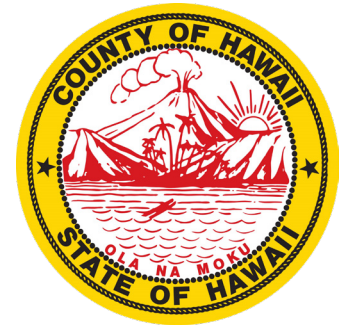




STATEMENT OF QUALIFICATIONS prepared for the
County of Hawaii, Dept. of Research and Development

Fiscal Year 2025-2026

RD.1) Community Planning (Community and
Economic Development, Community Engagement,
Culture and Indigenous Data Science, Strategic
Planning, Sustainability Systems)



June 30, 2025 // RFQ# HRS 103D-304



Planning + Design
+ Construction



Water +
Water Reuse



Wastewater



Electrical



Program
Management

65-1230 Mamalahoa Hwy., Ste. D-20A
Kamuela, HI 96743
T: 808.442.3306
www.brownandcaldwell.com



June 30, 2025

Mr. Benson Medina
Director
County of Hawaii
Department of Research and Development
25 Aupuni Street, Suite 1301
Hilo, Hawaii 96720

**Subject: Statement of Qualifications and Expression of Interest for Professional Services
for Fiscal Year 2025-2026**

Dear Mr. Medina,

Brown and Caldwell (BC) is pleased to submit our expression of interest and Statement of Qualifications (SOQ) presented in the Standard Form 330 format to the County of Hawaii, Dept. of Research and Development (County). We are interested in providing professional services for category **RD.1) Community Planning (Community and Economic Development, Community Engagement, Culture and Indigenous Data Science, Strategic Planning, Sustainability Systems)**.

We are also submitting a separate SOQ for the following category:

RD.13) General Engineering (Energy)

BC has been dedicated to serving clients in Hawaii since the 1970s, establishing our Honolulu and Maui offices in 1989 and our Kamuela office in 2020. Over the years, BC has built long-term partnerships across Hawaii through local project delivery and effective engagement of our national experts. Our unique perspective comes from working with all eight Hawaii water and wastewater municipal agencies, various public works departments, and key State agencies, helping our staff develop appropriate solutions for our Hawaii clients.

We appreciate the continued opportunity to work with the County and look forward to assisting you in your future projects. Please feel free to contact me at 808.442.3306 or MSorensen@brwncald.com if you require any additional information. We look forward to further discussing how we may be of service to you.

Very truly yours,

Brown and Caldwell

A handwritten signature in black ink that reads 'Michelle Sorensen'.

Michelle Sorensen, PE
Hawaii Island Director

A handwritten signature in black ink that reads 'Thomas J. Myers'.

Tom Myers, PE
Vice President/Pacific Area Director

Contract Specific Qualifications

PART I



Contract Information, Point of Contact, Proposed Team, and Organizational Chart

SECTIONS A-D

County of Hawaii, Dept. of Research and Development

Architect-Engineer Qualifications

PART I – CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION (City and State)

Professional Services for Fiscal Year 2025-2026 // Hilo, Hawaii

2. PUBLIC NOTICE DATE

June 1, 2025

3. SOLICITATION OR PROJECT NUMBER

HRS 103D-304, RD.1) Community Planning (Community and Economic Development, Community Engagement, Culture and Indigenous Data Science, Strategic Planning, Sustainability Systems)

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE

Michelle Sorensen, PE, Hawaii Island Director

5. NAME OF FIRM

Brown and Caldwell

6. TELEPHONE NUMBER

808.442.3306

7. FAX NUMBER

N/A

8. E-MAIL ADDRESS

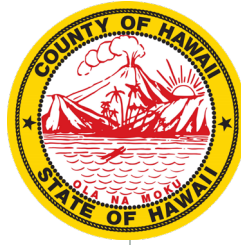
MSorensen@brwnclad.com

C. PROPOSED TEAM (Complete this section for the prime contractor and all key subcontractors.)

	(Check)			9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
	PRIME	JV PARTNER	SUB-CONTRACTOR			
a.	☒	☐	☐	Brown and Caldwell ☒ Check if Branch Office	737 Bishop Street, Suite 3000, Pacific Guardian Center - Mauka Tower, Honolulu, HI 96813-4020	Professional Planning/ Engineering/Construction Services
b.	☒	☐	☐	Brown and Caldwell ☒ Check if Branch Office	1527 Cole Boulevard, Suite 300, Lakewood, CO 80401	Professional Planning/ Engineering/Construction Services
c.	☒	☐	☐	Brown and Caldwell ☒ Check if Branch Office	18500 Von Karman Avenue, Suite 800, Irvine, CA 92612	Professional Planning/ Engineering/Construction Services
d.	☒	☐	☐	Brown and Caldwell ☒ Check if Branch Office	250 East Wisconsin Avenue, Suite 1600, Milwaukee, WI 53202	Professional Planning/ Engineering/Construction Services
e.	☒	☐	☐	Brown and Caldwell ☒ Check if Branch Office	2 North Central Avenue, Suite 1600, Phoenix, AZ 85004	Professional Planning/ Engineering/Construction Services
f.	☒	☐	☐	Brown and Caldwell ☒ Check if Branch Office	701 Pike Street, Suite 1300, Seattle, WA 98101	Professional Planning/ Engineering/Construction Services
g.	☒	☐	☐	Brown and Caldwell ☒ Check if Branch Office	3454 West Clay Street, Richmond, VA 23452	Professional Planning/ Engineering/Construction Services

h.	☒	☐	☐	Brown and Caldwell ☒ Check if Branch Office	8144 Walnut Hill Lane, Suite 1075, Dallas, TX 75231	Professional Planning/ Engineering/Construction Services
i.	☐	☐	☒	Birchline Planning LLC ☒ Check if Branch Office	3522 Udall Street San Diego, CA 92106	Urban Planning

D. ORGANIZATIONAL CHART OF PROPOSED TEAM ☒ (Attached)



PRINCIPAL-IN-CHARGE

Tom Myers, PE 

PROJECT OVERSIGHT

Dean Nakano 

PROJECT MANAGER

Michelle Sorensen, PE 
Lauren Armstrong, AICP 

QA/QC

Irina Constantinescu, PE, LEED AP 

Specialists

CLIMATE CHANGE AND RESILIENCE
Tess Sprague, PhD

WATER REUSE AND REGIONAL PLANNING
Amy Martin

SYSTEM VULNERABILITY
Adam Klein, PE*

ONE WATER
Susan Mukai, PE, LEED AP BD+C 

ENVIRONMENTAL PERMITTING
Ryan Merritt, PWS, CE

WATER QUALITY
Clifton Bell, PE*, PG*

WATERSHED ANALYSIS
Nathan Foged, PE*, BC.WRE
Jaren Hiller, PE*, LEED AP

WATER RESOURCES
Fiona van Ammers, PE, CPSWQ 

INTEGRATED PLANNING
Chris Cleveland, PE*

URBAN PLANNING
Juli Beth Hinds, AICP 

**STRATEGIC COMMUNICATIONS/
PUBLIC OUTREACH**
Rachel Garrett

GIS
Mike Simms

Project Engineers/Support

FIELD TECHNICIAN
Drew Skipper 

HYDRAULIC MODELING
Stan Kowalczyk, PE 

CIVIL
Audrey Cabrera, PE 
Tyler Oshiro, PE 

KEY //  Hawaii Island Personnel  Other Hawaii Personnel  Subconsultant *Professional license outside the State of Hawaii

Resumes of Key Personnel Proposed for this Contract

SECTION E

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Tom Myers, PE		13. ROLE IN THIS CONTRACT Principal-in-Charge		14. YEARS EXPERIENCE	
				a. TOTAL 32	b. WITH CURRENT FIRM 32
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Honolulu, Hawaii					
16. EDUCATION (Degree and Specialization) BS, Environmental Engineering, 1994			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Hawaii/Licensed Civil Engineer #9758; Exp 4/30/26		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Trained in the Sandia Risk Assessment Methodology for Security of Water/Wastewater RAM-WSM; Water Environment Federation/Hawaii Water Environment Association; American Water Works Association					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Kaelepulu Green Infrastructure (GI) Improvements, Kailua, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Principal-in-Charge. Brown and Caldwell (BC) is working with the City and County of Honolulu (City) to implement structural best management practices (BMPs) with the goal of reducing pollutants discharged through the City's storm drainage system into Kaelepulu Pond. These BMP improvements will address pollutants of concern such as sediment, trash, nutrients, and metals that are typically associated with urbanized areas. BC is leading the preliminary engineering analysis, design, stakeholder engagement, and preparation of construction contract documents to implement two storm water treatment improvements at one location in Kailua, Oahu, Hawaii. Improvements include the installation of approximately 300 linear feet of GI improvements northwest of Akiohala Street to infiltrate and treat stormwater, in addition to the installation of one hydrodynamic separator (HDS) to provide sediment and trash removal. BC is also implementing a stakeholder engagement and outreach process throughout this project, to communicate and share project progress as well as document input on future storm water projects. Total Contract Amount: \$620K Client: City and County of Honolulu, Dept. of Facility Maintenance					
b.	(1) TITLE AND LOCATION (City and State) Kalaeloa Desalination Facility U.S. Bureau of Reclamation Grant, Honolulu, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Oversight. BWS is planning for a Design-Build-Operate-Maintain project to construct a seawater desalination facility in Kalaeloa. BC was responsible for assisting the BWS in its pursuit of U.S. Bureau of Reclamation Title XVI funds for the project. The initial grant was awarded for planning costs, with potential future grants eligible for design and construction costs. BC developed the Title XVI Feasibility Study by refining preliminary findings, identifying existing water reuse opportunities, conducting an alternatives analysis and evaluation, and completing an economic and financial analysis. The project will help the Ewa District and its water supply portfolio become more resilient to climate change, meet its water supply needs during periods of drought, reduce water transfers, and decrease the region's heavy reliance on groundwater. Total Contract Amount: \$606K Client: Honolulu Board of Water Supply					

c.	(1) TITLE AND LOCATION <i>(City and State)</i> Capital Projects Division Program Management, Honolulu, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> Ongoing
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. BC is providing program management services to assist the Board of Water Supply Capital Projects Division to optimize business performance. This includes increasing the division's annual Capital Improvement Program execution capacity from roughly \$40 million to \$200 million per year and helping Board of Water Supply leadership implement best practices, optimize business performance, expedite Capital Improvement Program execution, and implement future Capital Improvement Program projects identified from the Board of Water Supply's Water Master Plan. Total Contract Amount: \$10.7M Client: Honolulu Board of Water Supply		
d.	(1) TITLE AND LOCATION <i>(City and State)</i> Wastewater Capacity Management and Monitoring, Honolulu, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Oversight. This is a multi-year, island-wide program which includes three main components: the first is long-term wastewater flow and rain data collection, the second assists the City with ongoing updates and calibration to the hydraulic model (InfoWorks ICM) of their wastewater collection system, and the third provides on-call modeling support using the City's updated hydraulic model. The overall program objectives are to confirm and more accurately quantify long-term wastewater flow trends in the wastewater collection system and to further refine and improve the tools that will enable the City to resolve current capacity limitations and to support future growth. Total Contract Amount: Contract No. 1 - \$8.2M Contract No. 2 - \$12.4M Contract No. 3 - \$1.8M Client: City and County of Honolulu, Dept. of Environmental Services		
e.	(1) TITLE AND LOCATION <i>(City and State)</i> Operational Program Management, Honolulu, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> Ongoing
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. BC is providing program management support to the Honolulu Board of Water Supply Water System Operations Division. Work includes developing a rehabilitation and replacement plan for immediate and long-term repair and maintenance for the Honolulu Board of Water Supply pump stations. This involves performing condition assessments of more than 170 pump stations and associated facilities across Oahu. Additionally, BC is conducting capital improvement program project development and prioritization for each pump station and facility, assessing the organization's structure, supporting the refinement of work processes to improve efficiency and effectiveness, and providing engineering support for repair and replacement projects. Total Contract Amount: \$3M Client: Honolulu Board of Water Supply		

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Dean Nakano		13. ROLE IN THIS CONTRACT Project Oversight		14. YEARS EXPERIENCE	
				a. TOTAL 41	b. WITH CURRENT FIRM 13
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Honolulu, Hawaii					
16. EDUCATION (Degree and Specialization) BA, Geology, 1977			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) N/A		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) American Water Works Association; Water Environment Federation/Hawaii Water Environment Association; National Incident Management System training					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) One Water Climate Adaptation Framework and Projects Plan, Honolulu, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Oversight. The City's initiative, "One Water Climate Adaptation Framework and Projects Plan" (known as One Water Honolulu), focuses on the prioritization of One Water climate resilience initiatives to address critical infrastructure through the development of a Climate Adaptation Framework and a Collaboration Framework. It will integrate and facilitate the management of freshwater, wastewater, and stormwater as one asset, creating resource and financial efficiencies within the City. These efforts will lead to the identification of near-, mid-, and long-term projects that will require collaboration between agencies and proactive adaptation to climate change impacts in Oahu. Total Contract Amount: \$4M Client: City and County of Honolulu, Dept. of Environmental Services					
b.	(1) TITLE AND LOCATION (City and State) Feasibility Study for East Maui Source Development, Maui Island, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2025	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Technical Advisor (Water Resources). BC provided the County of Maui with a feasibility study to assess existing capacity, refine future demand projections and evaluate viable water source alternatives that to help assure reliable potable water supply to address existing limitations and accommodate planned growth on the Central and Upcountry water systems. Also included is a stream restoration framework which will outline a long-range plan to analyze and address water availability in select waterways in the Haiku region diverted for irrigation by historic sugarcane operations. Stakeholder engagement occurred throughout the project. Total Contract Amount: \$1.2M Client: County of Maui, Dept. of Water Supply, Water Resources and Planning Division					

c.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	Hoaloha Park Adaptation Plan, Kahului, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
		2025	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Technical Advisor (Water Resources). BC supported SSFM International in developing the Hoaloha Park Adaptation Plan. The plan included a site and infrastructure vulnerability assessment, user impact evaluation, and adaptation planning specific to Hoaloha Park, an urban beach park located at Kahului Harbor, Maui. The plan employed an adaptive pathways approach driven by site-specific and infrastructure-specific vulnerabilities, considering park users. BC's scope involved preparing technical memorandums to document opportunities and constraints for future use by assessing existing site conditions and infrastructure against future climate-related hazards such as sea-level rise, hurricanes, and wildfires. Additionally, the plan analyzed the effects of increased future use of the park by residents and nearby employees due to planned redevelopment projects in the vicinity. The team recommended adaptation strategies, including improving sand dunes and relocating infrastructure likely to be affected by sea level rise. Total Contract Amount: \$60K Client: County of Maui, Dept. of Parks and Recreation			
d.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	Koolaupoko Climate Resilience and Adaptation Project, Kaneohe, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
		Ongoing	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Technical Advisor (Water Resources). BC is providing engineering services to support the University of Hawaii to conduct a Military Installation Resilience Review focused on the Koolaupoko district, located on Oahu's southeastern shore. The project overall objective is to identify climate related threats and hazards to the community surrounding Kaneohe military base and to present recommendations that enhance resilience and adaption capacity of vulnerable resources within the project study area. Hawaii's unique geographic location makes the islands particularly susceptible to a myriad of climate change impacts. Sea level rise and attendant local erosion and flooding, extreme heat, altered precipitation patterns, and growing wildfire are evident and will become more prevalent in the future, placing an undue burden on coastal communities and resources across the State. In order to avoid widespread environmental catastrophe, development needs to prioritize sustainability and increasing climate resilience. The study will culminate with the three regional implementation strategies identified, mapped, which will be considered "pilot projects." Each pilot project will recommend mitigation measures to better inform efforts and benefit surrounding communities. Total Contract Amount: \$235K Client: Research Corporation of the University of Hawaii			
e.	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
	Impacts of Climate Change on Honolulu Water Supplies and Planning Strategies for Mitigation, Honolulu, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
		2019	N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Principal Investigator. The Honolulu Board of Water Supply (BWS) and the Water Research Foundation (WRF) undertook a vulnerability assessment to identify and evaluate the potential impacts of climate change on current estimates of groundwater sustainable yield (the chief source of BWS's water supply), its pipelines and pumping system infrastructure, and strategies to address the anticipated changes. This project supported WRF's Climate Change Strategic Initiative to provide water utilities with a set of tools to assess vulnerabilities and develop applicable adaptation strategies. These strategies can be used as a guide for other utilities to evaluate and plan for the impact of climate change on water quantity, quality, and infrastructure. A scenario planning approach was used to evaluate the impacts of climate change and develop adaptive strategies using an iterative process to promote flexible decision making in the face of uncertainties and increase an organization's preparedness. This planning approach can be implemented for a range of potential changing conditions including future climate predictions, water supply demands, and economic development to promote flexibility to changing circumstances. Total Contract Amount: \$275K Client: Honolulu Board of Water Supply/Water Research Foundation			

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Michelle Sorensen, PE		13. ROLE IN THIS CONTRACT Project Manager		14. YEARS EXPERIENCE	
				a. TOTAL 23	b. WITH CURRENT FIRM 9
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Kamuela, Hawaii					
16. EDUCATION (Degree and Specialization) MBA, Master of Business Administration, 2024 BS, Civil Engineering, 1997			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Hawaii/Licensed Civil Engineer #17346; Exp 4/30/26		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) American Water Works Association (AWWA); Water Environment Federation/Hawaii Water Environment Association (WEF/HWEA); Engineers & Geoscientists of British Columbia (EGBC)					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Feasibility Study for East Maui Source Development, Maui Island, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2025	CONSTRUCTION (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. BC provided the County of Maui with a feasibility study to assess existing capacity, refine future demand projections and evaluate viable water source alternatives that to help assure reliable potable water supply to address existing limitations and accommodate planned growth on the Central and Upcountry water systems. Also included is a stream restoration framework which will outline a long-range plan to analyze and address water availability in select waterways in the Haiku region diverted for irrigation by historic sugarcane operations. Stakeholder engagement occurred throughout the project. Total Contract Amount: \$1.2M Client: County of Maui, Dept. of Water Supply, Water Resources and Planning Division				
b.	(1) TITLE AND LOCATION (City and State) South Kohala Flood Study, Waikoloa and Puako, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. The South Kohala District on Hawaii Island faces significant flood risks due to intense rainfall events and urban development, which are overwhelming the area's stormwater infrastructure and low-lying coastal areas, and ultimately negatively impacting public and private property. BC is collaborating with COH DPW to create a comprehensive strategy to manage runoff and mitigate flooding in the region. This study aims to provide a thorough understanding of these risks and propose practical solutions to safeguard the area from future flood events. Total Contract Amount: \$615K Client: County of Hawaii, Dept. of Public Works				
c.	(1) TITLE AND LOCATION (City and State) Desalination Feasibility Study, County of Maui, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2025	CONSTRUCTION (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Technical Advisor. BC conducted a feasibility study evaluating desalination as potable water supply source for the County of Maui. The study included consideration of siting, technology, energy, effluent disposal and salt/brackish water supply options. Total Contract Amount: \$916K Client: County of Maui, Dept. of Water Supply				

d.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Water Systems Investment Plan, Lihue, Hawaii	PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Manager. BC is developing a geographic information system (GIS) and hydraulic model for the County of Kauai, Dept. of Water (KDOW) as part of the Water Systems Investment Plan (WSIP) project. The WSIP is a comprehensive master plan, identifying infrastructure and facility improvements in alignment with KDOW's long-range goals and objectives. BC is working with KDOW to develop a capital improvement program to address system improvements needed for water supply infrastructure and enterprise systems and prioritize projects to meet level of service objectives. Included in the project is a financial analysis including utility rates, development charges, and funding opportunities through local, State and Federal programs. A climate change impact assessment for sea level rise and storm surge is being conducted along with a desktop condition and resiliency assessment. Stakeholder engagement is planned throughout the project, including two Ka Pa'akai analyses to collect information on traditional and customary practices within the study area. Total Contract Amount: \$2M Client: County of Kauai, Dept. of Water			
e.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Risk and Resiliency Assessment and Emergency Response Update, Hilo, Hawaii	PROFESSIONAL SERVICES 2022	CONSTRUCTION <i>(if applicable)</i> N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Oversight. BC performed a risk and resiliency assessment that included an evaluation of County of Hawaii, Department of Water Supply (HDWS) seven largest systems that met the threshold for America's Water Infrastructure Act 2018 compliance requirements. BC developed a custom vulnerability assessment tool that evaluated HDWS's critical assets against the selected natural hazards and malevolent acts. The tool produced a prioritized risk score for each asset based on the identified threat and the results will be used to support HDWS's future improvement planning. BC also updated HDWS's Emergency Response Plan which included updates to the Action Plans to prepare for, respond to, and recover from an emergency event. Total Contract Amount: \$535K Client: County of Hawaii, Dept. of Water Supply			

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Lauren Armstrong, AICP		13. ROLE IN THIS CONTRACT Project Manager		14. YEARS EXPERIENCE	
				a. TOTAL 16	b. WITH CURRENT FIRM 2
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Kamuela, Hawaii					
16. EDUCATION (Degree and Specialization) Master of Urban and Regional Planning, 2012 BA, Environmental Studies and Anthropology, 2007			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) N/A		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) American Institute of Certified Planners (AICP)					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Feasibility Study for East Maui Source Development, Maui Island, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2025	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Deputy Project Manager. BC provided the County of Maui with a feasibility study to assess existing capacity, refine future demand projections and evaluate viable water source alternatives that to help assure reliable potable water supply to address existing limitations and accommodate planned growth on the Central and Upcountry water systems. Also included is a stream restoration framework which will outline a long-range plan to analyze and address water availability in select waterways in the Haiku region diverted for irrigation by historic sugarcane operations. Stakeholder engagement occurred throughout the project. Total Contract Amount: \$1.2M Client: County of Maui, Dept. of Water Supply, Water Resources and Planning Division					
b.	(1) TITLE AND LOCATION (City and State) Hoaloha Park Adaptation Plan, Kahului, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2025	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Planning and Stakeholder Engagement. BC supported SSFM International in developing the Hoaloha Park Adaptation Plan. The plan included a site and infrastructure vulnerability assessment, user impact evaluation, and adaptation planning specific to Hoaloha Park, an urban beach park located at Kahului Harbor, Maui. The plan employed an adaptive pathways approach driven by site-specific and infrastructure-specific vulnerabilities, considering park users. BC's scope involved preparing technical memorandums to document opportunities and constraints for future use by assessing existing site conditions and infrastructure against future climate-related hazards such as sea-level rise, hurricanes, and wildfires. Additionally, the plan analyzed the effects of increased future use of the park by residents and nearby employees due to planned redevelopment projects in the vicinity. The team recommended adaptation strategies, including improving sand dunes and relocating infrastructure likely to be affected by sea level rise. Total Contract Amount: \$60K Client: County of Maui, Dept. of Parks and Recreation					

c.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Koolaupoko Climate Resilience and Adaptation Project, Kaneohe, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Planning and Stakeholder Engagement. BC is providing engineering services to support the University of Hawaii to conduct a Military Installation Resilience Review focused on the Koolaupoko district, located on Oahu’s southeastern shore. The project overall objective is to identify climate related threats and hazards to the community surrounding Kaneohe military base and to present recommendations that enhance resilience and adaption capacity of vulnerable resources within the project study area. Hawaii’s unique geographic location makes the islands particularly susceptible to a myriad of climate change impacts. Sea level rise and attendant local erosion and flooding, extreme heat, altered precipitation patterns, and growing wildfire are evident and will become more prevalent in the future, placing an undue burden on coastal communities and resources across the State. In order to avoid widespread environmental catastrophe, development needs to prioritize sustainability and increasing climate resilience. The study will culminate with the three regional implementation strategies identified, mapped, which will be considered “pilot projects.” Each pilot project will recommend mitigation measures to better inform efforts and benefit surrounding communities. Total Contract Amount: \$235K Client: Research Corporation of the University of Hawaii			
d.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Lead and Copper Rule Revisions and Improvements Compliance, Hawaii County, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Deputy Project Manager. BC is helping DWS comply with the U.S. Environmental Protection Agency’s Lead and Copper Rule Improvements. Over this multi-year contract, BC and subconsultant EnviroServices & Training Center will: prepare lead service line inventories; develop a Lead Service Line Replacement Plan; create a sample site list of residential and commercial properties, and school and child care facilities; conduct tap water sampling; and perform any tasks needed for compliance. Total Contract Amount: \$3.5M Client: County of Hawaii, Dept. of Water Supply			
e.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	DPW Baseyard Facilities Master Plan, Maui, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Manager. BC was contracted by the County of Maui to complete a Master Plan for Department of Public Works (DPW) Highways Division Baseyard Facilities. The Master Plan identifies long-term solutions that enable DPW Highways Division to maintain safe roads, bridges, and drainage facilities. This project includes five key tasks: 1) Baseyard Facilities Needs Assessment, 2) Facilities Location Alternatives, 3) Preferred Alternative and Implementation, 4) Baseyards Master Plan and 5) Moloka’i Cemetery Plan. Stakeholder input throughout the process is guided by a stakeholder engagement plan that outlines goals, strategies, and key messaging. The scope of services for this project includes strategic assessment and planning to support infrastructure and operational improvements for DPW Highways Division baseyards. The Baseyards Master Plan identifies and prioritizes actions that support County and State initiatives, and best serve the residents, visitors, and other departments in Maui County. To address sea level rise vulnerability and capacity issues, the Moloka’i Cemetery Plan task evaluates potential expansion alternatives and gathers stakeholder input to determine a preferred site. Total Contract Amount: \$808K Client: County of Maui, Dept. of Public Works, Highways Division			

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Irina Constantinescu, PE, LEED AP	13. ROLE IN THIS CONTRACT QA/QC	14. YEARS EXPERIENCE <table border="1"> <tr> <td data-bbox="956 310 1218 380"> a. TOTAL 20 </td> <td data-bbox="1218 310 1481 380"> b. WITH CURRENT FIRM 12 </td> </tr> </table>		a. TOTAL 20	b. WITH CURRENT FIRM 12
a. TOTAL 20	b. WITH CURRENT FIRM 12				
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Wailuku, Hawaii					
16. EDUCATION (Degree and Specialization) MS, Civil Engineering (Water Resources), 2006 BS, Environmental Engineering, 2005 BA, French, 2005		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Hawaii/Licensed Civil Engineer #14926; Exp. 4/30/26 *California/Licensed Civil Engineer #73228 *California/Licensed Traffic Engineer #2622			
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Leadership in Energy and Environmental Design, Accredited Professional (LEED AP); Hawaii National Society of Professional Engineers					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED		
	Countywide Injection Well Alternatives Study, Wailuku, Hawaii		<table border="1"> <tr> <td data-bbox="956 766 1218 846"> PROFESSIONAL SERVICES 2020 </td> <td data-bbox="1218 766 1481 846"> CONSTRUCTION (if applicable) N/A </td> </tr> </table>	PROFESSIONAL SERVICES 2020	CONSTRUCTION (if applicable) N/A
PROFESSIONAL SERVICES 2020	CONSTRUCTION (if applicable) N/A				
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Civil). BC prepared a study evaluating alternatives to using injection wells for treated wastewater effluent management at the Wailuku-Kahului, Kihei, Lahaina, and Kaunakakai Wastewater Reclamation Facilities (WWRFs) for the County of Maui. The Department of Environmental Management, Wastewater Reclamation Division (County) was interested in developing a study that addressed viable effluent disposal options including advanced treatment for continued injection well disposal, surface water discharge, marine discharge, water recycling, direct potable reuse (DPR), land treatment, and evaporation. Options that passed the initial screening were evaluated for conceptual feasibility at each WWRF. Planning level capital, operations and maintenance, and life-cycle costs were presented for each feasible option and presented in matrix format. Advantages and disadvantages of each option were presented. Total Contract Amount: \$99K Client: County of Maui, Dept. of Environmental Management, Wastewater Reclamation Division					
b.	(1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED		
	Lead and Copper Rule Revisions and Improvements Compliance, Hawaii County, Hawaii		<table border="1"> <tr> <td data-bbox="956 1276 1218 1356"> PROFESSIONAL SERVICES Ongoing </td> <td data-bbox="1218 1276 1481 1356"> CONSTRUCTION (if applicable) N/A </td> </tr> </table>	PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A				
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Oversight. BC is helping DWS comply with the U.S. Environmental Protection Agency's Lead and Copper Rule Improvements. Over this multi-year contract, BC and subconsultant EnviroServices & Training Center will: prepare lead service line inventories; develop a Lead Service Line Replacement Plan; create a sample site list of residential and commercial properties, and school and child care facilities; conduct tap water sampling; and perform any tasks needed for compliance. Total Contract Amount: \$3.5M Client: County of Hawaii, Dept. of Water Supply					

c.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Engineering Services to Design a Wastewater Treatment Collection and Disposal System for the Pahala Wastewater Treatment Plant and Post-Design, Pahala, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		2024	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Engineer (Civil) /Deputy PM. BC provided engineering services for the closure of large capacity cesspools and construction of new wastewater infrastructure in Pahala, to meet updated effluent discharge requirements dictated by the USEPA. BC completed the planning phase, which included a preliminary engineering report, environmental assessment, regulatory and permit identification, site alternatives evaluation and land acquisition, community outreach, and conceptual alternatives for the design, construction, and commissioning of the system. While the infrastructure was originally designed around a natural treatment system to minimize environmental impacts, simplify maintenance requirements, and achieve reliability, alternative treatment technologies were evaluated to address additional constraints related to affordability and unique geology of the area. Total Contract Amount: \$4.3M Client: County of Hawaii, Dept. of Environmental Management			
d.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	DPW Baseyard Facilities Master Plan, Maui, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Oversight. BC was contracted by the County of Maui to complete a Master Plan for Department of Public Works (DPW) Highways Division Baseyard Facilities. The Master Plan identifies long-term solutions that enable DPW Highways Division to maintain safe roads, bridges, and drainage facilities. This project includes five key tasks: 1) Baseyard Facilities Needs Assessment, 2) Facilities Location Alternatives, 3) Preferred Alternative and Implementation, 4) Baseyards Master Plan and 5) Moloka'i Cemetery Plan. Stakeholder input throughout the process is guided by a stakeholder engagement plan that outlines goals, strategies, and key messaging. The scope of services for this project includes strategic assessment and planning to support infrastructure and operational improvements for DPW Highways Division baseyards. The Baseyards Master Plan identifies and prioritizes actions that support County and State initiatives, and best serve the residents, visitors, and other departments in Maui County. To address sea level rise vulnerability and capacity issues, the Moloka'i Cemetery Plan task evaluates potential expansion alternatives and gathers stakeholder input to determine a preferred site. Total Contract Amount: \$808K Client: County of Maui, Dept. of Public Works, Highways Division			
e.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Engineering Services to Design a Wastewater Treatment Collection and Disposal System for the Naalehu Wastewater Treatment Plant, Naalehu, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		2024	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Engineer (Civil)/Deputy PM. BC is providing engineering services for the closure of large capacity cesspools and the installation of a new wastewater collection system and treatment plant with disposal system in Naalehu, Hawaii. The scope of work for this project includes scheduling to ensure compliance with U.S. Environmental Protection Agency mandates, community outreach, preliminary engineering report, Phase 1 environmental site assessment, an environmental assessment and coordination, land acquisition. Total Contract Amount: \$1.2M Client: County of Hawaii, Dept. of Environmental Management			

