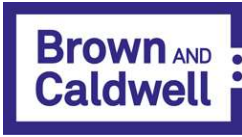


2261 Aupuni Street, Suite 201
Wailuku, HI 96793

T: 808.244.7005



May 8, 2023

Ms. Eva Blumenstein, Planning Program Manager
County of Maui Department of Water Supply
200 S. High Street
Wailuku, HI 96793

Subject: Proposal for Feasibility Study for East Maui Source Development Phases 3 & 4

Dear Ms. Blumenstein:

Brown and Caldwell (BC) is pleased to present our revised proposal for the subject project. The County of Maui Department of Water Supply (County) desires to prepare a feasibility study for the development of new water sources in East Maui. Our proposal is based on the Request for Proposal and Scope of Services document dated April 21, 2023, a virtual meeting with County personnel on May 1, 2023, and May 5, 2023 email.

Project Team

BC's project manager will be **Ms. Michelle Sorensen, PE, P. Eng. (20%)** Michelle is based on the Big Island but is a member of our Maui office team. Michelle has considerable water supply planning experience, having most recently prepared a Water Resources Master Plan for Guam Waterworks Authority.

Mr. Dean Nakano (5%) will be a key member of Michelle's project team, helping to steer the project to success. Dean's lengthy career has focused on water supply issues in Hawaii, including tenure at the City and County of Honolulu Board of Water Supply and the State of Hawaii Commission on Water Resource Management. Dean's recent BC experience includes an Impacts of Climate Change Study and a Central Oahu Watershed Management Plan, both for the Honolulu Board of Water Supply.

Mr. Craig Lekven, PE (10%) will serve as the project director. Craig formerly provided assistance to the County on the Na Wai Eha and East Maui IIFS cases, giving him an understanding of the County's water systems and the issues at hand.

Ms. Lauren Armstrong, AICP (35%) will serve as Deputy Project Manager. Lauren recently served on the project team for the Feasibility Study for East Maui Water Source Development Phase 2, and has experience with stakeholder engagement and community planning on Maui.

Scope of Services

Our proposed scope of services, including key assumptions, services to be provided by the County, and the intended deliverables is included as Attachment A.

Construction cost estimates, financial analyses and feasibility projections are subject to many influences including, but not limited to, price of labor and materials, unknown or latent conditions of existing equipment or structures, and time or quality of performance by third parties. The County acknowledges that such influences may not be precisely forecasted and are beyond the control of BC and that actual costs incurred may vary substantially from the estimates prepared by BC. BC does not warrant or guarantee the accuracy of construction or development cost estimates.

Schedule

Our proposed schedule is presented in Figure 1. Additional detail can be provided upon request.

