

**AGREEMENT  
BETWEEN  
CITY/COUNTY ASSOCIATION OF GOVERNMENTS OF SAN MATEO COUNTY  
AND  
CRAFTWATER ENGINEERING, INC.**

This Agreement entered this 10<sup>th</sup> day of December 2020, by and between the CITY/COUNTY ASSOCIATION OF GOVERNMENTS OF SAN MATEO COUNTY, a joint powers agency whose members include the County of San Mateo and the twenty incorporated cities and towns within San Mateo County, hereinafter called “C/CAG,” and Craftwater Engineering, Inc., hereinafter called “Consultant”.

**WHEREAS**, C/CAG, is the Congestion Management Agency for San Mateo County and administers the Countywide Water Pollution Prevention Program; and

**WHEREAS**, the California Natural Resources Agency awarded C/CAG \$200,000 to advance planning and design efforts related to regional stormwater management opportunities to support C/CAG member agencies’ pollutant load reduction requirements in the San Francisco Bay Regional Water Quality Control Board’s Municipal Regional Permit and to build resiliency for a changing climate, including to identify and prioritize regional stormwater capture project opportunities as well as develop additional regional stormwater project concepts; and

**WHEREAS**, C/CAG is collaborating with the San Mateo County Office of Sustainability (County OOS) to identify, prioritize, and conceptualize regional stormwater capture project opportunities; and

**WHEREAS**, C/CAG and County OOS require Consultant support to implement the collaborative effort and have determined Consultant has the requisite qualifications to perform this work; and

**WHEREAS**, Consultant provided a scope of work and budget to identify and prioritize regional stormwater capture project opportunities throughout San Mateo County and develop five new project concepts; and

**WHEREAS**, the total cost for Consultant to implement the scope of work is \$189,250 and the total amount available to Consultant for C/CAG’s share of the collaborative effort is not to exceed \$89,250 with the remaining \$100,000 to be funded by County OOS through a separate agreement between County OOS and Consultant; and

**WHEREAS**, by approving Resolution 20-63, the Board of Directors of the City/County Association of Governments of San Mateo County authorized the C/CAG Chair to execute an agreement with Consultant to identify and prioritize regional stormwater capture project opportunities and develop five project concepts, and further authorized the C/CAG Executive Director to negotiate final terms, subject to legal counsel review prior to execution by the C/CAG Chair, in a cumulative amount not to exceed \$89,250.

**NOW, THEREFORE, IT IS HEREBY AGREED** by the parties as follows:

1. **Services to be provided by Consultant.** The Consultant agrees to provide services consistent with the scope of work, budget, and hourly rates contained in Exhibits A and B, and further agrees that the scope of work is being jointly funded by C/CAG and OOS through two separate service agreements. For the purposes of this Agreement, Consultant agrees to provide services detailed in Tasks 1, 2, and 4 of the scope of work contained in Exhibit A (the “Services”) and at hourly rates contained in Exhibit B for an amount not to exceed \$89,250. Task 3 of the scope of work in Exhibit A is being funded separately through an agreement between County OOS and Consultant.
2. **Payments.**
  - a. In consideration of the Services rendered with all terms, conditions, and specifications set forth herein, in Exhibit A and Exhibit B, and in any subsequent task orders executed under the governance of this Agreement, C/CAG shall reimburse Consultant on a time and materials basis based on the cost proposal set forth in Exhibit A for Tasks 1, 2, and 4. The total amount of payment by C/CAG shall not exceed \$89,250 for Services provided during the Contract Term set forth below. Payments shall be made to Consultant monthly based on an invoice submitted by Consultant. C/CAG will reimburse Consultant only for actual allowable costs that are incurred in accordance with the provisions of this Agreement. Task 3 of the scope of work in Exhibit A is being funded separately by County OOS through a separate agreement with Consultant.
  - b. Invoices shall include names of personnel performing work; dates and times of project work; locations of project work; itemized costs, including identification of personnel providing services during the period of the invoice, number of hours and hourly rates for each employee or contractor, authorized travel expenses with receipts, and receipts for authorized materials or supplies; and a written progress report detailing the work completed during the period of the invoice.
3. **Contract Materials.** At the end of this Agreement, or in the event of termination, all finished or unfinished documents, data, studies, maps, photographs, reports, and other written materials (collectively referred to as “contract materials”) prepared by Consultant under this Agreement shall become the property of C/CAG and shall be promptly delivered to C/CAG. Upon termination, Consultant may make and retain a copy of such contract materials if permitted by law.
4. **Relationship of the Parties.** It is understood that Consultant is an Independent Consultant and this Agreement is not intended to, and shall not be construed to, create the relationship of agent, servant, employee, partnership, joint venture or association, or any other relationship whatsoever other than that of Independent Consultant.

