

**AGREEMENT FOR CONSULTANT SERVICES
BY AND BETWEEN
COUNTY OF HUMBOLDT
AND
GHD, INC.
FOR
SEA LEVEL RISE ADAPTATION PLAN FOR HUMBOLDT BAY
TRANSPORTATION INFRASTRUCTURE (PHASE 1)**

Project No. 251007

This contract entered into this 5 day of February, 2019, by and between the County of Humboldt, a political subdivision of the State of California, hereinafter referred to as "COUNTY," and GHD, Inc., a California corporation, hereinafter referred to as "CONSULTANT," is made upon the following considerations:

RECITALS

WHEREAS, COUNTY, by and through its Department of Public Works – Environmental Services, desires to retain the services of CONSULTANT to assist COUNTY in performing planning, engineering and environmental services, which are further described in Attachment A – Scope of Work; and

WHEREAS, such work involves the performance of professional and technical services of a temporary and occasional character, and COUNTY has no employees available to perform such services and is unable to hire employees for the performance thereof for this temporary period; and

WHEREAS, pursuant to Government Code Section 31000, COUNTY may retain independent contractors to perform special services for COUNTY or any department thereof; and

WHEREAS, CONSULTANT represents that it is qualified to perform the duties and services set forth in this contract; and

NOW THEREFORE, the parties hereto mutually agree as follows:

ARTICLE I – INTRODUCTION

- A. The Project Manager for CONSULTANT will be Jeremy Svehla. The Contract Administrator for COUNTY will be Hank Seemann, Deputy Director of Public Works, or a designee thereof.
- B. The work to be performed under this contract is described in Article II – Statement of Work dated December 20, 2018, and the approved CONSULTANT's Cost Proposal dated December 21, 2018. The approved CONSULTANT's Cost Proposal is attached hereto as Attachment B – Cost Proposal & Schedule of Work and incorporated herein by reference. If there is any conflict between the approved Cost Proposal and this contract, this contract shall take precedence.
- C. CONSULTANT, and its agents and employees, in the performance of this contract, shall act in an independent capacity and not as officers or employees or agents of COUNTY.
- D. Without the written consent of COUNTY, this contract is not assignable by CONSULTANT either in whole or in part.

- E. No alteration or variation of the terms of this contract shall be valid, unless made in writing and signed by the parties hereto; and no oral understanding or agreement not incorporated herein, shall be binding on any of the parties hereto.
- F. The consideration to be paid to CONSULTANT as provided herein, shall be compensation for all of CONSULTANT's expenses incurred in the performance hereof, including travel and per diem, unless otherwise expressly so provided.

ARTICLE II – STATEMENT OF WORK

The work to be performed under this contract is described in Attachment A – Scope of Work and Attachment B – Cost Proposal & Schedule of Work.

ARTICLE III – CONSULTANT'S REPORTS OR MEETINGS

- A. CONSULTANT shall submit progress reports to COUNTY at least once a month. Such reports should be sufficiently detailed for COUNTY's Contract Administrator to determine, if CONSULTANT is performing to expectations, or is on schedule; to provide communication of interim findings, and to sufficiently address any difficulties or special problems encountered, so remedies can be developed.
- B. CONSULTANT's Project Manager shall meet with COUNTY's Contract Administrator, as needed, to discuss progress on the contract.

ARTICLE IV – PERFORMANCE PERIOD

- A. This contract shall go into effect on _____, 2019, contingent upon approval by COUNTY, and CONSULTANT shall commence work after receiving notification to proceed from COUNTY's Contract Administrator. This contract shall end on June 30, 2020, unless extended by a written amendment hereto.
- B. CONSULTANT is advised that any recommendation for contract award is not binding on COUNTY until the contract is fully executed and approved by COUNTY.

ARTICLE V – ALLOWABLE COSTS AND PAYMENTS

- A. CONSULTANT will be reimbursed for hours worked at the hourly rates specified in Attachment B – Cost Proposal & Work Schedule. The specified hourly rates shall include direct salary costs, employee benefits, overhead and fees. These rates are not adjustable for the performance period set forth in this contract.
- B. In addition, CONSULTANT will be reimbursed for actual direct costs incurred other than salary costs that are identified in the Cost Proposal.
- C. Reimbursement for transportation and subsistence costs shall not exceed the rates as specified in the approved Cost Proposal.
- D. When milestone cost estimates are included in the approved Cost Proposal, CONSULTANT shall obtain prior written approval for a revised milestone cost estimate from COUNTY's Contract Administrator before exceeding such estimate.

- E. Progress payments will be made monthly in arrears based on services provided and actual costs incurred.
- F. CONSULTANT shall not commence performance of work or services until this contract has been approved by COUNTY, and notification to proceed has been issued by COUNTY's Contract Administrator. No payment will be made for any work performed prior to approval of this contract.
- G. This contract is of no force or effect until returned to COUNTY and signed by an authorized representative of COUNTY. No expenditures are authorized on the project and work shall not commence until the contract has been executed by COUNTY.
- H. CONSULTANT will be reimbursed, as promptly as fiscal procedures will permit upon receipt by COUNTY's Contract Administrator of itemized invoices in triplicate. Invoices itemizing all costs are required for all work performed under this contract. Invoices shall be submitted no later than forty five (45) calendar days after the performance of work for which CONSULTANT is billing, or upon completion of the work. Invoices shall detail the work performed on each milestone. Invoices shall follow the format stipulated for the approved Cost Proposal and shall reference the contract number and project title. Credits due to COUNTY that include any equipment purchased under the provisions of Article XI – Equipment Purchase of this contract, must be reimbursed by CONSULTANT prior to the expiration or termination of this contract. Invoices shall be mailed to COUNTY's Contract Administrator at the following address:

COUNTY: Humboldt County Department of Public Works – Environmental Services
Attention: Hank Seemann, Contract Administrator
1106 Second Street
Eureka, California 95501
- I. The period of performance for the work required hereunder shall be in accordance with the dates specified in Attachment B – Cost Proposal & Work Schedule. No work will be undertaken which extends beyond the expiration date of this contract.
- J. The total amount payable by COUNTY for all work performed hereunder shall not exceed Four Hundred and Twenty Thousand Dollars (\$420,000.00), unless authorized by a written amendment hereto. The specific rates and costs shall be as set forth in Attachment B – Cost Proposal & Work Schedule.
- K. If CONSULTANT fails to satisfactorily complete a deliverable according to the schedule set forth in Attachment B – Cost Proposal & Work Schedule, no payment will be made until the deliverable has been satisfactorily completed.
- L. Change orders may not be used to amend this contract and may not exceed the scope of work under this contract.

ARTICLE VI – TERMINATION

- A. COUNTY reserves the right to terminate this contract upon thirty (30) calendar days written notice to CONSULTANT with the reasons for termination stated in the notice.
- B. COUNTY may terminate this contract with CONSULTANT should CONSULTANT fail to perform the covenants herein contained at the time and in the manner herein provided. In the event of such

termination, COUNTY may proceed with the work in any manner deemed proper by COUNTY. If COUNTY terminates this contract, COUNTY shall pay CONSULTANT the sum due under this contract prior to termination, unless the cost of completion to COUNTY exceeds the funds remaining in the contract. In which case the overage shall be deducted from any sum due CONSULTANT under this contract and the balance, if any, shall be paid to CONSULTANT upon demand.

ARTICLE VII – COST PRINCIPLES AND ADMINISTRATIVE REQUIREMENTS

- A. CONSULTANT agrees that the Contract Cost Principles and Procedures set forth in Title 48 of the Code of Federal Regulations (CFR), Federal Acquisition Regulations System, Chapter 1, Part 31, Sections 31.000, et seq., shall be used to determine the cost allowability of individual items.
- B. CONSULTANT also agrees to comply with federal procedures in accordance with 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.
- C. Any costs for which payment has been made to CONSULTANT that are determined by subsequent audit to be unallowable under 2 CFR Part 200 and 48 CFR Chapter 1, Part 31, Sections 31.000, et seq., are subject to repayment by CONSULTANT to COUNTY.

ARTICLE VIII – RETENTION OF RECORDS/AUDIT

For the purpose of determining compliance with California Public Contract Code Sections 10115, et seq. and Title 21 of the California Code of Regulations, Chapter 21, Sections 2500, et seq., when applicable and other matters connected with the performance of the contract pursuant to Government Code Section 8546.7; CONSULTANT, subconsultants, and COUNTY shall maintain and make available for inspection all books, documents, papers, accounting records, and other evidence pertaining to the performance of the contract, including but not limited to, the costs of administering the contract. All parties shall make such materials available at their respective offices at all reasonable times during the contract period and for three years from the date of final payment under the contract. The state of California, California State Auditor, COUNTY, Federal Highway Administration (FHWA), or any duly authorized representative of the Federal Government shall have access to any books, records, and documents of CONSULTANT and its certified public accountants (CPA) work papers that are pertinent to the contract and indirect cost rates (ICR) for audit, examinations, excerpts, and transactions, and copies thereof shall be furnished if requested.