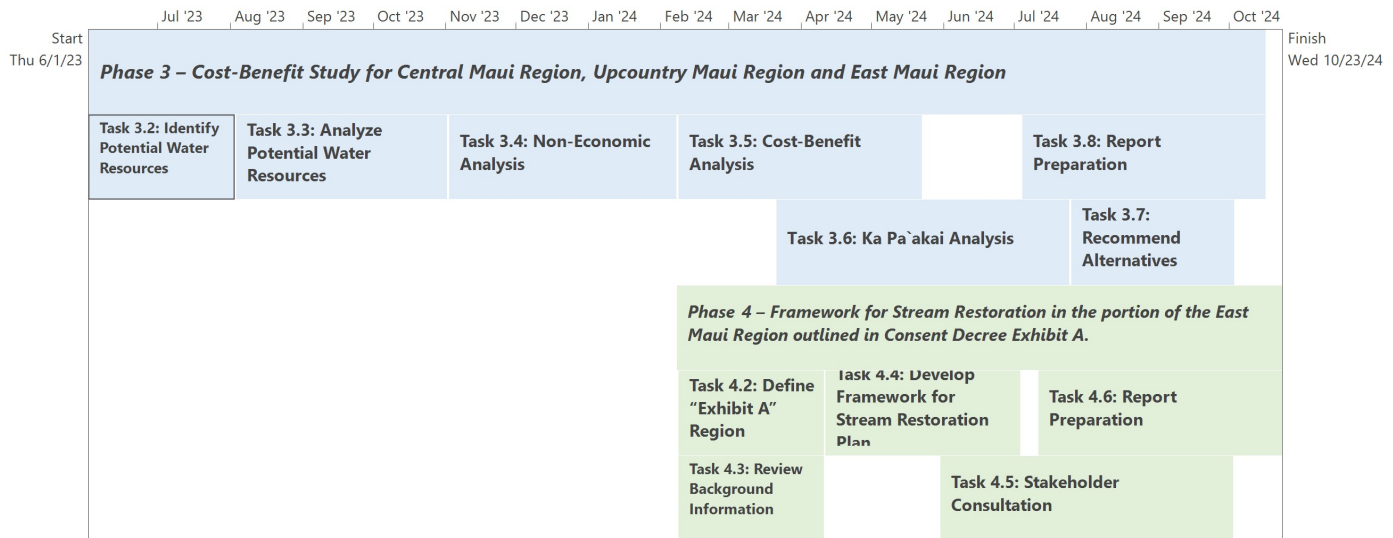


Figure 1. Proposed Schedule

A duration of approximately 18 months is estimated to complete the project tasks. We suggest a contract duration of 20 months to provide a schedule contingency for this complex planning effort.

BC will submit a detailed project schedule within 30 days of receiving notice to proceed and will periodically update the schedule as the project progresses.

Fee

BC will complete the scope of services defined for phases 3 and 4 for a lump-sum fee of \$863,384.00. Details are provided in Attachment B. Work will be invoiced monthly on a percentage complete basis by phase.

Special Conditions

BC requests the following revisions to the County's General Terms and Conditions (GTCs) for this contract. These special conditions have been granted by the County of Maui on recent contracts with other departments.

1. Paragraph 7 of the GTCs is deleted in its entirety and replaced with the following:

Indemnification and Defense - Except as provided for in Section 103D-713, HRS, the Contractor shall defend, indemnify and hold harmless the County, the contracting department and their directors, employees and agents from and against all liability, loss, damage, cost and expense, including all attorney's fees and costs, and all claims, suits, and demands therefor, to the extent caused by the negligence of the Contractor or the Contractor's employees, officers, agents, or subcontractors under this Contract. The provisions of this Paragraph shall remain in full force and effect notwithstanding the expiration or early termination of this Contract for any reason.

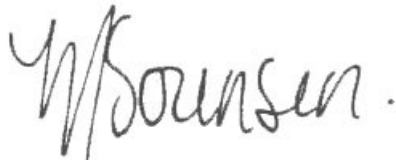
2. Paragraph 8 of the GTCs is deleted in its entirety, and replaced with the following:

Cost of Litigation. In case the County, without any fault on its part, be made a party to any litigation commenced by or against the Contractor in connection with this Contract, the Contractor shall pay any cost and expense incurred or imposed on the County, including attorneys' fees to the extent such costs or expenses incurred or imposed on the County are caused by the negligence of Contractor.

We look forward to helping the County with this vital project. If you have any questions, please call Michelle Sorensen at 808-442-3306 or Craig Lekven at 808-442-3301.

Very truly yours,

Brown and Caldwell



Michelle Sorensen
Project Manager



Craig Lekven
Project Director

Attachments (2)

- Attachment A: Scope of Services
- Attachment B: Fee Estimate

Attachment A: Scope of Services



Proposal: Feasibility Study for East Maui Source Development

Maui County Department of Water Supply

Scope of Work and Project Description

Island-wide, new water sources and infrastructure are needed to accommodate planned growth as directed in the Maui Island Plan (MIP). To help meet this need, the County of Maui Department of Water Supply (MDWS) is conducting a feasibility study to evaluate water source alternatives and to identify potential potable water supply options to accommodate growth associated with the Central and Upcountry Maui water systems.

Brown and Caldwell (BC) proposes to conduct a cost benefit analysis of identified new water resource supply alternatives in accordance with the Project objectives outlined in the Request for Proposal (RFP) received April 21, 2023. MDWS seeks to develop sources that are in accordance with established groundwater sustainable yields (SY) and current interim instream flow standards (IIFS) and will build upon the 2019 Water Use and Development Plan for Maui Island (WUDP), MIP and other relevant studies. The East Maui Source Development Feasibility Study (EMFS) includes four (4) phases. Phase 1 and Phase 2 are nearly complete. Phase 3 will evaluate viable surface and ground water resource alternatives, and Phase 4 will develop a recommended stream restoration framework in accordance with section 4.2 of the 2003 East Maui Consent Decree. This analysis will consider factors that may affect water supply resiliency, as well as environmental, regulatory, hydrological, and permitting constraints. Appropriate consultation regarding potential impacts and/or opportunities for Native Hawaiian traditional and customary practices associated with the identified resource alternatives will also be conducted. The study is intended to assist the MDWS with compliance with the provisions of 4.1 through 4.5 of the 2003 East Maui Consent Decree.

Prior Phases of Work

Phase 1 of the EMFS examined current/future MDWS water demands, reliable capacity, and identified potential new source options for the MDWS Central and Upcountry Systems.

