



# A Community Dedicated to Saving Puakō Reef

Return the reef to its historic 70% coral coverage from its existing 7%.

[www.Puako4reefs.org](http://www.Puako4reefs.org) \* [Puako for Reefs Facebook](#)

Story map of Puakō: [Wahi Pana -A Sacred Place](#)

## Puakō for Reefs 2025 Annual Report and the Work Ahead in 2026

### Keep Calm and Coral On

#### 2025 Annual Report

After years of groundwork, the Puakō sewer project is gaining momentum. The partners needed to protect Puakō Reef are coming together, alignment is growing, and Puakō for Reefs (PFR) now serves as the coordinating hub—connecting community, government, and funding partners to advance this once-in-a-generation project.

#### Wheel of Support

Implementing a community sewer system is complex and requires coordination among many partners, each with distinct roles, constraints, and timelines.

The good news for 2025 is that the Puakō community's sustained effort is paying off. We have made meaningful progress with all critical partners, and alignment around a shared path and timeline is strengthening.

We often describe this work as a *wheel of support*. Each spoke represents a key area of expertise and partnership—community, county, state and federal agencies, philanthropy, private capital, and technology partners—working together around a central hub. A project only moves forward when all spokes are engaged and turning together.

Over time, PFR has filled multiple roles to keep momentum moving while building trust and understanding. Today, PFR serves as the central hub—providing **Project Coordination** that connects partners. Through your generous donations we have been able to hire partners with expertise in all the spokes of the wheel and keep the project moving toward our shared goal: protecting Puakō Reef for generations to come.



#### Partnership Updates

##### County

The County plays a significant role in implementing a sewer system in Puakō. The collection line will be located within the county right-of-way, the County will operate the collection system which will connect to the American Water treatment facility, and County permits are required for construction. Because of this role, other partners have indicated that their full engagement depends on County participation.



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Since our first meeting with Mayor Alameda in January 2025, PFR has worked steadily with County departments to build understanding and alignment. A consistent message emerged: while the County supports the project, it lacks the staffing and funding capacity to take on additional work beyond federally mandated obligations. In that January meeting, the mayor asked for our patience as his team got up to speed on the island's wastewater challenges and potential solutions.

Two weeks ago, PFR met with the mayor, his leadership team, and the new Director of Environmental Management to present a draft **Memorandum of Understanding (MOU)**. The mayor, now well-versed in wastewater systems and the urgency for solutions, emphasized the need to remove wastewater from Puakō Reef and expressed support for accelerating the coastal cesspool replacement deadline, noting that 2050 is too late.

He described the MOU as reasonable, asked his team to prepare it for signature, and thanked PFR for our persistence and transparency stating that he **“wants to be on our team.”**

On another bright note, our **County Council member James Hustace** continues to be a great advocate for the project and has opened many doors and hosted meetings with the different county departments. We are extremely fortunate to have him on our team!

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## State and Federal Government

PFR met with Representative David Tarnas, Representative Nicole Lowen, and Senator Tim Richards to provide an update on the project and discuss potential state involvement. Topics included accelerating the cesspool conversion deadline and funding connections in Priority I areas.

While they all fully support our efforts and understand the urgency to save Puakō reef, the message from them was clear: the State has already provided Hawai'i County with \$1.5M specifically for a Puakō sewer. Until the County demonstrates leadership and commitment, additional state assistance is unlikely.

The current MOU between the County and PFR is a critical first step in showing the county's commitment. **We will now circle back with them to search for funding and policy changes.**

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## Technology Partners

**The technical solution remains unchanged.** The project proposes a low-pressure collection line along Puakō Beach Road connecting to the American Water treatment plant at Mauna Lani. The two low pressure collection systems we are working with are Orenco and EOne. Since the County will be owning and operating this system, they need to be involved in the decision. We are striving for a decision this year.

Four collection routes are under consideration, each with advantages and challenges. (See attached maps.) All of them require permits and approvals from different landowners. While Route 3b is the shortest, it will require some of the most expensive and time-consuming permit processes.



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**Our work for 2026 will focus on finding the one route** on which all partners and landowners can agree, securing permissions, permits, and completing required environmental and cultural reviews, and receiving a formal Will Serve letter from American Water.

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## Community

### **A‘ohe hana nui ke alu ‘ia**

No task is too big when done together.

This Hawaiian proverb captures exactly what it will take to build a sewer system in Puakō. From the beginning, our focus has been Puakō, its people, its reef, and our shared future. What we have learned along the way is that we cannot succeed alone, or even just for Puakō.