ARTICLE IX – AUDIT REVIEW PROCEDURES

- A. Any dispute concerning a question of fact arising under an interim or post audit of this contract that is not disposed of by agreement, shall be reviewed by the Humboldt County Auditor-Controller.
- B. Not later than thirty (30) calendar days after issuance of the final audit report, CONSULTANT may request a review by the Humboldt County Auditor-Controller of unresolved audit issues. CONSULTANT's request for review shall be submitted in writing.
- C. Neither the pendency of a dispute nor its consideration by COUNTY will excuse CONSULTANT from full and timely performance, in accordance with the terms of this contract.

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- D. CONSULTANT and subconsultant contracts, including cost proposals and ICR, are subject to audits or reviews such as, but not limited to, a contract audit, an incurred cost audit, an ICR Audit, or a CPA ICR audit work paper review. If selected for audit or review, the contract, cost proposal and ICR and related work papers, if applicable, will be reviewed to verify compliance with 48 CFR, Part 31 and other related laws and regulations. In the instance of a CPA ICR audit work paper review it is CONSULTANT's responsibility to ensure federal, state, or local government officials are allowed full access to the CPA's work papers including making copies as necessary. The contract, approved Cost Proposal, and ICR shall be adjusted by CONSULTANT and approved by COUNTY's Contract Administrator to conform to the audit or review recommendations. CONSULTANT agrees that individual terms of costs identified in the audit report shall be incorporated into the contract by this reference if directed by COUNTY at its sole discretion. Refusal by CONSULTANT to incorporate audit or review recommendations, or to ensure that the federal, state or local governments have access to CPA work papers, will be considered a breach of contract terms and cause for termination of the contract and disallowance of prior reimbursed costs.
- E. CONSULTANT's Cost Proposal is subject to a CPA ICR Audit Work Paper Review by Caltrans' Audit and Investigation (Caltrans). Caltrans, at its sole discretion, may review and/or audit and approve the CPA ICR documentation. The Cost Proposal shall be adjusted by CONSULTANT and approved by COUNTY's Contract Administrator to conform to the Work Paper Review recommendations included in the management letter or audit recommendations included in the audit report. Refusal by CONSULTANT to incorporate the Work Paper Review recommendations included in the management letter or audit recommendations included in the audit report will be considered a breach of the contract terms and cause for termination of the contract and disallowance of prior reimbursed costs.
1. During Caltrans' review of the ICR audit work papers created by CONSULTANT's independent CPA, Caltrans will work with the CPA and/or CONSULTANT toward a resolution of issues that arise during the review. Each party agrees to use its best efforts to resolve any audit disputes in a timely manner. If Caltrans identifies significant issues during the review and is unable to issue a cognizant approval letter, COUNTY will reimburse CONSULTANT at a provisional ICR until a FAR compliant ICR [e.g. 48 CFR Part 31; Generally Accepted Auditing Standards (GAGAS); Cost Accounting Standards (CAS), if applicable; in accordance with procedures and guidelines of the American Association of State Highways and Transportation Officials Audit Guide; and other applicable procedures and guidelines] is received and approved by Caltrans. Provisional rates will be as follows:
 - a. If the proposed rate is less than one hundred fifty percent (150%) - the provisional rate reimbursed will be ninety percent (90%) of the proposed rate.
 - b. If the proposed rate is between one hundred fifty percent (150%) and two hundred percent (200%) - the provisional rate will be eighty-five percent (85%) of the proposed rate.
 - c. If the proposed rate is greater than two hundred percent (200%) - the provisional rate will be seventy-five percent (75%) of the proposed rate.
 2. If Caltrans is unable to issue a cognizant letter per Section E(1) above, Caltrans may require CONSULTANT to submit a revised independent CPA-audited ICR and audit report within three (3) months of the effective date of the management letter. Caltrans will then have up to six (6) months to review CONSULTANT's and/or the independent CPA's revisions.

3. If CONSULTANT fails to comply with the provisions of this Section E, or if Caltrans is still unable to issue a cognizant approval letter after the revised independent CPA-audited ICR is submitted, overhead cost reimbursement will be limited to the provisional ICR that was established upon initial rejection of the ICR and set forth in Section E(1) above for all rendered services. In this event, this provisional ICR will become the actual and final ICR for reimbursement purposes under this contract.
4. CONSULTANT may submit to COUNTY final invoice only when all of the following items have occurred: (a) Caltrans approves or rejects the original or revised independent CPA-audited ICR; (b) CONSULTANT has completed all work required under this contract to the satisfaction of COUNTY; and (c) Caltrans has issued its final ICR review letter. CONSULTANT must submit its final invoice to COUNTY no later than sixty (60) calendar days after occurrence of the last of these items.
5. The provisional ICR will apply to this contract and all other contracts between COUNTY and CONSULTANT, either as a prime or subconsultant, with the same fiscal period ICR.

ARTICLE X – SUBCONTRACTING

- A. Nothing contained in this contract or otherwise, shall create any contractual relationship between COUNTY and any subconsultant(s), and no subcontract shall relieve CONSULTANT of its responsibilities and obligations hereunder. CONSULTANT agrees to be as fully responsible to COUNTY for the acts and omissions of its subconsultant(s) and of persons directly employed by any of them as it is for the acts and omissions of persons directly employed by CONSULTANT. CONSULTANT's obligation to pay its subconsultant(s) is an independent obligation from COUNTY's obligation to make payments to CONSULTANT.
- B. CONSULTANT shall perform the work contemplated herein with resources available within its own organization and no portion of the work pertinent to this contract shall be subcontracted without written authorization by COUNTY's Contract Administrator, except that, which is expressly identified in the approved Cost Proposal.
- C. CONSULTANT shall pay its subconsultants within ten (10) calendar days from receipt of each payment made to CONSULTANT by COUNTY.
- D. All subcontracts entered into as a result of this contract shall contain all of the applicable provisions set forth in this contract.
- E. Any substitution of subconsultant(s) must be approved in writing by COUNTY's Contract Administrator prior to the start of work by the subconsultant(s).

ARTICLE XI – EQUIPMENT PURCHASE

- A. Prior authorization in writing, by COUNTY's Contract Administrator shall be required before CONSULTANT enters into any unbudgeted purchase order, or subcontract exceeding Five Thousand Dollars (\$5,000.00) for supplies, equipment, or consultant services. CONSULTANT shall provide an evaluation of the necessity or desirability of incurring such costs.
- B. For purchase of any item, service or consulting work not covered in CONSULTANT's Cost Proposal and exceeding Five Thousand Dollars (\$5,000.00) requiring prior authorization by

COUNTY's Contract Administrator; three (3) competitive quotations must be submitted with the request, or the absence of bidding must be adequately justified.

- C. Any equipment purchased as a result of this contract is subject to the following: "CONSULTANT shall maintain an inventory of all nonexpendable property. Nonexpendable property is defined as having a useful life of at least two (2) years and an acquisition cost of Five Thousand Dollars (\$5,000.00) or more. If the purchased equipment needs replacement and is sold or traded in, COUNTY shall receive a proper refund or credit at the conclusion of the contract, or if the contract is terminated, CONSULTANT may either keep the equipment and credit COUNTY in an amount equal to its fair market value, or sell such equipment at the best price obtainable at a public or private sale, in accordance with established COUNTY procedures; and credit COUNTY in an amount equal to the sales price. If CONSULTANT elects to keep the equipment, fair market value shall be determined at CONSULTANT's expense, on the basis of a competent independent appraisal of such equipment. Appraisals shall be obtained from an appraiser mutually agreeable to by COUNTY and CONSULTANT, if it is determined to sell the equipment, the terms and conditions of such sale must be approved in advance by COUNTY." 49 CFR, Part 18 requires a credit to federal funds when equipment with a fair market value greater than Five Thousand Dollars (\$5,000.00) is credited to the project.

ARTICLE XII – STATE PREVAILING WAGE RATES

- A. CONSULTANT shall comply with the State of California's General Prevailing Wage Rate requirements in accordance with California Labor Code Section 1770, and all federal, state, and local laws and ordinances applicable to the work required hereunder.
- B. Any subcontract entered into as a result of this contract, if for more than Twenty-Five Thousand Dollars (\$25,000.00), for public works construction or more than Fifteen Thousand Dollars (\$15,000.00) for the alteration, demolition, repair, or maintenance of public works, shall contain all of the provisions of this Article.
- C. When prevailing wages apply to the services described herein and Attachment A – Scope of Work, transportation and subsistence costs shall be reimbursed at the minimum rates set by the Department of Industrial Relations (DIR) as outlined in the applicable Prevailing Wage Determination. (See <http://www.dir.ca.gov>.)