5. **Non-Assignability.** Consultant shall not assign this Agreement or any portion thereof to a third party, or subcontract with a third party, without the prior written consent of the C/CAG Executive Director. Any such assignment or subcontract without the C/CAG Executive Director's prior written consent shall give C/CAG the right to automatically and immediately terminate this Agreement without penalty or advance notice.
6. **Contract Term. This Agreement shall be in effect as of December 11, 2020 and shall** terminate on June 30, 2022; provided, however, the C/CAG Chairperson may terminate this Agreement at any time for any reason by providing 30 days' notice to Consultant. The Consultant may terminate this Agreement at any time for any reason by providing 30 days' written notice to C/CAG. Termination will be effective on the date specified in the notice. In the event of termination under this paragraph, Consultant shall be paid for all services provided to the date of termination, subject to availability of funding. Such payment shall be that prorated portion of the full payment determined by comparing the work actually completed to the work required by the Agreement.
7. **Hold Harmless/ Indemnity.**
  - a. *General.* Consultant shall indemnify and save harmless C/CAG and its officers, agents, employees, and servants from all claims, suits, or actions of every name, kind, and description resulting from this Agreement, the performance of any work or services required of Consultant under this Agreement, or payments made pursuant to this Agreement brought for, or on account of, any of the following: (A) injuries to or death of any person, including Consultant or its employees/officers/agents; (B) damage to any property of any kind whatsoever and to whomsoever belonging; (C) any sanctions, penalties, or claims of damages resulting from Consultant's failure to comply, if applicable, with the requirements set forth in the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and all Federal regulations promulgated thereunder, as amended; or (D) any other loss or cost, including but not limited to that caused by the concurrent active or passive negligence of C/CAG and/or its officers, agents, employees, or servants. However, Consultant's duty to indemnify and save harmless under this Section shall not apply to injuries or damage for which C/CAG has been found in a court of competent jurisdiction to be solely liable by reason of its own negligence or willful misconduct. The duty of Consultant to indemnify and save harmless as set forth by this Section shall include the duty to defend as set forth in Section 2778 of the California Civil Code.
  - b. *Intellectual Property.* Consultant hereby certifies that it owns, controls, and/or licenses and retains all right, title, and/or interest in and to any intellectual property it uses in relation to this Agreement, including the design, look, feel, features, source code, content, and/or other technology relating to any part of the services it provides under this Agreement and including all related patents, inventions, trademarks, and copyrights, all applications therefor, and all trade names, service marks, know how, and trade secrets (collectively referred to as "IP Rights") except as otherwise noted by this Agreement.

Consultant warrants that the services it provides under this Agreement do not infringe, violate, trespass, or constitute the unauthorized use or misappropriation of any IP Rights of any third party. Consultant shall defend, indemnify, and hold harmless C/CAG from and against all liabilities, costs, damages, losses, and expenses (including reasonable attorney fees) arising out of or related to any claim by a third party that the services provided under this Agreement infringe or violate any third-party's IP Rights provided any such right is enforceable in the United States. Consultant's duty to defend, indemnify, and hold harmless under this Section applies only provided that: (a) C/CAG notifies Consultant promptly in writing of any notice of any such third-party claim; (b) C/CAG cooperates with Consultant, at Consultant's expense, in all reasonable respects in connection with the investigation and defense of any such third-party claim; (c) Consultant retains sole control of the defense of any action on any such claim and all negotiations for its settlement or compromise (provided Consultant shall not have the right to settle any criminal action, suit, or proceeding without C/CAG's prior written consent, not to be unreasonably withheld, and provided further that any settlement permitted under this Section shall not impose any financial or other obligation on C/CAG, impair any right of C/CAG, or contain any stipulation, admission, or acknowledgement of wrongdoing on the part of C/CAG without C/CAG's prior written consent, not to be unreasonably withheld); and (d) should services under this Agreement become, or in Consultant's opinion be likely to become, the subject of such a claim, or in the event such a third party claim or threatened claim causes C/CAG's reasonable use of the services under this Agreement to be seriously endangered or disrupted, Consultant shall, at Consultant's option and expense, either: (i) procure for C/CAG the right to continue using the services without infringement or (ii) replace or modify the services so that they become non-infringing but remain functionally equivalent.

Notwithstanding anything in this Section to the contrary, Consultant will have no obligation or liability to C/CAG under this Section to the extent any otherwise covered claim is based upon: (a) any aspects of the services under this Agreement which have been modified by or for C/CAG (other than modification performed by, or at the direction of, Consultant) in such a way as to cause the alleged infringement at issue; and/or (b) any aspects of the services under this Agreement which have been used by C/CAG in a manner prohibited by this Agreement.

The duty of Consultant to indemnify and save harmless as set forth by this Section shall include the duty to defend as set forth in Section 2778 of the California Civil Code.

## 8. **Insurance.**

- a. *General Requirements.* Consultant or its subconsultants performing the services on behalf of Consultant shall not commence work under this Agreement until all insurance required under this section has been obtained. Consultant shall use diligence to obtain such insurance. Consultant shall furnish C/CAG with Certificates of Insurance evidencing the required coverage and there shall be a specific

contractual liability endorsement extending Consultant’s coverage to include the contractual liability assumed by Consultant pursuant to this Agreement. These Certificates shall specify or be endorsed to provide that thirty (30) days’ notice must be given, in writing, to C/CAG of any pending change in the limits of liability or of non-renewal, cancellation, or modification of the policy.

- b. *Workers’ Compensation and Employer Liability Insurance.* Consultant shall have in effect, during the entire life of this Agreement, Workers’ Compensation and Employer Liability Insurance providing full statutory coverage. In signing this Agreement, Consultant certifies, as required by Section 1861 of the California Labor Code, that (a) it is aware of the provisions of Section 3700 of the California Labor Code, which require every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of the Labor Code, and (b) it will comply with such provisions before commencing the performance of work under this Agreement.
- c. *Liability Insurance.* Consultant shall take out and maintain during the life of this Agreement such Bodily Injury Liability and Property Damage Liability Insurance as shall protect Consultant, its employees, officers and agents while performing work covered by this Agreement from any and all claims for damages for bodily injury, including accidental death, as well as any and all claims for property damage that may arise from Consultant’s operations under this Agreement, whether such operations be by Consultant or by any sub-Consultant or by anyone directly or indirectly employed by either of them. Such insurance shall be combined single limit bodily injury and property damage for each occurrence and shall be not less than \$1,000,000 unless another amount is specified below and approved by C/CAG Staff.
- d. *Insurance Limits; Insured Entities; Breach.* Required insurance shall include:

|                                    | Required<br>Amount | Approval by<br>C/CAG Staff<br>if under<br>\$ 1,000,000 |
|------------------------------------|--------------------|--|
| 1. Comprehensive General Liability | \$ 1,000,000       | _____  |
| 2. Workers’ Compensation           | \$ Statutory       | _____  |
| 3. Professional Liability          | \$1,000,000        | _____  |
| 4. Motor Vehicle Liability         | \$1,000,000        | _____  |