Phase 2 assessed the availability of surface water from the Waikapu, Iao, and/or Waihee hydrologic units and prepared an analysis of the costs and water supply benefits of using these water resources for the DWS Central System.

Phase 3 – Cost/Benefit Study for Central Maui Region, Upcountry Maui Region and East Maui Region

The third phase of the EMFS will consist of assessment and rigorous cost/benefit study of the surface and groundwater resources available in the Central Maui Region, the Upcountry Maui Region and East Maui Region, including an evaluation of economic and environmental factors of developing and transmitting these water resources. Work conducted during Phase 1 and Phase 2 of the EMFS will be leveraged to inform analyses of available surface and groundwater resources in Phase 3.

Task 3.1: Project Management

BC staff will manage the scope, schedule, and budget to ensure that the Phase 3 work is managed in a manner that meets contract requirements. This includes, but is not limited to, management of documents, change, risk, and quality assurance and control. This task shall include regular progress conference calls or meetings between BC and MDWS personnel to review project progress, issues to be resolved, early results, etc. This task also covers efforts associated with the internal quality control and technical review process.

Task 3.2: Identify Potential Water Resources in Each Region

3.2.1. Define Each of the Three “Regions”

Boundaries will be established for the Central, Upcountry, and East Maui Regions in consultation with MDWS.

3.2.2. Identify Groundwater Resources Available

For each region defined in 3.2.1, existing and potential groundwater sources within designated groundwater aquifer systems will be identified/confirmed. The current estimated sustainable yield (SY) will be identified for each aquifer sector and aquifer system.

3.2.3. Identify Surface Water Resources Available

For each region defined in 3.2.1, existing and potential surface water sources at the stream level within designated surface water hydrologic units will be identified/confirmed. Applicable interim instream flow standards (IIFS) or instream flow standards (IFS) will be identified for the surface water sources.

Task 3.3: Analyze the Potential Water Resources Identified in Task 3.2

3.3.1. Review Existing Groundwater Availability and Resource Resiliency

Hydrological and environmental constraints will be identified and reviewed for existing and potential groundwater resources identified in 3.2.2. A range of sustainable yield scenarios will be considered including most recent (2019) CWRM estimates of SY and potential SY (upward/downward) adjustments associated with projected climate change impacts. Regulatory constraints (e.g., designated water management area provisions and applicable contested case hearing Decision and Order provisions) and other permitting requirements will be considered as part of this evaluation. Current pumpage (i.e., existing demand) and projected water demands will be evaluated for up to two (2) SY scenarios (e.g., existing 2019 SY and projected climate change adjusted SY) for applicable aquifer systems within the CWRM designated Wailuku, Central, and Koolau aquifer sectors overlapping, if any, with the regions defined in 3.2.1.

In evaluating the resiliency of available groundwater resources, the EMFS shall review and consider best available information, which may include but not be limited to relevant studies prepared by the CWRM, U.S. Geological Survey (USGS) and/or University of Hawaii, Water Resources Research Center (WRRC). Relevant studies may include:

- Long-term Groundwater Availability in the Waihee, Iao, and Waikapu Aquifer Systems, Maui, Hawaii (USGS Report 2021-5113).
- Estimated Groundwater Recharge from a Water-Budget Model Incorporating Selected Climate Projections, Island of Maui, Hawaii (USGS Report 2019-506).
- Spatially Distributed Groundwater Recharge Estimated Using a Water-Budget Model for the Island of Maui, 1978-2007 (USGS Report 2014-5168).
- Low-Flow Characteristics and Surface Water Availability in East Maui, Hawai'i (Commission on Water Resource Management report PR-2022-01).
- Reports pertaining to Petitions to Amend the Interim Instream Flow Standard for 27 Streams in East Maui ([Commission on Water Resource Management | East Maui Instream Flow Standards \(hawaii.gov\)](https://www.dnr.hawaii.gov/water/management/interim-instream-flow-standards/))

The EMFS will not undertake development of a new hydrogeological study to assess the connection between groundwater and surface water. For areas where there are currently limited hydrologic data available, future studies to define the hydrologic conditions in the region may be recommended to be undertaken separately by MDWS prior to developing water sources in the Consent Decree area.

Operational limitations and source resiliency considerations (e.g., drought, fire, water quality and chloride level impacts) relative to the Central and Upcountry Water Systems will be identified and reviewed.

3.3.2. Review Surface Water Availability and Resource Resiliency

Hydrological and environmental constraints will be identified and reviewed for existing and potential surface water resources identified in 3.2.3. A range of surface water availability scenarios will be considered including current IIFS/IFS and potential adjustments associated with projected climate change impacts.