ARTICLE XIII – CONFLICT OF INTEREST

- A. CONSULTANT shall disclose any financial, business, or other relationship with COUNTY that may have an impact upon the outcome of this contract, or any ensuing COUNTY construction project. CONSULTANT shall also list current clients who may have a financial interest in the outcome of this contract, or any ensuing COUNTY construction project, which will follow.
- B. CONSULTANT hereby certifies that it does not now have, nor shall it acquire any financial or business interest that would conflict with the performance of services under this contract.
- C. CONSULTANT hereby certifies that neither CONSULTANT, nor any firm affiliated with CONSULTANT will bid on any construction contract, or on any contract to provide construction inspection for any construction project resulting from this contract. An affiliated firm is one, which is subject to the control of the same persons through joint-ownership, or otherwise.

- D. Except for subconsultants whose services are limited to providing surveying or materials testing information, no subconsultant who has provided design services in connection with this contract shall be eligible to bid on any construction contract, or on any contract to provide construction inspection for any construction project resulting from this contract.

ARTICLE XIV – REBATES, KICKBACKS OR OTHER UNLAWFUL CONSIDERATION

CONSULTANT warrants that this contract was not obtained or secured through rebates, kickbacks or other unlawful consideration, either promised or paid to any COUNTY employee. For breach or violation of this warranty, COUNTY shall have the right in its discretion; to terminate the contract without liability; to pay only for the value of the work actually performed; or to deduct from the contract price; or otherwise recover the full amount of such rebate, kickback or other unlawful consideration.

ARTICLE XV – PROHIBITION OF EXPENDING COUNTY, STATE OR FEDERAL FUNDS FOR LOBBYING

- A. CONSULTANT hereby certifies to the best of his or her knowledge and belief that:
1. No local, state or federal appropriated funds have been paid, or will be paid by, or on behalf of, CONSULTANT to any person for influencing or attempting to influence an officer or employee of any state or federal agency; a Member of the California State Legislature or United States Congress; an officer or employee of the Legislature or Congress; or any employee of a Member of the Legislature or Congress, in connection with the awarding of any state or federal contract, the making of any state or federal grant, the making of any state or federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any state or federal contract, grant, loan, or cooperative agreement.
 2. If any funds other than federal appropriated funds have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency; a Member of Congress; an officer or employee of Congress; or an employee of a Member of Congress, in connection with a federal contract, grant, loan, or cooperative agreement; CONSULTANT shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- B. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, United States Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than Ten Thousand Dollars (\$10,000.00) and not more than One Hundred Thousand Dollars (\$100,000.00) for each such failure.
- C. CONSULTANT also agrees by signing this document that he or she shall require that the language of this certification be included in all lower-tier subcontracts, which exceed One Hundred Thousand Dollars (\$100,000.00) and that all such subrecipients shall certify and disclose accordingly.

ARTICLE XVI – STATEMENT OF COMPLIANCE

- A. CONSULTANT's signature affixed herein, and dated, shall constitute a certification under penalty of perjury under the laws of the State of California that CONSULTANT has, unless exempt,

complied with the nondiscrimination program requirements of Government Code Section 12990 and Title 2 of the California Code of Regulations Section 8103.

- B. During the performance of this contract, CONSULTANT and its subconsultants shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (e.g., cancer), age (over forty (40) years of age), marital status, and denial of family care leave. CONSULTANT and subconsultants shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. CONSULTANT and subconsultants shall comply with the provisions of the Fair Employment and Housing Act (Government Code Sections 12990(a-f) et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Sections 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990(a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this contract by reference and made a part hereof as if set forth in full. CONSULTANT and its subconsultants shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
- C. CONSULTANT shall comply with regulations relative to Title VI of the Civil Rights Act of 1964 (nondiscrimination in federally-assisted programs of the Department of Transportation – Title 49 CFR, Part 21 – Effectuation of Title VI of the Civil Rights Act of 1964). Title VI of the Civil Rights Act of 1964 provides that the recipients of federal assistance will implement and maintain a policy of nondiscrimination in which no person in the State of California shall, on the basis of race, color, national origin, religion, sex, age, or disability, be excluded from participation in, denied the benefits of or subject to discrimination under any program or activity by the recipients of federal assistance or their assignees and successors in interest.
- D. CONSULTANT, with regard to the work performed during this contract shall act in accordance with Title VI of the Civil Rights Act of 1964. Specifically, CONSULTANT shall not discriminate on the basis of race, color, national origin, religion, sex, age, or disability in the selection and retention of subconsultants, including procurement of materials and leases of equipment. CONSULTANT shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the U.S. DOT Regulations, including employment practices for employment related programs.

ARTICLE XVII – DEBARMENT AND SUSPENSION CERTIFICATION

- A. CONSULTANT's signature affixed herein, shall constitute a certification under penalty of perjury under the laws of the State of California, that CONSULTANT has complied with Title 2 CFR, Part 180, "OMB Guidelines to Agencies on Government-wide Debarment and Suspension (nonprocurement)," which certifies that he/she or any person associated therewith in the capacity of owner, partner, director, officer, or manager, is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency; has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three (3) years; does not have a proposed debarment pending; and has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years. Any exceptions to this certification must be disclosed to COUNTY.

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- B. Exceptions will not necessarily result in denial of recommendation for award, but will be considered in determining CONSULTANT's responsibility. Disclosures must indicate to whom exceptions apply, initiating agency, and dates of action.
- C. Exceptions to the Federal Government Excluded Parties List System maintained by the General Services Administration are to be determined by the FHWA.

ARTICLE XVIII – FUNDING REQUIREMENTS

- A. It is mutually understood between the parties that this contract may have been written before ascertaining the availability of funds or appropriation of funds, for the mutual benefit of both parties, in order to avoid program and fiscal delays that would occur if the contract were executed after that determination was made.
- B. This contract is valid and enforceable only, if sufficient funds are made available to COUNTY for the purpose of this contract. In addition, this contract is subject to any additional restrictions, limitations, conditions, or any statute enacted by the Congress, State Legislature, or COUNTY governing board that may affect the provisions, terms, or funding of this contract in any manner.
- C. It is mutually agreed that if sufficient funds are not appropriated, this contract may be amended to reflect any reduction in funds.
- D. COUNTY has the option to void the contract due to insufficient funding upon thirty (30) calendar days advance written notice pursuant to the termination provisions set forth herein, or by mutual agreement to amend the contract to reflect any reduction of funds.

ARTICLE XIX – CHANGE IN TERMS

- A. This contract may be amended or modified only by mutual written agreement of the parties.
- B. CONSULTANT shall only commence work covered by an amendment after the amendment is executed and notification to proceed has been provided by COUNTY's Contract Administrator.
- C. There shall be no change in CONSULTANT's Project Manager or members of the project team, as listed in the approved Cost Proposal, which is a part of this contract without prior written approval by COUNTY's Contract Administrator.

ARTICLE XX – DISADVANTAGED BUSINESS ENTERPRISES PARTICIPATION

This contract is not subject to the requirements set forth in 49 CFR, Part 26 – "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs."

ARTICLE XXI – CONTINGENT FEE

CONSULTANT warrants by execution of this contract that no person or selling agency has been employed, or retained, to solicit or secure this contract upon an agreement or understanding, for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees, or bona fide established commercial or selling agencies maintained by CONSULTANT for the purpose of securing business. For breach or violation of this warranty, COUNTY has the right to terminate this contract without liability, pay only for the value of the work actually performed, or in its discretion to deduct from

the contract price or consideration, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

ARTICLE XXII – DISPUTES

- A. Any dispute, other than audit, concerning a question of fact arising under this contract that is not disposed of by agreement shall be decided by a committee consisting of COUNTY's Contract Administrator and other COUNTY officials, who may consider written or verbal information submitted by CONSULTANT.
- B. Not later than thirty (30) calendar days after completion of all deliverables necessary to complete the plans, specifications and estimate, CONSULTANT may submit a written request for review by COUNTY's governing board of unresolved claims or disputes, other than audit.
- C. Neither the pendency of a dispute, nor its consideration by the COUNTY will excuse CONSULTANT from full and timely performance in accordance with the terms of this contract.

ARTICLE XXIII – INSPECTION OF WORK

CONSULTANT and any subconsultant shall permit COUNTY, the State of California, and FHWA, if federal participating funds are used in this contract; to review and inspect the project activities and files at all reasonable times during the term of this contract including review and inspection on a daily basis.

ARTICLE XXIV – SAFETY

- A. CONSULTANT shall comply with OSHA regulations applicable to CONSULTANT regarding necessary safety equipment or procedures. CONSULTANT shall comply with safety instructions issued by the Humboldt County Risk Manager and other COUNTY representatives. CONSULTANT's personnel shall wear hard hats and safety vests at all times while working on the construction project site.
- B. Pursuant to the authority contained in Section 591 of the California Vehicle Code, COUNTY has determined that such areas are within the limits of the project and are open to public traffic. CONSULTANT shall comply with all of the requirements set forth in Divisions 11, 12, 13, 14, and 15 of the California Vehicle Code. CONSULTANT shall take all reasonably necessary precautions for safe operation of its vehicles and the protection of the traveling public from injury and damage from such vehicles.
- C. Any subcontract entered into as a result of this contract shall contain all of the provisions of this Article.
- D. CONSULTANT must have any and all applicable Division of Occupational Safety and Health (CAL-OSHA) permits, as outlined in California Labor Code Sections 6500 and 6705, prior to the initiation of any practices, work, method, operation or process related to the construction or excavation of trenches which are five (5) feet or deeper.

