Application Submittal Checklist

The following items are required for submittal of the grant application. Please verify and check off that the items have been included in the application packet.

- ☒ 1) Certificate of Good Standing (If the Applicant is an Organization)
- ☒ 2) Declaration Statement
- ☒ 3) Verify that grant shall be used for a public purpose
- ☒ 4) Background and Summary
- ☒ 5) Service Summary and Outcomes
- ☒ 6) Budget
  - a) Budget request by source of funds (Link)
  - b) Personnel salaries and wages (Link)
  - c) Equipment and motor vehicles (Link)
  - d) Capital project details (Link)
  - e) Government contracts, grants, and grants in aid (Link)
- ☒ 7) Experience and Capability
- ☒ 8) Personnel: Project Organization and Staffing

DocuSigned by:
Stuart Coleman
BB722BA547F3411...

AUTHORIZED SIGNATURE	PRINT NAME AND TITLE	DATE
	STUART COLEMAN, EXECUTIVE DIRECTOR	1/21/2022

THE THIRTIETH LEGISLATURE
APPLICATION FOR GRANTS
CHAPTER 42F, HAWAII REVISED STATUTES

Type of Grant Request:

☒ Operating ☐ Capital

Legal Name of Requesting Organization or Individual: Dba:

WAI ORG INC

WAI: Wastewater Alternatives & Innovations

Amount of State Funds Requested: $ 155,210

Brief Description of Request (Please attach word document to back of page if extra space is needed):
WAI: Wastewater Alternatives & Innovations is a non-profit organization established in 2019. Our mission at WAI is to help restore healthy watersheds, clean water and resilient reefs by reducing the amount of sewage pollution from cesspools and failing septic systems. Currently, over 88,000 cesspools leach over 53 million gallons per day of untreated wastewater into the ground. WAI is requesting Grant-in-Aid funding to support three of our programs in FY 2023: Education & Outreach, Innovative Technology & Pilot Projects, and Water Quality.

Amount of Other Funds Available:

State: $

Federal: $ 50000

County: $

Private/Other: $ 20833

Total amount of State Grants Received in the Past 5 Fiscal Years:

$ 0

Unrestricted Assets:

$ 98,000

New Service (Presently Does Not Exist): ☐ Existing Service (Presently in Operation): ☒

Type of Business Entity:

☒ 501(C)(3) Non Profit Corporation

☐ Other Non Profit

☐ Other

Mailing Address:

2927 Hibiscus Pl

City:	State:	Zip:
Honolulu	HI	96815

Contact Person for Matters Involving this Application

Name:	Title:
Christina Comfort	Program Manager
Email:	Phone:
christina@waicleanwater.org	484-553-4205

Federal Tax ID#:	State Tax ID#
[redacted]	[redacted]

DocuSigned by:
Stuart Coleman
BB722BA547F3411...

Authorized Signature

Stuart Coleman, Executive Director

Name and Title

1/21/2022

Date Signed

Department of Commerce and Consumer Affairs

CERTIFICATE OF GOOD STANDING

I, the undersigned Director of Commerce and Consumer Affairs of the State of Hawaii, do hereby certify that

WAI.ORG INC.

was incorporated under the laws of Hawaii on 10/02/2019 ; that it is an existing nonprofit corporation; and that, as far as the records of this Department reveal, has complied with all of the provisions of the Hawaii Nonprofit Corporations Act, regulating domestic nonprofit corporations.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Department of Commerce and Consumer Affairs, at Honolulu, Hawaii.

Dated: January 04, 2022

Director of Commerce and Consumer Affairs

To check the authenticity of this certificate, please visit: http://hbe.ehawaii.gov/documents/authenticate.html
Authentication Code: 416707-COGS_PDF-311977D2

Application for Grants

If any item is not applicable to the request, the applicant should enter "not applicable".

I. Certification – Please attach immediately after cover page

1. Certificate of Good Standing (If the Applicant is an Organization)

See Attached

2. Declaration Statement

See attached

3. Public Purpose

1) Name of requesting organization: WAIORG INC. also known as WAI: Wastewater Alternatives and Innovations
2) The proposed project is for a public purpose to reduce sewage pollution to aquifers and nearshore waters of Hawai'i by increasing the state and counties' capacity and success in converting 88,000 cesspools to approved wastewater treatment options. The state is under a mandate to convert all cesspools to approved wastewater systems by 2050. This will be achieved through education, policy and advocacy, innovative technologies, accessing funds to support conversions, and monitoring water quality for evidence of sewage contamination and improvements after cesspool conversion. This project will benefit anyone who uses nearshore waters for swimming, sustenance, recreation, or cultural purposes. It will also benefit the public by improving the water quality of drinking water throughout the state.
3) The services supported by the grant include:
    a. Community outreach and education. This includes holding town hall meetings (virtually, via Zoom) in regions throughout the state that have been defined by the Hawai'i Department of Health as a high priority for cesspool conversion, as well as outreach through traditional media and social media.
    b. Bringing innovative wastewater technologies to the Hawai'i market via partnerships with green companies, pilot projects in collaboration with the Hawai'i Department of Health, and technical training programs
    c. Consolidating existing and emerging data on wastewater pollution to coastal systems in Hawai'i and addressing gaps in monitoring methods and spatial coverage, as well as addressing gaps in decision analysis that arise from poor understanding of nearshore circulation and its effects on pollution in reef environments
4) The target groups for these activities are
    a. Homeowners with cesspools on their property, who must convert by 2050 following the mandate in Act 125 (2017) and are in need of financial and structural support from the state and local governments to meet the mandate
    b. Ocean users throughout the state of Hawai'i. Any ocean user (swimmer, surfer, fisher, etc.) can be impacted by sewage contamination in nearshore waters.
    c. Residents who drink from wells which are situated near cesspools and may be contaminated, such as in Upcountry Maui and other areas throughout the islands.
5) Budget: $155,210

II. Background and Summary

This section shall clearly and concisely summarize and highlight the contents of the request in such a way as to provide the State Legislature with a broad understanding of the request. Please include the following:

1. A brief description of the applicant's background;

WAI: Wastewater Alternatives & Innovations is a non-profit organization established in 2019. WAI is not only our name but the Hawaiian word for water, and our mission at WAI is to help restore healthy watersheds, clean water and resilient reefs by reducing the amount of sewage pollution from cesspools and failing septic systems. Currently, over 88,000 cesspools leach over 53 million gallons per day of untreated wastewater into the ground. Much of this leachate reaches groundwater and the ocean, causing pollution problems that impact drinking water, coastal waters, public health, and coral reefs. WAI's vision for clean water motivates our team to help communities across Hawai'i to convert cesspools and introduce innovative new systems that are more affordable, efficient and better for the environment. According to Act 125 (2017), all cesspools must be converted to approved wastewater systems by 2050. Therefore, WAI's geographic reach includes all islands of Hawai'i which have cesspools: Hawai'i, Maui, Molokai, O'ahu, and Kaua'i.

