

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

Type of Grant Request:



Operating



Capital

Legal Name of Requesting Organization or Individual: Db a:

Oceanit Research Foundation

Amount of State Funds Requested: \$ 700,000

Brief Description of Request (Please attach word document to back of page if extra space is needed):

Amount of Other Funds Available:

State: \$ _____

Federal: \$ _____

County: \$ _____

Private/Other: \$ _____

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

\$ 200,000

Unrestricted Assets:

\$ 0

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:

828 Fort Street Mall, Suite 600

City:

Honolulu

State:

HI

Zip:

96813

Contact Person for Matters Involving this Application

Name:

Caroll Takahashi

Title:

President

Email:

ctakahashi306@gmail.com

Phone:

(808) 383-1783

Caroll Takahashi

Caroll Takahashi (Jan 17, 2025 12:45 HST)

Authorized Signature

Caroll Takahashi, President

Name and Title

01/17/2025

Date Signed

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) Hawaii Compliance Express Certificate (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

Caroll Takahashi
Caroll Takahashi (Jan 17, 2025 12:45 HST)
AUTHORIZED SIGNATURE

Caroll Takahashi, President
PRINT NAME AND TITLE

01/17/2025
DATE

Restoration and Protection of Mantokuji Bay's Coastal Ecosystem

I. Certification

1. Hawaii Compliance Express Certificate



STATE OF HAWAII
STATE PROCUREMENT OFFICE

CERTIFICATE OF VENDOR COMPLIANCE

This document presents the compliance status of the vendor identified below on the issue date with respect to certificates required from the Hawaii Department of Taxation (DOTAX), the Internal Revenue Service, the Hawaii Department of Labor and Industrial Relations (DLIR), and the Hawaii Department of Commerce and Consumer Affairs (DCCA).

Vendor Name: OCEANIT RESEARCH FOUNDATION

Issue Date: 01/06/2025

Status: Compliant

Hawaii Tax#:

New Hawaii Tax#:

FEIN/SSN#: XX-XXX9776

UI#: No record

DCCA FILE#: 99350

Status of Compliance for this Vendor on issue date:

Form	Department(s)	Status
A-6	Hawaii Department of Taxation	Compliant
8821	Internal Revenue Service	Compliant
COGS	Hawaii Department of Commerce & Consumer Affairs	Exempt
LIR27	Hawaii Department of Labor & Industrial Relations	Compliant

Status Legend:

Status	Description
Exempt	The entity is exempt from this requirement
Compliant	The entity is compliant with this requirement or the entity is in agreement with agency and actively working towards compliance
Pending	A status determination has not yet been made
Submitted	The entity has applied for the certificate but it is awaiting approval
Not Compliant	The entity is not in compliance with the requirement and should contact the issuing agency for more information

2. Declaration Statement

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; and
- 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.
- 4) The use of grant-in-aid funding complies with all provisions of the Constitution of the State of Hawaii (for example, pursuant to Article X, section 1, of the Constitution, the State cannot provide "... public funds ... for the support or benefit of any sectarian or nonsectarian private educational institution...").

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.

Oceanit Research Foundation

(Typed Name of Individual or Organization)

Caroll Takahashi
Caroll Takahashi (Jan 17, 2025 12:45 HST)

(Signature)

01/17/2025

(Date)

Caroll Takahashi

(Typed Name)

President

(Title)

3. Public Purpose

Oceanit Research Foundation is a 501(c)(3) organization. The grant will be used for a public purpose pursuant to Section 42F-102, Hawaii Revised Statutes.

II. Background and Summary

1. A Brief Description of the Applicant's Background

Oceanit Research Foundation (ORF) is a 501(c)(3) organization focused on making a positive impact on our community – and all of humanity – through lifelong learning, innovation, planning and community outreach. ORF applies Science, Technology, Engineering and Mathematics (STEM) to foster innovation, solve problems, issues and concerns facing our community. The core initiatives of ORF are built upon innovating new ways to create positive social change with future-proof critical thinking, design thinking, and STEM skills such as Computer Science, Coding, Artificial Intelligence, and more. Fundamental to these skills is a framework of team building and collaboration.

2. The Goals and Objectives Related to the Request

The long-term goal of the Project is to restore and protect Mantokuji Bay's coastal ecosystem by addressing critical environmental, cultural, and regulatory challenges. An essential component of this ecosystem is the sand dunes, which have been lost in the bay. Project objectives include:

- Plan and design the restoration of a living shoreline that will be planted with native coastal vegetation to stabilize the dunes and reduce the risk of coastal hazards. Potential sand resources will be identified and assessed to provide materials for the dune restoration. The restoration concept incorporates environmental best practices and cost assessments to help ensure sustainability and effectiveness.
- Plan and design repairs to the Bay's natural coastal structures, including its headlands, rocky shoreline and reef, through innovative, nature-based solutions that mitigate erosion and restore biodiversity. This effort involves the collection of historical data, design repair concepts to stabilize the shoreline, and consulting with regulatory agencies to ensure compliance and feasibility.

