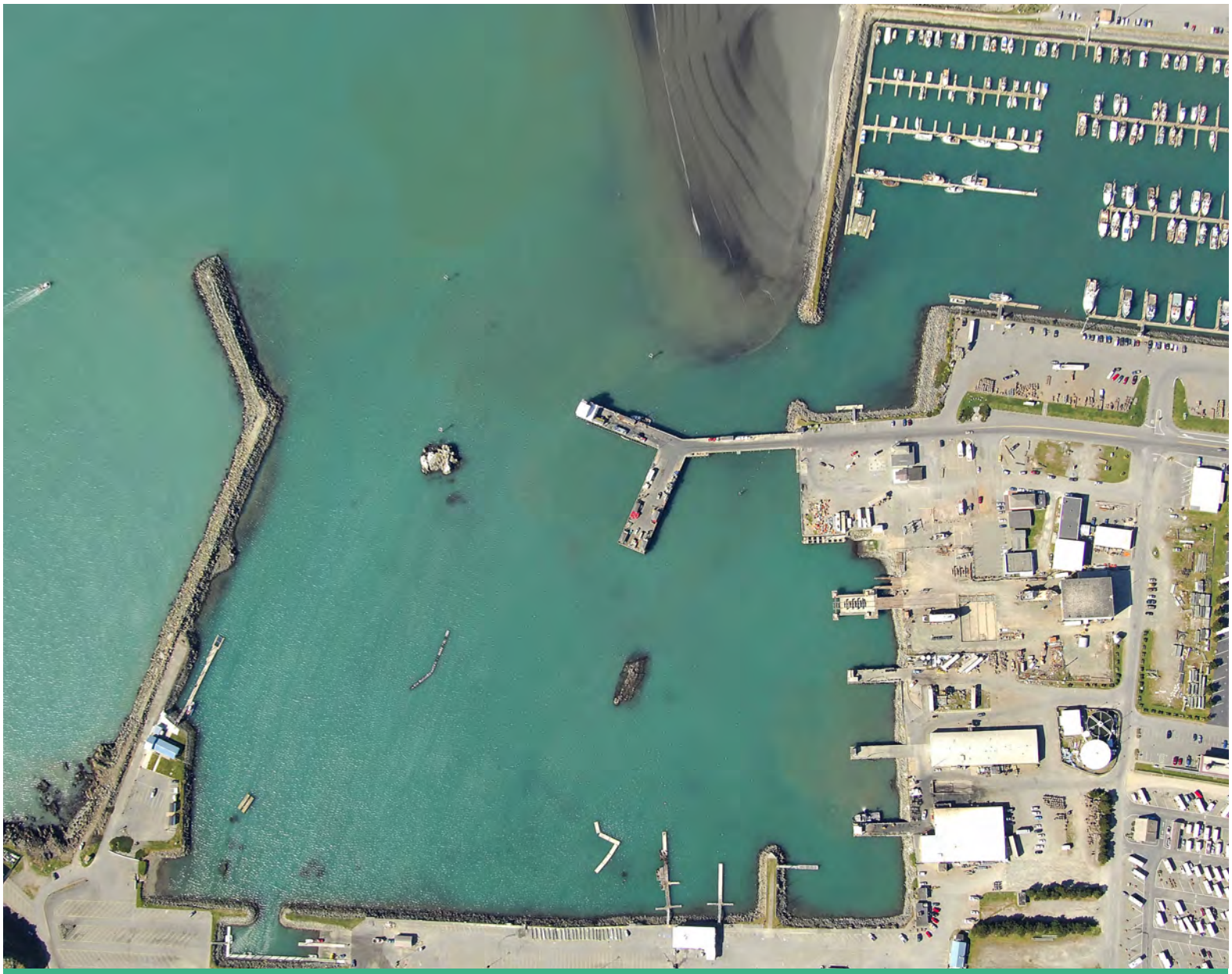
Environmental Services

GHD is a regional CEQA leader. Our team advances CEQA for critical regional public sector projects on a daily basis, including Initial Studies/Mitigated Negative Declarations and Environmental Impact Reports. Our West Coast team completes four to six Environmental Impact Reports each year on average and more Initial Studies/Mitigated Negative Declarations than can be counted, in addition to Categorical Exemptions.

GHD also has a strong NEPA practice. For example, we recently developed a NEPA Environmental Assessment for a fish passage project in Smith River, CA (Del Norte County) and five NEPA Environmental Assessments for Department of Veterans Affairs projects throughout the San Francisco Bay Area. Our team regularly works with Caltrans (District 1 and throughout the state) to complete NEPA on numerous Federal Highway Administration-funded projects for our local agency partners.

Our biologists support CEQA, NEPA, and permitting at the ground level by evaluating habitat conditions and affected species. For this project, our biologists will complete a Marine Resources Biological Evaluation to support CEQA and NEPA impact and effects analysis. The report will also be critical to support permits in future phases of the project.

GHD regularly completes Section 4f analyses. During the past year, we completed the Section 4f project for three separate



projects involving the Department of Transportation. As with this project, all three involve *de minimus* findings.

Evaluation of cultural resources (archaeological and historic) is required for almost ever single one of our projects. As a result, GHD successfully completes the required National Historic Preservation Act Section 106 regularly. We work closely with team members Roscoe & Associates and JRP often, on a variety of projects. Both firms have ample experience navigating the Section 106 process, even on the most complex projects that involve potential affects to protected cultural resources.

GHD has an excellent performance record with municipal and government agencies throughout California. Many of GHD's past and current projects include the following environmental services:

- Section 4f compliance
- National Historic Preservation Act Section 106 compliance Stormwater control plans and construction site monitoring
- Biological reporting
- CEQA and NEPA compliance
- Coordination with permitting agencies
- CEQA/NEPA Exemptions/Exclusions
- CEQA/NEPA Initial Studies/Environmental Assessments
- CEQA Mitigated Negative Declarations
- CEQA/NEPA Environmental Impact Reports/Environmental Impact Statements
- CEQA mitigation monitoring and reporting programs
- NEPA Finding of No Significant Impact/Record of Decision
- Natural resources permit applications
- Technical studies, survey reports and other supporting documentation
- Public outreach and agency coordination
- Compliance with federal funding requirements
- Construction-phase bird monitoring
- Construction-phase special status amphibian monitoring
- Construction-phase special status plant monitoring

Grant Writing Services

GHD has a long history of successfully obtaining grant funds for both municipal and private projects. We are experts at identifying funding and matching it with project needs. GHD, led by our funding specialist Rebecca Crow, has supported communities in obtaining over $80 million in grant dollars for water, wastewater, and stormwater projects throughout California. Further supporting

our team, Maria Lehman, is GHD's Infrastructure Market Leader for the United States since May of 2020. Maria is currently the National President Elect of the American Society of Civil Engineers (ASCE). Maria has studied the new infrastructure bill in detail and will provide additional support and insights into the funding sources and merit criteria to increase application competitiveness.

We have expertise in working with state agencies including the State Water Board, Department of Water Resources, California Natural Resources Agency, the Ocean Protection Council, and CA Department of Fish and Wildlife. At the Federal level GHD has supported applications through the U.S Bureau of Reclamation, Environmental Protection Agency, and Federal Emergency Management Agency, including over $30 million in hazard mitigation funding for water, wastewater, and stormwater resiliency. GHD lead the Port and Freight Infrastructure Project (PFIP) grant application that was awarded in July 2023 to the Port of Hueneme for $80M. If needed, GHD is confident we can assist the Harbor District in leveraging funding programs for final design and implementation and once funds are secured, ensuring that the funds are administered according to State and Federal granting requirements so future funding opportunities are not jeopardized.

Project Management

The GHD team has a deep and varied pool of resources from which to draw from, enabling it to be dynamic, responsive and adaptive to project changes and the Harbor District's needs. Our management approach reflects the varying project-specific needs and requirements and can be tailored to the Harbor District's specific requests.

The project team is led by Andrea Hilton, a Senior Environmental Planner and Project Manager at GHD. As a seasoned environmental scientist with a background in fisheries and watershed restoration, Andrea is dedicated to delivering public benefit projects that unite communities. Her experience working collaboratively with agencies and diverse stakeholders informs her decision-making and project leadership. As the Project Manager, Andrea will maintain clear and regular communication between the GHD team and the Harbor District as a key to overall success. Andrea is a solution-oriented schedule driver and will ensure the project timeline is achieved.

Success is often dependent on our ability to manage and meet an aggressive schedule. To proactively keep projects on schedule, GHD makes it a top priority to respond quickly to requests and to communicate resolution of issues. We prepare detailed schedules at the beginning of each project. We streamline projects by having multiple team members working on parallel aspects of the project. We will actively work with clients throughout the project process so they are engaged in the schedule and understand the potential implications that changes during the process may have.

Staffing and resource planning is a continuous and evolving process that requires regular attention. GHD conducts weekly workload meetings to assign appropriate staff to specific tasks based upon their skills, project needs and project schedule commitments. Our team includes staff with a multitude of experience, which gives our team excellent agility and allows us to assign any number of qualified staff based on a project's technical and budgetary requirements. All project team members identified for a given project will be available and committed to completing their work in a timely manner, including setting and accomplishing aggressive schedules.

As work proceeds and progresses, the project schedule will be closely monitored and tracked to assure timely adjustments are made. If schedule recovery is required, we are experienced in a number of different techniques and will select the most appropriate to the particular situation to recover the schedule. The project schedule will be updated and maintained monthly to ensure that it remains current and accurate. Monthly updates will be furnished to the Harbor District's Project Manager.

Document Control and QA/QC

GHD has its own document control system that makes all project documents, including internal QC checks and comment responses, available for delivery to our clients. QA/QC is performed at two levels. The first level is through an independent technical review, consisting of an independent quality control check coordinated by the QA/QC Manager, for this project Kristing Gaspar and Craig Lewis will perform this role. This review is conducted at important stages of each project to review the technical direction of the project and to give input to criteria development and the evaluation of alternatives. The second level of QA is the detailed technical coordination review, performed by the discipline based Technical Leads at key submittal stages. An acknowledgement that QA/QC procedures were performed will be submitted with each major deliverable to our clients.

Cost Control and Budgeting

Andrea Hilton, our Project Manager, will track the cost and expenditure for each task, using our in-house cost control tools. Prior to each invoice, she will review the progress for consistency with the expectations and ensure that the billing does not exceed the estimated fee in the agreement for services rendered to date. This cost control plan helps to ensure that our fee will always be properly tracked with the progress of work. GHD will not bill in excess of the agreed upon fee without prior formal authorization and contract modification, as directed by the Harbor District to accommodate necessary changes in scope.

Schedule

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Collaborate » Collaborate » Collaborate » Collaborate » Collaborate

We collaborate

We collaborate closely with clients, partners and other stakeholders to provide technical services based on sound science and extensive regulatory knowledge.

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Public Outreach – Community Engagement

In our highly connected and sophisticated world, project success is now most often driven by social acceptability. Stakeholders have high expectations about the nature of the impacts on the environment and sustainable development. Developing trust through transparent, honest, and equitable community engagement is paramount.

A targeted and well-managed stakeholder engagement process is vital to delivering a more supported and beneficial project as well as establishing and strengthening constructive relations in the long term. That approach leads to a common vision of a project throughout its life cycle based on community values as well as dialogue.

In that way, the project addresses the concerns and aspirations of all involved, leading to better decision-making and social acceptability.

The GHD Team has expertise in developing and gathering input from community stakeholders, understanding community concerns, and building outreach efforts that inform and gain endorsement for action. Outreach and engagement frequently require working with internal and external stakeholders to develop a better understanding of the projects, cost, and trade-offs between the level of service and cost, and co-create solutions that help balance system resiliency, sustainability, and affordability. To accomplish this, we use robust and innovative communication and consultation strategies tailored to meet the unique needs of any community. Our evidence-based approaches backed by experienced staff are driven by leading research.

GHD can support community engagement in the following ways:

- Strategic Communication -communication planning, writing, storytelling, social media engagement, media relations

- Risk Management - issue and consequence identification, mitigation and communications, issues, reputation and risk management, outrage management, crisis communication, media, public relations
- Community - community consultation, events, open houses, town hall meetings, door-to-door efforts, site visits, land access negotiations, workforce development and training, hotline staffing
- Stakeholders - stakeholder engagement, plan and strategy development and implementation, stakeholder mapping and analysis, engagement evaluations
- Facilitation - workshops (online and in-person), design charrettes, community advisory groups, conflict resolution, meditation, training, public presentations
- Digital engagement and online tools - digital platforms, websites, social media, multimedia content, virtual reality, augmented reality, analytics and online optimization, visualization
- Social Research - surveys, interviews, focus groups, community infrastructure needs assessment, social knowledge base research, community development, socio-demographic profiles

Committed to *YOU*

GHD is dedicated to understanding and helping our clients achieve their goals. We are committed to sustainable development, safety, and innovation. We care for the well-being of our people, assist communities in need, and conduct business in an ethical and environmentally responsible manner. We can also offer our clients the confidence and peace of mind that comes from the fact that GHD is ranked 28th in the "Top 150 Global Design Firms" by Engineering News-Record in 2021.

Scope of Services

GHD notes that the RFP requires all documents to be delivered electronically by CD and by hard copy. GHD recommends providing electronic files by FTP email links to maximize timeliness, supporting instant delivery of work products. Given most computers are no longer manufactured with CD drives, GHD can provide thumb drives with electronic copies of files if needed. All digital files will be provided in MS Word and Adobe format. GHD will also provide the requested number of hard copies for each deliverable.

Task 1 Project Management

GHD has assembled a team of subject matter experts to accomplish all elements of the Scope of Services for the Harbor District. Under Task 1, GHD will set up formal sub-contractual agreements with all sub-contractors and provide project management services as described below.

Task 1.1 Invoices and Progress Reports:

GHD will provide bimonthly or monthly invoices to the Harbor District project manager for approval and timely payment. With each invoice, GHD will prepare and submit progress reports to the Harbor District project manager, which will include:

- Task accomplishments
- Minutes from meetings held
- Hard copies of all materials developed that month
- Status of deliverables
- Expected activities for the next period
- Issues for resolution and the responsible party
- Problems and their disposition from the previous period
- Status review of budget expended to date

Task 1.2 Bimonthly Project Progress Meetings

GHD will meet virtually with the Harbor District Project Management Staff every two weeks and provide project progress reports throughout the life of the project. Bimonthly project meetings will be attended by GHD's Project Manager.

Task 1 Deliverables:

- Monthly invoices and progress reports
- Bimonthly project meetings for a period of up to 12 months

Task 1 Assumptions:

- GHD assumes the project will extend up to 12 months. Project management services beyond 12 months will require a modification and additional fee.

Task 2 Public Involvement and Interagency Coordination

The GHD team understands that a robust community engagement process is essential to the success of projects with high community visibility and interest. We have an outreach and engagement group at GHD that specializes in this type of work and can coordinate effectively with existing efforts implemented by the Harbor District and Community Systems Solutions (CSS) or other project team members. We pride ourselves in the creation of accessible and understandable information.

Task 2.1 Public Involvement Plan

GHD will develop a Public Involvement Plan (PIP) according to FHWA and MARAD requirements. The PIP will guide meaningful engagement to ensure the community is informed about potential project impacts and that the project team collects diverse views to consider throughout the project process. The PIP will outline a public involvement approach, including a meeting schedule, types of meetings (community meetings, public meetings, and public hearings), meeting announcement and outreach modes, target audiences, accessibility considerations, and mechanisms for public input. Our team will work in close coordination with the Harbor District during the development of the PIP to incorporate local common practices for community outreach and involvement.

Task 2.1 Deliverables:

- Draft and final Public Involvement Plan

Task 2.1 Assumptions:

- Text describing engagement that has already occurred prior to contract award will be provided by the Harbor District/CSS.
- The PIP will be a brief document, approximately five to eight pages.
- GHD will participate in up to one joint one-hour virtual meeting with MARAD and the Harbor District.
- The PIP will be limited to this phase of the project (CEQA, NEPA and 30% design) and will exclude future public engagement that may be needed for future phases of the project.

Task 2.2 Public Meetings

GHD will facilitate and present at two public meetings and attend and present at a public hearing during the project. (Note the required public hearing is included in Task 12 to support CEQA and NEPA processes.) Presentations will provide effective, clear, and accurate information to the community and project stakeholders to foster understanding of the project design, design alternatives, and the CEQA/NEPA process.

At the first public meeting, GHD will present the design alternatives developed in Task 5.1 and solicit community feedback and comment through various interactive methods. At the second public meeting, GHD will present the selected alternative and receive public comment. The third public meeting, included in Task 12, will constitute the required CEQA/NEPA public hearing where the project team attend, present the project, and be available for questions.

GHD will provide visual aids in physical and digital format for the first two public meetings to present the project area, process steps, and design concepts.

Task 2.2 Deliverables:

- Project meeting presentations (two PowerPoint presentations, or equivalent), gallery display posters (up to four posters), handouts and maps

Task 2.2 Assumptions:

- Harbor District will provide local in-person venues for meetings.
- Harbor District will print, mail, e-mail, post or otherwise distribute materials developed by GHD (i.e., announcements, flyers, invitations, updates) and will advertise and invite stakeholders to meetings.
- The third meeting for the public hearing is part of Task 12. The Public Hearing will be held at a Harbor District Board Meeting. GHD will attend, present the project, and be available for questions. See Task 12 for additional information.

Task 2.3 Agency Coordination Meetings

GHD will schedule, organize, and implement up to four (4) agency meetings. Agency meetings will focus on design alternatives, environmental compliance, licensing and permitting protocols, and other legal or regulatory requirements. At a minimum, the following agencies will be invited: SHPO, tribes, U.S. DOT MARAD, U. S. Fish and Wildlife Service, National Park Service, Army Corps of Engineers, Advisory Council on Historic Preservation, Coastal Commission, Regional Water Quality Control Board, California Department of Fish and Wildlife, and NOAA Fisheries. Two of the meetings will be virtual and two of the meetings will be in-person to accommodate out-of-area agency personnel.

The support may also include assisting the Harbor District in consulting with state agencies concerning permit requirements and with Tribes concerning land use, treaty, or cultural issues. Note, tribal issues will specifically be addressed in the cultural resources investigation prepared by Roscoe & Associates (Task 8.5), as well as through the required Harbor District-led CEQA Assembly Bill (AB) 52 process for tribal outreach.

Task 2.3 Deliverables:

- Project meeting presentations (four PowerPoint presentations, or equivalent), handouts and maps

Task 2.3 Assumptions:

- Harbor District will provide online and local in-person venues for meetings. Harbor District will provide hybrid meeting cameras and speakers, if necessary.
- Two meetings will be in-person and two meetings will be entirely virtual.
- Agencies will also be able to attend the public scoping and public hearing meetings (two additional meetings).

Task 2.4 Website

General information related to Citizen's Dock and the Seawall, such as ongoing efforts and future plans are being shared on two websites: https://www.ccharbor.com/ and https://citizensdock.org/ As the local community is familiar with these resources, we recommend continuing to post project updates on the same websites to reduce duplication and confusion. GHD will provide digital project content suitable for the existing websites. We will develop content explaining the project and process or provide status updates monthly to post to the websites.

Task 2.4 Deliverables:

- Digital website material monthly. GHD will provide electronic deliverables required under other tasks listed in the RFP.

Task 2.4 Assumptions:

- The Harbor District/CSS will continue to use https://www.ccharbor.com/ and www.citizensdock.org to share project information with the community.
- GHD will not update the existing website directly and will not create a new, redundant website.
- The Harbor District/CSS will upload documents and meeting announcements/information to the existing website directly.

Task 3 Prepare Purpose and Need Statement

GHD will develop a draft Purpose and Need Statement in close coordination with Harbor District staff and other key stakeholders. The Purpose and Need Statement will be consistent with guidance available through the MARAD technical advisory. To draft the statement, GHD will draw upon grant submission materials previously prepared by the Harbor District to support the project. The Purpose and Need Statement will be included in the CEQA and NEPA document prepared for the project.

Task 3 Deliverables:

- Draft and final purpose and need statement

Task 3 Assumptions:

- The Harbor District will provide grant submittals to support the Purpose and Need Statement
- The Harbor District will provide the MARAD technical advisory

Task 4 Identify the Project's Scope and Boundaries

As GHD develops the conceptual alternatives for the Seawall and the Citizen's Dock, the scope and boundaries of the overall project improvements will be continuously tracked for the joint CEQA/NEPA document.

Various permitting agencies and authorities having jurisdiction over development in the harbor and along the waterfront have vested interest in minimizing impacts to the natural coastline. Typically, replacing an existing structure with an improved structure with similar or reduced footprint, or one accompanied with measurable improvements to the shoreline and benefits to the community get a favorable review in the approval process.

A larger pier and realignment can help bring greater visibility for the businesses and improve community interaction. A new accessible pedestrian only walkway will bring more visitors to the dock to explore and enjoy the beauty of the harbor.

We will balance the potential impacts of the change in project boundaries and the overall benefits of the improvements to help the Harbor District select a preferred alternative.

Task 4 Deliverables:

- Draft and final map of project spatial scope and boundaries

Task 4 Assumptions:

- Two to three virtual meetings with the Harbor District to discuss and review the concepts

Task 5 Create Initial Design of a New Seawall and Citizen's Dock

GHD shares the Harbor District's vision of the tremendous opportunity for growth and community benefits with the new design of the Seawall and Citizen's Dock. Our team will work with the Harbor District staff and other stakeholders to develop design alternatives for both structures.

The alternatives will be designed to withstand the 50-year tsunami flow, 100-year storm surges, 1.5-feet of sea level rise and explore options to incorporate design features that will encourage sea life habitat around the underwater elements of both structures. Our team is well versed with the Build America, Buy America requirements to help make an informed material selection during the alternatives development. We have helped our clients in navigating the market uncertainties by proactively seeking locally manufactured sheet pile shapes in lieu of traditionally preferred but foreign manufactured sheet pile shapes, working with steel mills to identify readily available material coinciding with the project timelines, use of concrete or other materials where feasible.

Task 5.1 Concept Engineering, Alternative Development and Analysis

GHD will develop two build and one no build conceptual alternatives for the Seawall and the Citizen's Dock. Each concept will be developed to a 10% design level, showing high-level details such as the alignment, overall footprint, material selection, critical elevations, landside connections etc. We will also evaluate a no-build alternative as a baseline to evaluate the comparative benefits of each concept.

The preferred alternative will be advanced to a 30% completion level in the preliminary design phase. Our team includes subconsultants for geotechnical exploration, to perform site survey including topography, and map on-site surface utilities as needed to progress the preferred alternative to 30% design.

The geotechnical subconsultant – Crawford & Associates, Inc. will perform subsurface exploration at three locations to get representative soil data for the site. The soil data will be used to calculate capacities for various pile sections to support the new Dock and develop lateral loads for design of the Seawall for the preferred alternative. The details of the geotechnical investigation are described in Task 8.2.

The survey subconsultant – Points West Survey Co. will perform topographical survey of the site to inform the potential landside improvements for the conceptual alternatives. The survey data will also ascertain the elevations of shoreside infrastructure that may not be directly impacted by the improvements but need to tie-in together for seamless transition. The details of the survey investigation are described in Task 8.4.

The 30% design drawings will include the preliminary sizes and quantity of the piles, elevations of all deck surfaces, dimensions showing the coverage over water, connectivity to the shoreside elements. Our design approach is to intentionally balance conservatism in element sizing with standard design practice to acquire the necessary permits and approvals. We believe this approach will afford flexibility to optimize the preferred alternative if needed as the project progresses toward final design and construction.

Task 5.2 Cost Estimate and Constructability Review

GHD will perform a constructability review of the conceptual alternatives. We will also engage a qualified cost estimator with extensive experience in cost estimating and marine construction for constructability review. This effort will include the outline of the construction methodology, material selection for various elements, balancing the impacts of water-based and land-based construction. This review will inform development of the Construction Plan described in Task 6.

We will also develop construction cost estimates to include cost break down for labor and material estimates, and cost by line items. Given the level of details developed at the Concept Engineering stage, the appropriate cost estimate would be a Class 4 as defined by the Association for the Advancement of Cost Engineering (AACE).

Task 5 Deliverables:

- Draft and final Concept – two build and one no-build alternative
- Draft and final 30% Design of the preferred alternative
- Draft and final cost estimate and constructability review
- Two public meetings as described in Task 2.2

Task 5 Assumptions:

- Conceptual alternatives will include two build and one no-build alternatives.
- Geotechnical report to suit 30% design level (see Task 8.2). A detailed geotechnical assessment, including site specific seismic hazard and seismic response analysis, supplementing the 30% report will be undertaken for final design.
- Detailed bathymetry will be provided by the Harbor District.
- Class 4 Cost Estimate will be acceptable.
- Underground utilities will be mapped using Underground Service Alert and supplemented by any information available from the Harbor District.

Task 6 Determine the Construction Plan for the New Seawall and the New Citizen's Dock

Waterfront construction, especially replacement of existing structures, can be complex and need a careful, methodical approach. Our Maritime & Coastal team brings extensive experience working on marine infrastructure from planning to execution phase. We work closely with specialist marine

» The increasing complexity of social, economic, and ecological issues paired with frequent changes in environmental laws has made project permitting more nuanced than ever. We work closely with our clients to navigate the changing regulatory landscape that protects our natural resources. «

contractors and understand the challenges and impacts of waterfront construction. The project team will perform a thorough constructability review of the desired alternative to develop a Construction Plan.

As the existing structure is demolished, the resulting debris needs to be disposed in accordance with the local, state, and federal regulations and as such will be identified in the debris removal and disposal plan. The construction plan will also identify various construction activities and associated equipment, including but not limited to, as needed for demolition, pile installation, availability of staging areas, evaluate potential limits on use of impact hammers, need for noise abatement, turbidity monitoring along with their impact for the CEQA/NEPA.

Task 6 Deliverables:

- Up to three virtual meetings with Harbor District staff to coordinate and discuss the Construction Plan
- Construction Plan for the Seawall; Draft and final design alternatives
- Construction Plan for the Citizen's Dock

Task 6 Assumptions:

- Construction Plan will be developed only for the preferred alternative developed to 30% design level.

Task 7 Determine the Level of CEQA and NEPA Analysis Required

GHD assumes the Harbor District will serve as the CEQA lead agency. GHD further assumes MARAD will be the NEPA lead agency.

Under CEQA, impact analysis will require either an Initial Study/ Mitigated Negative Declaration (ISMND) or an environmental Impact Report (EIR). In addition to the impact analysis required in an ISMND, an EIR requires greater public review via a Notice of Preparation at the beginning of the process and longer public circulation at the end of the process. An EIR also requires consideration of project alternatives, which is not required in an ISMND. Due to these differences, an EIR process usually requires a minimum of an additional two to three months to complete due to additional mandatory public review processes.

Under NEPA, effects analysis specific to federal policies will require either an EA or a more robust EIS. EAs do not need to be circulated but must be made available through public notice. Similar to the CEQA process, an EIS requires an up-front public scoping process and public circulation, consideration of project alternatives, and cumulative effects analysis.

GHD will coordinate with the CEQA and NEPA lead agencies to evaluate the likely significance of potential project impacts (CEQA) and effects (NEPA), along with other considerations such as the level of project controversy or opposition. Based on the outcome of these discussions and considerations, GHD will coordinate with the CEQA and NEPA lead agencies to determine the level of analysis required based on the significance of the potential environmental impacts of the Seawall construction project and the Citizen's Dock construction project. MARAD will ultimately determine the level of NEPA analysis required (e.g., EA vs. EIS).

GHD will produce a written recommendation on the level of CEQA and NEPA that will need to be undertaken for the Seawall construction project and the Citizen's Dock construction project. The written recommendation will succinctly summarize the disposition and rationale of both the CEQA and NEPA lead agency.

For scoping and cost estimating purposes in this proposal and given the scope and scale of the project and the extensive in-water work in a sensitive marine environment, GHD assumes an EIR would be required for CEQA and an EA would be required for NEPA. A requirement by MARAD to instead develop an EIS will require a scope modification and additional fee. GHD further assumes the CEQA EIR and NEPA EA will be combined into a single document to maximize timeline efficiency and reduce cost.

Task 7 Deliverables:

- Brief technical memo summarizing level of recommended CEQA and NEPA analysis

Task 7 Assumptions:

- Coordination with the CEQA and NEPA lead agencies to determine the level of required analysis will occur via two separate one-hour virtual calls

Task 8 Data Collection

Task 8.1 Summary of Existing Conditions and Collected Data

GHD will complete required species studies to support the design, CEQA, and NEPA. GHD will collect all data necessary for the design and environmental study using existing databases and studies, additional field surveys, sampling, and exploration. GHD will prepare a detailed inventory of all the environmental elements in the study area. As required in the RFP, GHD will perform a detailed environmental data collection. All data collection will be carried out according to CEQA, NEPA, federal, state and local requirements. The environmental data review and collection will include, at a minimum, the project impact on or of the following items:

- Land use and Zoning
- Land Acquisition and Displacement
- Demographics
- Community Resources, Economics and Development issues
- Environmental Justice & Title VI
- Transportation (including Transit, Pedestrian, Bike, Vehicular)
- Utilities
- Cultural/Historic Resources
- Visual and Aesthetics
- Vibration
- Water Quality
- Navigable Waters
- Biotic Communities
- Endangered and Threatened Species
- Construction impacts
- Archaeological Investigation and Report
- Floodplains
- Wetlands and Clean Water Act 404/401 Permit Requirements
- NPDES (section 402) Permit Requirements
- Fish and Wildlife issues
- Hazardous Waste and Materials/Contaminated Soil Investigation

- Noise Analysis
- Air Quality
- Erosion
- Indirect and Cumulative Impacts
- Section 4f

Task 8.1 Deliverables:

- Review of the existing environmental conditions at the project site, which will be incorporated directly into the joint CEQA EIR/NEPA EA document and will not be a stand-alone document
- List of existing data and studies used for data and new data collected

Task 8.1 Assumptions:

- Included studies are specifically detailed below. If not specifically noted below as a technical study, analysis related to existing and future environmental conditions will occur within the joint CEQA/NEPA document only. A stand-alone document describing existing environmental conditions will not be prepared

Task 8.2 Geotechnical Investigation

GHD's subconsultant Crawford & Associates Inc. will conduct a subsurface exploration to characterize the subsurface conditions for the proposed new seawall/parking lot and Citizen's Dock structure. Three borings will be completed to an approximate depth of 100 feet below the ground (or mudline) surface, two located along the existing seawall (land side) and one located at the end of the existing Citizen's Dock. Standard Penetration Tests (SPT) and/or California Modified Sampling will be performed within the borings to obtain samples and blow count information. The soil samples will also be tested to resistivity, pH, sulfate content, chloride content and Redox potential to determine potential for soil corrosivity.