Regulatory constraints (e.g., designated water management area provisions and applicable contested case hearing Decision and Order provisions) and other permitting requirements will be considered as part of this evaluation.

Current stream diversion withdrawals (i.e., existing demand) and projected water demands will be evaluated for up to two (2) surface water availability scenarios (e.g., existing 2019 IIFS/IFS and projected climate change adjusted IIFS/IFS) for the streams within the study area.

Operational limitations and source resiliency considerations (e.g., drought, treatment, and water quality impacts) relative to the Central and Upcountry Water Systems will be identified and reviewed.

3.3.3. Review Legal, Regulatory and Permitting Considerations

The legal authorities pertaining to water resource management in Hawaii, and specific to Maui, will be reviewed and considered in the evaluation of existing and potential groundwater and surface water resources applicable to the Central and Upcountry Water Systems.

The Public Trust Doctrine of the Hawaii State Constitution, State Water Code, Chapter 174C, Hawaii Revised Statutes (HRS), and applicable Hawaii Administrative Rules (HAR), Chapters 13-167 to 13-171, shall be used to guide the assessment and identification of available water supply resource options to meet current and future water demands.

In accordance with CWRM objectives, the EMFS analysis shall seek maximum beneficial use of the Maui water resources with adequate provisions for the protection of public interest objectives, as reflected in Chapter 174C-2, HRS, and shall consider the existing regulatory framework, including the best use of information technology for efficient ground and surface water management.

The identification of potential sources of ground and surface water supplies shall consider existing water use regulations to permit reasonable-beneficial uses of water (i.e., water use permits in designated water management areas) to protect instream flows and to maintain sustainable yields of groundwater, as defined in the State Water Code.

The evaluation of existing and potential water supply sources shall include appropriate review of relevant development plans, studies, and scientific investigations (e.g., available USGS Reports) involving existing assessments for water supply and demand, and instream uses of water, including the hydrological aspects of Hawaiian stream systems.

3.3.4. Identify Source or Combination of Source Options to Take Forward for Further Analysis

Potential water supply options and/or combination of options shall be identified in accordance with county land use and water planning information related to the Central and Upcountry Water Systems.

The EMFS will not include an evaluation of the tradeoffs between competing uses for the same water resource, but these issues will be acknowledged as part of the EMFS analysis and may be addressed as part of the future detailed planning of specific projects or in the further investigation of a particular resource development strategy.

Resource development strategies identified as part of the EMFS shall be geared to meet a range of scenarios and shall consider the physical, environmental, and other socioeconomic costs and impacts of the strategies.

Potential resource options will be filtered and screened in consultation with MDWS to eliminate inappropriate or fatally flawed options. The goal will be to identify a manageable number of resource options that can be combined into resource development sequences to meet planned and projected growth served by the Central and Upcountry Water Systems.

As part of the source evaluation, the EMFS (under Phase 2) assessed the availability of surface water from the Waikapu, Iao, and Waihee hydrologic units, including a cost analysis of viable surface water supply options identified. The top three supply and development strategies identified were high flows from Wailuku River, high flows from Waihee River and reallocation of agricultural irrigation water for municipal use. These strategies will be carried forward into the Phase 3 analysis and combined with surface and groundwater source options from the broader geographic areas of Central Maui, Upcountry and East Maui.

The EMFS will not identify specific locations for future well development or surface water diversions and will be limited to identification of potential ground and surface water resources within the study area.

The identification of resource options under the EMFS will not include an analysis of DWS water conservation program measures or initiatives.

3.3.5. Evaluate Potential Interconnections Between Upcountry and Central Maui Systems

BC will evaluate potential new interconnections between the Upcountry and Central Maui water systems to facilitate water transfers. Technical, regulatory, and operational issues associated with interconnecting the different water systems will be identified for future studies. If applicable, conceptual interconnection infrastructure requirements (e.g., pumping systems, pipelines, treatment systems) will be identified to support the new source development strategies.

3.3.6. Develop a Supply and Development Strategy for Sources and/or Combination of Sources

Using the information developed from the above tasks, BC will develop up to ten (10) strategies for detailed analysis. The strategies will consist of combinations of sources and associated infrastructure needed to treat and deliver water to the DWS water systems, and/or transfer water between DWS systems. Strategies identified in Phase 2 will be included in the list of potential options. BC will conduct a workshop with the County to review and confirm the supply and development strategies before proceeding with more-detailed analysis. Additional preliminary design criteria will be developed as appropriate for the level of analysis.