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Tess Sprague, PhD		13. ROLE IN THIS CONTRACT Climate Change and Resilience Specialist		14. YEARS EXPERIENCE	
				a. TOTAL 12	b. WITH CURRENT FIRM 5
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Dallas, Texas					
16. EDUCATION (Degree and Specialization) PhD, Water Risk Governance, 2016 MSc, Water Science, Policy, and Management, 2011 BA, Political Science/International Relations, 2010			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) N/A		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) American Water Works Association (AWWA), Vice Chair Climate Change Committee; American Society of Adaptation Professionals; Oxford Water Network; Alliance for Global Water Adaptation; Certifications: AWWA Utility Risk and Resilience Certification Program					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) One Water Climate Adaptation Framework and Projects Plan, Honolulu, Hawaii		(2) YEAR COMPLETED		
			PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Climate Resilience Subject Matter Expert. The City's initiative, "One Water Climate Adaptation Framework and Projects Plan" (known as One Water Honolulu), focuses on the prioritization of One Water climate resilience initiatives to address critical infrastructure through the development of a Climate Adaptation Framework and a Collaboration Framework. It will integrate and facilitate the management of freshwater, wastewater, and stormwater as one asset, creating resource and financial efficiencies within the City. These efforts will lead to the identification of near-, mid-, and long-term projects that will require collaboration between agencies and proactive adaptation to climate change impacts in Oahu. Total Contract Amount: \$4M Client: City and County of Honolulu, Dept. of Environmental Services					
b.	(1) TITLE AND LOCATION (City and State) Hoaloha Park Adaptation Plan, Kahului, Hawaii		(2) YEAR COMPLETED		
			PROFESSIONAL SERVICES 2025	CONSTRUCTION (if applicable) N/A	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Climate Resilience Subject Matter Expert. BC supported SSFM International in developing the Hoaloha Park Adaptation Plan. The plan included a site and infrastructure vulnerability assessment, user impact evaluation, and adaptation planning specific to Hoaloha Park, an urban beach park located at Kahului Harbor, Maui. The plan employed an adaptive pathways approach driven by site-specific and infrastructure-specific vulnerabilities, considering park users. BC's scope involved preparing technical memorandums to document opportunities and constraints for future use by assessing existing site conditions and infrastructure against future climate-related hazards such as sea-level rise, hurricanes, and wildfires. Additionally, the plan analyzed the effects of increased future use of the park by residents and nearby employees due to planned redevelopment projects in the vicinity. The team recommended adaptation strategies, including improving sand dunes and relocating infrastructure likely to be affected by sea level rise. Total Contract Amount: \$60K Client: County of Maui, Dept. of Parks and Recreation					

c.	(1) TITLE AND LOCATION <i>(City and State)</i> Koolaupoko Climate Resilience and Adaptation Project, Kaneohe, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Climate Resilience Subject Matter Expert. BC is providing engineering services to support the University of Hawaii to conduct a Military Installation Resilience Review focused on the Koolaupoko district, located on Oahu’s southeastern shore. The project overall objective is to identify climate related threats and hazards to the community surrounding Kaneohe military base and to present recommendations that enhance resilience and adaption capacity of vulnerable resources within the project study area. Hawaii’s unique geographic location makes the islands particularly susceptible to a myriad of climate change impacts. Sea level rise and attendant local erosion and flooding, extreme heat, altered precipitation patterns, and growing wildfire are evident and will become more prevalent in the future, placing an undue burden on coastal communities and resources across the State. In order to avoid widespread environmental catastrophe, development needs to prioritize sustainability and increasing climate resilience. The study will culminate with the three regional implementation strategies identified, mapped, which will be considered “pilot projects.” Each pilot project will recommend mitigation measures to better inform efforts and benefit surrounding communities. Total Contract Amount: \$235K Client: Research Corporation of the University of Hawaii		
d.	(1) TITLE AND LOCATION <i>(City and State)</i> WRF 5176: Integrating Climate Change Impacts with Wet Weather Management, Capital Improvement, and Stream Network Enhancement, Nationwide	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Climate Resilience Subject Matter Expert. The goal of this research project is to provide guidance to stormwater and wastewater utilities on incorporating climate change into wet weather management and capital planning. BC is performing a literature review on the latest advances in climate-ready wet weather planning, utility interviews, and workshops to develop a Leading Practices Report that documents leading practices for addressing identified challenges and needs. This effort will include Decision Framework for climate-ready wet weather planning that provides step-by-step instructions to guide planners and engineers through climate-informed capital planning tasks. Total Contract Amount: \$245K Client: Water Research Foundation		
e.	(1) TITLE AND LOCATION <i>(City and State)</i> Healthy Waters Plan, Vancouver, British Columbia, Canada	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Task Lead (Leading Practices Review). The Healthy Waters Plan is a One Water, integrated master plan for combined sewer overflows, green infrastructure, storm water master planning and other related elements for the City. Under the first phase, BC assessed the current state of the City’s sewer and stormwater systems, identified preliminary risks, and integrated climate change projections and growth predictions as well as identified best practices. The second phase is currently underway and BCwill develop a comprehensive, long-term city-wide plan to inform strategic investments. Total Contract Amount: \$4.7M Client: City of Vancouver		

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Susan Mukai, PE, LEED AP BD+C		13. ROLE IN THIS CONTRACT One Water Specialist		14. YEARS EXPERIENCE	
				a. TOTAL 13	b. WITH CURRENT FIRM 13
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Honolulu, Hawaii					
16. EDUCATION (Degree and Specialization) MS, Civil Engineering, 2011 BS, Civil Engineering, 2010			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Hawaii/Licensed Civil Engineer #16031; Exp 4/30/26		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Leadership in Energy and Environmental Design (LEED AP BD+C) #10593995; City and County of Honolulu Certified Water Pollution Plan Preparer and Erosion and Sediment Control Plan Coordinator; American Water Works Association, Hawaii Section Secretary; American Society of Civil Engineers					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) One Water Climate Adaptation Framework and Projects Plan, Honolulu, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. The City's initiative, "One Water Climate Adaptation Framework and Projects Plan" (known as One Water Honolulu), focuses on the prioritization of One Water climate resilience initiatives to address critical infrastructure through the development of a Climate Adaptation Framework and a Collaboration Framework. It will integrate and facilitate the management of freshwater, wastewater, and stormwater as one asset, creating resource and financial efficiencies within the City. These efforts will lead to the identification of near-, mid-, and long-term projects that will require collaboration between agencies and proactive adaptation to climate change impacts in Oahu. Total Contract Amount: \$4M Client: City and County of Honolulu, Dept. of Environmental Services					
b.	(1) TITLE AND LOCATION (City and State) Impacts of Climate Change on Honolulu Water Supplies and Planning Strategies for Mitigation, Honolulu, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2019	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Civil). The Honolulu Board of Water Supply (BWS) and the Water Research Foundation (WRF) undertook a vulnerability assessment to identify and evaluate the potential impacts of climate change on current estimates of groundwater sustainable yield (the chief source of BWS's water supply), its pipelines and pumping system infrastructure, and strategies to address the anticipated changes. This project supported WRF's Climate Change Strategic Initiative to provide water utilities with a set of tools to assess vulnerabilities and develop applicable adaptation strategies. These strategies can be used as a guide for other utilities to evaluate and plan for the impact of climate change on water quantity, quality, and infrastructure. A scenario planning approach was used to evaluate the impacts of climate change and develop adaptive strategies using an iterative process to promote flexible decision making in the face of uncertainties and increase an organization's preparedness. This planning approach can be implemented for a range of potential changing conditions including future climate predictions, water supply demands, and economic development to promote flexibility to changing circumstances. Total Contract Amount: \$275K Client: Honolulu Board of Water Supply/Water Research Foundation					

c.	(1) TITLE AND LOCATION <i>(City and State)</i> Central Oahu Watershed Management Plan, Honolulu, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Civil). BC is developing the Central Oahu Watershed Management Plan (WMP) for the Honolulu Board of Water Supply. The overall goal of the Central Oahu WMP is to formulate an environmentally holistic, community-based, and economically viable WMP that provides a balance between preservation/management of Oahu's watersheds and the sustainable development and use of groundwater and surface water supplies. The plan has five objectives: (1) promote sustainable watersheds; (2) protect and enhance water quality and quantity; (3) protect Native Hawaiian rights and traditional practices; (4) facilitate public participation, education, and project implementation; and (5) meet future water demands at reasonable costs. The plan is prepared in coordination with the City and County of Honolulu (CCH), Dept. of Planning and Permitting and in accordance with the State Water Code Chapter 174C, HRS, and CCH Ordinance Chapter 30, ROH. The Central Oahu WMP is one of eight district WMP's that comprise the Oahu WMP. Total Contract Amount: \$625K Client: Honolulu Board of Water Supply		
d.	(1) TITLE AND LOCATION <i>(City and State)</i> Risk and Resiliency Assessment and Emergency Response Update, Hilo, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2022	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. BC performed a risk and resiliency assessment that included an evaluation of County of Hawaii, Department of Water Supply (HDWS) seven largest systems that met the threshold for America's Water Infrastructure Act 2018 compliance requirements. BC developed a custom vulnerability assessment tool that evaluated HDWS's critical assets against the selected natural hazards and malevolent acts. The tool produced a prioritized risk score for each asset based on the identified threat and the results will be used to support HDWS's future improvement planning. BC also updated HDWS's Emergency Response Plan which included updates to the Action Plans to prepare for, respond to, and recover from an emergency event. Total Contract Amount: \$535K Client: County of Hawaii, Dept. of Water Supply		
e.	(1) TITLE AND LOCATION <i>(City and State)</i> Water Systems Investment Plan, Lihue, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Civil). BC is developing a geographic information system (GIS) and hydraulic model for the County of Kauai, Dept. of Water (KDOW) as part of the Water Systems Investment Plan (WSIP) project. The WSIP is a comprehensive master plan, identifying infrastructure and facility improvements in alignment with KDOW's long-range goals and objectives. BC is working with KDOW to develop a capital improvement program to address system improvements needed for water supply infrastructure and enterprise systems and prioritize projects to meet level of service objectives. Included in the project is a financial analysis including utility rates, development charges, and funding opportunities through local, State and Federal programs. A climate change impact assessment for sea level rise and storm surge is being conducted along with a desktop condition and resiliency assessment. Stakeholder engagement is planned throughout the project, including two Ka Pa'akai analyses to collect information on traditional and customary practices within the study area. Total Contract Amount: \$2M Client: County of Kauai, Dept. of Water		

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Nathan Foged, PE*, BC.WRE		13. ROLE IN THIS CONTRACT Watershed Analysis Specialist		14. YEARS EXPERIENCE	
				a. TOTAL 24	b. WITH CURRENT FIRM 20
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Seattle, Washington					
16. EDUCATION (Degree and Specialization) MS, Bioresource/Civil Engineering, 2001 BS, Biological Systems Engineering, 1998			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) *California/Licensed Civil Engineer #66395 *Oregon/Licensed Professional Engineer #92342PE *Washington/Licensed Professional Engineer #45533		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Board Certified, Water Resources Engineer (BC.WRE)					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Koolaupoko Climate Resilience and Adaptation Project, Kaneohe, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Hydrologic/Hydraulic Modeling Lead. BC is providing engineering services to support the University of Hawaii to conduct a Military Installation Resilience Review focused on the Koolaupoko district, located on Oahu's southeastern shore. The project overall objective is to identify climate related threats and hazards to the community surrounding Kaneohe military base and to present recommendations that enhance resilience and adaption capacity of vulnerable resources within the project study area. Hawaii's unique geographic location makes the islands particularly susceptible to a myriad of climate change impacts. Sea level rise and attendant local erosion and flooding, extreme heat, altered precipitation patterns, and growing wildfire are evident and will become more prevalent in the future, placing an undue burden on coastal communities and resources across the State. In order to avoid widespread environmental catastrophe, development needs to prioritize sustainability and increasing climate resilience. The study will culminate with the three regional implementation strategies identified, mapped, which will be considered "pilot projects." Each pilot project will recommend mitigation measures to better inform efforts and benefit surrounding communities. Total Contract Amount: \$235K Client: Research Corporation of the University of Hawaii					
b.	(1) TITLE AND LOCATION (City and State) Healthy Waters Plan, Vancouver, British Columbia, Canada			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Technical Advisor. BC is working with the City to develop a city-wide action and strategic investment plan to guide policy, regulation, advocacy and long-range investments in sewer and stormwater management. The project includes assessing the current state of the City's sewer and stormwater systems, identifying preliminary risks, and integrating climate change projections and growth predictions. BC is now developing a comprehensive, long-term city-wide plan based on a multi-stakeholder consultation process and appropriate level of analysis to inform strategic investments in green and gray infrastructure, watershed planning frameworks, and policy regulation. Total Contract Amount: \$4.7M Client: City of Vancouver					

c.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Shape Our Water, Seattle, Washington	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Advisor, Subject Matter Expert, Task Lead. BC is leading a multidisciplinary team to bring resiliency, community values, and equity to the center of the Shape Our Water planning process in ways that amplify community benefits. Shape Our Water is a multi-year initiative to plan near- and long-term investment in partnerships, programs, and projects that will improve the performance and resilience of Seattle’s drainage and wastewater systems while optimizing social and environmental benefits for the city. In concert with a community-centered stakeholder engagement process that sets goals and establishes a conceptual framework for future integrated drainage and wastewater planning, Shape Our Water implements this vision by directing investments in infrastructure, improving utility services, and maximizing customer value while balancing long-term sustainability with affordability. Drivers shaping the planning effort include water quality, flooding, climate change, aging infrastructure, aquatic health, and urban growth. Total Contract Amount: \$2.8M Client: Seattle Public Utilities			

d.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Sea Level Rise Risk Assessment, Pure Water San Diego Program, San Diego, California	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Technical Advisor and QC Reviewer. Nathan provided guidance and technical review for a detailed sea level rise exposure assessment of two proposed sites for new water treatment facilities. The exposure assessment used output data from the USGS’s Coastal Storm Modeling System (CoSMoS) to identify zones of inundation, as well as potential areas of groundwater emergence. Nathan and his team used the latest sea level rise projections (2022 Technical Report) to examine and interpret potential exposure timelines that will be used to inform risk-based design decisions. These findings will be used to support the development of risk reduction and resilience strategies for Pure Water facilities. Total Contract Amount: \$200K Client: City of San Diego, Public Utilities Dept.			

e.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	WRF Project 5176: Integrating Climate Change Impacts with Wet Weather Management, Capital Improvement, and Stream Network Enhancement, Nationwide	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Principal Investigator. Nathan is leading a WRF research project to develop a Climate-Resilient Wet Weather Management and Planning Manual that provides stormwater and wastewater utilities with a roadmap for making confident capital planning decisions in the face of climate uncertainty. Nathan and his team are partnering with academic experts and utilities from around the country to address challenges, highlight leading practices, and develop a framework for guiding utilities through climate-informed design. Total Contract Amount: \$200K Client: Water Research Foundation			

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Jaren Hiller, PE*, LEED AP		13. ROLE IN THIS CONTRACT Watershed Analysis Specialist		14. YEARS EXPERIENCE	
				a. TOTAL 29	b. WITH CURRENT FIRM 5
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Milwaukee, Wisconsin					
16. EDUCATION (Degree and Specialization) MS, Environmental Engineering, 1996 BS, Civil Engineering, 1994			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) *Wisconsin/Licensed Engineer #33417		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Leadership in Energy and Environmental Design, Accredited Professional (LEED-AP) #0000021877					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) South Kohala Flood Study, Waikoloa and Puako, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Hydrologic/Hydraulic Modeling Lead. The South Kohala District on Hawaii Island faces significant flood risks due to intense rainfall events and urban development, which are overwhelming the area's stormwater infrastructure and low-lying coastal areas, and ultimately negatively impacting public and private property. BC is collaborating with COH DPW to create a comprehensive strategy to manage runoff and mitigate flooding in the region. This study aims to provide a thorough understanding of these risks and propose practical solutions to safeguard the area from future flood events. Total Contract Amount: \$615K Client: County of Hawaii, Dept. of Public Works					
b.	(1) TITLE AND LOCATION (City and State) Program Management for Bull Run Water Treatment Plant, Portland, Oregon			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) Forthcoming
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Hydrologic/Hydraulic Modeling Lead. BC is developing a smart utility approach that will enable Portland Water Bureau to operate its new filtration facility in an effective and efficient manner by interconnecting operational and informational technology systems to promote operational wisdom in support of Portland Water Bureau's business objectives. BC will also perform a review of existing business and operational systems and processes to provide an understanding of the current state of Portland Water Bureau's system and architecture including asset management systems, operational systems including supervisory control and data acquisition, geographic information systems, and enterprise reporting and analytical systems. Total Contract Amount: \$63M Client: Portland Water Bureau					
c.	(1) TITLE AND LOCATION (City and State) North District Wastewater Treatment Plant Site Prep and Stormwater Update Plan, Miami, Florida			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) Forthcoming
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Hydrologic/Hydraulic Modeling Lead. The hydrologic and hydraulic modeling is being completed using the Interconnected Channel and Pond Routing model to assess and size the storm drains, storm force mains, storm pump stations, and retention pond associated with the expansion and to improve the drainage system at the existing site. Jaren is leading the civil/site design for the 15-acre high level disinfection plant expansion and executed portions of the design. Total Contract Amount: \$2.2M Client: Miami-Dade Water and Sewer Dept.					

d.	(1) TITLE AND LOCATION <i>(City and State)</i> Waikoloa K-Plant Effluent Disposal, Waikoloa, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	Ongoing
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Hydrologic/Hydraulic Modeling Lead. BC is tasked with evaluating feasible disposal methods for both current disposal and future disposal demands that meet wastewater and land use regulations, but also the unique soil and topography conditions of the site. Methods to be evaluated include soil aquifer treatment (SAT), expansion of the existing leachfields, and reuse. Activities will include soil investigation and percolation testing to determine the appropriate design hydraulic loading rate for the soil conditions. Upon completion of the feasibility evaluation, BC will design the preferred effluent disposal option that will include improvements such as pump station, piping, and earthwork. Additional services to support the project include Archeological Inventory Study and Unexploded Ordinances field work safety support. Total Contract Amount: \$1M Client: Hawaii Water Service Company		
e.	(1) TITLE AND LOCATION <i>(City and State)</i> Hare Snipe Creek Watershed Study, Raleigh, North Carolina	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		2023	N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm QA/QC Reviewer. BC provided integrated flooding mitigation and water quality planning, while establishing standards for conducting future watershed studies within the City. The study was guided by the Equity Framework, which established City staff goals and priorities to integrate more equitable practices into watershed study development. BC piloted stream assessment technologies to evaluate results and provide a recommendation for the remaining stream assessments. BC developed a PCSWMM model to identify areas of flooding and developed a spatial water quality model, WIP Tools, to calculation nutrient and sediment loadings. BC identified over 60 project concepts that were evaluated to reduce flooding and/or provide water quality benefits. BC also developed a methodology document to guide consistent future watershed studies. Total Contract Amount: \$1M Client: City of Raleigh, Engineering Services Dept.		

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Amy Martin		13. ROLE IN THIS CONTRACT Water Reuse and Regional Planning Specialist		14. YEARS EXPERIENCE	
				a. TOTAL 18	b. WITH CURRENT FIRM 4
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Irvine, California					
16. EDUCATION (Degree and Specialization) BS, Civil Engineering, 2007			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) N/A		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) N/A					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) California Urban Water Agencies Program Management, Walnut Creek, California			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Staff Engineer. California Urban Water Agencies (CUWA) is a non-profit corporation of 11 major urban water agencies collectively delivering drinking water to over two-thirds of California's population. BC has been providing program management support to CUWA since 2011. With direction from the CUWA Board, which is composed of general managers and other high-level decision makers from the member agencies, BC manages CUWA operations, providing technical, financial, and administrative support for near- and long-term initiatives and organization sustainability. BC also works closely with member agencies through committees and work groups to develop technical and policy work products that provide common understanding and consensus among the urban water community. Total Contract Amount: \$8M Client: California Urban Water Agencies					
b.	(1) TITLE AND LOCATION (City and State) Pure Water Southern California Program, Carson, California			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Funding and Regulatory Support. A joint venture of BC and another firm were chosen to provide program and project management support and engineering design services for the Pure Water Southern California Program, one of the largest water reuse programs in the world. Anticipated for water delivery by 2032, the program will reuse the largest untapped wastewater source in the region that currently flows to the ocean to increase water resiliency, enhance water quality, and fuel economic growth. The joint venture team will lead environmental compliance efforts and the design and construction of advanced purification facilities at the Sanitation District's Joint Water Pollution Control Plant. The new facilities will incorporate an innovative 3-step procedure to purify water, including membrane bioreactors, reverse osmosis, and an ultraviolet light/advanced oxidation process. Up to 60 miles of new pipelines and associated pump stations will be designed and constructed to transport purified water from the plant to the region's groundwater basins, industrial facilities, and two of Metropolitan's water treatment plants. Total Contract Amount: \$10.3M Client: Metropolitan Water District of Southern California					

c.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Recycled Water Program, Boise, Idaho	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Feasibility Study Lead. The City of Boise’s Recycled Water Program—the result of a multi-year planning effort led by BC—is the first municipal implementation of large-scale groundwater recharge in Idaho. This program includes planning, permitting, pilot testing, and designing infrastructure to treat industrial wastewater and put it to beneficial use throughout the community. This major program is a central element of the City’s strategy to meet water supply demands amidst rapid growth and to address climate change impacts. As program manager, BC is delivering all aspects of the project, including overseeing the development a long-term financial plan, providing technical analysis of potential investment options, supporting stakeholder engagement, and leading the City’s regulatory team, which focuses on regulatory and permit negotiations. Total Contract Amount: \$24M Client: City of Boise			
d.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Chino Basin Program Preliminary Design Report, Chino, California	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Planning Lead. The Chino Basin Program is an innovative water supply project that combines local infrastructure needs and salinity management with groundwater replenishment, water supply resiliency and ecosystem benefits in California. One of the Program’s objectives includes utilizing advanced treated recycled water for aquifer recharge of up to 15,000 AFY using injection wells and future supply through extraction wells at up to 50,000 AFY with no more than 375,000 AF over 25 years. To support this objective and siting, BC developed a comprehensive geochemical investigation work plan for the investigation of the study area which will be used in siting of the injection and extraction wellfields and to ensure operational processes are optimal through injection, transfer, and extraction in the groundwater basin. Brandon reviewed preliminary design report for wells prepared by others and assisted in the preparation of the comprehensive geochemical characterization work plan which is now in execution. Total Contract Amount: \$11.4M Client: Inland Empire Utilities Agency			
e.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	On-Call Grant Support, Costa Mesa, California	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		2023	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Manager. BC reviewed state and federal funding opportunities, coordinated with state and federal funding representatives, and prepared funding applications for opportunities like the California Dept. of Water Resources Urban and Multibenefit Drought Relief Grant Program. BC helped Mesa Water District secure nearly 50 percent of the capital costs needed for the Local Groundwater Supply Improvement project Planning Study through the 2023 U.S. Bureau of Reclamation WaterSMART Desalination Planning Grant. BC collected necessary data, developed the application referencing statewide and local issues, coordinated with California Dept. of Water Resources, and submitted the application to them. Total Contract Amount: \$100K Client: Mesa Water District			

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Fiona van Ammers, PE, CPSWQ		13. ROLE IN THIS CONTRACT Water Resources Specialist		14. YEARS EXPERIENCE	
				a. TOTAL 25	b. WITH CURRENT FIRM 8
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Wailuku, Hawaii					
16. EDUCATION (Degree and Specialization) BS, Civil and Environmental Engineering, 1999			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Hawaii/Licensed Civil Engineer #11907; Exp 4/30/26		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) EnviroCert Certified Professional in Storm Water Quality (CPSWQ), City and County of Honolulu Certified Erosion Sediment Control Plan Designer (CESCPP) and Certified Water Pollution Plan Preparer (CWPPP) and Certified Erosion Sediment Control Plan Coordinator (CESCPC); Hawaii Water Environment Federation; National Association of Sewer Service Companies Pipeline Assessment Certification Program/Lateral Assessment Certification Program/Manhole Assessment Certification Program #U-1018-0703003411; Hawaii Society of Professional Engineers					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Feasibility Study for East Maui Source Development, Maui Island, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2025	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Technical Advisor. BC provided the County of Maui with a feasibility study to assess existing capacity, refine future demand projections and evaluate viable water source alternatives that to help assure reliable potable water supply to address existing limitations and accommodate planned growth on the Central and Upcountry water systems. Also included is a stream restoration framework which will outline a long-range plan to analyze and address water availability in select waterways in the Haiku region diverted for irrigation by historic sugarcane operations. Stakeholder engagement occurred throughout the project. Total Contract Amount: \$1.2M Client: County of Maui, Dept. of Water Supply, Water Resources and Planning Division					
b.	(1) TITLE AND LOCATION (City and State) Hoaloha Park Adaptation Plan, Kahului, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2025	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager/Lead Engineer (Civil). BC supported SSFM International in developing the Hoaloha Park Adaptation Plan. The plan included a site and infrastructure vulnerability assessment, user impact evaluation, and adaptation planning specific to Hoaloha Park, an urban beach park located at Kahului Harbor, Maui. The plan employed an adaptive pathways approach driven by site-specific and infrastructure-specific vulnerabilities, considering park users. BC's scope involved preparing technical memorandums to document opportunities and constraints for future use by assessing existing site conditions and infrastructure against future climate-related hazards such as sea-level rise, hurricanes, and wildfires. Additionally, the plan analyzed the effects of increased future use of the park by residents and nearby employees due to planned redevelopment projects in the vicinity. The team recommended adaptation strategies, including improving sand dunes and relocating infrastructure likely to be affected by sea level rise. Total Contract Amount: \$60K Client: County of Maui, Dept. of Parks and Recreation					

c.	(1) TITLE AND LOCATION <i>(City and State)</i> Countywide Injection Well Alternatives Study, Wailuku, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2020	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. BC prepared a study evaluating alternatives to using injection wells for treated wastewater effluent management at the Wailuku-Kahului, Kihei, Lahaina, and Kaunakakai Wastewater Reclamation Facilities (WWRFs) for the County of Maui. The Department of Environmental Management, Wastewater Reclamation Division (County) was interested in developing a study that addressed viable effluent disposal options including advanced treatment for continued injection well disposal, surface water discharge, marine discharge, water recycling, direct potable reuse (DPR), land treatment, and evaporation. Options that passed the initial screening were evaluated for conceptual feasibility at each WWRF. Planning level capital, operations and maintenance, and life-cycle costs were presented for each feasible option and presented in matrix format. Advantages and disadvantages of each option were presented. Total Contract Amount: \$99K Client: County of Maui, Dept. of Environmental Management, Wastewater Reclamation Division		
d.	(1) TITLE AND LOCATION <i>(City and State)</i> Koolaupoko Climate Resilience and Adaptation Project, Kaneohe, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. BC is providing engineering services to support the University of Hawaii to conduct a Military Installation Resilience Review focused on the Koolaupoko district, located on Oahu’s southeastern shore. The project overall objective is to identify climate related threats and hazards to the community surrounding Kaneohe military base and to present recommendations that enhance resilience and adaption capacity of vulnerable resources within the project study area. Hawaii’s unique geographic location makes the islands particularly susceptible to a myriad of climate change impacts. Sea level rise and attendant local erosion and flooding, extreme heat, altered precipitation patterns, and growing wildfire are evident and will become more prevalent in the future, placing an undue burden on coastal communities and resources across the State. In order to avoid widespread environmental catastrophe, development needs to prioritize sustainability and increasing climate resilience. The study will culminate with the three regional implementation strategies identified, mapped, which will be considered “pilot projects.” Each pilot project will recommend mitigation measures to better inform efforts and benefit surrounding communities. Total Contract Amount: \$235K Client: Research Corporation of the University of Hawaii		
e.	(1) TITLE AND LOCATION <i>(City and State)</i> South Kohala Flood Study, Waikoloa and Puako, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Deputy Project Manager. The South Kohala District on Hawaii Island faces significant flood risks due to intense rainfall events and urban development, which are overwhelming the area’s stormwater infrastructure and low-lying coastal areas, and ultimately negatively impacting public and private property. BC is collaborating with COH DPW to create a comprehensive strategy to manage runoff and mitigate flooding in the region. This study aims to provide a thorough understanding of these risks and propose practical solutions to safeguard the area from future flood events. Total Contract Amount: \$615K Client: County of Hawaii, Dept. of Public Works		