C/CAG and its officers, agents, employees and servants shall be named as additional insured on any such policies of insurance, which shall also contain a provision that the insurance afforded thereby to C/CAG, its officers, agents, employees, and servants shall be primary insurance to the full limits of liability of the policy, and that if C/CAG, or its officers, agents, employees, and servants have other insurance against a loss covered by such a policy, such other insurance shall be excess insurance only.

In the event of the breach of any provision of this section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, the C/CAG Chairperson, at his/her option, may, notwithstanding any other provision of this Agreement to the contrary, immediately declare a material breach of this Agreement and suspend all further work and payment pursuant to this Agreement.

9. **Compliance with All Laws.** Consultant shall at all times comply with all applicable federal, state, San Mateo County, and municipal laws, ordinances, and regulations, including without limitation those regarding services to disabled persons, including any requirements of Section 504 of the Rehabilitation Act of 1973. In the event of a conflict between the terms of this Agreement and any applicable State, Federal, San Mateo County, or municipal law or regulation, the requirements of the applicable law or regulation will take precedence over the requirements set forth in this Agreement. Consultant will timely and accurately complete, sign, and submit all necessary documentation of compliance.
10. **Non-discrimination.** During the performance of this Agreement, Consultant's and any subcontractors shall not unlawfully discriminate, harass or allow harassment, against any person because of sex, sexual orientation, race, color, religious creed, marital status, denial of family and medical care leave, ancestry, national origin, medical condition (cancer/genetic characteristics), age (40 and above), disability (mental and physical) including HIV and AIDS, denial of pregnancy disability leave or reasonable accommodation. Consultant's and subcontractors shall ensure that the evaluation and treatment of all persons, and particularly their employees and applicants for employment are free from such discrimination and harassment. Consultant's and its subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code, §12900 et seq.) and the applicable regulations promulgated thereunder (Cal. Code Regs, tit. 2, §7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code, §12990 (a)–(f), are incorporated into this Agreement by reference and made a part hereof as if set forth in full (Cal. Code Regs, tit. 2, §7285.0 et seq.). Consultant's shall include the non-discrimination and compliance provisions of this clause in all subcontracts to perform work under the Agreement.
11. **Substitutions:** If specific people are identified in Exhibit A as working on this Agreement, Consultant will not assign others to work in their place without the prior written consent of the C/CAG Executive Director. Any substitution shall be with a person of commensurate experience and knowledge unless otherwise authorized by the C/CAG Executive Director.
12. **Sole Property of C/CAG:** Work products of Consultant which are delivered under this Agreement, or which are developed, produced, and paid for under this Agreement, shall be and become the property of C/CAG. Consultant shall not be held liable for reuse of documents or modifications thereof by C/CAG or its representatives for any purpose other than that intended by this Agreement, without written authorization of Consultant.

13. **Access to Records.** C/CAG, or any of its duly authorized representatives, shall have access to any books, documents, papers, and records of Consultant which are directly pertinent to this Agreement for the purpose of conducting audits or examinations or making excerpts or transcriptions.
14. **Record Retention; Right to Monitor and Audit.**
  - a. Consultant shall maintain all required records relating to services provided under this Agreement for three (3) years after C/CAG makes final payment and all other pending matters are closed, and Consultant shall be subject to the examination and/or audit by C/CAG, a Federal grantor agency, and the State of California.
  - b. Consultant shall comply with all program and fiscal reporting requirements set forth by applicable Federal, State, and local agencies and as required by C/CAG.
  - c. Consultant agrees upon reasonable notice to provide to C/CAG, to any Federal or State department having monitoring or review authority, to C/CAG's authorized representative, and/or to any of their respective audit agencies access to and the right to examine all records and documents necessary to determine compliance with relevant Federal, State, and local statutes, rules, and regulations, to determine compliance with this Agreement, and to evaluate the quality, appropriateness, and timeliness of services performed.
15. **Permits/Licenses.** If any license, permit, or approval is required to perform the work or services required by this Agreement, Consultant bears the responsibility to obtain said license, permit, or approval from the relevant agency at Consultant's own expense prior to commencement of said work/services. Failure to do so will result in forfeit of any right to compensation under this Agreement.
16. **Merger Clause.** This Agreement, including Exhibits A and B attached hereto and incorporated herein by reference, constitutes the sole agreement of the parties hereto with regard to the matters covered in this Agreement, and correctly states the rights, duties and obligations of each party as of the document's date. Any prior agreement, promises, negotiations or representations between the parties not expressly stated in this Agreement are not binding. All subsequent modifications shall be in writing and signed by the C/CAG Chairperson. In the event of a conflict between the terms, conditions or specifications set forth herein and those in Exhibit A attached hereto, the terms, conditions or specifications set forth herein shall prevail.
17. **Governing Law.** This Agreement shall be governed by the laws of the State of California, without regard to its choice of law rules, and any suit or action initiated by either party shall be brought in the County of San Mateo, California.
18. **Notices.** All notices hereby required under this agreement shall be in writing and delivered in person or sent by certified mail, postage prepaid and addressed as follows:

City/County Association of Governments of San Mateo County

Agreement Between City/County Association of Governments of San Mateo County and  
Craftwater Engineering, Inc.