Community outreach will be conducted to include residents, government agencies, elected officials and Hawaiian cultural experts in the planning and design process of the Project.

Finally, the Project aims to culminate with the preparation of a Small-Scale Beach Nourishment (SSBN) application to help obtain the necessary permits and approvals for sand recovery, dune restoration, and headland repair. Through a combination of scientific planning, cultural sensitivity, and community participation, the Project aims to restore Mantokuji Bay's natural beauty and resilience.

3. The Public Purpose and Need to be Served

The public purpose and the need to be served by this Project is to reduce the risk to public safety and coastal hazard exposure in Mantokuji Bay due to climate change, sea level rise, and shoreline erosion. By stabilizing the shoreline, the Project will provide protection for valuable land areas,

infrastructure, communities and recreational spaces from being lost to the ocean. This includes preserving the natural habitats for the endangered Hawaiian Green Sea Turtles – listed as endangered under the International Union for Conservation Nature (IUCN) and protected by Hawai'i state law as endangered in Hawaiian waters – as well as other small animals and ocean plants, while maintaining public access to the ocean.

Mantokuji Bay is centrally located in the town of Pā'ia, Maui between Pā'ia Bay to the east and Ku'au Bay to the west. The area lies within the sea-level rise (SLR) exposure zone identified by the Hawai'i Climate Change Mitigation and Adaptation Commission (Figure 1). The increased water levels will expose residents in the community to worsening coastal hazards including unstable soils along the coastal bluff, wave uprush flooding, and foundation scouring. Current models predict that much of Mantokuji Bay will be eroded, including most of the property along the Bay. (State of Hawai'i Sea Level Rise Viewer, University of Hawai'i, Pacific Islands Ocean Observing System). Since this property currently buffers the Hana Highway from coastal hazards, the exposure of highway users to hazards would also increase.

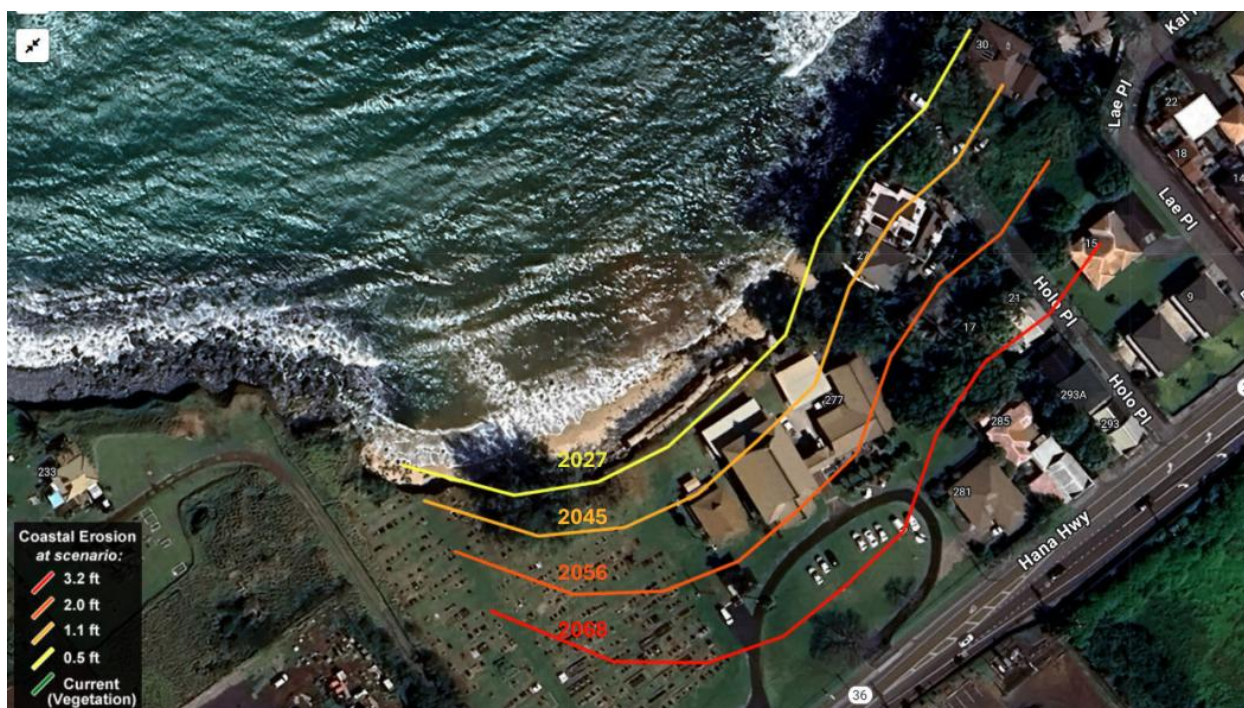


Figure 1. Mantokuji Bay sea-level rise (SLR) erosion projections

4. Describe the Target Population to Be Served

The target population to be served includes the community that live and work along the coastline of Mantokuji Bay. This includes the Mantokuji Soto Mission – a community gathering place for the residents and visitors alike where many activities are held such as the annual observance of Obon – and the neighbors along the coastline. Mantokuji Mission is comprised of about 150 households, and the property, located at 253 Hana Highway along the coastline of the Pā'ia Mantokuji Bay, is listed on the Hawai'i Register of Historic Places.