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Rachel Garrett	13. ROLE IN THIS CONTRACT Strategic Communications/Public Outreach Specialist	14. YEARS EXPERIENCE <table border="1"> <tr> <td data-bbox="956 310 1218 407"> a. TOTAL 20 </td> <td data-bbox="1218 310 1481 407"> b. WITH CURRENT FIRM 2 </td> </tr> </table>		a. TOTAL 20	b. WITH CURRENT FIRM 2
a. TOTAL 20	b. WITH CURRENT FIRM 2				
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Denver, Colorado					
16. EDUCATION (Degree and Specialization) MA, Environmental Policy, Emphasis in Water Resources, 2004 BA, Spanish, Business Administration, 2000		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) N/A			
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Certifications in Social Marketing (International Social Marketing Association); Foundations in Public Participation (International Association for Public Participation); Water Environment Federation; Social Marketing Association of North America; International Association for Public Participation; Pacific Northwest Social Marketing Association					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Water Systems Investment Plan, Lihue, Hawaii	(2) YEAR COMPLETED <table border="1"> <tr> <td data-bbox="956 863 1218 936"> PROFESSIONAL SERVICES Ongoing </td> <td data-bbox="1218 863 1481 936"> CONSTRUCTION (if applicable) N/A </td> </tr> </table>		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A				
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Strategic Engagement Lead. BC developed geographic information system (GIS) and hydraulic model databases, applications, and processes for the County of Kauai, Dept. of Water (KDOW) as part of the Water Systems Investment Plan (WSIP) project. The WSIP is a comprehensive master plan, identifying needed infrastructure and facility improvements in alignment with KDOW's long-range goals and objectives. BC is working with KDOW to develop a capital improvement program to address system improvements needed for water supply infrastructure and enterprise systems and prioritize projects to meet level of service objectives. Included in the project is a financial analysis including utility rates, development charges, and funding opportunities through local, State and Federal programs. A climate change impact assessment for sea level rise and storm surge is being conducted along with a desktop condition and resiliency assessment. Stakeholder engagement is planned throughout the project, including two Ka Pa'akai analyses to collect information on traditional and customary practices within the study area. Total Contract Amount: \$2M Client: County of Kauai, Dept. of Water					
b.	(1) TITLE AND LOCATION (City and State) California Urban Water Agencies Program Management, Walnut Creek, California	(2) YEAR COMPLETED <table border="1"> <tr> <td data-bbox="956 1377 1218 1451"> PROFESSIONAL SERVICES Ongoing </td> <td data-bbox="1218 1377 1481 1451"> CONSTRUCTION (if applicable) N/A </td> </tr> </table>		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A				
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Strategic Engagement Lead. California Urban Water Agencies (CUWA) is a non-profit corporation of 11 major urban water agencies collectively delivering drinking water to over two-thirds of California's population. BC has been providing program management support to CUWA since 2011. With direction from the CUWA Board, which is composed of general managers and other high-level decision makers from the member agencies, BC manages CUWA operations, providing technical, financial, and administrative support for near- and long-term initiatives and organization sustainability. BC also works closely with member agencies through committees and work groups to develop technical and policy work products that provide common understanding and consensus among the urban water community. Total Contract Amount: \$8M Client: California Urban Water Agencies					

c.	(1) TITLE AND LOCATION <i>(City and State)</i> Environmental Investigation of Emerging Contaminants Impacting Oahu's Aquifers and Related Technical Services Project, Honolulu, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Outreach/Public Engagement Lead. BC is supporting the Honolulu BWS with a prioritized review and development of treatment alternatives for high priority groundwater sites impacted by PFAS. BC will be developing a pilot test plan to evaluate GAC and IX media to compare treatment performance and operational characteristics at several impacted sites. Following development and state approval of the test plan, BC will assist with the installation and operation of the pilot testing equipment. Additionally, BC is working with BWS to develop a long-term, island-wide emerging contaminant management plan. Total Contract Amount: \$4M Client: Honolulu Board of Water Supply		
d.	(1) TITLE AND LOCATION <i>(City and State)</i> Digester and Thickener Facilities Upgrade, San Jose, California	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2023	CONSTRUCTION <i>(if applicable)</i> 2023
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Communications Strategic Advisor. BC worked closely with the City to implement the world's largest temperature phase anaerobic process as part of the rehabilitation and modernization of the San Jose-Santa Clara Regional Wastewater Facility's 50-year-old biosolids processing facilities. BC provided design services and commissioning services to rehabilitate four aging anaerobic digesters and six dissolved air flotation thickeners. BC conducted a biosolids market survey, evaluated process options including Class A technologies, and led tours of representative biosolids facilities on the West Coast. BC also led a business case evaluation to consider the cost of required capital improvements for the various alternatives. The upgraded facilities arranged in a temperature phase anaerobic process significantly increased the biosolids digestion capacity and increased gas production, supporting the City's drive toward greater sustainability. Total Contract Amount: \$16.5M Client: City of San Jose		
e.	(1) TITLE AND LOCATION <i>(City and State)</i> Water Resiliency Strategy and Framework, Vancouver, Washington	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2023	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. The City worked with BC to develop a coordinated internal approach that applied outreach and strategic planning best practices. With input from a cross-functional team including finance, communications, utility department leaders, and City leadership, BC developed a Water Resiliency Strategy and Framework that aligned the City's three utilities around shared goals and needs. The Water Resiliency Strategy and Framework has guided Public Works' updated Capital Improvement Program, community engagement planning, and Council communications, and has informed the City's strategic planning processes. The Framework has bolstered Council and broader support for long-term infrastructure investments and led to clear financing strategies and rate stabilization recommendations. Total Contract Amount: \$67K Client: City of Vancouver		

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Adam Klein, PE*		13. ROLE IN THIS CONTRACT System Vulnerability Specialist		14. YEARS EXPERIENCE	
				a. TOTAL 21	b. WITH CURRENT FIRM 21
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Seattle, Washington					
16. EDUCATION (Degree and Specialization) MS, Environmental/Civil Engineering, 2003 BS, Civil Engineering, 2001 MD, Doctor of Medicine, 1998			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) *Washington/Licensed Environmental Engineer #43247		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) N/A					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Annacis Island Wastewater Treatment Plant Stage V Expansion, Vancouver, British Columbia, Canada			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Process Engineer. BC led the preliminary design, design and is providing construction engineering services for the \$350 million expansion of the Annacis Island Wastewater Treatment Plant from 125 to 170 mgd. New facilities include expansion of the world's largest trickling filter/solids contact process and odor control upgrades. Odor control improvements include engineered media biofilters, scrubbers, tank covers, ductwork, and new buildings. The project also includes the expansion for the influent pumping system and headworks, grit removal and primary sedimentation, aeration systems, solids contact tanks, trickling filters, and secondary clarifiers. BC developed the preliminary and detailed design containing significant seismic upgrades and increased the plant's capacity. Total Contract Amount: \$69M Client: Metro Vancouver, Greater Vancouver Regional District					
b.	(1) TITLE AND LOCATION (City and State) Central Valley Nutrient Upgrades, Salt Lake City, Utah			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Process Design. Nutrient removal upgrade of an 80 mgd treatment plant in Salt Lake City, UT. The design converted an existing trickling filter / activated sludge plant to biological nutrient removal, featuring a modified West Side treatment configuration. The design includes over 20 MGal of new and reconfigured aeration basin volume, a primary sludge fermentation system, a struvite recovery system, and an anammox-based treatment system for dewatering filtrate. Total Contract Amount: \$50M Client: Central Valley Water Reclamation District					
c.	(1) TITLE AND LOCATION (City and State) Budd Inlet Treatment Plant Master Plan, Olympia, Washington			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2022	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Process Engineer. Facility planning effort featuring a downtown 30 mgd nitrogen removal facility and a satellite 2 mgd MBR facility. The effort includes alternative discharge in the form of groundwater recharge and tertiary treatment to TIN < 1 mg/L and BOD < 3 mg/L. Alternatives assessment included plans for thermophilic digestion, centrate treatment, advanced biosolids treatment, struvite management, and wet weather treatment. Total Contract Amount: \$500K Client: LOTT Clean Water Alliance					

d.	(1) TITLE AND LOCATION <i>(City and State)</i> Chambers Creek Regional Wastewater Treatment Plant Expansion, University Place, Washington	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2021	CONSTRUCTION <i>(if applicable)</i> 2017
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Process Design Lead. With a service population projected to increase by 130% over the next 30 years and increasingly stringent water quality regulations, the County needed to develop a flexible facilities expansion plan and process design upgrades for its Chambers Creek Regional WWTP. BC's cost-effective recommended design enabled the County to increase capacity by 50%, reduce chemical and energy demands, and incorporate a sidestream treatment process that saved \$7M in operating costs. Located on a site integrating a 180-acre utility site into a 920-acre regional park on the waterfront, construction was coordinated with the 2015 U.S. Open golf championship, hosted at the Chambers Bay Golf Course. This project pioneered a model for sustainably co-locating community infrastructure in a recreational area without compromising the utility's ability to provide a high level of service. The \$353M project represents the successful implementation of proprietary, sole-source technology under a GC/CM contracting procedure. Total Contract Amount: \$65.9M Client: Pierce County, Dept. of Public Utilities		
e.	(1) TITLE AND LOCATION <i>(City and State)</i> Sea Level Rise Scenario Planning, Olympia, Washington	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2016	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Process Engineer. Given the Budd Inlet Treatment Plant's proximity to coastal water bodies and its location on a peninsula, Budd Inlet Treatment Plant is vulnerable to flooding from extreme weather and sea level rise. Acknowledging the potential risk, Lacey, Olympia, Tumwater, and Thurston Counties, through the LOTT Clean Water Alliance, have partnered with Brown and Caldwell to conduct a study that assesses how sea level rise and climate changes may affect the Plant. The study develops five scenarios as a benchmark for assessing the vulnerability of Budd Inlet Treatment Plant through the year 2050. The five scenarios consider projections of sea level rise, extreme tides, tidal waves, and storm surge phenomena, including compounding effects, and their corresponding impacts on the Plant. Total Contract Amount: \$45K Client: LOTT Clean Water Alliance		

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Clifton Bell, PE*, PG*		13. ROLE IN THIS CONTRACT Water Quality Specialist		14. YEARS EXPERIENCE	
				a. TOTAL 33	b. WITH CURRENT FIRM 13
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Richmond, Virginia					
16. EDUCATION (Degree and Specialization) MS, Environmental Engineering, 1995 BS, Geology, 1990			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) *Virginia/Licensed Environmental Engineer #0402031741 *Virginia/Professional Geologist #2801001409		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) National Association of Clean Water Agencies, Water Quality Committee; Data Science Certification, Johns Hopkins University					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Zone of Mixing Dilution and Assimilative Capacity Study for the Hilo, Papaikou, and Kulaimano Wastewater Treatment Plants, Hilo, Papaikou, and Kulaimano, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2020	CONSTRUCTION (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Technical Advisor. BC conducted a mixing zone dilution analysis study for the 3 County of Hawaii wastewater treatment plants with ocean outfalls. The study included field data collection and modeling for all 3 WWTPs to determine a dilution factor at the edge of the zone of mixing, as required by their National Pollutant Discharge Elimination System permits. Comprehensive data collected during the outfall dilution field study was used to document environmental conditions, evaluate dilution, support numerical modeling, and provide guidance and assistance with NPDES permit renewal. Total Contract Amount: \$787K Client: County of Hawaii, Dept. of Environmental Management				
b.	(1) TITLE AND LOCATION (City and State) Chesapeake Bay TMDL Integration, Various, Virginia and Maryland			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Advisor and Committee Chair. Chief technical consultant to statewide utility associations for the development of new water quality goals and load allocations for the Chesapeake Bay. Worked with Environmental Protection Agency Bay Program teams to derive new use designations and nutrient-related water quality criteria for the Bay and tidal tributaries. Assisted formulation of implementation scenarios and proper application of Chesapeake Bay Water Quality Model to make loading allocations. Serving on various technical work groups to address site-specific water quality issues, improve ability to assess compliance, and incorporate the effects of climate change. Total Contract Amount: \$750K Client: Virginia and Maryland Associations of Municipal Wastewater Agencies				
c.	(1) TITLE AND LOCATION (City and State) Ocean Current Monitoring, Nutrient Assimilative Capacity Evaluations and Outfall Dilution Analysis Study, Honolulu, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Technical Lead. BC is providing technical assistance to the City and County of Honolulu related to National Pollutant Discharge Elimination System permit renewals and issues. The focus of these studies is outfall dilution and assimilative capacity at 4 wastewater treatment plants. This project included dilution modeling and assimilative capacity determination for the 4 NPDES permitted facilities. An additional activity included the design, fabrication, and deployment of ocean monitoring equipment to perform a year-long continuous data collection effort at the Kailua Wastewater Treatment Plant Mokapu Ocean Outfall. Total Contract Amount: \$7.1M Client: City and County of Honolulu, Dept. of Environmental Services				

d.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Lahaina Wastewater Reclamation Facility NPDES Permit, Maui, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Lead Scientist. In response to the United States District Court in Honolulu ruling regarding effluent discharged to groundwater via injection wells at the Lahaina Wastewater Reclamation Facility, BC is reviewing and preparing comments on draft NPDES permits issued by the State of Hawaii, Dept. of Health. BC will develop a capital and operational costs, and schedule for the County to implement NPDES permit provisions.			
Total Contract Amount: \$90K Client: County of Maui, Dept. of Environmental Management, Wastewater Reclamation Division			
e.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Lower Kissimmee Basin Stormwater Treatment Area, Kissimmee, Florida	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		2023	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Water Quality Modeler. Developed modeling work plan for simulation of phosphorus removal in a large, constructed wetland. Executed DMSTA modeling of various wetland alternatives and configurations. Interpreted results to assist selection of the preferred design and operational alternative. Conducted workshops to communicate results to South Florida Water Management District.			
Total Contract Amount: \$6.9M Client: Ecosystem Investment Partners			

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Chris Cleveland, PE*		13. ROLE IN THIS CONTRACT Integrated Planning Specialist		14. YEARS EXPERIENCE	
				a. TOTAL 38	b. WITH CURRENT FIRM 34
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Olympia, Washington					
16. EDUCATION (Degree and Specialization) MA, Business/Organizational Management, 1991 BS, Civil Engineering, 1984			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) *Washington/Licensed Civil Engineer #28489		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) N/A					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Capital Projects Division Program Management, Honolulu, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) Ongoing
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. BC is providing program management services to assist the Board of Water Supply Capital Projects Division to optimize business performance. This includes increasing the division's annual Capital Improvement Program execution capacity from roughly \$40 million to \$200 million per year and helping Board of Water Supply leadership implement best practices, optimize business performance, expedite Capital Improvement Program execution, and implement future Capital Improvement Program projects identified from the Board of Water Supply's Water Master Plan. Total Contract Amount: \$10.7M Client: Honolulu Board of Water Supply				
b.	(1) TITLE AND LOCATION (City and State) Operational Program Management, Honolulu, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) Ongoing
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Technical Advisor. BC is providing program management support to the Honolulu Board of Water Supply Water System Operations Division. Work includes developing a rehabilitation and replacement plan for immediate and long-term repair and maintenance for the Honolulu Board of Water Supply pump stations. This involves performing condition assessments of more than 170 pump stations and associated facilities across Oahu. Additionally, BC is conducting capital improvement program project development and prioritization for each pump station and facility, assessing the organization's structure, supporting the refinement of work processes to improve efficiency and effectiveness, and providing engineering support for repair and replacement projects. Total Contract Amount: \$3M Client: Honolulu Board of Water Supply				

c.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Inverness System Program, Portland, Oregon	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Program Director/Advisor. BC is assisting Portland BES with preparing an emergency response plan (ERP), short-term infrastructure stabilization and long-term replacement strategy for the Inverness Subbasin. Supporting ~20% of its service area, Inverness pump station is located in Portland’s most seismic and climate vulnerable areas including ~80% of its economically stressed community. This program will result in ~\$300-400M infrastructure investment by 2030 to increase levels of service and overall system resiliency for an underserved community. The ERP includes a community engagement strategy, parts inventory, and revised labor practices to minimize outages. The stabilization phase includes alternative delivery of ~\$30M in interim improvements to enable development of the best long-term solution including enhance opportunities for resource recovery and sensitive habitat restoration. Total Contract Amount: \$1.6M Client: Portland Bureau of Environmental Services			
d.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Wastewater Facilities Plan, Boise, Idaho	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		2021	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Manager. BC prepared a comprehensive Wastewater Treatment Facilities Plan for the city’s Water Renewal Services aligning sewer utility actions with Boise’s Strategic Plan (LIV initiative) and guide the city’s \$700M-\$1B of investments over next 10-years. It also set the utility’s direction for the 30-year planning horizon. Investments address new phosphorus reduction regulations and aging infrastructure as well as increasing city’s long term resource resiliency (water, energy, food). The planning effort established levels of service demonstrating how utility actions comprehensively support citywide goals to create lasting environments, cultivate innovative enterprises, and build a vibrant community. Now referred to as the ‘community plan’, we leveraged strategic stakeholder engagement to shape the program. The public confidence was validated with an 80% voter approval for the rate and financing plan. Total Contract Amount: \$1.9M Client: City of Boise			
e.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Chambers Creek Regional Wastewater Treatment Plant Expansion, University Place, Washington	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		2021	2017
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Program Manager. With a service population projected to increase by 130% over the next 30 years and increasingly stringent water quality regulations, the County needed to develop a flexible facilities expansion plan and process design upgrades for its Chambers Creek Regional WWTP. BC’s cost-effective recommended design enabled the County to increase capacity by 50%, reduce chemical and energy demands, and incorporate a sidestream treatment process that saved \$7M in operating costs. Located on a site integrating a 180-acre utility site into a 920-acre regional park on the waterfront, construction was coordinated with the 2015 U.S. Open golf championship, hosted at the Chambers Bay Golf Course. This project pioneered a model for sustainably co-locating community infrastructure in a recreational area without compromising the utility’s ability to provide a high level of service. The \$353M project represents the successful implementation of proprietary, sole-source technology under a GC/CM contracting procedure. Total Contract Amount: \$65.9M Client: Pierce County, Dept. of Public Utilities			

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Mike Simms		13. ROLE IN THIS CONTRACT GIS Specialist		14. YEARS EXPERIENCE	
				a. TOTAL 30	b. WITH CURRENT FIRM 30
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Phoenix, Arizona					
16. EDUCATION (Degree and Specialization) BS, Computational Mathematics, 1994			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) N/A		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) ArcGIS Desktop Associate 10.1 (EADA101) #ESRIO0108211					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Maui Drainline Condition Assessment Program, Maui, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Data Manager. The County of Maui is partnering with BC to execute a storm drain condition assessment program in Central, West, South Maui, and Lahaina. The work includes screening-level storm drain inspections, evaluations, and structural and operational condition assessments in separate regions of Maui. An inventory of Maui's storm drainage system gathered during the screening-level inspections will be used to develop and validate digitized GIS stormwater attribute data. These projects, each with their own contract, provide the County of Maui with proactive asset management of the island's storm drainage system, which results in a 10-year plus stormwater pipe repair and replacement program. Results from the inspections and condition assessments are used to prioritize stormwater pipelines and structures that need immediate cleaning, additional detailed inspections, and/or structural repair, or assets that can be placed on schedules for future cleaning/detailed inspection. Total Contract Amount: 2023 Lahaina: \$783K 2022 South Maui: \$700K 2020 West Maui: \$500K 2020 Central Maui: \$741K Combined Contract Amount: \$2.7M Client: County of Maui, Dept. of Public Works, Engineering Division					
b.	(1) TITLE AND LOCATION (City and State) Stormwater Management Program Support, Maui, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2023	CONSTRUCTION (if applicable) Ongoing
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Data Manager. BC is a sub to ETC on a 5-year contract to support the stormwater program for the State Dept. of Transportation Highway, Maui District, MS4 permit. Task orders include emergency condition assessment of the state stormdrain system in the Lahaina Fire area, and condition assessment of stormdrain assets within the MS4 areas. Results of this assessment will identify the post-wildfire conditions of the stormdrain assets in Lahaina, prioritize necessary repairs, rehabilitation, or replacement, and assist in securing Federal Emergency reimbursement. Total Contract Amount: \$255K Client: State of Hawaii, Dept. of Transportation					

c.	(1) TITLE AND LOCATION <i>(City and State)</i> Koolaupoko Climate Resilience and Adaptation Project, Kaneohe, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Data Manager. BC is providing engineering services to support the University of Hawaii to conduct a Military Installation Resilience Review focused on the Koolaupoko district, located on Oahu's southeastern shore. The project overall objective is to identify climate related threats and hazards to the community surrounding Kaneohe military base and to present recommendations that enhance resilience and adaption capacity of vulnerable resources within the project study area. Hawaii's unique geographic location makes the islands particularly susceptible to a myriad of climate change impacts. Sea level rise and attendant local erosion and flooding, extreme heat, altered precipitation patterns, and growing wildfire are evident and will become more prevalent in the future, placing an undue burden on coastal communities and resources across the State. In order to avoid widespread environmental catastrophe, development needs to prioritize sustainability and increasing climate resilience. The study will culminate with the three regional implementation strategies identified, mapped, which will be considered "pilot projects." Each pilot project will recommend mitigation measures to better inform efforts and benefit surrounding communities. Total Contract Amount: \$235K Client: Research Corporation of the University of Hawaii		
d.	(1) TITLE AND LOCATION <i>(City and State)</i> Storm Drain Condition Assessment, Las Vegas, Nevada	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Data Manager. BC is currently in year eight of a 15-year program. The project includes inspecting, evaluating, prioritizing, and recommending segments for rehabilitation of approximately 52,000 linear feet of 8-inch to 96-inch diameter of the City's storm drain conveyance facilities and over 300 manholes, inlets, junction boxes, and other structures each year. Mike is responsible for overall data management and quality control. He oversees the development, updates, and quality control of the GIS, which includes populating physical and CCTV inspection attributes, calculating invert elevations, and producing a final GIS dataset. Total Contract Amount: \$2.8M Client: City of Las Vegas		
e.	(1) TITLE AND LOCATION <i>(City and State)</i> Small-Diameter Pipeline Assessment, Las Vegas, Nevada	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Data Manager. BC is currently in year 14 of a 15-year small-diameter pipeline condition assessment Program. To date, the Program has included inspecting more than 6 million linear feet of sewer pipeline and 25,000 manholes. Mike is responsible for data management and quality assurance/quality control. He developed mobile forms to collect manhole information and photos during pre-inspection walk-through. He manages geometric network edits, including updating inspection attributes and manhole locations from Global Positioning System surveys. Mike maintains the ArcGIS Portal web mapping application that is used by the project team to verify field observations. He uses InfoAsset Manger to produce a GIS layer of service lateral locations and pipe defects, calculate invert elevations, and validate field data. He performed quality control and produced a GIS data deliverable. Total Contract Amount: \$25M Client: City of Las Vegas		

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Drew Skipper		13. ROLE IN THIS CONTRACT Field Technician		14. YEARS EXPERIENCE	
				a. TOTAL 7	b. WITH CURRENT FIRM 7
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Honolulu, Hawaii					
16. EDUCATION (Degree and Specialization) BS, Economics, 2014			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) N/A		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) National Association of Sewer Service Companies Pipeline Assessment Certification Program/Lateral Assessment and Certification Program/Manhole Assessment and Certification Program #U-0717-07008659					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Maui Drainline Condition Assessment Program, Maui, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Field Lead. The County of Maui is partnering with BC to execute a storm drain condition assessment program in Central, West, South Maui, and Lahaina. The work includes screening-level storm drain inspections, evaluations, and structural and operational condition assessments in separate regions of Maui. An inventory of Maui's storm drainage system gathered during the screening-level inspections will be used to develop and validate digitized GIS stormwater attribute data. These projects, each with their own contract, provide the County of Maui with proactive asset management of the island's storm drainage system, which results in a 10-year plus stormwater pipe repair and replacement program. Results from the inspections and condition assessments are used to prioritize stormwater pipelines and structures that need immediate cleaning, additional detailed inspections, and/or structural repair, or assets that can be placed on schedules for future cleaning/detailed inspection. Total Contract Amount: 2023 Lahaina: \$783K 2022 South Maui: \$700K 2020 West Maui: \$500K 2020 Central Maui: \$741K Combined Contract Amount: \$2.7M Client: County of Maui, Dept. of Public Works, Engineering Division					
b.	(1) TITLE AND LOCATION (City and State) Kauai Department of Water (KDOW) Lead and Copper Rule Revision (LCRR) Compliance, Islandwide, County of Kauai, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Field Lead. The County of Kauai Department of Water (KDOW) is required to comply with the new Lead and Copper Rule Revisions (LCRR), which were published on January 15, 2021, and enacted on December 16, 2021, by the United States Environmental Protection Agency (EPA). The LCRR adds several major requirements to those included in the current LCR (Lead and Copper Rule). Brown and Caldwell (BC) is providing assistance to KDOW in developing the service line inventory per the EPA's LCRR. Major tasks include: developing a regulatory roadmap technical memorandum, gap analysis and work process evaluation TM, utility and customer owned service line material inventory assistance, field verifications, and LCRR funding assistance. All utilities are required to complete the inventory and make it publicly available by October 16, 2024. Total Contract Amount: \$875K Client: County of Kauai, Dept. of Water					

c.	(1) TITLE AND LOCATION <i>(City and State)</i> Lead and Copper Rule Revisions and Improvements Compliance, Hawaii County, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Field Lead. BC is helping DWS comply with the U.S. Environmental Protection Agency's Lead and Copper Rule Improvements. Over this multi-year contract, BC and subconsultant EnviroServices & Training Center will: prepare lead service line inventories; develop a Lead Service Line Replacement Plan; create a sample site list of residential and commercial properties, and school and child care facilities; conduct tap water sampling; and perform any tasks needed for compliance. Total Contract Amount: \$3.5M Client: County of Hawaii, Dept. of Water Supply		
d.	(1) TITLE AND LOCATION <i>(City and State)</i> Lihue WWTP Upgrades, Lihue, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Field Lead. BC is working alongside the County of Kauai, Dept. of Public Works Wastewater Division, to provide engineering services for the Lihue Wastewater Treatment Plant (WWTP). The purpose of this project is to reestablish the original WWTP design capacity of 2.5 mgd, provide process and equipment improvements and upgrades, and improve plant efficiency through energy efficient equipment. The first phase of this project will focus on high priority improvements that will not require significant environmental permitting. Additional phases of the project are anticipated to address additional process area and equipment upgrades that may require work outside of existing facility footprints. BC is providing planning, design, and services during bidding for plant upgrades. Total Contract Amount: \$1.1M Client: County of Kauai, Dept. of Public Works		
e.	(1) TITLE AND LOCATION <i>(City and State)</i> Program Management/Construction Management for Guam Water and Wastewater Infrastructure Improvements and Northern District Wastewater Treatment Plant Design, Dededo, Guam	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2023	CONSTRUCTION <i>(if applicable)</i> 2023
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm GIS Review, Data Processing. BC provided project management and construction management services for more than \$188 million worth of water and wastewater infrastructure improvement projects. The scope included expanding the existing Northern District's wastewater treatment plant (NDWWTP), implementing secondary treatment (Bio-Treatment), and adding an Auto Thermal Aerobic Digestion system to handle fats, oils, and grease. It also included rehabilitating more than 9 miles of an existing sewer line by Cured-In-Place Pipe methods; extending an existing deep ocean outfall diffuser pipe that is located more than 2,000 linear feet offshore by 400 linear feet in an effort to improve NDWWTP effluent dilution as it discharges into the ocean; and installing 7 new observation wells and rehabilitating 12 existing observation wells to support monitoring the northern Guam aquifer lens. Total Contract Amount: \$16M Client: Guam Waterworks Authority		

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Stan Kowalczyk, PE		13. ROLE IN THIS CONTRACT Hydraulic Modeling		14. YEARS EXPERIENCE	
				a. TOTAL 9	b. WITH CURRENT FIRM 9
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Honolulu, Hawaii					
16. EDUCATION (Degree and Specialization) BS, Civil Engineering, 2016			17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Hawaii/Licensed Civil Engineer #19251; Exp 4/30/26		
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Hawaii Water Environment Association Collection System Committee Chair					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Lead and Copper Rule Revisions and Improvements Compliance, Hawaii County, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Civil/GIS). BC is helping DWS comply with the U.S. Environmental Protection Agency's Lead and Copper Rule Improvements. Over this multi-year contract, BC and subconsultant EnviroServices & Training Center will: prepare lead service line inventories; develop a Lead Service Line Replacement Plan; create a sample site list of residential and commercial properties, and school and child care facilities; conduct tap water sampling; and perform any tasks needed for compliance. Total Contract Amount: \$3.5M Client: County of Hawaii, Dept. of Water Supply				
b.	(1) TITLE AND LOCATION (City and State) Countywide Pump Station Inundation Study, Wailuku, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2021	CONSTRUCTION (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Civil). BC provided a comprehensive inundation study of the County of Maui's wastewater infrastructure exposed to and impacted by sea level rise and storm surge. The countywide wastewater infrastructure includes 5 wastewater reclamation facilities, 42 wastewater pump stations, and approximately 256 miles of pipelines on the islands of Maui, Molokai, and Lanai. The project assisted the County in defining level of service goals to evaluate and prepare for projected sea level rise, coastal erosion, and storm surge impacts; developed a prioritized list of critical County wastewater facilities and pipeline systems; and identified adaptation strategies and recommended improvements for wastewater system assets. Total Contract Amount: \$694K Client: County of Maui, Dept. of Environmental Management, Wastewater Reclamation Division				
c.	(1) TITLE AND LOCATION (City and State) Risk and Resiliency Assessment and Emergency Response Update, Hilo, Hawaii			(2) YEAR COMPLETED	
				PROFESSIONAL SERVICES 2022	CONSTRUCTION (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Staff Engineer (Civil). BC performed a risk and resiliency assessment that included an evaluation of County of Hawaii, Department of Water Supply (HDWS) seven largest systems that met the threshold for America's Water Infrastructure Act 2018 compliance requirements. BC developed a custom vulnerability assessment tool that evaluated HDWS's critical assets against the selected natural hazards and malevolent acts. The tool produced a prioritized risk score for each asset based on the identified threat and the results will be used to support HDWS's future improvement planning. BC also updated HDWS's Emergency Response Plan which included updates to the Action Plans to prepare for, respond to, and recover from an emergency event. Total Contract Amount: \$535K Client: County of Hawaii, Dept. of Water Supply				

d.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Corrosion Damage Assessment, Hilo and Kona, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		2019	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Engineer (Civil). BC provided engineering services to the Department of Environmental Management (DEM) assess corrosion related damage at the Hilo Wastewater Treatment Plant, Pua Sewage Pump Station, Kealakehe Wastewater Treatment Plant, Kealakehe Sewage Pump Station,Holualoa Sewage Pump Station, and Hale Halawai Sewage Pump Station. An inspection plan was prepared to document inspection techniques and coordinate field work activities. The condition assessment field work included a visual and physical condition assessment of various wetwells, basins, channels, and other hydraulic structures via confined space entries. The final condition assessment report included documentation of findings, repair recommendations, and budgetary cost estimates. It is anticipated that repair recommendations will be rolled into future construction contracts. Total Contract Amount: \$213K Client: County of Hawaii, Dept. of Environmental Management			
e.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Kauai Department of Water (KDOW) Lead and Copper Rule Revision (LCRR) Compliance, Islandwide, County of Kauai, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Engineer (Civil/GIS). The County of Kauai Department of Water (KDOW) is required to comply with the new Lead and Copper Rule Revisions (LCRR), which were published on January 15, 2021, and enacted on December 16, 2021, by the United States Environmental Protection Agency (EPA). The LCRR adds several major requirements to those included in the current LCR (Lead and Copper Rule). Brown and Caldwell (BC) is providing assistance to KDOW in developing the service line inventory per the EPA's LCRR. Major tasks include: developing a regulatory roadmap technical memorandum, gap analysis and work process evaluation TM, utility and customer owned service line material inventory assistance, field verifications, and LCRR funding assistance. All utilities are required to complete the inventory and make it publicly available by October 16, 2024. Total Contract Amount: \$875K Client: County of Kauai, Dept. of Water			