555 County Center, 5th Floor  
Redwood City, CA 94063  
Attention: Matthew Fabry

Notices required to be given to the Consultant shall be addressed as follows:

Craftwater Engineering, Inc.  
Attn: Chad Helmle  
10711 Oakbend Dr  
San Diego, CA 92131

IN WITNESS WHEREOF, the parties hereto have affixed their hands on the day and year first  
above written.

Craftwater Engineering

By \_\_\_\_\_  
Chad Helmle, CEO and President

\_\_\_\_\_ Date

City/County Association of Governments of San Mateo County (C/CAG)

By \_\_\_\_\_  
Marie Chuang  
C/CAG Chair

\_\_\_\_\_ Date

Approved as to form:

By \_\_\_\_\_  
Melissa Andrikopoulos, C/CAG Counsel

## Exhibit A

### SCOPE OF WORK, BUDGET, AND SCHEDULE

For the following scope of work and budget, the Services covered by this Agreement between C/CAG and Consultant includes only Task 1 for \$15,740, Task 2 for \$55,670, and Task 4 for \$17,840, for a total budget not to exceed \$89,250. Task 3 is being funded by the County of San Mateo under separate agreement with Consultant for the remaining \$100,000 and not part of the Services covered by this Agreement.



## SCOPE OF WORK

**TO:** Matt Fabry, San Mateo Countywide Water Pollution Prevention Program  
Kim Springer, County of San Mateo Office of Sustainability

**CC:** Makena Wong, San Mateo County Flood and Sea Level Rise Resilience District  
Reid Bogert, San Mateo Countywide Water Pollution Prevention Program  
John Allan, County of San Mateo Office of Sustainability

**FROM:** Craftwater Engineering, Inc.

**DATE:** December 3, 2020

**PROJECT:** San Mateo County Advancing Regional Stormwater Capture Projects, Category 2  
(RFP 1418)

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In May 2020, the City/County Association of Governments of San Mateo County (C/CAG) and the County of San Mateo issued a joint Request for Proposals for consultant support to identify and prioritize regional stormwater capture project opportunities, develop five new regional stormwater capture project concepts, and to develop a business case for countywide collaboration on regional stormwater management for water quality and climate resilience priorities. The overall intent is to:

- Further refine C/CAG's existing screening and prioritization of public parcels for regional stormwater capture opportunities based on to-be-determined key objectives and drivers (such as meeting regional stormwater permit mandates, mitigating existing storm drain system capacity issues, building resilience to flooding under a changing climate, enhancing local water supplies, etc.);
- Generate five new regional project concepts that help achieve the above objectives and drivers and can kick-start funding efforts for design and construction;
- Demonstrate the quantitative benefits C/CAG member agencies can realize through countywide collaboration, in partnership with the San Mateo County Flood and Sea Level Rise Resiliency District on regional-scale stormwater management to meet these objectives and drivers, and develop a framework for how that collaboration can occur.

C/CAG and the County of San Mateo are leveraging strengths from two firms to conduct the overall scope of work, with Craftwater Engineering contracted to identify and prioritize regional stormwater capture opportunities and develop the five concepts, while Geosyntec Consultants (Geosyntec) will develop the business case and collaborative framework for cooperation on regional-scale stormwater management. These two separate efforts, while separately contracted, are intended to be implemented in an integrated fashion, with Geosyntec's work to identify key drivers and objectives for stormwater management feeding into Craftwater's analysis of meaningful opportunities and development of project concepts that are designed to achieve those goals. Similarly, Craftwater's analysis of the potential benefits of the prioritized opportunities for regional stormwater management will feed into Geosyntec's development of a business case for countywide collaboration.

Craftwater's scope is being jointly funded by C/CAG and the County of San Mateo. Specifically, as detailed in the following task and deliverable descriptions, Craftwater is contracting with C/CAG for implementation of Tasks 1, 2, and 4 and with the County of San Mateo for Task 3. Craftwater will invoice those entities separately for the respective tasks.

## TASK 1 – PROJECT MANAGEMENT, MONITORING, AND ADMINISTRATION

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The Craftwater team will meet virtually with representatives from the C/CAG member agencies and project team monthly to discuss project progress, data needs, and to solicit real-time input and feedback on interim work products. Ten (10) meetings are assumed, including a kickoff meeting, but exclusive of additional meetings programmed into following tasks. This task also includes as-needed coordination with the Geosyntec consulting team who will be completing complementary tasks related to this project. The project schedule for Craftwater's scope of work will be updated monthly and included with progress reports at the time of invoicing.

### Deliverables:

- **Monthly progress reports, invoices, and updated schedule**

## TASK 2 – IDENTIFY AND PRIORITIZE PROJECT OPPORTUNITY SITES

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### Subtask 2.1 – Project Identification

To identify and analyze projects at an appropriate scale for capital planning, Craftwater will first use LiDAR data and aerial photograph bands obtained from C/CAG to generate planimetric data useful for project opportunity assessment. Aboveground and on-ground surface features will be generated, and a representation of the right-of-way (based on parcel boundaries) and pervious open areas on parcels will be delineated. If existing data representing these features is available, then the existing data will instead be used for consistency with concurrent planning. The accuracy of the extracted data is subject to the resolution of LiDAR and imagery data. As such, the datasets generated with LiDAR may not necessarily align perfectly with existing shapefiles or land cover due to lens warp, recent redevelopment not captured in the data, or other geospatial projection issues.