Puakō is helping lead the way in addressing a much larger challenge facing Hawai‘i. More than a decade ago, the State identified nine Priority I communities including Puakō where wastewater is flowing directly into nearshore waters, threatening reef health and human safety. Other communities on Hawai‘i Island, such as Kahalu‘u, and on other islands such as Hanalei on Kauai, face similar risks even without Priority I designation.

Communities across the state are now paying attention. They want to learn from Puakō’s efforts and stand with us, because together, we can stop the estimated **fifty-three million gallons of untreated sewage** currently entering Hawai‘i’s coastal waters each year.

To build this broader support, PFR has engaged the **Kalaimoku Group** to help form a coalition of organizations—first on Hawai‘i Island, then statewide—willing to lend their names and voices in support of the Puakō Wheel of Support. The Kalaimoku Group also wants to hear from you and will host small gatherings and “talk story” sessions later this year.

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## Financial Overview

### Project Financing Overview

The financial structure of the Puakō sewer project is as complex as its engineering. Success requires a carefully coordinated mix of **philanthropic, private, public, and homeowner funding**. In 2025, Puakō for Reefs made meaningful progress across all funding areas and will continue this work with urgency in 2026.

### Project Costs

There are **five phases of costs** associated with building the Puakō sewer system. While work is underway across all phases, our primary focus to date has been on the **first phase**, laying the foundation for the steps that follow.



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## 1. Preparing to Construct: Anticipated Costs for Planning, Design, and Permitting

This budget was originally developed in 2023 for a grant application and remains our **best estimate of the upfront costs** required to plan, design, and prepare for construction of the Puakō sewer system. We review and update this budget regularly to reflect latest information and ensure it remains realistic and transparent.

In 2025, we made one adjustment. The grant application required work beyond the core sewer project, so that line item was removed.

We have also added two new columns to this budget: **year-to-date spending** and **anticipated funding source**.

<b>Costs to Plan, Design and Prepare to Build</b>				
<b>Budget Categories</b>	<b>Description</b>	<b>Estimated Cost</b>	<b>YTD Spend Contractor</b>	<b>\$\$ Provider</b>
<b>Personnel</b>				
<b>Position Title</b>	Project Management (two years part-time; this project only)	\$125,000	\$39,000 3PO	Donation
<b>Contracts</b>				
<b>Community outreach and advocacy</b>	Outreach to Hawai'i Island organizations, Native Hawaiian groups, businesses, and residents	\$150,000	\$9,000 Kailamoku Group	Donation
<b>Environmental, Cultural, Permitting and Engineering Studies</b>	Environmental Assessment/Environmental Impact Statement including Cultural Studies for proposed actions	\$225,000	\$30,000 PBR Hawaii	Philan., repaid by CFD
	1. Preliminary Engineering Design 2. Permitting 3. Construction engineering drawings sufficient to obtain a Guaranteed Maximum Price contract for the selected wastewater system	\$500,000	1. \$48,000 Pederson Eng.	1. Donate 2. Philan., repaid by CFD 3. Philan., repaid by CFD
<b>Identifying and pursuing funding and financing options</b>	Identify and evaluate potential funding sources; produce detailed financial modeling of improvement district (capital) financing and operations and maintenance costs	\$125,000	\$30,000 Goodwin Group	Donation
	Develop solutions for the policy and legal challenges to implementing water improvements in Hawaii, including public private partnerships, financing frameworks, and regulatory approval requirements	\$100,000	\$19,000 Dentons Legal	Donation
Travel Indirect	Allowance for expert advisor travel	\$15,000		donation
	Ten percent overhead	\$160,000		Paid by CFD
<b>TOTAL</b>		<b>\$1,400,000</b>		