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Audrey Cabrera, PE	13. ROLE IN THIS CONTRACT Civil Engineer	14. YEARS EXPERIENCE <table border="1"> <tr> <td data-bbox="956 310 1218 380"> a. TOTAL 15 </td> <td data-bbox="1218 310 1481 380"> b. WITH CURRENT FIRM 15 </td> </tr> </table>		a. TOTAL 15	b. WITH CURRENT FIRM 15
a. TOTAL 15	b. WITH CURRENT FIRM 15				
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Wailuku, Hawaii					
16. EDUCATION (Degree and Specialization) BS, Environmental Engineering, 2009 BA, Individualized Program in Chemistry, Mathematics, and Physics, 2009		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Hawaii/Licensed Civil Engineer #16335; Exp 4/30/26			
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) American Water Works Association, Hawaii Society of Professional Engineers Maui Chapter					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) Countywide Injection Well Alternatives Study, Wailuku, Hawaii	(2) YEAR COMPLETED <table border="1"> <tr> <td data-bbox="956 770 1218 846"> PROFESSIONAL SERVICES 2020 </td> <td data-bbox="1218 770 1481 846"> CONSTRUCTION (if applicable) N/A </td> </tr> </table>		PROFESSIONAL SERVICES 2020	CONSTRUCTION (if applicable) N/A
PROFESSIONAL SERVICES 2020	CONSTRUCTION (if applicable) N/A				
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Civil). BC prepared a study evaluating alternatives to using injection wells for treated wastewater effluent management at the Wailuku-Kahului, Kihei, Lahaina, and Kaunakakai Wastewater Reclamation Facilities (WWRFs) for the County of Maui. The Department of Environmental Management, Wastewater Reclamation Division (County) was interested in developing a study that addressed viable effluent disposal options including advanced treatment for continued injection well disposal, surface water discharge, marine discharge, water recycling, direct potable reuse (DPR), land treatment, and evaporation. Options that passed the initial screening were evaluated for conceptual feasibility at each WWRF. Planning level capital, operations and maintenance, and life-cycle costs were presented for each feasible option and presented in matrix format. Advantages and disadvantages of each option were presented. Total Contract Amount: \$99K Client: County of Maui, Dept. of Environmental Management, Wastewater Reclamation Division					
b.	(1) TITLE AND LOCATION (City and State) Lead and Copper Rule Revisions and Improvements Compliance, Hawaii County, Hawaii	(2) YEAR COMPLETED <table border="1"> <tr> <td data-bbox="956 1281 1218 1356"> PROFESSIONAL SERVICES Ongoing </td> <td data-bbox="1218 1281 1481 1356"> CONSTRUCTION (if applicable) N/A </td> </tr> </table>		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A				
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Manager. BC is providing professional services for DWS to be in full compliance with the United States Environmental Protection Agency (EPA) and Lead and Copper Rule Improvements (LCRI). The scope of work for BC and our subconsultant ETC over this multi-year contract includes: preparation of a lead service line (LSL) inventories; development of a LSL replacement plan; preparation of a sample site list of residential properties, commercial properties, school facilities, and child care facilities; conducting tap water sampling; and any other work required for full compliance with the LCRI. Total Contract Amount: \$3.5M Client: County of Hawaii, Dept. of Water Supply					

c.	(1) TITLE AND LOCATION <i>(City and State)</i> Engineering Services to Design a Wastewater Treatment Collection and Disposal System for the Pahala Wastewater Treatment Plant and Post-Design, Pahala, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES 2024	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Civil). BC provided engineering services for the closure of large capacity cesspools and construction of new wastewater infrastructure in Pahala, to meet updated effluent discharge requirements dictated by the USEPA. BC completed the planning phase, which included a preliminary engineering report, environmental assessment, regulatory and permit identification, site alternatives evaluation and land acquisition, community outreach, and conceptual alternatives for the design, construction, and commissioning of the system. While the infrastructure was originally designed around a natural treatment system to minimize environmental impacts, simplify maintenance requirements, and achieve reliability, alternative treatment technologies were evaluated to address additional constraints related to affordability and unique geology of the area. Total Contract Amount: \$4.3M Client: County of Hawaii, Dept. of Environmental Management		
d.	(1) TITLE AND LOCATION <i>(City and State)</i> Wahiawa Reclaimed Water Irrigation System, Wahiawa, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> Forthcoming
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Civil). BC is designing a transmission pipeline to convey reclaimed water from the Wahiawa Wastewater Treatment Plant to Agribusiness Development Corporation’s parcels located on the former Galbraith Agricultural Lands. Tasks include conducting a pipe routing study, facilitating meetings, developing a preliminary engineering report, conducting an environmental assessment, acquiring permits, and designing the dual pipelines and associated mechanical components along the route. As a follow on to this project, BC has partnered with the State of Hawaii, Dept. of Agriculture to design the expansion of the Galbraith irrigation water supply system. BC is coordinating with both departments to make sure these concurrent projects align with one another for a cohesive system. Total Contract Amount: \$3M Client: State of Hawaii, Agribusiness Development Corporation		
e.	(1) TITLE AND LOCATION <i>(City and State)</i> Kauai Department of Water (KDOW) Lead and Copper Rule Revision (LCRR) Compliance, Islandwide, County of Kauai, Hawaii	(2) YEAR COMPLETED	
		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION <i>(if applicable)</i> N/A
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Civil). The County of Kauai Department of Water (KDOW) is required to comply with the new Lead and Copper Rule Revisions (LCRR), which were published on January 15, 2021, and enacted on December 16, 2021, by the United States Environmental Protection Agency (EPA). The LCRR adds several major requirements to those included in the current LCR (Lead and Copper Rule). Brown and Caldwell (BC) is providing assistance to KDOW in developing the service line inventory per the EPA's LCRR. Major tasks include: developing a regulatory roadmap technical memorandum, gap analysis and work process evaluation TM, utility and customer owned service line material inventory assistance, field verifications, and LCRR funding assistance. All utilities are required to complete the inventory and make it publicly available by October 16, 2024. Total Contract Amount: \$875K Client: County of Kauai, Dept. of Water		

County of Hawaii, Dept. of Research and Development

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Tyler Oshiro, PE	13. ROLE IN THIS CONTRACT Civil Engineer	14. YEARS EXPERIENCE <table border="1"> <tr> <td data-bbox="956 310 1218 380"> a. TOTAL 4 </td> <td data-bbox="1218 310 1479 380"> b. WITH CURRENT FIRM 4 </td> </tr> </table>		a. TOTAL 4	b. WITH CURRENT FIRM 4
a. TOTAL 4	b. WITH CURRENT FIRM 4				
15. FIRM NAME AND LOCATION (City and State) Brown and Caldwell, Honolulu, Hawaii					
16. EDUCATION (Degree and Specialization) MS, Environmental Engineering, 2020 BS, Environmental Engineering, 2019		17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline) Hawaii/Licensed Civil Engineer #20668; Exp 4/30/26			
18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) N/A					
19. RELEVANT PROJECTS					
a.	(1) TITLE AND LOCATION (City and State) One Water Climate Adaptation Framework and Projects Plan, Honolulu, Hawaii	(2) YEAR COMPLETED <table border="1"> <tr> <td data-bbox="956 737 1218 814"> PROFESSIONAL SERVICES Ongoing </td> <td data-bbox="1218 737 1479 814"> CONSTRUCTION (if applicable) N/A </td> </tr> </table>		PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A
PROFESSIONAL SERVICES Ongoing	CONSTRUCTION (if applicable) N/A				
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Planning). The City's initiative, "One Water Climate Adaptation Framework and Projects Plan" (known as One Water Honolulu), focuses on the prioritization of One Water climate resilience initiatives to address critical infrastructure through the development of a Climate Adaptation Framework and a Collaboration Framework. It will integrate and facilitate the management of freshwater, wastewater, and stormwater as one asset, creating resource and financial efficiencies within the City. These efforts will lead to the identification of near-, mid-, and long-term projects that will require collaboration between agencies and proactive adaptation to climate change impacts in Oahu. Total Contract Amount: \$4M Client: City and County of Honolulu, Dept. of Environmental Services					
b.	(1) TITLE AND LOCATION (City and State) Risk and Resiliency Assessment and Emergency Response Update, Hilo, Hawaii	(2) YEAR COMPLETED <table border="1"> <tr> <td data-bbox="956 1157 1218 1234"> PROFESSIONAL SERVICES 2022 </td> <td data-bbox="1218 1157 1479 1234"> CONSTRUCTION (if applicable) N/A </td> </tr> </table>		PROFESSIONAL SERVICES 2022	CONSTRUCTION (if applicable) N/A
PROFESSIONAL SERVICES 2022	CONSTRUCTION (if applicable) N/A				
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE ☒ Check if project performed with current firm Project Engineer (Planning). BC performed a risk and resiliency assessment that included an evaluation of County of Hawaii, Department of Water Supply (HDWS) seven largest systems that met the threshold for America's Water Infrastructure Act 2018 compliance requirements. BC developed a custom vulnerability assessment tool that evaluated HDWS's critical assets against the selected natural hazards and malevolent acts. The tool produced a prioritized risk score for each asset based on the identified threat and the results will be used to support HDWS's future improvement planning. BC also updated HDWS's Emergency Response Plan which included updates to the Action Plans to prepare for, respond to, and recover from an emergency event. Total Contract Amount: \$535K Client: County of Hawaii, Dept. of Water Supply					

c.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Vulnerability and Resiliency Assessment, Lihue, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		2021	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Engineer (Planning). BC conducted a vulnerability and resilience study of County of Kauai, Dept. of Water's (KDOW) drinking water systems. The vulnerability and resilience assessment included an island-wide evaluation of KDOW's current readiness for natural hazard events and malevolent acts in accordance with AWIA 2018 requirements. BC's assessments focused on preparedness for a disaster event, particularly hurricane-related system outages and potential impacts to KDOW's drinking water systems. BC identified recommendations that supported the KDOW's goal of providing safe, affordable, and adequate drinking water for all consumers. BC then developed improvement projects for KDOW to implement to help mitigate and harden its critical assets and infrastructure against a given threat. BC also updated KDOW's Emergency Response Plan, which incorporated operational strategies and procedures to better prepare, plan and respond to a threat event. Total Contract Amount: \$705K Client: County of Kauai, Dept. of Water			
d.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Water Systems Investment Plan, Lihue, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Engineer (Planning). BC is developing a geographic information system (GIS) and hydraulic model for the County of Kauai, Dept. of Water (KDOW) as part of the Water Systems Investment Plan (WSIP) project. The WSIP is a comprehensive master plan, identifying infrastructure and facility improvements in alignment with KDOW's long-range goals and objectives. BC is working with KDOW to develop a capital improvement program to address system improvements needed for water supply infrastructure and enterprise systems and prioritize projects to meet level of service objectives. Included in the project is a financial analysis including utility rates, development charges, and funding opportunities through local, State and Federal programs. A climate change impact assessment for sea level rise and storm surge is being conducted along with a desktop condition and resiliency assessment. Stakeholder engagement is planned throughout the project, including two Ka Pa'akai analyses to collect information on traditional and customary practices within the study area. Total Contract Amount: \$2M Client: County of Kauai, Dept. of Water			
e.	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
	Wastewater Capacity Management and Monitoring, Honolulu, Hawaii	PROFESSIONAL SERVICES	CONSTRUCTION <i>(if applicable)</i>
		Ongoing	N/A
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE ☒ Check if project performed with current firm			
Project Engineer (Hydraulic Modeling). This is a multi-year, island-wide program which includes three main components: the first is long-term wastewater flow and rain data collection, the second assists the City with ongoing updates and calibration to the hydraulic model (InfoWorks ICM) of their wastewater collection system, and the third provides on-call modeling support using the City's updated hydraulic model. The overall program objectives are to confirm and more accurately quantify long-term wastewater flow trends in the wastewater collection system and to further refine and improve the tools that will enable the City to resolve current capacity limitations and to support future growth. Total Contract Amount: Contract No. 1 - \$8.2M Contract No. 2 - \$12.4M Contract No. 3 - \$1.8M Client: City and County of Honolulu, Dept. of Environmental Services			

Example Projects Which Best Illustrate Proposed Team's Qualifications for this Contract

SECTION F



County of Hawaii, Dept. of Research and Development

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. Example Project
Key Number

1

21. TITLE AND LOCATION (City and State)

One Water Climate Adaptation Framework and Projects Plan

Honolulu, Hawaii

22. YEAR COMPLETED

PROFESSIONAL SERVICES

Ongoing

CONSTRUCTION (if applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

City and County of Honolulu, Dept. of
Environmental Services

b. POINT OF CONTACT NAME

Barry Usagawa, PE, Honolulu Board
of Water Supply

c. POINT OF CONTACT TELEPHONE NUMBER

808.748.5900

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

The One Water Climate Adaptation Framework and Projects Plan, known as One Water Honolulu (OWH), is driven by Oahu's need to adapt to climate change. Climate change is impacting Oahu, resulting in simultaneous conditions of both too much water and too little water. This project builds upon the efforts of the City and County of Honolulu (CCH) Office of Climate Change, Sustainability and Resiliency and the strategies and actions set forth within their Climate Ready Oahu plan.



Various climate change impacts including groundwater inundation, declining rainfall, increasing temperature, marine inundation, coastal erosion, and reduced recharge will affect our island communities.

RELEVANCE TO CONTRACT

- One Water planning
- Infrastructure resilience
- Climate change adaptation
- Watershed resilience
- Asset management

TOTAL CONTRACT AMOUNT
\$4M

City Ordinance 20-47 established a One Water Panel in 2020 consisting of eight CCH departments who are charged with implementing an integrated resource planning approach to managing finite freshwater, wastewater, and stormwater resources for long term resilience and reliability to meet community and ecosystem needs.

OWH focuses on the prioritization of One Water climate resilience initiatives to address critical infrastructure through the development of a Climate Adaptation Framework and a Collaboration Framework. The Climate Adaptation Framework will facilitate climate change and sea level rise adaptation related to the planning, design, construction, maintenance, and operation of key infrastructure under the direction of the One Water Panel agencies. The Collaboration Framework will include guidance on internal and external stakeholder consultation, identify institutional barriers that hinder implementation of an integrated One Water approach, and provide recommendations on how City departments and stakeholders can more effectively collaborate to implement One Water projects and policies.

The One Water Honolulu plan will integrate and facilitate the management of freshwater, wastewater, and stormwater as one asset, creating resource and financial efficiencies within the City. These efforts will lead to the identification of near-, mid-, and long-term projects that will require collaboration between agencies and proactive adaptation to climate change impacts for Oahu.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Brown and Caldwell	Honolulu, Hawaii Wailuku, Hawaii Kamuela, Hawaii	Prime

County of Hawaii, Dept. of Research and Development

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. Example Project
Key Number

2

21. TITLE AND LOCATION (City and State)

WRF Project 4585: Water Utility Planning Strategies to Mitigate Impacts of Climate Change in Central Ohio

Columbus, Ohio

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2015

CONSTRUCTION (if applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Mid-Ohio Regional Planning Commission and
Water Research Foundation

b. POINT OF CONTACT NAME

William Murdock

c. POINT OF CONTACT TELEPHONE NUMBER

614.228.2663

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

BC led the adaptive management study "Sustaining Scioto" for a climate change adaptation project with the Mid-Ohio Regional Planning Commission; the U.S. Geological Survey; the City of Columbus, Del-Co Water Company, Inc.; the Ohio Water company, Inc.; The Ohio Water Development Authority; and the Water Research Foundation.

Sustaining Scioto was a scientific study designed to evaluate the impact of climate change on water quality for the drinking water supply and to develop recommendations to address these issues. The goal was to make sure water resources were available for current residents and businesses and to sustain future growth needs during changing climatic conditions, including extreme drought or flood. Funded through a Water Research Foundation grant, Sustaining Scioto was one of the first U.S. studies to consider both water quality and quantity impacts in conjunction with land use change and buildout.

Conducted in two phases, the study began with the U.S. Geological Survey developing a computer model specifically for the Upper Scioto watershed to project the impacts of changing weather patterns on the region's water resources. In the second phase, BC focused on the associated planning elements. These included developing future water demand and land use projections based on projected growth within the watershed out to 2099, conducting a vulnerability assessment, and developing adaptive strategies. Additionally, using the model results, BC developed a watershed water budget that reflects projected future conditions, and performed a detailed review of available watershed water quality data to identify contamination sources and impacts on reservoirs and raw water operations.

BC identified, categorized, and prioritized the risks to, and vulnerabilities of, the region's water resources and infrastructure to determine those that would have the greatest impact on the watershed. Finally, BC developed short-, mid-, and long-term adaptive management strategies to mitigate the identified risks. Implementable adaptive strategies included developing a regional collaborative forum to work on water quality and supply planning initiatives, emergency response preparedness, and development of resource protection programs.

A Stakeholder Advisory Committee helped identify and prioritize system vulnerabilities and develop the adaptive management strategies. The Stakeholder Advisory Committee included representatives from water and wastewater utilities, regulatory and governmental agencies, environmental groups, private industry, and agriculture. Established at the project's onset, the SAC provided feedback and direction on each task to help ensure the varying interests and needs of the region's water users were considered—a key project component.

RELEVANCE TO CONTRACT

- Climate change adaptation
- Future water demand and land use projections
- Vulnerability assessment
- Water quality review
- Development of adaptive strategies
- Stakeholder engagement

TOTAL CONTRACT AMOUNT
\$415K

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Brown and Caldwell	Columbus, Ohio	Prime

County of Hawaii, Dept. of Research and Development

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

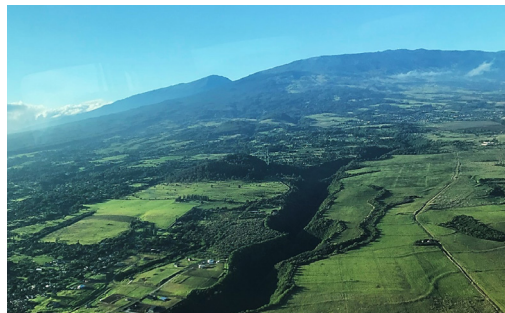
(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. Example Project
Key Number

3

21. TITLE AND LOCATION (City and State)		22. YEAR COMPLETED	
Feasibility Study for East Maui Source Development		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
Maui Island, Hawaii		2025	N/A
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
County of Maui, Dept. of Water Supply, Water Resources and Planning Division	Eva Blumenstein	808.463.3102	
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)			

BC conducted a feasibility study to identify new water source development strategies. Additional water supply and infrastructure is needed to accommodate growth outlined in the Maui Island Plan. BC assessed existing source capacity, refined future demand projections, and evaluated viable water source alternatives to assure reliable and resilient potable water supply for the Central and Upcountry water systems. The study used a multiple criteria decision analysis and Ka Pa'akai analysis to consider valued cultural, historical, and natural resources, including potential effects on traditional and customary Native Hawaiian rights and practices. The study also included a stream restoration program for the Ha'ikū region. Key tasks included:



To accommodate growth in the Central and Upcountry water systems, BC assessed existing capacity, refined future demand projections, and evaluated viable water source alternatives to secure a reliable potable water supply.

RELEVANCE TO CONTRACT

- Water demand projections
- Community outreach and Ka Pa'akai analysis
- Surface water and groundwater source alternatives analysis
- Stream restoration program
- Consent Decree compliance
- Cost-benefit analysis

TOTAL CONTRACT AMOUNT
\$1.4M

- Central and Upcountry demand and capacity analysis, including updating demand projections, evaluating current source availability, and determining reliable capacity.
- Analysis of current and potential surface water and groundwater resources within the Wailuku, Central, and Ko'olau aquifer sectors, including legal, regulatory, and permitting constraints.
- Identification of needed infrastructure and planning level cost estimates for supply and development strategies.
- Development of a customized multiple criteria decision analysis tool to assess non-economic criteria to support source strategy prioritization and decision-making.
- Ka Pa'akai analysis with Native Hawaiian cultural organizations and community leaders.
- Business case evaluation and cost-benefit analysis of supply and development strategies for potential water sources.
- Ha'ikū region stream restoration program framework, including analysis of regulations, stream flows, diversions, ditches and uses of stream water; and stakeholder engagement to identify collaborative solutions for data sharing, watershed management and stream flow restoration.

Project benefits included:

- Rigorous analysis of surface water and groundwater availability in compliance with the 2003 East Maui Consent Decree.
- Evaluation of the Central and Upcountry Maui potable water source capacity.
- Establishment of water demand projections through 2040.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Brown and Caldwell	Honolulu, Hawaii Wailuku, Hawaii Kamuela, Hawaii	Prime

County of Hawaii, Dept. of Research and Development

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. Example Project
Key Number

4

21. TITLE AND LOCATION (City and State)

Hoaloha Park Adaptation Plan

Kahului, Hawaii

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2025

CONSTRUCTION (if applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

County of Maui, Dept. of Parks and
Recreation

b. POINT OF CONTACT NAME

David Yamashita

c. POINT OF CONTACT TELEPHONE NUMBER

808.270.6508

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Background. Hoaloha Park is an urban beach park located at Kahului Harbor, Maui, used for various coastal recreational activities including outrigger padding, fishing, and surfing. As a coastal beach park, it was identified as a site with medium potential to withstand impacts of sea level rise. BC supported SSFM International, Inc. in developing the Hoaloha Park Adaptation Plan for the County of Maui, Dept. of Parks and Recreation (DPR), which included a site and infrastructure vulnerability assessment, user impact evaluation, and adaptation planning specific to Hoaloha Park.



County of Maui parks, including Hoaloha Park, are expected to be exposed to 2.0 feet of sea level rise between 2050 and 2070.

RELEVANCE TO CONTRACT

- Vulnerability assessments
- Adaptation planning
- Coastal resilience
- Community planning

TOTAL CONTRACT AMOUNT
\$60K

Engineering Services. The Hoaloha Park Adaptation Plan was DPR's first park-specific adaptation plan, the first coastal beach park adaptation plan in the state with components similar to master plans and management plans. The plan included an adaptive pathways approach driven by site-specific and infrastructure-specific vulnerabilities in consideration of park users.

BC's specific scope was to prepare two technical memorandums to document opportunities and constraints for future use by assessing existing site conditions and existing infrastructure conditions against future climate related hazards, such as sea-level rise, hurricanes, and wildfire. This included review of past studies and record drawings of the park, site visits and assessment of existing infrastructure, and presenting to public community meetings. In addition, BC analyzed the effects of increased future use of the park by residents and nearby employees due to planned redevelopment projects in the vicinity of Hoaloha Park.

As part of this evaluation, BC examined the recommended adaptation strategies for future planning and implementation efforts by DPR. Some examples of these efforts include improving sand dunes and relocating infrastructure that is likely to be affected by sea level rise.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	SSFM International, Inc.	Honolulu, Hawaii Kahului, Hawaii	Prime
b.	Brown and Caldwell	Honolulu, Hawaii Wailuku, Hawaii Kamuela, Hawaii	Subconsultant

County of Hawaii, Dept. of Research and Development

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. Example Project
Key Number

5

21. TITLE AND LOCATION (City and State)

Countywide Injection Well Alternatives Study

Wailuku, Hawaii

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2020

CONSTRUCTION (if applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

County of Maui, Dept. of Environmental
Management, Wastewater
Reclamation Division

b. POINT OF CONTACT NAME

Juan Rivera, PE

c. POINT OF CONTACT TELEPHONE NUMBER

808.270.7268

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

BC prepared a study of alternatives to use injection wells for treated wastewater effluent management at the Wailuku-Kahului, Kihei, Lahaina, and Kaunakakai Wastewater Reclamation Facilities within the County of Maui.

The Dept. of Environmental Management, Wastewater Reclamation Division was interested in developing a study that summarized viable effluent disposal options. The study included:

- Advanced treatment for continued injection well disposal
- Surface water discharge
- Marine discharge
- Water recycling
- Direct potable reuse
- Land treatment
- Evaporation

Options that passed the initial screening will be evaluated for conceptual feasibility at each wastewater reclamation facility. BC presented planning level capital, operations and maintenance, and lifecycle costs for each feasible option. BC presented the information in a matrix format and included advantages and disadvantages of each option.

BC prepared a recommended effluent disposal. Site recommendations and a list of anticipated permit requirements were presented, and an implementation schedule was developed for each facility. BC's final report provided a summary of the evaluations, conclusions, and recommendations.



BC investigated viable effluent disposal options using injection wells for treated wastewater effluent management (satellite view of the islands).

RELEVANCE TO CONTRACT

- Wastewater disposal
- Clean Water Act
- Underground injection control
- NPDES compliance
- Ocean outfalls

TOTAL CONTRACT AMOUNT
\$99K

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Brown and Caldwell	Honolulu, Hawaii Wailuku, Hawaii Kamuela, Hawaii	Prime

County of Hawaii, Dept. of Research and Development

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. Example Project
Key Number

6

21. TITLE AND LOCATION (City and State)

Koolaupoko Climate Resilience and Adaptation Project

Kaneohe, Hawaii

22. YEAR COMPLETED

PROFESSIONAL SERVICES

Ongoing

CONSTRUCTION (if applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Research Corporation of the University
of Hawaii

b. POINT OF CONTACT NAME

Dr. Charles Fletcher

c. POINT OF CONTACT TELEPHONE NUMBER

808.956.9154

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

Background. The Department of Defense is conducting a Military Installation Resilience Review focused on the Koolaupoko region in Oahu, Hawaii, which surrounds the Kaneohe Marine Corps Base Hawaii. The base is an integral part of the Koolaupoko region, the review will identify climate-related threats and hazards to the communities within the Koolaupoko region and provide recommendations to enhance resiliency and adaptation capacity of the vulnerable resources. BC is supporting the University of Hawaii by developing infrastructure mapping, vulnerability assessments, infrastructure typology adaptation strategies, as well as regional adaptation strategies as part of the overall study.



The Military Installation Resilience Review focuses on the Koolaupoko district.

RELEVANCE TO CONTRACT

- Sea level rise adaptation
- Climate change adaptation
- Vulnerability assessment

TOTAL CONTRACT AMOUNT
\$235K

Examples of climate-related concerns include sea level rise, erosion, flooding, extreme heat, altered precipitation patterns, and increased wildfire risk. The review integrates knowledge from scientists, community members, government officials and other technical stakeholders and includes information from climate modeling, vulnerability assessments, and infrastructure mapping.

Engineering Services. BC is performing a desktop evaluation of the community's critical infrastructure and susceptibility to hazards within the planning horizon that have the potential to negatively impact the day-to-day operations of the community. The assessment will assign severity, or degree of potential impact, and risk, or likelihood of potential impact, to each vulnerability. The assessment will integrate stakeholder engagement in a multi-step process and will culminate in a risk matrix that depicts key attributes of vulnerabilities and a hotspot map to visualize single and multi-event vulnerabilities. Once the assessment is complete, BC will work with the University of Hawaii to provide a list of adaptation strategies to address each of the hazards. These strategies will be analyzed holistically, including maximum cost-to-benefit ratio and steps for implementation regionally. The final step in the study will be to create three pilot projects that will recommend a series of mitigation measures for the region.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	University of Hawaii, School of Ocean and Earth Science and Technology (SOEST)	Honolulu, Hawaii	Prime
b.	Brown and Caldwell	Honolulu, Hawaii Wailuku, Hawaii Kamuela, Hawaii	Subconsultant

County of Hawaii, Dept. of Research and Development

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. Example Project
Key Number

7

21. TITLE AND LOCATION (City and State)		22. YEAR COMPLETED	
South Kohala Flood Study		PROFESSIONAL SERVICES	CONSTRUCTION (if applicable)
Waikoloa and Puako, Hawaii		Ongoing	N/A
23. PROJECT OWNER'S INFORMATION			
a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER	
County of Hawaii, Dept. of Public Works	Melanie DeMello, PE	808.961.8927	

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

The South Kohala District on Hawaii Island faces significant flood risks due to intense rainfall events and urban development, which are overwhelming the area's stormwater infrastructure and low-lying coastal areas, and ultimately negatively impacting public and private property.

BC is collaborating with the County of Hawaii, Dept. of Public Works on the South Kohala Flood Study. This project is the initial phase in a comprehensive strategy to manage runoff and mitigate flooding in the region. By employing advanced hydrologic and hydraulic analyses, BC will assess specific flood-prone areas to develop effective mitigation strategies. Given the current climate challenges, effective flood management is increasingly vital. The South Kohala region, with its distinct geological and hydrological features, faces significant flood risks that endanger infrastructure, property, and community safety. This study aims to provide a thorough understanding of these risks and propose practical solutions to safeguard the area from future flood events.

BC brings extensive experience and a forward-thinking approach to water resources management. The team combines local expertise with advanced modeling methods to deliver results that are both effective and sustainable. The BC team will analyze the region's hydrology and hydraulics to pinpoint key areas of concern. Conceptual strategies and AACE Class 5 cost estimates for targeted flood mitigation measures will be developed. The study will produce data and evaluations that can inform future Federal Emergency Management Agency flood mapping and Dept. of Public Works long-term budget planning, ensuring long-term resilience. Additionally, potential funding sources and partnership opportunities to implement the recommended strategies will be investigated.

The approach addresses immediate flood risks while also establishing a foundation for sustainable, long-term water management.

The hydrologic and hydraulic analysis of the existing conditions within the study area will estimate flood limits and base flood elevations of the gulches. Flood control alternatives such as retention basins, relief storm sewers, and relief drainage channels will be evaluated. For each area of concern, up to three conceptual alternatives will be developed, incorporating elements such as storage areas, flow control outlet structures, and channels or pipes. Modeling results will indicate estimated reductions in flood water levels and extents realized by the alternatives. After consulting with the client, one preferred mitigation alternative for each area of concern will be developed into planning-level documents, including plan layouts, identification of environmental permitting requirements, and construction cost opinions.



BC is preparing a comprehensive strategy to manage runoff and mitigate flooding in the South Kohala region.