Once the surface features are characterized, potential project opportunities will be identified using a combination of automated geomatic processes and systematic visual review by our engineers; the following steps will be implemented:

**Step 1: Create menu of project types and potential innovative solutions.** Our team will first work with C/CAG and the County to develop a list of available data and preferred project types and configurations for each jurisdiction. To inform initial menu recommendations, Craftwater will attend the first Technical Advisory Committee (TAC) meeting and review the *Drivers and Objectives Memo* (both led by the Geosyntec consulting team). Craftwater will also evaluate potential innovative solutions not yet considered in regional planning documents. This will involve careful evaluation of previous successes and local preferences to select practices well-suited to the physical and regulatory conditions of the County.

Innovative solutions not currently characterized in C/CAG plans—such as controlled diversion to the sanitary sewer for reclamation— will be explored to ensure that the most cost-effective alternatives are ultimately selected. Innovative solutions will be presented to the project team for discussion during monthly meetings. This subtask will produce an inventory of available data (summarized in an email table) and a matrix of potential project types that will be incorporated into the analysis memo.

**Step 2: Characterize suitability zones and identify potential project sites where menu can be applied.**

Initial screening for new project will begin by establishing typologies—or areas with common characteristics—where certain project types can be prescribed. Opportunities will be considered primarily on publicly owned parcels, including schools, although rights-of-way and private parcels will also be scanned to identify potential opportunities for collaborative projects.

**Step 3: Delineate drainage areas to potential projects and cross reference with planned projects.**

Once all potential projects are identified, then the drainage areas to each project, and inter-project routing, will be delineated using a series of automated algorithms and manually reviewed for accuracy. Note that the accuracy of the drainage area delineation is contingent up on the accuracy of the data provided. Drainage areas for projects currently planned in the Stormwater Resources Plan, green infrastructure plan, and sustainable streets master plans will be merged with the newly delineated drainage areas to prevent overlap and “double-counting” of drainage areas where projects might be located in series.

**Step 4: Perform “Bookend” Modeling Analysis.**

After potential projects are identified and characterized, their maximum progress towards meeting water quality and resiliency goals will be computed using methods consistent with recent planning efforts. Note that this initial modeling analysis will provide the “bookends” for what range of performance can be expected, and will be subsequently dialed in during Task 4 after projects are prioritized. It is assumed that the metrics for success to be modeled by Craftwater will be defined by the County, C/CAG, and the Geosyntec consulting team as a result of their complementary tasks to develop a *Draft Approach Memo* in collaboration with the TAC. It is also assumed that the existing reasonable assurance models will be provided by the County and C/CAG to serve as the foundation for short- and long-term simulation modeling exercises.

All identified project locations will be provided to the County and C/CAG for review in a format compatible with C/CAG's existing GIS web viewers and business case analysis (data to be incorporated by others). This task includes coordination to ensure proper schema for incorporation. The C/CAG project team will provide feedback on the identified project types and potential locations, and direct if any projects should be modified, removed, or added. Although the data generation process is trained to screen sites on the basis of major conflicts and feasibility, it is still necessary to manually review the resulting project list for quality assurance.

The preceding steps will produce a countywide list of potential stormwater capture opportunities, their associated maximum footprints, and drainage areas. This process will also generate the routing network between projects so that the pollutant loading to each project can be accurately represented, and thus the potential benefits of spatial optimization can be explored. The initial results will be presented to the TAC to inform complementary business case analysis tasks conducted by the Geosyntec consulting team.

## Subtask 2.2 – Project Prioritization

Craftwater will closely collaborate with the C/CAG project team to establish a prioritization system to evaluate and rank the identified opportunities based on the quantitative metrics and stakeholder values defined by C/CAG, the County, and the Geosyntec consulting team. It is anticipated that the primary value system—to be framed through meetings with C/CAG member agencies—will be related to parameters relevant to project cost-effectiveness (i.e., dollars per pound of pollutant captured and/or dollars per unit volume detailed/retained for flood control), programmatic synergies with other improvements, potential for public acceptance, and funding opportunities. Where possible, the approach will be customized to prioritize sustainable projects that provide multiple benefits, like local water supply resiliency, to maximize opportunities for grants and external funding.

The goals of the prioritization process are to streamline strategic stormwater planning through structured analysis of high-resolution data to develop—and assess the benefits of—specific project-by-project priorities. The list of potential projects will also be cross-referenced with other capital programs and programmatic data to identify shovel-ready opportunities for synergy with ongoing programs/initiatives.

The total benefits/performance of the prioritized projects will next be computed. This method—which will build upon the bookend compliance analysis performed during Task 2.1—helps to “right-size” the specific projects based on real engineering constraints and in-depth scientific understanding of pollutant removal processes. At the conclusion of the analysis, the C/CAG agencies will understand key hydrologic and water quality benefits of the prioritized candidate projects based on the metrics defined by C/CAG, the County, and the Geosyntec consulting team. It is assumed that the modeling analysis will not include hydraulic modeling of local storm drain systems, but will focus on the strategic storage and management of stormwater in the newly identified facilities. Prioritized projects will be described in an analysis report and provided in GIS format for incorporation into web maps and other analyses by others. For budgetary purposes, it is assumed that 50-100 new project opportunities will be identified and prioritized to recommend at least 10 top candidates for site assessments and conceptual design in the following tasks.