The Pā'ia community, population of about 2200, and the visitors will also be served by the Project. The town of Pā'ia is a unique tourist attraction, featuring world-renowned windsurfing and a

gathering place for the endangered Hawaiian Green Sea Turtle in Mantokuji Bay. Tourism has become the largest economic engine for the town of Pā'ia. The Project is expected to have significant impact by serving Hawaii's tourism industry, which is shifting towards regenerative tourism and environmental protection. This is especially important on Maui, post-Lahaina fire, as the community works on rebuilding the visitor-industry economy.

Today, the wide beach profile that once buffered the Mantokuji Temple from ocean forces is gone. People in the community who live and work on the coastline of the Bay are exposed to worsening coastal hazards, including the unstable soils along the coastal bluff, wave uprush flooding, and foundation scouring. Ocean water quality is consistently turbid due to the eroding soil which degrades the coral reef ecosystem

Directly landward of these properties is the Hana Highway which is the major transportation corridor for the northeast Maui communities. Mitigation of the coastal hazards at Mantokuji Bay would have long-term benefits for this portion of the state highway.

5. Describe the Geographic Coverage

The geographic coverage area includes the one (1) mile long coastline of Mantokuji Bay, Maui. The coverage also extends to the small town of Pā'ia, which is a bustling tourist and beach town as well as the business center for its diverse Hawaiian society. It's a thriving city that, not only serves the needs of the community as well as its visitors, but also preserves and protects Pā'ia's unique and colorful history.

III. Service Summary and Outcomes

Mantokuji Bay once featured a wide sand beach that acted as a buffer between the ocean and the land. Maui County mined the sand at Mantokuji Soto Mission for its public works project during the 1930's. This caused shoreline erosion that subsequently degraded water quality and contributed to a decline of the coral reef structure. The goal of the proposed Project is to restore a balanced coastal ecosystem in Mantokuji Bay, to provide resilience to coastal hazards, and to reduce the risk to public safety.

The Project will also preserve the cultural, environmental, recreational and natural resources for the community. Sand beaches form an essential habitat for many organisms including shorebirds, crustaceans, mollusks, and the endangered Hawaiian Green Sea Turtles. They are also important to residents as a recreation destination and a vital factor in Hawaii's visitor industry, with tourists coming to Hawaii to enjoy the sandy beaches.

The beach, once known for its soft golden sand, is located in the center of the coastline indentation of the Bay, situated between two capes or headlands, and surrounded on both sides with rocky coastlines. According to a study by the Coastal Geology Group at the University of Hawai'i, the Mantokuji Bay coastline is moving inland at an average rate of about 1.6 feet per year.

The Mantokuji Bay Project will be conducted in two (2) phases.

- | | |
|-----------------|--|
| Phase I | Site assessment; Plan and design of the beach to include nature-based solutions. |
| Phase Ia | Plan and design the repair of the natural structures of the Bay including the existing headlands to improve the resiliency of the dunes and beach. |
| Phase II | Plan and design the repair of the existing rocky shoreline. |

Phase I: Site Assessment; Plan, Design, and Outcome

Conduct a thorough analysis of the shoreline conditions, including wave patterns, sediment dynamics, and existing vegetation to determine the most suitable repair method.

Plan and design the restoration of the sand and the rocky natural shoreline structure along Mantokuji Beach and apply nature-based solutions such as (1) restoring and enhancing dune systems along the shoreline to help trap sediment and act as a natural barrier against erosion; (2) planting native vegetation and stabilizing dunes with grasses and shrubs, thereby creating a living shoreline that will preserve the restored dune ecosystem and minimize erosion impacts. The outcome will be to restore significant sand volume to the system by returning the beach and dunes that were mined in the past. These features will immediately address the shoreline recession that threatens the historic Mantokuji Soto Mission and the residents and businesses along the Bay.

The Project will also expand available habitat for wildlife, including the endangered Hawaiian Green Sea Turtles that frequent the disappearing sliver of beach below the collapsing soils of an ancient Japanese cemetery. It will restore the sandy beach for recreation. As the living shorelines grow over time, they offer additional benefits such as improved water and air quality, flood prevention, and carbon storage. Living shorelines are also typically less expensive to build and maintain than their

traditional hardened counterparts. A plan will be developed to monitor the dune system with computer vision AI technology that collects data on the response of the sand to changing ocean conditions.