As the site is prone to large earthquakes, a detailed geotechnical investigation and seismic hazard evaluation is essential for the design. This effort upfront at the 30% design level will help size the structure with higher level of accuracy, reduce uncertainties and present a well defined project as needed for the permit applications. The current standard of design practice has been shifting to Performance Based design principles for piers and wharves that are essential for a region's economy or present high risk for the public. This approach allows for a more economical structure. Instead of one overly conservative structure designed to withstand a low probability hazard such as a large earthquake, the structures are designed to balance the performance metrics such as overall displacement and level of acceptable damage for different probability hazards.

Crawford & Associates Inc. will provide seismic design criteria for 72-year, 475-year and 2475-year return period earthquake events that can be used to define the performance objectives for the Dock and Seawall for different seismic events. The site will also be evaluated for liquefaction, lateral spreading and settlement as they have significant impact on the design and performance of the structures. The geotechnical report will include input for design and provide recommendations for additional evaluation if necessary for final design.

Task 8.2 Deliverables:

- Draft and final geotechnical report suitable for 30% design development of the preferred alternative.

Task 8.2 Assumptions:

- Site access will be provided for the geotechnical exploration equipment to drill borings on site.
- Site specific ground motion hazard analysis and site-specific response analysis will be performed for final design.

Task 8.3 Permits Required for Geotechnical Drilling

Geotechnical drilling requires a Coastal Development Permit (CDP) from the Coastal Commission, a Clean Water Act Section 10/404 permit from the U.S. Army Corps of Engineers (USACE, Non-Reporting Nationwide Permit 6 for Survey), State Lands Commission Permit, and a Clean Water Act Section 401 Water Quality Certification from the Regional Water Quality Control Board. GHD will expeditiously prepare these permit applications immediately following a Notice to Proceed to avoid unnecessary delay in the design timeline. Once submitted, GHD will follow up with agency staff regularly until permits are issued.

Task 8.3 Deliverables:

- Coastal Commission CDP permit application package
- USACE NWP 6 application package
- Regional Board Notice of Intent application package
- State Lands Commission application via their online platform, OSCAR

Task 8.3 Assumptions:

- The Regional Water Quality Board will issue a Notice of Applicability under their General Order for Coverage Under the State Water Resources Control Board 401 Water Quality Certification of U.S. Army Corps of Engineers Nationwide Permits, requiring a Notice of Intent application form.
- Harbor District will directly pay the required fee for Low Impact Discharges to the Regional Board. The fee is excluded from this scope of services. The current fee is $2,734 but is subject to change, as the agency increases fees annually.
- Harbor District will directly pay the required fee to the State Lands Commission. The fee is excluded from this scope of services. The current fee is $1,500 but is subject to change, as the agency increases fees annually.
- The Coastal Commission will process the CDP application as a waiver to expedite permit processing time but cannot guarantee the Coastal Commission's decision or timeline.
- The Coastal Commission will not require a biological evaluation of the potential impact to marine species or habitats. A biological evaluation related to geotechnical drilling is not included in this scope.

Task 8.4 Topographic Survey

GHD's subconsultant Points West Survey Co. will complete a detailed survey of the site including utility mapping and aerial

photogrammetry of the Dock and the Seawall. The topographic survey will be completed with the horizontal datum tied to the California Coordinate System Zone 1 and vertical datum will be NAVD88 tied to NGS and tidal benchmarks in the vicinity. As part of this task, bathymetric data provided by the Harbor District will be integrated into the topographic data set.

The topographic survey data will be incorporated into the 30% design of the preferred alternative.

Task 8.4 Deliverables:

- AutoCAD Civil 3D v2022 file of the survey data
- Signed and stamped digital copy of the topographic survey

Task 8.4 Assumptions:

- Site access will be provided to the entire Dock and Seawall to complete a detailed survey.
- Bathymetric survey data will be provided by the Harbor District.

Task 8.5 Archaeology Resources Report and Tribal Outreach

The cultural resources investigation will identify known or unknown cultural resources located within the project's Area of Potential Effect (APE). This will be accomplished by conducting background historic research, correspondence with knowledgeable individuals and tribes, an intensive pedestrian field survey, and preparation of an Archaeological Survey Report (ASR) per professional reporting standards.

These projects are subject to regulatory compliance with the CEQA, NEPA, and potential oversite from federal agencies which would require compliance with Section 106 of the National Historic Preservation Act (NHPA). This cultural resource survey is designed to satisfy these environmental requirements by identifying and recording cultural resources within the project APE and offering a preliminary significance evaluation of the identified cultural resources. If needed, recommendations will be designed to protect resources integrity.

Pre-field research will include conducting background and archival research at local libraries, historical societies, and any other repositories that might contain information about the project area. A formal records check of the project APE with a 1/2-mile radius will be conducted at the Northwest Information Center (NWIC), the regional office of the California Historical Resources Information System located in Rohnert Park, CA. All relevant documents will be reviewed and information pertinent to the project area will be included in the report. Roscoe & Associates will conduct consultations with the Native American Heritage Commission and local Native American tribes throughout the duration of the investigation.

The field survey will consist of an intensive pedestrian reconnaissance (10 meter transects) of the APE. All previously recorded and newly identified historic period or prehistoric cultural resources will be documented on DPR 523 series archaeological site records to a standard consistent with the Department of the Interior guidelines for recording historic resources.

An ASR detailing the regional prehistory, ethnographic/historic background, Native American consultation, study methods, findings and recommendations will be prepared. Maps will be provided showing the cultural resources survey area, any archaeological site locations, and historic imagery.

Task 8.5 Deliverables:

- Draft and final report

Task 8.5 Assumptions:

- Phase 2 survey (sub-surface) is excluded.

Task 8.6 Historic Resources Report

The Historic Resources Report will be prepared by historic experts, JRP. Under subcontract with GHD, JRP will prepare a historic resources report to inventory the architectural / built environment resources in the APE and evaluate whether any are eligible for listing in the National Register of Historic Places (NRHP) and/or California Register of Historical Resources (CRHR). JRP will prepare up to two sets of Department of Parks and Recreation (DPR) 523 forms, addressing historic built resources in the APE. If any built resource in the APE is eligible as a historic property under 36 CFR 800.4 and/or as a historical resource under CEQA Guidelines Section 15064.5(a), the report will also provide analysis to identify potential project effects to eligible built resources.

Tasks include conducting research at appropriate repositories in Del Norte County, as well as at the California State Library and California State University and/or University of California libraries, as needed. JRP will also prepare letters to potential interested parties for the Harbor District's signature, send the letters, and collect responses. GHD will use data from the historic built resources report in the cultural resources section of the overall environmental document.

Task 8.6 Deliverables:

- Draft and final report
- Up to two one-hour virtual meetings

Task 8.6 Assumptions:

- The Harbor District will provide JRP access to the APE for recordation of built resources by a two person crew in a single-day visit.
- Recordation will be of the exterior of buildings and structures, although brief examination of safe and accessible interior spaces may aid in the description of resources and assessment of their historic integrity.
- The Harbor District will provide JRP with relevant historic resources documentation and other historical data regarding built resources in the APE, including, but not limited to, construction plans and maintenance records.
- Project archaeologists will share the Information Center records search results as they pertain to built resources with JRP.
- The DPR 523 form sets will include preparation of a Primary Record and Building/Structure/Object Record, along with other forms as needed, such as Continuation Sheets and Location Map.
- This scope assumes that it will not be necessary to record or evaluate the built resources in the APE as a potential historic district.
- JRP staff can attend and participate in meetings conducted in-person under a separate scope of work and budget.

Task 8.7 Marine Resources Biological Report

GHD will prepare a Marine Resources Biological Evaluation (MRBE) report for the project. The MRBE will include a desktop database and literature review and reconnaissance level field investigation to identify sensitive habitats, special status species, and/or other sensitive biological resources that may potentially occur within the vicinity of the project and address potential effects from the project on identified biological resources.

The desktop review will use existing project documentation, aerial photography, publicly available marine habitat data, and special-status species documentation from sources such as USFWS IPaC. the California Natural Diversity Database (CNDDB), NOAA Species Directory, and NOAA Critical Habitat and Protected Resources Applications. The MRBE will address marine species that are listed as state or federally threatened and/or endangered, species of special concern, and/or species protected under the Marine Mammal Protection Act (MMPA).

The MRBE will provide an evaluation of marine biological resources on site to inform CEQA and other permit applications. Mitigation measures, if needed, will be addressed separately during the CEQA review. Detailed or protocol-level surveys and ESA Section 7 consultations are not included in this scope.

Task 8.7 Deliverables:

- Draft and final report

Task 8.7 Assumptions:

- Eelgrass has already been evaluated by Annie Eicher. Current eelgrass reports will be provided to GHD, and additional evaluation of eelgrass for the project will not be required.

Task 8.8 Marine Hydroacoustic Evaluation

A marine hydroacoustic evaluation is needed to support CEQA and NEPA by analyzing potential noise-related impacts to marine mammals and special status fish in and near the project site related to construction noise, specifically pile driving. Underwater sound levels described in terms of acoustic thresholds recommended by NMFS would be predicted and reported at and around the proposed action's site through the following tasks:

(1) Identification of appropriate sound thresholds for marine mammals and fish that could be present during underwater construction noise.
(2) Identify various construction noise sources that could affect marine mammals and fish.
(3) Prediction of impact pile driving underwater sound levels (with and without attenuation) for all pile types. Predictions would be made using source levels from similar projects as reported in sound data compendiums prepared by Caltrans and the U.S. Navy. Sound predictions using these source data would be conducted using the NMFS Muti-Species Pile Driving Calculator or similar tools approved or recommended by NMFS.
(4) Prediction of vibratory pile driving (and pile removal) underwater sound levels for all pile types.
(5) Description of sound mitigation measures.
(6) Graphical representation for the impact zones for marine mammals that could be present during marine construction activities.
(7) Graphical representation for the impact zones for fish.
(8) If applicable, prediction of airborne noise at areas that may be used as haul outs for marine mammals (i.e., pinnipeds).
(9) Preparation of a technical report that includes results of the tasks outlined above. Includes revisions for two rounds of responses to comments.

Task 8.8 Deliverables:

- Draft and final report

Task 8.8 Assumptions:

- None

Task 8.9 Hazardous Waste and Materials/Contaminated Soil Investigation

GHD will conduct a Phase I Environmental Site Assessment (ESA) to identify potential hazardous materials impacts that could potentially interfere with project construction. The Phase I ESA will be conducted following the ASTM Standard Practice for Phase I Environmental Site Assessments (Designation E1527-21). It will be completed under the direct supervision of a California-Professional Geologist.

The scope of work includes the following tasks:

- Using the ASTM-designated search radii, review federal, state, county, and other regulatory agency lists and databases (including Comprehensive Environmental Response Compensation and Liability Information System [CERCLIS], National Priorities List [NPL], and Cal-sites) for sites with known hazardous materials contamination and/or registered underground storage tanks located on or near the corridor.
- Examine aerial photographs of the corridor taken over the past 50 to 60 years, historical Sanborn Maps, United States Geological Survey (USGS) topographic maps, as available. These examinations will seek to develop a continuous site history dating back to 1940 or the first known development of the corridor, whichever is earlier, as recommended by the ASTM guideline.
- Review regulatory agency files, if necessary, for identified contaminated sites to determine if the listed sites are potential hazardous-material threats to the corridor.
- Conduct a survey of properties along the corridor to identify ones that may use, produce, or store hazardous materials and/or generate hazardous waste.
- Describe local and regional geological and groundwater conditions in the vicinity of the corridor.
- Conduct a site inspection of the corridor to identify visual evidence of surface contamination and potential subsurface sources of contamination.
- Provide photographs of the corridor and areas of concern.
- Complete a land-use questionnaire (supplied by GHD).
- Conduct an interview (verbal or questionnaire) with a site owner or operator or other persons familiar with site history.

Task 8.9 Deliverables:

- Draft and final report

Task 8.9 Assumptions:

- Harbor District will provide available information regarding the past operations at the parcels (that is not available on GeoTracker) and a preliminary title report.
- Harbor District will provide GHD at least two names and phone numbers of persons whom GHD can interview or complete the ESA questionnaires. The persons identified should be able to provide information regarding the corridors former and current uses in a timely manner
- Soil and groundwater sampling is excluded. Laboratory analysis is excluded.

Task 9 Prepare Draft Joint CEQA/NEPA Document

GHD will prepare the Administrative Review joint CEQA EIR/NEPA EA document consistent with NEPA, CEQA, and MARAD regulations and requirements. Before the document is prepared, CEQA requires a Notice of Preparation, which include a public and agency scoping meeting and a public circulation period 30 days. Similarly, NEPA requires a Notice of Intent in the federal register and the preparation of responses to substantive comments.

Following completion of the required CEQA and NEPA public scoping processes, GHD will prepare a draft project description based on the 30% design. The draft project description will be provided to the Harbor District and MARAD for review prior to finalization.

Once the project description is final, GHD will provide the joint CEQA/NEPA document, which will include all required NEPA components specifically listed in the RFP:

1) Executive Summary
2) Table of Contents
3) Purpose and Need
4) Alternatives (required for CEQA EIRs and NEPA EISs only)
5) Affected Environment
6) Environmental Consequences
7) Section 4(f) (Prepared under Task 10 and circulated with the joint CEQA/NEPA document as an appendix)
8) Public & Agency Coordination
9) References
10) List of Preparers
11) Section 106 Report
12) Other Appendices

The joint CEQA EIR/NEPA EA document will complete impact/effects analysis required under both processes, including adherence to the CEQA Appendix G environmental checklist and MARAD NEPA analysis standards. Results from technical studies completed in Task 8 will be used to inform analyses. Where required, mitigation measures will be proposed to reduce impacts/effects to a less than significant level.

Task 9 Deliverables:

- CEQA Notice of Preparation
- NEPA Notice of Intent
- Joint CEQA/NEPA public scoping meeting and associated PowerPoint presentation
- Written responses to NEPA substantive comments, if any
- CEQA Notice of Circulation (required to file the Notice of Preparation)
- Draft and final project description
- Administrative review draft joint CEQA EIR/NEPA EA draft document.
- The joint CEQA/NEPA document will include environmental analyses and mitigation measures where necessary.

Task 9 Assumptions:

- The draft joint CEQA/NEPA document cannot be completed until the concept design phase (30%) and technical studies are completed.
- The Harbor District will lead the required AB 52 consultation process with affected tribes as required under CEQA.

Task 10 Section 4(f) and Section 106 Evaluation

A Section 4(f) evaluation is required for projects that require the use of publicly owned land off a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance, only if there is no feasible and prudent alternative to the using that land and the program or project includes all possible planning to minimize harm resulting from the use. GHD will complete a Section 4(f) analysis for the project in letter format. The 4(f) analysis is expected to have di minimus findings. The final, signed 4(f) document will be appended to the joint CEQA/NEPA document for public circulation.

The archaeological and historical resources evaluations detailed in Task 8 will evaluate all potential cultural resources associated with the project. These studies will be completed to meet the standards of CEQA, NEPA, and Section 106. These studies will be provided to MARAD and all other state and federal agencies as needed to complete the Section 106 process. The Section 106 evaluation itself it typically completed by the federal lead agency (MARAD).

The archaeology study, which will include outreach to tribes, will include confidential information and will not be appended to the joint CEQA/NEPA document for public circulation; however, the historic resource evaluation will be appended and circulated. As part of the CEQA process, the Harbor District is required to outreach to tribes under AB 52. Correspondence with tribes related to AB 52 will also be assembled and provided to the SHPO through MARAD for consideration as part of the Section 106 process, as required.

Specific to historic resources, team member JRP will assist with State Historic Preservation Officer (SHPO) Section 106 consultation tasks. JRP will provide the project team guidance regarding Section 106 compliance and draft a consultation letter summarizing the conclusions of the identification and evaluation of historic properties in the APE and effects to historic properties, as per 36 CFR 800.4 and 800.5. JRP principals and staff historians / architectural historians meet the Secretary of the Interior's Professional Qualification Standards under History and Architectural History.

Task 10 Deliverables:

- Cultural resource studies needed for Section 106 are provided under Task 8.

Task 10 Assumptions:

- The Harbor District will compile all correspondence to/from Tribes related to AB 52 to submit to MARAD, SHPO, and other agencies as part of the Section 106 process

Task 11 Conduct public and agency review of the draft joint CEQA/NEPA document

The Administrative Review draft joint CEQA EIR/NEPA EA will be provided to the Harbor District (presumed to be the CEQA lead agency) and MARAD for review and comment. The Section 4(f) and Section 106 evaluations will also be provided as appendices. GHD will respond to all lead agency comments to prepare a final document for public and agency circulation agency circulation, preparing the Public Circulation CEQA EIR/NEPA EA for public and agency review per the required procedures of both CEQA and NEPA. The required circulation period is a minimum of 45 and maximum of 60 days. GHD will circulate the document as required in Section 15087 of the CEQA guidelines and as required under NEPA. GHD will organize a joint CEQA/NEPA public hearing during the public review period.

Task 11 Deliverables:

- CEQA Notice of Circulation
- CEQA Notice of Intent to Certify an EIR
- Public Circulation Draft CEQA EIR/NEPA EA
- NEPA Finding of No Significant Impact
- CEQA Notice of Determination

Task 11 Assumptions:

- The Harbor District will compile all correspondence to/from Tribes related to AB 52 to submit to MARAD, SHPO, and other agencies as part of the Section 106 process
- GHD assumes MARAD staff members may be required to co-organize and co-present the NEPA portion of the public hearing. GHD will coordinate with MARAD accordingly.
- Publishing fee in the local paper (legal ad) to be paid directly by the Harbor District, which is excluded from this proposal

Task 12 Prepare final CEQA EIR/NEPA EA Document

The Final CEQA EIR/NEPA EA will provide responses to all comments received from the public and agencies. The Final CEQA EIR/NEPA EA will be provided to the Harbor District and MARAD for review for comment prior to finalization. GHD will then address all comments from the Harbor District and MARAD. To complete CEQA, the Harbor District's Board of Directors will need to certify the EIR with a resolution and file a Notice of Determination at the Del Norte County Courthouse and with the California Office of Planning and Research (OPR) vis CEQA Submit. To complete the NEPA process, GHD will prepare a Finding of No Significant Impact.

Task 12 Deliverables:

- Draft Final CEQA EIR/NEPA EA with responses to comments in electronic format for lead agency review
- Attendance at one Harbor District board meeting to certify the CEQA EIR
- Filing the CEQA Notice of Determination at with OPR

Task 12 Assumptions:

- The Harbor District will directly pay all CEQA filing and noticing fees, which are excluded from this proposal.
- GHD will respond to up to 50 individual comments from the public and/or agencies
- GHD assumes the Harbor District will file the CEQA Notice of Determination at the Del Norte County Courthouse and provide a scanned copy of the filed document to GHD

Schedule:

GHD understands the Harbor District seeks an aggressive project schedule to support prompt access of required funds. GHD is committed to working with the Harbor District to achieve an expedited project schedule and has the staff resources to complete the required heavy lift for this critical project. However, GHD notes the following exceptions the schedule provided in the RFP:

- A geotechnical investigation is required to support the 30% design. Geotechnical investigations do require permits (see Task 8.3). GHD will require up to one month to prepare permit applications. GHD assumes the Coastal Commission will process the application as a waiver, which will require approval by the Coastal Commission at a monthly meeting before becoming effective. Thus, GHD assumes up to two months will be required until agencies approve all required permits for geotechnical investigations.
- Development of the 30% design cannot advance beyond the conceptual alternative level until geotechnical investigations and associated reporting is complete.
- A public noticing period of 30 days is required in CEQA and NEPA, before the Administrative Review Draft joint CEQA EIR/NEPA EIS can be prepared. This required 30-day period is not currently accounted for in the four-month CEQA/NEPA timeline.
- A public circulation period (min. of 45 days, max of 60 days) is required to complete CEQA and NEPA. Prior to certifying the EIR, the FINAL EIR must be provided to public agencies for a minimum of ten days. These timeline requirements are not currently accounted for in the eight-month project completion timeline.
- GHD assumes MARAD will require review of all draft documents associated with NEPA, including the Notice of Intent, Administrative Review Draft NEPA EA, associated technical studies, a project study boundary, Final EA, FONSI, Section 4f Evaluation, and Section 106 evaluation. GHD assumes MARAD will require a minimum of 30 days during each iteration of review. MARAD's review will likely extend the project completion timeline beyond eight months.

Optional Tasks

Historic Resources

Optional tasks for team member JRP may occur if the evaluations conclude that any built resource (historic resources, e.g., Ice House) in the APE is a historic property under 36 CFR 800.4 and/or is a historical resource under CEQA Guidelines Section 15064.5(a), and analysis also concludes the project will adversely impact the property, as per 36 CFR 800.5 and/or CEQA Guidelines Section 15064.5(b). JRP's optional tasks under this scenario may include:

- Preparation of a memorandum to identify feasible mitigation measures to address adverse effects to historic properties / historical resources. This task will take into account input from interested parties, as appropriate.
- Assistance with Section 106 compliance.
  - Provide further guidance to the project team regarding Section 106 compliance.
  - Draft a Memorandum of Agreement (MOA). Others would provide content regarding outreach to Native Americans and measures to avoid, minimize, or mitigate adverse effects to archaeological resources. The lead federal agency and SHPO will prepare the final MOA for execution.
  - Assist with preparing an additional SHPO consultation letter for continued Section 106 compliance, as it pertains to built resources. Others will provide assistance regarding archaeological resources.
- Participation in up to two additional hour-long video / tele conferences.

The fee for the optional task is not included in the detailed fee schedule but can be modified into the agreement if needed, in the future. The cost estimate for the optional task related to any identified historic resources in the APE is $10,810.

Our Experience

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CEQA Specific Projects

- *Nordic Aquafarms CEQA, Permitting and Engineering*
- *Rowdy and Dominie Creek Fish Passage Improvements Project*

NEPA Specific Projects

- *Rowdy and Dominie Creek Fish Passage Improvements Project*
- *Mid-Breton Sediment Diversion Third Party EIS*

Design Projects

- *Talbert and Huntington Channel Repair Project*
- *Beach Boulevard Infrastructure Resiliency*
- *Delta Dock*

Talbert and Huntington Channel Repair Project

Orange County Public Works

Project Description

The Orange County Flood Control District (OCFCD) engaged Reyes Construction + GHD Inc. Design-Build team to repair the existing corroded steel sheet pile wall segments of the Huntington Beach Channel and the Talbert Channel (OCFCFD Facilities D01 and D02, respectively). The repair solution had to be designed and constructed in a condensed time frame before the existing FEMA accreditation expired and affected the flood insurance coverage of over 100,000 residents in the region. Design services included geotechnical investigations to determine the global levee stability for segments being repaired. Hydraulic analyses were performed to support the accreditation process.The repair included installation of 16,955 linear feet of AZ44 / AZ52 steel sheet pile walls directly behind the existing sheet piles, reducing the environmental impacts from construction within the channels. The flood channels are bounded by residential neighborhood on both sides which limited the access for heavy construction equipment needed for such work. The use of Giken machine to install the sheet piles helped minimize the footprint of the construction equipment, reduced the noise and vibration impacts during construction.The project design team navigated several challenges by extensive planning, coordination, and collaboration with the stakeholders and were able to mitigate a four month delay in material procurement. The project is on track to be completed in July 2023.

Date: Jan 2020 to Jul 2023. Design through construction

How this project is similar:

- Community Impact - benefiting the residents by improving flood protection capacity and ability to withstand large seismic events.
- Schedule - It was critical to complete the design and construction within the available timeframe
- Innovation - Typical repair and replacement option would have required extensive permits and limited the construction window. The innovative approach to design new sheet piles to be installed on landside of existing structure expedited beginning of construction by six months to a year (approximate time for typical permits).
- Build America Buy America - The project had to abide by BABA to qualify for federal and state grants.

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Beach Boulevard Infrastructure Resiliency

City of Pacifica

Project Description

The 2,600 ft long Beach Boulevard seawall is located on the rugged northern California Pacific Coast, approximately 10 miles south of San Francisco. This shoreline is renowned for severe shoreline and bluff erosion during periods of high tides and large winter waves. The City of Pacifica has suffered significant property loss as a result of bluff erosion in the northern portions of the City. The dramatic images of these residential property losses are commonly used to support the State of California's call to action on the need for long-term sea level rise planning.

The Beach Boulevard Seawall Replacement Project seeks to replace the failing seawall along the City's downtown shoreline, within the community of West Sharp Park. This is the most heavily used coastline in the City, with a public pier and promenade being some of the main attractions. The seawall has progressively failed almost since its construction completion in the mid 1980's. Waves crash over the seawall onto the road several times a year creating hazardous conditions for the general public and causing road closures along the northern portion of Beach Boulevard. GHD led the feasibility study that assesses the risks, controlling factors and reconstruction options for the seawall and promenade, considering environmental, stakeholder and community, engineering, and economic factors. GHD is now assisting the City in aligning the project with grant funding such that it can progress to the final engineering and environmental compliance phase.

Dates: May 2020 – ongoing

How this project is similar:

- Community Impact - benefiting the residents by improving flood protection capacity and ability to withstand large seismic events.
- Innovation - Developing repair alternatives to have minimal impact on the environment and residents

Delta Dock

Commonwealth Port Authority, Saipan

Project Description

Saipan is facing considerable challenges as the profile of its economy changes, brought on by a decline in some of the traditional employment sectors and the tourism industry, decrease in number of private recreation vessels visiting the Delta Dock as well as the increasing sizes of the vessels in the international shipping fleet visiting the adjacent Charlie Dock. GHD is assisting the Commonwealth Port Authority in developing a 15-year development plan to address these challenges while optimizing the use of existing assets and efficient use of capital investments. In the context of ongoing planning to accommodate future improvements and expansions, GHD is serving as prime consultant and project manager for assessments and repairs of Saipan Harbor's existing Delta Dock.

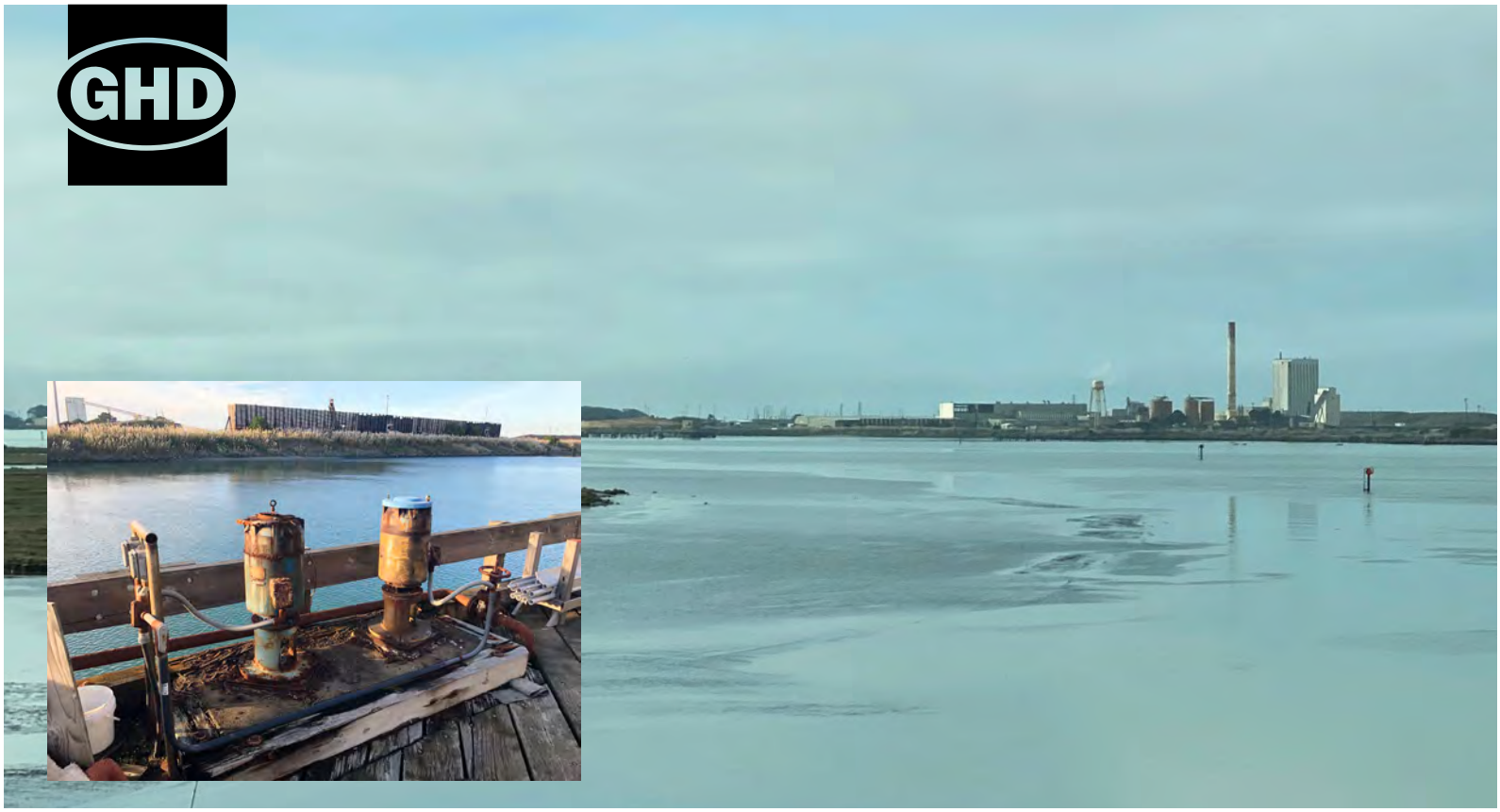
GHD leads the underwater investigations, analysis of the dock's structural integrity, development of repair options, and then once chosen, the design of the preferred repair option. GHD worked closely with the Port to develop several alternatives to extend the length of the existing dock to allow berthing of large vessels while minimizing the impacts on the water movement around the dock that could affect the health of the sensitive coral habitat. The expansion plan also included addition of a double-wide boat ramp and fixed platform for quick deployment of emergency response craft for water rescue operations. Overall, GHD's scope encompasses civil engineering, structural engineering, electrical engineering, coastal analysis, environmental permitting, geotechnical engineering, and topographic and batheymetric surveying.