Since its establishment by co-founders Stuart Coleman and John Anner, WAI has been continually expanding its programs and capacity. During the first year of operation, the primary focus was on building partnerships with wastewater companies that offer innovative solutions for cesspool conversions, developing outreach materials and building community momentum. These efforts resulted in six technology partnerships, an expert-level Convening of innovators, regulators, and legislators in Hawai'i (50+ participants), three pilot projects of innovative technologies in Hawai'i and an expanding social media presence.

In WAI's second year, we continued these efforts by holding two educational Town Hall meetings reaching over 300 people. We organized a second Convening (90+ participants) and developed two additional pilot projects. Building on our commitment to water quality, we initiated a partnership with the Division of Aquatic Resources' (DAR) 30x30 Initiative to bring focus to land-based sources of pollution as a critical aspect of nearshore coastal management. In recognition of our efforts, WAI was selected for the national Decentralized Wastewater Innovations cohort and invited to become a founding member of the international Ocean Sewage Alliance.

2. The goals and objectives related to the request;

The overarching goal of WAI's work is to reduce the amount of sewage pollution that is reaching Hawai'i's waters by converting cesspools to innovative, pollution-reducing wastewater treatment alternatives. This goal is supported by our five pillars: Innovative Technology, Outreach and Education, Policy and Advocacy, Financial Resources, and Pilot Projects, and two core programs: Work-4-Water and Water Quality.

As WAI moves into our third year as a non-profit, our goals for 2022 include increasing our outreach capacity and conducting more outreach events throughout the state, launching workforce development programs, expanding the types of innovative and pollution-reducing wastewater technology that are in use in Hawai'i, and improving access to wastewater pollution data for the public and environmental managers. We also aim to work with the state and other collaborators to create a framework and structure for cesspool conversions to be accomplished by 2050 within a reasonable budget.

Our specific objectives related to this proposal are listed below in three of our focus areas: Outreach, Water Quality, and Innovative Wastewater Technologies.

Expand outreach:

During fiscal year 2023, we plan to conduct outreach in at least five (5) of the thirteen (13) DOH-designated cesspool conversion priority areas by holding Town Hall meetings. The Town Hall meetings are co-hosted with state legislators from each priority area, and include interactive polling, an informational presentation, and a Q&A session with an expert panel. These meetings are currently planned to be held over Zoom due to the COVID-19 pandemic.

We also intend to increase our volunteer engagement by creating four to five (4-5) Clean Water Hui groups, one per island, composed of volunteers that are engaged with the wastewater pollution issue. These volunteer groups will help with community outreach, wastewater news aggregation and updates from each county, and advocacy.

New innovative technologies:

During the 2023 fiscal year, we plan to expand our portfolio of innovative wastewater technologies by adding two (2) additional technology partners to the current seven (7) that we are already engaged with. WAI's partnerships with innovative technology partners are multifaceted. Our work with innovative technologies includes working with the Hawai'i Department of Health to initiate permitting, pilot projects, and certifications; educating officials and the public about green wastewater treatment options; and helping companies that are new to Hawai'i navigate the market and connect with new projects. WAI has identified several additional companies that provide environmentally sustainable wastewater treatment options, and we aim to bring at least two (2) of these companies on as additional partners.

A key component of the partnerships is getting new technologies approved by DOH and to actually utilize these technologies to replace cesspools. Our Pilot Projects program focuses on getting necessary DOH approvals and doing first-wave design and construction of cesspool replacements using these new technologies that will reduce pollution to drinking water and coral reefs. WAI has received six (6) donated innovative wastewater systems from our technology partners, and we will focus on completing the installations of these six pilot systems during fiscal year 2023. We will locate homeowners in need of a replacement and whose properties are a good fit for each type of technology for the pilot projects. We will create various types of outreach products around each pilot installation, including technical training modules, videos and photos showcasing the pilot to be released on news sites and social media, and articles.

Water quality:

WAI's work in water quality is currently focused on data synthesis and outreach, and during fiscal year 2023 we will expand to data collection and experimental work that help to improve the understanding of physical processes on the fate and impact of cesspool pollution in the ocean. We plan to build a tool that consolidates wastewater pollution data from the entire state into a user-friendly interface. There is a need to centralize wastewater pollution data that were collected throughout the state, so that scientists and environmental managers can better understand data gaps and locate areas of highest risk. The tool will consist of an interactive mapping tool and a geographically-searchable annotated bibliography. This information can be used by the public or environmental managers to learn about wastewater contamination studies in a particular region of Hawai'i, identify data gaps, and plan studies that are needed to understand how cesspool conversions improve water quality. Additionally, we will begin scientific collaborations with the University of Hawai'i at Manoa to research gaps in understanding the impact of wastewater pollution in reef ecosystems.

3. The public purpose and need to be served;

The public purpose of the goals and objectives described above is to reduce sewage pollution and create a healthier environment in Hawai'i for all people and nearshore ecosystems. Hawai'i has over 88,000 cesspools that discharge over 53 million gallons of untreated wastewater each day. This inadequate waste disposal method threatens water quality in our aquifers, streams, and coastal oceans. At WAI, we are concerned with three major aspects of cesspool pollution in Hawai'i.