Task 3.4: Non-Economic Analysis

Many important factors, such as environmental and cultural impacts, cannot be effectively monetized and incorporated into a BCE. BC proposes to conduct a non-economic analysis to evaluate factors that are inherently subjective in nature for the identified options. The non-economic analysis will use multi-criteria decision analysis techniques to relatively rank the options. BC will conduct a workshop with the County to collectively establish the relevant factors, and to evaluate and rank the identified options to carry forward into the cost-benefit analysis.

Task 3.5: Cost-Benefit Analysis

BC will prepare a cost/benefit analysis of up to 10 options identified in the non-economic analysis, consisting of a business case evaluation (BCE) for the source options that will include monetization of risks and benefits, where possible.

3.5.1. Develop Capital and O&M Cost Estimates and Timelines

BC will prepare planning-level capital cost estimates for the identified options. The planning-level cost estimates will be “Class 5” estimates in accordance with the Association for the Advancement of Cost Engineering International (AACE). The estimates will not be site specific, but rather will be set at the aquifer or stream level. The estimates will include costs to develop wells, transmission pipelines, storage, water treatment infrastructure, pumping systems, and other expenditures necessary to deliver new source water to the existing MDWS systems. Transmission and treatment strategies will be identified in Task 3.3.4. Upgrades within existing DWS customer delivery systems will not be included.

BC will also develop planning-level O&M costs for the identified options. The O&M costs will include fixed costs that are not dependent on production rates (e.g., labor, asset maintenance) and variable costs that are dependent on production rates (e.g., electricity, chemicals). If available, current MDWS construction and operations information will be used to develop future costs.

3.5.2. BCE

BC will prepare a BCE to cover the identified new source options, and a “no project” option. The net present value (NPV) of cash flows developed for each option over a defined planning period will be calculated. The 30-year BCE for this project will include capital costs, annual O&M costs, equipment replacement in year 20 of the planning period, monetized risks, and monetized benefits. Life-cycle costs will be compared for the options, based on the capital and O&M cost portions of the BCE. A cost benefit analysis will be prepared that considers the capital, O&M, risk, and benefits portions of the BCE.

BC will subcontract with an economist to assess the macro-scale economic benefits to the County of Maui that will be realized by providing water in support of the orderly growth of the community in accordance with the Maui Island Plan.

BC will conduct a workshop with the County to present the BCE methods, assumptions, and preliminary results.

Task 3.6: Ka Pa‘akai Analysis

In consultation with MDWS, knowledgeable individuals and organizations (e.g., Native Hawaiian cultural organizations and community leaders) will be identified and contacted to gather information relative to potential groundwater and surface water resource options. A review of cultural practices and possible impacts associated with concepts for surface and groundwater source development within the study areas will be conducted. BC will subcontract with a cultural outreach specialist to assist with this task.

The Ka Pa‘akai Analysis is anticipated to include the following elements:

1. **Message Development.** Key topics will be identified to facilitate communication with relevant stakeholders. Work products for this element will include delivery mechanisms appropriate to the target audiences.
2. **Stakeholder Identification and Organization,** including agencies, cultural organizations, and community leaders. This will include a review of relevant previous stakeholder communications and development of a stakeholder

database. In addition to Native Hawaiian Organizations (NHO) and cultural practitioners, other stakeholders may also be identified and included in the analysis.

3. **Outreach.** Preliminary telephone or virtual interviews will be conducted with key cultural stakeholders (up to 30), and two (2) online focus group meetings convened.
4. **Ka Pa'akai Analysis.** A generalized assessment of impacts of preliminary measures and strategies on traditional and customary practices of Native Hawaiians will be summarized in report form. This report will also include the identification of feasible mitigative actions, if any, to reasonably address potential impacts to Native Hawaiian rights or cultural practices.

Task 3.7: Recommend Alternatives

The results from analyses 3.2 through 3.6 will be combined to recommend which alternative, or combination of alternatives, will be most cost effective and beneficial at increasing water supply to meet projected demand, considering financial, environmental, social, and cultural impacts and technical feasibility. An implementation timeline will be developed to assist the County with capital improvements planning.

Task 3.8: Report preparation

A draft report will be provided at the completion of Phase 3, including maps, and detailing all reviewed options, costs, factors, and constraints considered in the analyses, findings, and recommendations. The final report will address County comments.