RELEVANCE TO CONTRACT

- Local geology and hydrology
- Hydraulic modeling
- Cost estimates
- Strategy development
- Stakeholder and agency coordination

TOTAL CONTRACT AMOUNT
\$615K

Key outcomes include:

- Aligning a variety of field-related data and historical information, including light detection and ranging data, FIS modeling data, rainfall data, and photo documentation of actual flood events
- Conducting field reconnaissance to verify existing conditions at critical locations within the study area
- Holding meetings with the Federal Emergency Management Agency and the Hawaii Dept. of Land and Natural Resources to gather input on floodplain analysis approaches
- Performing detailed hydrologic and hydraulic analyses using advanced modeling techniques
- Evaluating conceptual flood control measures in terms of feasibility, performance, cultural and environmental impact, and cost implications

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a.	Brown and Caldwell	Honolulu, Hawaii Wailuku, Hawaii Kamuela, Hawaii	Prime

County of Hawaii, Dept. of Research and Development

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. Example Project
Key Number

8

21. TITLE AND LOCATION (City and State)

**Impacts of Climate Change on Honolulu Water Supplies and
Planning Strategies for Mitigation**

Honolulu, Hawaii

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2019

CONSTRUCTION (if applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Honolulu Board of Water Supply/Water
Research Foundation

b. POINT OF CONTACT NAME

Kenan Ozekin

c. POINT OF CONTACT TELEPHONE NUMBER

303.734.3464

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

The Honolulu Board of Water Supply (BWS) and the Water Research Foundation (WRF) undertook a vulnerability assessment to identify and evaluate the potential impacts of climate change on current estimates of groundwater sustainable yield (the chief source of BWS's water supply), pipelines and pumping system infrastructure, and strategies to address the anticipated changes. Aligned with WRF's Climate Change Strategic Initiative, this project developed strategies that can be used as a guide for other utilities to evaluate and plan for the impact of climate change on water quantity, quality, and infrastructure.

BC used a scenario planning approach to evaluate the impacts of climate change and develop adaptive strategies using an iterative process to promote flexible decision making in the face of uncertainties and increase an organization's preparedness. This planning approach can be implemented for a range of potential changing conditions, including future climate predictions, water supply demands, and economic development to promote flexibility to changing circumstances.

Approach. The climate change projections for sea level rise were used to analyze impacts to BWS's infrastructure for each of the sea level rise hazards—coastal erosion being the most severe, followed by marine and groundwater inundation. Microsoft Excel and geographic information system databases were created to summarize individual asset infrastructure vulnerabilities based on the pipe size and material for each sea level rise scenario.

Forecasted temperature and precipitation data were used to assess impacts to BWS's groundwater sources from one general circulation model (CMIP5), two emission scenarios (Representative Concentration Pathways 4.5 and 8.5), and two downscaling methods (statistical and dynamical). Increased temperatures and changes to seasonal rainfalls were used to project future recharge and potential changes in sustainable yield, water use permit allocations, and forecasted water demands. Water quality vulnerabilities were also assessed to understand how sea level rise could impact salinity in groundwater aquifers, but not to the same extent as water supply and infrastructure asset vulnerabilities.

Adaptation Strategies. A prioritized list of actions was compiled to address a range of potential changing conditions for near-, mid-, and long-term implementation. The goal was to develop an iterative and flexible adaptive planning process to accommodate future uncertainties and identify options and strategies to address potential water supply and infrastructure impacts.

The frequency and severity of "nuisance" intermittent flooding events were also incorporated as a future milestone for implementation of sea level rise adaptation strategies as these nuisance events serve as precursors to longer-term, more significant impacts of sea level rise. Given that 3.2 feet of sea level rise could occur by the end of the century, a mid-century milestone was linked to implement various options to adapt to high tide flooding associated with projected sea level rise. An intermediate scenario of nuisance flooding of 24 times per year was recommended as a trigger for the planning, design, and construction of selected adaptation strategies. At the end of the century, a 6-foot sea level rise planning benchmark was also incorporated to assist with longer-term sea level rise preparations and adaptation.

An important outcome of this project was the development of a proposed County framework for coordinating multiple agency efforts associated with climate change mitigation and adaptation. This proposed framework was intended to support the identification of select pilot areas for which adaptive options can be prioritized and strategically implemented. The assessment culminated in the development of a proposed Sea Level Rise Action Strategy to serve as a template for future

RELEVANCE TO CONTRACT

- Comprehensive potable water utility assessments
- Evaluation of multiple scenario-based risks and consequences
- Vulnerability analysis of climate change impacts upon utility assets
- Development of mitigation strategies to address potential risks to water supply and the overall water distribution system

TOTAL CONTRACT AMOUNT

\$275K\

implementation of recommended adaptation options. The strategy incorporated a qualitative approach for identifying and assembling planning, design, and construction measures into an adaptive plan based upon existing data and available information. Each proposed action item was tied to a specific initiation and completion time frame and/or recommended implementation trigger or milestone, such as the scenario of 1.7 feet of sea level rise based on nuisance flooding of 24 times per year by 2045.

In addition to establishing triggers, which need to be constantly updated and refined based on new information, target areas need to be selected for priority application of adaptation measures. These “pilot” areas, and the “lessons learned” through the early implementation of recommended actions, will help guide future government and private sector efforts.

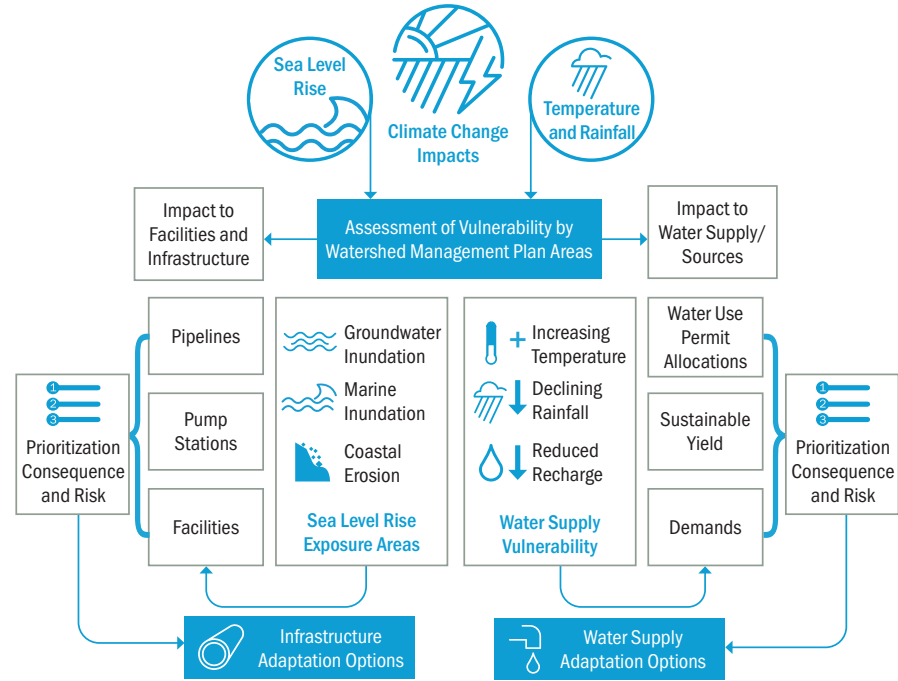
These efforts need to be integrated and effectively coordinated to maximize resources, minimize duplication of efforts, and streamline and overcome existing implementation obstacles or impediments.

Conclusions. This assessment provided a recommended starting point for focused discussions beginning with the proposed County Framework for Implementation of Climate Change Adaptation Strategies (starting initially with the affected County agencies), a draft Road Map to Climate Change Resiliency (involving both government agencies, private sector entities, and stakeholders), and a proposed Sea Level Rise Action Strategy (that prioritizes recommended actions in alignment with specific triggers and time frames for execution).

The projected consequences of climate change will require continued, vigilant monitoring of climate trends and ongoing evaluation of projected impacts. This assessment used the best available information to assess climate change vulnerabilities and develop adaptive strategies. As additional climate change predictions and modeling results become available, this assessment is intended to be updated periodically (every 5 to 10 years) to reflect the latest data, scientific knowledge, and lessons learned from other agencies and adaptive strategy implementation.

Project benefits Included:

- A prioritized list of climate change mitigation and adaptation options.
- A proposed County framework for coordination of agency efforts to effectively prepare for future climate change impacts.
- A proposed Sea Level Rise Action Strategy tied to specific actions and time frames for implementation.



Vulnerability assessment approach that shows impacts to BWS’s facilities and infrastructure as well as their water supply and sources.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Brown and Caldwell	Honolulu, Hawaii Wailuku, Hawaii Kamuela, Hawaii	Prime

County of Hawaii, Dept. of Research and Development

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. Example Project
Key Number

9

21. TITLE AND LOCATION (City and State)

Central Oahu Watershed Management Plan

Honolulu, Hawaii

22. YEAR COMPLETED

PROFESSIONAL SERVICES

Ongoing

CONSTRUCTION (if applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Honolulu Board of Water Supply

b. POINT OF CONTACT NAME

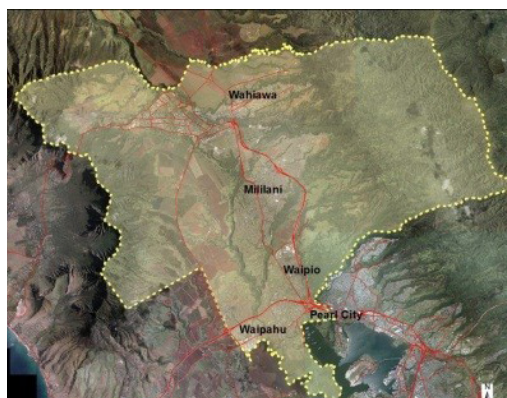
Barry Usagawa, PE

c. POINT OF CONTACT TELEPHONE NUMBER

808.748.5900

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

BC is preparing the Central Oahu Watershed Management Plan (COWMP), one of eight district watershed management plans that comprise the Oahu Water Management Plan. The goal of the COWMP is to formulate an environmentally holistic, community-based, and economically viable plan that provides a balance between the preservation/management of Oahu's watersheds and the sustainable development and use of groundwater and surface water supplies.



BC is developing a community-based COWMP that is environmentally holistic and economically viable.

BC is preparing the COWMP in coordination with the City and County of Honolulu, Department of Planning and Permitting and per City Ordinance Chapter 30, Revised Ordinances of Hawaii and the State Water Code Chapter 174C, Hawaii Revised Statutes. The COWMP has five objectives: promote sustainable watersheds; protect and enhance water quality and quantity; protect Native Hawaiian rights and traditional customary practices; facilitate public participation, education, and project implementation; and, meet future water demands at reasonable costs.

BC will assess four future scenarios for Central Oahu: low-, mid-, and high-growth scenarios through 2040 and an ultimate buildout scenario, to identify projected potable and non-potable water demands for urban and agricultural use. The COWMP will identify specific Central Oahu water issues, including potential climate change impacts, and projects currently being planned or implemented, such as watershed management sub-objectives and strategies.

Development of the COWMP will include extensive discussions and consultations with community members and organizations, landowners, developers, public agencies and officials, and other stakeholders. BC is conducting public outreach efforts and gathering community input from five neighborhood boards: Pearl City, Waipahu, Wahiawa-Whitmore Village, Mililani Mauka-Launani Valley, and Mililani-Waipio. Adoption of the COWMP will require neighborhood board endorsements and subsequent approvals by the State Commission on Water Resource Management and the Honolulu City Council.

Project benefits include:

- Policies and strategies that will guide the City and County of Honolulu in the management, development, and utilization of Oahu's water resources to meet future potable and non-potable water demands.

RELEVANCE TO CONTRACT

- Community-based watershed management
- Future water demand and land use projections
- Water supply
- Water master planning
- Climate change planning
- Stakeholder engagement

TOTAL CONTRACT AMOUNT
\$625K

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Brown and Caldwell	Honolulu, Hawaii Wailuku, Hawaii Kamuela, Hawaii	Prime

County of Hawaii, Dept. of Research and Development

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. Example Project
Key Number
10

21. TITLE AND LOCATION (City and State)

WRF Project 4660: Blueprint for One Water

Nationwide

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2017

CONSTRUCTION (if applicable)

N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Water Research Foundation

b. POINT OF CONTACT NAME

Katie Henderson

c. POINT OF CONTACT TELEPHONE NUMBER

303.347.6108

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

BC and the Water Research Foundation developed and released the Blueprint for One Water, a practical guide for agencies seeking to manage water resources holistically and sustainability. One Water is an integrated planning and implementation approach to manage the finite water resources for long-term resilience and reliability, meeting both community and ecosystem needs. This collaboration involved utilities, regulators, research organizations, and academia coming together under BC and Water Research Foundation's leadership to establish a roadmap for integrated water planning and management.



The One Water Concept is an integrated planning and implementation approach to managing finite water resources.

RELEVANCE TO CONTRACT

- Integrated water management
- One Water blueprint development
- Stakeholder engagement

TOTAL CONTRACT AMOUNT
\$85K

This project was intended to access the state of science and practical experience in One Water and integrated water management to develop a blueprint for the practical application of this framework. The main objective of the blueprint was to integrate planning across multiple water resource sectors including: stormwater, water supply planning, wastewater, reuse, watershed management, and energy and resource recovery.

Developed to be a resource that other utilities, entities, and policy decision makers could leverage, BC gained input from over 800 water professionals who participated in an international survey, more than 10 one-on-one interviews, and a two-day international workshop within 35 water professionals.

The blueprint establishes tactical steps, important actions, possible challenges, and key outcomes for each step to develop an integrated, One Water management plan. The blueprint features lessons learned from early One Water adopters, plus spotlights on how visionary leaders are successfully applying the concept, along with recommendations for integrating a multi-stakeholder process. The blueprint includes:

- Critical steps and important actions toward the development of a One Water framework
- Methods for overcoming potential barriers and obstacles
- Key outcomes and milestones for each critical step
- Over a dozen case studies of One Water early adopters

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	Brown and Caldwell	Walnut Creek, California	Prime

Key Personnel Participation in Example Projects

SECTION G



County of Hawaii, Dept. of Research and Development

G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

26. NAMES OF KEY PERSONNEL (From Section E, Block 12)	27. ROLE IN THIS CONTRACT (From Section E, Block 13)	28. EXAMPLE PROJECTS LISTED IN SECTION F (Fill in "Example Projects Key" section below before completing table. Place "X" under project key number for participation in same or similar role.)									
		1	2	3	4	5	6	7	8	9	10
Tom Myers, PE	Principal-in-Charge										
Dean Nakano	Project Oversight	✓		✓			✓		✓	✓	
Michelle Sorensen, PE	Project Manager			✓				✓			
Lauren Armstrong, AICP	Project Manager			✓	✓		✓				
Irina Constantinescu, PE, LEED AP	QA/QC					✓					
Tess Sprague, PhD	Climate Change and Resilience Specialist	✓			✓		✓				
Susan Mukai, PE, LEED AP BD+C	One Water Specialist	✓							✓	✓	
Nathan Foged, PE*, BC.WRE	Watershed Analysis Specialist						✓				
Jaren Hiller, PE*, LEED AP	Watershed Analysis Specialist							✓			
Amy Martin	Water Reuse and Regional Planning Specialist										
Fiona van Ammers, PE, CPSWQ	Water Resources Specialist			✓	✓	✓	✓	✓			
Rachel Garrett	Strategic Communications/ Public Outreach Specialist										
Clifton Bell, PE*, PG*	Water Quality Specialist										
Adam Klein, PE*	System Vulnerability Specialist										
Chris Cleveland, PE*	Integrated Planning Specialist										
Mike Simms	GIS Specialist										
Drew Skipper	Field Technician										
Stan Kowalczyk, PE	Hydraulic Modeling										
Audrey Cabrera, PE	Civil Engineer					✓					
Tyler Oshiro, PE	Civil Engineer	✓									

29. EXAMPLE PROJECTS KEY

No.	Title of Example Project (from Section F)	No.	Title of Example Project (from Section F)
1	One Water Climate Adaptation Framework and Projects Plan Honolulu, Hawaii	6	Koolaupoko Climate Resilience and Adaptation Project Kaneohe, Hawaii
2	WRF Project 4585: Water Utility Planning Strategies to Mitigate Impacts of Climate Change in Central Ohio Columbus, Ohio	7	South Kohala Flood Study Waikoloa and Puako, Hawaii
3	Feasibility Study for East Maui Source Development Maui Island, Hawaii	8	Impacts of Climate Change on Honolulu Water Supplies and Planning Strategies for Mitigation Honolulu, Hawaii
4	Hoaloha Park Adaptation Plan Kahului, Hawaii	9	Central Oahu Watershed Management Plan Honolulu, Hawaii
5	Countywide Injection Well Alternatives Study Wailuku, Hawaii	10	WRF Project 4660: Blueprint for One Water Nationwide

*Professional license outside the State of Hawaii

Additional Information, Authorized Representative

SECTIONS H-I



County of Hawaii, Research and Development

H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION REQUESTED BY THE AGENCY. (Attach additional sheets as needed.)

Executive Summary

Brown and Caldwell (BC) is excited about the opportunity to continue working with the County of Hawaii, Dept. of Research and Development, supporting strong and lasting stewardship of water resources and providing quality water service today and into the future. BC invites your review of the enclosed Statement of Qualifications to deliver the following professional services:

Project Category RD.1) Community Planning (Community and Economic Development, Community Engagement, Culture and Indigenous Data Science, Strategic Planning, Sustainability Systems)

This Section H addresses key evaluation criteria, emphasizing the core evaluation areas which informs consultant selection. Our dedicated local team will provide steady, trusted expertise for all technical elements of anticipated contract work associated with this category. We are eager to help you achieve your vision as a utility.

In accordance with standard selection criteria, we offer the following:

1. The name of firm or individual’s principal place of business and locations of all of its offices:

BC has more than 52 offices nationwide and in Guam, as shown in the map to the right. A detailed list of all office locations is available upon request.

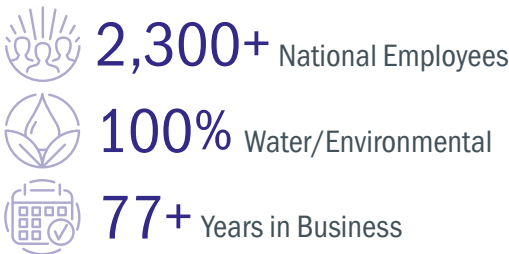
Principal Places of Business (in Hawaii)

Honolulu
737 Bishop Street, Suite 3000
Honolulu, Hawaii 96813
Phone: 808.523.8499
Email: DYamamoto@brwncald.com

Wailuku
2261 Aupuni Street, Suite 201
Wailuku, Hawaii 96793
Phone: 808.244.7005
Email: IConstantinescu@brwncald.com

Kamuela
65-1230 Mamalahoa Hwy, Suite D20A
Kamuela, Hawaii 96743
Phone: 808.442.3306
Email: MSorensen@brwncald.com

Office Location Map



35 years
with a Hawaii office

average 54 employees
in our Hawaii offices over the
past 5 years

Year	# of Emp.
2024	64
2023	60
2022	53
2021	49
2020	47

2. The age of the firm and its average number of employees over the past five years:

BC is a full-service environmental engineering and construction firm with a strong history of helping Hawaii clients develop innovative, cost-effective solutions.

Founded in 1947, BC has spent decades providing creative solutions to help our clients successfully overcome their most challenging water and wastewater obstacles. BC has been dedicated to serving clients in Hawaii since the 1970s and established our Maui and Honolulu offices in 1989, and our Kamuela office in 2020. Over the years, BC has built long-term partnerships across Hawaii through local project delivery and thoughtful engagement of our national experts.

3. The education, training, and qualifications of key members of the firm:

Please refer to **Section E Resumes of Key Personnel Proposed for this Contract** of this Federal Standard Form 330 for the education, training, and qualifications of key employees selected to work on any contract work for this submittal category. Work will be managed and primarily executed by our Hawaii-based professionals with the assistance and support of our national experts.

4. A list of recent projects and the names of up to five clients who may be contacted, including at least two for whom services were rendered during the preceding year:

Please refer to **Section F Example Projects Which Best Illustrate Proposed Team's Qualifications for this Contract** of this Federal Standard Form 330. Our projects include references and detailed descriptions that demonstrate BC's ability to provide the required services under this category. The following is a list of local BC clients the you may contact.

Client List

Name and Title	Organization	Phone Number
Keith Okamoto, PE ● Manager-Chief Engineer	County of Hawaii, Dept. of Water Supply	808.961.8050
Eva Blumenstein ● Planning Program Administrator	County of Maui, Dept. of Water Supply	808.463.3102
Michael Hinazumi, PE ● Acting Deputy Manager	County of Kauai, Dept. of Water	808.245.5416
Eric Nakagawa, PE ● Division Chief	County of Maui, Dept. of Environmental Management, Wastewater Reclamation Division	808.270.7746
Wesley Yokoyama, PE ● Division Chief	City and County of Honolulu, Dept. of Environmental Services	808.768.8790

● *Presently Rendering Services*

5. Any promotional or descriptive literature which the individual or firm desires to submit:

On the following pages, we have attached selected information on BC's history working with the County of Hawaii and our standard practices regarding safety, cost control, quality of work, and project schedules. We have also included descriptions of pertinent areas of expertise:

- | | |
|--|--|
| A. One Water | D. Environmental Planning and Permitting |
| B. Stormwater and Nature-Based Solutions | E. Desalination |
| C. Climate Change | F. Program Management |

BC's history with the County of Hawaii

Our locally-based team can swiftly provide wastewater, water, solid waste and stormwater expertise, and as-needed access to experts nationwide.

BC has been providing support to County of Hawaii since 1997 when we began our work at the Kealakehe Wastewater Treatment Plant (WWTP). Over this time, BC has played diverse roles, providing a breadth of services to projects across the County of Hawaii. Familiarity with your systems, staff, and goals allows us to deliver effective and efficient solutions.

Select County of Hawaii Experience

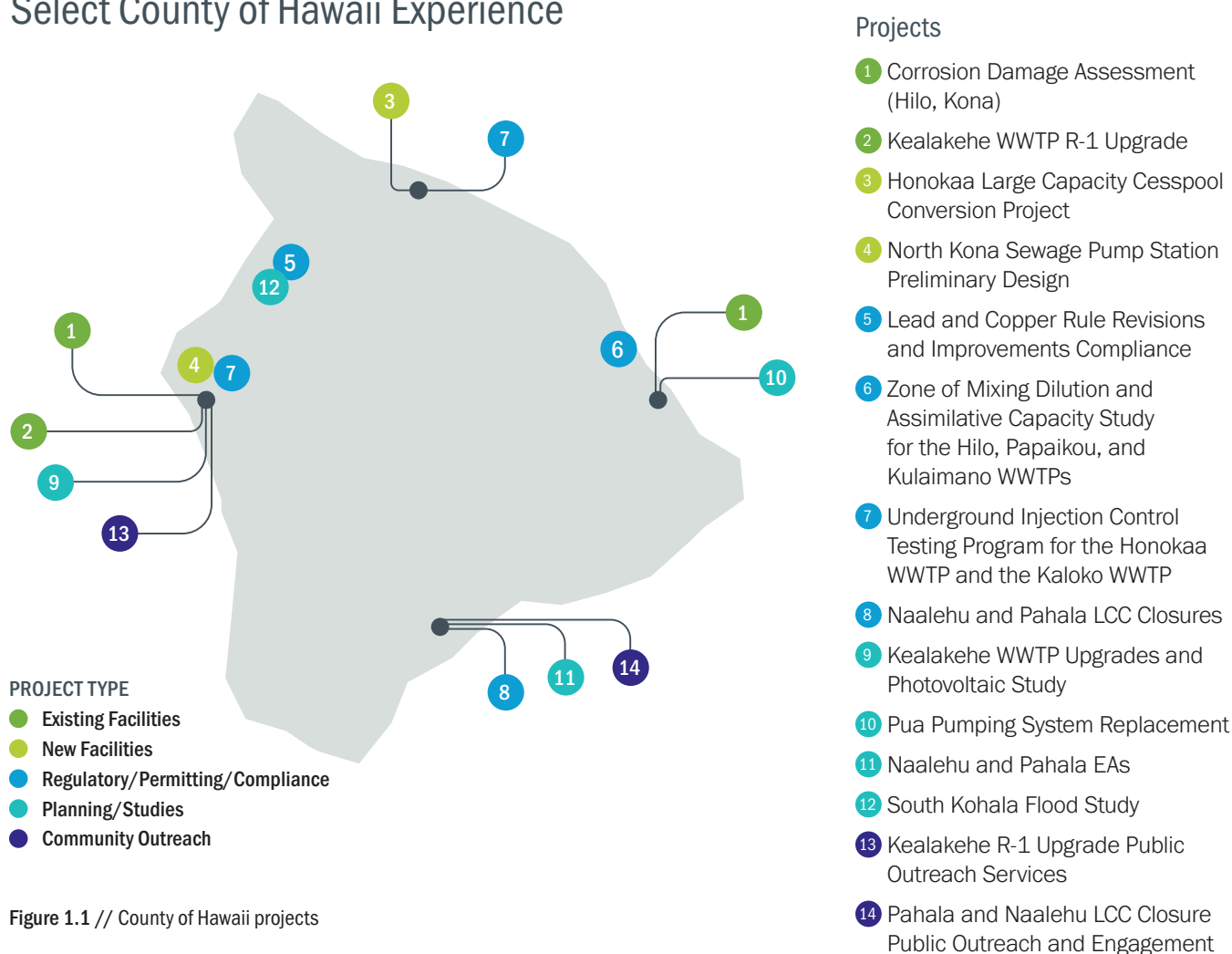


Figure 1.1 // County of Hawaii projects



Existing Facilities

BC supports County of Hawaii's existing facilities (such as WWTPs, pump stations, and collection systems) with a variety of services including:

- Existing Facility Studies
- Condition Assessments
- Small Communities Compliance (Environmental Protection Agency Large Capacity Cesspool (LCC) Closure)
- Facility Upgrades
- Operations and Maintenance Guidance



New Facilities

BC provides services at all stages of the lifecycle of County of Hawaii's new facilities:

- Planning
- Design
- Construction



Regulatory/Permitting/Compliance

Regulatory compliance is a key component to any facility. BC supports the County of Hawaii's regulatory compliance and permitting needs including:

- National Pollutant Discharge Elimination System and Underground Injection Control Permits
- Zone of Mixing/Assimilative Capacity Determinations
- Ocean Outfall Inspections
- LCC Closures



Planning/Studies

Having solid plans in place that are based on studies allows for the greatest chance for success. To that end, BC has supported the County of Hawaii's planning through:

- Environmental Planning (Environmental Site Assessments, Environmental Assessment/Environmental Impact Statement)
- Effluent Management and Reuse Plan

- System Master Planning
- Facility Plans
- Photovoltaic Studies
- Surge/Transient Analyses



Community Outreach

Engaging with stakeholders and informing the public allows the County of Hawaii to maintain positive relationships and facilitates projects smooth project progress. BC has played a role in outreach efforts through:

- Community Outreach Plans
- Public Scoping Meetings
- Focus Groups
- Community Media Relations
- Public Newsletters and Fact Sheets

Supporting County of Hawaii's Past, Present, and Future

For more than 20 years, BC has supported the County of Hawaii's project/program at Kealakehe WWTP. Our understanding of Hawaii's complex ecosystem and the importance of water conservation on the island paired with our extensive experience with similar projects has allowed us to support your various initiatives at the Kealakehe WWTP while keeping the County of Hawaii's and island's interests in mind. Some examples of our work at the WWTP:



Effluent Reuse Planning

BC's first County of Hawaii project was creating the Kealakehe WWTP Effluent Reuse Master Plan report to develop reuse options such as irrigation. This project began BC's long involvement at the WWTP.



Upgrades and Facility Plan

BC's aeration upgrade and sludge removal project led to restored and improved treatment capacity, decreasing energy consumption, and extending the life of the facility while construction methods preserved the livelihood of the endangered Hawaiian stilt.



R-1 Recycled Water Project

BC's treatment system design would produce the highest grade of recycled water to be used for irrigation. Recycling effluent will expand the County of Hawaii's water resources to enhance potable water capacity and modernize the Kealakehe WWTP.



Soil Aquifer Treatment (SAT) Project

The 10-acre SAT system is designed to replace the controversial sump disposal and result in significant phosphorus and contaminants of emerging concern removal. The unique aspects of the SAT system would make this the first construction of its kind in the State of Hawaii and protect water resources.

Safety Performance

Safety metrics

■ Brown and Caldwell ■ Industry average



2024 Total Recordable Incident Rate (TRIR) | 2024 Lost Time Incident Rate (LTIR) | 2025 Experience Modification Rate (EMR)
2025 TRIR and LTIR to be updated in early 2026



A programmatic approach to health and safety

Safety is part of who we are at BC, and zero incidents is our aspirational goal.

Beyond preventing injuries and property damage, reducing health and safety (H&S) occurrences benefits our clients in reduced costs, increased productivity, and a positive public image. Adherence to BC's H&S principles results in incident costs and loss history that are consistently better than those of our industry at large. BC is the recipient of multiple industry and client awards recognizing H&S performance.

Since 2008, BC has been the recipient of 45 different awards from the National Safety Council.

8 AWARDS
Perfect Record

18 AWARDS
Occupational Excellence Achievement

2 AWARDS
Safety Leadership

12 AWARDS
Million Work Hours

5 AWARDS
Industry Leader

121 THINKSHARP AWARDS
were granted to employees
over the last year

BC employees average over
13,000 HOURS
per year in safety training

Project Management

The industry is evolving in project delivery and service models, technology is advancing at a breakneck pace, and client needs are changing. BC recognizes that we must be trusted partners to our clients who fully understand their needs and those of their stakeholders. We look beyond simply meeting project requirements to understand our clients' emerging challenges and opportunities and help them achieve their long-term goals.

Effective project management is fundamental to delivering on this commitment. **Through fully understanding client needs, and doing the basics better with consistent, proven management practices, BC is delivering the service and results our clients deserve.**

Schedule and Budget Management

Schedule, budget, and scope are interdependent project elements. Change to any of these elements will likely impact others or may have an adverse effect on project quality. BC schedules and budgets are built around developing high-quality deliverables that meet client expectations. This includes carefully defining the required work effort, confirming the availability of appropriate resources and providing adequate time for work execution and quality reviews.

During project scoping our Project Managers (PMs) outline schedule durations and estimate the level of effort and budget, which then receives an independent review, setting the path for successful project delivery. Our PMs manage schedule and budget during project execution by:

- Using earned-value management to measure performance and progress in an objective manner (monthly, at minimum).
- Communicating regularly with the project team to optimize work efficiency, refine the mix of staff resources, manage subcontractor work performance, and adjust other elements of the work effort to align with the established schedule and budget.
- Communicating regularly with the client and, as appropriate, stakeholders regarding project progress and any anticipated or observed issues and corrective actions to maintain the schedule and budget.
- Collaborating internally with Project Management Office staff and Subject Matter Experts to verify corrective actions.

Our PMs work with clients to proactively identify and address project risks that could adversely impact their goals.