Additionally, GHD provided contract management and coordination, including with CPA, subconsultants, and affected stakeholders.

Dates: Design - 2021-2022

How this project is similar:

- Importance - The dock provides mooring and berthing facilities for visiting yachts, bringing vital business to the location. GHD worked with CPA to develop design alternative that provided the most upgrade with the available funds and minimizing interruptions to operations around the dock.
- Vision - GHD is helping the Port with a Master Plan where Delta Dock and adjoining Charlie Dock increase the usability of the Port, bringing larger cruise, shipping, and recreational vessels to the region.
- Innovation - The project was severely impacted by material cost, shipping constraints during Covid pandemic. GHD's design plan, engagement in the master plan, proactive engagement in the marine construction industry, and innovative contracting strategy is helping the Port efficiently use the limited funds available.



Nordic Aquafarms CEQA, Permitting and Engineering

Nordic Aquafarms, Humboldt Bay, CA

Project Description

GHD completed the CEQA process for this large-scale land-based fish farm along Humboldt Bay, in coordination with the County of Humboldt and the Humboldt Bay Harbor, Recreation, and Conservation District. The GHD Team conducted fieldwork and produced environmental studies for the proposed development including Botanical, Wetlands and Wildlife Reports, Traffic Study (vehicle miles traveled [VMT] and established thresholds), Cultural Resources Report, Asbestos/Lead Report, Marine Resources and Dilution Modelling Report (associated with effluent discharge into Pacific Ocean), Energy/Solar Analysis Report, Mitigation and Monitoring Report (for dune impacts and sensitive plants), and a Bat and Nesting Birds Report. These reports were used to support the CEQA and permitting efforts.

GHD also supported the design for the facility. GHD designed foundations for the facility, evaluated ground densification options related to tsunami and liquifaction risk, and developed a low impact development (LID) stormwater strategy that integrated into the facility's architectural design.

Dates: Design - 2019-Ongoing

How this project is similar:

- Large-scale development that required a CEQA EIR
- Advanced outreach and coordination with stakeholders and regulatory agencies
- Close coordination with the Humboldt Bay Harbor District on a harbor-related project
- Integration of environmental and design services to meet comprehensive client needs
- Project is located in the Coastal Zone

Rowdy and Dominie Creek Fish Passage Improvments Project

Tolowa Dee-ni' Nation, Smith River, CA

Project Description

The Rowdy and Dominie Creek Fish Passage Improvement Project is located at the Rowdy Creek Fish Hatchery in Smith River, California, situated at the confluence of Rowdy and Dominie Creeks. These creeks have a collective watershed area of 33 square miles and drain into the lower Smith River. Under existing conditions, the outdated hatchery infrastructure is a major fish passage barrier for anadromous species, such as Coho Salmon, Coastal Cutthroat Trout, Steelhead, and Chinook Salmon (collectively termed "salmonids") and Pacific Lamprey.

In 2018, GHD completed shovel-ready construction plans to improve fish passage conditions at the hatchery. The plans include the removal of outdated infrastructure, replacement of select infrastructure, and installation of a roughened channel. This channel would strategically elevate the streambed through the placement of various sizes of rocks (including gravels to boulders) and filling in the deep pool downstream of the weir.

Following the award of Prop 1 funding in 2020, GHD (in coordination with the Tolowa Dee-ni' Nation) completed the environmental compliance documentation for the project. This documentation included the completion of the following: biological resources report (wildlife, plants, vegetation communities), wetland delineation, asbestos survey, cultural resources survey, CEQA Initial Study/Mitigated Negative Declaration, NEPA Environmental Assessment, Biological Assessment under Section 7 of the ESA to NOAA, Clean Water Act Section 401 and 404 permit applications, CDFW 1600 permit application, and Section 106 of the National Historic Preservation Office compliance. Additionally, due to complex access issues, GHD, along with the client, created contingency planning to ensure project implementation occurs through the use of the Caltrans right-of-way.

Dates: Design - 2015-2018 | Environmental Permitting 2020-2022 | Construction Anticipated in 2024

How this project is similar:

- Required completion of CEQA and NEPA
- Located in Del Norte County
- Includes impact and effects analysis specific to endangered fish species

→ The Power of Commitment

Mid-Breton Sediment Diversion Third Party EIS

Coastal Protection and Restoration Authority of Lousiana

GHD is leading a Team to prepare an EIS to disclose and analyze all significant environmental impacts of the Mid-Breton Sediment Diversion Project as required under NEPA.

Overview

The Mid-Breton Sediment Diversion Project involves construction of a sediment diversion through a federally-maintained levee in order to allow sediment, freshwater, and nutrients from the Mississippi River to flow into the Breton Sound Basin in order create, preserve, restore, and sustain wetlands and counteract the effects of subsidence, sea level rise, recent hurricane events, and the Deepwater Horizon oil spill. Federal and state regulatory agencies participating in the project include the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, NOAA-National Marine Fisheries Service, Louisiana Department of Wildlife and Fisheries, Louisiana Coastal Protection and Restoration Authority, Louisiana Department of Transportation and Development, and Louisiana Department of Environmental Quality.

Scope of Work

As part of the regulatory permitting process, GHD has been contracted by CPRA to prepare an environmental impact statement (EIS) which addresses the public interest review requirements of U.S. Army Corps of Engineers (USACE) Regulatory Program Regulations (Title 33 of the Code of Federal Regulations [CFR] Parts 320–330), including USACE regulations at 33 CFR Part 325, appendix B, and the factual requirements of the section 404(b)(1) guidelines (40 CFR Part 230), so that the EIS provides the information needed for USACE's permit decision-making process.

Execution

As the prime third-party contractor for this project, GHD is leading a team of NEPA experts, biologists, ecologists, economists, and engineers in the preparation of an EIS to support the USACE permit decision process for the Mid-Breton Sediment Diversion Project. Although contracted by CPRA as the permit applicant, GHD is working directly with the USACE-New Orleans District on all aspects of EIS preparation. GHD's subject matter experts are responsible for reviewing all available information and data, as well as CPRA-provided technical reports, for a number of resources areas that could be impacted by the project, including:

- Land use/Land cover
- Geology and Soils
- Water Resources and Water Quality
- Air Quality
- Noise
- Aesthetics
- Traffic and Transportation
- Cultural Resources
- Real Estate
- Hazardous, Toxic, & Radioactive Waste
- Navigation
- Shoreline Erosion/Accretion
- Socioeconomics and Economic Development
- Wetland Ecosystems
- Terrestrial, Estuarine, and Aquatic Habitats
- Wildlife, Avian, and Aquatic Species
- T&E Species
- Flora and Fauna
- Recreational Resources
- Environmental Justice
- Hydrology & Hydraulics
- Utilities
- Flood Hazards
- Floodplains
- Residual Risks and Induced Damages

GHD organized and led a series of virtual Public Scoping Meetings to gather stakeholder and public input regarding the project. Although in-person meetings are typically held for the scoping period, virtual meetings were required due to COVID restrictions. As a result, GHD quickly pivoted to developing a virtual platform to allow public participation in three virtual meetings and a tool to submit and gather comments during the scoping period. The successful outcome of the scoping meetings prevented delays

in the project and allowed the NEPA process to continue moving forward.

Due to the complexity of the project, GHD staff are in continuous communication with USACE personnel via e-mail, phone calls, and meetings. GHD participates in weekly check-in calls with the USACE, bi-weekly status calls with USACE and CPRA, and monthly Federal Coordination Team (FCT) calls with federal and state agency personnel. Information sharing and decisions made during these calls have been instrumental in drafting the EIS and following NEPA guidelines and processes.

Outcome

During development of the EIS, GHD has prepared a Purpose and Need Statement, performed an alternatives analysis, prepared the Existing Conditions chapter, and started drafting the Environmental Consequences chapter. Additional tasks GHD will perform include preparing the Draft EIS, organizing and leading the Draft EIS Public Meetings, preparing the Final EIS, and preparing the Draft and Final Record of Decision. Information from the EIS and ROD will assist with the USACE permit decision-making process and lead to construction and operation of the sediment diversion.

Dates: 2019 - Ongoing

How this project is similar:

- Large-scale coastal project
- Required preparation of a NEPA EIS
- Included required public scoping meetings and agency/ stakeholder coordination

Proposed Project Pricing

GHD has developed a detailed fee for all tasks included in the RFP. GHD has discounted standard rates by 20% to better align with the Harbor District's available funding. The fee detail includes the total cost for all design and environmental compliance (CEQA and NEPA) tasks. We have also reduced our standard mark up on subconsultants from 15% to 5%. Assuming costs associated with Tasks 1 through 3 are split 50/50, the total design cost is $341,416 and the total CEQA/NEPA cost is $342,047.

GHD recognizes our total fee estimate exceeds the $500,000 target provided by the Harbor District during the July 6, 2023 conference call. GHD is willing to work collaboratively with the Harbor District to identify areas of potential cost reduction. For example, the RFP includes six to eight agency meetings under Task 2. It's our experience that a single multi-agency virtual meeting and a single multi-agency field tour (two meetings total) is sufficient and common to support the project during the CEQA and NEPA phase. We recommend reducing the number of agency meetings and meeting with all jurisdictional agencies at the same time (versus individual one-on-one meetings)to reduce cost. Similarly, we recommend building upon the existing capacity and talent of the Harbor District's existing consultant team to continue to update the website and support public meetings to the greatest extent possible. This will also reduce cost.

As the site is prone to large earthquakes, a detailed geotechnical investigation and seismic hazard evaluation is essential for the design. This effort upfront at the 30% design level is needed to size the structural components with higher level of accuracy, improve budgetary cost estimates and present a well defined project as needed for the permit applications. The current standard of design practice has been shifting to Performance Based design principles for piers and wharves that are essential for a regions economy or present high risk for the public. This approach results in a more economical structure with reliable performance than the traditional practice of Force Based design. Instead of an overly conservative structure designed to withstand the largest loads from a significantly low probability hazard such as a 2475-year return period earthquake; the structures are designed to balance the performance metrics such as overall displacement and level of acceptable damage for different probability hazards. The structure is designed to minimize upfront construction cost where repairing damage from low probability events is an acceptable risk to the Owner. GHD proposes a phased approach to the design. It is possible that the seismic aspect of the design is addressed in a post alternative development phase. The 30% design of the preferred alternative can address the vertical (gravity, equipment, storage) and tsunami loads.

GHD is also able to work with the Harbor District to identify and pursue additional funding sources to bridge the gap for supplemental design funds and better support construction-phase funding. GHD is experienced in seeking and obtaining funds from a number of sources that would likely be a good fit for this project (see Grant Writing Services on page 12). An additional consideration is to request an augmentation to the awarded grants to better align with the scope of the Harbor District needs. In GHD's experience managing grants and working in collaboration with funding agencies, specifically the Coastal Conservancy, the funders may be supportive to increase grant funding amounts.

GHD assumes a joint CEQA EIR/NEPA EA document will be prepared for the project based on our understanding of project components and potential impacts/effects. This is the most efficient and cost-effective path forward for the project. If MARAD requires separate CEQA and NEPA documents, individual public hearings for CEQA and NEPA processes, and/or a NEPA EIS, additional fee will be required. Similarly, GHD has identified and budgeted for all technical studies likely to be required to support the NEPA and CEQA processes. If MARAD determines additional studies are required to support NEPA, an additional fee will be required.

Seawall and Critizen's Dock Design and NEPA/CEQA

Crescent City Harbor District

Description		Labor Total	Total Subs	Mileage	EDR Report	Public Meeting Material	Total Disb.	Estimated Project Total
Task1	***Project Management***	***$19,492***	***$0***	***$0***	***$0***	***$0***	***$0***	***$19,492***
Subtask 1.1	Invoices and Progress Reports (n=12)	$10,212	$0	$0	$0	$0	$0	$10,212
Subtask 1.2	Bimonthly Progress Meetings (n=24)	$9,280	$0	$0	$0	$0	$0	$9,280
Task2	***Public Involvement & Interagency Coordination***	***$37,008***	***$0***	***$688***	***$0***	***$560***	***$1,248***	***$38,256***
Subtask 2.1	Public Involvement Plan	$6,448	$0	$0	$0	$0	$0	$6,448
Subtask 2.2	Public and Agency Meetings	$30,560	$0	$688	$0	$560	$1,248	$31,808
Task3	***Purpose and Need Statement***	***$2,288***	***$0***	***$0***	***$0***	***$0***	***$0***	***$2,288***
Subtask 3.1	Prepare Purpose and Need Statement	$2,288	$0	$0	$0	$0	$0	$2,288
Task4	***Project Scope & Boundary***	***$1,228***	***$0***	***$0***	***$0***	***$0***	***$0***	***$1,228***
Subtask 4.1	Identify Project Scope and Boundaries	$1,228	$0	$0	$0	$0	$0	$1,228
Task5	***Initial Design of New Seawall and Dock***	***$148,800***	***$8,925***	***$0***	***$0***	***$0***	***$0***	***$157,725***
Subtask 5.1	Concept Engineering	$49,056	$0	$0	$0	$0	$0	$49,056
Subtask 5.2	Design Alternative - 30% Design	$85,248	$0	$0	$0	$0	$0	$85,248
Subtask 5.3	Cost Estimate	$8,000	$6,300	$0	$0	$0	$0	$14,300
Subtask 5.4	Constructability Review	$6,496	$2,625	$0	$0	$0	$0	$9,121
Task6	***Construction Plan***	***$10,752***	***$2,625***	***$0***	***$0***	***$0***	***$0***	***$13,377***
Subtask 6.1	Construction Plan	$10,752	$2,625	$0	$0	$0	$0	$13,377
Task7	***Level of CEQA & NEPA Required***	***$3,060***	***$0***	***$0***	***$0***	***$0***	***$0***	***$3,060***
Subtask 7.1	Determine Level of CEQA and NEPA Required	$3,060	$0	$0	$0	$0	$0	$3,060
Task8	***Data Collection***	***$49,764***	***$180,744***	***$118***	***$1,000***	***$0***	***$1,118***	***$231,626***
Subtask 8.1	Summary of Existing Conditions and Collect Data	$1,980	$0	$0	$0	$0	$0	$1,980
Subtask 8.2	Geotechnical Investigations	$596	$100,020	$0	$0	$0	$0	$100,616
Subtask 8.3	Permits Required for Geotechnical Investigations	$10,136	$0	$0	$0	$0	$0	$10,136
Subtask 8.4	Topographic and Utility Survey	$596	$22,680	$0	$0	$0	$0	$23,276
Subtask 8.5	Archaeology Resources Report and Tribal Outreach	$1,444	$12,974	$0	$0	$0	$0	$14,418
Subtask 8.6	Historic Resources Report	$1,444	$29,698	$0	$0	$0	$0	$31,142
Subtask 8.7	Marine Hydroacoustic Evaluation	$1,444	$15,372	$0	$0	$0	$0	$16,816
Subtask 8.8	Marine Resources Biological Evaluation	$20,768	$0	$118	$0	$0	$118	$20,886
Subtask 8.9	Hazardous Waste and Materials/Contaminated Soil Investigati	$11,356	$0	$0	$1,000	$0	$1,000	$12,356
Task9	***Prepare Joint CEQA/NEPA Document***	***$152,296***	***$0***	***$118***	***$0***	***0***	***$118***	***$152,414***
Subtask 9.1	CEQA Notice of Preperation and Notice of Circualtion	$5,540	$0	$0	$0	$0	$0	$5,540
Subtask 9.2	NEPA Notice of Intent	$3,948	$0	$0	$0	$0	$0	$3,948
Subtask 9.3	Joint CEQA/NEPA Public Scoping Meeting In-Person	$5,816	$0	$118	$0	$0	$118	$5,934
Subtask 9.4	Draft and Final Project Description	$5,844	$0	$0	$0	$0	$0	$5,844
Subtask 9.5	Administrative Review Draft CEQA EIR/NEPA EA	$131,148	$0	$0	$0	$0	$0	$131,148
Task10	***Section 4(f) & Section 106 Evaluations***	***$4,056***	***$7,244***	***$0***	***$0***	***$0***	***$0***	***$11,300***
Subtask 10.1	Section 4(f) Evaluation	$2,668	$0	$0	$0	$0	$0	$2,668
Subtask 10.2	Section 106 Evaluation	$1,388	$7,244	$0	$0	$0	$0	$8,632
Task11	***Public & Agency CEQA/NEPA Review***	***$18,696***	***$0***	***$0***	***$0***	***$0***	***$0***	***$18,696***
Subtask 11.1	Public Circulation Draft CEQA EIR/NEPA EA	$14,500	$0	$0	$0	$0	$0	$14,500
Subtask 11.2	CEQA Notice of Circulation and Notice of Availability	$1,812	$0	$0	$0	$0	$0	$1,812
Subtask 11.3	Resolution and Findings	$2,384	$0	$0	$0	$0	$0	$2,384
Task12	***Final CEQA/NEPA Document and Hearing***	***$33,884***	***$0***	***$118***	***$0***	***$0***	***$118***	***$34,002***
Subtask 12.1	Final CEQA EIR/NEPA EA with Response to Comments (n=50	$17,324	$0	$0	$0	$0	$0	$17,324
Subtask 12.2	Attend Harbor District Meeting - Public Hearing	$4,544	$0	$118	$0	$0	$118	$4,662
Subtask 12.3	Prepare and File CEQA Notice of Determination at OPR	$1,392	$0	$0	$0	$0	$0	$1,392
Subtask 12.4	Prepare NEPA FONSI	$10,624	$0	$0	$0	$0	$0	$10,624
	Estimated Project Total	**$481,324**	**$199,537**	**$1,042**	**$1,000**	**$560**	**$2,602**	**$683,463**

Proposed Modifications

Under Task 2.3, the RFP requests six to eight agency meetings. GHD has scoped and budgeted four meetings, assuming agency staff will also attend the public scoping meeting and public hearing meeting required under CEQA and NEPA. As noted under Project Pricing, this strategic consolidation of meetings will help reduce cost. Additionally, it is GHD's experience that a single virtual meeting and field tour attended by all agencies (two meetings total) is sufficient for this stage of the project, in addition to the public hearings required under CEQA and NEPA.

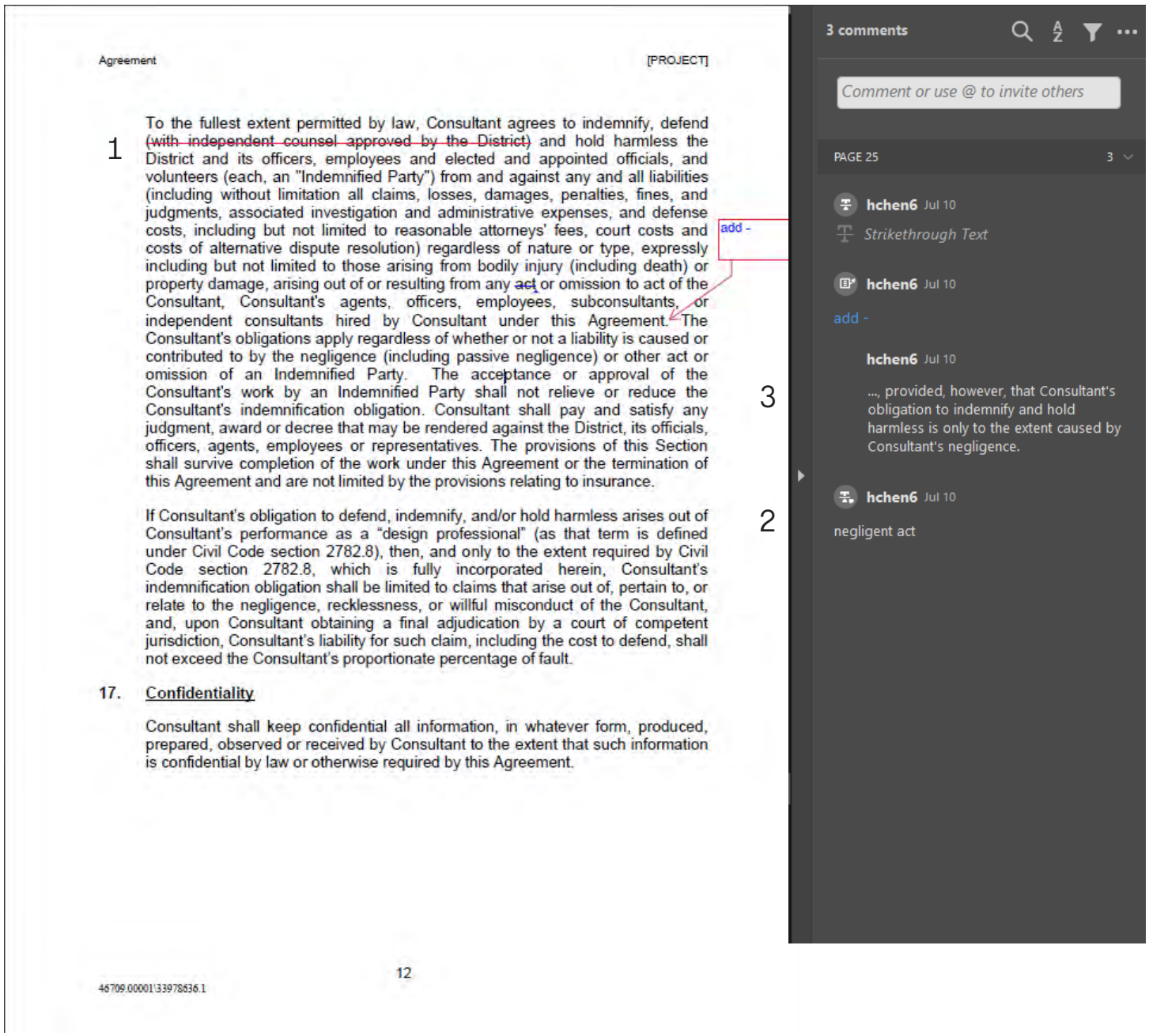
Additionally, the two meetings included in the RFP under Task 5 (Design) have been consolidated with the two meetings under Task 2 (Public Outreach). GHD feels the two public meetings in Task 2 to share information about the project design and solicit input will be sufficient to support the 30% design process.

Otherwise, aside from the schedule deviations noted previously and the contract modifications noted in the following section, GHD does not require additional modifications.

Proposed Contract Modifications

GHD has reviewed and agrees but have some minor changes. based on council review.. Located on page 12 of the agreement we have the following modifications:

1. Line 2 – remove “the independent counsel approved by the Harbor District” part.
2. Line 10 – add “negligent” before “act or omissions….”.
3. Line 12 – add an additional sentence to the back of Agreement that reads: …, provided, however, that Consultant's obligation to indemnify and hold harmless is only to the extent caused by Consultant's negligence.



Agreement [PROJECT]

1 To the fullest extent permitted by law, Consultant agrees to indemnify, defend ~~(with independent counsel approved by the District)~~ and hold harmless the District and its officers, employees and elected and appointed officials, and volunteers (each, an "Indemnified Party") from and against any and all liabilities (including without limitation all claims, losses, damages, penalties, fines, and judgments, associated investigation and administrative expenses, and defense costs, including but not limited to reasonable attorneys' fees, court costs and costs of alternative dispute resolution) regardless of nature or type, expressly including but not limited to those arising from bodily injury (including death) or property damage, arising out of or resulting from any ~~act~~ or omission to act of the Consultant, Consultant's agents, officers, employees, subconsultants, or independent consultants hired by Consultant under this Agreement. The Consultant's obligations apply regardless of whether or not a liability is caused or contributed to by the negligence (including passive negligence) or other act or omission of an Indemnified Party. The acceptance or approval of the Consultant's work by an Indemnified Party shall not relieve or reduce the Consultant's indemnification obligation. Consultant shall pay and satisfy any judgment, award or decree that may be rendered against the District, its officials, officers, agents, employees or representatives. The provisions of this Section shall survive completion of the work under this Agreement or the termination of this Agreement and are not limited by the provisions relating to insurance.

If Consultant's obligation to defend, indemnify, and/or hold harmless arises out of Consultant's performance as a "design professional" (as that term is defined under Civil Code section 2782.8), then, and only to the extent required by Civil Code section 2782.8, which is fully incorporated herein, Consultant's indemnification obligation shall be limited to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant, and, upon Consultant obtaining a final adjudication by a court of competent jurisdiction, Consultant's liability for such claim, including the cost to defend, shall not exceed the Consultant's proportionate percentage of fault.

17. Confidentiality

Consultant shall keep confidential all information, in whatever form, produced, prepared, observed or received by Consultant to the extent that such information is confidential by law or otherwise required by this Agreement.

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…, provided, however, that Consultant's obligation to indemnify and hold harmless is only to the extent caused by Consultant's negligence.

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negligent act

Appendix A

Resumes

Andrea Hilton

Project Manager

Location
Eureka, CA

Experience
18 years

Qualifications/Accreditations

– MS, Natural Resources (Watershed Management), Humboldt State University, Arcata, CA, 2006

– BA, Environmental Studies, Bard College, Dutchess County, NY, 1999

Relevance to the project:

Andrea Hilton is an environmental planner with 18 years of experience and an extensive technical background in hydrology and streamflow management, with an emphasis on management for special-status anadromous fish species. Andrea frequently conducts regulatory permitting and National Environmental Policy Act (NEPA) support for a wide variety of projects, including port projects, public access facilities, trails, and public utility improvements, among others. On a daily basis, she works with the US Army Corps of Engineers, National Marine Fisheries Service, US Fish and Wildlife Service, California Coastal Commission, California Department of Fish and Wildlife, Regional Water Quality Boards, State Lands Commission, and local agencies to ensure compliance with applicable environmental regulations including the Clean Water Act, Coastal Act, as well as the federal and state Endangered Species Acts. Andrea often interfaces with construction managers to ensure regulatory compliance requirements are clearly defined in project designs and bid documents. She supervises a team of biologists and botanists and regularly interfaces with specialized sub-consultants, such as cultural resource specialists. Andrea hails from Rogue River, Oregon and has enjoyed visiting Crescent City all her life.

Project experience

Carnival Cruise Environmental Compliance and Marine Mammal Monitoring Coordination – Port of Long Beach | Project Manager | Atkins / Carnival Cruise | Port of Long Beach, CA

Management of submission of pre-, during- and post-construction regulatory submittals to local, state, and federal agencies. Coordinated required marine mammal monitoring during pile driving. Coordinated required Green Sea Turtle monitoring during dredging. Managed all project correspondence with regulatory agencies.

Port of Alaska Peer Review | Environmental Planner | Jacobs | Anchorage, AK

Completed peer review of multi-year, multi-phase environmental compliance strategy for planned improvements at the Port of Alaska, including NEPA, marine mammal considerations related to the Beluga Whale, federal, and state permitting. Provided recommendations for approaches to supporting technical studies and opportunities for regulatory streamlining.

Port of Los Angeles MOTEMS Environmental Support and Peer Review | Environmental Planner | Kinder Morgan | Port of Los Angeles, CA

Provided environmental support and third-party peer review of design, permitting, and CEQA compliance requirements to rehabilitate several marine terminals in the Port of Los Angeles used for bulk fuel. Included State Lands Commission MOTEMS interface and approval, coordination with the Port of Los Angeles, Regional Water Quality Board, US Army Corps of Engineers (USACE), regional air district, and other agencies.