ARTICLE XXV – INSURANCE AND INDEMNIFICATION

- A. Prior to the execution of this contract, CONSULTANT shall furnish to COUNTY satisfactory proof that CONSULTANT has taken out for the entire period required by this contract, as further

described below, the following insurance, in a form satisfactory to COUNTY, and with an insurance carrier satisfactory to COUNTY, authorized to do business in the State of California with a current A.M. Bests rating of no less than A; VII or its equivalent, which will protect those described below from claims which arise out of, or in connection with, the acts or omissions of CONSULTANT for which CONSULTANT may be legally liable, whether performed by CONSULTANT, or by those employed directly or indirectly by it, or by anyone for whose acts CONSULTANT may be liable:

1. Commercial General Liability Insurance, written on an “occurrence” basis, which shall provide coverage for bodily injury, death and property damage resulting from operations, products liability, blasting, explosion, collapse of buildings or structures, damage to underground structures and utilities, liability for slander, false arrest and invasion of privacy, blanket contractual liability, broad form endorsement, products and completed operations, personal and advertising liability, with per location limits of not less than Two Million Dollars (\$2,000,000) per occurrence for any one (1) incident, subject to a deductible of not more than Twenty-Five Thousand Dollars (\$25,000.00) payable by CONSULTANT. If a general aggregate limit is used, such limit shall apply separately hereto or shall be twice the required occurrence limit.
2. Business Automobile Liability Insurance with limits not less than One Million Dollars (\$1,000,000.00) for each occurrence including coverage for owned, non owned and hired vehicles, subject to a deductible of not more than Ten Thousand Dollars (\$10,000.00) payable by CONSULTANT.
3. Workers’ Compensation Insurance, as required by the California Labor Code, with statutory limits and Employers’ Liability Insurance with a limit of no less than One Million Dollars (\$1,000,000) per accident for bodily injury or disease. Said policy shall contain, or be endorsed to contain, a waiver of subrogation against COUNTY, its agents, officers, officials, employees and volunteers. In the event CONSULTANT is self-insured, a Certificate of Permission to Self-Insure, signed by the California Department of Industrial Relations – Administration of Self-Insurance, shall be filed with the Clerk of the Humboldt County Board of Supervisors.
4. Professional Liability Insurance – Error and Omission Coverage, including coverage in an amount no less than Two Million Dollars (\$2,000,000) for each claim (Four Million Dollars (\$4,000,000) general aggregate), subject to a self-insured retention not to exceed Five-Hundred Thousand Dollars (\$500,000.00) payable by CONSULTANT. Said insurance shall be maintained for the statutory period during which CONSULTANT may be exposed to liability. CONSULTANT shall require that such coverage be incorporated into its professional services agreements with any other entities.

B. CONSULTANT’s insurance policies shall, unless otherwise specified herein, be endorsed with the following provisions:

1. CONSULTANT’s Commercial General Liability policy and Automobile Liability policy shall name COUNTY, and its, directors, officers, officials, representatives, employees, consultants, subconsultants, and agents, as additional insureds, but only with respect to liability arising out of the activities of the named insured, and there shall be a waiver of subrogation as to each named and additional insured. CONSULTANT’s Commercial General Liability policy shall also contain a provision stating that such coverage:

- a. Includes contractual liability.
 - b. Is the primary insurance with regard to COUNTY.
 - c. Does not contain exclusions as to property damage caused by explosion or collapse of structures or underground damage, commonly referred to as "XCU Hazards."
 - d. Does not contain a pro-rated excess only and/or escape clause.
 - e. Contains a cross liability, severability of interest or separation of insured's clause.
2. The above-referenced policies shall not be canceled, non-renewed or materially reduced in coverage without thirty (30) calendar days prior written notice being provided to COUNTY in accordance with the notice provisions set forth herein. It is further understood that CONSULTANT shall not terminate such coverage until COUNTY receives adequate proof that equal or better insurance has been secured.
 3. The inclusion of more than one (1) insured shall not operate to impair the rights of one (1) insured against another insured, and the coverage afforded shall apply as though separate policies had been issued to each insured, but the inclusion of more than one (1) insured shall not operate to increase the limits of the insurer's liability.
 4. For claims related to this Agreement, CONSULTANT's insurance is the primary coverage to COUNTY, and any insurance or self-insured programs maintained thereby are excess to CONSULTANT's insurance and will not be used to contribute therewith.
 5. Any failure to comply with the provisions of this Agreement, including breach of warranties, shall not affect coverage provided to COUNTY.
 6. CONSULTANT shall furnish COUNTY with certificates and original endorsements effecting the required coverage prior to execution of this Agreement. The endorsements shall be on forms approved by the Humboldt County Risk Manager or County Counsel. Any deductible or self-insured retention over One Hundred Thousand Dollars (\$100,000.00) shall be disclosed to, and approved by, COUNTY. If CONSULTANT does not keep all required policies in full force and effect, COUNTY may, in addition to any other available remedies, take out the necessary insurance and deduct the cost of said insurance from the monies owed to CONSULTANT under this Agreement.
 7. Nothing contained herein shall be construed as limiting in any way the extent to which CONSULTANT or any of its permitted subcontractors or subconsultants may be held responsible for payment of damages resulting from their operations.
- C. Any and all insurance notices required to be given pursuant to the terms of this Agreement shall be sent to the addresses set forth below in accordance with the notice provisions described herein.

CONSULTANT: GHD, Inc.
Attention: Jeremy Svehla, Project Manager
718 Third Street
Eureka, California 95501

COUNTY: County of Humboldt
Attention: Risk Management
825 Fifth Street, Room 131
Eureka, California 95501

AND

Humboldt County Department of Public Works – Environmental Services
Attention: Hank Seemann, Contract Administrator
1106 Second Street
Eureka, California 95501

- D. In connection with the performance of the design professional services required hereunder, CONSULTANT shall, to the fullest extent permitted by law, and in accordance with California Civil Code Section 2782.8, indemnify, defend and hold harmless COUNTY, its officers, agents and employees, from any claim, liability, loss, injury or damage (referred to collectively as “Litigation”) that arises out of, pertains to, relates to, or is connected with, performance of this contract due to the negligence, recklessness, or willful misconduct of CONSULTANT and/or its agents, employees or subconsultants. CONSULTANT shall reimburse COUNTY for all costs, attorneys’ fees, expenses and liabilities incurred with respect to any Litigation in which CONSULTANT is obligated to indemnify and defend COUNTY under this contract. Irrespective of any language to the contrary in this contract, CONSULTANT has no duty to provide or pay for an up-front defense against unproven claims or allegations, but shall reimburse those reasonable attorneys’ fees incurred by COUNTY to the extent caused by the negligence, recklessness or willful misconduct of CONSULTANT or its employees, agents or subcontractors.
- E. In connection with the performance of the non-design professional services required hereunder, if any, CONSULTANT shall hold harmless, defend and indemnify COUNTY and its officers, officials, employees and volunteers from and against any and all liability, loss, damage, expense and costs of any kind or nature, including, without limitation, costs and fees of Litigation, arising out of, or in connection with, CONSULTANT’s performance of, or failure to comply with, any of its obligations contained in the contract, except such loss or damage which was caused by the sole negligence or willful misconduct of COUNTY. CONSULTANT shall reimburse COUNTY for all costs, attorneys’ fees, expenses and liabilities incurred with respect to any Litigation in which CONSULTANT is obligated to indemnify and defend COUNTY under this contract.

ARTICLE XXVI – OWNERSHIP OF DATA

- A. Upon completion of all work under this contract, ownership and title to all reports, documents, plans, specifications, and estimates produced as part of this contract will automatically be vested in COUNTY; and no further agreement will be necessary to transfer ownership to COUNTY. CONSULTANT shall furnish COUNTY all necessary copies of data needed to complete the review and approval process.
- B. It is understood and agreed that all calculations, drawings and specifications, whether in hard copy or machine-readable form, are intended for one-time use in the construction of the project for which this contract has been entered into.
- C. CONSULTANT is not liable for claims, liabilities, or losses arising out of, or connected with the modification, or misuse by COUNTY of the machine-readable information and data provided by

CONSULTANT under this contract; further, CONSULTANT is not liable for claims, liabilities, or losses arising out of, or connected with any use by COUNTY of the project documentation on other projects for additions to this project, or for the completion of this project by others, except only such use as many be authorized in writing by CONSULTANT.