Identify the Risk

- What is the risk?
- What could trigger the risk?



Evaluate the Risk

- What are the potential impacts should the risk occur (e.g., H&S, schedule, budget, quality, etc.)?
- What is the probability of the risk occurring (e.g., rare, unlikely, possible, likely, frequent, etc.)?
- What is the consequence of the potential impacts (e.g., insignificant, minor, moderate, major, catastrophic, etc.)?
- What is the rating (i.e., measure of probability and consequence) of the risk (e.g., low, medium, high, very high, extreme, etc.)?



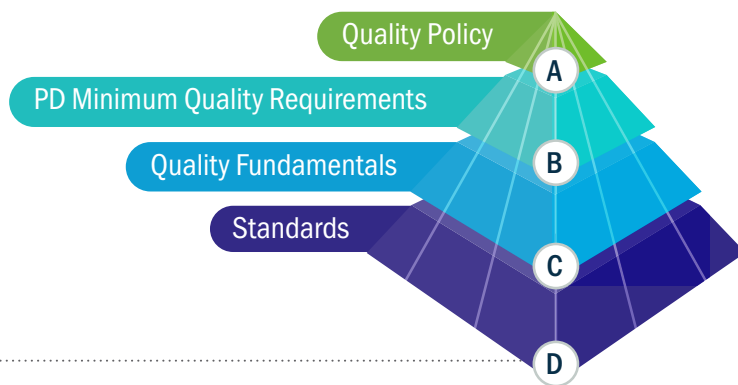
Mitigate and Manage the Risk

- What mitigation and/or management strategies are planned?
- How are the strategies categorized (e.g., preventive, contingency, etc.)
- Who is responsible for what actions?
- When should the actions be complete?

BC's Quality Policy

BC emphasizes quality assurance, investing time up front to plan and do the work right the first time.

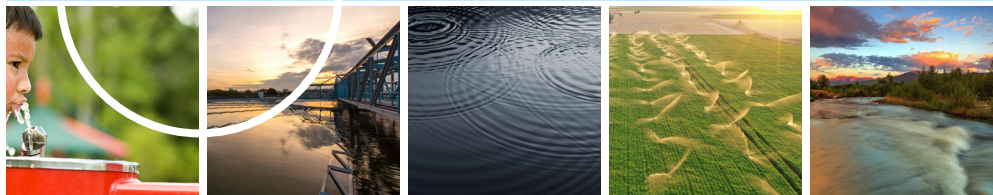
BC recognizes that it makes no difference if you have the best project management tools, meet every milestone, or complete a project under budget, if the final deliverable does not meet expectations for quality. That is why we implement a Quality Framework that focuses on delivering quality on every project. Our commitment is to deliver quality work on every project, every time.



- A The Quality Policy** at BC is delivered through consistent application.
- B The Project Delivery Minimum Requirements** establish the expectations for PMs and project teams to budget for quality, develop a Quality Management Plan (QMP), appropriately execute the plan, and ensure that auditable documentation is in place.
- C The Quality Fundamentals**, BC's best practices for technical project delivery, establish Quality Assurance and Quality Control program elements to be applied throughout the project lifecycle. These fundamentals are the essential building blocks of a strong QMP and must be employed where applicable.
- D Standards**, BC possesses a vast array of information, tools, and resources that project teams can draw from to deliver the best possible product. From technical software and calculation tools to best practices and guidelines, using BC's approved standards helps avoid making mistakes resulting from inexperience or lack of knowledge.

Selecting BC for your projects secures the services of an experienced, Hawaii-based firm that understands local conditions and practices, yet has nationwide expertise to draw from as needed. We look forward to continuing to work closely with your staff to meet your needs.

Thinking
of water
in new ways



Areas of Expertise

One Water

One Water is a paradigm for breaking down water sector silos and thinking of water in a holistic, integrated way. It frames water as one resource—whether it be drinking water, wastewater, stormwater, reclaimed water, or water in the environment.

BC is passionate about supporting responsible management of our critical water systems. Utilities and municipalities across the country are being challenged to consider the multifaceted nature of water in their communities, and BC has partnered with universities, technical advisory committees, and other regulatory groups to develop solutions for environmentally sustainable and reliable water resource planning and infrastructure.

One Water is much more than a planning approach, it's a lens through which we view the connections between resources, people, projects, and policy, and the actions we take to leverage these connections.

Thinking about the future of using water, reusing water, and protecting water means getting creative. One Water represents a new chapter—one rich with fresh dialogue about how we can look at water in ways we have not talked about before.

One Water Climate Adaptation Framework and Projects Plan, City and County of Honolulu, Dept. of Environmental Services, Honolulu, Hawaii

The goal of the One Water Honolulu Plan is to integrate and facilitate the management of freshwater, wastewater, and stormwater as one asset, creating resource and financial efficiencies within the City. To accomplish this, BC is leading a multi-year infrastructure investment strategy that fosters collaboration between agencies and proactive adaptation to climate change impacts. BC is currently developing a Climate Adaptation Framework that will facilitate climate change and sea level rise adaptation related to the planning, design, construction, maintenance, and operation of key infrastructure under the direction of the One Water Panel agencies. Additionally, a Collaboration Framework will include guidance on internal and external stakeholder consultation, identify institutional barriers that hinder implementation of an integrated One Water approach, and provide recommendations on how City departments and stakeholders can more effectively collaborate to implement One Water projects and policies.

Koolaupoko Climate Resilience and Adaptation Project, Research Corporation of the University of Hawaii, Kaneohe, Hawaii

The Dept. of Defense is conducting a Military Installation Resilience Review focused on the Koolaupoko region on Oahu, Hawaii, which surrounds the Marine Corps Base Hawaii. As the base is an integral part of the Koolaupoko region, the review will identify climate-related threats and hazards to the communities within the region and provide recommendations to enhance resiliency and adaptation capacity of the vulnerable infrastructure (i.e., transportation, water systems, natural and cultural assets). BC is supporting the University of Hawaii by mapping infrastructure with climate-related hazards to complete vulnerability assessments, infrastructure typology adaptation strategies, as well as regional adaptation strategies. The project will identify pilot projects and project champions to implement adaptation strategies across the region. Examples of climate-related concerns include sea level rise, erosion, flooding, extreme heat, altered precipitation patterns, and increased wildfire risk. BC's review integrates knowledge from scientists, community members, government officials and other technical stakeholders and includes information from climate modeling, vulnerability assessments, and infrastructure mapping.

KEY SERVICE CATEGORIES

- One Water planning
- Community planning
- Watershed resilience
- Stakeholder engagement
- Asset management
- Infrastructure resilience
- Climate change adaptation
- Wastewater and recycled water master planning
- Drinking water supply reliability
- Economic impacts analysis
- Nature based solutions
- Cost estimate development

National Experience

Resilient water solutions are top of mind for our clients across the country. The following are a sample of our One Water work across North America.

Climate Resilient Engineering Design Guidance for the Water Sector

A Step Forward for Climate Resilience // Water Utility Climate Alliance, U.S.



As 12 of the nation's largest water providers serving more than 50 million customers across the United States, the Water Utility Climate Alliance's mission is to advance water utility climate change adaptation. For this effort, BC will help provide utilities with much needed practical guidance to build climate resilient systems that deliver reliable services to communities today and the future. BC is developing project types, climate adaptation strategies, and recommendations in the form of a guidance document for water, stormwater, and wastewater systems.

Recycled Water Program

Increasing Water Sustainability // City of Boise, ID



The Recycled Water Program was established to preserve local water by protecting the Boise River, bolstering local groundwater supply and creating resilience against the impacts of climate change. It seeks to address multiple drivers including regional growth and capacity needs, climate change, water scarcity, equity and affordability, regulatory compliance, and city-wide sustainability goals. To achieve these goals, BC's national experts are leading policy, permitting, stakeholder engagement, treatment recharge and innovation, and land acquisition elements.

Living Shoreline Restoration and Wetland Creation Program

Collaborating to Restore Essential Habitats // City of Norfolk, VA



BC completed assessment, design, permitting and construction services to restore 11,500 lf of shoreline. BC held pre-application meetings with the U.S. Army Corps of Engineers and the Virginia Marine Resources Commission to discuss innovative design strategies, and coordinated with the Virginia Institute

of Marine Science to develop a lower-profile sill. The program restored eroding shorelines to protect roads and utilities and developed a more resilient, lower profile sill that allows greater access for mussels and other fish to tidal wetland marshes. The marshes also enhance water quality by filtering run-off and trapping nutrient-rich soils.

Quincy Water Reuse Utility Program

Bolstering Regional Resilience through Industrial Water Reuse // City of Quincy, WA



In the mid-2000s, the development of data centers in Quincy caused industrial water needs to diversify beyond the agricultural and food processing businesses that comprised their historical industrial base. Starting in 2007, a regional planning effort, guided by the Port of Quincy, City of Quincy, and

various Washington State agencies, identified the need for a new reclaimed water utility to manage data center cooling system discharges and limit industrial demands on the City's municipal drinking water system. In support of this effort, BC developed a feasibility study that eventually

On the Forefront of One Water

BC was on the forefront of the One Water movement through the development of Blueprint for One Water: A practical guide for agencies seeking to manage water resources holistically and sustainably, in partnership with the Water Research Foundation. Our team facilitated an international survey of 800+ water professionals, conducted more than 10 one-on-one interviews, and led a two-day international workshop with 35 participants. This effort demonstrated our capability to successfully facilitate large-scale surveys with complex stakeholders. The Blueprint features lessons learned from early One Water adopters and provides useful steps that any water agency can implement on their integrated water management path. BC's creative surveying and outreach approach combined with One Water technical expertise sets our team apart as the leaders of this movement.



evolved into the Quincy Water Reuse Utility, which was commissioned in June 2021. Throughout development of the Quincy Water Reuse Utility, BC partnered with the City to provide technical expertise and support, alternatives evaluations, and engineering design and construction services at multiple treatment facilities.

1W2100 Integrated One Water Plan

Scenario Planning for Climate Change, Resiliency and Equity // Tucson Water, AZ



To help continue successful water stewardship and management and provide long-term reliable supply, BC led a scenario planning process with a diverse group of stakeholders focusing on climate, policy, and demographic uncertainties. This scenario planning supports Tucson Water's One Water Vision for better water management and supply—improving quality of life by protecting and restoring riparian areas, increasing urban tree canopy, and supporting economic growth; being fiscally responsible and equitable in choosing projects and programs; and ensuring safe, high quality water supplies for public confidence.

Healthy Waters Plan

Community-Centered Planning to Foster a More Resilient and Equitable Future // City of Vancouver, BC, Canada



The Healthy Waters Plan is a 50-year, stakeholder driven, strategy to guide the growth and renewal of the City of Vancouver's sewer and drainage system. BC is leading a team of planners, engineers, and engagement specialists in developing recommendations that will help the City manage its investments in green and grey stormwater and sewer infrastructure to achieve better water quality outcomes while addressing climate change impacts like flooding, urban heat and sea level rise and affordability concerns. The plan assessed the City's current state of sewer and stormwater systems and worked to integrate rainwater and sewer infrastructure policies, projects, and programs into the City's landscape using a One Water approach. The resulting adaptive pathway forward represents an agreement between project partners on the right balance of green and grey infrastructure for increased water quality benefits based on technical analysis and community values.

A Community-Centered Approach to One Water

The key to BC's successful One Water delivery is our community-centered approach. It starts by:

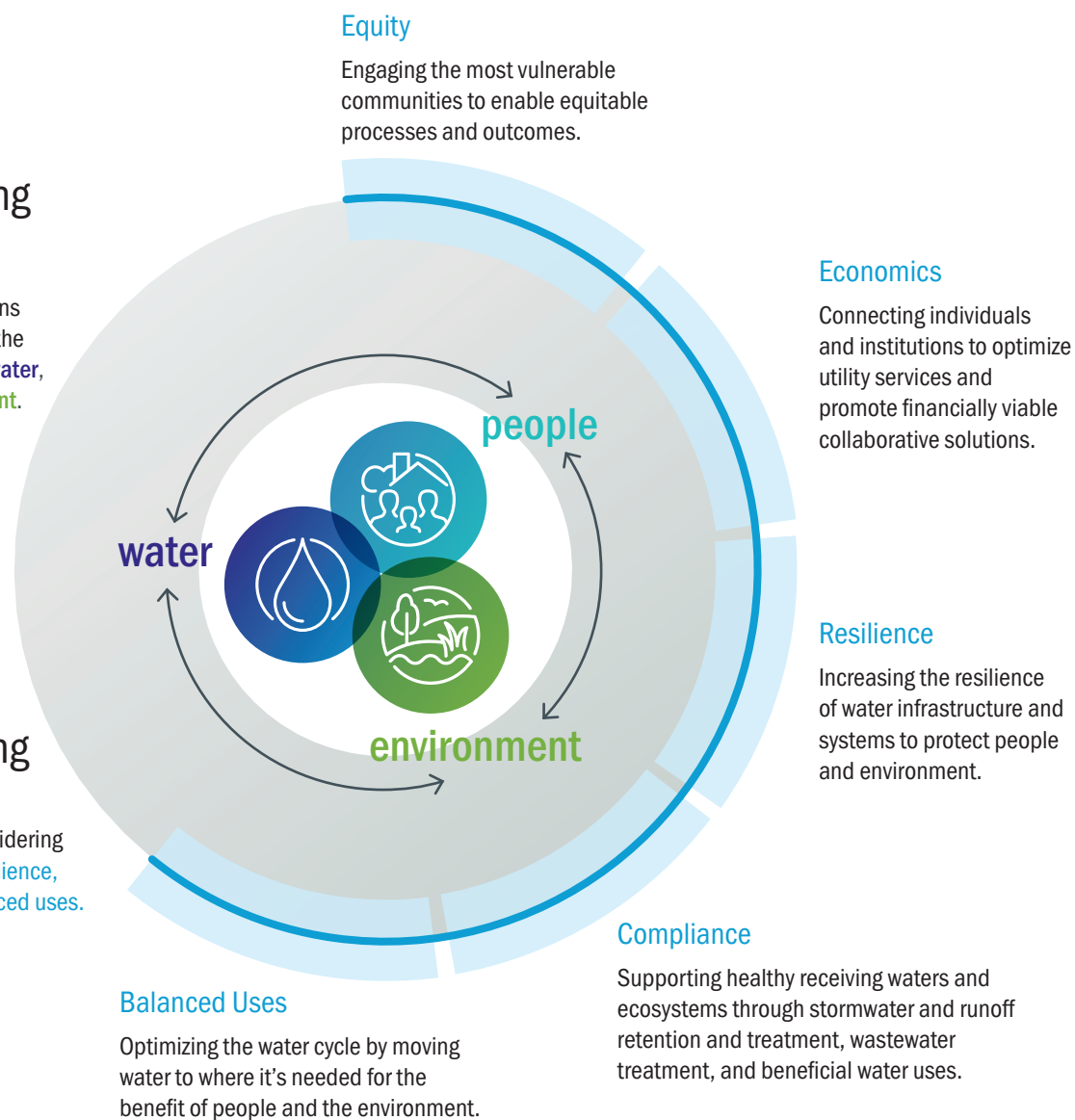
- Taking a holistic view to understand the complex connections between water, people, and environment
- Centering collaboration and community engagement, to leverage and integrate resources, technology, data, and experiences
- Co-creating with our clients and communities projects, policies, and practices that harness the value of water to create thriving communities and healthy ecosystems

Understanding Connections

At BC, One Water is a lens through which we view the connections between **water**, **people**, and **environment**.

Considering and Advancing

We act and leverage connections while considering **equity**, **economics**, **resilience**, **compliance**, and **balanced uses**.





Areas of Expertise

Stormwater and Nature-Based Solutions

Stormwater is a key component of the water cycle, including runoff, infiltration, and groundwater recharge. Good stewardship of stormwater is essential to the protection of human life and real property. Stormwater management includes flood prevention, preservation of water quality, groundwater recharge, and instream flows to protect both terrestrial and aquatic ecosystems that are leveraged in native cultural practices and modern life.

BC has a history of helping clients solve water resource issues with cost-effective, science-based, environmentally beneficial solutions. We have been at the forefront of stormwater management, regulatory compliance, and water quality restoration since the inception of stormwater regulations.

BC has developed Master Plans to include a variety of capital project and maintenance program solutions to manage the integrity and performance of our clients' stormwater infrastructure. Master plans are often developed to address multiple objectives, such as total maximum daily load (TMDL) compliance, flood control, and infrastructure asset management. Our master plans focus on identifying implementable projects to support our clients' drainage and water quality objectives as well as capital investments. We leverage client geographic information system data, staff input, public surveys, site visits, and workshops to develop a comprehensive understanding of the system, including its capabilities and deficiencies. We also use hydraulic and hydrologic modeling and water quality modeling to evaluate system capacity to help identify multi-benefit solutions that resonate with stakeholders.

Master plans must integrate a wide range of client priorities and disseminate information in a clear, concise, and implementable plan. Our team develops and costs project and program alternatives to address capacity, water quality, system condition, and natural resources. Selection and prioritization of these capital projects and programs are essential to develop a clear path forward to manage stormwater infrastructure. We often include stormwater funding analyses with master planning efforts to confirm funding levels are in line with community objectives and desired levels of service.

BC brings local and national expertise to problem identification, policy development, modeling, master planning, and design to support your specific stormwater management needs. Our deep regulatory and technical knowledge, coupled with efficient service, provide solutions that minimize the cost of stormwater management and compliance and promote sustainable practices and operations.

Our project approach is to support flexibility and adaptive management to respond to changes and adjust to an ever-growing body of information. Fundamental to flexible design and adaption is prioritizing no-regret or low-regret strategies, strengthening interdependent systems, and pursuing multi-benefit and nature-based solutions.

KEY SERVICE CATEGORIES MODELING

- Local to citywide scales
- 1D and 2D hydrologic and hydraulic
- Water quality
- Future rainfall projection

MASTER PLANNING

- Flood mitigation
- Water quality improvements
- Integrated planning
- Watershed
- Asset management
- Condition assessments
- NPDES permit and TMDL program development and compliance

DESIGN

- Green stormwater infrastructure
- Living shorelines
- Stream restoration
- Ecosystem restoration
- Flood control
- Conveyance and pump systems
- Street trees
- Stormwater parks
- Integrated green gray infrastructure
- Precipitation intensity analysis
- Constructed wetlands

EQUITY

- Equity and environmental justice



KEY // ● Modeling ● Master Planning ● Design ● Equity

Nature-based solutions leverage the connections between water management and its intersection with ecosystems, species health, and communities to protect people, optimize infrastructure and contribute to a stable and biodiverse future. At its foundation, a nature-based solutions approach illustrates the essential connections between land and water management. The health of communities is directly connected to the health of the ecosystems they depend upon. BC helps our clients assess, plan and respond for these systems and their vulnerability to changing climate conditions.

At BC, we also recognize the increased vulnerability of disadvantaged communities especially as it relates to the impacts of climate change. We take a community-centered approach to planning and design: focus on the community needs and create a dialogue with community members. This leads to projects meeting multiple community needs, accounting for equity considerations, and fostering resilience.

Our deep regulatory and technical knowledge, coupled with efficient service, provides solutions that minimize the cost of stormwater management and compliance and promotes sustainable practices and operations.

Maui Drainline Condition Assessment Program, County of Maui, Dept. of Public Works, Engineering Division, Maui, Hawaii ●

Over the last several years, the County has partnered with BC to execute a storm drain condition assessment program. The work includes screening-level storm drain inspections, evaluations, and structural and operational condition assessments in separate regions of Maui. In Central, West, and South Maui, and Lahaina over 1,500

structures and 39 miles of pipeline have been inspected in accordance with the National Association of Sewer Service Companies guidelines. BC uses inspection results and condition assessments to prioritize stormwater pipelines and structures that need immediate cleaning, additional detailed inspections, or structural repair. These projects, each with their own contract, provide the County with proactive asset management of the island's storm drainage system through a risk-prioritization process that results in a 10-plus-year stormwater pipe repair and replacement program that fits within the County's Capital Improvement Plan budget.

Kaelepulu Green Infrastructure (GI) Improvements, City and County of Honolulu, Dept. of Facility Maintenance, Kailua, Hawaii ●

BC is working with the City to implement structural best management practices (BMPs) with the goal of reducing pollutants discharged through the City's storm drainage system into Kaelepulu Pond. These BMP improvements will address pollutants of concern such as sediment, trash, nutrients, and metals that are typically associated with urbanized areas. BC is leading the design and preparation of construction contract documents to implement two storm water treatment improvements at one location in Kailua, Hawaii. Improvements included the installation of approximately 300 linear feet of green infrastructure northwest of Akiohala Street to infiltrate and treat stormwater and the installation of one hydrodynamic separator to provide sediment and trash removal. BC is also implementing a stakeholder engagement and outreach process throughout this project, to communicate and share project progress as well as document input on future storm water projects.

Vehicle Wash Water Management Study, Environmental Consultation, County of Maui, Dept. of Public Works, Highways Division, Wailuku, Hawaii ●

BC conducted a study to evaluate feasible options for wash water management at two vehicle wash facilities sites for the County of Maui, Dept. of Public Works. To reduce pollution to the County stormdrain system, the study assessed the future wash water discharge quality and demand against available treatment technology and regulatory policies for various disposal options, including a zero-discharge solution. Options were screened for public perception, operations and maintenance considerations, site considerations and life-cycle cost. Moreover, the project identified the need for policy changes and inter-agency policy coordination to optimize industrial water use and minimize industrial pollutant discharge to the environment.

Stormwater Management Program, State of Hawaii, Dept. of Transportation, Oahu, Hawaii ●●

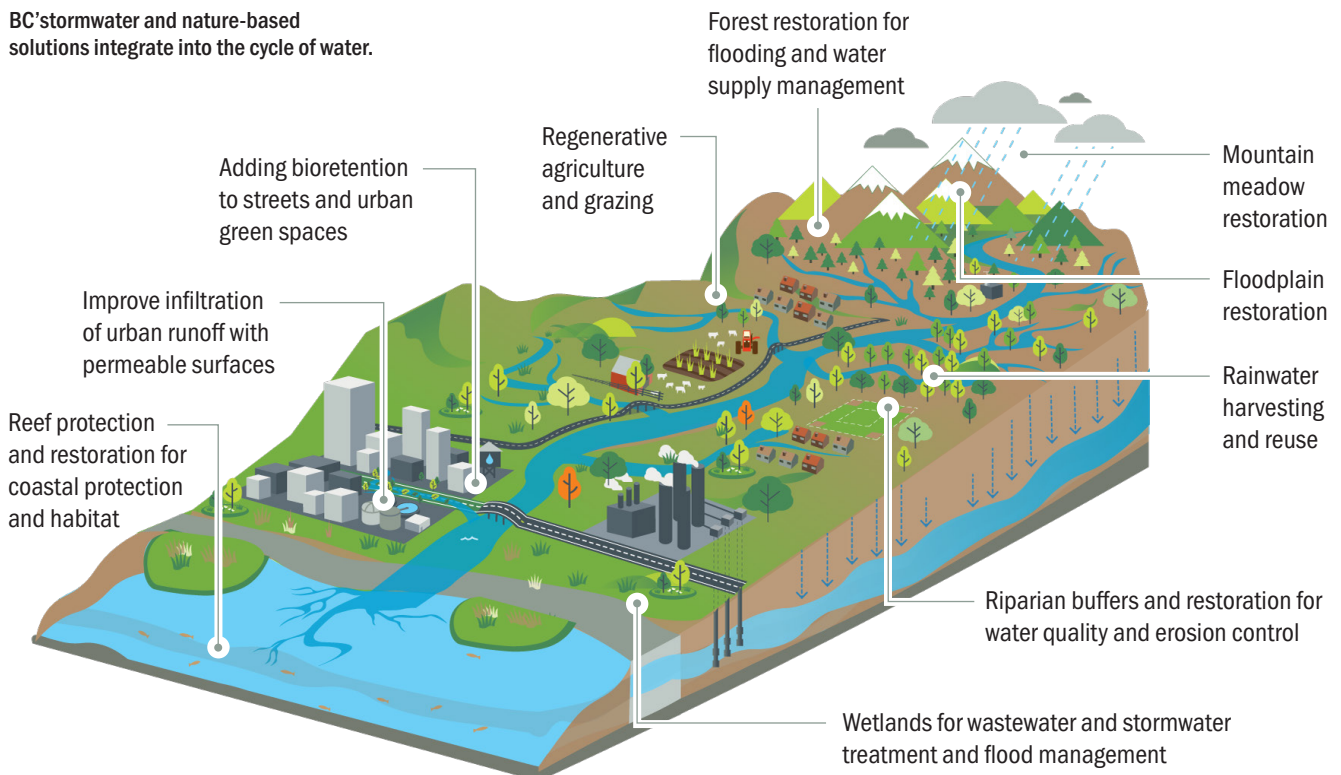
State of Hawaii, Dept. of Transportation (HDOT) facilities are located within watersheds that discharge to impaired waterbodies due to excess nutrients (nitrogen and phosphorus) and high turbidity. BC is providing engineering services to support, evaluate, and negotiate TMDL requirements that adhere to Environmental Protection Agency regulations and meet state water quality standards. BC's work includes completing technical reviews and

analyses, and providing questions, guidance, and recommendations throughout the TMDL development process. This includes tasks from establishing land use delineations, developing watershed model(s), determining loading capacity, and assigning draft and final MS4 load allocations. Additionally, BC will support HDOT-Oahu in developing an Implementation and Monitoring Plan to achieve compliance with load allocations set by final TMDL requirements. Ultimately, this project will support HDOT in improving water quality in Keehi Lagoon.

Statewide Stormwater Study, U.S. Bureau of Reclamation, Statewide, Hawaii ●

BC evaluated hydrogeological information for the completion of three study elements: 1) Stormwater Reclamation and Reuse Framework which identified institutional, social, cultural, and political issues that both enable and hinder stormwater reclamation and reuse, and technical and non-technical solutions to overcome barriers for stormwater reuse, 2) Refinement of the Ewa Plain Stormwater Reclamation and Reuse Opportunity—Potential development of non-potable groundwater recharge at a specific site in the Ewa Plain area of Oahu, and 3) Use of Stormwater Reclamation and Reuse in Hawaii—Focused on groundwater recharge for statewide groundwater aquifers by using a range of technologies.

BC's stormwater and nature-based solutions integrate into the cycle of water.



National Experience

StreetsLA One Infrastructure Plan, City of Los Angeles, StreetsLA, Los Angeles, California ●●●

Los Angeles is seeking opportunities to increase its resilience to climate change. The BC team is working with cross-agency and community stakeholders to identify capital project planning goals and to create a methodology that can be used to identify multi-agency funding and planning objectives and identify which are the most competitive for the various funding sources.

San Gabriel Valley Greenway Network Strategic Implementation Plan, Los Angeles County Public Works, San Gabriel Valley, California ●●●

BC is leading a multi-objective plan to transform Los Angeles County Flood Control District's facilities into a greenway network. The project includes watershed and infrastructure analysis and stakeholder engagement to identify upgrades and enhancements to flood management assets, condition assessments and environmental reviews, and greenway design standards development.

Green Streets Standard Plans and Design Guidelines, Los Angeles County Public Works, Los Angeles County, California ●●

BC developed the Green Streets Standard Plans and Design Guidelines to assist the Los Angeles County Public Works Stormwater Division in selecting, designing, and implementing appropriate streetscape BMPs. The plans and guidelines focused on four BMP categories: 1) bioretention, 2) subsurface infiltration, 3) permeable pavement, and 4) components. The Green Streets Standard Plan also includes standardized tools to help designers size BMPs and calculate capture volumes.

Integrated Watershed Improvement Services, City of Atlanta, Georgia ●●

BC developed an integrated watershed plan for flood protection, water quality improvement, and long-term asset management. BC identified green infrastructure projects, prioritized projects, and developed green infrastructure management plans, design details, and specifications.

Lafayette River Living Shoreline Designs, City of Norfolk, Virginia ●●

BC designed six living shorelines along the Lafayette River, including approximately 111,000 feet of shoreline and over three acres of wetland restoration. BC collaborated on the designs for a hybrid sill detail for low and medium wave energy and focused on extending the marsh wetland up to 40 feet to prevent coastal deterioration.

Integrated Quantity and Quality with Equity, City of Raleigh, North Carolina ●●●●

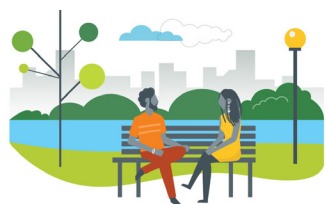
BC developed the first integrated watershed study for the City of Raleigh, which included hydraulic and hydrologic modeling and the use of BC's WIP tools to evaluate flooding and water quality solutions. The watershed study and methodology were both informed by an equity framework for watershed studies, identifying goals for watershed study development with equitable project identification and community engagement.

One Water Master Plan, City of Winter Haven, Florida ●

BC is supporting the advancement of the Sapphire Necklace Restoration Concept, which will form as extensive greenway loop around the City, and provide water storage, wetlands restoration, resiliency, recharge, and water quality improvement.

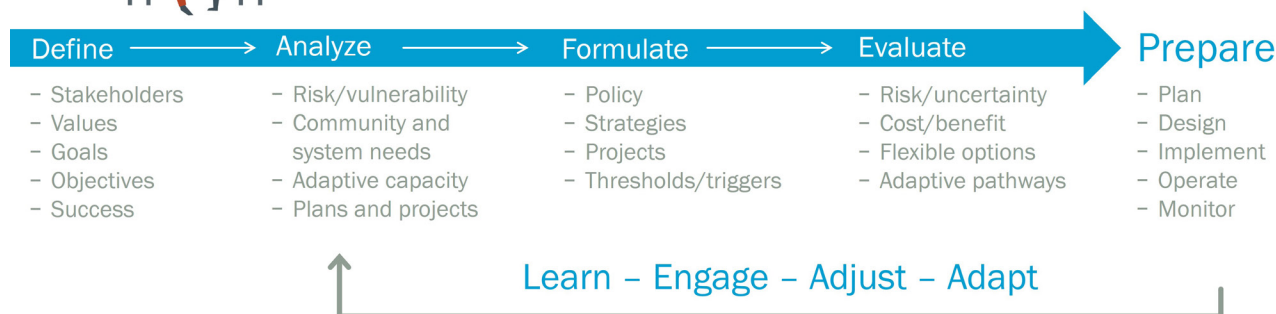
Vista Grande Constructed Wetlands, City of Daly, California ●

This project includes the design of infrastructure and wetlands improvements to address storm-related flooding in the Vista Grande Watershed Drainage Basin while delivering stormwater to restore San Francisco's Lake Merced's water level. The project will also protect the ocean outfall from coastal erosion and stormwater debris, while reconnecting a significant portion of the Lake Merced Watershed to Lake Merced.