Nordic Aquafarms Humboldt CEQA and Permitting | Environmental Planner | Nordic Aquafarms Humboldt | Samoa, CA

Provided environmental compliance for a large terrestrially-based aquacultural campus on Humboldt Bay. Prepared California Environmental Quality Act (CEQA) Initial Study/Mitigated Negative Declaration

(IS/MND) and Environmental Impact Report (EIR). Coordinated and reviewed numerous technical studies, including biological, botanical, noise, cultural, numeric modeling (dilution), and marine resources. Worked closely with the lead agency (Humboldt County) and independent peer reviewers. Prepared project permits, including applications to the California Coastal Commission, Regional Water Quality Control Board (RWQCB) NPDES program, Humboldt County, and the North Coast Unified Air Quality Management District.

Annie and Mary Trail Project CEQA and NEPA | Project Manager | City of Arcata | Arcata, CA

Completed CEQA IS/MND for the Annie and Mary Trail Project, including review of biological and cultural resources technical studies completed by sub-consultants. Completed required National Environmental Policy Act (NEPA) environmental studies and processes as required by Caltrans. Coordinated with design staff to document updates to the project design. Assisted with Caltrans coordination.

Little River Trail Project Approval & Environmental Documentation (PA/ED) CEQA and NEPA | Environmental Project Manager | Redwood Community Action Agency | Little River, CA

Managed environmental support activities for GHD and subcontractors, including the Preliminary Environmental Study (PES), biological, wetland, cultural resource, visual resource, and various other technical studies, as well as a CEQA IS/MND. Completed required NEPA environmental studies and processes as required by Caltrans. Worked in close coordination with project management and environmental Caltrans District 1 staff.

Old Arcata Road Rehabilitation & Pedestrian/ Bikeway Improvements CEQA, NEPA, and Permitting | Environmental Team Lead | City of Arcata | Arcata, CA

Served as Environmental Team Lead for Caltrans District 1 Local Assistance project. Prepared a project description and CEQA IS/MND and EIR for road rehabilitation, upgraded bicycle lanes, extended pedestrian walkway, cross walks, curbs and gutters, speed humps, and a new roundabout. Completed required NEPA environmental studies and processes as required by Caltrans. Facilitated client and Caltrans review of related project environmental documents. Project includes wetland impacts and requisite compensatory mitigation.

Sunset Avenue/LK Wood Improvements Project CEQA and NEPA Environmental Team Lead | City of Arcata | Arcata, CA

Environmental team lead for the Sunset Avenue/LK Wood Improvements Project to design and install two roundabouts. Completed required NEPA environmental studies and processes as required by Caltrans. Assisted with Caltrans coordination, provided oversight of technical environmental documents, and completed the CEQA CE for the project.

Highway 101 12th Street Interchange CEQA and NEPA | Environmental Team Lead | City of Fortuna | Fortuna, CA

Off-highway roundabout facility project. Served as Environmental Team Lead for Caltrans District 1 Local Assistance project. Managed environmental support activities for GHD and subcontractors, including the PES, biological, wetland, cultural resource, visual resource, and various other technical studies, as well as a CEQA IS/MND. Completed required NEPA environmental studies and processes as required by Caltrans. Worked in close coordination with project management and environmental staff at Caltrans District 1.

Highway 101 Kenmar Road Interchange CEQA and NEPA | Environmental Team Lead | City of Fortuna | Fortuna, CA

Served as Environmental Team Lead for Caltrans District 1 Local Assistance project. Managed environmental support activities for GHD and subcontractors, including the PES, biological, wetland, cultural resource, visual resource, and various other technical studies, as well as a CEQA IS/MND. Completed required NEPA environmental studies and processes as required by Caltrans. Worked in close coordination with project management and environmental staff at Caltrans District 1.

Humboldt Bay Heavy Lift Terminal Peer Review | Project Manager | Crowley Wind Services | Eureka, CA

Peer review Humboldt Bay Harbor, Recreation, and Conservation District draft documents and processes, including CEQA, NEPA, permit applications, and technical studies. Includes peer review of documents prepared by their consultant team (ICF, Moffatt & Nichol, and SHN Engineering).

Charles Smith AICP, LEED AP BD+C

Principal-in-Charge - CEQA/NEPA

Location

Irvine, CA

Experience

30 years

Qualifications/Accreditations

- MPl, Urban and Regional Planning, University of Southern California, 1990
- BS, Business Administration, University of Southern California, 1984
- American Institute of Certified Planners (AICP) #011766
- Leadership in Energy and Environmental Design Accredited Professional (LEED AP) Building Design and Construction (BD+C), US Green Building Council

Relevance to the project:

Charles Smith has over 30 years of experience in environmental impact assessment services for planning, development, and public works infrastructure projects. He has held leadership roles in project / program management, operations management, business development, and corporate programs in education / professional development. Charles' professional interests include California Environmental Quality Act (CEQA) / National Environmental Policy Act (NEPA) compliance, land use planning, and sustainable development. He has extensive experience managing as-needed contracts for public agencies.

Project experience

Los Angeles County On-Call Environmental Services | Supervisor / Administrator | Los Angeles County Public Works | Los Angeles County, CA

Managed as-needed environmental services under multiple on-call contracts with the Los Angeles County Department of Public Works, Project Management I & II, Programs Development, and Flood Maintenance Divisions, from 2009-2018. The scope of work comprised CEQA/NEPA document preparation; technical studies; public meeting support; and regulatory permitting activities. A broad range of projects were addressed, including water storage and pipelines, health care facilities, green infrastructure, roadways and bridges, bikeways, County administration buildings, and flood control facilities.

City of Oceanside Coast Highway Corridor Plan EIR CEQA Addendum | Project Manager | City of Oceanside | Oceanside, CA

Managed a CEQA Addendum for the City of Oceanside Coast Highway Corridor Plan EIR. The project involved the proposed revitalization and enhancement of the Coast Highway corridor between Harbor Drive and Buena Vista Lagoon. The intent is to transform Coast Highway from an auto-oriented thoroughfare into a "complete street" that serves all modes of transportation. Proposed improvements include pedestrian and bicycle infrastructure, access to transit, roundabouts, parking, economic development, and the application of Smart Growth principles. Successfully managed the Addendum under an expedited schedule.

City of Carlsbad Beach Access Repair IS/MND | Environmental Task Leader | City of Carlsbad | Carlsbad, CA

Managed the preparation of a CEQA IS/MND for the City of Carlsbad for a beach access stairway and promenade repairs along 3,500 feet of coastline from Pine Avenue to Tamarack Avenue. Permitting and public outreach efforts are also a key part of this project, as well as maintaining the integrity of the slope and native plantings on the beach bluff. GHD's environmental effort has included refining the project description and preparing related supporting technical studies: visual impact assessment, air quality study,

cultural resources assessment, biological resources study and noise report. GHD collaborated with the City in navigating project review and approvals with California State Parks.

Huntington / Talbert Channel Improvement Project CEQA Compliance | Environmental Task Manager | Orange County Public Works | Huntington Beach, CA

Led the CEQA environmental task for proposed improvements to the Huntington / Talbert Channels in Orange County. The project involves maintenance to replace corroded sheet pile wall segments of the Huntington Beach Channel and the Talbert Channel. Stormwater improvements would be installed behind the new walls and a pedestrian bridge would be temporarily removed. Efforts involved preparation of a CEQA approach memorandum outlining the respective merits of various approaches to environmental documentation.

General Plan / Coastal Land Use Plan EIR and Supplemental EIR | Project Manager | City of Goleta | Goleta, CA

Managed the EIR for the City of Goleta's first general plan / coastal land use plan, as well as a supplemental EIR for revisions to the plan. Upon incorporation, the City conducted an extensive public involvement program to solicit input on alternative planning scenarios. Managed the preparation of the draft and final EIRs, including project and alternatives descriptions, setting and impact analyses for all applicable environmental disciplines, and mitigation measures to reduce potentially significant impacts. Provided public hearing support to the Planning Agency and City Council and led consultant team responses to over 950 comments on the Draft EIR within a compressed timeframe.

OceanWay Secure Energy EIS / EIR | Onshore Task Leader | AMEC Earth & Environmental | Los Angeles, CA

Served as Onshore Task Leader for the 12-mile onshore portion of an EIS/EIR addressing potential impacts from construction and operation of a Liquefied Natural Gas (LNG) deepwater port proposed 30 miles off the coast of Southern California. The project proposed that specially designed carriers would bring LNG from Australia, regasify the LNG, and deliver the natural gas via subsea pipeline to shore. The lead federal and local agencies were the US Coast Guard and City of Los Angeles, respectively. Responsibilities included management of selected technical disciplines including aesthetics, cultural resources, socioeconomics, land use, noise, and public services and utilities; monthly status meetings and coordination with the engineering prime contractor; document production; and related support. Based upon market conditions, the applicant suspended preparation of the environmental document prior to its release for public and agency review.

City of Hermosa Beach Pier Repair Permitting | Environmental Task Leader | City of Hermosa Beach | Hermosa Beach, CA

GHD is providing professional environmental permitting services to the City of Hermosa Beach for repair of the City's pier. The project includes structural repairs to piles, pile caps (bents), and deck based on inspections performed in 2017 and 2022. GHD's permitting efforts include applications for a Coastal Development Permit from the California Coastal Commission, Nationwide Permit (NWP 3) from the US Army Corps of Engineers, and Section 401 Water Quality Certification from the Los Angeles Regional Water Quality Control Board.

Jeremy Svehla PE, QSD/QSP

Principal-in-Charge - Maritime and Coastal Design

Location
North Coast, CA

Experience
20 years

Qualifications/Accreditations

– BS, Environmental Resources Engineering, Humboldt State University, Arcata, CA, 2003
– Civil Engineer, CA #72169, OR #84314
– Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer/Practitioner #00159

Relevance to the project:

Jeremy Svehla is a professional engineer with 20 years of experience in water resources and coastal engineering, encompassing a broad range of engineering design, project management, and construction management for large-scale wetland improvements, stream habitat restoration, and flood control projects, especially within the Coastal Zone of California. This has involved managing the Eel River Estuary Restoration Program comprised of the Salt River Ecosystem Restoration Project involving restoration of the lower 7.7-mile reach of the Salt River corridor and 450 acres of tidal salt marsh. He is also managing restoration of the lower 2.5-mile reach of Centerville Slough, 150 acres of tidal salt marsh, and 15 acres of coastal dunes in the Eel River Estuary. His skills range grant writing, geomorphic assessments, shoreline assessments, 2D hydrodynamic modeling, riverine and estuarine habitat restoration design, waterfront design, sea level rise adaptation planning and construction management. He has served as project manager or project director for many of GHD's high profile coastal resiliency and habitat restoration projects in California. As a testament to the quality of his service, Jeremy was named the ASCE San Francisco Section North Coast Branch "Engineer of the Year" in 2015.

Project experience

Humboldt Bay Natural Shoreline Infrastructure (NSI) Project | Project Director | Humboldt County DPW | Humboldt Bay, CA

Leading the project team in developing concept design solutions to reduce tidal flooding and create salt marsh habitat along 1.25 miles of Humboldt Bay shoreline that protects Highway 101 between Eureka and Arcata. The project is exploring beneficial reuse of dredged sediments to recreate eroded salt marsh. The project includes tidal hydraulic modeling, wind-wave run-up analysis and assessment of nature-based restoration techniques adaptable to sea level rise.

Elk River Estuary Enhancement and Public Access Project | Construction Manager | City of Eureka | Eureka, CA

Leading the project team to develop construction documents for the salt marsh enhancement and public access improvements. The estuary enhancement project will significantly expand available salt marsh and inter-tidal wetlands near the mouth of the Elk River and also includes a one-mile extension of the waterfront trail for expanded coastal public access. GHD is the leading the construction management and administration for this project as well as permit compliance.

Humboldt Bay Trail South Sea Level Rise Vulnerability and Adaptation Plan | Hydrologic / Hydraulic Engineering Lead | County of Humboldt | Humboldt County, CA

Oversaw the team's hydrologic, hydraulic analyses to determine SLR vulnerabilities and adaptation measures with the ultimate goal to reduce long-term risk for this 4.2-mile-long Humboldt Bay Trail segment. A regional high priority for years, the Humboldt Bay Trail is the backbone of Humboldt County's envisioned regional trail system, providing connectivity and a safe

route between Eureka and Arcata, the County's two largest cities. The Humboldt Bay Trail South project is the final segment of trail needed to complete the overall Humboldt Bay Trail system. The trail parallels US Highway 101 between Arcata and Eureka and is vulnerable to wind-wave erosion, tidal inundation, and stormwater flooding. Led discussions with Caltrans regarding drainage and SLR impacts and developed solutions with the team that mutually benefit the proposed trail design and Caltrans infrastructure.

White Slough Tidal Wetland Restoration Project | Project Manager and Engineer | U.S. Fish & Wildlife Service (USFWS), Humboldt Bay National Wildlife Refuge, Humboldt Bay, California

Provided planning, permitting, construction contracting, and construction oversite assistance to the USFWS's project, located on the Humboldt Bay National Wildlife Refuge adjacent to Highway 101. Work involves the removal of failed earthen levees and construction of new set-back levees designed to attenuate wind-wave energy and reduce impacts to sensitive tidal marsh habitat and US Highway 101 from SLR. Provided USFWS with sediment reuse planning assistance, Caltrans encroachment permit application assistance, traffic control plans, design review, construction administration, and construction oversite. This project has received funding from the State Coastal Conservancy and US Fish & Wildlife Services.

SLR Adaptation Plan for Transportation Infrastructure in the Eureka Hydrologic Area | Project Manager | Humboldt County Department of Public Works | Humboldt Bay, CA

As part of a study to identify shoreline vulnerability and adaptation projects to address SLR, shoreline erosion, and sedimentation from coastal streams throughout a 3,000-acre study area—including the US Highway 101 corridor between Arcata and Eureka—leading the project team to determine vulnerabilities to SLR impacts and adaptation measures that will reduce long-term risk. The study focuses on the geomorphic response to episodic storm events and long-term increases in sea levels. Humboldt County Department of Public Works leads the project, partnered with Caltrans, HCAOG, and City of Eureka. The project is funded through a Caltrans Sustainable Communities Grant Program.

Sea Level Rise Vulnerability and Capital Improvement Adaptation Plan | Project Manager | City of Eureka, CA | Eureka, CA

This ongoing project is addressing the City's need to develop a long-term climate adaptation plan tailored to planning for coordinated capital improvement projects within the Coastal Zone. The plan focuses on Eureka's shoreline extending from Martin Slough to Eureka Slough. The inundation depth, duration, and volume will be calculated and mapped, which provides an advancement of the previously used "bathtub model" approach that projected tidal still water levels across the landscape. Using the results, GHD is identifying tipping points or thresholds of action characterized by shoreline morphological response and/or asset. GHD is working with the City to develop holistic adaptation strategies that reduce or accommodate the inundation vulnerabilities.

Border Coast Regional Airport Authority Design Development | Project Engineer | Border Coast Regional Airport Authority | Del Norte County, CA

Served as Project Engineer for improvements to the facilities at the Del Norte County Regional Airport, primarily developing a stormwater pollution prevention plan and design documents. This multi-year project has involved considerable agency coordination with entities such as the Federal Aviation Association and permits from California State Coastal Commission, the USACE, the Regional Water Quality Control Board, and the California Department of Fish and Wildlife.

Rowdy & Dominie Creek Fish Passage Improvement | Project Manager | Tolowa Dee-ni' Nation | Smith River, CA

Served as Project Manager for the project that will replace the existing fish hatchery infrastructure from within the Rowdy and Dominie Creeks with more modern equipment to enable continued hatchery operation. The project also includes the installation of a roughened channel to improve instream habitat conditions and to improve fish passage beyond the hatchery diversion weir when not in operation. Environmental services provided by GHD included development of an IS/MND and environmental permits with the RWQCB and California Department of Fish and Wildlife (CDFW).

Craig Lewis PE, SE

QA/QC - Design

Location

San Francisco, CA

Experience

32 years

Qualifications/Accreditations

–* BS, Civil Engineering, University of California, Davis, CA, 1991

–* Civil Engineer, CA #58706, WA #42655, AK #197742

–* Structural Engineer, CA #4765, WA #42655

Relevance to the project:

Mr. Lewis has more than 30 years of experience with the design and analysis of structural elements for port terminal and other waterfront infrastructure and facilities. He has also performed static and dynamic analyses using various finite element structural programs and has extensive experience with hydrodynamic loading and seismic design. He has broad knowledge of maritime construction methods and materials, including steel and reinforced concrete. Mr. Lewis' experience includes the design of steel, concrete, and timber marine structures and he has designed structures for a wide variety of loading conditions including seismic loading, large tidal and water level variations, vessel wake and strong current conditions. Mr. Lewis has direct experience with design details, both new construction and repair/retrofit and has worked with various design codes and standards including American Association of State Highway and Transportation Officials (AASHTO), Caltrans, Unified Facilities Criteria (UFC), American Institute of Steel Construction (AISC), American Concrete Institute (ACI), ASCE, and International Building Code (IBC). He has developed new, repair and retrofit design details for bridges, ports and waterfront facilities including earth retaining structures, tie-back and cantilever sheet pile bulkheads, cofferdams, mooring dolphins, floating pontoons, and wharf and pier elements including load-bearing vertical and batter piles, bent caps and slabs.

Project experience

Huntington (D01)-Talbert (D02) Channels Sheet Pile Repair Project | Project Director | Orange County Public Works (OCPW) | Orange County, CA

Project Director for the Design Build team to prepare repair and replacement final design and construction documents for approximately 16,000 linear feet of failing steel sheet pile along both D01 and D02 flood channels. The project also included the evaluation of approximately 9 miles of channel walls and assisting the County on developing a Capital Improvement Program to replace the remaining portions of both D01 and D02 flood channels.

Chollas Creek Bulkhead Replacement | Structural Engineer | Naval Base San Diego | San Diego, CA

Approximately 700 linear feet of quay wall collapsed at the south side of Chollas Creek at Naval Base San Diego (NBSD) in late 2019.

Mr. Lewis was part of the A/E team to review the wall failure, diagnose the cause of failure, and develop alternatives for the replacement. Cantilever and anchored solutions were reviewed including use of steel sheet pile, high modulus combination wall and precast concrete sheet pile sections. The engineering design tasks for the Chollas Creek Quay Wall project at NBSD and Naval Facilities Engineering Command (NAVFAC) Southwest included development of a Design-Build (DB) package that was used to support the environmental process, determine estimated construction cost and schedule, and support during the Design-Build construction contract for the quay wall replacement.

Bulkhead Containment Wall Concept Study | Marine Structural Engineer | Port of Tacoma | Tacoma, WA

GHD performed a concept study and developed rough order of magnitude cost estimates for various containment wall options to be installed at a commercial property at Port of Tacoma, which would

eliminate discharge of contaminants into Hylebos Waterway and limit tidal effects on groundwater and resulting contaminant migration. It would also provide potential marine terminal berthing to accommodate ships and barges and function as a bulkhead for two vertical surcharge loading scenarios; 250 pounds per square foot (psf) and 1,000 psf, typical for a commercial port. Responsible for leading the study, concept design and cost estimating.

Embarcadero Seawall Vulnerability Study | Project Manager and Lead Structural Engineer | Port of San Francisco | San Francisco, CA

GHD, as part of a Joint Venture, performed an earthquake vulnerability study of the Northern Waterfront Seawall. The project study included performance-based structural analysis and conceptual design of wharf structure components for operational and code prescribed seismic loads. Craig and the team analyzed and ranked criticality of the seawall sections with respect to static and earthquake loads. The study also included flooding vulnerability assessment due to climate change and sea level rise.

Repair Bulkheads 1, 2, and 3 | Lead Structural Engineer | Naval Amphibious Base Coronado | San Diego, CA

Performed investigation and design of replacement of the failing Bulkhead 1 and repairs to existing concrete Bulkheads 2 and 3 to prevent additional deterioration. As structural lead, developed designs for the new steel sheet pile bulkhead and concrete cap, including solution for portion of Bulkhead 1 that passes under existing travel lift piers. Provided input for cost estimating and construction phasing.

P-204 Wharf Improvements (Uniform & Tango) Phase 1 (Part E) | Lead Structural Engineer | Naval Base Apra Harbor | Guam

Structural Engineer for design of a steel king pile/sheet pile bulkhead and wharf using tie-back rods, anchor piles, pile caps, stone columns to eliminate seismic liquefaction, concrete wharf deck for crane loading, mooring bollards, bollard foundations and fendering system. Led the team to perform site investigations, and prepare full plans and specifications, including critical path submittals, construction phasing, and PCAS.

Middle Harbor Steel Sheet Pile Containment Structure | Structural Engineer | US Army Corps of Engineers | Port of Oakland, CA

As a part of the overall project to deepen the Port of Oakland's shipping channels to 50 feet in order to accommodate larger vessels, GHD was selected as the prime consultant to design the repository site for approximately 6 million cy of dredged material. Provided structural engineering for the analysis and design of a 1,700-foot-long cantilever steel sheet pile wall to contain the dredged material. GHD added merit to this project by value engineering the original concept for the containment structure. The original concept developed was a rock jetty along the entire face of the containment structure. As part of the project team, interacted with and worked cooperatively with the Technical Advisory Committee (TAC) to develop the design. The TAC included USACE, the Port of Oakland, and representatives of several resource agencies such as NMFS and USFWS as well as local interest groups such as the Audobon Society.

Aggregate Offloading Facility | Project Manager | Shamrock Materials, Inc. | Petaluma, CA

Project Manager for the design of a barge offloading wharf along the Petaluma River in Northern California. Project work included planning, layout, and design of a tie-back steel sheet pile bulkhead, design of anchor piles and barge/ship mooring attachments and fendering, and coordination with equipment and material suppliers.

Camp Pendleton 150MGD Seawater Desalination Plant | Project Structural Engineer | Camp Pendleton | San Diego, CA

Provided structural design and details for the feasibility study conducted for the 14-foot diameter intake/outlet tunnel structure and 10-foot diameter risers constructed in sandy silty seafloor sediments in 90 feet of water off the Southern California coast. Performed a constructability analysis of the construction sequence and developed cost estimates for the offshore portion of the project.

Lakeville Street Bridge Replacement | Project Engineer | US Army Corps of Engineers | Petaluma, CA

Part of the Army Corps/Petaluma River Flood Control project. Included a two-span structure with an overall length of 105 feet and a width of 54 feet; bridge was skewed 26 degrees with respect to the river due to the alignment of Lakeville Street; the equal spans were 52 feet 6 inches; the bridge provided for two 12-foot traffic lanes, shoulders, and two 6-foot sidewalks. The superstructure is comprised of AASHTO concrete bridge planks with a composite cast-in-place deck, and the bridge planks provided the least depth of superstructure and thus the least disruption to the approach roadways; the deck is supported by two seat-type abutments and one pier wall; the abutments and piers are supported by driven steel tubular piles. The front faces of the abutments double as the channel walls due to the rectangular shape of the channel section in this vicinity. Current Caltrans requirements were used for both vertical and lateral loads for the design of the bridge.

Kristine Gaspar PG

QA/QC CEQA/NEPA

Location

Santa Rosa, CA

Experience

27 years

Qualifications/Accreditations

– MPA, Public Administration, California State University, Sonoma, CA, 1995

– BA, Environmental Studies and Planning, California State University, Sonoma, CA, 1992

Relevance to the project:

Kristine Gaspar's experience includes 27 years of environmental planning, CEQA compliance, resource agency permitting, data research and analysis, grant writing, and community surveys. Kristine has been involved in environmental analysis and review on a wide variety of projects from private development to infrastructure projects, including residential, schools, waterfront facilities, recycled water, and park facilities. She is currently the project manager for the Kelly Farm Mitigation Bank project and Petaluma River Trestle Rehabilitation project. Kristine's projects are often complex with multiple deadlines.

Project experience

Central Coast Transfer Station Environmental Impact Report (EIR) | Quality Control Reviewer | Mendocino Solid Waste Management Authority | Mendocino County, CA

Served as Quality Control Reviewer for this EIR for a new transfer station just east of Fort Bragg proposed to be constructed on forest lands adjacent to Highway 20. The facility would include an approximate 5-acre footprint with a 30,000-square-foot enclosed facility, recycling, two scales and a scale house, a leach field, a groundwater well, and stormwater detention basins. Significant issues associated with the project include forest resources, sensitive pygmy forest, special-status species, surface hydrology, noise, and transportation.

Fulton Road Widening Improvement Project | Quality Control Reviewer | City of Santa Rosa | Santa Rosa, CA

Served as Quality Control Reviewer for the permitting phase of the project. The project includes roadway widening, new vehicle travel lanes, bicycle lanes, sidewalks, bioretention areas, bus stops, landscaping, utility relocations, stormwater facilities, and property acquisitions and easements. The project would result in fill in Forestview Creek, Peterson Creek, several roadside wetland and non-wetland ditches, and a seasonal wetland. Assisting in the permitting services for the project, which will include obtainment of a Section 404 Nationwide Permit; 401 Water Quality Certification; and Section 2081 Incidental Take Permit.

Richmond Ferry Terminal Project | Permitting Task Lead | San Francisco Bay Ferry | Richmond, CA

Oversaw the resource agency permitting process and supporting technical studies for this new Water Emergency Transportation Authority (WETA) ferry terminal to be located at the terminus of Harbour Way S in Richmond. Approvals included Dredged Material Management Office (sediment quality sampling plan and disposal plan), USACE (Nationwide Permit), San Francisco RWQCB (401 Certification), and Bay Conservation Development Commission (Administrative Permit).

Will C. Wood EIR | Quality Control Reviewer | Vacaville Unified School District | Vacaville, CA

Served as Quality Control Reviewer for this EIR that evaluated a new multipurpose stadium and track complex on the campus of Will C. Wood High School. The project included a new 8-lane synthetic track; a synthetic turf field; 2,500-seat home bleachers with press-box; 1,500-seat visitor bleachers; ancillary facilities; and a variety of track and field event areas within and around the stadium. Given the site's location within the City, issues of note included traffic, noise, and lighting.

Grant Avenue Bridge Rehabilitation CEQA and Permitting | Quality Control Reviewer | City of Novato | Novato, CA

Provided quality control review for permitting applications for this bridge rehabilitation project within Caltrans District 4. The project includes rehabilitating and widening an existing vehicle and pedestrian bridge, as well as stabilizing the banks and channel on the upstream portion of Novato Creek. The project includes grant authorization from the Caltrans Highway Bridge Replacement and Rehabilitation Program for partial federal funding. Technical studies included a natural environment study, biological assessment, Area of Potential Effects (APE) mapping, archaeological study report, historic resources evaluation report, and several technical memorandums. Permitting applications include a Section 404 Nationwide Permit, 401 Water Quality Certification, and Section 1602 Streambed Alteration Agreement.

Vallejo Materials Recovery Facility Expansion Initial Study/Mitigated Negative Declaration | Quality Control Reviewer | Recology | Vallejo, CA

GHD prepared an IS/MND for the project, which included revising Recology's existing Solid Waste Facility Permit to allow an increase in incoming capacity and receiving hours to handle additional residential and commercial recyclables and organic materials.

San Leandro Marina Facilities Decommissioning Assessment | Environmental Task Lead | City of San Leandro | San Leandro, CA

Served as Environmental Task Lead, preparing the project permitting considerations section of the Marina Facilities Decommissioning Assessment. The approach to permitting indicated that in addition to decommissioning the harbor, the permitting should be approached holistically and consider the San Leandro Shoreline Development Project as well, allowing the project to self-mitigate. Agencies included BCDC, US Army Corps of Engineers, SF Bay Regional Water Quality Control Board, and California Department of Fish & Wildlife.

Vallejo Ferry Maintenance Facility IS/MND and Permitting | CEQA and Permitting Task Lead | Water Emergency Transportation Authority | Vallejo, CA

Oversaw preparation of the IS/MND and was responsible for coordinating and securing the resource agency permitting. The project included the construction of a new docking and maintenance facility within Mare Island Strait for the WETA. The permitting agencies involved include Bay Conservation Development Commission (Major Permit), USACE (Section 10 Permit and Waiver to build within Federal Channel), San Francisco RWQCB (Water Quality Certification), National Marine Fisheries Service (Formal Consultation), California Department of Fish & Game (Streambed Alteration Agreement and Incidental Take Permit), and US Coast Guard (approval to build within Federal Channel). The project also involved coordination with Navy Base Realignment and Closure.

Sonoma-Marin Area Rail Transit (SMART) Larkspur Extension Project | Permitting Task Lead | SMART | Marin County, CA

Assisted SMART with obtaining permits, including US Army Corps of Engineers (USACE) Nationwide Permit, Regional Water Quality Control Board (RWQCB) Region Water Quality Certification, and California Department of Fish & Wildlife (CDFW) Streambed Alteration Agreement, preparing the mitigation plan for permanent impacts to wetlands, and providing support during construction of the Larkspur Rail Extension from San Rafael to Larkspur.

Lake Herman Quarry EIR | Project Manager | County of Solano | Solano County, CA

The Lake Herman Quarry project was for a new Use Permit and expansion of an existing quarry. The project site is located adjacent to and includes biologically sensitive areas and habitat for two federally endangered species (California Red-Legged Frog and Callippe Silverspot Butterfly). The EIR addressed complex issues for not only biology but also air quality related to health risk, water quality and hydrology concerns, and historic mining activities with cultural significance located in and around the project site.

Satish Chilka PE

Marine Structural Design

Location

Concord, CA

Experience

15 years

Qualifications/Accreditations

– MS, Civil Engineering, University of Southern California, Los Angeles, CA, 2007

– BS, Civil Engineering, University of Mumbai, India, 2005

– Civil Engineer, CA #80047

Relevance to the project:

With 15 years of structural engineering, design and project management experience, Satish Chilka has specialized knowledge in planning, design, analysis, construction document preparation, quality control review, and construction support services for waterfront structures. His experience includes design and analysis of piers and wharves, seawalls, bulkheads, assessment and rehabilitating existing structures, and design of floating access ramps and gangways. Other project experience includes multiple ferry terminals including the landing float and ferry vessels, mooring and berthing analyses, design of floating steel gates for dry docks, and offshore wind energy projects.