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2. **Construction:** These costs will be determined after most of the steps in phase 1 are complete. However, we are already working on several ways to reduce the construction costs.
    - a. Reuse the abandoned water line as a sewer sleeve along Puakō Beach Drive.
    - b. Install a fiber optic cable alongside the sewer line to offset some construction costs and bring high speed internet to community.
    - c. Ensure future connections participate in cost-sharing such as the boat ramp, beach parks, state lands located in Puakō.
    - d. Develop a plan to work with philanthropy partners to provide sliding scale assistance for homeowners to connect to sewer.
    - e. Reuse *newer* existing septic tanks and ATU basins with the Orenco system.
  3. **Connecting properties:** The PFR technical committee evaluated ten Puakō properties with a contractor with the goal of developing a single cost estimate for connecting homes to the collection line on the street. The conclusion was that a single cost estimate is not possible because all our properties are unique. **Our next step is to develop a series of cost estimates based on property types:** mauka, makai, elevation, in front yard or back yard, cesspool and old septic conversion, aerobic system reuse, etc....
  4. **Monthly Operating Costs:** There will be two different organizations treating our waste. The County which will collect it and American Water which will treat it. The Public Utilities Commission will determine the rates. **Our goal is for rate parity**, meaning Puakō residents will be charged the same as other county collection system customers and the same as other American Water customers for the treatment. We will be actively collaborating with these partners to reach our goal. Another goal is for us to receive one bill versus two. There are several ways to solve this, all requiring agreement from the County and AW.
  5. **Special tax assessment:** A sewer system is considered an improvement to properties. A special tax associated with this improvement will be applied to Puakō property taxes. There are many ways to apportion this assessment. We have been working with a Hawaii special tax consultant to fully understand this. **Our goal is an equitable apportionment** meaning that properties are taxed based on different economic levels tax exemptions. This is why financing the system through a **Community Facilities District (CFD)** is so important versus an Improvement District (ID). An Improvement District taxes all properties equally. The CFD allows for diversity in economic levels in a community.
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## Sources of Funding

One important piece of learning the PFR team had in 2025 is that our hopes of having the county or the state pay any of the upfront costs to build the sewer have diminished. The *will* at all levels of government to solve Hawai'i's 53-billion-gallon wastewater problem is high, the resources to do so are limited.



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We have realized that a new model for funding wastewater solutions in Hawaii is required. The good news is that there is a model currently being used around the world for many types of infrastructure projects that have a social and environmental impacts, like the Puakō Sewer. It was developed by the World Economic Forum and is called the **4P Model of Investment for People and Nature**. In this model, Public, Private, and Philanthropic capital work with the People, to tackle complex conservation and humanitarian challenges. See diagram XX ([Link to more information on the 4P model](#))



**For private capital**, PFR partnered with 3PO Networks (3PO).

They do three things for us: 1. They provide project management that our team of volunteers needs. 2. 3PO invests in the deployment and management of intelligent wastewater networks. The solution couples the deployment of low-pressure wastewater systems with concurrent deployment of fiber-optics. The combined approach allows for both system monitoring (lower maintenance costs) and delivery of communication infrastructure to the community (high-speed broadband / internet). to install fiber optic cable alongside the sewer line to offset some of the construction costs and bring high speed internet to community. 3. 3PO can pull together private financing packages and bridge loans for the project.

**Philanthropy plays two essential roles in large conservation projects.** First, it supports early-stage work: defining the problem, funding science, and engineering, designing solutions, and educating partners and government. Thanks to the generosity of the Puakō community, **millions of dollars** have been raised over the past 12 years. These funds have supported scientific research, engineering studies, route alternatives, a Preliminary Engineering Report, legal counsel, and early financial modeling. **Mahalo nui loa.**

Secondly, as the project moves closer to construction, philanthropy also provides risk-tolerant capital through **Program Related Investments (PRIs)**. These allow foundations to fund early implementation costs that are repaid once bonds and public financing are in place, freeing those funds to be reused elsewhere. The items in the cost table above that say in the last column “Philanthropy, to be repaid by the CFD,” are these costs.

**Our work in 2026 is to build relationships and secure commitments from large foundations** who can provide PRI’s to cover the large upfront costs listed in the table and the upfront construction costs. We are also looking for Philanthropic partners who can help our homeowners cover the cost to connect to the sewer through a grant.

And YES, we will continue **collaborating with YOU, our community members**, to donate towards the other important costs. **We will notify you of our 2026 fund raising needs in early spring.**

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## 2026 Work Ahead

PFR plans to have as productive of a year in 2026 as we did in 2025. With the partners we have aligned, the county engagement, and your continued support, we can achieve the steps to move from the planning and design phases closer to the construction phase.

### 2026 Goals:

- Build a 4P Funding Model for the project with Public, Private and Philanthropic partners aligned with the People in the community.
- Community Facilities District approved,
- Design phase and planning phases complete and well under way with environmental/cultural/permits phase.

### 2026 Major Work items

- Work with the county to answer technical and financial questions required for the CFD application.
- Choose the collection system route.
- Secure a *Will Serve* letter from American Water
- Work with the Public Utilities Commission (PUC) to reach rate parity.
- Develop realistic construction costs AND explore cost reduction strategies.
- Find Philanthropic partners.
- Work with 3PO to develop private financing model.
- Build relationships with other high priority cesspool conversion communities who could benefit from our work in Puakō. This will help us receive State and Federal funding.
- Support Kailamoku group in building a coalition of supporters.
- Secure State support to:
  - Move forward the cesspool conversion deadline in coastal communities from 2050 to 2035.
  - Increase funding for the cesspool conversion program.
  - Sponsor a federal earmark to offset project costs.