Phase Ia: Plan and design the repair of the natural structures of the Bay including the headlands and improve the resilience of the dunes and beach.

Rebuilding the dunes and repairing the headlands will act as a natural barrier against wave action and erosion. The overall shape of Mantokuji Bay is naturally suited for sustaining a sand beach. After decades of erosion caused by removal of sand and the dunes by the County for the construction of Maui's public works, the natural headland rock features within the Bay were undercut and have slid into the sea. The coral reef shelf in the center of the Bay has also eroded as wave forces acted on a system weakened by degraded water quality. These erosion impacts have widened the Bay over recent decades.

The Project will plan and design the repair of the natural structure of the Bay so it may once again dissipate and deflect wave forces as it did before the sand mining. A plan will be developed to setup AI cameras to monitor and assess the efficacy of the repairs and plan future project adjustments, if needed.

Phase II: Plan and design the repair of the existing rocky shoreline.

The Project focuses on analyzing natural protective measures such as boulder rocks, fitted to the slope and shape of the shoreline, extending from the base of the slope to a height needed for long-term durability for the section of the Bay that does not historically have a beach. The rocky slope is flexible and not impaired by slight movement from settlement and other adjustments. It is appropriate where long-term durability is necessary, wave impact forces are high, and there is no practical way to use sand and vegetation in the design. Other stabilization techniques and vegetation plantings will be analyzed to determine whether it should be used, as appropriate, to stabilize the upper bank and to return native shoreline vegetation. Mitigation of coastal erosion from sea level rise requires a multi-faceted approach. Therefore, the Project will also plan and design the repair of the rocky shoreline based on the findings of Phase I. This rocky shoreline is important to the integrity of the entire Bay. A plan will be developed to setup AI cameras to monitor and assess the efficacy of the repairs and plan future project adjustments, if needed.

An illustration of the potential concept is shown in Figure 2. The concept will evolve over the period of the Project with the final design reflecting the results of the tasks outlined in subsequent sections.



Figure 2. Illustration of concepts for ecosystem restoration. Concept will evolve over the course of the Project. Yellow: restored beach. Green: restored dune. Purple: repaired beach headland. Blue: repaired rocky shoreline.

1. Scope of Work, Tasks, and Responsibilities

The scope of work that will be funded by this grant-in-aid include the following tasks:

Task 1 – Site Investigations

To be completed as part of Phase I. Background information will be gathered to identify a potential source of offshore sand and rocks suitable for dune and shoreline restoration at Mantokuji Beach. Once identified, physical surveys and sampling of the offshore sand area will allow for evaluation of the sediment resource and the surrounding environment. The site of the dune restoration will be inspected in Mantokuji Bay and necessary surveys will be conducted to assess the condition of the area including the properties of existing dune and beach sand, rocky shoreline, ocean water quality and biological resources. The data from the site investigations will be incorporated into the development of the engineering assessment of the sand recovery and dune restoration plan.

Task 2 – Engineering Assessment

To be completed as part of Phase I. An engineering assessment will be conducted of the sand and dune recovery site and the rocky shoreline along Mantokuji Bay. The assessment will include

a study of the background information and available data including sediment transport mechanisms, wind and wave patterns, tides, sea level rise, and erosion rates. The results will be used to recommend a sand recovery and dune restoration strategy. Conceptual plans will be developed for recovery of the sand and restoration of vegetation that includes native plants and long-term erosion monitoring.

Task 3 – Community Outreach

To be completed as part of Phase I. Community outreach efforts will be conducted to include agencies, as necessary, to discuss the conceptual plan for dune restoration. The plan will be to hold public meetings to discuss the findings of the engineering assessment and gather community stakeholders input and feedback on the proposed dune design alternatives. General comments made by the participants will be documented and taken into consideration to further develop the Project designs. Presentations, letters, documents or other materials will be prepared, as needed, to support these meetings.

Task 4 – Cultural Resources Study

To be completed as part of Phase I. Potential effects of the proposed dune restoration plan on Hawaiian cultural practices, historical, or natural resources will be evaluated. Archival research and meetings with individuals and organizations will help to gain knowledge about cultural practices in the Project areas. The information will serve as a guide in preparing a plan that aims to protect culturally valuable resources and traditional practices in the proposed sand recovery and dune restoration areas.

Task 5 – Plan Specifications and Estimates

Task 5 will be divided into two sub-tasks, with completion contingent upon available funds. Plans specifications and estimates will be prepared to illustrate the details of each sub-task. Proposed best management practices (BMPs) will be included in the plan set and notes. The plan package will be submitted to the Office of Conservation and Coastal Lands (OCCL) for feedback during a pre-consultation meeting, and any comments will be addressed in the final plans package.

Task 5a: To be completed as part of Phase Ia. Plan and design the repair of the natural structures of Mantokuji Beach including the headlands to improve the resiliency of the dunes and beach.