- D. The parties hereby agree to comply with all applicable federal provisions pertaining to patent rights regarding rights to inventions (48 CFR, Part 27, Subpart 27.3 – Patent Rights Under Government Contracts for Federal-Aid Contracts).
- E. COUNTY may permit copyrighting reports or other products created hereunder. If copyrights are permitted, FHWA shall have the royalty-free nonexclusive and irrevocable right to reproduce, publish, or otherwise use; and to authorize others to use, the work for government purposes.
- F. Any subcontract in excess of Twenty-Five Thousand Dollars (\$25,000.00) entered into as a result of this contract shall contain all of the provisions of this Article.

ARTICLE XXVII – CLAIMS FILED BY COUNTY’S CONSTRUCTION CONTRACTOR

- A. If claims are filed by COUNTY’s construction contractor relating to work performed by CONSULTANT, and additional information or assistance from CONSULTANT is required in order to evaluate or defend against such claims; CONSULTANT agrees to make its personnel available for consultation with COUNTY’s Contract Administrator and for testimony, if necessary, at depositions and at trial or arbitration proceedings.
- B. CONSULTANT shall, upon reasonable notice from COUNTY, allow interviews of all personnel that COUNTY considers essential to assist in defending against construction contractor claims.
- C. Services of CONSULTANT in connection with COUNTY’s construction contractor claims will be performed pursuant to a written contract amendment.
- D. Any subcontract in excess of Twenty-Five Thousand Dollars (\$25,000.00) entered into as a result of this contract shall contain all of the provisions of this Article.

ARTICLE XXVIII – CONFIDENTIALITY OF DATA

- A. In performance of this contract, CONSULTANT may receive information that is confidential under local, state or federal law. CONSULTANT hereby agrees to protect all confidential information in conformance with any and all applicable local, state and federal laws.
- B. All financial, statistical, personal, technical, or other data and information relative to COUNTY’s operations, which are designated confidential by COUNTY and made available to CONSULTANT in order to carry out this contract, shall be protected by CONSULTANT from unauthorized use and disclosure.
- C. Permission to disclose information on one (1) occasion, or public hearing held by COUNTY relating to the contract, shall not authorize CONSULTANT to further disclose such information, or disseminate the same on any other occasion.
- D. All informational material related to this Agreement shall receive approval from COUNTY prior to being released to the media (television, radio, newspapers and internet). CONSULTANT shall

inform COUNTY of all requests for interviews by media related to this Agreement before such interviews take place; and COUNTY is entitled to have a representative present at such interviews. All notices required by this provision shall be given to COUNTY's Contract Administrator.

- E. All information related to the construction estimate is confidential, and shall not be disclosed by CONSULTANT to any entity other than COUNTY.
- F. Any subcontract entered into as a result of this contract shall contain all of the provisions of this Article.

ARTICLE XXIX – NATIONAL LABOR RELATIONS BOARD CERTIFICATION

In accordance with California Public Contract Code Section 10296, CONSULTANT hereby states under penalty of perjury that no more than one (1) final unappealable finding of contempt of court by a federal court has been issued against CONSULTANT within two (2) years prior to the execution of this contract, because of CONSULTANT's failure to comply with an order of a federal court that orders CONSULTANT to comply with an order of the National Labor Relations Board.

ARTICLE XXX – EVALUATION OF CONSULTANT

CONSULTANT's performance will be evaluated by COUNTY. A copy of the evaluation will be sent to CONSULTANT for comments. The evaluation together with the comments shall be retained by COUNTY as part of the contract record.

ARTICLE XXXI – RETENTION OF FUNDS

- A. Any subcontract entered into as a result of this contract shall contain all of the provisions of this Article.
- B. No retainage will be withheld by COUNTY from progress payments due to CONSULTANT. Retainage by CONSULTANT or subconsultants is prohibited, and no retainage will be held by CONSULTANT from progress due to subconsultants. Any violation of this provision shall subject CONSULTANT or subconsultants to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies, otherwise available to CONSULTANT or subconsultants in the event of a dispute involving late payment or nonpayment by CONSULTANT or deficient subconsultant performance, or noncompliance by a subconsultant. This provision applies to both DBE and non-DBE consultants and subconsultants.

ARTICLE XXXII – NOTIFICATION

All notices hereunder and communications regarding interpretation of the terms of this contract and changes thereto, shall be effected by the mailing thereof by registered or certified mail, return receipt requested, postage prepaid, and addressed as follows:

CONSULTANT: GHD, Inc.
Attention: Jeremy Svehla, Project Manager
718 Third Street
Eureka, California 95501

COUNTY: Humboldt County Department of Public Works – Environmental Services
Attention: Hank Seemann, Contract Administrator
1106 Second Street
Eureka, California 95501

ARTICLE XXXIII – GOVERNING LAW, PRACTICE STANDARDS AND BINDING EFFECT

- A. This contract shall be construed in accordance with the laws of the State of California. Any dispute arising hereunder, or relating hereto, shall be litigated in the State of California and venue shall lie in the County of Humboldt unless transferred by court order pursuant to California Code of Civil Procedure Sections 394 or 395.
- B. This contract is subject to any additional local, state and federal restrictions, limitations or conditions that may affect the provisions, terms or funding of this contract. This contract shall be read and enforced as though all legally required provisions are included herein, and if for any reason any such provision is not included, or is not correctly stated, the parties agree to amend the pertinent section to make such insertion or correction.
- C. CONSULTANT agrees to comply with all local, state and federal laws and regulations, including, but not limited to, the Americans with Disabilities Act. CONSULTANT further agrees to comply with all applicable local, state and federal accrediting, licensure and certification requirements.
- D. CONSULTANT warrants that it has the degree of learning and skill ordinarily possessed by reputable professionals practicing in similar localities in the same profession and under similar circumstances. CONSULTANT's duty is to exercise such care, skill and diligence as professionals engaged in the same profession ordinarily exercise under like circumstances. It is hereby understood that COUNTY's acceptance of the services performed by CONSULTANT hereunder shall not operate as a waiver or release of any breach of this contract.
- E. The terms of this contract shall be binding upon and shall inure to the benefit of the heirs, executors, administrators, successors and assigns of the parties.

ARTICLE XXXIV – NO WAIVER OF DEFAULT

- A. The waiver by either party of any breach or violation of any requirement of this contract shall not be deemed to be a waiver of any such breach in the future, or of the breach of any other requirement of this contract.
- B. In no event shall any payment by COUNTY constitute a waiver of any breach of this contract or any default which may then exist on the part of CONSULTANT. Neither shall such payment impair or prejudice any remedy available to COUNTY with respect to the breach or default. COUNTY shall have the right to demand that CONSULTANT repay any funds disbursed to CONSULTANT under this contract, which in the judgment of COUNTY were not expended in accordance with the terms of this contract. CONSULTANT shall promptly refund any such funds upon demand.

ARTICLE XXXV – ATTORNEY FEES ON BREACH

If either party shall commence any legal action or proceeding, including an action for declaratory relief, against the other by reason of the alleged failure of the other to perform or keep any provision of this contract from being performed, the prevailing party in said action or proceeding shall be entitled to

recover court costs and reasonable attorneys' fees, including the reasonable value of services rendered by the Humboldt County Counsel's Office, to be fixed by the court, and such recovery shall include court costs and attorney's fees on appeal, if applicable. As used herein, "prevailing party" means the party who dismisses an action or proceeding in exchange for payment of substantially all sums allegedly due, performance of provisions allegedly breached or other considerations substantially equal to the relief sought by said party, as well as the party in whose favor final judgment is rendered.

ARTICLE XXXVI – NUCLEAR FREE HUMBOLDT COUNTY ORDINANCE COMPLIANCE

CONSULTANT certifies by its signature below that it is not a Nuclear Weapons Contractor, in that CONSULTANT is not knowingly or intentionally engaged in the research, development, production or testing of nuclear warheads, nuclear weapons systems or nuclear weapons components as defined by the Nuclear Free Humboldt County Ordinance. CONSULTANT agrees to notify COUNTY immediately if it becomes a Nuclear Weapons Contractor, as defined above. COUNTY may immediately terminate this contract if it determines that the foregoing certification is false or if CONSULTANT becomes a Nuclear Weapons Contractor.

ARTICLE XXXII – CONTRACT

The two parties to this contract, who are the before named CONSULTANT and the before named COUNTY, hereby agree that this contract constitutes the entire agreement which is made and concluded in duplicate between the two parties. Both of these parties for and in consideration of the payments to be made, conditions mentioned, and work to be performed; each agree to diligently perform in accordance with the terms and conditions of this contract as evidenced by the signatures below.

[Signatures on Following Page]

ARTICLE XXXVIII – SIGNATURES

TWO SIGNATURES ARE REQUIRED FOR CORPORATIONS:

- (1) CHAIRPERSON OF THE BOARD, PRESIDENT, OR VICE PRESIDENT; AND*
- (2) SECRETARY, ASSISTANT SECRETARY, CHIEF FINANCIAL OFFICER OR ASSISTANT TREASURER.*

GHD, Inc.:

By:  _____

Date: 02/05/19

Name: William Silva, P.E.