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## How can you help?

Once again, we want to thank you for your donations of time, talents, and treasures. We are only close to cleaning the waters off the Puakō reef because of you, the people in Puakō community.

**Puakō for Reefs** is a unique organization in that we are all volunteer run. **ALL the money we raise** goes directly to our mission to pay for the time and knowledge of experts.

You can help us continue this important work in several ways:

1. **Donate:** We will be doing a **fund-raising effort early this spring** for the costs listed above. Please be generous.



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- Connect:** If you know a large foundation who would be interested in supporting our community’s efforts to save Puakō reef, either through a grant or a Program Related Investment (PRI), please put us in touch with them. We have a plan we are ready to discuss.
- Outreach:** If you know anyone on our target list of organizations for our coalition (Attachment 3), please let us know so you can help us make a connection.
- Volunteer:** Currently, we have people who work on different topics for us, such as the technical team. These people do not attend our weekly meetings but are called in to discuss critical issues. As the project progresses, we will need people for a variety of topics such as construction, project management, financial analysis, and community support. We will put the word out at the appropriate time.

## PFR 2025 Finances

### Balance Sheet

Puako For Reefs

As of December 31, 2025

DISTRIBUTION ACCOUNT	TOTAL
<b>Assets</b>	
Current Assets	
Bank Accounts	
Biz Essentials Checking - 1	107,869.22
<b>Total for Bank Accounts</b>	<b>\$107,869.22</b>
Accounts Receivable	
Accounts Receivable (A/R)	0.00
<b>Total for Accounts Receivable</b>	<b>\$0.00</b>
<b>Total for Current Assets</b>	<b>\$107,869.22</b>
<b>Total for Assets</b>	<b>\$107,869.22</b>
<b>Liabilities and Equity</b>	
Liabilities	
Current Liabilities	
Accounts Payable	
Accounts Payable (A/P)	0.00
<b>Total for Accounts Payable</b>	<b>\$0.00</b>
<b>Total for Current Liabilities</b>	<b>\$0.00</b>
<b>Total for Liabilities</b>	<b>\$0.00</b>
Equity	
Retained Earnings	109,383.85
Net Income	-1,514.63
<b>Total for Equity</b>	<b>\$107,869.22</b>
<b>Total for Liabilities and Equity</b>	<b>\$107,869.22</b>



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## Profit and Loss

Puako For Reefs

January-December, 2025

DISTRIBUTION ACCOUNT	TOTAL
Income	
Donation Business	500.00
Donation Foundation Contribution	15,000.00
Donation Individual	172,539.43
<b>Total for Income</b>	<b>\$188,039.43</b>
<b>Gross Profit</b>	<b>\$188,039.43</b>
Expenses	
Advertising & Marketing	3,400.00
Bank Charges & Fees	26.00
Charitable Contributions	170.00
Fundraising Party Expenses	5,667.16
Legal & Professional Services	\$9,000.00
Engineering Services	87,414.63
Environmental Services	29,965.43
Financial Consulting	31,706.07
Legal Services	19,477.01
<b>Total for Legal &amp; Professional Services</b>	<b>\$177,563.14</b>
Office Supplies & Software	2,576.78
Other Business Expenses	0.00
Taxes & Licenses	150.98
<b>Total for Expenses</b>	<b>\$189,554.06</b>
<b>Net Operating Income</b>	<b>-\$1,514.63</b>
<b>Net Other Income</b>	
<b>Net Income</b>	<b>-\$1,514.63</b>

**A'ohē hana nui ke alu 'ia**

**No task is too big when done together.**

*Mahalo nui from everyone at Puakō for Reefs.*

### Board Officers

President: Karen Anderson, [Karen.Anderson@puako4reefs.org](mailto:Karen.Anderson@puako4reefs.org)

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## Attachments

Collection System Potential Routes

### Overall Route Map

#### Current Layout

Off-site Main Line Options

- Route 1 – 2.4 Miles
- Route 2 – 3.4 Miles
- Route 3 – 1.9 Miles



### Alternative Route 3B

Route 3(b) would reduce the transmission line sewer distance from 1.9 Miles to .7 miles, a 63% reduction.