Task 5b: To be completed as part of Phase II. Plan and design the repair of the existing rocky shoreline within the Bay.

Task 6 – Conservation District Use Application

To be completed as part of Phase I. A Conservation District Use Application (CDUA) will be prepared under the Small Scale Beach Nourishment (SSBN) program to seek DLNR OCCL's approval for the sand recovery and dune restoration work according to the design plans, specifications, and estimates.

2. Projected Annual Timeline for Accomplishing the Results of Outcomes of the Service

The proposed Project timeline is shown below. Initial efforts will focus on collecting data from field investigations of the Project sites and completing the engineering assessment to develop

conceptual Project plans. Next, community outreach activities and cultural resource studies will be conducted to gather feedback on the proposed Project work. With this information, Project plans, specifications and estimates will be developed. Finally, a CDUA will be prepared under the SSBN.

Project Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
1. Site Investigations												
2. Engineering Assessment												
3. Community Outreach												
4. Cultural Resource Study												
5. Plan Specifications and Estimates												
6. Conservation District Use Application												

3. Quality Assurance and Evaluation Plan for the Request

Oceanit Research Foundation (ORF) shall monitor and evaluate the planned work and incorporating these observations to help improve the planned outcomes for the Project on a continuous basis. To this end, the following actions will be taken:

- **Monitor:** All work will be overseen by licensed professionals with qualifications in coastal restoration design and regulations. ORF shall track, assess and analyze the results to determine the progress of the Project.
- **Evaluate:** Preliminary plans will be presented to community members, cultural practitioners and regulatory offices to gather feedback and suggestions for improving the quality of the plan and the intended outcomes.
- **Improve results:** Comments gathered through feedback process (government agencies, community participation, other experts) will be incorporated into the final design of the ecosystem restoration.

4. Measures of Effectiveness to be Reported to State Agency through which Grant Funds are Appropriated

ORF will submit the following to measure the Project's effectiveness:

- Work plan to the expending agency for review and input
- Progress reports based on work plan, quality assurance, and evaluation plan. Effectiveness criteria to include:
 - Status of tasks, including participation levels
 - Percent completion
 - Adjustments needed to complete Project

Final report identifying participants, summarizing activities and reporting the effectiveness of the Project in meeting the goals and objectives.

IV. Financial

1. Budget

BUDGET REQUEST BY SOURCE OF FUNDS

Period: July 1, 2025 to June 30, 2026

Applicant: Oceanit Research Foundation

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				
2. Payroll Taxes & Assessments				
3. Fringe Benefits				
TOTAL PERSONNEL COST	84,000			
B. OTHER CURRENT EXPENSES				
1. Airfare, Inter-Island				
2. Insurance				
3. Lease/Rental of Equipment				
4. Lease/Rental of Space				
5. Staff Training				
6. Supplies				
7. Telecommunication				
8. Utilities				
9. Contractual	616,000			
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
TOTAL OTHER CURRENT EXPENSES	616,000			
C. EQUIPMENT PURCHASES				
D. MOTOR VEHICLE PURCHASES				
E. CAPITAL				
TOTAL (A+B+C+D+E)	700,000			
SOURCES OF FUNDING		Budget Prepared By:		
(a) Total State Funds Requested	700,000	Caroll Takahashi (808) 383-1783		
(b) Total Federal Funds Requested		Name (Please type or print) Phone		
(c) Total County Funds Requested		Caroll Takahashi (Jan 17, 2025 12:45 HST) 1/17/2025		
(d) Total Private/Other Funds Requested		Signature of Authorized Official Date		
TOTAL BUDGET	700,000	Caroll Takahashi, President Name and Title (Please type or print)		

BUDGET JUSTIFICATION - PERSONNEL SALARIES AND WAGES

Period: July 1, 2025 to June 30, 2026

Applicant: Oceanit Research Foundation

POSITION TITLE	FULL TIME EQUIVALENT	ANNUAL SALARY A	% OF TIME ALLOCATED TO GRANT REQUEST B	TOTAL STATE FUNDS REQUESTED (A x B)
Not applicable				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL:				
JUSTIFICATION/COMMENTS:				

BUDGET JUSTIFICATION - EQUIPMENT AND MOTOR VEHICLES

Period: July 1, 2025 to June 30, 2026

Applicant: Oceanit Research Foundation

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, 2025 to June 30, 2026

Applicant: Oceanit Research Foundation

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:2023-2024	FY:2024-2025	FY:2025-2026	FY:2025-2026	FY:2026-2027	FY:2027-2028
PLANS						
LAND ACQUISITION						
DESIGN						
CONSTRUCTION						
EQUIPMENT						
TOTAL:						
JUSTIFICATION/COMMENTS:						

2. Anticipated Quarterly Funding Request for FY 2025

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total Grant
\$225,000	\$225,000	\$150,000	\$100,000	\$700,000

3. Other Sources of Funding Being Sought for FY 2025

1. FEMA Hazard Mitigation Grant Program DR-4724-HI
2. County of Maui Pā'ia Mantokuji Mission for work related to fuel tank hazard mitigation at Mantokuji Soto Mission.