Title: Vice President

By:  _____

Date: 05 FEB 2019

Name: J. DUNCAN FINDLAY

Title: SECRETARY

COUNTY OF HUMBOLDT:

By:  _____

Date: 2/5/19

Rex Bohn
Chair, Humboldt County Board of Supervisors

INSURANCE AND INDEMNIFICATION REQUIREMENTS APPROVED:

By:  _____

Date: 01/25/2019

Risk Management

LIST OF ATTACHMENTS;

- Attachment A – Scope of Work
- Attachment B – Cost Proposal & Work Schedule



ATTACHMENT A

Scope of Work for

Sea Level Rise Adaptation Plan for Humboldt Bay Transportation Infrastructure (Phase 1) County of Humboldt

December 20, 2018

PROJECT UNDERSTANDING

The County of Humboldt (County) was awarded a Caltrans Adaptation Planning Grant (Grant) to develop a sea level rise (SLR) adaptation plan (Plan) for the Eureka Slough hydrologic sub-unit of Humboldt Bay (Study Area). The Study Area, as depicted in the grant application, is regarded as one of the areas around Humboldt Bay most vulnerable to flooding hazards and SLR. The Study Area also has a high concentration of multimodal transportation infrastructure, utilities, businesses, low-income residential areas, and wildlife areas. The overall goal of the Plan is to identify viable projects within the Study Area and develop a collaborative strategy for effectively adapting infrastructure and surrounding lands to the flooding hazards associated with SLR. Specific objectives as defined in the Grant application include:

- Build relationships and an organizing framework for advancing collaborative efforts among public and private landowners at a regional scale.
- Improve the collective understanding of risks to transportation infrastructure from flooding and inundation hazards associated with sea level rise in Humboldt Bay.
- Identify vulnerable populations and the interests of affected landowners and stakeholders, including non-transportation infrastructure, such as transmission lines for water, natural gas and electricity, and agriculture.
- Identify feasible conceptual designs regarding the protection of infrastructure that are compatible with adjacent land and developing an implementation strategy pertaining thereto.
- Develop tools for evaluating the costs and benefits associated with investing in adaptation projects.
- Establish a methodology for developing adaptation plans that can be applied in other discrete watershed basins around the perimeter of Humboldt Bay.

PROJECT BACKGROUND FROM GRANT APPLICATION

As described in the Grant application, this project is responding to the fundamental problem that infrastructure constructed 75 to over 100 years ago along Humboldt Bay was built for the sea level and flooding hazards understood at the time, without accounting for future sea level rise or more severe storm events. In the last 15 years, infrastructure within the project area has been damaged due to flooding. Future impacts are expected to be more severe with continuing sea level rise and more severe storm event resulting in accelerated deterioration of shoreline structures and damage to adjacent areas with flooding risks. These conditions threaten one of the most important regions of multi-modal transportation infrastructure around Humboldt Bay. The project area includes state highway, railroad, county airport, county roads, city streets, transit routes, regional coastal trails, navigable channels, and two recreational boat ramps. In addition, extensive public utility infrastructure and private businesses are vulnerable as well.



The Northwest Pacific Railroad line construction began in 1900 along the margin of the bay and became the de facto perimeter levee. Highway 101 was constructed inboard of the railroad starting in 1920, and Murray Field airport was constructed in the 1930's. Construction of levees around former tidelands to support land conversion for agriculture and other development occurred throughout the first half of the 20th century. All of these areas are subjected to damage from high tides and storm events. Sea level rise and land subsidence have exacerbated the threats.

Portions of the railroad embankment have experienced erosion damage from extreme weather events. The Dec. 31, 2005 storm had the highest recorded water level in Humboldt Bay along with strong winds, resulting in overtopping of the railroad and closure of Highway 101 for several hours due to flooding. In addition to being vulnerable from high water levels and wind waves from the open water portion of Humboldt Bay, the project area is vulnerable to flooding from the adjacent sloughs if levees are compromised or overtopped.

The Study Area includes the majority of the Eureka-Arcata transportation corridor, which connects the two largest urban areas in Humboldt County. The segment of U.S. Highway 101 within the project area is a four-lane expressway with the highest traffic volume in Humboldt County. The Study Area encompasses the portions of Highway 101 and the railroad with the lowest elevations in the transportation corridor and the portion of the railroad that has sustained flooding and wind wave damage over the last 15 years. The Study Area includes portions of the Humboldt Bay Trail, which is a major regional trail and segment of the California Coastal Trail.

Caltrans and local agencies are making substantial investments to maintain, upgrade, and improve the Eureka-Arcata transportation corridor. Caltrans and the Humboldt County Association of Governments (HCAOG) are implementing the Eureka-Arcata Route 101 Corridor Improvement Project. Humboldt County is leading the 4.2-mile bike path project to complete the Humboldt Bay Trail. Re-location of the transportation corridor further inland is infeasible. As such, adaptation projects are warranted to help improve resiliency of multi-modal transportation assets. Collaboration on adaptation measures is essential because levees, embankments, and drainage facilities span multiple ownerships, and projects will likely require multiple funding sources due to size and expense. This project will advance the understanding of vulnerabilities and identify need for adaptation projects within the Study Area.

PROJECT TEAM

The following scope of services will be completed by the project team referred hereinafter as the Team. The Team will be led by GHD and supported by Environmental Science Associates (ESA), Northern Hydrology & Engineering (NHE), GMA Hydrology (GMA), Trinity Associates and Philip King.

SCOPE OF SERVICES

Based on our understanding of the project and as described in the Grant, GHD has developed the following scope of services for the project, which will include:

- Task 1 – Project Initiation and Existing Conditions
- Task 2 – Technical Support for Stakeholder Involvement
- Task 3 – Vulnerability Assessment
- Task 4 – Adaptation Plan



TASK 1 – PROJECT INITIATION AND EXISTING CONDITIONS

Task 1.1 N/A (Task numbering aligns with the Grant agreement scope of work)

Task 1.2 N/A

Task 1.3 Task Management and Meetings

This task will include providing progress updates to the County during work completed under this task, managing the task budget and schedule, coordinating sub-consultants and supporting the County in coordinating with the various stakeholders. This task will also include participation in one (1) kick-off meeting with the County and one (1) additional meeting with the County to discuss task progress.

Deliverables:

- *Monthly invoices, meeting agenda, and action items summarized at conclusion of meeting*

Task 1.4 Identify Existing Conditions

Under this task, GHD will develop a working draft report outline consisting of chapters and sections generally aligned with the tasks in this scope of services. Existing condition information including the following will be compiled and summarized in the existing conditions chapter of the draft report outline:

- a) Describe, with supporting base maps, transportation and non- transportation infrastructure assets, municipal boundaries, ownership boundaries, FEMA Special Flood Hazard Area boundaries, Coastal Development Permit jurisdiction boundaries, disadvantaged community boundaries, land use categories, waterways, habitat types, extents of artificial and natural shoreline features and ground surface elevations within the Study Area.
- b) Summarize previous studies and existing data relevant for assessing sea level rise vulnerability within Humboldt Bay.
- c) Summarize regulatory guidance and standards for performing vulnerability assessments and planning adaptation projects.
- d) Summarize relevant General Plan policies from the County of Humboldt and City of Eureka.
- e) Assist the County in preparing a list potentially interested organizations and community representatives.
- f) Summarize existing studies and data on average daily traffic, transit ridership patterns, and other metrics for use of transportation infrastructure within the Study Area. Community dependency on the transportation infrastructure and mobility disruption will be described.
- g) Identify vulnerable properties/assets within the project area by screening existing vulnerability assessment information and use of available elevation data.

Deliverables:

- *Draft report outline containing above information described in the existing condition chapter with supporting GIS base maps (one (1) electronic PDF)*



- *One day of field observations to familiarize team with key locations within study area (i.e. Jacobs Avenue levee, Murray Field levees, NCRA railroad, CRC levee, and Fay Slough Wildlife Area levees).*

Assumptions/Exclusions:

- *Draft base maps will be compiled using GIS data provided by the County and other project stakeholders upon request from the County.*
- *Field observations to verify vulnerable assets location/condition will only be conducted for critical assets if determined potentially vulnerable under subsequent tasks and subject to landowner access permission.*

TASK 2 – TECHNICAL SUPPORT FOR STAKEHOLDER INVOLVEMENT

The scope of services in the Grant proposes preliminary and intermediate stakeholder engagement and two (2) community workshops. The purpose of the preliminary engagement is to introduce the project to participating stakeholders, discuss previous studies and current information gaps, identify the stakeholder's short-term and long-term goals and priorities, identify known areas of concern, and invite ideas for adaptation measures to be further evaluated. During the intermediate stakeholder engagement, the Team will present project findings and gather feedback on the current state of the work. The community workshops are intended to target a broader audience, introduce the project, inform the community of opportunities and constraints and allow community members to provide feedback. The County will lead this task and the Team will provide technical support on an as-requested basis described below.

Under this task, the Team will prepare exhibits and meeting materials and other technical documents intended to assist the County in scheduling and facilitating stakeholder engagement and community workshops. The Team will develop the materials at the direction of the County and participate in stakeholder meetings and community workshops as requested by the County.