Project experience

WETA Alameda Main St Ferry Terminal – Design-Build | Project Manager, Lead Structural Engineer | Manson Construction | Alameda, CA

The Water Emergency Transportation Authority maintains and operates several ferry terminals throughout the Bay Area. These terminals are "essential facilities" that need to be operational after a seismic event. The agency is replacing the existing structure – bridge, gangway, bridge support pier, guide piles, float, donut fenders at the Alameda Main St Ferry. GHD/Manson team was selected as the Design-Build team to complete the design and construction of the project beginning February 2023.

Satish is the Project Manager and the lead engineer responsible for the engineering effort for the design of the steel float components and seismic design of the piles that is critical for the desired performance of the facility.

RIG Tenders Dock Replacement | Project Manager, Lead Structural Engineer | Hilcorp LLC | Nikiski, AK

Hilcorp LLC desires to evaluate the condition of the existing RIG Tenders Dock. The sheet pile lined bulkhead wharf supports the marine operations and provides staging area for storage and repairs of the equipment, The dock is exposed to severe arctic marine weather and abrasion from the sediment deposits.

Satish is responsible for the condition assessment and evaluation of the bulkhead walls in its current condition and assist the Owner with near-term repairs and a long-term project plan to continue using the dock and expand the usage for other operations as needed.

Benicia Marina Breakwater Repairs | Project Manager, Lead Structural Engineer | City of Benicia | Benicia, CA

The City of Benicia plans to repair and replace portions of the existing sheet pile wall breakwater for the Benicia Marina. The breakwater shelters the marina from strong waves and currents in the Carquinez Strait.

Satish is responsible for the project management, client coordination and leading the condition

assessment and design of repairs and replacement of the sheet pile breakwater.

Mid-Town Replacement Seawall Design | Design Manager, Lead Structural Engineer | Town of Palm Beach | West Palm Beach, FL

The Town of Palm Beach plans to replace an aging section of existing seawall fronting the Atlantic Ocean to provide storm protection for Ocean Boulevard, which serves as the hurricane evacuation route for this segment of the Island. The project comprises approximately 2,700 linear feet of new steel sheet pile and anchors. The sheet piles are subjected to extreme scour levels along the beach, limiting the use of cantilever walls. As Lead Structural Engineer, responsible for the design and developing a bid package including drawings and technical specifications for the project.

Huntington Beach and Talbert Channel Sheetpile Improvements | Project Manager, Lead Structural Engineer | Orange County Public Works | Orange, CA

Orange County Public Works has tasked the GHD design-build team with the improvement project that includes repair and replacement of channel wall sections. The channel is part of the flood protection system for the community due for recertification by Federal Emergency Management Agency (FEMA) and is in a high seismic risk zone.

Satish coordinated the various aspects of design, such as civil works, hydraulics and hydrology, geotechnical evaluation related to the design of sheetpile improvements and managing subconsultants to meet the project deliverables. As Lead Structural Engineer, Satish was also responsible for the overall design and analysis of the steel sheetpile wall sections. The design required working closely with the contractor partner and adopting the various limitations to access the site, condition of the existing steel sheetpile wall, and biological sensitivity of the channel. Construction is on schedule to be completed in July 2023.

C&H Waterfront Facility Repairs | Project Manager, Lead Structural Engineer | C&H Sugar Refinery | Crockett, CA

The C&H Sugar facility is a historically significant wharf structure near San Francisco that has continued operations since 1906. The facility consists of a mixed-use dock that allows for berthing of large vessels, hopper system for loading/unloading product and several buildings that are part of the processing operations.

Satish led the design of in-place repairs for the pier structure – deck, steel / concrete / timber piles, mooring bollard connections to deck, and coordinated the environmental assessment, and permit applications in-house. Several piles were repaired using grouted FRP jackets in lieu of replacement to avoid interruption of operations and impacting the sugar supply chain.

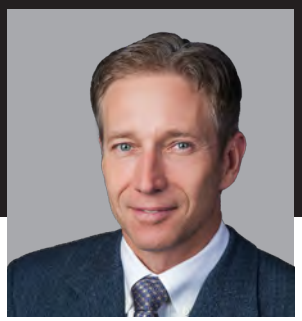
Satish is also leading the Construction Management and Support services for the on-going repairs at the facility.

Delta Dock Expansion Project | Lead Structural Engineer | Commonwealth Ports Authority | Saipan, CNMI

The Commonwealth Port Authority wishes to repair and upgrade the facilities at Delta Dock to receive larger visiting yachts. The existing structures must remain in place and removal and full replacement of the dock is not considered. The existing sheet pile bulkhead is severely degraded, and a new structural system is required to bring the facility up to code. In order to moor a greater number and flexibility, of visiting yachts, the dock is also to be extended into the bay. A boat ramp will be provided for trailer-able emergency vehicles. The site is located in a region of high seismic activity. As Lead Structural Engineer, responsible for the developing the project Basis of Design and selecting the appropriate criteria, design of the new sheet pile bulkhead system for both the main dock and the boat ramp.

Robert (Bob) Sherwood PE

Waterfront Engineer



Location
Irvine, CA

Experience
24 years

Qualifications/Accreditations

– BS, Civil Engineering, University of California, Irvine, CA, 1999

– Coastal Engineering Certificate Program, Old Dominion University, Norfolk, VA, 2011

– Civil Engineer, CA #64351

Relevance to the project:

Bob Sherwood is a civil/waterfront engineer with over 24 years of experience on a wide range of projects, including the design of boat docks and marinas, boat launch ramp facilities, plazas and promenades, bulkheads and shore protection, utilities and landside improvements, and harbor dredging projects. He has also been involved with the inspections of shore protection, bridges, docks, wharves, and bulkheads both above and below water. He has assisted clients with initial planning and feasibility studies including obtaining grants for waterfront facilities and is typically involved with a project from the planning stages through design and to the end of construction.

Project experience

Raley's Dock Replacement | Waterfront Engineer (QC Check) | City of West Sacramento | Sacramento, CA

Performed review of project submittals and RFIs during construction having done overall quality control for the project located along the bank of the Sacramento River. Project elements included a 58-foot-long steel pontoon berthing dock and a 372-foot-long concrete floating docks, both held in place with steel pipe guide piles. The docks are protected by a new river debris deflection barrier consisting of large steel pipe piles set in a diagonal row upstream of the dock. The dock is accessed by a complex ramp and gangway system that allows for Americans with Disabilities Act (ADA) access down to the dock even at low river water levels. Project design challenges included designing the barrier to deflect logs and large objects during high river flows, as well as designing the access gangway and platforms to resist loads and float at high water levels during river flood periods.

United States Ship (USS) Arizona Memorial Dock and Anchoring System Replacement | Project Engineer | Pearl Harbor | Honolulu, HI

The USS Arizona Memorial commemorates the service of sailors and Marines killed during the attack of December 7, 1941, and is one of the most visited attractions in the state of Hawaii with up to 5,000 people a day. Subsequent to a combined king tide and storm surge event, the anchor block and chain mooring system holding the 20-foot by 105-foot dock began dragging out of position. GHD provided the design for a new mooring system that used a series of 12 "helical" piles screwed into the seafloor, with synthetic rope and high-tech elastic bands attached to the dock. After securing the dock at the offshore memorial, the onshore dock was also in need of replacement and GHD designed a new replacement dock for the shoreside loading of visitors to the memorial. The new dock is utilizing a strut-mooring system anchored to the shore to minimize environmental impacts to the harbor bottom.

Bay View Bridge Inspection and Repairs - Upper Newport Back Bay Trail | Project Engineer | Orange County Public Works | Orange County, CA

GHD conducted a scour analysis and structural assessment of an 84-foot-long pedestrian bridge on the Bayview Trail at the Upper Newport Bay Nature Reserve. The bridge is supported by two cast-in-place concrete abutments at the creek embankments. There was significant scour observed around the bridge abutments exposing some of the timber support piles and compromising the capacity of the bridge. GHD produced a set of repair drawings to protect and maintain the stability of the abutment and provided construction support.

Doolittle Drive Bay Trail Segment | Project Engineer | East Bay Regional Park District | Oakland, CA

Responsible for design of the boat launch ramp, boarding float docks, and a section of the adjacent Bay Trail. The boat launch ramp has the option during bid of being constructed either in the dry behind a sheet pile cofferdam, or in the wet with precast concrete panels.

Channel Reef Marina Assessment | Project Manager, Engineer | County of Orange | Newport Beach, CA

Served as Engineer responsible for the inspection and assessment of the docks and utilities related to the eight-slip recreational marina and long dock for the County of Orange. The in-depth structural assessment of the dock included probing the interior dock structure and producing an evaluation report. This evaluation report included a general narrative of the conditions in addition to tables and graphics of the marina layout, as well as the notes and observations made by the inspection team, a summary/rating of the marina elements, and the anticipated costs of various intermediate and long-term repair options.

Carlsbad Beach Access Repairs | Project Manager, Engineer | City of Carlsbad | Carlsbad, CA

Responsible for engineering design services for the beach access stairway and promenade repairs along 3,500 feet of coastline from Pine Avenue to Tamarack Avenue. This project included the repair of the upper pedestrian promenade along Carlsbad Boulevard, the four access stairways from the promenade down to the beach, and the lower promenade and seawall along the base of the bluff. Our team efforts included preliminary engineering tasks, such as reviewing as-built record drawings, previous studies and reports, geotechnical investigation, land and aerial surveys, repair alternatives and associated costs.

Library Park Seawall | Project Engineer | City of Lakeport | Lakeport, CA

Responsible for design of the replacement seawall that was significantly damaged in 2017 when Clear Lake experienced catastrophic flooding that resulted in a Federal Major Disaster Declaration. The project included the replacement of approximately 535 lineal feet of seawall, which supports the adjoining pedestrian promenade. The new steel sheet pile wall seawall was designed to withstand heavy wave action. The promenade was also rebuilt and features a new safety handrail and a new concrete sidewalk.

Marine Science Institute Pier Assessment | Project Engineer | Marine Science Institute | Redwood City, CA

Served as Project Engineer responsible for visually assessing the condition of the 108-foot-long timber pier structural elements, twenty-one timber support piles and various mooring fittings. The pier is used as a platform for teaching marine sciences and to berth the institute's 90-foot, 226-ton research vessel. GHD Subsequently produced an assessment report documenting our observations and findings, and provided recommendations for structural repairs, repair figures, and associated costs to best extend the service life of the pier.

Leonardtown Landing Floating Dock | Project Engineer | City of Leonardtown | Leonardtown, MD

Responsible for design of the new municipal public boat dock along the Breton Bay waterfront. Dock amenities included a double-loaded boat slips with intermediate mooring piles, a fire protection system utilizing both fire extinguishers and a dry standpipe system able to draft from the nearby bay, and a future boat pumpout station. This project utilized a design-build process, with final guide pile and dock system calculations reviewed by GHD to ensure they met the project performance specifications.

Stephanie Gould PE

Structural Engineer

Location
Eureka, CA

Experience
14 years

Qualifications/Accreditations

– BS, Civil Engineering, California State University, Chico, CA, 2009

– Civil Engineer, CA #86103

Relevance to the project:

Stephanie Gould is a civil engineer with 14 years of experience on structural, water and wastewater infrastructure, and transportation projects involving retaining wall design, bridge/culvert design, fish passage structure design, and foundation design. Her professional area of focus is structural, retaining wall and bridge engineering, having designed several retaining walls and vehicular and pedestrian bridge sub- and super structures, tank and generator foundations, light foundations, and concrete fish passage structures. Mrs. Gould also has experience in project management and civil site design, including grading and earthwork/geotechnical. She is fluent in AutoCAD/Civil 3D, MSEW, Snail, Shoring Suite and Enercalc.

Project experience

Willits Rail to Trail | Lead Structural Engineer | City of Willits | Willits, CA

Engineer of Record for structural design of several pedestrian bridge abutments supported on precast concrete piles, boardwalk structure, wingwalls, and numerous earth-retaining structures. Drafted plans, wrote specifications, and performed structural calculations.

Great Redwood Trail Phase 4 | Lead Structural Engineer | City of Ukiah | Ukiah, CA

Engineer of Record for the structural design of 30- and 45-foot span pedestrian bridge abutments and wingwalls and numerous earth retaining structures. Drafted plans, wrote specifications and performed structural calculations.

River Oaks Regional Stormwater Capture Project | Lead Structural Engineer | City of San Jose Department of Public Works | San Jose, CA

Provided structural design of cast-in-place concrete forebay, retaining walls, concrete well retrofits, and prefabricated boardwalk structure with overlooks supported on precast piles. Performed structural calculations, developed plans, and wrote related specifications.

College of the Redwoods PE Complex | Project Engineer | College of the Redwoods | Eureka, CA

Structural design of 26-foot-tall soldier pile retaining wall with ground anchors and CMU cantilever retaining wall. Performed structural calculations using Shoring Suite and Enercalc software, drafted plans using AutoCAD/Civil 3D, and wrote related specifications.

Storm Damage Repairs Briceland Thorne Road at PM 3.08 | Project Engineer | County of Humboldt Department of Public Works | Eureka, CA

Provided structural design of a 22-foot-tall soldier pile retaining wall with ground anchors. She performed structural calculations using Shoring Suite and Enercalc software, drafted plans using AutoCAD/Civil 3D, and wrote specifications.

Storm Damage Repairs Mattole Road at PM 13.67 | Project Engineer | County of Humboldt Department of Public Works | Eureka, CA

Provided structural design of soldier pile retaining wall with anchor piles and precast concrete lagging. Performed structural calculations using Shoring Suite

and Enercalc software, drafted plans using AutoCAD/Civil 3D, and wrote specifications.

Hilfiker Retaining Wall On-Call | Project Structural Engineer/Project Manager | Hilfiker Retaining Walls | Elizabeth, NJ

Provided structural design of various welded wire MSE retaining walls for Hilfiker Retaining Walls. Duties included performing local external stability and internal pullout and rupture stability calculations utilizing MSEW software, professional engineer-stamped structural shop drawings, and specifications.

Hillside & Rohner Creeks Minor Flood Control Improvements | Project Engineer | City of Fortuna | Fortuna, CA

Provided structural design of several head/wing wall structures for the replacement of three large steel arch culverts with aluminum structural plate pipe arch culvert to reduce wide-spread flooding and improve fish passage and aquatic habitat.

Kernen Construction Bridges | Project Engineer/Manager | County of Humboldt | Humboldt County, CA

Provided structural design and observation of numerous single-lane steel wide-flange girder precast concrete deck bridges fabricated by Kernen Construction. Several projects involved stream crossing work performed in conjunction with the US Department of Agriculture's Natural Resources Conservation Service.

Lower Alameda Creek Fish Passage Improvement | Project Engineer | Alameda County Water District | Fremont, CA

Assisted the structural engineer in the design of a complex, large-scale fish ladder/water intake structure. Performed structural calculations for concrete earth retaining structures, sheet pile retaining walls, structural steel appurtenances, and a CMU control building.

Hillside Stabilization Project | Project Engineer | Big Rock Community Services District | Hiouchi, CA

Served as Project Engineer for the plans and specifications for the replacement and relocation of the Town of Hiouchi's water storage tank. Designed new foundations for structures and a soil nail retaining wall. Performed structural calculations.

Dominie & Rowdy Creek Fish Passage Improvement Project | Project Engineer | Tolowa Dee-Ni' Nation | Smith River, CA

Assisted the structural engineer in the design of a fish passage/creek improvement project. The project included several retaining wall structures, drilled piers, soil anchors, concrete fish ladder structures, and bridge stabilization of a demolished apron.

Eureka Waterfront Trail Project, Phases A and C | Project Engineer | City of Eureka | Eureka, CA

Assisted the structural engineer in the design of water body crossings for a new pedestrian trail. Design included 7 premanufactured bridges ranging in span from 20 feet to 114 feet and boardwalk section supported on helical piles. Designed the reinforced concrete footing, wingwalls, and steel pile cap.

Rick Guggiana EE, LEED AP, CDT

Utilities (Electrical)

Location

Santa Rosa, CA

Experience

34 years

Qualifications/Accreditations

– BS, Electrical Engineering Technology, California State Polytechnic University, Pomona, CA, 1983

– Electrical Engineer, CA #15580, AZ #34069, CO #34471, IL #062-053426, TX #86009, WA #36259

– Leadership in Energy and Environmental Design Accredited Professional (LEED AP), US Green Building Council

– Construction Documents Technologist (CDT), Construction Specifications Institute

Relevance to the project:

Richard (Rick) Guggiana is a licensed electrical engineer with over 34 years of experience in the electrical, controls, and instrumentation fields, for federal, military, municipal, and private industrial clients. He has extensive experience with water treatment, storage, and pumping systems, wastewater collection and treatment systems, pumping controls, SCADA systems, low and medium-voltage power generation, microgrids, and waterfront electrical distribution. Rick has led large-scale coordination and arc flash studies, desk-top radio path modeling, photometric analyses, forensic studies, feasibility studies, condition assessments, construction cost estimates, and engineering services during construction. He has also written design-build Requests for Proposal (RFPs) and has served as the client's representative, as well has served as the lead electrical engineer on contractor-led design-build teams. Rick was involved in the design and construction management of a 115 kV substation project, which won a merit award from the Consulting Engineers and Land Surveyors of California (CELSOC)..

Project experience

MCON P-345 Mission Improvements | Project Manager, Electrical Engineer | US Naval Facilities Engineering Command Northwest | Naval Base Kitsap - Bangor, WA

Served as Project Manager and Electrical Engineer for this design-build project to increase the support capabilities at two submarine berthing piers. Design included 1,600-amp power mounds, low-voltage switchgear, 15 kV switchgear, duct banks, and emergency power generation.

– Delta Pier – included a new 12.47 kV:480 V unit substation and two new electrical service hoods to accommodate the nesting of additional SSBN and SSGN submarines. The service hoods are each capable of providing 1,600-amp service (at 480 V) to the vessels.

– Marginal Wharf – included modifying existing 1,600-amp power mounds to provide easier access and connections. New medium voltage switchgear was added to switch between the normal power source and redundant emergency power feeds from the new Emergency Generator Building #4. Associated duct bank and electrical distribution on the wharf was also designed.

– Emergency Generator Building #4 – to provide better operational capacity and security, a new emergency generator building with four 2.17 MW medium speed diesel generators was designed to provide emergency power to the submarine piers. The generators were designed to operate in parallel to provide power to the piers should utility power be lost. Work included the design of the new generator building, 15 kV paralleling switchgear, fueling, and cooling systems, and fire protection systems. Also included were new utilities to

the building and new overhead spacer cable distribution system from the Emergency Generator Building #4 to the piers.

US Navy Port Improvements | Project Manager, Lead Electrical Engineer | US Naval Facilities Engineering Command Southwest | Naval Base Ventura County – Port Hueneme, CA

The project upgraded water, sewer, steam, electrical distribution, and paving on four wharves. Designed expansion of 15kV switchgear with new main utility breaker, feeder breakers, wharf unit substations, and redundant underground feeders. Wharf unit substations included 5 MVA oil-filled transformers, low-voltage switchgear, protective relaying, and wharf outlet assemblies for ships' service. Upgraded wharf distribution systems included telephone, data, and CATV.

US Navy Surface Transportation Pier | Electrical Engineer | US Naval Facilities Engineering Command Southwest | San Nicolas Island, CA

Designed electrical power distribution and lighting for this unique and award-winning site, operations building, and pier. Power from the diesel generator is distributed via breaker panels in fiberglass enclosures to prevent corrosion from the marine atmosphere. Concrete poles and luminaires with Fiberglass Reinforced Polyester (FRP) enclosures were used to maximize the lifespan of the lighting system.

San Francisco Public Works Fire Station 35 | Electrical Engineer | San Francisco Public Works | San Francisco, CA

Served as Electrical Engineer for the preparation of a design-build Request for Proposal (RFP) for a new floating fire station at the Pier 22.5 site where the existing Fire Station 35 is located. The new fire station was constructed on a float connected to the shoreline by a large transfer ramp. A 16,800-square-foot, two-story, fire station will be constructed on a 180-foot by 95-foot by 9-foot steel barge moored in place with four 60-inch diameter steel pipe piles. GHD prepared the performance criteria for the design-build RFP, including technical narrative, preliminary plans, and specifications.

MCON P-364 NSWCCD Consolidation | Electrical Engineer | US Naval Facilities Engineering Command Northwest | Naval Base Kitsap – Bangor, WA

Served as Electrical Engineer for the design-build project of a 22,000-square-foot office/laboratory building and associated pier facilities. Designed medium voltage distribution to the site, including overhead spacer cable line. Designed interior lighting concepts and selected light fixtures for the office/laboratory building to contribute to LEED Silver rating.

MCON P-440 Pier 8 Replacement | Electrical Engineer | US Navy | Naval Base San Diego – San Diego, CA

Served as Electrical Engineer for the design-build RFP for design and construction of a new single deck General Purpose Berthing Pier to replace the existing Pier 8. Design included land-side upgrades to the 12 kV distribution system, 12 kV distribution on the pier to 480V and 4160 V unit substations. Additional ship-to-shore utilities included telephone, cable television, fiber optic communications, SCADA for energy monitoring and control, and fire alarm.

MCON P-224 Munitions Pier Replacement | Electrical Engineer | US Navy | Naval Weapons Station Seal Beach – Seal Beach, CA

Served as Electrical Engineer for the technical study to determine adequacy of utility systems to support the construction of a new munitions loading pier to replace the existing wharf. Utility systems studied included electrical, telecom, data, and fire alarm. The study evaluated capacities of existing utilities in the vicinity of the proposed new pier and recommended duct bank, cabling, and distribution equipment upgrades required to support new ancillary facilities to be constructed at the new pier.

San Francisco Bay Ferry WETA Richmond Ferry Terminal | Electrical Engineer | Richmond, CA | 2015-2018

Responsible for the planning, layout, and preliminary design of electrical systems for a passenger ferry terminal at Ford Point in Richmond, California. The project included electrical, data, and a security system for the new terminal. The project also included parking lot lighting and infrastructure for current and future EV chargers.

Raley's Dock Replacement | Electrical Engineer | City of West Sacramento | Sacramento, CA | 2013-2018

Provided engineering services during construction for a steel pontoon berthing dock and concrete floating docks at the site along the Sacramento River. Reviewed product submittals for power distribution and lighting elements and responded to Requests for Information (RFIs).

Luke Halonen PE

Utilities (Water)

Location
Eureka, CA

Experience
9 years

Qualifications/Accreditations

– BS, Environmental Resources Engineering, Humboldt State University, Arcata, CA, 2014

– Civil Engineer, CA #89080

Relevance to the project:

Luke Halonen is a licensed civil engineer with over eight years of experience in delivering a variety of civil infrastructure projects. His professional area of focus is hydraulic design of linear infrastructure, including design of associated site improvements. Project types include water transmission, distribution, storage, and booster pump stations, stormwater conveyance and Low Impact Development (LID) stormwater treatment systems, and sanitary sewer collection systems including lift stations, associated project site design and grading, and pedestrian and bicycle facilities. Projects involve planning, environmental compliance, design, permitting, and construction. Roles on projects include project manager, project engineer, construction manager, discipline lead, and technical reviewer. His experience also includes a broad range of planning, hydraulic modeling, and analysis capabilities.

Project experience

Myers Flat Mutual Water System Distribution System Improvement | Project Manager, Project Engineer | Myers Flat Mutual Water System | Myers Flat, CA

Served as Project Engineer for the design of water distribution system upgrades in Myers Flat. Prepared a preliminary engineering report for the grant planning application under the Drinking Water State Revolving Fund that identifies the history and condition of the existing infrastructure, and the need and basis for replacement of select infrastructure system components. Developed the construction plans, technical specifications, and engineers cost estimate. Also serving as Project Manager for the ongoing construction management phase of the project. Coordinated with the state and county transportation departments to obtain draft encroachment permits, prepared construction contract, and finalized bid package. Ongoing effort includes coordinating with state agencies to finalize construction grant funding, attending client monthly board meetings, coordinating road easement recommendations and requirements, and managing bid period services, and grant agency coordination.

High Tank Pump Station | Project Manager | City of Eureka | Eureka, CA

Served as Project Manager for the design of a replacement vertical turbine pump station at the City's Low Tank and High Tank facility to provide increased capacity to boost potable water from the on-site 1.0 MG ground-level reservoir and the on-site 0.5 MG elevated reservoir. Project included hydraulic evaluation of replacement pump station and pump selection, new pump station building, facility yard piping, site improvements including new service road and drainage facilities, and associated electrical and instrumentation retrofits to City's the existing Supervisory Control and Data Acquisition (SCADA) system and standby diesel generator and battery backup system.

Manila Community Services District Drinking Water Infrastructure Improvement | Project Engineer | Manila Community Services District | Manila, CA

Served as Project Engineer for the water utility replacement project for the Manila Community Services District. Project included replacement of the aging redwood potable water storage tank, monitoring and control system, pump station, and select water distribution components. Performed site investigations to identify aging infrastructure. Prepared a preliminary engineering report for the grant planning application under the Drinking Water State Revolving Fund that identifies the history and condition of the existing infrastructure, and the need and basis for replacement of select infrastructure system components. Designed the site layout (including siting the replacement pump station with enclosed propane generator; 150,000-gallon replacement water storage tank and propane tank; and associated walkways between buildings. Prepared grading and drainage plans. Designed pump station including pumping and piping layouts, hydraulic controls of the water tank, and chlorination system. Designed various water distribution system improvements. Provided design support of a trenchless utility crossing of a state highway. Developed technical specifications.

Plunkett Road Water Retrofit - Phase 1 | Lead Civil Engineer | City of Arcata | Bayside, CA

Served as Lead Civil Engineer for the preliminary engineering evaluation and design to replace an aging water booster station and a failing water distribution line as part of Phase 1 of a Hazard Mitigation Program project. Prepared the preliminary engineering evaluation that investigated installation methods for the replacement waterline under a roadway that has a history of instability resulting in pipeline failure, and performed booster station pump sizing and selection, and provided land acquisition requirements. Led design development of recommended replacement pump station and water distribution line. Designed booster station site, including building sizing, booster pumps and piping configuration in the building, and adjoining covered enclosure for standby diesel generator.

Hillside Stabilization | Project Engineer | Big Rock Community Services District | Hiouchi, CA

Served as Project Engineer for the development of water storage system replacement plans for the Big Rock Community Services District. Prepared designs for the replacement of the water storage tank and booster pump system, including system monitoring and control valves. Prepared site plan including locating 100,000-gallon water storage tank, pump station building, propane generator and fuel tank, and radio tower. Prepared a site grading, drainage, and fencing plan. Developed related technical specifications. Provided construction support services, including RFIs and submittal review, design, and change documentation.

College of the Redwoods Utility Infrastructure Replacement & Seismic Strengthening | Lead Engineer | College of the Redwoods | Eureka, CA

Served as Lead Engineer for this multi-project utility replacement program that involved development of cost-effective designs for the replacement of aging water, sanitary sewer, and stormwater infrastructure. Project included identification and evaluation of utility infrastructure, development of water distribution system upgrade including redesign of potable water storage system in a new seismically cleared location, replacement of the WWTP from a surface discharging to a non-surface discharging treatment plant, gravity sanitary sewer and pressure sanitary sewer system replacements, and select stormwater drainage improvements to mitigate on-site flooding. Infrastructure designs included open trench and horizontal directionally drilled utilities. Work included geotechnical analyses, surveying, design, hydraulic analyses, permit applications, and preparation of plans and specifications.

Mendocino Unified School District Recycled Water System | Lead Civil Engineer | Mendocino Unified School District | Mendocino, CA

Served as Lead Civil Engineer for the engineering design of a recycled water pipeline to provide tertiary recycled water for the District's irrigation system and to improve the District's fire protection capabilities. The new distribution system will convey recycled water from the existing WWTP to a new recycled water storage tank. Design includes a new distribution system, irrigation service connections, fire hydrants, pressure reducing valves, fire hydrants, and a new recycled water storage tank.

Brett Vivyan PE, QSD/QSP

Sea Level Rise

Location
Eureka, CA

Experience
11 years

Qualifications/Accreditations

– BS, Environmental Resources Engineering, Humboldt State University, Arcata, CA, 2011
– Civil Engineer, CA #84167
– Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer/ Practitioner #25527

Relevance to the project:

Since joining GHD in May 2010, Brett Vivyan has served on a variety of environmental and civil engineering projects, acting as a project manager, project engineer, construction manager, and construction inspector, for project development, securing funding, and executing the design, hydrodynamic modeling, analyses, permitting and implementation of projects concerning river hydraulics, fish passage design, flood control, sea level rise and climate change vulnerabilities, stream and wetland restoration, water and wastewater treatment, hydraulic engineering, and transportation improvements. For the majority of GHD's restoration projects in Northern California, Brett has served as a project engineer and lead hydraulic modeler, co-authoring and providing hydrologic / hydraulic services to support the California Environmental Quality Act (CEQA) Environmental Impact Reports (EIRs), Mitigated Negative Declarations (MNDs) and Categorical Exemptions.