4. List of All State and Federal Tax Credits Granted in Prior Three Years, and All Anticipated State and Federal Tax Credits

ORF has no tax credits granted in prior years and no possible future tax credits for Capital Projects.

5. List of All Federal, State, and County Government Contracts, Grants, and Grant-In-Aid in Prior Three Years and for Program Funding in FY 2025

GOVERNMENT CONTRACTS, GRANTS, AND / OR GRANTS IN AID

Applicant: Oceanit Research Foundation

Contracts Total: 200,000

	CONTRACT DESCRIPTION	EFFECTIVE DATES	AGENCY	GOVERNMENT ENTITY (U.S./State/Hawaii/ Honolulu/ Kauai/ Maui County)	CONTRACT VALUE
1	Climate Change Toolkit	Fiscal Year 2024	Department of Economic Development, Business, and Tourism	State of Hawai'i	\$ 200,000.00

6. Balance of Unrestricted Current Assets as of December 31, 2023

There are no unrestricted current assets as of December 31, 2024.

V. Experience and Capability

1. Necessary Skills and Experience

Oceanit Research Foundation (ORF) is a 501(c)(3) organization focused on making a positive impact on our community—and all of humanity—through lifelong learning, innovation, planning, and community outreach. We apply Science, Technology, Engineering and Mathematics (STEM) to foster innovation, solve problems, issues and concerns facing our community. The core initiatives of ORF are built upon innovating new ways to create positive social change with future-proof critical thinking, design thinking and STEM skills such as Computer Science, Coding, Artificial Intelligence, and more. Fundamental to these skills is a framework of team building and collaboration.

ORF will contract Oceanit Laboratories Inc (OLI) which has over 40 years of experience in managing and designing solutions to help address coastal hazard issues in the state. Oceanit’s scientists and engineers have expertise in coastal ecosystem restoration and nature-based design, which is often a more wholistic approach than traditional civil engineered structures. OLI works with a team of community outreach and cultural impact specialists to gather important feedback for the planning and design process.

Examples of the Oceanit Research Foundation Projects are as follows:

- **Climate Change Toolkit** Through the State of Hawai'i 2023 Grant in Aid Program, Oceanit Research Foundation developed a pilot Project “Climate Change Toolkit for Hawai'i's Coastal Communities” designed to promote awareness, understanding, and community discussion of the long-term impact of climate change and sea level rise.

The foundation of this Toolkit was built on years of work conducted by Oceanit Laboratories, Inc. (OLI) on projects with Hawaii’s coastal communities. OLI’s approach combines their experience and expertise in ocean engineering with unique tools including design thinking, advanced computer programming, artificial intelligence and other technologies.

Awareness is critical in understanding the complex issue of climate change and sea level rise and for developing effective strategies for our island communities to adapt to coastal erosion. ORF collaborated and partnered with OLI to develop the Toolkit and the Pā'ia Mantokuji Soto Mission temple on this project. ORF also collaborated with the University of Hawai'i Maui College.

- **Aloha AI** is a collaborative infrastructure/service for students to use as they learn the fundamentals of machine learning, deep learning neural networks, and computer vision. Oceanit developed the Aloha AI Network to put the power of novel AI capabilities into the hands of students and teachers. Designed to be student-friendly yet industrial strength, the Aloha AI Network consists of three parts: Toolbox “edge” hardware devices that are setup locally, in depth training and eLearning tools from Oceanit experts, and cloud platform services to process captured data in a shareable, collaborative way.

Aloha AI’s edge system allows student users to learn about, develop, and build simple machine learning models for object detection. Through a collaborative dashboard, students

share their learnings and build new custom dashboards or mobile and web applications. For example, students can use Aloha AI's object detection capabilities to tally the number of people in the school library to answer questions like, how many people use the library on an average daily basis or what is the busiest time of day/week/month.

Aloha AI has other built-in object detection models that allow students to tally the number and types of vehicles used at their school such as cars, trucks, motorcycles, and buses. This counting and identification data can be analyzed by students to estimate the carbon footprint of transportation at their school, or optimize their parking assignments, or even to redesign the school's parking lot and thru-traffic systems.

2. Facilities

The administrative headquarters for the Oceanit Research Foundation is located at 828 Fort Street Mall, Suite 600, Honolulu, Hawai'i. The Foundation's actual work is conducted at the site of the Project, therefore there is no need to secure additional facilities. For example, work will be conducted at the Mantokuji Soto Mission which includes a meeting hall for large gatherings where community outreach and cultural engagement can be conducted, as well as an industrial kitchen that can help service these events.