Approach to Climate Change Adaptation

Helping our communities become more climate resilient.



Areas of Expertise

Climate Change

Helping our communities overcome challenges from climate change is the overriding issue of the 21st century and one of the priority issues of the State of Hawaii.

BC recognizes that climate change presents many challenges, but there are also many solutions that can be achieved through collaboration. Accelerated sea level rise, changing precipitation patterns that increase the likelihood of wildfire, drought, and flooding, as well as greater storm intensities among other climate-related hazards, pose risks to communities, built infrastructure, and natural environments.

BC collaborates with clients to develop a comprehensive understanding of climate impacts across the watershed and to explore solutions that promote resilience. Impacts are being felt now and should be planned for in the future to protect Hawaii's economy, sustainability, security, and way of life. To plan for and implement solutions for climate resilience, BC brings together key stakeholders to collaboratively define goals and conduct climate risk and vulnerability assessments, while leveraging the best state of science with stakeholder input. BC analyzes a range of potential impacts and scenarios, existing adaptive capacity, and community and utility needs to formulate and evaluate solutions and understand their triggers and sequencing. This enables us to help our clients establish clear, adaptive pathways and take proactive steps to implement adaptive measures for operations, infrastructure, and systems that serve our communities.

Staying true to our company mission, BC pursues this work and approach to foster more resilient, thriving communities. Throughout this journey, BC builds in flexibility to adapt to future changes and new knowledge, while identifying opportunities to support vulnerable and frontline communities and build greater climate equity.

Koolaupoko Climate Resilience and Adaptation Project, Research Corporation of the University of Hawaii, Kaneohe, Hawaii

The Dept. of Defense is conducting a Military Installation Resilience Review focused on the Koolaupoko region on Oahu, Hawaii, which surrounds the Marine Corps Base Hawaii. As the base is an integral part of the Koolaupoko region, the review will identify climate-related threats and hazards to the communities within the region and provide recommendations to enhance resiliency and adaptation capacity of the vulnerable infrastructure (i.e., transportation, water systems, natural and cultural assets). BC is supporting the University of Hawaii by mapping infrastructure with climate-related hazards to complete vulnerability assessments, infrastructure typology adaptation strategies, as well as regional adaptation strategies.

The project will identify pilot projects and project champions to implement adaptation strategies across the region. Examples of climate-related concerns include sea level rise, erosion, flooding, extreme heat, altered precipitation patterns, and

KEY SERVICE CATEGORIES

- Climate adaptation planning
- Climate change mitigation
- Resilient planning and design
- Risk and vulnerability assessments
- Scenario evaluation and planning
- Adaptation strategy development and evaluation
- Adaptation pathways and adaptive management
- Drought planning
- Water conservation
- Policy analysis
- Strategic planning
- Staff training
- Workshop facilitation

increased wildfire risk. BC's review integrates knowledge from scientists, community members, government officials and other technical stakeholders and includes information from climate modeling, vulnerability assessments, and infrastructure mapping.

Hoaloha Park Adaptation Plan, County of Maui, Dept. of Parks and Recreation, Kahului, Hawaii

Hoaloha Park is an urban beach park located at Kahului Harbor, Maui, used for various coastal recreational activities, including outrigger paddling, fishing, and surfing. As a coastal beach park, it was identified as having a medium potential to withstand impacts of sea level rise. BC supported SSFM International, Inc. and Integral Consulting, Inc. in developing the Hoaloha Park Adaptation Plan which included a site and infrastructure vulnerability assessment, user impact evaluation, and adaptation planning specific to Hoaloha Park.

Impacts of Climate Change on Honolulu Water Supplies and Planning Strategies for Mitigation, Honolulu Board of Water Supply/Water Research Foundation, Honolulu, Hawaii

The Water Research Foundation and the Honolulu Board of Water Supply selected BC to develop a climate change adaptive management plan to mitigate potential risks

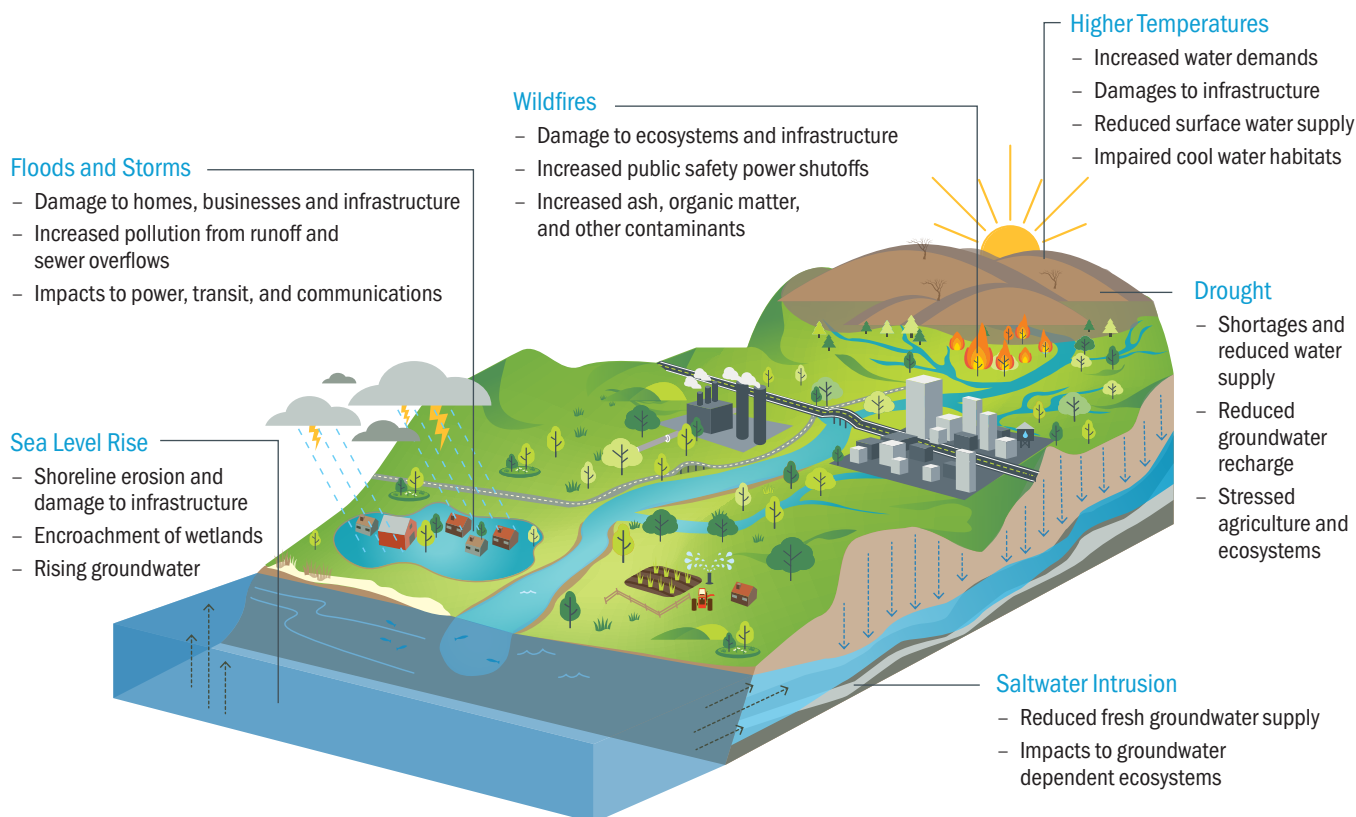
to water supply, treatment, and distribution system infrastructure. The primary objective was to evaluate climate change impacts on the Board of Water Supply and its assets. The project incorporated scenario planning and uncertainty into the process to assess the reliability and resiliency of critical infrastructure. BC identified a suite of adaptive measures for the planning horizon of the study: 2020-2100.

Countywide Pump Station Inundation Study, County of Maui, Dept. of Environmental Management, Wastewater Reclamation Division, Wailuku, Hawaii

BC provided a comprehensive inundation study of the County's wastewater infrastructure exposed to and impacted by sea level rise and storm surge. The project assisted the County in defining level of service goals to evaluate and prepare for projected sea level rise, coastal erosion, and storm surge impacts; developed a prioritized list of critical County wastewater facilities and pipeline systems; and identified adaptation strategies and recommended improvements for wastewater system assets.

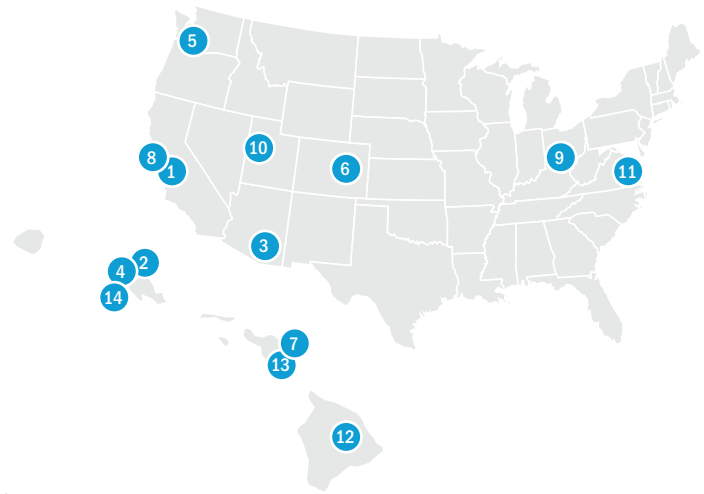
Climate Impacts Across the Watershed

Using the watershed as the unit of analysis for climate change impacts supports a more holistic understanding of interconnected systems, avoids maladaptation, and enables collaborative implementation of adaptive solutions.



BC Approach

BC's approach is driven by the need to maintain flexibility and encourage adaptive management to respond to changes and adjust to an ever-growing body of information. Fundamental methods for flexible design and adaptation include prioritizing no-regret or low-regret strategies, consideration of multiple scenarios or future conditions, strengthening interdependent systems, and pursuing multi-benefit nature-based solutions.



Selected Relevant Projects

1 Climate Adaptation Plan

Alameda County Water District, CA

BC supported the District in developing an understanding of climate vulnerabilities, prioritizing physical and regulatory climate-related risks, and preparing adaptation strategies and adaptive pathways into a cohesive plan.

2 Impacts of Climate Change on Honolulu Water Supplies and Planning Strategies for Mitigation

Honolulu Board of Water Supply/Water Research Foundation, HI

BC developed an adaptive management plan to evaluate climate change impacts to the Board of Water Supply's infrastructure and identified a suite of adaptive measures.

3 1W2100 Integrated One Water Plan

Tucson Water, AZ

With a scenario planning process, BC supported identification of climate-based and policy-based uncertainties that drive future water availability, demand, and resilience to future climate and policy impacts.

4 One Water Climate Adaptation Framework and Projects Plan

City and County of Honolulu, HI

BC is leading a multi-year infrastructure investment strategy that fosters collaboration across multiple City and County agencies and moves forward projects, policies, and actions for proactive climate change adaptation and resilient capital planning.

5 Shape Our Water

Seattle Public Utilities, WA

Moving beyond regulatory obligations, BC supported an Integrated Plan to develop an equitable, resilient, and affordable long-term plan that is flexible to changing climate and uncertainties in future conditions.

6 Colorado Water Plan Update

Colorado Water Conservation Board, CO

Following an adaptive management approach, BC utilized scenario planning with climate change assumptions to provide estimates of future risks to supplies and established a vision for meeting future water challenges.

7 Countywide Pump Station Inundation Study

County of Maui, HI

BC provided a comprehensive study of the County's wastewater infrastructure exposed to and impacted by sea level rise and storm surge, and recommended improvement projects for high priority facilities and regions to inform utility and community planning.

8 Drought Contingency Plan and Shared Water Access Program

Bay Area Regional Reliability Partners, CA

BC provided a watershed-based assessment of climate impacts and risks to water and wastewater treatment, water quality, agriculture, economy, energy, public health, and the environment.

9 Water Utility Planning Strategies to Mitigate Impacts of Climate Change in Central Ohio

Mid-Ohio Regional Planning Commission, OH

BC provided a watershed-based assessment of climate impacts and risks to water and wastewater treatment, water quality, agriculture, economy, energy, public health, and the environment.

10 Drought Contingency Plan

Jordan Valley Water Conservancy, UT

BC helped the Conservancy secure a grant and developed a drought contingency plan to build long-term resilience to drought, understand vulnerabilities, and reduce drought impacts on water quality and quantity across 17 member agencies.

11 Living Shoreline Restoration and Wetland Creation Program

City of Norfolk, VA

BC developed a coastal resilience project involving hybrid sill detail for low and medium wave energy and a focus on extending marsh wetland 30 to 40 feet to prevent coastal deterioration.

12 Risk and Resiliency Assessment and Emergency Response Update

County of Hawaii, HI

BC completed an island-wide analysis of the County's ability to maintain water service during select emergencies and provided recommendations to improve preparedness and prevention of impacts from natural and man-made hazards including sea level rise.

13 Hoaloa Park Adaptation Plan

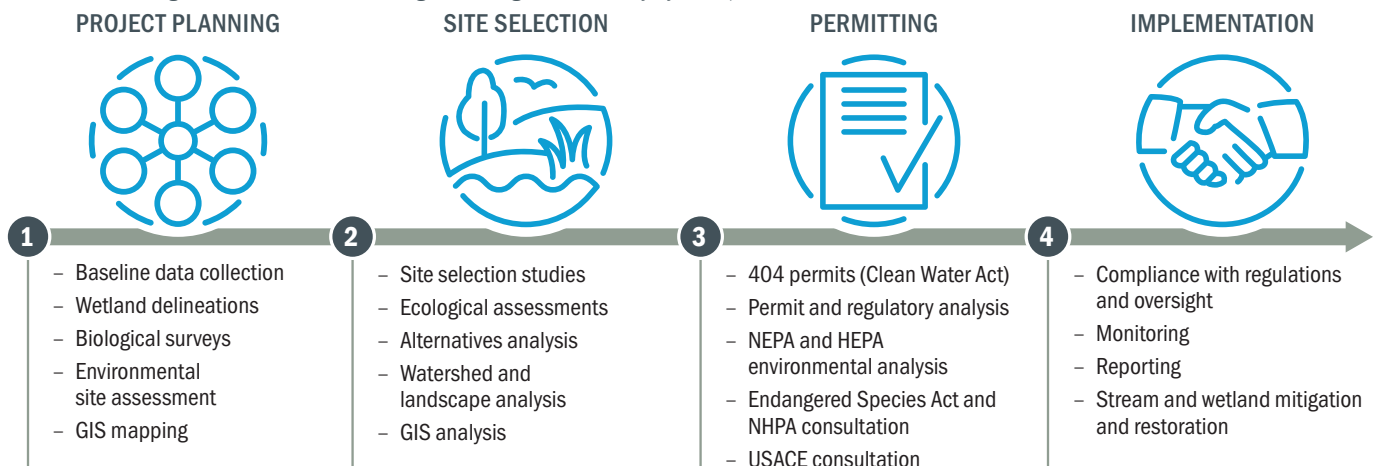
County of Maui, HI

BC supported the development of the first adaptation plan for a coastal beach park in Hawaii.

14 Koolaupoko Climate Resilience and Adaptation Project

Research Corporation of the University of Hawaii, HI

BC is working with the University of Hawaii to conduct a climate vulnerability assessment for sea level rise, wildfire, drought, heat, and pluvial flooding that analyzes climate impacts, identifies adaptation strategies, and develops pilot projects to support community resilience.



Areas of Expertise

Environmental Planning and Permitting

Early understanding of site constraints, historic conditions, and future impacts is crucial to achieve a project design that can be readily implemented.

BC's staff assesses properties for environmental site constraints using a combination of field work, literature, review, online information sources, and leveraging our strong relationships with regulatory agencies. BC is ready to support you by implementing a planning process that promotes clear decision making. An informed plan will yield better scheduling and budgeting. Our team can help guide you through the entire projects lifecycle—from the early stages of project planning through project execution and monitoring.

BC delivers confidence to your compliance programs through tailored environmental solutions:

Programmatic Approach. Nationwide compliance program development to provide facilities the tools to implement efficiencies, maintain compliance, and reduce unknown risks.

Regulatory Compliance. Confidence in applicable regulations and requirements, timeliness, accurate submittal of reports and plans, and completeness of required record keeping.

Operational Flexibility. Through permit negotiation and knowledge of applicable regulations, laws, and system operations.

Informed Business Decisions. Awareness of proposed and new regulations can assist in developing business strategies and preparing for the future.

Cost Control. Ongoing environmental awareness allows utilities to proactively plan for upgrades to meet future regulatory updates, ultimately avoiding costly fines and allowing for preventive maintenance on critical systems.

Public Perception. Improved environmental performance and prevention of potential incidents increases public trust, and builds positive relationships with regulatory agencies.

Our Relationships

BC combines a sharp technical approach using our experience and relationships to create a regulatory advantage for our clients. Services may range from permit application responsibility and compliance action to technical consultation on in-house programs. BC has established agency relationships that help our clients through the maze of permitting requirements and tailor our level of service to our clients' needs, such as:

- Incorporating sound practices that minimize or remove a permit or adjust burdensome permit conditions.
- Attaining complex operating permits or mandatory environmental permits.

KEY SERVICE CATEGORIES

- Environmental Assessment/Impact Statements
- Clean Water Act Section 402, National Pollution Discharge Elimination System (NPDES) Permits
- Plan Review Use and Conditional Use Permits
- Stormwater Pollution Prevention Plans
- Spill Prevention Control and Countermeasure Plans
- Rivers and Harbors Act Section 10 and Clean Water Act Section 404 (U.S. Army Corps of Engineers) Permits
- Clean Water Act Section 401 (State Dept. of Health Clean Water Branch) Water Quality Certification
- Special Management Area Permits
- Conservation District Use Application Permits
- Coastal Zone Management Federal Consistency
- Municipal Separate Storm Sewer System Permits
- Erosion and Sediment Control Plan Coordination

- Implementing an environmental compliance program that satisfies all applicable regulatory requirements.
- Conducting audits to take early response rather than reacting to violations or enforcement.

Ocean Current Monitoring, Nutrient Assimilative Capacity Evaluations and Outfall Dilution Analysis Study, City and County of Honolulu, Dept. of Environmental Services, Honolulu, Hawaii

BC is providing technical assistance to the City and County of Honolulu related to National Pollutant Discharge Elimination System permit renewals and issues. The focus of these studies is outfall dilution and assimilative capacity at four wastewater treatment plants. This project includes dilution modeling and assimilative capacity determination for four NPDES permitted facilities. BC has already completed a year-long continuous data collection effort at the Kailua Wastewater Treatment Plant Mokapu Ocean Outfall.

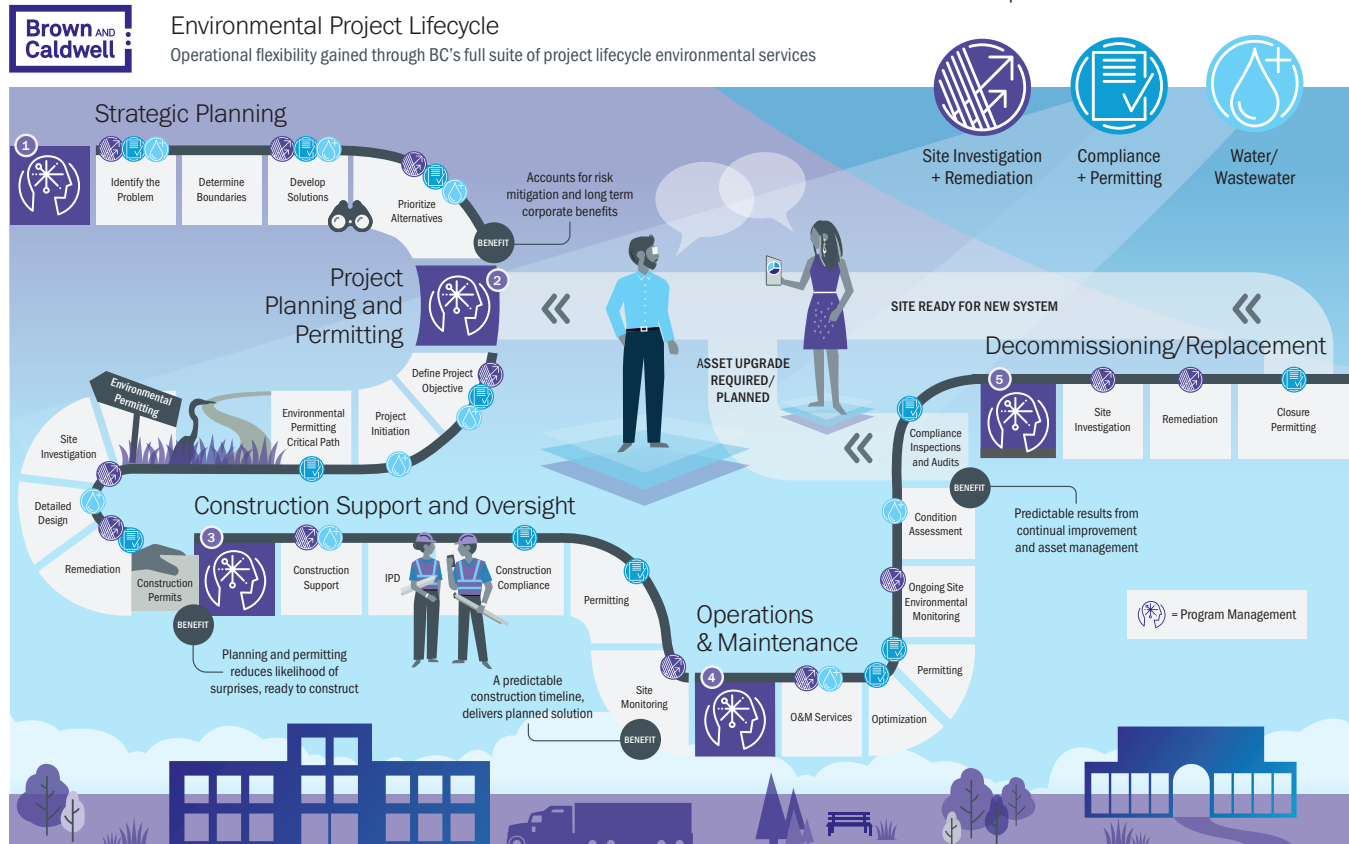
Engineering Services to Design a Wastewater Treatment Collection and Disposal System for the Pahala Wastewater Treatment Plant and Post-Design, County of Hawaii, Dept. of Environmental Management, Pahala, Hawaii

BC provided engineering services for the closure of large capacity cesspools and design of new wastewater infrastructure in Pahala, to meet updated effluent discharge

requirements dictated by the U.S. Environmental Protection Agency. BC completed the planning phase, which included a preliminary engineering report, environmental assessment, regulatory and permit identification, site alternatives evaluation and land acquisition, community outreach, and conceptual alternatives for the design, construction, and commissioning of the system. While the infrastructure was originally designed around a natural treatment system to minimize environmental impacts, simplify maintenance requirements, and achieve reliability, BC evaluated alternative treatment technologies to address additional constraints related to affordability and unique geology of the area.

Zone of Mixing Dilution and Assimilative Capacity Study for the Hilo, Papaikou, and Kulaimano Wastewater Treatment Plants, County of Hawaii, Dept. of Environmental Management, Hilo, Papaikou, and Kulaimano, Hawaii

BC conducted a mixing zone dilution analysis study for the three County of Hawaii wastewater treatment plants with ocean outfalls. The study included field data collection and modeling for all three wastewater treatment plants to determine a dilution factor at the edge of the zone of mixing, as required by their NPDES permits. BC used comprehensive data collected during the outfall dilution field study to document environmental conditions, evaluate dilution, support numerical modeling, and provide guidance and assistance with NPDES permit renewal.



BC closely collaborates with our clients to navigate the maze of permitting requirements and tailor our level of service to meet the unique needs of each client.



Areas of Expertise

Desalination

BC offers a full-suite of services for desalination projects. Our experience includes seawater desalination, brackish water desalting, water reuse applications, and specialty industrial process applications.

BC staff have experience with membranes and projection (modeling) programs from all major membrane manufacturers including Dow, Toray, Hydranautics, Koch Membrane Systems (Fluid Systems), and others. BC routinely evaluates new innovative approaches and technologies for desalination including closed circuit reverse osmosis, membrane distillation, and high recovery systems.

Desalination Feasibility Study, County of Maui, Dept. of Water Supply, County of Maui, Hawaii

BC conducted a comprehensive feasibility study to evaluate desalination as a sustainable potable water supply source for the County of Maui, focusing on the utilization of brackish and salt water. This project involved identifying optimal siting locations for desalination facilities, aiming to minimize ecological impact while maximizing access to water sources. Various desalination technologies were assessed to determine the most effective and cost-efficient methods for treating these waters. Energy management strategies explored renewable energy options to meet the energy demands of the desalination process sustainably. Additionally, the study analyzed effluent disposal options, including brine management, to address compliance with local regulations and minimize environmental harm. By integrating these elements, BC aimed to enhance Maui's water supply resilience through innovative desalination solutions, ultimately contributing to the region's long-term sustainability and water security. BC developed class 4 cost estimates for 0.5 expandable to 2 mgd brackish desalination facility and a 4 mgd saltwater desalination facility.

Seawater Desalination Feasibility Study, Port of Long Beach, Long Beach, California

BC developed conceptual designs and opinions of cost for 1, 2.5, and 5 mgd capacity seawater desalination facility to support Port of Long Beach's Energy Island Initiative. The seawater desalination plant consisted of subsurface seawater intake, media filtration pretreatment, seawater reverse osmosis, and post treatment. Several potential sites and conveyance routes were evaluated to minimize overall project cost and impacts to Port of Long Beach operations.

DC Tillman Groundwater Replenishment Advanced Water Purification Facility Pilot Project, City of Los Angeles, Dept. of Public Works, Bureau of Sanitation, Los Angeles, California

In support of Los Angeles' goal to recycle as much wastewater as possible, as cost-effectively as possible, BC developed and managed the design, construction, and operation of a pilot facility to evaluate advanced purification technologies using treated wastewater effluent from the Donald C. Tillman Water Reclamation Plant. The facility will determine an optimal advanced treatment train to produce purified recycled water from the plant, which will be used to increase groundwater recharge in the San Fernando Basin and supplement drinking water supplies. The ultimate goal is to produce purified water

KEY SERVICE CATEGORIES

- Engineering feasibility studies
- Reverse osmosis and nanofiltration projection modeling
- Bench scale, pilot scale, and demonstration studies
- Preliminary design
- Detailed design
- Process and operations evaluation
- Operations and maintenance (O&M) manuals development
- Operator training
- Construction administration

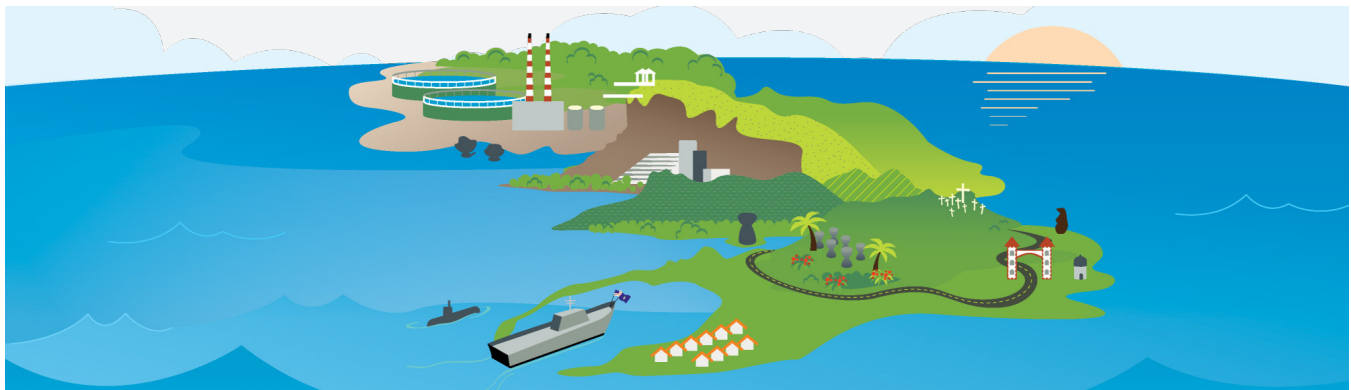
that would replenish up to 30,000 acre-feet per year at existing spreading grounds and new injection wells. This project lays the groundwork for Los Angeles to make swift progress toward full-scale implementation of an advanced treatment facility and is a key step in Los Angeles' movement toward potable reuse.

North Pleasant Valley Groundwater Desalter, City of Camarillo, California

BC designed a new, greenfield groundwater desalter facility to maximize local groundwater resources and reduce reliance on imported water supplies. Under Phase I, the desalter facility was designed to treat 4,500 acre feet per year of brackish groundwater to potable water standards and master planned to treat 9,000 acre feet per year under Phase II. Treatment processes included pretreatment greensand filtration, reverse osmosis, decarbonation, post-treatment stabilization and disinfection, and treated water distribution. The new facility includes all utilities, structures, and mechanical processes to remove salinity, as well as other secondary contaminants of concern from two wells to produce high-quality water for the City's drinking water distribution supply system. The desalter facility also includes an administration and operations building seeking LEED Silver Certification. Technical workshops and facilitated decision making with City staff were key elements of the project meeting an aggressive 12-month design schedule.

P-113 Post Award Contract Services, U.S. Navy, NAVFAC Atlantic, San Diego, California

BC served as owner's agent for the \$90M design-build of a water treatment plant designed to reduce total dissolved solids and total organic carbon from brackish well water supply. The project includes the modeling of reverse osmosis reject and/or brine ocean disposal; development of basis-of-design technical memoranda, draft engineer's report, and construction drawings; construction cost estimates; and design-build procurement.



Areas of Expertise

Program Management

BC is leading some of the largest, most complex and innovative program management efforts in North America and the Pacific. We offer exceptional experience in all facets of large program management for water and wastewater utilities. This gives our clients increased confidence that they will achieve their long-term goals.

We have led dozens of programs, leveraging state-of-the-art program management tools, using proven processes, and working collaboratively with utility staff. BC is committed to delivering customized, innovative solutions, which support on-schedule and on-budget programs. BC has completed more than \$10B of water-focused program management services across the U.S. to date. Through these projects, we have saved our clients money, met regulatory requirements and deadlines, incorporated smart operations and maintenance features, and achieved significant community benefits.