1. *Drinking water pollution*. Public health is threatened by increased nitrate levels in drinking water, which are linked to increased cancer rates even at levels well below the action limit of 10 mg/L. Drinking water nitrate levels above 2.87 mg/L were found to be correlated to colorectal cancer in a long-term epidemiological study (Schullehner et al., 2018, https://doi.org/10.1002/ijc.31306). There are many areas in Hawai'i where there is known drinking water contamination from cesspools, such as Upcountry Maui and the Kea'au region of Hawai'i Island (Hawai'i Department of Health, 2017).
2. *Public health impacts of stream and ocean water pollution*. Sewage pollution in the nearshore environment can cause increased rates of skin, eye, and ear infection; gastrointestinal illness; and exposure to contaminants of emerging concern such as PFAS. In worst-case scenarios, pathogen exposure can include deadly organisms such as *Vibrio vulnificus* (flesh-eating bacteria). Hawai'i has exceptionally high rates of MRSA and staph infections, which are increased in part by wastewater contamination.
3. *Environmental impacts of stream and ocean water pollution*. Coral reefs and other sensitive ecosystems are negatively impacted both by the increased nutrients in wastewater as well as toxins and contaminants of emerging concern. The nutrients in wastewater can lead to increased rates of invasive algae growth, which can then outcompete corals and native limu. This reduces habitat complexity and biodiversity of the reef ecosystem. Contaminants in wastewater have been shown to cause increased rates of coral disease (Yoshioka et al. 2016, https://doi.org/10.1016/j.marpolbul.2016.01.002), changes in fish behavior and developmental cycles (Gauthier and Vijayan, 2019, https://doi.org/10.1016/j.envpol.2019.113757), and the increased nutrients can also cause phytoplankton increases that reduce water clarity and cause physical disruptions in the reef environment. There are many areas in Hawai'i where sewage pollution from cesspools has been observed directly in coral reef ecosystems, such as in Puakō (Abaya et al., 2018, https://doi.org/10.1016/j.marpolbul.2018.02.005) and Waimānalo (Amato et al., 2020, https://doi.org/10.1016/j.marpolbul.2019.110668), and many more areas where signatures in coastal water indicate wastewater pollution.

There is also a public need for financial assistance to meet the 2050 mandate for all cesspools to be converted. Most homeowners can't afford the cost of conversion on their own, as a typical cesspool conversion in Hawai'i can cost $30,000-50,000. Through our outreach programs, we can help homeowners understand their eligibility for various grant and low-interest loan programs that are currently available from the state and federal governments, and keep communities up to date on new grants and programs as they become available.

4. Describe the target population to be served; and

The target population for outreach, innovative technologies and pilot projects includes any homeowners with a cesspool on their property. The process to convert a cesspool can be confusing and expensive, and WAI helps homeowners understand the process, determine their eligibility for federal and state grant and loan programs, learn about innovative technologies that are cheaper to maintain and better for the environment, and can connect eligible homeowners with pilot project opportunities. (Audience: 500)

The target population for outreach also includes all ocean users, such as swimmers, fishers, surfers, and divers, especially in coastal areas with high cesspool densities and priority areas as defined by the Hawai'i Department of Health. All ocean users are negatively impacted by pollution to the coastal oceans in Hawai'i, whether by direct contact with pathogens that may cause them or their family to become ill, or by a reduction in the health of the reef that provides sustenance, biodiversity and recreation. It also includes Hawai'i households who drink water from shallower private well sources in areas with high cesspool densities. These are the families that are most at risk for increased nitrates and wastewater contamination in their drinking water source. (Audience: 1500)

Finally, the target population for the water quality research portion of this grant is marine managers, conservation professionals, and the public who may be able to use the consolidated data tool and improved understanding of wastewater pollution in coastal environments to inform management or recreation decisions (Audience: 200).

5. Describe the geographic coverage.

The geographic coverage of our programs includes all islands of Hawai'i where there are cesspools – Hawai'i, Maui, Molokai, O'ahu, and Kaua'i. Our current focus areas are the priority areas for cesspool conversion defined by the Hawai'i Department of Health in their 2017 report: Upcountry Maui, Kahalu'u, Kea'au, Po'ipū/Kōloa, Kapa'a/Wailua, Puakō, Hilo Bay, Coastal Kailua-Kona, Diamond Head, 'Ewa Beach, Waialua, Waimānalo, and Hanalei. We will select five (5) of these areas to hold Town Halls during the project period based on availability of local legislators and timing of various relevant projects.

We may add additional focus areas following the release of the State Cesspool Conversion Working Group's data prioritization tool. We expect these areas to include Hale'iwa, Windward O'ahu from Kahuku-'Āhiumanu, Wai'anae, Kihei, and Kekaha.

Due to an ongoing collaboration with the Department of Hawaiian Homelands, we will also focus efforts on DHHL lands with cesspools. Coastal Molokai is an important additional focus area in this category.

III. Service Summary and Outcomes

The Service Summary shall include a detailed discussion of the applicant's approach to the request. The applicant shall clearly and concisely specify the results, outcomes, and measures of effectiveness from this request. The applicant shall:

1. Describe the scope of work, tasks and responsibilities;

Expand outreach:

Town Halls: WAI has already conducted two (2) Town Hall meetings (Kahalu'u and Waimānalo) and has a meeting planned for Waialua on 1/27/22. The public recordings of these meetings are available at www.waicleanwater.org/programs. The team is well-prepared to do the following tasks that are necessary to conduct a successful Town Hall meeting event. 1) contact local legislators for an initial meeting to go over the Town Hall content and select a date for the region. 2) Prepare outreach materials to advertise the meeting, including social media posts, ads in local newspapers, flyers to post in town centers, and verbiage for legislators to email or mail to their constituents. 3) Set up a Zoom meeting and registration link. 4) Post outreach materials on a schedule leading up to the event. 5) Review presentation material and make place-based modifications for each Town Hall (for example, to present water quality studies specific to each region). 6) Recruit expert panel members, which may include WAI staff, University of Hawai'i researchers, representatives from County agencies such as the Department of

Environmental Management, and others. 7) Hold the meeting and facilitate presentations, polling, and Q&A. 8) Post summaries and recordings of the meeting on social media and the WAI website. Overall, this work takes approximately 20 team hours per Town Hall.

Clean Water Hui: WAI is in the process of hiring 1-2 new full-time employees who will assist in creating and managing a Clean Water Hui of volunteers on each island (among other programmatic tasks). This will involve creating targeted social media campaigns to engage volunteers, organize Zoom meetings, get commitments from volunteers on each island, assign tasks such as: posting outreach materials to local groups and networks, following local news for any wastewater related updates, and participating with local water quality testing groups, and reporting monthly to WAI about updates on each island. The new hires will be responsible for convening the Clean Water Hui meetings which will occur once every other month and managing ongoing communication in between meetings.