VI. Personnel: Project Organization and Staffing

1. Proposed Staffing, Staff Qualifications, Supervision and Training

ORF has no paid staff and will seek the services of outside experts/specialists to include Oceanit Laboratory. The following lists the proposed staffing, qualifications, and Project tasks.

Caroll Takahashi

President, Oceanit Research Foundation (ORF)

Ms. Takahashi is the President, Project Manager, and Contract Administrator for ORF. Under the Administration of Mayor Jeremy Harris, she served as the Director of Budget and Fiscal Services. At the Research Corporation of the University of Hawaii, she served as the Director of Finance and Administration for the construction of the UH Cancer Center. She provided the leadership and project management for the “Climate Change Toolkit For Hawaii’s Coastal Communities, Pilot Project, June 2024”, to advance the awareness among students and the community on Maui.

Michael Foley, PhD, PE

Principle Investigator, Coastal Engineer, Scientific Diver

Dr. Michael Foley is a senior coastal engineer at Oceanit where he has worked on a diverse range of topics including shoreline erosion, harbor protection, flood risk mitigation, repair of coastal structures, dredging, and beach nourishment. Mike is passionate about preserving beaches, dunes and coral reefs by applying nature-based design principles. His leadership has helped with the development of innovative technology to advance the coastal engineering practice including ecologically enhanced methods for marine construction and low-cost video monitoring for high-resolution shoreline data collection

Linyan Goo, PhD, PE

Coastal Engineer

Dr. Goo holds a bachelor’s and a master’s degree in Environmental Science and Engineering, and a PhD degree in Ocean and Resources Engineering. She is a registered professional engineer in the State of Hawaii. Since joining Oceanit in 2019, Dr. Goo has worked on a diverse range of civil, coastal, and environmental projects under various roles and responsibilities. She performed site assessment, wave modeling, and structure design for several of Oceanit’s coastal erosion mitigation and beach nourishment projects. Dr. Goo is experienced in hydrological and hydraulic analysis for watersheds and has led the design effort for dam safety, reservoir improvements, and flood control projects.

Katherine Uttley Stack, PhD

Material Scientist, Diver

Dr. Uttley Stack joined Oceanit in 2022 as a member of the Materials Team. She specializes in the fabrication and characterization of environmental and synthetic materials. She has lead projects that utilize nature-based solutions for environmental remediation using native

microbes. Dr. Uttley Stack received her PhD in Chemistry from the University of Missouri Columbia in 2021 and served as a Post Doctoral Fellow at the University of Hawaii Manoa.

Catherine Hanna, EIT

Civil Engineer

Ms. Hanna joined Oceanit in 2020 as a civil engineer who specializes in the design of coastal/waterfront structures. She currently has over nine (9) years of consulting and design engineering experience, working on projects primarily around the state of Hawai'i and the New York metropolitan area ranging from riprap revetments and seawalls, marina renovations and floodplain development, to interior residential alterations and exterior art installations. Ms. Hanna received a BS in Civil Engineering from Cornell University in 2011, with a focus on structural engineering and a minor in environmental engineering, and a MS in Civil and Environmental Engineering from Carnegie Mellon University in 2012, with a focus on construction management.

Louise Curie

Marine Biologist, Scientific Diver

Ms. Currie joined Oceanit in 2023 as a Biofouling Technician and has since worked on several coastal projects contributing to the planning and completion of biological assessments. Prior to joining Oceanit, she was a Marine Debris Technician for the Papahānaumokuākea Marine Debris Project, as well as a Community Huki Leader for Mālama Maunalua. She is a PADI and SSI Divemaster with a strong interest in coastal resilience and nature-based restoration. Ms. Currie received her BS in Marine Biology from the University of Hawaii in 2017 and is currently completing a PSM in Environmental Science at Oregon State University.

Bryson Gonzalez,

Marine Biologist

Mr. Gonzalez joined Oceanit in 2023 as a Biomaterials Technician. Prior to joining Oceanit, he was a Lab and Field Research Technician at the University of Hawaii at Manoa, as well as a Coral Research Assistant/Data Analyst at the Hawaii Institute of Marine Biology (HIMB). Mr. Gonzalez received his BS in Marine Biology from the University of Hawaii at Manoa in 2023.

Judi Morris, JD

Project Manager

Mrs. Morris has been with Oceanit for over 15 years as a Project manager, Financial Analyst and Contract Specialist. She is a licensed attorney that passed the Hawaii, New York, Pennsylvania and New Jersey Bars. As a Project Manager and Contract Administrator, she advises the Project Team and Senior Management involving contractual interpretation, business and legal risks and regulatory matters. She ensures the quality and timeliness of all deliverables.