Phase 3 Key Assumptions

1. BC staff will manage the scope, schedule, and budget. Periodic progress updates, no less than quarterly, will be provided to MDWS.
2. MDWS will:
 - Attend meetings, review progress reports, and assist as necessary towards the EMFS completion.
 - Participate in establishing boundaries for the three regions to be studied.
 - Provide available modeling information.
 - Identify and provide documents germane to legal constraints requiring consideration during preparation of the EMFS.
 - Provide available information from MDWS's risk assessment prepared in compliance with the America's Water Infrastructure Act of 2018 (AWIA) for water systems included in the Upcountry, Central, and East Maui Regions.
 - Participate in workshops to review progress and provide input.
 - Provide most recent project costs for wells, pipelines, tanks, booster pump stations, GAC treatment at Piipolo WTP, and the new Iao WTP.
 - Provide existing water treatment plant O&M costs, if available.
 - Identify and ensure that appropriate MDWS and other County personnel (operations, engineering, and planning) are available for all proposed workshops, as applicable.
 - Responsible for transmitting the final report to plaintiffs in accordance with the Consent Decree paragraph 4.6.
3. The EMFS is meant to discern ground and surface water resources and not to specifically identify locations for any future surface water or well development.
4. Current pumpage (i.e., existing demand) and projected water demands will be evaluated for up to two (2) SY scenarios.
5. Current stream diversion withdrawals (i.e., existing demand) and projected water availability will be evaluated for up to two (2) surface water scenarios, using available information for determination of stream flow and current withdrawal volumes.
6. "Short-term" will be generally defined as less than 5 years, and "long-term" as 20 years. Irrigation demand and groundwater recharge will be considered as appropriate.
7. The IIFS/IFS that are in effect at the start of Phase 3 will be used. Subsequent modifications by CWRM may represent out of scope work, depending on the extent of the changes.
8. Future groundwater recharge estimates will be in accordance with the 2019 USGS report *Estimated Groundwater Recharge from a Water-Budget Model Incorporating Selected Climate Projections, Island of Maui, Hawaii*.
9. The following are outside the scope of the EMFS:

- Evaluation of the tradeoffs between competing uses for the same water resource.
 - Development of a numerical groundwater model to evaluate the effects of additional groundwater withdrawals on streamflow, etc.
 - Specific locations for future well development or surface water diversions or withdrawals.
 - Analysis of DWS water conservation program measures or initiatives.
 - Hydraulic modeling of MDWS systems including supply, transmission and distribution.
10. A maximum budget of \$59,000 has been established for the cultural outreach subconsultant. BC will prepare a proposal for a contract amendment if the needed services exceed the budgeted amount.
11. Up to ten (10) new source options will be considered for the BCE and subsequent analysis.
12. A maximum budget of \$77,000 has been established for the economist subconsultant. The level of effort for the economist subconsultant will be determined at the completion of Phase 2 activities, based on input from MDWS and BC will prepare a proposal for a contract amendment if the required services exceed this maximum budgeted amount.
13. Any new project to develop groundwater and/or surface water in the East Maui Region shall be consistent with the WUDP and Water Code.

Phase 3 Deliverables

1. One (1) overview figure with the three regions delineated for inclusion in the draft and final reports.
2. One (1) figure for each region labeling and delineating groundwater and surface water resources, including those currently utilized and those not currently utilized by MDWS for inclusion in the draft and final reports.
3. One (1) figure reflecting current water transfers, planning-level water transmission options routes/distances (map) from new sources and potential system interconnections for inclusion in the draft and final reports.
4. GIS data generated as part of the EMFS will be provided to MDWS in electronic format.
5. One (1) workshop with MDWS staff to review and confirm the supply and development strategies and options to be taken forward for further analysis as outlined in Task 3.3.
6. One (1) workshop with MDWS staff will be conducted as part of Task 3.4.
7. One (1) workshop with MDWS staff will be conducted as part of Task 3.5.
8. Work products associated with Task 3.6 including:
 - A standalone information sheet, fact sheet, or newsletter (electronic .pdf format).
 - Copies of written correspondence (electronic .pdf format) with agencies and cultural stakeholders.
 - A media/PowerPoint summary for online distribution.
 - A stakeholder database (electronic .pdf format).
 - Preliminary telephone or virtual interviews with key cultural stakeholders (up to 15).
 - One (1) online focus group meeting.
 - Summary report specific to Task 3.6 for inclusion in the overall Phase 3 report (electronic .pdf format)
9. One (1) workshop will be conducted as part of Task 3.7.
10. BC will participate in meetings with DWS staff and Consent Decree Plaintiffs, as designated by DWS. A maximum of two (2) meetings with the Consent Decree Plaintiffs is assumed.
11. Draft and final reports (four (4) hard copies, and electronic .pdf format)

Phase 4 – Develop a Framework for Stream Restoration in the Portion of the East Maui Region Outlined in Exhibit A of the Consent Decree.

The final phase of the EMFS will recommend a framework to plan for future stream restoration in accordance with the requirements of the 2003 Consent Decree.