Project experience

Flood Reduction and Sea Level Rise (SLR) Mitigation Project | Project Manager | City of Eureka | Eureka, CA

Served as Project Manager for the hydraulic modeling, design, and implementation of the project within urbanized coastal areas to reduce flooding, increase SLR resiliency, and improve water quality in Humboldt Bay. The project improves the capacity and conveyance of the storm drain network to reduce flooding in combination with new tide and flap gates to reduce flood impacts from SLR, Low Impact Development (LID) features (e.g., rain gardens) along storm drain improvements, and trash capture devices. Water quality benefits will be achieved by reductions in peak flows and associated reductions in peak runoff volumes that create erosion and carry sediment loads to the bay. The LID features will provide additional pollutant removal from the urban runoff that ultimately reaches Humboldt Bay. Trash capture devices reduce pollutants entering the Bay and help ensure that the system's outfalls function properly by reducing interference from debris.

Natural Shoreline Infrastructure Project | Project Engineer | County of Humboldt | Humboldt Bay, CA

Development and assessment of Natural Shoreline Infrastructure (NSI) alternatives, also known as nature-based adaptation strategies or nature-based solutions, along a highly vulnerable shoreline segment of Humboldt Bay shoreline adjacent to the Highway 101 transportation corridor between Eureka and Arcata. The project focuses on reducing the risk to concentrated infrastructure, utilities, businesses, low-income residential areas, and wildlife areas protected by the shoreline segment, subject to continued shoreline erosion and coastal flooding.

Bayshore Bikeway Resiliency Project Hydraulic Modeling | Technical Lead | City of Imperial Beach | Imperial Beach, CA

Served as technical lead overseeing the hydraulic modeling and conceptual design of storm water improvements to improve resiliency to SLR and rainfall

runoff events. Conceptual improvements included the implementation of additional storm water pipes, tide gate, daylighting, and detention basin.

SLR Vulnerability and Capital Improvement Adaptation Plan | Project Engineer | City of Eureka | Eureka, CA

This ongoing project is addressing the City's need to develop a long-term climate adaptation plan, tailored to planning for coordinated capital improvement projects within the Coastal Zone. The plan focuses on Eureka's shoreline extending from Martin Slough to Eureka Slough. The inundation depth, duration and volume will be calculated and mapped, which provides an advancement of the previously used "bathtub model" approach that projected tidal still water levels across the landscape. Using the results, GHD is identifying tipping points or thresholds of action characterized by shoreline morphological response and/or asset. GHD is working with the City to develop holistic adaptation strategies that reduce or accommodate the inundation vulnerabilities.

SLR Adaptation Plan for Transportation Infrastructure in the Eureka Hydrologic Area – Humboldt Bay | Project Engineer | County of Humboldt Public Works | Eureka, CA

As part of a study to identify shoreline vulnerability and adaptation projects to address SLR, shoreline erosion, and sedimentation from coastal streams throughout a 3,000-acre study area—including the US Highway 101 corridor between Arcata and Eureka—helping to determine vulnerabilities to SLR impacts and adaptation measures that will reduce long-term risk. The study focuses on the geomorphic response to episodic storm events and long-term increases in sea levels. Humboldt County Department of Public Works leads the project, partnered with Caltrans, Humboldt County Association of Governments (HCAOG), and City of Eureka. The project is funded through a Caltrans Sustainable Communities Grant Program.

White Slough SLR Resiliency and Tidal Marsh Restoration | Project Engineer | US Fish & Wildlife Service | Humboldt Bay National Wildlife Refuge | Loleta, CA

Assisted in planning, permitting, construction contracting, and construction oversite assistance to the US Fish and Wildlife Service's (USFWS's) project, located on the Humboldt Bay National Wildlife Refuge adjacent to Highway 101. Work involves the removal of failed earthen levees and construction of new set-back levees designed to attenuate wind-wave energy and reduce impacts to sensitive tidal marsh habitat and US Highway 101 from SLR. Assisted in sediment reuse planning, Caltrans encroachment permit applications, traffic control plans, design review, construction administration, and construction oversite.

Climate Change Vulnerability Assessment | Project Engineer, GIS Analyst | Caltrans District 1, HCAOG | Humboldt County, CA

Served as Project Engineer and GIS Analyst for a district-wide climate change vulnerability assessment and adaptation plan led by Caltrans and the HCAOG. Work included the development of a GIS-based model, as well as the analysis and evaluation of the transportation infrastructure's criticality and potential for impact to assist in the evaluation of vulnerability and adaptation strategies.

Eel River Estuary SLR Vulnerability and Adaptation Analysis | Project Engineer, Hydraulic Modeler | California Trout Inc., The Wildlands Conservancy | Humboldt County, CA

Engaged in three landscape-scale, multi-benefit projects in the Eel River Estuary: the Salt River Restoration ($40 million), the Centerville Slough Enhancement (1,300 acres), and the Cannibal Island Restoration (1,000 acres) projects, all subject to vertical land motion, wave over-wash, and SLR impacts. As Project Engineer, assisted in the project teams' vulnerability and adaptation analyses to inform planning and design following the State's SLR Guidance necessary to obtain a Coastal Development Permit (CDP). Innovative adaptation solutions were developed to streamline permitting, reduce impacts to one-parameter coastal wetlands, and improve constructability.

Kerry McNamee

CEQA/NEPA Environmental Planner

Location

Eureka, CA

Experience

9 years

Qualifications/Accreditations

– BS, Natural Resource Planning (Emphasis: Geographic Information System (GIS)/Soil Science), Humboldt State University, Arcata, CA, 2013

Relevance to the project:

Kerry McNamee has nine years of experience in environmental compliance, project management, environmental restoration design, and conservation planning. She has co-managed and has been lead author for several California Environmental Quality Act (CEQA) documents that include both development, habitat enhancement and infrastructure improvement. Kerry has completed thorough land use analyses, preparation and project management of Initial Studies, Negative Declarations, Environmental Impact Reports (EIRs), thoroughly responded to comments for permit applications and CEQA documents and is experienced working in the Coastal Zone. Kerry has completed National Environmental Policy Act (NEPA) compliance via preparation of an Environmental Assessment for a hatchery infrastructure improvement project in Del Norte County. Kerry is proficient in conducting wetland delineations and completing associated reporting and coordination with the US Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and with the California Coastal Commission under the Coastal Act (for one-parameter wetlands). Kerry has authored numerous biological resource reports and has completed Biological Assessments for Section 7 Endangered Species Act (ESA) consultation for salmonid species, specific insects, amphibians, and bird species (with a focus on noise impact analysis). Kerry has experience in fisheries biology, gaging appropriate salmon habitat values, and has participated in numerous salmon habitat restoration projects in an environmental planner role. She has completed numerous permit application packages and proposals and contributed to wetland mitigation and monitoring plans for habitat enhancement projects, as well as development projects.

Project experience

Rowdy & Dominie Creek Fish Passage Improvement | Deputy Project Manager, Environmental Planner | Tolowa Dee-ni' Nation | Smith River, CA

Oversaw completion of all environmental compliance required to significantly improve an outdated fish hatchery in Northern California. Managed completion of the biological resources report (wildlife, plants, vegetation communities), wetland delineation, asbestos survey, cultural resources survey, CEQA Initial Study/Mitigated Negative Declaration (IS/MND), NEPA Environmental Assessment, Biological Assessment under Section 7 of the ESA, Clean Water Act Section 401 and 404 permit applications, California Department of Fish and Wildlife (CDFW) 1600 permit application, and State Historic Preservation Office and Section 106 of the National Historic Preservation Office compliance. This project contains complex landowner access issues, which along with the client, created contingency planning to ensure project implementation occurs. Currently assisting in planning for the construction phase of this project.

Redwood National and State Park Visitor Center and Restoration | Environmental Planner | Save the Redwoods League | Orick, CA

Completed a robust CEQA IS/MND for this project, which will rehabilitate a fallow project site (that was partially industrial) into a world class tourist destination. A large part of the project includes stream, floodplain, and wetlands restoration for

listed salmon and steelhead. Completed all permitting for this large scale, multi-year project and organized a large geospatial dataset to determine permanent and temporary impacts to Waters of the US. Permit packages included: Clean Water Act sections 404 and 401, Lake and Streambed Alteration agreement, and National Historic Preservation Act compliance, ESA consultation with the US Fish and Wildlife Service (USFWS) for Northern Spotted Owl and Marbled Murrelet (MaMu) and with National Marine Fisheries Service (NMFS) for salmonid species (was the author of the NMFS Biological Assessment). Managed additional noise data collection to guide construction equipment setbacks from Northern Spotted Owl and MaMu habitat sites.

Ocean Ranch Restoration CEQA Compliance | Environmental Planner| Ducks Unlimited | Table Bluff, CA

Served as the lead author of the EIR that was completed for the 805-acre Ocean Ranch Restoration project. This project includes tidal and dune restoration involving strategic breaching of levees and re-contouring of wetlands and fill areas to enhance wildlife habitat, creation of living shorelines, wetlands restoration, and significant removal of invasive marsh and dune species. Due to the coastal location of this project and the associated wetland fill, consultation with the California Coastal Commission and the ultimate attainment of a Coastal Development Permit will be necessary, in addition to Section 404 and 401 permits.

Turtle Bay Boat Ramp Improvement Project | Environmental Compliance Lead/Wetland Delineation | City of Redding | Redding, CA

Managed the environmental budget for completion of numerous deliverables for this project, which would improve and expand an existing boat ramp in the City of Redding, adjacent to the Sacramento River. Project effort and deliverables include: special status botanical, wildlife reconnaissance and Sensitive Natural Community surveys, wetland delineation survey and report, and preparation of numerous iterations of the project description, biological resources report, and biological assessment (ESA Section 7) consultation with NMFS for listed salmon and steelhead and with USFWS for Valley Elderberry Longhorn Beetle. Produced a Technical Memorandum justifying an ESA No Effect for the beetle, Clean Water Act Section 404 application package and 404(b) alternatives analysis, Section 401 water quality certification application package, and Lake and Streambed Alteration Agreement permit package. Conducted the wetland delineation field work for hydric soils, upland soils and hydrology data collection, and reviewed the corresponding wetland delineation report. Participated in numerous site visits and meetings with the client and representatives from USACE, NMFS, CDFW, and the Central Valley Regional Water Quality Control Board (RWQCB). Coordinated with the engineering team to determine impact quantities, particularly of mature trees, to effectively convey to the client anticipated mitigation ratios and a mitigation strategy. The strategy for completion of in-water work was discussed with the client and CDFW to avoid the need for California ESA take coverage of listed fish species.

Waterline Right of Way Maintenance Project | Project Manager/Wetland Delineation | Humboldt Bay Municipal Water District | Manila, CA

Managing this project that will enable the District to conduct maintenance activities, such as vegetation removal and movement of sand, within their domestic and industrial waterline right of way located along dune habitat within the Samoa peninsula in Manila, California. Managing the completion of the following: special status plant and Sensitive Natural Community surveys, wetland delineation (which includes one- and three-parameter wetland delineation) and report, preparation of a project description, CEQA Notice of Preparation, and Environmental Impact Report. Permit application packages to be completed include: coastal development permit, Section 404 and Section 401, and preparation of a Biological Assessment and formal consultation with the USFWS under Section 7 of the ESA for listed plant removal.

Eureka Flood Reduction and Sea Level Rise Resiliency Project | Environmental Compliance Manager/Wetland Delineation | City of Eureka | Eureka, CA

Led the environmental team to provide numerous deliverables for this project, which will expand stormwater drainage capacity, reduce pollution inputs into Humboldt Bay, expand salt marsh drainage capacity, and limit salt water intrusion into stormwater infrastructure located in Eureka, CA. Deliverables included: special status botanical, wildlife reconnaissance and Sensitive Natural Community surveys, wetland delineation survey and report, completion of the CEQA IS/MND (acted as lead author), and forthcoming permit application packages to include: Section 404 application and 404(b) alternatives analysis, Section 401 permit package, and informal consultation with NMFS under Section 7 of the ESA for listed salmon and steelhead.

Miles Hartnett

CEQA/NEPA - Biologist

Location

Eureka, CA

Experience

9 years

Qualifications/Accreditations

– BS, Environmental Science (Ecological Restoration), Cal Poly Humboldt, Arcata, CA, 2011

– California Red-Legged Frog - Level II Workshop, The Wildlife Project, Sacramento, CA, 2022

– Special Status Herps from California, The Wildlife Project, Baja California, MX, 2022

– Wildlife Biologist Construction Awareness Training, The Wildlife Society-Western Section, Albany, CA, 2022

– Basic Wetland Delineation Training, Wetland Training Institute, Sacramento, CA, 2020

– USFWS Recovery Permit [10(a)1(A)] – California Red-legged Frog (Rana draytonii); Expires 07/03/2028

– CDFW Plant Voucher Collecting Permit; Expires 12/2025

Relevance to the project:

Miles Hartnett is a wildlife biologist with a background in fisheries and wildlife biology, restoration ecology, botany, and wetland science. He has completed biological, botanical, and wetland field investigations along with surveys for nesting birds and other special status species. Mr. Hartnett has experience in environmental permitting, including Endangered Species Act (ESA) Section 7 Consultations, Lake and Streambed Alteration Agreements (1600 permits) with the California Department of Fish and Wildlife (CDFW), Regional Board Clean Water Act Section 401 water quality certifications, US Army Corps of Engineers (USACE) Clean Water Act Section 404 permits, and California Coastal Commission (CCC) Coastal Development Permits.

Project experience

Wildlife Biologist/Wetland Scientist | GHD | Present

Duties include biological and botanical surveys for special-status species, nesting birds, and sensitive natural communities. Completes wetland delineations and construction monitoring. Prepares technical documents, such as Biological Resource Reports, Biological Assessments, and Wetland Delineation Reports.

Permitting responsibilities include ESA Section 7 Consultations, Clean Water Act (CWA) 401/404 permits, CDFW Lake and Streambed Alteration Agreements, and CCC Coastal Development Permits. Experienced in working with agency staff. Utilizes databases during scoping for sensitive species, including Information for Planning and Consultation (IPaC), California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California.

Arcata Wastewater Treatment Facility Improvement Project Phase 1 | Wildlife Biologist | City of Arcata | Arcata, CA

Completed nesting bird surveys, nest monitoring, Northern Red-legged Frog surveys, Western Pond Turtle surveys, and biological resources training and biological monitoring during construction to enable improvement projects at the Arcata Marsh, Arcata, California.

Annie and Mary Trail Project | Wetland Scientist | City of Arcata | Arcata, CA

Completed an Aquatic Resources Delineation for the Annie and Mary Trail Project.

CalTrout Mad River Estuary Off-Channel Habitat and Public Access Enhancement Project | Wildlife Biologist | CalTrout | McKinleyville, CA

Completed pre-construction nesting bird surveys, Northern Red-Legged Frog clearance surveys, and environmental awareness training to support construction of a salmonid habitat restoration project.

Elk River Estuary Restoration Project | Wildlife Biologist | City of Eureka | Eureka, CA

Completed nesting bird surveys and nest monitoring to enable construction of a large-scale restoration project in the Elk River estuary.

First Slough Fish Passage Improvement Project | Wildlife Biologist | City of Eureka | Eureka, CA

Completed National Oceanic and Atmospheric Administration, Regional Board, and USACE permitting for a stream restoration project.

Hearn Avenue Community Hub Project | Wildlife Biologist | City of Santa Rosa | Santa Rosa, CA

Completed a Biological Assessment as required under Section 7 of the Endangered Species Act (ESA) to support of a community hub development project in Santa Rosa.

McKinleyville Town Center Wetlands Mapping Project | Wetland Scientist | County of Humboldt | McKinleyville, CA

Completed an Aquatic Resources Delineation for the County of Humboldt in the McKinleyville Town Center.

Mendocino Unified School District Water Supply and Storage Project | Wildlife Biologist, Wetland Scientist | Mendocino Unified School District and Mendocino City Community Services District | Mendocino, CA

Conducted a biological site visit, coastal zone wetland delineation, and environmentally sensitive habitat area reduced buffer analysis for a water supply and storage project.

Natural Environment Study Fortuna 12th Street Roundabout Project | Wildlife Biologist | Humboldt County | Fortuna, CA

Completed a Natural Environment Study Report submitted to Caltrans for a roundabout development project.

Napa Sanitation District Outfall Abandonment Project | Wildlife Biologist | Napa Sanitation District | Napa, CA

Completed field surveys and a Biological Resource Report to support Napa Sanitation District in CEQA compliance for infrastructure upgrades and removals.

Turtle Bay Boat Ramp Improvement Project | Wildlife Biologist | City of Redding | Redding, CA

Contributing author of a Biological Assessment as required under Section 7 of the Endangered Species Act (ESA) to support the improvement of public access and a boat ramp.

Mindi Curran PG

Geology and Hazardous Materials - CEQA/NEPA

Location
Eureka, CA

Experience
8 years

Qualifications/Accreditations

– Professional Geologist, CA #9955
– MS, Environmental Systems Geology, Humboldt State University, Arcata, CA, 2017
– BS, Geology, Humboldt State University, Arcata, CA, 2014

Relevance to the project:

Mindi Curran is a professional geologist who has performed on a variety of geological, environmental, and hydrological projects throughout Northern California and Southern Oregon. Her site characterization and hazardous materials experience includes: Phase I & II environmental site assessments (ESAs); corridor studies and Caltrans initial site assessments (ISAs); environmental subsurface investigations of soil and groundwater; boring and well drilling supervision; water quality studies; design and implementation of corrective action plans; surface and groundwater hydrologic studies; and regulator and contractor coordination. Her technical writing skillset includes: report writing; report review and editing; providing next-step recommendations; preparation and implementation of site investigation work plans; preparation and submittal of report of findings; and characterization and disposal of investigation derived waste materials. In addition to her environmental services experience, Mindi has experience assisting with stream habitat restoration, including geomorphic mapping, gravel augmentation, hydraulic modelling, and photogrammetry.

Project experience

Geologist / Environmental Professional |Various Clients | California

Conducts hazardous materials ISAs (Caltrans format) for local entities and municipalities, including the City of Blue Lake, City of Eureka, City of Arcata, City of Fortuna, and Manila Community Services District. The ISAs are conducted to assess potential sources of contamination and hazardous materials prior to construction of infrastructure upgrades and trail installations. If hazardous materials are present, she also prepares soil and groundwater management plans and sampling and analysis plans.

Phase I Corridor Studies | Geologist / Environmental Professional | Various Clients | California

Conducts hazardous materials Phase I corridor studies for the City of Blue Lake, the City of Eureka, and East County San Diego. The corridor studies are conducted over large areas, including several miles of roadways, utility corridors, and trail alignments. The corridor studies are conducted to assess potential sources of contamination and hazardous materials, specifically to inform construction crews of potential hazards and variations of hazards over the project length.

Phase I ESAs | Geologist / Environmental Professional | Various Clients | California

Conducted Phase I ESAs in Del Norte, Humboldt, and Mendocino Counties. The assessments included large-scale agricultural properties, commercial businesses, and historically contaminated sites. Possesses experience conducting Phase I ESAs using ASTM International (ASTM) E1527-21 Standard for Commercial Real Estate, as well as ASTM E2247-16 Standard for Forestland and Rural Property.

Phase II Site Investigations and Phase III Site Remediation | Geologist | Various Clients | Various Locations

Conducts environmental site investigations related to subsurface groundwater and soil contamination,

including at historic lumber mills, Brownfields, pulp mills, former gas stations, former dry cleaners, and manufacturing sites. This includes investigations related to underground storage tanks (USTs), lumber treatment, dry-cleaning, and metal parts manufacturing. This requires preparing work plans, subsurface investigation reports, permit acquisitions, drilling in a variety of field conditions, overseeing construction of groundwater wells, and coordinated case closures with regulatory oversight.

Brownfield Investigations | Geologist | Various Clients | Various Locations

Assists with targeted site assessments for several Brownfield sites in Arcata and Eureka, including writing and implementing soil and groundwater investigation work plans as well as assisting in the preparation of site cleanup plans, site safety plans, permit acquisitions, and coordination with regulatory agencies. She has assisted with preparation of the technical writing components for US EPA Brownfield grant applications. In addition, she implements the associated field work, including soil boring installation, groundwater well installation, and collection of soil and groundwater samples for analytical testing.

Eel River Groundwater Sustainability Plan | Geologist / Environmental Professional | Humboldt County | California

Assisted with the development of the Eel River Groundwater Sustainability Plan as part of the California Sustainable Groundwater Management Act. This included organizing and leading field crews for groundwater monitoring well installation, groundwater elevation data collection, and groundwater quality data collection. It also included performing a detailed analysis on water quality across the basin using municipal data, data stored in the Groundwater Ambient Monitoring and Assessment Program (GAMA), and data from DWR.

Groundwater Well Installation and Development | Geologist / Environmental Professional | Various Clients | California

Designs and oversees installation and development of groundwater monitoring and supply wells, including for local municipalities and CSDs. This includes selecting a preferred location, designing well specifications, selecting appropriate materials, coordinating subcontractors, and overseeing fieldwork. Possesses experience developing wells that underperform, including monitoring and supply wells and wells that fail to meet water quality standards.

Corrective Action Plan Restorations | Geologist | Various Clients | Various Locations

Designed and implemented corrective action plans for stream restoration and road decommissioning following habitat destruction related to emergency utility infrastructure replacements in Humboldt County, California. This includes stream and habitat destruction assessments, stream restoration planning and design, coordination with local agencies and construction contractors, construction implementation, and post construction monitoring.

Fisheries Habitat Stream Restorations | Geologist | Various Clients | Various Locations

Assisted with the implementation of stream restoration projects in Northern California on the Trinity River, in Northern Oregon on the Clackamas River, and in Central California on the Tuolumne River. This includes geomorphic mapping and assessment of habitat restoration in years following construction, gravel augmentation and subsequent sediment transport evaluation, and topographic and bathymetric surveying to gather data for digital elevation models used for hydraulic modeling.

Christian Hernandez

Environmental Planner

Location

Eureka, CA

Experience

3 years

Qualifications/Accreditations

– BS, Environmental Science (Ecological Restoration), Humboldt State University, Arcata, CA, 2019

Relevance to the project:

Christian Hernandez has experience conducting botanical pre-scoping, rare plant surveys, and Sensitive Natural Community mapping. As part of GHD's environmental impact assessment and permitting team, he is a primary author on CEQA Initial Study/Mitigated Negative Declarations and Environmental Impact Reports. Mr. Hernandez also has prepared multiple federal grants for communities across California.

Project experience

Mattole Road PM 5.25 Storm Damage Repair Project | Environmental Scientist | Humboldt County Department of Public Works | Humboldt County

Project will repair and stabilize a section of Mattole Road adjacent to the Mattole River that has had a landslide. Primary author of the project's CEQA IS/MND.

Kenmar Road and US 101 Interchange | Environmental Scientist | City of Fortuna | Fortuna, CA

Project will replace the existing intersections of US 101 and Kenmar Road at the interchange with two roundabouts, improving traffic, pedestrian, and bicycle operations. Primary author of the CEQA IS/MND prepared for the project.

Russ Creek and Centerville Slough Restoration | Environmental Scientist | Humboldt County Resource Conservation District | Humboldt County

The project will re-establish the connection of Centerville Slough to the Eel River and enhance existing tidal wetlands and restore marginal diked pastureland to a mosaic of natural habitats, including estuarine and tidal slough channels, freshwater streams, and agricultural pastures, all within the context of promoting resilience of the area and viability of adjacent agricultural lands. Contributing author of the CEQA EIR prepared for the project.

Redway Community Service District | Botanist/ Environmental Scientist | Redway Community Services District

Project will improve to the wastewater collection and treatment systems for enhanced resiliency during peak wet weather inflows. Conducted rare plant pre-scoping, potential to occur tables, and seasonally appropriate floristic surveys to support environmental clearances required for the project. Contributing author of the project's CEQA ISMND.

Ferndale Drainage Technical Assistance | Botanist | Council for Watershed Health| Ferndale, CA

Provided technical assistance to develop competitive grant application for drainage improvements. Conducted rare plant pre-scoping, potential to occur tables, seasonally appropriate floristic surveys.

HBMWD-CDP for Samoa Peninsula ROW | Botanist | Humboldt Bay Municipal Water District| Manila, CA

The project would support permitting required to repair and maintain existing water infrastructure along the Samoa peninsula. Conducted rare plant pre-scoping, potential to occur tables, and seasonally appropriate floristic surveys to support environmental clearances required for the project. Conducted the botanical half of wetland delineation for the project.

We Are Up | Environmental Scientist | Mary Keehn | McKinleyville, CA

The project is for a non-profit that will create housing and community areas for those with I/DD who are historically underserved. Conducted rare plant pre-scoping, potential to occur tables, and seasonally appropriate floristic surveys to support environmental clearances required for the project. Primary author of the CEQA IS/MND prepared for the project.

Lake County Transit Center | Botanist | Lake Transit Authority

Project will construct a new Lake County Interregional Transit Center, purchase four hydrogen buses, install hydrogen fueling infrastructure, and retrofit the existing maintenance facility infrastructure. Conducted rare plant pre-scoping, potential to occur tables, and seasonally appropriate floristic surveys to support environmental clearances required for the project.

Manila Flood Reduction & Drainage Enhancement | Environmental Scientist | Manila Community Services District

Project will design and implement community-wide drainage improvements throughout the community of Manila. Conducted rare plant pre-scoping, potential to occur tables, and seasonally appropriate floristic surveys to support environmental clearances required for the project. Primary author of the CEQA IS/MND prepared for the project. Completed required 401/404 regulatory permitting.

Rio Dell-Eel River Trail Botanist | City of Rio Dell| Rio Dell, CA

Provided the preliminary database research and fieldwork necessary for a subsequent protocol-level botanical report evaluating the special status plant species at the project site. Conducted rare plant pre-scoping, potential to occur tables, and seasonally appropriate floristic surveys to support environmental clearances required for the project.

Turtle Bay Boat Ramp Improvement | Botanist | City of Redding | Redding, CA

Project improvements will include a widened, two-lane boat ramp and a boating beach/non-motorized launch, additional parking, landscaping, ADA-compliant restroom, nonmotorized capacity and access improvements. Conducted rare plant pre-scoping, potential to occur tables, and seasonally appropriate floristic surveys to support environmental clearances required for the project.

CMC Fish Passage and Flood Management Grant | Environmental Scientist | Marin County Flood Control and Water Conservation District | Corte Madera, CA

Project will improve fish passage, natural creek processes, and fish and riparian habitat adjacent to the creek. Reduce overall flood inundation in the Town of Ross and Kentfield areas. Address climate change impacts to the lower area of the concrete channel. Primary author of National Oceanic and Atmospheric Administration (NOAA) fish passage grant application package to obtain funding for project implementation.

Oceanside Harbor Debris Skimmers Grant | Environmental Scientist | City of Oceanside | Oceanside, CA

Project includes replacement and addition of 12 new trash skimmers within Oceanside Harbor. Primary author of NOAA grant application package to obtain funding for project implementation.

Trinidad Water Storage Tank and Pipeline Replacement Project | Environmental Scientist | City of Trinidad | Trinidad, CA

The City of Trinidad proposes to replace 1.4 miles of vulnerable pipelines and construct a 300,000-gallon storage tank and chlorination booster system for the City of Trinidad to enhance water availability during drought conditions. Primary author of the CEQA IS/MND prepared for the project. Completed required permitting for the Coastal Development Permit.

City of Arcata Inflow and Infiltration Reduction Project | Environmental Scientist | City of Arcata | Arcata, CA

The project involves the removal and replacement of approximately 75,478 linear feet of sewer lining and lateral replacement within the City of Arcata Water Service Area that is affected by inflow and infiltration. Completed the regulatory Environmental Construction Package.

Arcata Sunset Roundabout Project | Environmental Scientist | City of Arcata | Arcata, CA

The project would create two roundabouts and auxiliary features to improve traffic, pedestrian, and bicycle operations. Prepared the Caltrans encroachment permit.

Chryss Meier

Air Quality Planning - Environmental Planner

Location
Sacramento, CA

Experience
18 years

Qualifications/Accreditations
– BA, Geography, California State University, Fresno, CA, 2004

Relevance to the project:

Chryss Meier has 18 years of experience as an environmental planner, with a specialty in air quality and greenhouse analysis, responsible for the preparation of documents for compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). She has prepared environmental documentation and technical analysis for a variety of projects, including general and specific plans, schools, multi-use development, planned communities, redevelopment, industrial and warehouse, airport infrastructure, Sphere of Influence and incorporation proposals, transportation and transit improvements, and other infrastructure. She has successfully managed the preparation of Environmental Impact Reports (EIRs), Initial Studies and Mitigated Negative Declarations (IS/MNDs), Categorical Exemptions, and State Revolving Fund CEQA-Plus packages. In addition, she has been involved in the management and preparation of combined EIR/environmental assessments, transportation conformity analyses, and air quality and greenhouse gas (GHG) technical reports. She has also provided training courses on implementation of CEQA, modeling and analysis procedures, and organized and led meetings with public agencies, interest groups, and consultants. Chryss' technical expertise is air quality, and GHG emissions within the context of CEQA and NEPA. She has prepared air quality and GHG analyses using computer models, such as the CalEEMod, EMFAC, and CALINE air quality models.