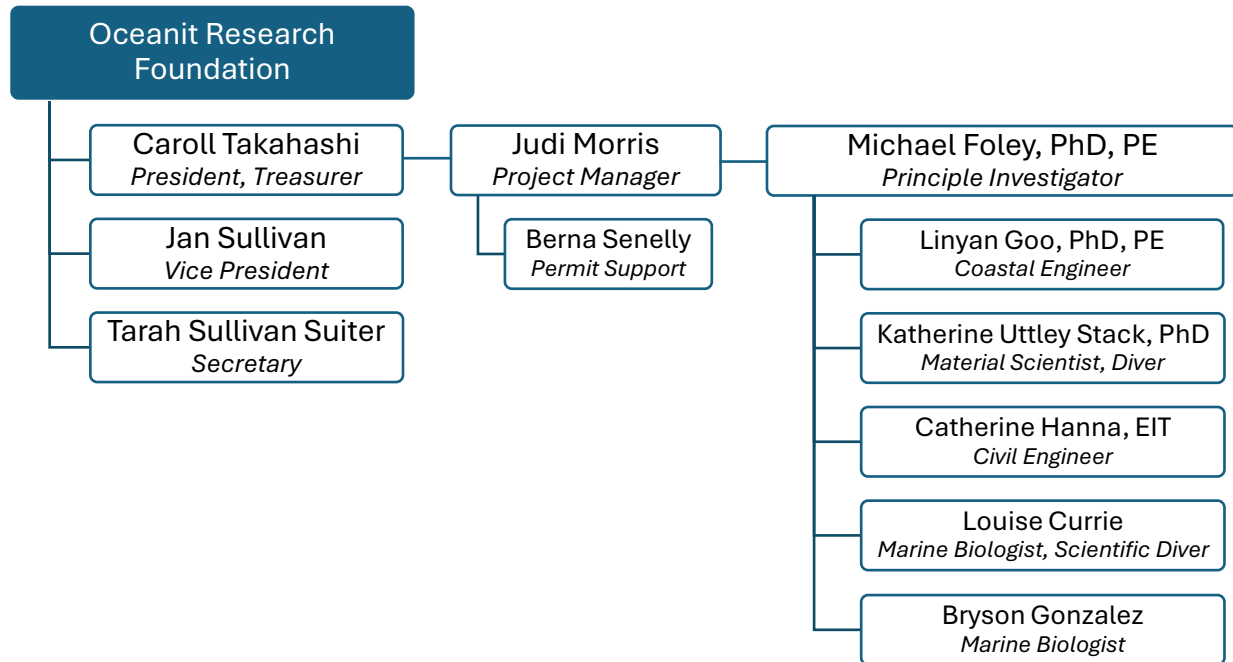
Berna Senelly

Permit Support

Ms. Senelly has experience as a community planner, organizational strategy advisor, facilitator and mediator. Key products of her efforts include social impact assessments which are incorporated in Environmental Impact Statements (EIS) and environmental assessments (EA); community dialogue programs for projects that benefit from community participation; and

strategic planning for the City and County of Honolulu Department of Planning and Permitting; the State of Hawaii Office of Information and Management Technology, and several non-profit and educational organizations. Ms. Senelly has a Bachelor of Arts Degree from the University of Hawaii.

2. Organization Chart



3. Compensation

ORF is comprised of volunteer staff and will seek services of non-ORF specialists.

VII. Other

1. Litigation

ORF has no pending litigation to which we are a party, and has no outstanding judgment.

2. Licensure or Accreditation

ORF has no special qualifications, including but not limited to licensure or accreditation relevant to this request.

3. Private Educational Institutions

This grant will not be used to support or benefit a sectarian or non-sectarian private educational institution.

4. Future Sustainability Plan

(a) Received by the applicant for fiscal year 2026

The Mantokuji community is located along the shoreline, which in its current state lacks resilience. The Grant for this Project will reduce the risk to public safety and coastal hazard exposure in Mantokuji Bay. By stabilizing the shoreline with a nature-based solution, the Project will also provide protection for valuable land areas, infrastructure, communities and recreational spaces from being lost to the ocean. Additionally, the coastal natural infrastructure plan provides other benefits such as public access, habitat for wildlife, and improved water quality, thereby building resilience while improving the overall ecological function of coastal systems.

(b) Not received by the application thereafter

The Mantokuji community is committed to upkeeping the “restored Mantokuji Bay” and its dune system for the coming decades. Like all natural systems, coastal dunes require monitoring and periodic maintenance to help maintain their ecosystem services. This will be part of the regular planned property maintenance and upkeep of the vital infrastructure.

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Final Audit Report

2025-01-17

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By:	Katherine Uttley (kuttley@oceanit.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAATkhlqosJ6ZFjVZJNYtRjV4zcfPakjELq

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2025-01-17 - 10:33:28 PM GMT
-  Document emailed to ctakahashi306@gmail.com for signature
2025-01-17 - 10:40:26 PM GMT
-  Email viewed by ctakahashi306@gmail.com
2025-01-17 - 10:41:21 PM GMT
-  Signer ctakahashi306@gmail.com entered name at signing as Caroll Takahashi
2025-01-17 - 10:45:21 PM GMT
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