### Deliverables:

- **Data availability review summary email**
- **Attendance at TAC meeting #1**
- **Presentation of initial opportunities and modeling results at TAC meeting #2**
- **Draft and final regional stormwater capture opportunities analysis memo**
- **GIS data with identified and prioritized candidate projects**

## TASK 3 – PROJECT CONCEPTS

### Subtask 3.1 – Assessment of 10 Sites

To initiate the concept designs, a desktop evaluation will first be performed to evaluate the condition of ten sites recommended by the County and C/CAG, and identify specific features to be field-confirmed. Field reconnaissance (not to exceed three days total) will be performed for each of the top 10 candidate sites to confirm available data and gather additional site information and photographs. It is assumed that C/CAG and its members will provide all as-built drawings, existing utility alignments, updated GIS layers, soils reports, and access to each site. Utilizing USA Dig Alert’s website, a comprehensive utility matrix will be developed, which Craftwater will use to request utility atlas information not held by local agencies. The atlas information will be used to inform the potential project feasibility and concept design layout.

## Subtask 3.2 – Conceptual Design of 5 Sites

The following task will result in multi-benefit concepts for up to five of the projects prioritized in Task 2 and field-assessed in Subtask 3.1; it is assumed that the C/CAG project team will recommend which projects will be advanced to conceptual design based on the results of preceding tasks.

The following steps will be performed to develop the project concepts.

### Step 1: Site Characterization and Layout

The data collected during the site assessment task will be synthesized to develop a conceptual site layout that will be iteratively revised as our team completes the following steps.

### Step 2: Water Quality, Hydrology, and Hydraulic Analysis

The Craftwater team will next use the initial drainage area data generated during Task 2 to confirm the maximum potential drainage area that could be captured by the selected project site locations. The preliminary hydrology and water quality analysis performed under Task 2 will also be refined during this task to perform long-term (at least 10 years), continuous simulations to predict average annual runoff volume and pollutant load capture for each site. The long-term simulations will be performed using C/CAG's existing LSPC RAA model. Design storm simulations will also be performed using LSPC to estimate the candidate projects' capacity to mitigate the impacts of changing rainfall patterns (i.e., storm depth and intensity) driven by climate change; the design storms will be modeled using the rainfall timeseries previously developed by C/CAG, which represent 2-, 5-, 10-, 25-, 50-, and 100-year, 6-hour-duration storms based on historical conditions and also under future climate scenarios. It is assumed that both the historical and future (Median RCP 8.5) design storm timeseries will be provided for each rain gauge in the LSPC model.

Hydraulic analyses will primarily focus on the physics of designing a resilient, cost-effective, and minimally disruptive system, particularly for projects where diversion structures are proposed in major storm drains or channels. In addition, the pump station and/or conveyance pipeline will be analyzed for conveying stormwater and urban runoff flows to the project site.

### Step 3: Project Sizing and Optimization

To reliably forecast the water quality and flood mitigation benefits of regional stormwater capture projects, four major factors must be understood:

- The amount of water the system receives (inflow),
- The volumetric capacity (storage),
- The method of treating and draining the storage (outflow), and
- The project's location in the overall watershed network of projects (context).

Each of these variables—inflow, storage, outflow, and context—are interrelated and the adjustment of one will directly change how the others impact performance. Balancing these elements during design is critical to accurately evaluate how the pollutant load is reduced and how the costs can be minimized.

To address these complexities during project conceptualization and design, Craftwater will simulate multiple configurations to conduct a stormwater project optimization analysis that will address the following alternatives to build optimal conceptual designs:

***Project Size Options***

- The most cost-effective project size for each tributary drainage area will be computed
- The project size that will achieve applicable stormwater quality and water supply goals will also be computed

***Diversion flow rate options***

- Multiple diversion flow rates will be simulated to develop cost effectiveness curves
- The optimal diversion rate will be determined based on the point of declining water quality benefit

***Outflow/treatment, uses, and flow rate options***

- On-site irrigation potential
- Exfiltration options (infiltration, discharge to sanitary sewers for reclamation, or filtration units)

***Watershed context and siting options***

- Analysis of how project locations impact other upstream/downstream projects

The optimization approach will develop recommendations for the project footprints and cross-sections, and type and size of pre-treatment systems and diversion structures for the design configurations. It will also inform overall project siting recommendations and quantify potential multi-benefits that could be realized through water conservation/supply augmentation options.

**Step 4: Preliminary Conceptual Level Cost Estimate for Construction and Operations/ Maintenance.**

Craftwater will prepare a preliminary construction cost estimate for each proposed alternative. The cost estimates will be based on the preliminary concept developed and will represent a 10% level cost estimate. The cost estimate is considered preliminary and it is used for budget authorization or budget control purposes only. This cost estimate will only include major components of the project such as pipeline installation, pumps, and other components that cover major costs of the project, including potential permits and associated fees. The preliminary conceptual level cost estimates cover only the items of work shown in the conceptual drawings.

An annual operation and maintenance cost estimate will also be developed for each of the project sites based on the proposed configuration and the level of detail developed. The operation and maintenance costs will be determined for the duration of the project lifecycle (typically 50 years for regional projects) and will include replacement components over the course of the single lifecycle.