Project experience

Samoa Peninsula Land-Based Aquaculture EIR | Environmental Planner | Nordic Aquafarms California | Eureka, CA

Prepared the air quality and GHG analysis for the proposed land-based aquaculture project. The project is to construct a 30-acre facility at the location of a former pulp mill. Demolition of the existing pulp mill structure is included in the project. This $400 million project will utilize the existing Humboldt Bay saltwater intakes and the existing ocean outfall pipeline for effluent discharged, estimated at 12 million gpd. GHD prepared a Biological Resources Report, Cultural Resources Report, Botanical and Wetlands Report, Asbestos and Lead Paint Report, and Conceptual Stormwater Report, a Noise and Vibration Report and Marine Resources Report, a Traffic Impact Study, Dune Habitat Mitigation and Monitoring Plan, and an Effluent Dilution Study. GHD prepared a Coastal Development Permit for Humboldt County, a Waste Discharge permit for the Regional Water Quality Control Board (RWQCD), a Coastal Development Permit for the Coastal Commission for the effluent discharge, and a permit for the North Coast Unified Air Quality Management District for proposed emergency power generation.

Rowdy and Dominie Creek Fish Passage Improvement Project IS/MND | Environmental Planner | Del Norte County | Napa, CA

Chryss prepared the air quality, GHG, and energy analysis for the proposed Rowdy and Dominie Creek Fish Passage Improvement Project IS/MND. The project will replace the existing fish hatchery infrastructure from within the Rowdy and Dominie Creeks with more modern equipment to enable continued hatchery operation. The Project also

includes the installation of a roughened channel to improve instream habitat conditions and to improve fish passage beyond the hatchery diversion weir when not in operation. Environmental services provided by GHD included development of an IS/MND and environmental permits with the RWQCB and California Department of Fish and Wildlife (CDFW).

Ocean Ranch Restoration EIR | Environmental Planner | Ducks Unlimited | Loleta, CA

Prepared the air quality and GHG analysis and EIR sections for a tidal and dune restoration project on 800 acres in the Eel River Estuary in California. The project included restoration of 250 acres of dunes by removal of non-native plants and restoration of over 300 acres or tidal wetlands by removal of non-native plants, excavation of channels, and increased tidal action. The lead agency was the CDFW. Challenges included increased scour in tidal sloughs, offsite flooding, habitat conversion, use of herbicides, and recreational concerns.

Samoa Peninsula Wastewater EIR | CEQA Project Manager | Humboldt County | Humboldt County, CA

The project involves amendments to the Humboldt Bay Area Plan of the Humboldt County Local Coastal Program to allow the construction and operation of a consolidated wastewater collection, treatment, and disposal system with connections to residential, commercial/industrial, recreational, and institutional facilities located within the boundaries of the proposed Peninsula Community Services District. The project would provide sewer service to structures within the communities of Fairhaven and Finntown. The project would not provide service to parcels within the approved Samoa Town Master Plan. Sewer service to the area would be implemented in two phases: 1) Sewer Service for Existing Structures (Short-Term), and 2) Sewer Service for Possible Future Infill (Long-Term).

Redwood National and State Parks Visitor Center and Restoration | Environmental Planner | Save the Redwoods League | Orick, CA

Prepared the air quality and GHG analysis for the proposed restoration and visitor center project. The project consisted of restoration of Prairie and Libby Creeks and construction of a world class visitor center near old growth redwoods in Coastal California. GHD prepared a Biological Resources Report, Cultural Resources Report, Botanical and Wetlands Report, Asbestos Report, a Traffic Impact Study, a Habitat Mitigation and Monitoring Plan, an Invasive Plant Management Plan, an Adaptive Management Plan and US Fish and Wildlife Service (USFWS), and National Oceanic and Atmospheric Administration (NOAA) Biological Assessments. Also prepared an IS/MND with State Coastal Conservancy as the lead agency. GHD prepare a Conditional Use Permit for Humboldt County, Clean Water Act 404 and 401 permit applications, and Lake and Streambed Alteration Agreement, ESA Section 7 Consultation with the USFWS and NOAA and California Endangered Species Act consultation with the CDFW. Doheny Desalination Project EIR | Environmental Planner | South Coast Water District | Laguna Beach, CA

Prepared the air quality, Clean Air Act general conformity, and GHG analysis for the project. The project would result in the development of the Doheny Seawater Desalination Project in Dana Point, California. This 15 MGD desalination project will be developed in phases and will utilize environmentally friendly slant well intake and brine outfall designs. GHD has performed preliminary design, and capex and opex estimations, as well as project delivery analysis, and assisting with preparation of the EIR.

Martin Luther King Regional Shoreline Bay Trail Gap IS/MND | Environmental Planner | East Bay Regional Park District | Oakland, CA

The project consists of improvements to the existing Martin Luther King Jr. Regional Shoreline, including construction of a new Bay Trail segment, maintenance of existing Bay Trail, removal and replacement of boat launch, and parking lot improvements. The East Bay Regional Parks District proposes to fill a gap in the San Francisco Bay Trail and make improvements within the existing Martin Luther King Jr. Regional Shoreline. The Martin Luther King Jr. Regional Shoreline is a park within the District's system of 73 parks, serving Alameda and Contra Costa counties. The District leases the site from the Port of Oakland.

Kristin Orth-Gordinier

Air Quality Planning - Environmental Planner

Location
Eureka, CA

Experience
7 years

Qualifications/Accreditations

– MS, Environmental Science & Management, Cal Poly Humboldt, Arcata, CA, May 2022

– BS, Environmental Biology & Zoology, Humboldt State University, Arcata, CA, 2014

Relevance to the project:

Kristen Orth-Gordinier has been a natural resource consultant for seven years. Her professional experience has focused on project development, community engagement, planning, design, and grant writing. Her portfolio of projects includes natural resource restoration and enhancement, trail planning, park improvements, and urban development. Her permitting and regulatory experience includes the California Environmental Quality Act (CEQA), California Coastal Act, and Clean Water Act Sections 404 and 401. She has developed and led in-person public meetings, facilitated online workshops, and conducted online surveys. Kristen is an accomplished grant writer and manager, with dozens of grants and millions of dollars awarded to the clients she works with. Her most recent experience involves working on coastal resilience related feasibility studies and capacity building efforts that require collaborative and innovative thinking.

Project experience

Trinidad Community Coastal Resilience Planning Project | Environmental Planner | City of Trinidad | Trinidad, CA

Developed and implemented a community engagement plan in partnership with the City and local Tribes to conduct community capacity building and technical planning exercises. Engagement strategies include virtual and in-person meetings and workshops, online surveys, and tabling at local events. The goal of project outreach with the public is to provide education about the project and resilience planning, gather information about coastal hazards and community character, and to prioritize projects and strategies to increase the community's resilience to climate change. This project is coordinated with GHD's engineering staff to result in conceptual designs of community identified coastal resilience projects for the City to pursue implementation funding.

Humboldt Coastal Resilience Project Stakeholder Engagement | Project Manager | Friends of the Dunes | Humboldt County, CA

Prepared and implemented a stakeholder engagement plan to inform stakeholders of project research results and discuss management recommendations to enhance coastal resilience along the Eureka Littoral Cell coastline. The goal of project stakeholder engagement is to communicate key scientific findings, validate the project vulnerability assessment, and to build decision-making capacity to increase coastal resilience.

Riverside Ranch EIR Addendum and Public Access Plan | Environmental Planner | Humboldt County Resource Conservation District | Ferndale, CA

Prepared a EIR Addendum for minor Project changes including public access and site drainage improvements. Wrote a Public Access Plan for operations and maintenance of the parking and trail system at Riverside Ranch. The Plan was developed to meet the requirements of the Project's Coastal Development Permit.

Arcata Annie & Mary Trail Connectivity Project | Environmental Planner | City of Arcata | Arcata, CA

Prepared a project description and CEQA document (Initial Study / Mitigated Negative Declaration (IS/MND)) for the construction of a proposed multi-modal trail in Arcata to connect residents and visitors with schools, businesses, residential areas, and recreational opportunities.

Humboldt Bay Symposium* | Organizing Committee Member | California Sea Grant | Humboldt County, CA

Co-organized this three-day online symposium and facilitated a discussion and question & answer session on regional sea level rise planning with local, state, and Tribal government representatives. Attendees included around 100 natural resource professionals, students, members of the general public, and government representatives.

Humboldt Bay Sea Level Rise Regional Planning Feasibility Study* | Associate Project Manager | Humboldt County Planning and Building Department | Humboldt County, CA

Provided consultation services for County staff related to sea level rise regional coordination governance, public engagement, and funding opportunities. This included the implementation of semi-structured interviews and the development of a coastal professional survey and a public survey to understand level of awareness of SLR, interest in collaboration, and challenges to SLR planning.

Climate Change Adaptation Plan* | Associate Project Manager | Wiyot Tribe | Tablebluff Rancheria, CA

Assisted the Wiyot Tribe Natural Resource Department in the first phase of their adaptation planning efforts. Provided research and outreach support related to Tribal adaptation planning processes and Tribal climate change priorities. Outreach included one public meeting to introduce the project and collect feedback on community priorities and concerns. Started the development of a database for the Tribe to inventory GIS data for future climate vulnerability assessments.

Sequoia Park Zoo Master Plan Implementation* | Project Coordinator | City of Eureka | Eureka, CA

Co-authored a CEQA IS/MND for the Redwood Skywalk and managed biological subcontractors. Led grant writing and management efforts. Coordinated meetings and agenda development for working groups, project committees, and client board.

Sequoia Park Conceptual Design and Public Engagement* | Project Coordinator | City of Eureka | Eureka, CA

Co-facilitated multiple public meetings to gather input for Sequoia Park improvements. Coordinated outreach to local schools to incorporate youth perspectives. Led grant writing and management efforts. Developed marketing and outreach plan and materials. Prepared a final public outreach report and a CEQA ND.

Gene Lucas Community Center* | Project Coordinator | McLean Foundation | Fortuna, CA

Supported stakeholder engagement, site and facility design research, and regulatory approval for a 20+ acre community center campus with multiple buildings, public trails, and wetland / riparian restoration. Prepared a Conditional Use Permit and CEQA IS/MND and prepared applications for a USACE Section 404 Permit and Regional Water Quality Control Board (RWQCB) Section 401 Certification.

* = Work performed while at another firm.

James M. Roscoe
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Roscoe and Associates
Cultural Resources Consultant
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Academic Status

Junior College Instructor Credential, Anthropology and History
Secondary Credential, Social Science, Humboldt State University
Bachelor of Arts, History and Social Science, Humboldt State University
Master of Arts, Cultural Resource Management/Archaeology, Sonoma State University

Professional Affiliations

Humboldt County Historical Society (Past President)
Society for California Archaeology
California Teachers Association
Society for American Archaeology
California State University Faculty Association

Positions Held

Director, Cultural Resources Facility, Department of Anthropology, Humboldt State University (7/2001 – 2018) Responsibilities: Provide professional cultural resources services to Northwest California Tribes, as well as Federal, State, and local agencies. Implement and meet the full range of State and Federal legislative mandates regarding prehistoric and historic cultural resources. Provide services for most of the tribal, federal, state, and local governments in Northwest California as well as many local businesses and private individuals. Complete a variety of field tasks in an efficient and timely manner including: reconnaissance, site mapping, excavation, NAGPRA assistance, historical research, Historic Preservation evaluations, and construction monitoring.

Lecturer, Humboldt State University (1/1994-6/2001); (8/2010 – 2017) Responsibilities: Teach courses covering Archaeological Field Methods, Northwest California Archaeology, and Archaeological Method and Theory.

Private Consultant –Roscoe and Associates (9/1988-present) Responsibilities: Conduct cultural resource investigations on over 400 projects in Del Norte, Humboldt, Trinity, Lake, Mendocino, and Sonoma Counties in Northwestern California. All contractual obligations have been fulfilled successfully and in a timely manner.

Assistant Field Director (6/1989-8/1989) University of California at Davis, Archaeological Field School, Fort Bragg, California. Responsibilities: Instruct students in excavation techniques and help implement study of five prehistoric archaeological sites at MacKerricher State Park.

Instructor, College of the Redwoods, Humboldt County (8/1989-12/1989 & 1/1994-6/1994) Responsibilities: Teach courses on contemporary United States history (U.S. History III) and Introduction to Archaeology.

Teacher, Eureka High School (1/1985-2013) Responsibilities: Prepare and Implement lesson plans for semester courses in Anthropology, Economics, Civics, World History, and U.S. History.

Site Supervisor and Instructor, Santa Rosa Junior College (7/1987-8/1987) Responsibilities: Instruct students in prehistoric excavation techniques and implement excavation of a coastal Sinkyone archaeological site in Shelter Cove, California during the 1987 summer field school.

Assistant Archaeologist, Redwood State Park (4/1983-11/1984) Responsibilities: Complete archaeological field survey, excavation, and research reports. Conduct liaison work with local Native American groups.

Staff Archaeologist, The Cultural Resources Facility, Sonoma State University, Rohnert Park, California (1979-1985) Responsibilities: Proposal writing, report preparation, project planning, and field direction as site supervisor or crew chief. Involved in the excavation of over 30 prehistoric and historic archaeological sites and the survey of over 30,000 acres in Northern California.

Seasonal District Archaeologist, Lower Trinity Ranger Station, Six Rivers National Forest, Eureka, California (Summer 1979) Responsibilities: Prefield research, field survey, report preparation, and oral history interviews.

Selected Papers and Publications

"The Gunther Island Site Revisited" Paper presented at the State of Jefferson Annual Meeting, Humboldt State University, February 1990.

"An Ethnohistory of the Mattole" Thesis submitted as partial fulfillment for the degree of Master of Arts, Sonoma State University.

"Temporal and Spatial Distribution of Concave Base Projectile Points from the North Coast Ranges, California" (with Greg White, Terry Jones, and Larry Wiegel) Journal of California and Great Basin Anthropology Vol. 4 No 2, pp 67-79, 1982.

"Is the Borax lake Complex or Does the Borax Lake Pattern?" Paper, presented at the Society for California Archaeology Annual Meeting, Redding, April 1980.

"Privy Pistols from the Golden Eagle Site" Paper, presented at the Society for California Archaeology Annual Meeting, Redding, April 1980.

"Spatial and Chronological Data on the Wide Stem Projectile Point Type" Paper, presented at the Society for California Archaeology Annual Meeting, Redding, April 1980.

"Metal in Historical Archaeology at the Golden Eagle Site" Edited by Marley Brown, Mary Praetzellis, Adrian Praetzellis, and Suzanne Stewart. The Redevelopment Agency of the City of Sacramento. P. 121 July 1980.

"The Mattole Valley – Economic Survival in a Rural Community" Barnum Award Paper.

Melinda Salisbury, B.A., - Cultural Resource Specialist

Ph. (415)847-4304, E-mail: salisbury.cultural.consultant@gmail.com

Skills Summary

Melinda Salisbury received a Bachelor's of Arts degree in Anthropology from Humboldt State University in 2008. She has participated in, and led over 200 archaeological investigations across California including state habitat restoration projects, timber harvest plans, National Register Nominations, and resource inventories for public agencies. Ms. Salisbury has also provided cultural resource monitoring assistance during the implementation phase of various construction projects in Humboldt and Del Norte Counties. Ms. Salisbury has assisted in archaeological excavation projects at coastal habitation sites in Del Norte and Humboldt Counties and on San Nicolas Island in Ventura County. She has provided technical archaeological support for private and public sector contracts and is able to survey, identify, and efficiently document cultural resources as well as provide monitoring support. Ms. Salisbury is proficient in ethnographic and historical research, report writing, electronic data entry and management, performing CHRIS center records searches, and providing support in conducting correspondence with local Native American groups and other interested parties. Ms. Salisbury is also trained to use numerous kinds of GPS devices as well as ESRI's GIS software (ArcMap and ArcCatalog) and has worked as a database consultant on several projects. Ms. Salisbury currently contracts with local private cultural resource consulting firms. In the last 20 years Ms. Salisbury has participated in numerous projects around Humboldt Bay and the Samoa Peninsula. These notably include excavations with Humboldt State University's Cultural Resources Facility at Tuluwat (Indian Island) in 2008. In recent years, Ms. Salisbury conducted test excavations with Roscoe and Associates at four Loud Sites in Samoa (2018) and two archaeological and historical resources investigations along most of the Samoa Peninsula in 2018 and at the former Samoa Pulp Mill in 2020 and 2021. References are available upon request.

Professional Experience

08/2010- Present **Cultural Resource Specialist: contracting with local private cultural resource consulting firms.** Ms. Salisbury assists with federal, state and local environmental compliance investigations focusing on cultural resources. This includes California Historical Resources Information System (CHRIS) record searches, archival research at local repositories and cultural resource surveys and archaeological monitoring. Ms. Salisbury also assists with the preparation of cultural resource reports and site records as well as GIS mapping and geospatial analysis.

01/2018-06/2019 **Researcher (On-call): *Humboldt State University, Cultural Resources Facility***

Ms. Salisbury assisted with the background research aspect of federal, state and local environmental compliance investigations focusing on cultural resources. This includes CHRIS record searches and archival research at local repositories. Ms. Salisbury also assisted with the review of cultural resource reports and provided guidance on larger GIS- based research projects as needed.

01/2008-12/2017 **Research Associate and GIS Database Manager: *Humboldt State University, Cultural Resources Facility***. Over a period of approximately ten years, Ms. Salisbury provided technical archaeological support for private and public sector contracts, first as a part-time Research Assistant, then progressing into a full-time Research Associate position. During this time, Ms. Salisbury worked on over 150 archaeological investigations across California, including state habitat restoration projects, timber harvest plans, National Register Nominations, and resource inventories for the Bureau of Land Management within the Coast Ranges and for the California State Parks in Humboldt and Del Norte Counties. Ms. Salisbury also provided cultural resource monitoring assistance during the implementation phase of various construction projects in Humboldt and Del Norte Counties. Ms. Salisbury regularly conducted record searches at California's regional information centers, provided support in conducting consultation with local Native American groups and interested parties, led pedestrian field surveys, identified and recorded archaeological sites, and authored reports. She also managed the CRF Geographic Information Systems (GIS) database, produced cartographic representations of survey results, compiled and geo-referenced historical imagery and conducted spatial analysis to assist research.

04/2011- 05/2011 **CCRD Database Consultant. *Far Western Anthropological Research Group Inc.***

Ms. Salisbury consulted with Timothy Keefe and Darrell Cardiff, of the California Department of Transportation, District 1, Environmental Department, regarding the newly acquired cultural resource database. Ms. Salisbury input all Caltrans' District 1 in-house records into the CCRD database which stores detailed information on cultural resources, all Caltrans projects, and associated documents. The GIS application stores the geographic location of those resources and projects, and provides means to output representative maps. Laura Leach-Palm was Ms. Salisbury's primary Far Western Supervisor; however, she also worked closely with Far Western GIS Specialist, Paul Brandy to address issues regarding the GIS component of the database.

Professional Experience *(continued)*

11/2008-05/2009 **Cultural Resources Monitor: *Pacific Legacy Inc.*** For the duration of seven months, with approximately 40 hours a week, all subsurface activities for the construction of the Humboldt Bay Repowering Plant, Humboldt Bay Pacific Gas and Electric Company were monitored by Ms. Salisbury. This work was conducted under the supervision of Will Shapiro, Pacific Legacy Inc, Santa Cruz, CA and in consultation with Clint Hilton, CH2M Hill, Santa Ana CA.

06/2008-08/2008 **Cultural Resources Monitor: Humboldt State University, Cultural Resources Facility**. For the duration of three months, with approximately 40 hours a week, all subsurface activities for the construction of the National Park Service's Aubell Lane vehicle maintenance facility were monitored by Ms. Salisbury. This work was conducted under the supervision of Karin Anderson Grantham, Chief Resource Management and Science at the National Park Service. Subsequent to monitoring efforts, Ms. Salisbury assisted in the preparation of a monitoring report under the supervision of HSU-CRF Research Associate Jennifer Burns M.A.

04/2008 **Lab Technician: *Humboldt State University, Center for Indian Community Development, Cultural Resources Facility***. Mendocino National Forest soil analysis project, Paleo ethno-botanical investigation. Seed identification and analysis in a soil sample, for approximately 40 hours, under the supervision of Jennifer Burns, M.A. R.P.A.

09/2007-01/2008 **Student Temporary Employee: *USDA Six Rivers National Forrest Supervisors Office, Heritage resources Department***, under the supervision of Anna Dittmar.
Ms. Salisbury entered data for the INFRA database and assisted with public outreach as part of a Passport in Time project.

09/2006- 06/2007 Field **Technician/ Student Volunteer: *Humboldt State University, Center for Indian Community Development, Cultural Resources Facility***. Ms. Salisbury conducted pedestrian field surveys and assisted with report writing for approximately 10 to 20 hours per week.

08/2006 Field **Technician: *Lost Coast Rock Shelter excavation, Adie Whitaker, U.C. Davis***.
Volunteer archaeological excavation of a rock shelter in the Lost Coast area under the direction of Adie Whitaker, doctoral candidate at U.C. Davis, California. I primarily assisted in wet screening full time for seven days.

08/2006-05/2008 **Lab Technician: *Humboldt State University, Department of Anthropology***.
Over 200 Lab hours logged examining the contents of refuse deposits excavated from San Nicolas Island under the supervision of Dr. René L. Vellanoweth.

Christopher D. McMorris

JRP Principal / Architectural Historian

Summary

Mr. McMorris specializes in conducting historic resource studies for compliance with Section 106 of the National Historic Preservation Act and the California Environmental Quality Act, as well as other historic preservation projects. He serves as a lead historian, principal investigator, and project manager on projects for federal, state, and local government, as well as for engineering/environmental consulting firms. Many projects involve survey and evaluation of historic resources under the criteria for the National Register of Historic Places and the California Register of Historical Resources, along with analysis of effects projects may have on historic properties and measures to mitigate those effects. He has also served as adjunct faculty and guest lecturer at California State University, Sacramento's Public History Program, and has conducted multiple historic resources compliance training seminars.

Office Location

Davis, CA

Education

M.S. Historic Preservation, Columbia University, New York

B.A. History and B.A. Music, University of Rochester, New York

Certifications

Meets SOI Professional Qualification Standards under History and Architectural History

Years of Experience

25

Selected Project Experience

Woodlake Roundabout Project State Route 245 / Cajon Avenue, Woodlake, Tulare County, California: Historical Resources Evaluation Report, 2023–In Progress. Prepared with GHD Inc. for City of Woodlake and Caltrans District 6.

Alturas Capital Preventative Maintenance Project, Modoc County, California: Historical Resources Evaluation Report, 2023–In Progress. Prepared for Caltrans District 2.

Valley Water Pipeline Inspection and Rehabilitation Program, Santa Clara County, California: Historic Resources Report, 2022–In Progress. Prepared with Panorama Environmental, Inc. for Santa Clara Valley Water District.

Delta-Mendota Canal Capacity Correction Feasibility Study, Cultural Resources Inventory Report, California, 2022–In Progress. Prepared with Pacific Legacy Inc. and CDM Smith for San Luis and Delta-Mendota Water Authority and US Bureau of Reclamation.

San Jose Downtown Bikeways, Santa Clara County, California: Historic Property Survey Report, 2022–2023. Prepared with GHD Inc. for City of San Jose and Caltrans District 4.

Zenith Arch (Buildings 423 and 407) Historic American Engineering Record (HAER) Documentation at Naval Base Point Loma (NBPL), San Diego, California, 2022–2023. Prepared with Far Western Anthropological Research Group, Inc. for Southwest Division, Naval Facilities Engineering Command (NAVFAC).

State Route 99 and Oswald Road Intersection Improvement Project, Sutter County, California: Historic Property Survey Report, 2022–2023. Prepared with GHD Inc. for Sutter County and Caltrans.

Last Chance Grade Project, US 101, Cultural Resources Survey Report / Historical Resources Evaluation Report, Del Norte County, California, 2020–2022. Prepared with Far Western Anthropological Research Group, Inc. and Pacific Legacy, Inc. for Caltrans District 1.

Sea Cliff Pump Station No. 2, San Francisco, California: Historic Resource Evaluation, 2021–In Progress. Prepared with AECOM for San Francisco Public Utilities Commission (SFPUC).

State Route 36 Carlotta Shoulder Widening Project, Historical Resources Evaluation Report, Humboldt County, California, 2021–2022. Prepared with Pacific Legacy for Caltrans District 1.

Delta Moveable Bridges, Historical Resources Evaluation Report, Historical Resources Compliance Report, Cultural Resources Management Plan, Delta Shipwrecks Historic Background, Sacramento, Yolo, Solano, Colusa, Sutter Counties, 2020–2023. Prepared with Pacific Legacy, Inc. for Caltrans District 3.

Albion River Bridge Rehabilitation/Replacement Project, Historical Resources Evaluation Report, State Route 1 Mendocino County, California, 2020–2022. Prepared with Pacific Legacy, Inc. for Caltrans District 1.

Stockton Interlock BNSF / UPRR Grade Separation Project, Section 106 and CEQA Historic Resoruces Compliance Documentation, Stockton, San Joaquin County, California, 2020–2022. Prepared with HDR, Inc. for San Joaquin Railroad Commission.

2202 Old Samoa Road, Arcata, Historic Archival Documentation, Humboldt County, California, 2020–2021. Prepared for Wahlund Construction, Inc.

Lawrence Berkeley National Laboratory, Buildings 31, 50, 56, 60, 62, 69, 72, 81 and 83: Historic Resources Inventory Report, Berkeley, Alameda County, California, 2020–2021. Prepared for University of California / Lawrence Berkeley National Laboratory.

Fish Creek Bridge Project, State Route 254, Historical Resources Evaluation Report, Humboldt County, California, 2020. Prepared with Pacific Legacy, Inc. for Caltrans District 1.

Old Arcata Road Improvements Project, Historic Resources Evaluation Report, Finding of Effect, and Historic Property Survey Report, Arcata, Humboldt County, California, 2019-2022. Prepared with GHD Inc. for City of Arcata and Caltrans District 1.

Modesto Transit Center Improvements Project at the former Modesto Southern Pacific Railroad Station, Section 106 and CEQA Historic Resources Compliance Documentation and Services, Modesto, California, 2019–2020. Prepared for Modesto Area Express Transit, City of Modesto.

Sequoia Park Redwood Canopy Walk and Trail System Project, City of Eureka, Humboldt County, California, 2019–2020. Prepared with Greenway Partners for City of Eureka.

Federal Emergency Management Agency, Environmental Planning and Historic Preservation Technical Assistance in support of the Hazard Mitigation Grant Program, National Historic Preservation Act Section 106 Documentation for Historic Architectural / Built Environment Resources in California, 2018–In Progress, including Trinidad Rancheria Generator Project, Trinidad, Humboldt County, CA. Prepared for Federal Emergency Management Agency.

Klamath River Bridge Replacement Project, State Route 263: Historic American Engineering Record, Siskiyou County, California, 2018–2019. Prepared with Pacific Legacy for Caltrans District 2.

State Route 36 Carlotta Curve Correction Project, Historic Context for Timberlands of the Van Duzen River, Humboldt County, California, 2018–2019. Prepared with Pacific Legacy for Caltrans District 1.

Arcata Plaza McKinley Statue Removal Project: Historical Resources Report, Arcata, Humboldt County, California, 2018. Prepared for City of Arcata.

Jacoby Creek Bridge Rehabilitation Project: Historic Resources Evaluation Report, Finding of No Adverse with Standard Conditions, and Secretary of Interior's Standards Action Plan, Implementation of Secretary of the Interior's Standards Action Plan for the Rehabilitatio, Bayside, Humboldt County, California, 2015–2018. Prepared for Humboldt County and Caltrans District 1.

Humboldt Bay Trail South: Historical Resources Evaluation Report and Historic Property Survey Report, Humboldt County, California, 2017–2018. Prepared for Humboldt County Public Works and Caltrans District 1.

Humboldt Bay Area Mitigation Project: Historical Resources Evaluation Report, Humboldt County, California, 2016. Prepared with Pacific Legacy, Inc. for Caltrans District 1.

Red Mountain Communications Site Relocation Project: Historic Resources Inventory and Evaluation Report, Humboldt and Del Norte Counties, California, 2015–2017. Prepared with North State Resources for California Department of General Services, and California Office of Emergency Services.

San Pedro, Middle, and Long Beach Harbor Breakwaters Repair Project: Cultural Resources Report, Los Angeles County, California, 2015. Prepared with Far Western Anthropological Research Group, Inc. for US Army Corps of Engineers, Los Angeles District.

Honeydew Bridge Replacement Project: Section 106 and CEQA Historical Resources Documentation and Mitigation, Honeydew, Humboldt County, California, 2013–2021. Prepared for Humboldt County and Caltrans District 1.

ILLINGWORTH & RODKIN, INC.
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Adwait Ambaskar

Mr. Ambaskar joined I&R in 2021 after graduating from Penn State University with a Masters degree in Acoustics. While at Penn State, he worked on developing an open-source outdoor sound modelling tool for predicting visitor response from anthropogenic sounds at national park, state forest environments. He has also been involved in airport noise and vibrational analysis projects during his undergraduate years.

At I&R, Mr. Ambaskar has developed special skills in the field of underwater sound. He has developed and tested algorithms to measure and characterize sound levels from recordings of underwater construction sound, co-authored hydroacoustic monitoring reports, and conducted underwater sound assessments to predict impacts to fish, marine mammals and sea turtles. Mr. Ambaskar has participated in several underwater sound measurement projects, the latest being the monitoring of underwater sounds from oscillator piles at I-205 in Oregon.

He has worked on California highway noise projects conducting measurements and performing data analysis. He has also conducted vehicle noise measurements for research sponsored by the National Cooperative Highway Research Program. He has applied his knowledge of signal processing to the analysis of unique vehicle sounds and underwater noise for pile driving. He has also participated in a variety of environmental noise projects in the Northern California.