BC takes our responsibility to our clients as trusted advisors and as program managers seriously. Large programs demand that we work closely and become part of our client's team, fully integrating with a client's organization to best deliver direct access to our local and national experts. Our primary objective is to develop a program framework that lasts beyond BC's involvement as program manager, integrating all the necessary stakeholders, supporting and training staff, and equipping our clients for sustained success.

Program Management Office, Guam Waterworks Authority, Mangilao, Guam

BC developed a seven-year, \$450M wastewater and water program. The program encompassed all aspects of large capital program management such as design development and procurement, project financing, asset management, and staff development. Projects included developing major improvements to two of Guam Waterworks Authority's existing wastewater treatment plants as well as facility planning for three others, developing a system-wide water hydraulic model, and advising on a design-build package for an interceptor pipeline and the Umatac-Merizo Wastewater Treatment Plant upgrade.

Capital Projects Division Program Management, Honolulu Board of Water Supply, Honolulu, Hawaii

BC is providing program management services to assist the Board of Water Supply Capital Projects Division to optimize business performance. This includes increasing the division's annual Capital Improvement Program execution capacity from roughly \$40M to \$200M per year and helping their leadership implement best practices to execute their long-range infrastructure improvement plan.

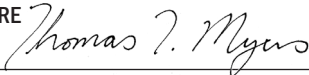
KEY SERVICE CATEGORIES

- Planning and design
- Design management
- Construction management
- Cost control
- Scheduling and schedule control
- Procurement support
- Training and skills transfer
- Standards development
- Public participation
- Environmental support
- Program progress reporting
- Institutional strengthening
- Alternative delivery assessments
- Asset management strategies
- Subcontractor management
- Document management systems

Operational Program Management, Honolulu Board of Water Supply, Honolulu, Hawaii

BC is providing program management support to the Honolulu Board of Water Supply Water System Operations Division. Work includes developing a rehabilitation and replacement plan for immediate and long-term repair and maintenance for their pump stations. This involves performing condition assessments of more than 170 pump stations and associated facilities across Oahu. Additionally, BC is conducting capital improvement program project development and prioritization for each pump station and facility, assessing the organization's structure, supporting the refinement of work processes to improve efficiency and effectiveness, and providing engineering support for repair and replacement projects.

I. AUTHORIZED REPRESENTATIVE

31. SIGNATURE 

32. DATE
June 30, 2025

33. NAME AND TITLE
Tom Myers, PE, Vice President/Pacific Area Director

General Qualifications

PART II



1. SOLICITATION NUMBER (if any)
HBS 103D-304

PART II - GENERAL QUESTIONS
(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME Brown and Caldwell (Honolulu Branch Office)			3. YEAR ESTABLISHED 1989	4. UNIQUE ENTITY IDENTIFIER KMZMQL18BLF1
2b. STREET Pacific Guardian Center - Mauka Tower, 737 Bishop Street, Suite 3000			5. OWNERSHIP	
2c. CITY Honolulu	2d. STATE HI	2e. ZIP CODE 96813-4020	a. TYPE Corporation	
6a. POINT OF CONTACT NAME AND TITLE Dustin Yamamoto, Local Leader			b. SMALL BUSINESS STATUS Not Applicable	
6b. TELEPHONE NUMBER 808-203-2671	6c. EMAIL ADDRESS dyamamoto@brwncald.com		7. NAME OF FIRM (If Block 2a is a Branch Office) Brown and Caldwell	
8a. FORMER FIRM NAME(S) (if any) Not Applicable			8b. YEAR ESTABLISHED N/A	8c. UNIQUE ENTITY IDENTIFIER N/A

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (<i>see below</i>)
		(1) FIRM	(2) BRANCH			
02	Administrative	437	8	C18	Cost Estimating; Cost Engineering & Analysis	2
06	Architect	7		E07	Energy Conservation, New Energy Sources	4
08	CADD Technician	113	2	E09	Environmental Impact Studies, Assessments	2
10	Chemical Engineer	16		E11	Environmental Planning	4
12	Civil Engineer	254	6	E12	Environmental Remediation	1
14	Computer Programmer	7	7	E13	Environmental Testing and Analysis	1
15	Construction Inspector	33	2	I03	Industrial Waste Treatment	1
16	Construction Manager	38	2	P05	Planning [Community, Regional, Area, State]	6
18	Cost Engineer/Estimator	15		P06	Planning (Site, Installation and Project)	4
21	Electrical Engineer	139	2	S04	Sewage Collection, Treatment and Disposal	7
23	Environmental Engineer	404	9	S07	Solid Wastes; Incineration; Landfill	1
24	Environmental Scientist	104		S13	Storm Water Handling & Facilities	2
29	Geographic Information System Specialist	9		W02	Water Resources; Hydrology; Ground Water	1
30	Geologist	72	1	W03	Water Supply; Treatment and Distribution	5
42	Mechanical Engineer	87	1		Other	2
47	Planner: Urban/Regional	4			Asset Management	1
48	Project Manager	188	4		Operations Services	6
57	Structural Engineer	47	1			
58	Technician/Analyst	25	1			
62	Water Resources Engineer	53	3			
	Other Employees	283	5			
Total		2,335	54			

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS <i>(Insert revenue index number shown at right)</i>		PROFESSIONAL SERVICES REVENUE INDEX NUMBER	
a. Federal Work	3	1. Less than \$100,000	6. \$2 million to less than \$5 million
b. Non-Federal Work	8	2. \$100,000 to less than \$250,000	7. \$5 million to less than \$10 million
c. Total Work	8	3. \$250,000 to less than \$500,000	8. \$10 million to less than \$25 million
		4. \$500,000 to less than \$1 million	9. \$25 million to less than \$50 million
		5. \$1 million to less than \$2 million	10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE <i>The foregoing is a statement of facts.</i>	
a. SIGNATURE 	b. DATE December 17, 2024
c. NAME AND TITLE Dustin Yamamoto, Local Leader	

1. SOLICITATION NUMBER (if any)
HRS 103D-304

(If a firm has branch offices, complete for each specific branch office seeking work.)

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (<i>see below</i>)
		(1) FIRM	(2) BRANCH			
02	Administrative	437	75	C18	Cost Estimating; Cost Engineering & Analysis	1
06	Architect	7		D04	Design-Build – Preparation of RFPs	1
08	CADD Technician	113	14	E07	Energy Conservation; New Energy Sources	1
10	Chemical Engineer	16	1	E09	Environmental Impact Studies, Assessments	3
12	Civil Engineer	254	16	E11	Environmental Planning	6
14	Computer Programmer	7		E12	Environmental Remediation	1
15	Construction Inspector	33	1	E13	Environmental Testing and Analysis	1
16	Construction Manager	38	2	I03	Industrial Waste Treatment	7
18	Cost Engineer/Estimator	15	3	P05	Planning [Community, Regional, Area, State]	3
21	Electrical Engineer	139	5	P06	Planning (Site, Installation and Project)	1
23	Environmental Engineer	404	31	S04	Sewage Collection, Treatment and Disposal	5
24	Environmental Scientist	104	8	S07	Solid Wastes; Incineration; Landfill	1
29	Geographic Information System Specialist	9	1	S13	Storm Water Handling & Facilities	1
30	Geologist	72	9	W02	Water Resources; Hydrology; Ground Water	5
42	Mechanical Engineer	87	8	W03	Water Supply; Treatment and Distribution	7
47	Planner: Urban/Regional	4			Other	3
48	Project Manager	188	11		Asset Management	1
57	Structural Engineer	47	6		Operations Services	4
58	Technician/Analyst	25	1			
62	Water Resources Engineer	53	5			
	Other Employees	283	29			
Total		2,335	226			

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE 	b. DATE December 17, 2024
c. NAME AND TITLE Michael Thorstenson, Municipal Operations Director	

ARCHITECT-ENGINEER QUALIFICATIONS1. SOLICITATION NUMBER (if any)
HRS 103D-304**PART II – GENERAL QUALIFICATIONS**

(If a firm has branch offices, complete for each specific branch office seeking work.)

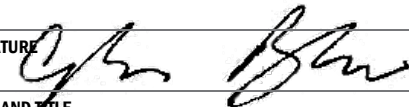
2a. FIRM (OR BRANCH OFFICE) NAME Brown and Caldwell (Irvine Branch Office)			3. YEAR ESTABLISHED 1986	4. UNIQUE ENTITY IDENTIFIER KMZMQL18BLF1
2b. STREET 18500 Von Karman Avenue, Suite 800			5. OWNERSHIP	
2c. CITY Irvine	2d. STATE CA	2e. ZIP CODE 92612	a. TYPE Corporation	
6a. POINT OF CONTACT NAME AND TITLE Cherylle Barrido, Local Leader			b. SMALL BUSINESS STATUS Not Applicable	
6b. TELEPHONE NUMBER 562-810-4727	6c. EMAIL ADDRESS cbarrido@brwncald.com		7. NAME OF FIRM (if Block 2a is a Branch Office) Brown and Caldwell	
8a. FORMER FIRM NAME(S) (if any) Not Applicable			8b. YEAR ESTABLISHED N/A	8c. UNIQUE ENTITY IDENTIFIER N/A

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (see below)
		(1) FIRM	(2) BRANCH			
02	Administrative	437	8	C15	Construction Management	2
06	Architect	7		E07	Energy Conservation; New Energy Sources	2
08	CADD Technician	113	4	E09	Environmental Impact Studies, Assessments	1
10	Chemical Engineer	16		E11	Environmental Planning	8
12	Civil Engineer	254	12	I03	Industrial Waste Treatment	1
14	Computer Programmer	7	3	P05	Planning [Community, Regional, Area, State]	2
15	Construction Inspector	33		S04	Sewage Collection, Treatment and Disposal	9
16	Construction Manager	38		S07	Solid Wastes; Incineration; Landfill	1
18	Cost Engineer/Estimator	15		W02	Water Resources; Hydrology; Ground Water	5
21	Electrical Engineer	139	8	W03	Water Supply; Treatment and Distribution	4
23	Environmental Engineer	404	3		Other	1
24	Environmental Scientist	104	1		Asset Management	1
29	Geographic Information System Specialist	9			Operations Services	1
30	Geologist	72				
42	Mechanical Engineer	87	8			
47	Planner: Urban/Regional	4				
48	Project Manager	188	11			
57	Structural Engineer	47	4			
58	Technician/Analyst	25				
62	Water Resources Engineer	53				
	Other Employees	283	5			
Total		2,335	67			

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right)		PROFESSIONAL SERVICES REVENUE INDEX NUMBER	
a. Federal Work	0	1. Less than \$100,000	6. \$2 million to less than \$5 million
b. Non-Federal Work	9	2. \$100,000 to less than \$250,000	7. \$5 million to less than \$10 million
c. Total Work	9	3. \$250,000 to less than \$500,000	8. \$10 million to less than \$25 million
		4. \$500,000 to less than \$1 million	9. \$25 million to less than \$50 million
		5. \$1 million to less than \$2 million	10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE 	b. DATE December 17, 2024
c. NAME AND TITLE Cherylle Barrido, Local Leader	

1. SOLICITATION NUMBER (if any)
HRS 103D-304

(If a firm has branch offices, complete for each specific branch office seeking work.)

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (<i>see below</i>)
		(1) FIRM	(2) BRANCH			
02	Administrative	437	10	E07	Energy Conservation; New Energy Sources	2
06	Architect	7		E09	Environmental Impact Studies, Assessments	3
08	CADD Technician	113		E11	Environmental Planning	3
10	Chemical Engineer	16		H03	HTRW Remediation	1
12	Civil Engineer	254	4	I03	Industrial Waste Treatment	2
14	Computer Programmer	7		P05	Planning [Community, Regional, Area, State]	1
15	Construction Inspector	33		S04	Sewage Collection, Treatment and Disposal	3
16	Construction Manager	38		S07	Solid Wastes; Incineration; Landfill	1
18	Cost Engineer/Estimator	15		S13	Storm Water Handling & Facilities	2
21	Electrical Engineer	139		W02	Water Resources; Hydrology; Ground Water	2
23	Environmental Engineer	404	5	W03	Water Supply, Treatment, & Distribution	5
24	Environmental Scientist	104	3		Other	1
29	Geographic Information System Specialist	9				
30	Geologist	72				
42	Mechanical Engineer	87				
47	Planner: Urban/Regional	4				
48	Project Manager	188	2			
57	Structural Engineer	47	1			
58	Technician/Analyst	25				
62	Water Resources Engineer	53	2			
	Other Employees	283	3			
Total		2,335	29			

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

Brown AND Caldwell

1. SOLICITATION NUMBER (if any)
HRS 103D-304

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME Brown and Caldwell (Phoenix and Tucson Branch Offices)			3. YEAR ESTABLISHED 1982	4. UNIQUE ENTITY IDENTIFIER KMZMQL18BLF1
2b. STREET 2 North Central Avenue, Suite 1600			5. OWNERSHIP	
2c. CITY Phoenix	2d. STATE AZ	2e. ZIP CODE 85004		
6a. POINT OF CONTACT NAME AND TITLE Ron Ablin, Managing Director Area			b. SMALL BUSINESS STATUS Not Applicable	
6b. TELEPHONE NUMBER 602-717-2132	6c. EMAIL ADDRESS rablin@brwnccald.com		7. NAME OF FIRM (if Block 2a is a Branch Office) Brown and Caldwell	
8a. FORMER FIRM NAME(S) (if any) Not Applicable			8b. YEAR ESTABLISHED N/A	8c. UNIQUE ENTITY IDENTIFIER N/A

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number <i>(see below)</i>
		(1) FIRM	(2) BRANCH			
02	Administrative	437	24	A12	Automation; Controls; Instrumentation	
06	Architect	7		C15	Construction Management	2
08	CADD Technician	113	8	C18	Cost Estimating; Cost Engineering & Analysis	1
10	Chemical Engineer	16	1	D04	Design-Build – Preparation of RFPs	4
12	Civil Engineer	254	11	E07	Energy Conservation; New Energy Sources	4
14	Computer Programmer	7		E09	Environmental Impact Studies, Assessments	5
15	Construction Inspector	33	6	E11	Environmental Planning	5
16	Construction Manager	38	4	E12	Environmental Remediation	1
18	Cost Engineer/Estimator	15		H03	HTRW Remediation	2
21	Electrical Engineer	139	11	I03	Industrial Waste Treatment	4
23	Environmental Engineer	404	12	P05	Planning [Community, Regional, Area, State]	5
24	Environmental Scientist	104	5	P06	Planning (Site, Installation and Project)	1
29	Geographic Information System Specialist	9	1	S04	Sewage Collection, Treatment and Disposal	7
30	Geologist	72	1	S07	Solid Wastes; Incineration; Landfill	3
42	Mechanical Engineer	87	7	S13	Storm Water Handling & Facilities	1
47	Planner: Urban/Regional	4		W02	Water Resources; Hydrology; Ground Water	1
48	Project Manager	188	6	W03	Water Supply; Treatment and Distribution	6
57	Structural Engineer	47			Other	4
58	Technician/Analyst	25			Asset Management	1
62	Water Resources Engineer	53			Operations Services	3
	Other Employees	283	10			
	Total	2,335	107			

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

(Insert revenue index number shown at right)

a. Federal Work	0	2. \$100,000 to less than \$250,000	7. \$5 million to less than \$10 million
b. Non-Federal Work	8	3. \$250,000 to less than \$500,000	8. \$10 million to less than \$25 million
c. Total Work	8	4. \$500,000 to less than \$1 million	9. \$25 million to less than \$50 million
		5. \$1 million to less than \$2 million	10. \$50 million or greater

The foregoing is a statement of facts.

a. SIGNATURE 	b. DATE December 17, 2024
c. NAME AND TITLE Ron Ablin, Managing Director Area	

1. SOLICITATION NUMBER (if any)
HBS 103D-304

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME Brown and Caldwell (Seattle, Olympia, and Tacoma, WA and Vancouver, BC Branch Offices)			3. YEAR ESTABLISHED 1961	4. UNIQUE ENTITY IDENTIFIER KMZMQL18BLF1
2b. STREET 701 Pike Street, Suite 1300			5. OWNERSHIP	
2c. CITY Seattle	2d. STATE WA	2e. ZIP CODE 98101-2310		
6a. POINT OF CONTACT NAME AND TITLE Brent Robinson, Senior Manager Client Services			b. SMALL BUSINESS STATUS Not Applicable	
6b. TELEPHONE NUMBER 206-749-2208	6c. EMAIL ADDRESS brobinson@brwncauld.com		7. NAME OF FIRM (if Block 2a is a Branch Office) Brown and Caldwell	
8a. FORMER FIRM NAME(S) (if any) Not Applicable			8b. YEAR ESTABLISHED N/A	8c. UNIQUE ENTITY IDENTIFIER N/A

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (<i>see below</i>)
		(1) FIRM	(2) BRANCH			
02	Administrative	437	38	C15	Construction Management	2
06	Architect	7		D04	Design-Build – Preparation of RFPs	1
08	CADD Technician	113	20	E07	Energy Conservation; New Energy Sources	6
10	Chemical Engineer	16	2	E09	Environmental Impact Studies, Assessments	4
12	Civil Engineer	254	8	E11	Environmental Planning	5
14	Computer Programmer	7		H03	HTRW Remediation	1
15	Construction Inspector	33		P05	Planning [Community, Regional, Area, State]	2
16	Construction Manager	38		P06	Planning (Site, Installation and Project)	1
18	Cost Engineer/Estimator	15		S04	Sewage Collection, Treatment and Disposal	8
21	Electrical Engineer	139	25	S07	Solid Wastes; Incineration; Landfill	4
23	Environmental Engineer	404	31	S13	Storm Water Handling & Facilities	5
24	Environmental Scientist	104	3	W02	Water Resources; Hydrology; Ground Water	6
29	Geographic Information System Specialist	9		W03	Water Supply; Treatment and Distribution	6
30	Geologist	72			Other	6
42	Mechanical Engineer	87	15		Asset Management	3
47	Planner: Urban/Regional	4			Operations Services	5
48	Project Manager	188	17			
57	Structural Engineer	47	5			
58	Technician/Analyst	25				
62	Water Resources Engineer	53	8			
	Other Employees	283	1			
Total		2,335	173			

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS <i>(Insert revenue index number shown at right)</i>		PROFESSIONAL SERVICES REVENUE INDEX NUMBER	
a. Federal Work	0	1. Less than \$100,000	6. \$2 million to less than \$5 million
b. Non-Federal Work	9	2. \$100,000 to less than \$250,000	7. \$5 million to less than \$10 million
c. Total Work	9	3. \$250,000 to less than \$500,000	8. \$10 million to less than \$25 million
		4. \$500,000 to less than \$1 million	9. \$25 million to less than \$50 million
		5. \$1 million to less than \$2 million	10. \$50 million or greater

The foregoing is a statement of facts.

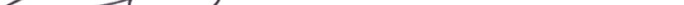
The foregoing is a statement of facts.	
a. SIGNATURE 	b. DATE December 17, 2024
c. NAME AND TITLE Brent Robinson, Senior Manager Client Services	

1. SOLICITATION NUMBER (if any)
HRS 103D-304

(If a firm has branch offices, complete for each specific branch office seeking work.)

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number <i>(see below)</i>
		(1) FIRM	(2) BRANCH			
02	Administrative	437	4	C15	Construction Management	1
06	Architect	7		E07	Energy Conservation; New Energy Sources	1
08	CADD Technician	113	1	E09	Environmental Impact Studies, Assessments	3
10	Chemical Engineer	16		E11	Environmental Planning	3
12	Civil Engineer	254	5	E12	Environmental Remediation	1
14	Computer Programmer	7		I03	Industrial Waste Treatment	1
15	Construction Inspector	33		P05	Planning [Community, Regional, Area, State]	1
16	Construction Manager	38		S04	Sewage Collection, Treatment and Disposal	5
18	Cost Engineer/Estimator	15		S07	Solid Wastes; Incineration; Landfill	1
21	Electrical Engineer	139		S13	Storm Water Handling & Facilities	3
23	Environmental Engineer	404	6	W02	Water Resources; Hydrology; Ground Water	2
24	Environmental Scientist	104		W03	Water Supply, Treatment, and Distribution	5
29	Geographic Information System Specialist	9			Other	3
30	Geologist	72			Asset Management	1
42	Mechanical Engineer	87			Operations Services	1
47	Planner: Urban/Regional	4				
48	Project Manager	188	2			
57	Structural Engineer	47				
58	Technician/Analyst	25				
62	Water Resources Engineer	53				
	Other Employees	283	4			
	Total	2,335	22			

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE 	b. DATE December 17, 2024
c. NAME AND TITLE Tracy Fee, Director Client Services	

1. SOLICITATION NUMBER (if any)
HRS 103D-304

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME Brown and Caldwell (Dallas Branch Office)			3. YEAR ESTABLISHED 2023	4. UNIQUE ENTITY IDENTIFIER KMZMQ18BLF1
2b. STREET 8144 Walnut Hill Lane, Suite 1075			5. OWNERSHIP	
2c. CITY Dallas	2d. STATE TX	2e. ZIP CODE 75231		
6a. POINT OF CONTACT NAME AND TITLE Chris Patin, Director Client Services			b. SMALL BUSINESS STATUS Not Applicable	
6b. TELEPHONE NUMBER 713-646-1149	6c. EMAIL ADDRESS cpatin@brwnclad.com		7. NAME OF FIRM (if Block 2a is a Branch Office) Brown and Caldwell	
8a. FORMER FIRM NAME(S) (if any) Not Applicable			8b. YEAR ESTABLISHED N/A	8c. UNIQUE ENTITY IDENTIFIER N/A

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (<i>see below</i>)
		(1) FIRM	(2) BRANCH			
02	Administrative	437	2	I03	Industrial Waste Treatment	1
06	Architect	7		P05	Planning [Community, Regional, Area, State]	1
08	CADD Technician	113	1	S04	Sewage Collection, Treatment and Disposal	4
10	Chemical Engineer	16		W02	Water Resources; Hydrology; Ground Water	1
12	Civil Engineer	254		W03	Water Supply; Treatment and Distribution	3
14	Computer Programmer	7			Other	3
15	Construction Inspector	33				
16	Construction Manager	38				
18	Cost Engineer/Estimator	15	1			
21	Electrical Engineer	139				
23	Environmental Engineer	404	7			
24	Environmental Scientist	104	1			
29	Geographic Information System Specialist	9				
30	Geologist	72				
42	Mechanical Engineer	87				
47	Planner: Urban/Regional	4				
48	Project Manager	188	1			
57	Structural Engineer	47				
58	Technician/Analyst	25	3			
62	Water Resources Engineer	53	1			
	Other Employees	283	5			
Total		2,335	22			

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right)		1. Less than \$100,000	6. \$2 million to less than \$5 million
a. Federal Work	0	2. \$100,000 to less than \$250,000	7. \$5 million to less than \$10 million
b. Non-Federal Work	6	3. \$250,000 to less than \$500,000	8. \$10 million to less than \$25 million
c. Total Work	6	4. \$500,000 to less than \$1 million	9. \$25 million to less than \$50 million
		5. \$1 million to less than \$2 million	10. \$50 million or greater

12. AUTHORIZED REPRESENTATIVE
The foregoing is a statement of facts.

a. SIGNATURE	b. DATE
	December 17, 2024
c. NAME AND TITLE	
Chris Patin, Director Client Services	

Attachments



License Number PE-14926	Expiration date 4/30/2026	
STATE OF HAWAII DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS PROFESSIONAL ENGINEER CLASS(ES): CE CIVIL IRINA L CONSTANTINESCU HAWAII, HONOLULU		
  SIGNATURE OF LICENSEE		

License Number PE-16031	Expiration date 4/30/2026	
STATE OF HAWAII DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS		
PROFESSIONAL ENGINEER		
CLASS(ES): CE CIVIL		
SUSAN J MUKAI		
SIGNATURE OF LICENSEE		

FOGED, NATHAN	
LICENSE NUMBER: 66395	LICENSE TYPE: CIVIL ENGINEER
LICENSE STATUS: CLEAR 	EXPIRATION DATE: JUNE 30, 2026
SECONDARY STATUS: N/A	
CITY: SHORELINE STATE: WASHINGTON COUNTY: OUT OF STATE ZIP: 98133	

Credential/License Summary for 33417 - 6	
Name : Jaren J Hiller	Credential/License Number : 33417 - 6
Professions : Professional Engineer	Location : Brookfield, Wisconsin - 53005
Credential/License Type : Regular	Status : License is current (Active)
Eligible To Practice : Eligible	Credential Expiration Date : 2026-07-31
Granted Date : 1999-04-15	Multi-State : N

License Number PE-11907	Expiration date 4/30/2026	
STATE OF HAWAII DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS		
PROFESSIONAL ENGINEER		
CLASS(ES): CE CIVIL		
FIONA K VAN AMMERS		
SIGNATURE OF LICENSEE		

Name	BELL, CLIFTON FORBES
License Number	0402031741
License Description	Professional Engineer License
Rank	Professional Engineer
Address	WILLIAMSBURG, VA 23185
Initial Certification Date	1998-02-07
Expiration Date	2026-02-28

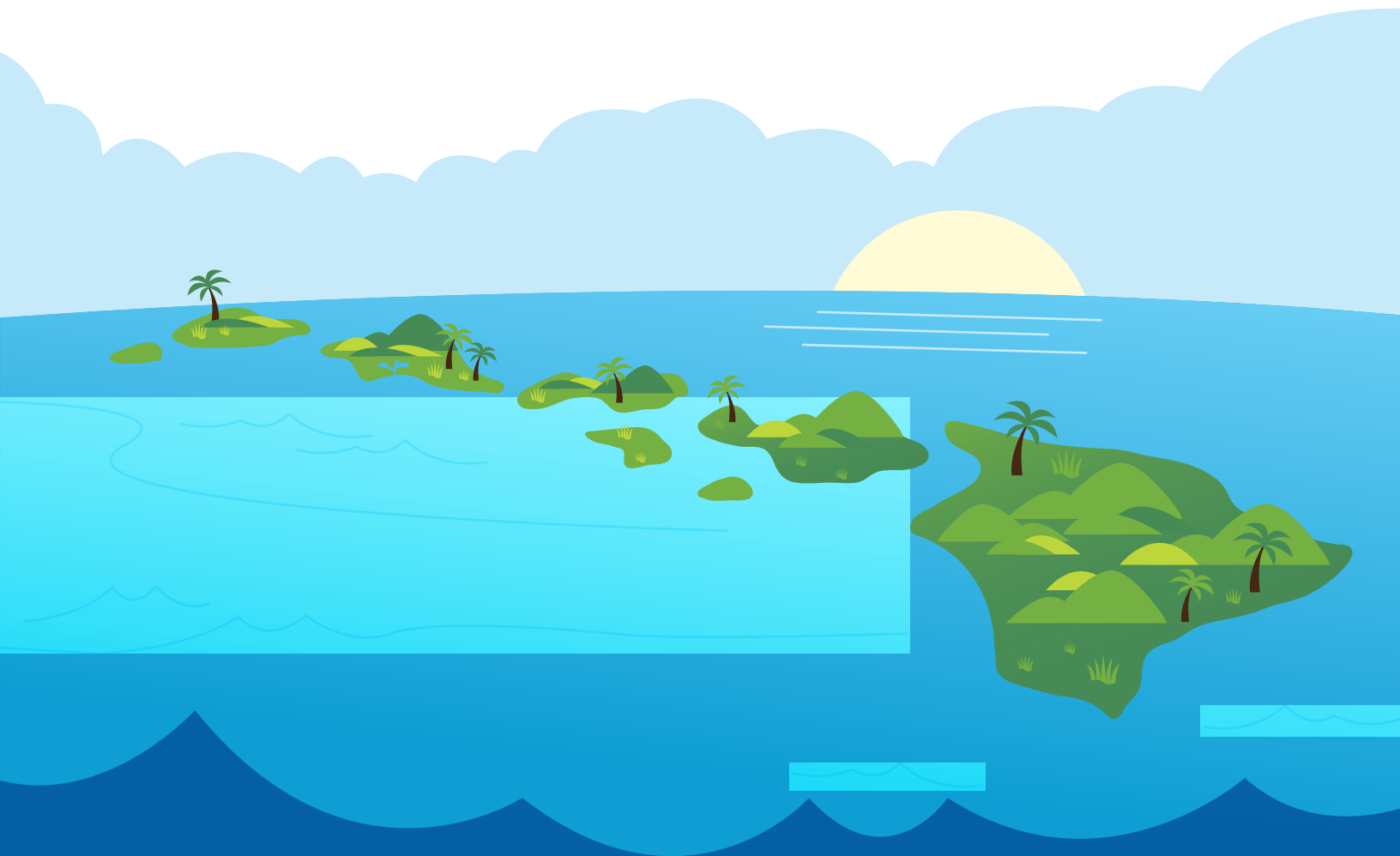
License Number: 43247	License Type: Professional Engineer	Status: Active
Name: ADAM NATHAN KLEIN	Prior Name: None	First Issue Date: December 28, 2006
Sub-status: None	City: Bellevue	Current Issue Date: August 06, 2023
Disciplinary Action: No	State: WA	Expiration Date: August 11, 2025
Program: Engineers	County: Adams	
Endorsements		
Environmental		

License Number: 28489	License Type: Professional Engineer	Status: Active
Name: christopher J cleveland	Prior Name: None	First Issue Date: February 14, 1992
Sub-status: None	City: Olympia	Current Issue Date: September 11, 2024
Disciplinary Action: No	State: WA	Expiration Date: September 11, 2026
Program: Engineers	County: Thurston	
Endorsements		
Civil		

License Number PE-19251	Expiration date 4/30/2026	
STATE OF HAWAII DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS		
PROFESSIONAL ENGINEER		
CLASS(ES): CE CIVIL		
MICHAEL S KOWALCZYK		
		
SIGNATURE OF LICENSEE _____		

License Number PE-16335	Expiration date 4/30/2026	
STATE OF HAWAII DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS		
PROFESSIONAL ENGINEER		
CLASS(ES): CE CIVIL		
AUDREY S C CABRERA		
		
SIGNATURE OF LICENSEE		

License Number PE-20668	Expiration date 4/30/2026	
STATE OF HAWAII DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS		
PROFESSIONAL ENGINEER		
CLASS(ES): CE CIVIL		
TYLER KILOHOKU OSHIRO		
		
SIGNATURE OF LICENSEE		



Honolulu Office

737 Bishop Street | Suite 3000
Honolulu, HI 96813
T: 808.523.8499

Maui Office

2261 Aupuni Street | Suite 201
Wailuku, HI 96793
T: 808.244.7005

Kamuela Office

65-1230 Mamalahoa Hwy | Suite D20A
Kamuela, Hawaii 96743
T: 808.442.3306