New innovative technologies:

Add two (2) additional technology partners. Several innovative wastewater technologies have already been identified and the scope of work that remains is as follows. The companies will be vetted for their commitment to sustainability, feasibility of product deployment in Hawai'i, and interest in working in Hawai'i via independent research and a series of Zoom meetings led by the Executive Director and the Project Manager. Upon identifying partner companies, an MOU will be established and potential pilot project locations will be identified. The MOU establishment will be overseen by the Executive Director and the Managing Director.

A special focus in 2022 will be given to companies that can provide innovative solutions to wastewater conveyance systems. WAI has been approached by a number of companies who are able to turn waste(water) into valuable resources, and while this is great, almost all of them run into the same issue: Conveyance. Handling waste that is already at a centralized plant is one thing, but dealing with the waste from single-family home-scale cesspools is very difficult. Sewer pipes are expensive and nobody wants to own/maintain them, and pump trucks are only feasible to a certain degree. This is where innovative conveyance systems can make all the difference by offering big improvements over conventional gravity sewer.

New pilot projects: New pilot projects can occur through several pathways, each with its own specific set of tasks. Generally speaking, these tasks will include identifying a pilot location, securing funding, securing permits, design and engineering, seeking quotes from contractors, selecting and hiring a contractor, and construction. These tasks will be overseen by the Project Manager. Pilot projects, in addition to replacing outdated infrastructure, also allow for media outreach and site visits for other owners in need of better wastewater systems.

Water quality:

Wastewater pollution database: The task required to build the water quality mapping tool include a literature review of all published studies from Hawai'i relating to wastewater pollution, networking with other non-profit groups such as Surfrider Foundation local chapters, Hui o Ka Wai Ola and Hawai'i Wai Ola to stay up to date on citizen science water quality testing, sorting all data and monitoring efforts by geographic location and scientific methodology, and building an online interactive map for managers and the public to access information. WAI's program manager and water quality specialist will lead and manage this objective with assistance of skilled volunteers.

Wastewater pollution research: The program manager will collaborate with the Center for Physical Oceanography and Marine Ecology (C-PhOaME) laboratory of the University of Hawai'i at Mānoa, directed by Dr. Margaret McManus, to design and carry out field experiments to address the following gaps in wastewater pollution knowledge: How can moored instrumentation be used to collect time-series data on wastewater pollution input into streams and coastal systems? How do physical factors such as nearshore circulation, tides, waves, and wind affect the fate and severity of wastewater pollution on Hawai'i reefs? The tasks for this portion of the work objectives will include experimental design, deployment of instrumentation (current meters and various water quality sensors; instrumentation

purchases are supported by existing funding), water sample collection and laboratory analysis, data analysis and visualization, and data reporting in the form of peer-reviewed publications and public webinars to communicate the results of this science.

2. Provide a projected annual timeline for accomplishing the results or outcomes of the service;

		1	2	3	4	5	6	7	8	9	10	11	12
Expand Outreach													
	Preparation for Town Halls												
	5 Town Hall Meetings												
	Assemble Clean Water Hui												
	Bimonthly meetings												
Water Quality													
	Research and data collection												
	Creation of mapping tool												
	Experimental Design												
	Deployments												
	Data Analysis												
New Innovative Technologies													
	Create two new partnerships												
	Two (2) pilot project installations												

3. Describe its quality assurance and evaluation plans for the request. Specify how the applicant plans to monitor, evaluate, and improve their results; and

Expand outreach:

- Conduct outreach in at least five (5) of the 13 DOH-designated cesspool conversion priority areas by holding Town Hall meetings.

WAI will evaluate the success of the Town Hall program by tracking

1. The number of attendees at each Town Hall meeting
2. In-meeting poll responses, including assessing attendees concerns about cesspools before and after the presentation
3. The number of views the Town Hall recordings receive on our website.

Quality assurance will include testing Zoom and internet connectivity before starting the meeting, a sound test, confirming attendance with legislators and panel members 4-6 weeks ahead of time with reminders in the 1-2 weeks leading up to the event. We will also assure relevant, place-based content by doing research about wastewater pollution studies in each region before the Town Hall, through both published studies and conversations with researchers doing ongoing work, and examining community density, IWS suitability, and likelihood of grant/loan eligibility to make sure we present relevant and useful information.

- Increase our volunteer engagement by creating at least four (4) Clean Water Hui groups, one on each island, composed of volunteers that are engaged with the wastewater pollution issue.

We will evaluate the success of this objective by tracking the number of committed volunteers in each island's Clean Water Hui quarterly. Our goal is that each Clean Water Hui would have at least 4 volunteers, but may range from 3-10 members. We will also track attendance at interest meetings and at monthly Clean Water Hui meetings once the groups are formed.

New innovative technologies:

- Expand our portfolio of innovative wastewater technologies by adding two (2) additional technology partners to the current seven (7) that we are already engaged with.

Quality control for this objective will occur during the due diligence phase, where WAI staff will interview and do background research on the new innovative wastewater technology companies we may choose to partner with. Success of this objective will be measured by the completion of two (2) MOUs with new technology partners and presentation of the new partners at an outreach event, such as our webinar series "CRAP Pau Hana" or our annual Innovations in Sanitation Conference.

- New pilot projects
  WAI plans to continue to deploy new pilot projects of wastewater technology that will reduce pollution to drinking water and coral reefs. WAI has been donated six (6) innovative wastewater systems that will replace cesspools, which we in turn pass on to homeowners in need. The installation of new pilot projects will undergo standard quality control processes in the wastewater and construction industries, including inspection during construction and after completion, and regular check-ins with the system owner. The evaluation metrics for this objective will be tracking the number of successful pilot projects that are installed during the fiscal year.

Water quality:

- Build a tool that consolidates wastewater pollution data from the entire state into a user-friendly interface.

Quality control on this metric will include review of the consolidated data and annotated bibliography by 2-3 skilled volunteers. These volunteers will have qualifications to peer-review the work (M.S. or Ph.D. with related expertise). Before release of the water quality mapping tool, the tool will be sent out in draft format to WAI's network of water quality experts and collaborators for feedback and review. The impact of the mapping tool will be tracked by the amount of web traffic to this site.