**Step 5: Concept Design**

To develop the detailed project concepts, Craftwater will work closely with the C/CAG project team to establish a concise concept design reporting template (including fact sheets, memo, and/or report formats). The Craftwater team recommends that detailed technical results are documented in a technical memorandum for each site, accompanied by a more concise fact sheet to aid with outreach and communication. The concept template will provide engineering details useful to advance high-priority projects to the next level of design, including project location, type, scope, sizing recommendations, typical sections, contributing drainage area, aerial map, runoff and pollutant capture performance, and budget-level estimates of capital and long-term maintenance costs.

While engineering feasibility is critical to project success, public acceptance is of equal importance. To gauge local acceptance and support, Craftwater will leverage the results of the *Drivers and Objectives Memo* (developed by the Geosyntec consulting team) and feedback from the TAC and C/CAG member agencies to ensure that recommended project types and sites fit with local needs.

A draft concept will be initially developed for one project for review by the C/CAG agencies; upon approval of the template, concepts will be developed for the remaining four sites. If the group elects to expand the number of concept reports beyond five, then Craftwater can generate additional reports a la carte as an optional task.

As a component of the conceptual design, Craftwater will also assess potential CEQA and permitting challenges and associated time requirements and analyze each project site with respect to land use, existing uses, and coordination with existing park operations, easement requirements from relevant agencies, and joint use agreements. Craftwater will identify and document potential regulatory requirements and permits.

**Deliverables:**

- **Draft and final site assessment analysis report (including 10 sites)**
- **Five (5) draft and final detailed project concepts**

## **TASK 5 – PROJECT STUDY REPORT**

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A brief Regional Project Study Memo will be developed to document the methods for developing the project database, field assessment results, project concept assumptions, and summary statistics for the county-wide candidate project database. The summary statistics and analysis will provide the foundation for discussing the value of regional stormwater capture facilities in the context of climate change resiliency and in comparison to opportunity and need for smaller-scale, distributed stormwater management systems. The memo will be included as an attachment to the business case White Paper being developed by the Geosyntec consulting team.

This task includes coordination with Geosyntec to stay apprised of the strategic direction of the approach memo, white paper, and the agreed-to drivers and objectives that will impact concept designs in Task 3. Craftwater will perform a final round of updates to the candidate project database to incorporate results of the Task 3 project concepts so that it can be used for the complementary business case analysis.

**Deliverables:**

- **Draft and final Regional Projects Study Memo**
- **Updated candidate project GIS database**

## ESTIMATED FEE AND SCHEDULE

The proposed fee estimate was updated from Craftwater’s original proposal considering the following modifications requested by the County and C/CAG:

- Provide sufficient budget for deliverable review, coordination, and information exchange with Geosyntec team conducting complementary tasks, including participation at two TAC meetings (note that public outreach consulting was removed from the fee; public support guidance will be synthesized from the Drives and Objectives development process led by Geosyntec)
- Omit effort associated with web map development; coordinate with web mapping consultant to agree on schema/template for GIS data delivery
- Ensure conceptual design activities are clearly parsed into distinct tasks (the previous Tasks 3 and 4 were combined into a single Task 3) with a maximum budget ceiling of \$100k
- Include budget for final summary report of methods and findings (Task 4)

| FEE PROPOSAL FOR:   |                            | San Mateo County Advancing Regional Stormwater Capture Projects - CATEGORY 2  |                    |                 |                    |                 |                |                   |  |                      |                |
|---|----------------------------|---|--------------------|-----------------|--------------------|-----------------|----------------|-------------------|---|----------------------|----------------|
| Contract Type: T&M  |                            | Identify, prioritize, and develop project concepts for additional regional stormwater capture project opportunities throughout San Mateo County |                    |                 |                    |                 |                |                   | Submitted to: San Mateo County (Attn: Kim Springer)                                 |                      |                |
| Task Description  | CRAFTWATER ENGINEERING INC |   |                    |                 |                    |                 |                |                   | TOTAL COST  |                      |                |
|   | President                  | Project Manager   | Principal Engineer | Senior Engineer | Associate Engineer | Junior Engineer | CAD Technician | Total Labor Hours | Total Labor Effort  | Total Subconsultants | TOTAL EFFORT   |
| <b>Billing Rates</b>  | <b>270.00</b>              | <b>210.00</b>   | <b>250.00</b>      | <b>205.00</b>   | <b>170.00</b>      | <b>135.00</b>   | <b>120.00</b>  |                   |   |                      |                |
| SUBTOTAL Task 1. Project Coordination, Monitoring, and Administrative | 24                         | 34  | 2                  | -               | -                  | 12              | -              | 72                | 15,740  | -                    | 15,740         |
| SUBTOTAL Task 2. Identify & Prioritize Project Opportunity Sites      | 10                         | 44  | 10                 | 40              | 126                | 86              | -              | 316               | 55,670  | -                    | 55,670         |
| SUBTOTAL Task 3. Project Concepts                                     | 6                          | 42  | 48                 | 74              | 50                 | 364             | 40             | 624               | 100,000   | -                    | 100,000        |
| SUBTOTAL Task 4. Regional Project Study Memo                          | 8                          | 32  | -                  | 8               | 24                 | 24              | -              | 96                | 17,840  | -                    | 17,840         |
| <b>GRAND TOTAL</b>  | <b>48</b>                  | <b>152</b>  | <b>60</b>          | <b>122</b>      | <b>200</b>         | <b>486</b>      | <b>40</b>      | <b>1,108</b>      | <b>189,250</b>  | <b>-</b>             | <b>189,250</b> |

The following initial schedule was coordinated with the Geosyntec team to ensure that the critical paths of both projects are synchronized.