Task 4.1: Project Management

BC staff will manage the scope, schedule, and budget to ensure that the Phase 4 work is managed in a manner that meets contract requirements. This includes, but is not limited to, management of documents, change, risk, and quality assurance and control. This task shall include regular progress conference calls or meetings between BC and MDWS

personnel to review project progress, issues to be resolved, early results, etc. This task covers efforts associated with the internal quality control and technical review process.

Task 4.2: Define “Exhibit A” Region for Stream Restoration

The study area specific to Phase 4 will be delineated in accordance with Exhibit A and relevant provisions of the Consent Decree. The East Maui streams identified as part of the stream restoration plan framework will be discussed and confirmed in coordination with MDWS.

Task 4.3: Review Existing Background Information

BC will perform a review of relevant surface water information for the designated East Maui streams identified in Task 4.2. Review of existing surface water information will include but not be limited to:

Assessment of current monitoring and data collection programs for the East Maui region.

Longitude and latitude of current stream diversions.

Name and coding of applicable East Maui streams.

CWRM surface water database and GIS map coverage.

Current water use reporting.

Existing instream flow standards and relevant CWRM actions will also be reviewed, including but not limited to (as applicable):

Petitions to Amend the Interim Instream Flow Standard for 27 Streams in East Maui.

CCH-MA 13-01: Petition to Amend Interim Instream Flow Standards for Honopou, Hanehoi/Puolua, Waikamoi, Alo, Wahinepee, Puohokamoa, Haipuaena, Punalau/Kolea, Honomanu, Nuaailua, Piinaau, Palauhulu, Ohia (Waianu), Waiokamilo, Kualani (Hamau), Wailuanui, Waikani, West Wailuaiki, East Wailuaiki, Kopiliula, Puakaa, Waiohue, Paakea, Waiaaka, Kapaula, Hanawi, and Makapipi Streams

Instream Flow Standards: Huelo Region East Maui Streams, Hydrologic Units of Hoolawa (6035), Waipio (6036), Hoalua (6038), Hanawana (6039), Kailua (6040), Nailiilihaele (6041), Puehu (6042), Oopuola (6043), Kaaiea (6044), Punaluu (6045), and Kolea (6046).

The description of the stream restoration effort (as described in the Consent Decree) states "as long-term agricultural water needs are reduced, a stream restoration program will be studied, developed and initiated by the County." Since the Consent Decree was issued twenty years ago, agricultural use on Maui has changed significantly. Accordingly, data from the 2019 draft of the Maui WUDP and other relevant Hawaii Water Plan components will be used to derive agricultural water demand information that may be needed for the development of the stream restoration framework.

Current (and projected) agricultural water demands that are served by systems or sources outside of the jurisdiction of the MDWS (e.g., East Maui Irrigation System) will not be included as part of the assessment or tasks under Phase 4 and is beyond the scope of the EMFS.

Existing permitted withdrawals, diversions, impoundments, or consumptive use of surface water in the East Maui Region shall be reviewed in the context of potential water supply alternatives described in Phase 3. Applicable restoration requirements set forth in relevant CWRM Decision and Orders will be identified and incorporated within the development of a stream restoration plan framework and shall include identification of potential stream assessment projects, stream management projects and funding mechanisms and options.

The assessment of regulatory or mandated requirements will be done in consultation with CWRM and MDWS staff.

Task 4.4 Develop Framework for Stream Restoration Plan

A framework for a stream restoration plan for the portion of East Maui outlined in Exhibit A of the Consent Decree will be developed in collaboration with MDWS, CWRM and affected stakeholders. Stream-specific plans can be further detailed in the future (outside of the current project) based on the framework established in this task,

The stream restoration plan framework will be based upon the CWRM's Instream Flow Standard Assessment Reports (IFSAR). The framework requirements may outline and consider: surface water hydrologic unit characteristics, hydrology, maintenance of fish and wildlife habitat, outdoor recreational activities, maintenance of ecosystems, aesthetic values, navigation, instream hydropower generation, maintenance of water quality, conveyance of irrigation and domestic water supplies, protection of traditional and customary Hawaiian rights, and non-instream uses. The plan would include proposed actions and/or recommendations consistent with the CWRM's regulatory framework and the directives/findings of fact of applicable to CWRM contested case Decision and Orders, as well as steps, timeline and potential lead parties/agencies to restore all or certain diverted streams in the subject area.

A draft Stream Restoration Plan framework will be reviewed with MDWS and CWRM and shall incorporate feedback from affected stakeholders as appropriate.