- Collaboration with University of Hawai'i to address research gaps in understanding wastewater impacts on coral reefs

This measure will be evaluated by the successful completion of the following tasks: design experiment, select sites, deploy instrumentation, take water samples (track number of water samples and parameters analyzed), recover temperature, salinity, chlorophyll, and wastewater fluorescence data (report number of days of data collected), and data visualization. Quality control will be maintained by collaborating with expert scientists such as Dr. McManus and professional oceanographer Gordon Walker of CPhOaME.

4. List the measure(s) of effectiveness that will be reported to the State agency through which grant funds are appropriated (the expending agency). The measure(s) will provide a standard and objective way for the State to assess the program's achievement or accomplishment. Please note that if the level of appropriation differs from the amount included in this application that the measure(s) of effectiveness will need to be updated and transmitted to the expending agency.

WAI will report the following measures of effectiveness to the State expending agency, listed by objective:

Expand outreach

Conduct outreach in at least five (5) of the 13 DOH-designated cesspool conversion priority areas by hosting Town Hall meetings.

- Number of attendees at each Town Hall Meeting
- Number of views of each Town Hall recording posted on our website
- Summarized in-meeting poll responses

Increase our volunteer engagement by creating at least four (4) Clean Water Hui groups, one on each island, composed of volunteers that are engaged with the wastewater pollution issue.

- Track number of volunteers actively engaged in the Clean Water Hui each quarter.
- Track attendance at monthly meetings starting in Q2.
- Report number of volunteer hours spent doing outreach, research, and advocacy activities

New innovative technologies

Expand our portfolio of innovative wastewater technologies by adding two (2) additional technology partners to the current seven (7) with which we are already engaged.

- Report status of collaborations every six (6) months
- Report attendance at outreach events where new technology partners are featured

Continue to deploy new pilot projects of wastewater technology that will reduce pollution to drinking water and coral reefs.

- Report number of pilot projects in progress every six (6) months, including their status (researching, planned, in-progress, or completed)

Water quality

Build a tool that consolidates wastewater pollution data from the entire state into a user-friendly interface.

- Track number of publications reviewed and number of data sources included
- Track visitor traffic at the website once launched in Q3

Research to understand wastewater pollution impacts in marine systems

- Report number of days of data collected with the following parameters: temperature, salinity, chlorophyll-a, wastewater fluorescence.
- Report number of samples collected for lab-based water quality analysis

IV. Financial

Budget

1. The applicant shall submit a budget utilizing the enclosed budget forms as applicable, to detail the cost of the request.

a. Budget request by source of funds (Link)
   i. Attached
b. Personnel salaries and wages (Link)
   i. Attached
c. Equipment and motor vehicles (Link)
   i. Not Applicable
d. Capital project details (Link)
   i. Not Applicable
e. Government contracts, grants, and grants in aid (Link)
   i. Not Applicable

2. The applicant shall provide its anticipated quarterly funding requests for the fiscal year 2023.

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total Grant
$38,802.50	$38,802.5	$38,802.5	$38,802.5	$155,210

3. The applicant shall provide a listing of all other sources of funding that they are seeking for fiscal year 2023.

Secured funding:

- Castle Foundation - $20,833 - final five months of existing grant
- USDA Technical Assistance and Training - $50,000 - second half of January-December 2022 award

Funding opportunities that WAI has applied for or plans to apply for:

- EDA - FY 2021 American Rescue Plan Act Economic Adjustment Assistance - Notice of Funding Opportunity. Full grant amount ~$840,000. WAI funding for FY2023: $67,813.
- Kauai County - Contract to manage county-funded cesspool conversion project - FY2023: $50,000
- Omidyar Foundation - $50,000
- Castle Foundation - Grant renewal, estimate $50,000
- Ulupono Foundation - Grant renewal, estimate $30,000
- Healy Foundation - Grant renewal, estimate $30,000
- Dorrance Foundation - New grant, estimate $30,000
- Hawai'i Community Foundation - New grant, estimate $50,000
- EPA or USDA RFPs for Bipartisan Infrastructure Law funding for nonprofits to address cesspool issue (not yet announced)

4. The applicant shall provide a listing of all state and federal tax credits it has been granted within the prior three years. Additionally, the applicant shall provide a listing of all state and federal tax credits they have applied for or anticipate applying for pertaining to any capital project, if applicable

Not Applicable

5. The applicant shall provide a listing of all federal, state, and county government contracts, grants, and grants in aid it has been granted within the prior three years and will be receiving for fiscal year 2023 for program funding.

Not Applicable

6. The applicant shall provide the balance of its unrestricted current assets as of December 31, 2021.

$98,000

V. Experience and Capability

1. Necessary Skills and Experience

The applicant shall demonstrate that it has the necessary skills, abilities, knowledge of, and experience relating to the request. State your experience and appropriateness for providing the service proposed in this application. The applicant shall also provide a listing of verifiable experience of related projects or contracts for the most recent three years that are pertinent to the request.

WAI is the only non-profit organization in Hawai'i dedicated to addressing the cesspool issue. We have a track record of working with interns and volunteers, including successfully scaling up our team from 3 to 10 staff members when we received funding to temporarily hire CARES workers in late 2020. Our interns and volunteers consistently report positive outcomes of working with WAI and a sense of fulfilment in contributing to outreach, education, research, and logistics that support the difficult issue of reducing sewage pollution in Hawai'i via cesspool conversions. We have already held 2 successful Town Hall meetings in Kahalu'u and Waimānalo, and have our next Town Hall planned for 1/27/21 in Waialua.

WAI has developed successful partnerships with 7 innovative wastewater technology partners. These companies provide eco-friendly solutions for cesspool conversions and pollution reduction. WAI has supported all of our technology partners to the stage of at least one pilot project in Hawai'i, and two of the partners are already successfully established in the Hawai'i market. Our current staff have led the development of these partnerships and are well positioned to continue to build partnerships with companies offering green technologies for cesspool replacement. With the addition of Christina Comfort, M.Sc. in Biological Oceanography, to the team in 2021, the team diversified its expertise and now also has the experience and background to carry out scientific assessment relating to water quality in Hawai'i.