| <b>Task No.</b> | <b>Task Name</b>                       | <b>Deliverable/Milestone</b>   | <b>Delivered To/<br/>Coordinated With</b> | <b>Due Week of</b> |
|-----------------|--|--|---|--------------------|
| 1               | <i>Craftwater PM</i>                   | Kick-Off Meeting   | Kick-off Meeting Participants             | 12/14/2020         |
| 1               | <i>Craftwater PM</i>                   | Monthly Meetings, Progress, Invoicing, Schedule  | C/CAG, County PMs                         | Monthly            |
| 2               | <i>ID and Prioritize Opportunities</i> | Data Availability Review Summary   | Geosyntec                                 | 1/4/2021           |
| 2               | <i>ID and Prioritize Opportunities</i> | Participation at TAC Meeting 1   | PMs, TAC, Geosyntec                       | 1/21/2021          |
| 1               | <i>Craftwater PM</i>                   | Participation at C/CAG Member Agency Meeting   | PMs, Member Agencies, Geosyntec           | 1/21/2021          |
| 2               | <i>ID and Prioritize Opportunities</i> | Review Drivers and Objectives Memo, Attend and Present at C/CAG Meeting, Develop Approach for "Menu" | Geosyntec                                 | 2/18/2021          |
| 2               | <i>ID and Prioritize Opportunities</i> | Menu of Project Types  | C/CAG, County PMs, Geosyntec              | 3/29/2021          |
| 2               | <i>ID and Prioritize Opportunities</i> | Complete GIS Analyses (i.e., Project identification and prioritization), Develop Modeling Approaches | Geosyntec                                 | 4/26/2021          |
| 4               | <i>Regional Project Study Report</i>   | Discussions with Geosyntec on Approach Memo  | Geosyntec                                 | 5/10/2021          |
| 2               | <i>ID and Prioritize Opportunities</i> | Draft Regional Opportunities Analysis Report and GIS Data  | C/CAG, County PMs, Geosyntec              | 5/24/2021          |
| 2               | <i>ID and Prioritize Opportunities</i> | Conduct Modeling, Collaborate on Modeling Inputs/Outputs   | Geosyntec                                 | 7/30/2021          |
| 2               | <i>ID and Prioritize Opportunities</i> | Final Regional Opportunities Analysis Report and GIS Data  | C/CAG, County PMs, Geosyntec              | 7/30/2021          |
| 3.1             | <i>Project Concepts</i>                | Draft Site Assessment Report   | C/CAG, County PMs                         | 8/30/2021          |
| 2               | <i>ID and Prioritize Opportunities</i> | Present on Modeling Analyses at TAC meeting as needed  | PMs, TAC, Geosyntec                       | 9/16/2021          |
| 2               | <i>ID and Prioritize Opportunities</i> | Present on Modeling Analyses at C/CAG meeting as needed  | PMs, Member Agencies, Geosyntec           | 9/16/2021          |
| 3.1             | <i>Project Concepts</i>                | Final Site Assessment Report   | C/CAG, County PMs                         | 10/1/2021          |
| 3.2             | <i>Project Concepts</i>                | 5 Draft Project Concepts   | C/CAG, County PMs                         | 9/13/2021          |
| 3.2             | <i>Project Concepts</i>                | 5 Final Project Concepts   | C/CAG, County PMs                         | 10/1/2021          |
| 3.2             | <i>Project Concepts</i>                | Updated GIS Data   | C/CAG, County PMs, Geosyntec              | 10/1/2021          |
| 4               | <i>Regional Project Study Memo</i>     | Documentation of Cat 2 geospatial and modeling methodology as Appendix                               | Geosyntec                                 | 1/4/2022           |

Exhibit B

Consultant BILLING RATES

Hourly billing rates for Consultant are included on the following pages.



## Craftwater Engineering, Inc BILLING RATE SCHEDULE

| Job Category  | Hourly Billing Rate<br>(2020) |
|---|-------------------------------|
| <b>MANAGEMENT</b>                                   |                               |
| President   | \$270                         |
| Responsible Principal                               | \$265                         |
| Principal Engineer                                  | \$250                         |
| Project Manager                                     | \$210                         |
| <b>ENGINEERING AND SCIENCE</b>                      |                               |
| Senior Engineer                                     | \$205                         |
| Senior Associate Engineer                           | \$190                         |
| Deputy Project Manager                              | \$185                         |
| Associate Engineer                                  | \$170                         |
| Water Quality Analysis Lead                         | \$150                         |
| Junior Engineer                                     | \$135                         |
| Senior Water Resources Specialist or Hydrologist    | \$175                         |
| Associate Water Resources Specialist or Hydrologist | \$155                         |
| Junior Water Resources Specialist or Hydrologist    | \$125                         |
| Senior Scientist                                    | \$180                         |
| Associate Scientist                                 | \$145                         |
| Junior Scientist                                    | \$115                         |
| <b>TECHNICAL</b>                                    |                               |
| Senior Programmer/Web Developer                     | \$200                         |
| Associate Programmer/Web Developer                  | \$150                         |
| Civil Designer                                      | \$140                         |
| CADD Technician                                     | \$120                         |
| Senior GIS Analyst                                  | \$160                         |
| Associate GIS Analyst                               | \$130                         |
| <b>PRODUCTION AND ADMINISTRATIVE</b>                |                               |
| Senior Graphics Artist                              | \$150                         |
| Staff Graphics Artist                               | \$110                         |
| Senior Technical Editor                             | \$125                         |
| Technical Editor                                    | \$105                         |
| Contract Administrator                              | \$110                         |
| Administrative/Clerical                             | \$80                          |
| Water Resources Intern                              | \$55                          |