Task 4.5: Stakeholder consultation

Development of the proposed stream restoration plan framework shall include appropriate communication with MDWS and CWRM staff and select stakeholders. In consultation with MDWS, knowledgeable individuals and organizations (e.g., Native Hawaiian cultural organizations and community leaders) will be identified and contacted to gather information relative to stream restoration in the Exhibit A area defined in Task 4.2, and to help identify the goals and content of a Stream Restoration Plan. A review of traditional and customary cultural practices and possible impacts associated with stream restoration within the study area will be conducted. BC will subcontract with an outreach specialist to assist with this task.

The framework for the stakeholder consultation is anticipated to include the following elements:

- **Message Development.** Key topics will be identified to facilitate communication with relevant stakeholders. Work products for this element will include delivery mechanisms appropriate to the target audiences.
- **Stakeholder Identification and Organization,** including agencies, cultural organizations and community leaders. This will include a review of relevant previous stakeholder communications and development of a stakeholder database. In addition to Native Hawaiian Organizations (NHO) and cultural practitioners, other stakeholders may be identified and included in the analysis.
- **Outreach.** Preliminary telephone or virtual interviews will be conducted with key cultural stakeholders (up to 30), and two (2) online focus group meetings convened.
- **Report.** A generalized assessment of impacts of preliminary measures and strategies on traditional and customary practices of Native Hawaiians will be summarized in report-form. This report will also include the identification of feasible mitigative actions, if any, to reasonably protect Native Hawaiian rights if they are found to exist.

Task 4.6: Report Preparation

A draft report will be provided at the completion of Phase 4, including maps and a framework for a stream restoration plan. The final report will address County comments.

Phase 4 Key Assumptions

1. BC staff will manage the scope, schedule, and budget. Periodic progress reports, no less than quarterly, will be provided to MDWS.
2. MDWS will:
 - Attend meetings, review progress reports, and assist as necessary towards the EMFS completion.
 - Participate in establishing boundaries for the Exhibit A Project Area.
3. A maximum budget of \$52,000 has been established for the cultural outreach subconsultant. BC will prepare a proposal for a contract amendment if the needed services exceed the budgeted amount.
4. The following are outside the scope of the EMFS:
 - Development of a Stream Restoration Plan to address specific hydrologic units within the portion of East Maui outlined in Exhibit A of the Consent Decree.

Phase 4 Deliverables

1. One (1) workshop will be conducted with MDWS staff as part of Task 4.3.
2. One (1) workshop will be conducted with MDWS staff as part of Task 4.4.
3. Work products associated with Task 4.5 includes:
 - A standalone information sheet, fact sheet, or newsletter (electronic .pdf format).
 - Copies of written correspondence (electronic .pdf format) with agencies and cultural stakeholders.
 - A media/PowerPoint summary for online distribution.
 - A stakeholder database (electronic .pdf format).
 - Preliminary telephone or virtual interviews with key cultural stakeholders (up to 30).
 - One (1) online focus group meeting.
 - Summary report specific to Task 4.5 for inclusion in the overall Phase 4 report (electronic .pdf format).

- One (1) workshop with MDWS staff will be conducted to review stakeholder input.
 - BC will participate in meetings with DWS staff and Consent Decree Plaintiffs, as designated by DWS. Up to two meetings are assumed with Plaintiffs.
5. GIS data generated as part of the EMFS will be provided to MDWS in electronic format.
 6. Draft and final reports (4 hard copies, and electronic .pdf format).

Attachment B: Fee Estimate

BC Fee Estimate- DAGS Rates Summary											
Description	BC Labor Hours						Total	BC Labor Budget	Subcontractors	ODCs	Totals
	Engineer VIII	Engineer VII	Engineer VI	Engineer II	Drafting Tech/ CAD Operator	Clerical/ Word Processor					
Billing Rate (\$/hr)	\$ 282.60	\$ 267.00	\$ 194.10	\$ 124.20	\$ 155.40	\$ 108.60					
Phase 3 - Cost/Benefit Study for Central Maui Region, Upcountry Maui Region and East Maui Region	385	429	670	608	116	84	2292	\$ 456,053.40	\$ 135,928.32	\$ 3,000.00	\$594,981.72
Phase 4 - Develop a Framework for stream restoration in the portion of the East Maui Region outlined in Exhibit A of the Consent Decree.	129	170	332	196	54	82	963	\$ 187,926.60	\$ 51,562.28	\$ 1,200.00	\$240,688.88
Subtotals	514	599	1002	804	170	166	3255	\$ 643,980.00	\$ 187,490.60	\$ 4,200.00	\$ 835,671.00
										Tax	\$ 27,714.00
										Contract Total	\$ 863,384.00