Relevant accomplishments and contracts:
WAI is a young non-profit founded in 2019. Therefore, our accomplishments are growing each year as our programs, staff, and volunteer base expand. In our first year as a nonprofit in 2019, WAI hosted the Innovations in Sanitation Convening with the Bill and Melinda Gates Foundation, which brought together industry professionals, technology companies, and government representatives and jump-started the conversation around innovative cesspool conversion in Hawai'i. Our early technology partnerships emerged from this convening.

In 2020, WAI began hosting outreach events such as the CRAP (Cesspool Researchers, Advisors, and Planners) Pau Hana Series, which is focused on deep-dive topics of interest to professionals working in the cesspool conversion and water quality fields. WAI brought on additional technology partners, started getting pilot projects into the ground, and built connections with crucial agencies such as the Hawai'i Department of Health and various county Departments of Environmental Management. WAI initiated

multiple pilot projects which are now successfully operational, including the installation of the first incineration toilets in Hawai'i.

In 2021, WAI received funding to carry out two successful Town Hall meetings with hundreds of participants and viewers, and hosted the second Innovations in Sanitation Convening with ~100 participants. WAI also was funded to begin water quality research and education efforts and to continue working on pilot project installations and developing effective industry partnerships. Several new types of pollution-reducing on-site systems were deployed for the first time in Hawai'i. WAI was funded to assist the Department of Aquatic Resources 30x30 program with land-based pollution monitoring and restoration.

2. Facilities

The applicant shall provide a description of its facilities and demonstrate its adequacy in relation to the request. If facilities are not presently available, describe plans to secure facilities.

WAI primarily operates remotely, with employees working from their individual homes. We use Zoom daily for team and collaborator meetings. Working on Zoom is effective for planning outreach, generating outreach and education materials, and holding virtual Town Hall meetings on the platform. It is also effective for building collaborations with new technology partners, the initiation and planning stages of pilot project installations and all aspects of scientific research aside from field and lab studies.

For pilot installations, WAI will conduct site visits. These are typically done by the Project Manager, Joachim Schneider. We have access to the needed equipment such as vehicles for transportation, auger for percolation tests, cameras, measuring tapes, and CAD and ArcGIS software.

For scientific studies, we have partnered with the University of Hawai'i Oceanography Department, specifically the laboratory of Dr. Margaret McManus. Laboratory facilities are available for use at the Marine Science Building and the C-MORE Hale building (Center for Microbial Oceanography: Research & Education). The necessary oceanographic instrumentation such as CTDs and fluorometers are available and have already been purchased, and we have access to laboratory instrumentation to analyze water samples (such as bench fluorometers) and prepare bottles for water sampling. We also have access to workshop facilities to construct moorings for instrumentation. With the affiliation to the University of Hawai'i, our Program Manager, Christina Comfort, has access to full-text scientific manuscripts through the library system and to the network of University of Hawai'i scientists in multiple departments.

VI. Personnel: Project Organization and Staffing

1. Proposed Staffing, Staff Qualifications, Supervision and Training

The applicant shall describe the proposed staffing pattern and proposed service capacity appropriate for the viability of the request. The applicant shall provide the qualifications and experience of personnel for the request and shall describe its ability to supervise, train and provide administrative direction relative to the request.

WAI has a team of highly qualified personnel in fields including non-profit management, journalism, wastewater engineering, oceanography and water quality, outreach, and public speaking.

Stuart Coleman is the Executive Director and Co-Founder of WAI. Previously, he worked for ten years as the Hawaiian Islands Regional Manager of the Surfrider Foundation, overseeing five Chapters and hundreds of volunteers across the state. He has led coalitions to help shape policy and pass landmark legislation to reduce pollution of coastal areas of Hawai'i, including the nation's first and only bill to create smoke-free beaches & parks and the first bill to ban oxybenzone in sunscreens. Stuart also helped pass legislation to reduce wastewater pollution and mandate the upgrade of cesspools across Hawai'i. He currently serves on the state's Cesspool Conversion Working Group and on the Advisory Board of the University of Hawai'i at Mānoa's Sea Grant Program. Along with being a public speaker, teacher, and freelance writer, Stuart is also the award-winning author of three books about modern Hawaiian history, surfing, and culture, including Eddie, Would Go, Fierce Heart, and Eddie Aikau: Hawaiian Hero.

John Anner is the Managing Director of WAI. Partnering with the Gates Foundation and many large funders including the World Bank and USAID, John worked on a large sanitation program in Asia that helped build over 300,000 toilet systems in Vietnam, Laos, and Cambodia. John has worked in the nonprofit sector for 30 years, with 20 of those years in the CEO role. He has specialized in blended finance, organizational scaling and development, and social enterprise development. He has a PhD in Public Policy and Administration, focusing on impact investing and social enterprise management.

Christina Comfort is the Program Manager of WAI and has 11 years of experience as an oceanographer, 8 of which focus on water quality monitoring in both oceanographic methods and microbial detection of wastewater indicator bacteria. She specializes in nearshore systems and the interaction of biological and physical forcing in coastal marine ecosystems. She previously worked as a researcher in the University of Hawai'i Department of Oceanography and headed up Surfrider Foundation - Oahu Chapter's Blue Water Task Force, a citizen science program dedicated to wastewater pollution detection. Christina is also completing her Ph.D. in the University of Hawai'i Oceanography program, in the Coastal Physical Oceanography and Marine Ecology Laboratory headed by PI Dr. Margaret McManus (Professor and Chair). Christina has extensive experience in public speaking, science communication, and outreach, and is currently developing and expanding WAI's water quality programs.