PROFESSIONAL EXPERIENCE

April 2021 to present	Illingworth & Rodkin, Inc.
Staff Consultant	Cotati, California

EDUCATION

2020	The Pennsylvania State University M.S. in Acoustics
2018	National Institute of Technology, Trichy B. Tech. Mechanical Engineering

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JAMES A. REYFF

Mr. Reyff is a noise and air quality specialist with over 30 years of experience in conducting acoustical, meteorological, and air quality-related studies. His expertise includes the management, design, performance and evaluation of acoustical and meteorological programs. He has worked closely with public agencies and private companies on many different acoustical studies involving transportation and construction.

Mr. Reyff is a nationally known expert in the measurement and evaluation of underwater sounds from marine construction projects. He has lead investigations on numerous projects that involved underwater sound impacts. He was the lead acoustical investigator on construction projects studying impacts to marine mammals and fish. He provided testimony to the national Fisheries and Hydroacoustic Working Group, as well as resources agencies and blue-ribbon commissions investigating these critical issues. His work in this field has been recognized by the Federal Highway Administration (FHWA), California Department of Transportation and the American Association of State Highway and Transportation Officials (AASHTO). More importantly, his expertise, flexibility and timely efficient work have assisted projects in sensitive agency consultations regarding underwater noise impacts to aquatic species. His expertise in this area includes the measurement of underwater sound, evaluation of methods to reduce underwater construction sounds, and prediction of underwater sound levels from marine pile driving. Mr. Reyff has authored several papers on this subject and given many papers at national and international noise conferences.

Mr. Reyff authored the compendium of underwater sound measurements for construction activities that is part of the California Department of Transportation's Fish Guidance Manual. These data have been used to prepare acoustical assessments of underwater noise from planned marine construction projects. Mr. Reyff has prepared underwater noise assessments for planned projects that include pile installation in coastal, bay, river and estuarine environments. These assessments have influenced the construction techniques and biological monitoring efforts.

Mr. Reyff has led traffic noise investigations and authored the technical reports for over 25 major transportation projects. These are in addition to the many traffic related noise studies that he has conducted or assisted. Mr. Reyff has extensive experience with all of the traffic noise models in use today including the Traffic Noise Model (TNM). Mr. Reyff has been trained in the use of TNM and has used the model for both research and traffic noise studies.

In addition to conducting traffic noise studies, Mr. Reyff has managed traffic noise research studies. He is the lead investigator for the I-80 Davis Open Graded Asphalt Concrete study that has closely evaluated the long-term performance of an asphalt overlay on a busy California freeway. He was also the lead investigator for a research study that evaluated the effects of noise barriers on noise levels at distant residential locations under various meteorological conditions. That extensive research effort resulted in 5 different technical reports. These studies included evaluations of single diffracting barriers, parallel barriers, single reflecting barriers and sound absorptive barriers. Mr. Reyff currently assists with the long-term acoustical evaluation of Arizona asphalt pavements as part of that State's nationally and internationally acclaimed Quiet Pavement Pilot Project. Mr. Reyff has authored or coauthored several papers on this subject and given many papers at national and international noise conferences.

PROFESSIONAL EXPERIENCE

1995-Present
Senior Consultant
Illingworth & Rodkin, Inc. Petaluma, CA
1989-1995
Project Meteorologist and Noise Specialist
Woodward-Clyde (now URS) Oakland, CA
1988-1989
Post Voyage Analyst
Oceanroutes, Sunnyvale, CA

PROFESSIONAL SOCIETIES

American Meteorological Society
Institute of Noise Control Engineering
Transportation Research Board (Member ADC40)

AWARDS

- 2005 FHWA Environmental Excellence Award for Excellence in Ecosytems, Habitat and Wildlife
- Caltrans 2005 Excellence in Transportation

EDUCATION

1986 San Francisco State University, B.S.
Major: Geoscience (Meteorology)

Christopher Trumbull, PE, GE, D. GE

Senior Project Manager

Chris specializes in civil, geotechnical, and environmental consulting and project management services for a variety of clients throughout California and the western US. Chris also manages large and complex geotechnical projects, including waterfront, transportation, public works, flood control, hydropower, essential facilities, military, correctional, power, industrial, ports, and other markets. Due to his past experience, he provides state-of-the-art quality assurance / quality control on his projects and stresses client communication as the most important factor in creating successful projects.

EDUCATION

Masters in Civil Engineering, Geotechnical Emphasis, San Jose State University, 1995

BS Civil Engineering, San Jose State University, 1989

REGISTRATIONS

Civil Engineer, CA 53710

Geotechnical Engineer, CA 2492

ORGANIZATIONS

- Member, American Society of Civil Engineers
- GeoInstitute
- Academy of Geo-Professionals
- Association of State Dam Safety Officials

EXPERIENCE

At Crawford: 4 years

Total: 35 years

LOCATION

Sacramento, CA

REPRESENTATIVE PROJECTS

NPS Municipal Pier, San Francisco Maritime National Historical Park, San Francisco, CA

Mr. Trumbull was the senior geotechnical engineer leading the geotechnical investigation and geologic hazards study. The existing pier is an aging structure that is experiencing continued deteriorating conditions from the adverse environment. The projects proposed intent is to construct a new pier to replace the existing dilapidated structure. Over-water subsurface exploration and laboratory testing was performed to characterize the subsurface conditions for analysis of: site-specific ground motions hazards, deep foundations, liquefaction, engineered fill, and geologic hazards. A design-level report with geotechnical conclusions and recommendations was prepared.

Raley's Dock and Rice Mill Pier, West Sacramento, CA

Senior Geotechnical Engineer responsible for the geotechnical investigation to support the design and construction of a new floating dock, onshore access ramp and landing, and a pivoting and elevated gangway between the landing and floating dock, which will reuse some of the existing 16- to 30-inch-diameter steel piles supplemented by new 12- to 20-inch-diameter new steel piles. A 24 foot by 58 foot birthing dock is planned at the southern end of the floating dock and 235 feet of debris boom floats are planned upstream of the floating dock. Work included subsurface exploration, testing and analysis of soil and rock samples collected during geotechnical drilling operations, development of geotechnical criteria, and preparation of the geotechnical investigation report that summarized findings, conclusions, and recommendations.

Berth 56 Pavement Evaluation, Port of Oakland, Oakland, CA

Engineer responsible for performing a pavement evaluation of the severely rutted gantry crane pavement. The subgrade was over-stressed due to the high loading from the gantry cranes and frequent trips. Alternatives included subgrade improvement through over excavation and using chemical treatment under the paved travel surface. Over excavation of the loose hydraulic fill sand and replacement with engineered fill was chosen. Also performed earthwork observation and testing during construction.

Berth 34, Port of Oakland, Oakland, CA

Engineer responsible for conducting a geotechnical investigation for the Port of Oakland's Outer Harbor facility. The existing berth consisted of a hydraulic fill placed between rock dikes. Geotechnical concerns included liquefaction and potential for lateral spreading of the dike materials into the harbor. Static and dynamic slope stability analyses were performed using two design input earthquake accelerations. Recommendations for slope stabilization using vibro-replacement stone columns were provided. Quality assurance construction observation of the stone column installation was performed during construction.

Lakeport Seawall, Lakeport, CA.

The project included the design and construction of approximately 550 feet of new sheet pile seawall to replace the existing distressed block wall. The investigation included exploration with three borings as deep as 40 feet and laboratory testing for index, strength and corrosivity. Foundation and retaining wall analyses were performed, as well as developing parameters for L-PILE to determine wall displacement. The results were summarized in a geotechnical investigation report with conclusions and recommendations.

Pillar Point Harbor West Trail Repair Project Phase 1, Half Moon Bay, CA.

The project consists primarily of a shoreline stabilization project that includes replacement of a 36" RCP culvert, about 300 feet of proposed soil nail and shotcrete wall, approximately 300 feet of shoreline wave protection, trail paving, and upslope surface water control. Mr. Trumbull led the geotechnical team in exploration, laboratory testing, and engineering analysis. The geotechnical report included conclusions and recommendations for earthwork, foundations, soil nails, seismic design, pavement, and erosions control.

South San Francisco Bay Shoreline Study, USACE, Santa Clara County, CA

Senior Geotechnical Engineer participating on the project team responsible for preparing the combined USACE Feasibility Study and EIS/EIR (Integrated Report) and ESA (federal and state) compliance documentation for a multi-disciplinary phased project that included the proposed construction of an engineered levee to provide flood risk management, salt pond ecosystem restoration for more than 3,000 acres, as well as project-wide recreational enhancements. In general, the project area extends east to west from Coyote Creek to Guadalupe Creek and north to south from the lower San Francisco South Bay waters to the community of Alviso and the San Jose/Santa Clara Water Pollution Control Plant.

Deep Water Ship Channel Expansion, USACE, Redwood City, CA

Senior Geotechnical Engineer responsible for reviewing the geotechnical work of a teaming partner as well as performing peer review of the geotechnical report for this project, which included realignment and deepening of the existing channel. To provide information for future dredging, 11 over-water borings were used to obtain nearly undisturbed Shelby tube samples for laboratory testing, which included unconsolidated undrained triaxial shear and index tests.

Army Base Building 811 | Oakland, CA

Geotechnical Engineer responsible for geotechnical investigation for the existing WWII-era building. Investigation included exploration to 80 feet through soft Bay Mud and load testing of the existing pile foundation system. Presented load capacities of the existing foundation and recommendations for supplemental pipe pile foundations.

Delta Plan, Delta Stewardship Council, Central California

Geotechnical Engineer responsible for leading the flood control team preparing the Delta Plan section relating to impacts to flood control facilities—levees and related structures/improvements—from changing water supply operations and habitat restoration or remediation. The Delta Plan is a comprehensive, long-term management plan for the Delta which creates new rules and recommendations to further the state's coequal goals for the Delta: Improve statewide water supply reliability, and protect and restore a vibrant and healthy Delta ecosystem. Work included interaction with other disciplines where common impacts were present.

American River Common Features Levee Evaluations, Sacramento, CA

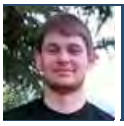
Senior Geotechnical Engineer responsible for leading the geotechnical team providing evaluation and design of levee improvements for 10 sites along the American River per the Water Resources Development Act (WRDA) of 1996. The scope of work for geotechnical and civil design included seepage and slope stability analyses; establishing the need for levee remediation; determining the locations for remediation; developing alternative methods of remediation; preparing construction plans and specifications; preparing a Design Documentation Report (DDR); identifying relocations including utility relocations; determining rights-of-way and temporary construction easement requirements; formulating a cost estimate; and preparing a Quality Control Plan (QCP). This project was administered by the Sacramento District of the US Army Corps of Engineers.

Corte Madera Creek Bridges, Larkspur, Marin County, CA

Senior Geotechnical Engineer responsible for conducting a geotechnical investigation and limited environmental characterization for the seismic retrofit of three bridge lines having lengths of 1,200 to 1,400 feet and widths of 33 to 97 feet. This project was authorized as a portion of the 3,500 bridge retrofit projects being performed by Caltrans. Geotechnical challenges included between 15 and 70 feet of soft soils (Bay Mud) overlying alluvial soils and Franciscan rock and a strong seismic potential.

San Francisco Bay Trail – Doolittle Drive South Segment, Oakland, CA

Mr. Trumbull led the geotechnical team for the design of approximately 3,500 linear feet of bay trail. Approximately 2,500 linear feet will be a raised structural viaduct along the San Leandro Bay shoreline. The remaining 1,000 lineal feet will consist of the restoration/upgrade of existing trail including a new trail crossing through the existing Martin Luther King Shoreline boat ramp parking lot. Improvements also include the replacement of the existing boat ramp. Geotechnical challenges included settlement of Bay Mud, historical fill, and deep foundations. The geotechnical investigation included over-water and land borings, laboratory testing, settlement, stability, foundation, and pavement analyses, and report preparation. A separate Caltrans-approved Geotechnical Design Report was prepared for the project. The geotechnical aspects of the project plans and specifications were reviewed. Construction observation and supplemental recommendations for unstable subgrade during trail and boat ramp construction were also provided.



Ryan Houghton, PE
Senior Engineer

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services
Sacramento | Modesto | Pleasanton | Rocklin | Ukiah

Biography

Ryan Houghton has a Master's Degree in Civil Engineering with an emphasis in geotechnical engineering. He also has experience with hydraulics, site design and grading, and SWPPP preparation. In the field of geotechnical engineering, his responsibilities include observing and logging field investigations for geotechnical site investigations, evaluating laboratory results, engineering analysis, writing geotechnical reports, and computer aided design and drafting. His responsibilities in the field of hydraulic engineering include the collection of field data, creating and running hydraulic models, and writing hydraulic reports.

Qualifications

Education

California Polytechnic State University, San Luis Obispo, B.S. Civil Engineering, 2011

California Polytechnic State University, San Luis Obispo, M.S. Civil Engineering, 2012

Registrations

Professional Engineer, CA C145591

Affiliations

Lake and Mendocino Engineers Association

Related Projects

Storm Damage

Mitchell Road Failure at PM 1.15 – Eureka, Humboldt County, CA
Geotechnical Investigation for a 130 ft. long road failure. The primary causes of slope failure are inherent weakness of the fill and outer slope material, the high degree of saturation from seasonal storm water infiltration during the very wet winter of 2017, subsurface water seepage through the fill slope, and erosion of the fill slope by road surface runoff. Recommendations include a soldier pile tieback wall with horizontal tieback rods or grouted ground anchors.

Alderpoint Road PM 0.22, Garberville, Humboldt County, CA
Geotechnical Investigation for a slope failure and cracking/movement along 100 ft. of road. The failure occurred mostly along fill and residual soil due to the inherent weakness of the fill, high degree of saturation from storms, subsurface water seepage, and erosion. Based on exploration and analysis, a soldier pile tieback wall with grouted ground anchors was recommended as the most feasible repair option.

Alderpoint Road PM 36.98 – Blocksburg, Humboldt County, CA
Provided Initial Recommendations for repair of an active slide approximately 325 ft. in length. The site has a history of slope instability. Based on data and analysis of the site, the repeated (historic) embankment failures are concluded to have been caused primarily by the surcharged load over weak, cohesive materials that lose significant shear strength when saturated. Initial recommendations include construction of a rock buttress, longitudinal and lateral subdrains, road embankment reconstruction using lightweight fill, trenched under-drain, new exterior finished grade slopes, and reconstructed road structural section.

Shelter Cove Road Failure at PM 7.60 – Shelter Cove, Humboldt County, CA
Ryan prepared a Draft Geotechnical Report for a slope failure along an approximately 230-foot straightaway portion in the center of a reverse curve road section. Primary cause of failure is from over-steepened slopes within relatively weak materials disturbed over time by faulting, folding, and ancient landslides, driven by slope erosion and build-up of hydrostatic pressure. Repair recommendations were provided for a Soldier Pile Tieback Wall.

Alderpoint Road PM 44.79 – Bridgeville, Humboldt County, CA
Ryan prepared a Geotechnical Report for this FEMA project of an up to 2 ft. drop of the roadway over a length of 150 ft. Geotechnical recommendations include a soldier pile tieback wall to achieve secure support and provide lateral resistance to active pressures.

East Branch Road PM 0.36 – Benbow, Humboldt County, CA
Ryan prepared a Preliminary Geotechnical Memorandum for this FEMA project of a 390 ft. long slope failure due to river impingement undercutting the slope of the outboard lane. Based on data developed from the geotechnical investigation, preliminary recommendations include construction of a rock buttress, embankment reconstruction and sub-drainage, trenched underdrain, road reconstruction, and installation of a new rock-lined ditch and drain.

Panther Gap Road Slide – Honeydew, Humboldt County, CA
Senior Engineer for a Geotechnical Investigation of a major landslide that occurred in early 2019 with continued movement through spring 2019. Damage included the complete loss of 800+ feet of road within Humboldt Redwoods State Park and extending 1000+ feet from head near a ridgeline to toe near drainages of the Bull Creek watershed. Repair alternatives included slope reconstruction; retaining walls; soil reinforced embankments; subdrainage elements; and realignment alternatives both within and outside of state park lands.

Bridges and Structures

Pedestrian Bridge Over Ten-Mile Creek on Branscomb Road, Mendocino County, CA

Performed field logging of borings and backhoe pits for geotechnical investigation for Pedestrian Bridge Replacement Project on County Road approximately 0.5 miles west of Laytonville; review and analyze laboratory results, draft preliminary geotechnical report, assist with stream hydrologic cross-sections and profile analysis using the HEC-RAS computer program. Prepared various exhibits for reports, and assisted with permit applications.

Ukiah Courthouse Infrastructure Project, Ukiah, Mendocino County, CA

This project includes new roadways and a new bridge. Ryan completed a Foundation Report, which included results of subsurface exploration and testing, engineering analysis, conclusions, and recommendations. Provided a summary of subsurface conditions, evaluated the potential for corrosion, and provided seismic data. Provided foundation design data, design recommendations, and pile data for for driven steel H-piles for the bridge. Key geotechnical elements include potential for liquefaction and negative skin friction at both abutments. Also provided pavement structural sections and roadway subgrade recommendations.

Roadways and Pavement Design

Fort Bragg Coastal Trail, Fort Bragg, Mendocino County, CA

Ryan provided Pavement Engineering Services to the City of Fort Bragg for a new access road to the existing Waste Water Treatment Plant (WWTP). The access road consists of approximately 175 feet of new HMA structural section at the entrance of the proposed access road, approximately 1500 feet of new aggregate base over the existing aggregate sub-base access road as well as new full section of aggregate base outside of existing road to allow for road widening; approximately 2300 feet along the existing airstrip pavement (asphalt concrete) from the parking lot to the Waste Water Treatment Plant (WWTP) access road; and approximately 1350 feet of new aggregate base over the existing unspecified aggregate sub-base from the airstrip to the WWTP. Determined the existing site conditions by walking the current access road segments and noting surface conditions, as well as excavating test pits to determine subsurface conditions. The report provided a summary of conditions encountered, laboratory test results, and provided recommendations for new pavement sections including Class 2 AB overlay and new HMA.

Covelo SR 162 Corridor Multi-Purpose Trail Project, Covelo, Mendocino County, CA

Project Engineer for 2 miles of multi-purpose trail and a pedestrian bridge along the SR 162 corridor. The project includes curb and sidewalk improvements, landscaping, a Class I trail, and a 160 ft long by 12 ft wide pre-manufactured steel pedestrian bridge across Mill Creek. Utilities within the proposed bridge area include overhead power lines and a tribal-owned sewer line that crosses under Mill Creek west of SR 162 and continues south to the wastewater treatment plant. Completed 3 hand auger borings, 29 soil hand probes, and two test borings and performed laboratory testing on soil samples. Provided recommendations for the bridge foundations, pavement structural section, subgrade preparation, and fill sections.

Water and Wastewater

Willow Creek Wastewater Treatment System, Humboldt County, CA

Crawford & Associates prepared a Geotechnical Report to provide geotechnical recommendations for the proposed wastewater treatment system, which will replace the aging individual septic systems with a single community wastewater collection and treatment system. The collection system includes 103 connections throughout the town – both commercial and residential. The collection system will use 6-inch gravity pipelines installed within existing roadway easements throughout the town. To prepare this report, CAInc reviewed available geologic maps of the site; conducted a site review; drilled, logged and sampled exploratory borings; performed laboratory tests on representative soil samples from the exploratory borings; and performed geotechnical engineering calculations and analysis to develop recommendations. Provided recommendations for the collection system, pressure main, septic and recirculation tank foundations, and filter bed wall foundations.

City of Ukiah – Perkins Street and Orchard Avenue Drainage Study; 2013

Gather field data, research City Records for drainage systems, data input into computer model of drainage network, running computer model, reviewing output, draft of drainage report.

GHD – City of Ukiah Well #4 and #9, Ukiah; 2014

Geotechnical site investigation for well house structures accompanying new city wells. Task include research site geology and seismicity, log soil borings, analyze applicable lab data to determine soil profile and soil properties, design calculations for bearing capacity, passive pressure, and pavement structural sections, written geotechnical report and accompanying exhibits.

POINTS WEST SURVEYING CO.
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Jesse N. Buffington buffington@pointswestsurveying.com
Michael D. Pulley pulley@pointswestsurveying.com

Jesse N. Buffington

EDUCATION: University of Arizona
2001 Bachelor of Science in Regional Development

REGISTRATION: Land Surveyor, California, No. 9339

INTRODUCTION:

Mr. Buffington is a principal at Points West Surveying with over 18 years of experience in the surveying profession. His background as a planner and project manager has demonstrated a proven track record of efficiently managing major development projects. Since obtaining his license in 2016 Mr. Buffington has performed numerous boundary surveys and enjoys the challenge of retracing difficult historic boundaries. Mr. Buffington is versed in the latest surveying technology, including robotic total stations, GPS equipment for static and Real Time Kinematic (RTK) surveys, and AutoCAD Civil 3D to provide cost and time efficient solutions for the survey needs of his clients.

EXPERIENCE:

POINTS WEST SURVEYING COMPANY, Arcata, CA *2008 to Present*

Mr. Buffington is a principal at PWS and a Professional Land Surveyor. Mr. Buffington has been a project manager for numerous successful development projects, including the completion of many parcel map subdivisions and lot line adjustments. Completing Records of Survey, Parcel Maps, ALTA Surveys, legal descriptions, and Tentative Maps in the office and working in the field as a party chief. Mr. Buffington has experience researching historic documents and retracing original GLO surveys.

OMSBERG & PRESTON, Eureka, CA *2003 to 2008*

Mr. Buffington was the primary Planner and Project Manager for a busy Engineering and Surveying Company. Managing up to 50 projects at a time from start to finish, he completed projects on time and on budget. While working under owner Ken Omsberg, JR he discovered the field of land surveying and began to the process of becoming a licensed land surveyor.

HUMBOLDT COUNTY BUILDING DEPARTMENT, Eureka, CA *2002 to 2003*

Mr. Buffington was a Permit Specialist for the Humboldt County Building Department. He assisted applicants with their building projects, bringing an attitude of positive customer service to the department. During this time Mr. Buffington learned the rules and regulations of the Humboldt County Building and Planning Divisions, knowledge that would prove valuable in the subsequent years as a project manager for development projects.

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RELEVANT PROJECTS:

Client: ***McKinleyville Community Services District***
Project: *Central Avenue Water and Sewer Line Replacement*
Year: *2022*

PWS performed a detailed topographic survey of Central Avenue from Sutter Road to Hiller Road. Mr. Buffington managed the project from start to finish, including GPS planning and post-processing, boundary and control work, scheduling of multiple crews, traffic control and finish drafting. The control was on California Coordinate System of 1983 (CCS83) tied to the North American Datum of 1983 (NAD83) for horizontal locations and the North American Vertical Datum of 1988 (NAVD 88) for vertical, with additional ties to MCSD local datum. Mapping of project data was supplemented by MCSD aerial imagery. Contours and spot elevations were plotted utilizing AutoCad Civil 3d software.

Client: ***Mead & Hunt***
Project: *California Redwood Coast Humboldt County Airport Runwany and Taxi Connector Project*
Year: *2021*

PWS was hired by Mead & Hunt to provide cross sections of the entire length of Runway 14-32 for proposed runway improvements. The control was on California Coordinate System of 1983 (CCS83) tied to the North American Datum of 1983 (NAD83) for horizontal locations and the North American Vertical Datum of 1988 (NAVD 88) for vertical. This job had very strict vertical accuracy requirements and Mr. Buffington ran a 1.2 mile differential level loop along the entire length of the runway to ensure that vertical accuracy was maintained over the entire project. Deliverables were 3D digital terrain model and line work for all surveyed features in AutoCAD Civil3D 2022.

Client: ***McKinleyville Community Services District***
Project: *Boundary Survey of Pialorsi Ranch*
Year: *2021*

In 2020 MCSD purchased the Pialorsi Ranch, a large former dairy property that had never been fully surveyed. Mr. Buffington competed a large boundary survey for the property to serve as a basis for future district improvements. This project involved substantial historic research to survey property lines, some of which had not been surveyed since the original GLO survey in the 1870's. The final product was a four page Record of Survey showing the results of the survey, with horizontal data on California Coordinate System (CCS 83) datum to ensure compatibility the MCSD GIS mapping.

PROFESSIONAL ASSOCIATIONS:

California Land Surveyors Association	2015 to present
CLSA Humboldt Chapter President	2018 to present

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Michael D. Pulley pulley@pointswestsurveying.com

Michael D. Pulley, PLS

EDUCATION: B.A., Rice University, Houston, TX 1993
Major: History

REGISTRATION: Land Surveyor, California, No. 7793
Land Surveyor, Oregon, No. 75436

INTRODUCTION:

Mr. Pulley has over 25 years of experience in all types of surveying projects. Mr. Pulley is versed in the latest technology in the surveying field, having utilized robotic total stations, reflectorless instrumentation, hydrographic survey equipment and GPS equipment to provide cost and time efficient solutions for the survey needs of his clients.

EXPERIENCE:

POINTS WEST SURVEYING COMPANY, McKinleyville, CA *2007 to Present*

Mr. Pulley is the President of Points West Surveying Company (PWS). PWS is a full-service surveying firm located in Arcata. Mr. Pulley has performed ALTA surveys, condominium conversions, aerial control surveys, topographic surveys, boundary surveys, and numerous minor subdivisions at PWS. PWS provides surveying services to various private clients, public entities such as the County of Humboldt, Resort Improvement District No. 1, and Humboldt Bay Municipal Water District, local civil engineering firms, and general construction contractors. Mr. Pulley was appointed as a referee by the Humboldt County Superior Court in a matter involving a possible division of a property among multiple ownership interests and has served as expert witness in numerous court cases. Mr. Pulley provides construction staking for a variety of projects ranging from water transmission line installations to roadway construction to pile driving in Humboldt Bay. Mr. Pulley assists clients with the permitting process for minor subdivisions, lot line adjustments, and coastal development permits.

LACO ASSOCIATES, Eureka, CA *2005 to 2007*

Mr. Pulley was the Manager of the Survey Department at LACO Associates. Mr. Pulley provided surveying services for Humboldt, Del Norte, and Trinity Counties as well as Curry County in Southern Oregon. He performed boundary surveys, ALTA surveys, topographic surveys, construction surveys, Geotracker monitoring well surveys, and numerous minor subdivisions. He was an expert witness for a disputed right of way, and provided litigation support in several other cases.

OSCAR LARSON & ASSOCIATES, Eureka, CA *2000 to 2005*

Mr. Pulley was a Project Surveyor in the Survey Department at OLA, one of 2 licensed surveyors in the office. He performed boundary surveys, ALTA surveys, aerial control surveys, topographic surveys, cadastral surveys, design surveys, GPS control surveys, construction surveys, and prepared property descriptions. Much surveying work was performed in support of large public works engineering projects for roadway construction, water transmission line design and construction, and sewer treatment pipelines and treatment facilities.

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RELEVANT PROJECTS:

Client: Resort Improvement District No. 1 *Project: Various*

Mr. Pulley and PWS serve as the surveyors for RID#1. PWS locates water, sewer, and electrical installations, determines easement locations on the ground throughout the Shelter Cove Subdivision, stakes property and easement lines, and performs topographic and boundary surveys to assist in design of improvements. PWS provided ground control for the aerial mapping of the Shelter Cove Subdivision in 2007 and provided base topographic and boundary mapping of the Telegraph Creek Water Plant for proposed improvements. PWS has performed boundary and topographic surveys on 12 existing water tank locations and assisted with reconstruction of 6 water tanks in 2018 and 2019. To date work for RID#1 has involved at least 75 separate projects since 2007.

Client: McKinleyville Community Services District *Project: Washington Ave Park Acquisition*

PWS performed surveying and planning services for the creation of the Washington Avenue Park acquired by MCSD from the McKinleyville Unified School District (MUSD) in 2013. The park was created from a larger parcel held by MUSD that was no longer necessary for school purposes. Initially pursued under the subdivision exemption for conveyances to and from a government agency, the project ended up requiring a Tentative Map and a Parcel Map, with multiple legal documents, indemnity agreements, and improvement agreements between the 2 districts because of MUSD's intent to sell the parcel it retained after the subdivision, all of which involved PWS.

Client: City of Eureka *Project: Various*

PWS was initially selected by the City of Eureka as part of the construction team for the Martin Slough Phase 1 Sewer Interceptor project in 2011, then continued with the construction surveying for the Martin Slough Pump Station, the Horizontal Drilling project from the City of Eureka Municipal Golf Course to the Elk River WWTP, and the Phase 2C project involving an additional line from the California Street Lift Station tying into the Interceptor. The Interceptor project involved installation of a sewer line in sensitive slough and wetland habitat with very minimal grade. The HDD project involved a change of contractors and continuous monitoring of drilling location and alignment. The Pump Station required pile staking within a 40 foot deep excavation. PWS was a critical contributor to successful project completion in all phases.

PROFESSIONAL ASSOCIATIONS:

California Land Surveyors Association

Humboldt Chapter President	2002-2005
State Chapter Representative	2005-2009 2013-Present
Public Awareness Committee Chair	2008
Executive Committee Member at Large	2019-Present
Oregon Institute of Technology Industrial Advisory Committee	2006-Present

AWARDS:

CELSOC Honor Award for City of Eureka's Mad River Pipeline Survey, February 2004

REFERENCES:

Justin Robbins	Resort Improvement District No.1	General Manager	707.986.7447
Russ Gans	Legal Counsel, MCSD		707.443.5643
Brian Gerving	City of Eureka Public Works	Director	707.441.4152

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