Deliverables:

- *As defined by the County*

Assumptions/Exclusions:

- *The Team will support the County as-requested on an as-needed time and materials basis up to the task budget allowance*
- *Of the budget allowance, approximately half is allocated to preparation of as-requested technical materials and community workshop support with the remaining half allocated to approximately 20 stakeholder meetings/site visits. The Team's effort associated with stakeholder meetings/site visits includes preparation of relevant materials, participation, and processing of collected data following the meetings/site visits. The Team assumes 6-8 hours of effort per meeting, actual effort will vary based on stakeholder(s) and desired meeting objectives/ outcomes.*
- *County will coordinate and schedule meetings with stakeholders.*



TASK 3 – VULNERABILITY ASSESSMENT

Building upon previous tasks and studies, the following tasks will be completed within the Study Area and described in the Vulnerability Assessment chapter of the draft report.

Task 3.1 Assess geomorphic setting, drainage network, and shoreline protection

- a) Using the existing conditions mapping from the Humboldt Bay Shoreline Study (Laird 2013), Humboldt Trail South Shoreline Assessment (2018), FEMA FIS, Jacobs Avenue Levee Assessment (CGI 2016), Humboldt Bay Tidal Marsh Vulnerability Assessment (USGS 2015) and supplemented with remote sensing, the Team will map existing shoreline morphology profiles for the exterior (Bay) shoreline and interior (Slough) shoreline within the Study Area. The existing shoreline is defined as the natural or non-natural landforms or shoreline structure that prevents landward movement of the current tidal regime. Within the report, the Team will describe the geomorphic setting of the Study Area and the implications for flooding hazards. Water bodies and landforms (e.g., open bay, salt marsh, mudflat, slough channel, drainage ditch, railroad grade, levee, roadway, reclaimed tideland) will also be described and characterized.
- b) Based on the previously completed studies, existing conditions mapping and known areas of erosion/shoreline retreat, the Team will develop indicators for monitoring changing conditions of shoreline structures over time.
- c) The monitoring indicators identified above will be used by the Team to develop a shoreline observation protocol that is tailored to the variable shorelines within the Study Area. The Team will then utilize the protocol and assess a minimum of two miles of shoreline or levee. The protocol is intended to be replicated in future phases, organized by various levels of available information, and adaptable between various shoreline types.
- d) Using the existing condition mapping, the Team will describe how the interior drainage network functions, identifying location and function of water control structures. Existing overland flow paths for various sources (fluvial creek vs tidal) will be shown on the map based on visual observations and elevation data.
- e) Existing salt marsh will be mapped and described with regard to elevation, location and function for attenuating wave energy and buffering wave effects.
- f) Description of historical floods and past development will be included in the report with supporting maps provided by the County and other project stakeholders.
- g) Where available, water control structure invert elevations will be obtained from as-built plans, and only as needed to support the vulnerability assessment the Team will conduct spot elevation surveys of select locations (e.g. water control structures and levee tops) to supplement existing available topographic information.

Deliverables:

- *Above content summarized in draft report including but not limited to description of geomorphic setting, monitoring indicators, inspection protocol methods and inspection results*
- *Draft supporting GIS maps depicting above information*
- *Spot elevations as determined necessary to supplement existing topographic information*



Assumptions/Exclusions:

- *Public source spatial/LiDAR data and surveys from previous studies/projects will be used to the greatest extent feasible*
- *The County will obtain permissions to access property where field observations/data collection is desired by the Team*

Task 3.2 Develop Flooding and Inundation Hazard Mapping

- a) Using the existing shoreline morphology profile mapping above, the Team will assign current coastal hazard type(s) to the existing shoreline. Coastal hazards are hydraulic forces that act upon the shoreline and create potential flood and/or erosion impacts. Hazard types include tidal still water elevation, wind induced wave runup, fluvial flooding and erosion. Not all shorelines within the Study Area are exposed to the same hazard types.
- b) Based on existing shoreline exposure to various hazard types (i.e. wind waves vs no wind waves), the Team will develop total water levels (TWL) throughout the Study Area representing various cases. TWL cases consist of still water levels (SWL) of tides, extreme/wind events (where hazard is applicable) and SLR projections. The Team will work with the County to select SLR projections based on California Ocean Protection Council (OPC 2018) guidance and other local studies. Mid- and late-century SLR projections are assumed applicable for planning purposes. Recurrence intervals will be utilized to communicate current and future TWL exceedances. Water levels influenced by existing fluvial and tidal processes will be determined using available models such as Humboldt Bay 2D model, Jacobs Avenue Levee Assessment 1D model and FEMA Freshwater Creek 1D model. New models will not be developed however existing models are anticipated to be expanded.
- c) The TWL cases developed above will be compared to the available elevation data (LiDAR) along the existing shoreline within the Study Area to determine areas vulnerable to temporary flooding and permanent tidal inundation. Tidal inundation is defined as an enduring condition associated with regular submergence of land due to tidal action. Storm flooding is defined as a temporary condition typically associated with extreme events, wave action, and/or impaired drainage.
- d) The Team will develop maps depicting areas vulnerable to temporary flooding and permanent inundation, for existing conditions and multiple TWL cases.

Deliverables:

- *Description of methods and resulting water levels summarized in draft report*
- *Draft flooding and inundation hazard maps in GIS*

Assumptions/Exclusions:

- *The County will actively participate with the Team in selection of SLR projections and hazard mapping*
- *Flooding and inundation mapping will be based on currently available shoreline elevation data and projected TWLs. Morphological evolution of the shoreline based on future climatic and geomorphic processes that could accelerate (temporal and spatial) flood inundation impacts will not be considered in this task however will be further considered in subsequent tasks.*



Task 3.3 Evaluate Potential Impacts on Shoreline Structures and Nearby Infrastructure

- a) Using the information above and the existing asset mapping, vulnerable assets within the Study Area will be identified by the Team following relevant guidance documents, which generally consider an asset's exposure to hazards, the sensitivity to the hazard, and its adaptive capacity. Assets will be grouped in different classes, such as utilities, transportation, recreational, etc., and assessed at a broad level by conducting a GIS-based intersection analysis. This approach will result in a list of at-risk assets that will be reviewed and refined to identify the consequences and duration of loss to the community. Additional semi-quantitative assessment of risk will be used to prioritize assets that should be considered in greater detail and used to focus the adaptation planning. The high level vulnerability assessment will be completed at each time horizon for permanent tidal inundation and temporary storm flooding hazards.
- b) Using the existing shoreline morphological profiles the Team will develop conceptual models to illustrate the anticipated physical processes and morphological response of the shoreline to rising water levels over-time. Morphological response to rising water levels include but are not limited to conversion of salt marsh to mudflat, erosion of earthen shorelines, and transition of vegetation communities. The conceptual models will be used to help inform and define hazard scenarios with specific TWLs as described below.
- c) Based on information above and the results of Task 3.1, the Team will assess the geomorphic response of the shoreline profiles to various TWLs, and referred to as hazard scenarios. The Team will develop multiple hazard scenarios (minimum of six (6)) to evaluate the at-risk assets at a more detailed level. The scenarios will account for likelihood and frequency of occurrence and the timescale/duration of the conditions (minutes, hours, days, months) of the physical processes causing the impact (e.g., wave overtopping, erosion, standing water, debris) and account for geomorphic setting, shoreline condition, water depth and wave conditions. These scenarios could span a range of durations and consequences, and are anticipated to include the following. The Team will consider for various TWL cases the physical processes, failure modes, and consequences to assets potentially at risk during these scenarios:
 - Flooding
 - Wave setup, runup, and overtopping that occur on the order of minutes to hours will be considered to determine impacts to existing stormwater system
 - Combined fluvial-coastal flood to determine potential flood impacts resulting from future extreme fluvial flood in combination with higher tailwater due to sea-level rise
 - Erosion
 - Levee / dike failure will be considered as a failure mechanism and likelihood of occurrence, as well as taking into account the potential duration the assets would be impacted. Erosion processes and thresholds considered will include:
 - Overtopping (back-side erosion) threshold based on flow (duration and water level) and geomorphic characteristics (armored, vegetated, eroding, etc.)
 - Wave Attack (front-side erosion) threshold based on wave runup, wave height, and flow.
 - Flow Scour (front-side erosion) threshold based on water depth, water surface slope and geomorphic characteristics.



- Inundation
 - Failure of shoreline structure allowing for frequent tidal inundation

- d) For each scenario, the sensitivity of infrastructure assets to SLR impacts will be assessed and described in the draft report. Levels of sensitivity and/or impacts could include:
 - Nuisance (temporary disruption, minor flooding/physical effects, surficial erosion, debris removal and minor cleanup),
 - Minor damage (requiring repair), or
 - Major damage with failure/loss (requiring reconstruction).