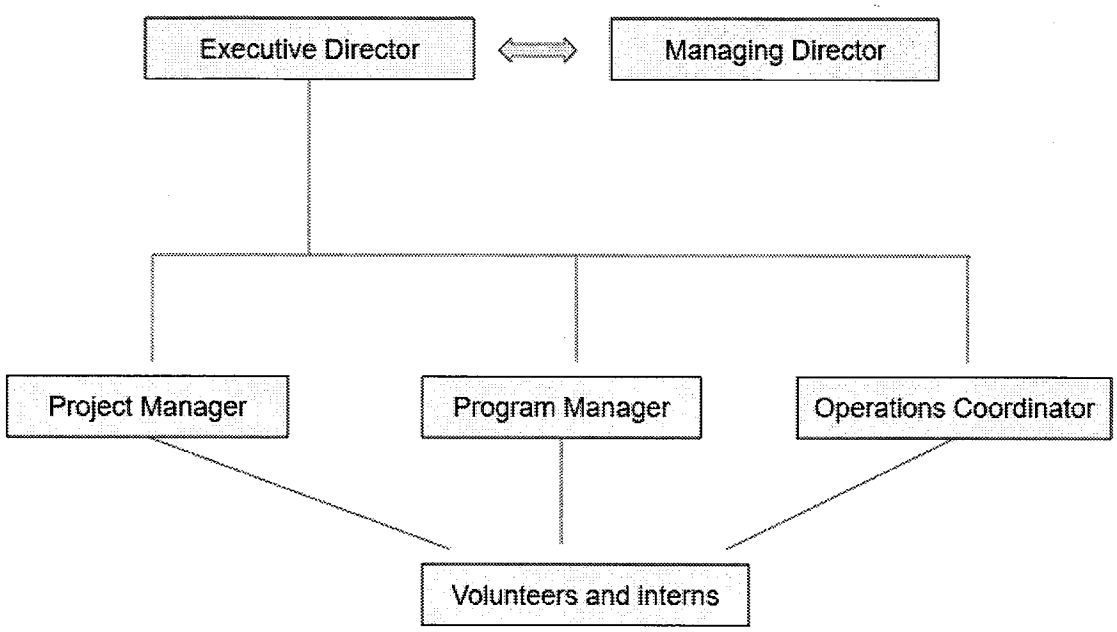
Joachim Schneider, Project Manager at WAI, has been working in the wastewater field in Hawai'i in different capacities since 2017. He started as an intern for two wastewater consulting firms before completing his graduate studies at the University of Hawai'i at Mānoa, where he also worked as a research assistant. His thesis research investigated an innovative wastewater treatment method that will be employed at the second-largest treatment plant in Hawai'i. Before joining WAI, he worked as a project manager and design engineer for a private wastewater consulting company, where he oversaw the entire life cycle of various civil and environmental engineering projects. Joko has overseen the implementation of 5 pilot installations of innovative wastewater systems.

Jackie Orsa brings eight years of experience in real estate sales, management, and marketing to the WAI team. She received her Bachelor of Science from Virginia Polytechnic Institute and State University in Housing & Resource Management with a minor in Real Estate. Jackie lives in Kona on Hawai'i Island and it is through her experience in Hawai'i Real Estate that she comes to WAI after recognizing the gap that exists between homeowners and the accessibility to crucial home wastewater systems that contribute to both environmental and homeowner health. Jackie is a designated Green Realtor, which is a professional designation designed for Realtors who specialize in sustainable building, pollution and other environmental concerns relating to the built environment. She has volunteered with WAI since 2020.

2. Organization Chart

The applicant shall illustrate the position of each staff and line of responsibility/supervision. If the request is part of a large, multi-purpose organization, include an organization chart that illustrates the placement of this request.

WAI Organizational Chart



3. Compensation

The applicant shall provide an annual salary range paid by the applicant to the three highest paid officers, directors, or employees of the organization by position title, not employee name.

Executive Director - $125,000
Program Manager - $65,000
Project Manager - $60,000

VII. Other

1. Litigation

The applicant shall disclose any pending litigation to which they are a party, including the disclosure of any outstanding judgement. If applicable, please explain.

2. Licensure or Accreditation

The applicant shall specify any special qualifications, including but not limited to licensure or accreditation that the applicant possesses relevant to this request

Joko – Certified Associate in Project Management (CAPM)®, Project Management Institute, Certification Number 3200661

Jackie Orsa - Realtor, Salesperson RS-82000 Licensed in the state of Hawai'i. Green Realtor Designation.

3. Private Educational Institutions

The applicant shall specify whether the grant will be used to support or benefit a sectarian or non-sectarian private educational institution. Please see Article X, Section 1, of the State Constitution for the relevance of this question.

No

4. Future Sustainability Plan

The applicant shall provide a plan for sustaining after fiscal year 2022-23 the activity funded by the grant if the grant of this application is:

(a) Received by the applicant for fiscal year 2022-23, but

(b) Not received by the applicant thereafter.

WAI's programmatic activities are sustained by a combination of sources, including private foundation grants, federal grants, grassroots fundraising and donations, and fees for services provided to Innovative Technology partners. If funding is received from the Grant-in-Aid program for fiscal year 2023, but not received thereafter, WAI will continue fundraising efforts as usual and sustain our programmatic activities through alternate funding sources.

The funding from this Grant-in-Aid program will additionally help WAI to become more self-sustaining in the future. We will develop critical outreach information that will educate people around the island about the risks of cesspool contamination and how to convert, which will increase our grassroots fundraising efforts and increase interest in green cesspool replacement technologies offered by our technology partners. Increased installations of the environmentally-friendly cesspool replacement technologies will in turn support WAI's operations via written commission agreements.

DECLARATION STATEMENT OF APPLICANTS FOR GRANTS PURSUANT TO CHAPTER 42F, HAWAI'I REVISED STATUTES

The undersigned authorized representative of the applicant certifies the following:

1) The applicant meets and will comply with all of the following standards for the award of grants pursuant to Section 42F-103, Hawai'i Revised Statutes:

   a) Is licensed or accredited, in accordance with federal, state, or county statutes, rules, or ordinances, to conduct the activities or provide the services for which a grant is awarded;

   b) Complies with all applicable federal and state laws prohibiting discrimination against any person on the basis of race, color, national origin, religion, creed, sex, age, sexual orientation, or disability;

   c) Agrees not to use state funds for entertainment or lobbying activities; and

   d) Allows the state agency to which funds for the grant were appropriated for expenditure, legislative committees and their staff, and the auditor full access to their records, reports, files, and other related documents and information for purposes of monitoring, measuring the effectiveness, and ensuring the proper expenditure of the grant.

2) If the applicant is an organization, the applicant meets the following requirements pursuant to Section 42F-103, Hawai'i Revised Statutes:

   a) Is incorporated under the laws of the State; and

   b) Has bylaws or policies that describe the manner in which the activities or services for which a grant is awarded shall be conducted or provided.

3) If the applicant is a non-profit organization, it meets the following requirements pursuant to Section 42F-103, Hawai'i Revised Statutes:

   a) Is determined and designated to be a non-profit organization by the Internal Revenue Service; and

   b) Has a governing board whose members have no material conflict of interest and serve without compensation.

Pursuant to Section 42F-103, Hawai'i Revised Statutes, for grants used for the acquisition of land, when the organization discontinues the activities or services on the land acquired for which the grant was awarded and disposes of the land in fee simple or by lease, the organization shall negotiate with the expending agency for a lump sum or installment repayment to the State of the amount of the grant used for the acquisition of the land.

Further, the undersigned authorized representative certifies that this statement is true and correct to the best of the applicant's knowledge.

Stuart Coleman, Executive Director, WAI: Wastewater Alternatives & Innovations
(Typed Name of Individual or Organization)

Stuart Coleman
BB722BA547F3411...
(Signature)

1/21/2022
(Date)

Stuart Coleman
(Typed Name)

Executive Director
(Title)

BUDGET REQUEST BY SOURCE OF FUNDS

Period: July 1, 2022 to June 30, 2023

Applicant: WAI: Wastewater Alternatives & Innovations

BUDGET CATEGORIES	Total State Funds Requested (a)	Total Federal Funds Requested (b)	Total County Funds Requested (c)	Total Private/Other Funds Requested (d)
A. PERSONNEL COST				
1. Salaries	95,400	67,813	25,000	103,837
2. Payroll Taxes & Assessments				26,284
3. Fringe Benefits				35,046
TOTAL PERSONNEL COST	**95,400**	**67,813**	**25,000**	**165,167**
B. OTHER CURRENT EXPENSES				
1. Airfare, Inter-Island	2,500		2,500	5,000
2. Insurance				
3. Lease/Rental of Equipment				
4. Lease/Rental of Space				3,000
5. Staff Training				
6. Supplies				
7. Telecommunication				5,000
8. Utilities				
9. Program costs - Innovative Technologies	13,025		10,000	24,000
10. Program costs - Pilot Projects	15,630		7,500	30,000
11. Program Costs - Education	15,630		5,000	25,000
12. Program costs - Impact Finance	5,210			10,000
13. Program costs - Policy & Advocacy	7,815			14,500
14				
15				
16				
17				
18				
19				
20				
TOTAL OTHER CURRENT EXPENSES	**59,810**		**25,000**	**116,500**
C. EQUIPMENT PURCHASES				
D. MOTOR VEHICLE PURCHASES				
E. CAPITAL				
TOTAL (A+B+C+D+E)	**155,210**	**67,813**	**50,000**	**281,667**

SOURCES OF FUNDING	
(a) Total State Funds Requested	**155,210**
(b) Total Federal Funds Requested	**67,813**
(c) Total County Funds Requested	50,000
(d) Total Private/Other Funds Requested	276,667
TOTAL BUDGET	**549,690**

Budget Prepared By:

Christina Comfort — 484-553-4205
Name (Please type or print) — Phone

DocuSigned by: Stuart Coleman — 1/21/2022
Signature of Authorized Official — Date

Stuart Coleman — Executive Dir.
Name and Title (Please type or print)

BUDGET JUSTIFICATION - PERSONNEL SALARIES AND WAGES

Period: July 1, 2022 to June 30, 2023

Applicant: WAI ORG INC

POSITION TITLE	FULL TIME EQUIVALENT	ANNUAL SALARY A	% OF TIME ALLOCATED TO GRANT REQUEST B	TOTAL STATE FUNDS REQUESTED (A x B)
Executive Director	1	$125,000.00	20.00%	$ 25,000.00
Managing Director	0.5	$60,000.00	20.00%	$ 12,000.00
Project Coordinator	1	$60,000.00	40.00%	$ 24,000.00
Program Manager	1	$65,000.00	40.00%	$ 26,000.00
Operations Coordinator	0.5	$21,000.00	40.00%	$ 8,400.00
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
TOTAL:				95,400.00

JUSTIFICATION/COMMENTS:

BUDGET JUSTIFICATION - EQUIPMENT AND MOTOR VEHICLES

Period: July 1, 2022 to June 30, 2023

Applicant: WAI: Wastewater Alternatives & Innova

DESCRIPTION EQUIPMENT	NO. OF ITEMS	COST PER ITEM	TOTAL COST	TOTAL BUDGETED
Not Applicable			$ -	
			$ -	
			$ -	
			$ -	
			$ -	
TOTAL:				
JUSTIFICATION/COMMENTS:				

DESCRIPTION OF MOTOR VEHICLE	NO. OF VEHICLES	COST PER VEHICLE	TOTAL COST	TOTAL BUDGETED
Not Applicable			$ -	
			$ -	
			$ -	
			$ -	
			$ -	
TOTAL:				
JUSTIFICATION/COMMENTS:				

BUDGET JUSTIFICATION - CAPITAL PROJECT DETAILS

Period: July 1, 2022 to June 30, 2023

Applicant: WAI: Wastewater Alternatives & Inn

FUNDING AMOUNT REQUESTED						
TOTAL PROJECT COST	ALL SOURCES OF FUNDS RECEIVED IN PRIOR YEARS		STATE FUNDS REQUESTED	OTHER SOURCES OF FUNDS REQUESTED	FUNDING REQUIRED IN SUCCEEDING YEARS	
	FY: 2020-2021	FY: 2021-2022	FY:2022-2023	FY:2022-2023	FY:2023-2024	FY:2024-2025
PLANS						
LAND ACQUISITION						
DESIGN						
CONSTRUCTION						
EQUIPMENT						
TOTAL:						

JUSTIFICATION/COMMENT Not Applicable

GOVERNMENT CONTRACTS, GRANTS, AND / OR GRANTS IN AID

Applicant: WAI: Wastewater Alternatives & Innovations

Contracts Total: N/A

	CONTRACT DESCRIPTION	EFFECTIVE DATES	AGENCY	GOVERNMENT ENTITY (U.S./State/Hawaii/ Honolulu/ Kauai/ Maui County)	CONTRACT VALUE
1	Not Applicable				
2					
3					
4					
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