Deliverables:

- *Description of hazard scenarios and assessment results summarized in draft report*
- *Maps depicting results are included in the following task*

Assumptions/Exclusions:

- *The County will actively participate with the Team in defining the hazard scenarios*
- *Hydrologic rainfall run-off models will not be developed under this scope of work however are anticipated to be necessary to support subsequent design and will be noted in final report*

Task 3.4 Prepare Inventory of the Vulnerability of Infrastructure Assets

- a) Using the results of the hazard scenarios above, the Team will develop a set of maps and/or graphics with accompanying tables summarizing the vulnerability of infrastructure assets and adjacent land within the Study Area.

Deliverables:

- *Draft GIS maps/graphics depicting results of the hazard scenarios and potential impacted infrastructure with summary descriptions/tables in draft report*

Assumptions/Exclusions:

- *None*

Task 3.5 Task Management and Meetings

This task will include providing progress updates to the County during work completed under this task, managing the task budget and schedule, coordinating sub-consultants and supporting the County in coordinating with the various stakeholders. This task will also include participation in up to three (3) meetings with the County to discuss task progress.

Deliverables:

- *Monthly invoices, meeting agendas, and action items summarized at conclusion of meetings*

Assumptions/Exclusions:

- *None*



TASK 4 – ADAPTATION PLAN

Building upon previous tasks and studies, the following tasks will be completed within the Study Area and described in the Adaptation Plan chapter of the draft report.

Task 4.1 Qualitative Risk Assessment

- a) Based on the outcome of the vulnerability assessment, the Team will assess the potential consequences to the transportation system and affected communities resulting from sea level rise impacts within the Study Area. Consequences could include disruption of critical services (e.g., transportation and utility services), social consequences (e.g., impacts to public health and safety), and economic and financial consequences.
- b) The Team will synthesize the information regarding sensitivity to impacts and consequences of impacts to assess the overall risk to the transportation assets within the Study Area. The locations of transportation assets with the highest risks for SLR impacts will be identified, accounting for the likelihood and consequences of impacts.

Deliverables:

- *Description of consequences and risks in draft report*
- *Draft GIS maps depicting areas of highest risk*

Assumptions/Exclusions:

- A quantitative probabilistic analysis will not be completed

Task 4.2 Develop Conceptual Design Alternatives for Adaptation Projects

Based on the inventory of vulnerable assets, conceptual designs of potential adaptation strategies will be developed to help reduce the potential impacts of future hazards and prolong the serviceable life of the assets. The Team will develop high-level adaptation planning scenarios that will use a combination of adaptation strategies (i.e., protect, accommodate, retreat) to varying degrees. For example, adaptation alternatives could be developed that use hard structures to protect or accommodate critical transportation alternatives, while some areas are restored to tidal marsh to provide a natural barrier to accommodate flooding, and other built assets could be protected using a range of natural or hard infrastructure, or be relocated. Once the adaptation alternatives have been developed for the Study Area, specific adaptation projects will be identified as components of the larger adaptation alternative. The following will be completed under this task:

- a) The Team will identify adaptation scenarios to address the transportation assets which are most at-risk and will consider a range of intervention options including accommodation, protection (with natural or engineered features), and retreat. The Team will explore innovative physical strategies including natural infrastructure and multi-objective design objectives to the extent possible and will screen the potential options based on feasibility. One scenario may include implementing strategies to protect an asset in the short-term and then strategies for that asset to accommodate SLR by mid/late century. Adaptive capacity of each asset varies, so considering various scenarios will be needed to develop the specific timing to plan/implement the different strategies.



- b) Conceptual designs for at least four (4) adaptation projects that are potentially feasible and consistent with applicable regulatory constraints will be developed. It is envisioned the adaptation projects would encompass different types of asset categories and focus on the near-term strategy, while keeping alignment with the long-term planning outcomes. These projects could include the following:
- Transportation infrastructure adaptation focused on the Highway 101 corridor and Myrtle Avenue, such as raising the road prism or constructing a causeway
 - Utility improvements that upgrade water, sewer, electric, and gas utilities to function in the future in alignment with local Capital Improvement Projects
 - Levee improvements such as increasing levee height, constructing or rehabilitating revetment, and/or reconstructing a setback levee.
 - Drainage improvements to enhance the draining of accumulated waters (floodwaters from the bay or stormwater from rainfall and riverine flooding).
 - Wetland restoration to restore back-barrier wetlands in a portion of the low-lying and vulnerable subsided agricultural land, including beneficial reuse of sediments
 - Natural infrastructure development along the Humboldt Bay shoreline, such as a beneficial reuse of sediments to construct coarse sand beaches or ecotone slopes as described in the Coastal Regional Sediment Management Plan prepared for Humboldt Bay
 - Resilient Community projects that seeks to enhance and protect the communities on the boundary of the planning area, including consideration of transit, housing, and stormwater functions
- c) The Team will prepare order of magnitude budgetary costs for the conceptual designs and will use a format that facilitates estimating for a range of project scales and accounting for cost escalation over time.

Deliverables:

- *Conceptual design diagrams and/or maps depicting adaptation project intent*
- *Description of methods, results and planning level order of magnitude costs based on approximated quantities for primary project components in line item format and summarized in draft report*

Assumptions/Exclusions:

- *The County will actively participate with the Team in defining the adaptation projects.*



Task 4.3 Benefit-Cost Analysis

- a) The Team will develop a framework for performing the benefit-costs analysis (BCA) to estimate the net benefits (benefits minus costs) of each adaptation alternative, summing the “avoided costs” of private/public land and structures protected by a particular adaptation measure (e.g., armoring) minus the construction costs. All benefits and costs considered in dollars can be used in a financial comparison of adaptation strategies. The BCA will also break down benefits and costs into its subcomponents (e.g., private property, public property, infrastructure, ecological benefits, etc.) accounting for co-benefits (e.g., ecosystem services) from multi-benefit projects and benefits to disadvantaged communities. This BCA will allow one to compare adaptation alternatives for different timeframes and degrees of sea level rise; often one alternative may dominate over a shorter time frame and another over a longer time frame. This BCA will also allow one to compare different scales of improvements (e.g., raising a levee two feet versus four feet). All costs and benefits considered in monetary terms will be estimated in 2019 dollars and future benefits and costs will be discounted using an appropriate rate.

Deliverables:

- *Description of analysis framework and results in draft report*

Assumptions/Exclusions:

- *None*

Task 4.4 Adaptation Strategy for Priority Projects

Based on the adaption projects identified in the above task and corresponding BCA, the Team will:

- a) Identify a range of feasible adaptation options that could apply within the Study Area.
- b) Identify trigger points to inform the development of timelines for planning the implementation of adaptation measures.
- c) Develop a strategy for implementing specific adaptation projects to address the most significant risks within the Study Area.

Deliverables:

- *Description of adaptation options, trigger points, and description of strategy for implementing priority projects summarized in draft report*
- *Draft and Final Project Report with supporting GIS maps/graphics. GHD will provide one (1) electronic PDF and up to five (5) hard copies.*

Assumptions/Exclusions:

- *None*

Task 4.5 Task Management and Meetings

This task will include providing progress updates to the County during work completed under this task, managing the task budget and schedule, coordinating sub-consultants and supporting the County in coordinating with the various stakeholders. This task will also include participation in up to three (3) meetings with the County to discuss task progress.



Deliverables:

- *Monthly invoices, meeting agendas and action items summarized at conclusion of meetings*

Assumptions/Exclusions:

- *None*

GENERAL ASSUMPTIONS AND EXCLUSIONS

This scope of services is based on the tasks described above which are anticipated for the project. The County may need additional services during the process of the project due to increased stakeholder interest or additional issues identified during the project.

This scope of services is based on the following assumptions:

- This scope does not include anything not specifically described above although additional services can be provided through a contract amendment.
- The County will obtain access permission from property owners if needed for field observations.
- This scope of services does not include any services related to property boundary or Right-of-Way surveys.
- The County shall exercise due care in relaying project requirements to consultant and shall responsively participate in project development.
- The County will be responsible for distributing deliverables to reviewers and will deliver one set of rectified comments to GHD following each review.

Attachment B - Cost Proposal & Work Schedule
 Engineering and Environmental Services
 Sea Level Rise Adaptation Plan for Humboldt Bay Transportation Infrastructure
 County of Humboldt

Task	Total Fee	Tentative Schedule	
		Start Date	End Date
Task 1 – Project Initiation & Existing Conditions	\$ 26,970.92	Jan 2019	Apr 2019
Task 2 – Technical Support for Stakeholder Involvement	\$ 59,955.70	Jan 2019	May 2020
Task 3 – Vulnerability Assessment	\$ 166,611.69	Feb 2019	Aug 2019
Task 4 – Adaptation Plan	\$ 160,607.70	Jun 2019	May 2020
OTHER DIRECT COSTS (ODC)	\$ 5,854.00		
Total Tasks 1-4	\$ 420,000.00		

Notes:

1. Time will be billed in accordance to the hourly rates listed in Exhibit's 10-H, which are incorporated into Attachment B through reference.
2. GHD reserves the right to move funds between tasks as needed for the project.