

2023

Business Proposal

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Hīria Te Rangi



in
partnership
with



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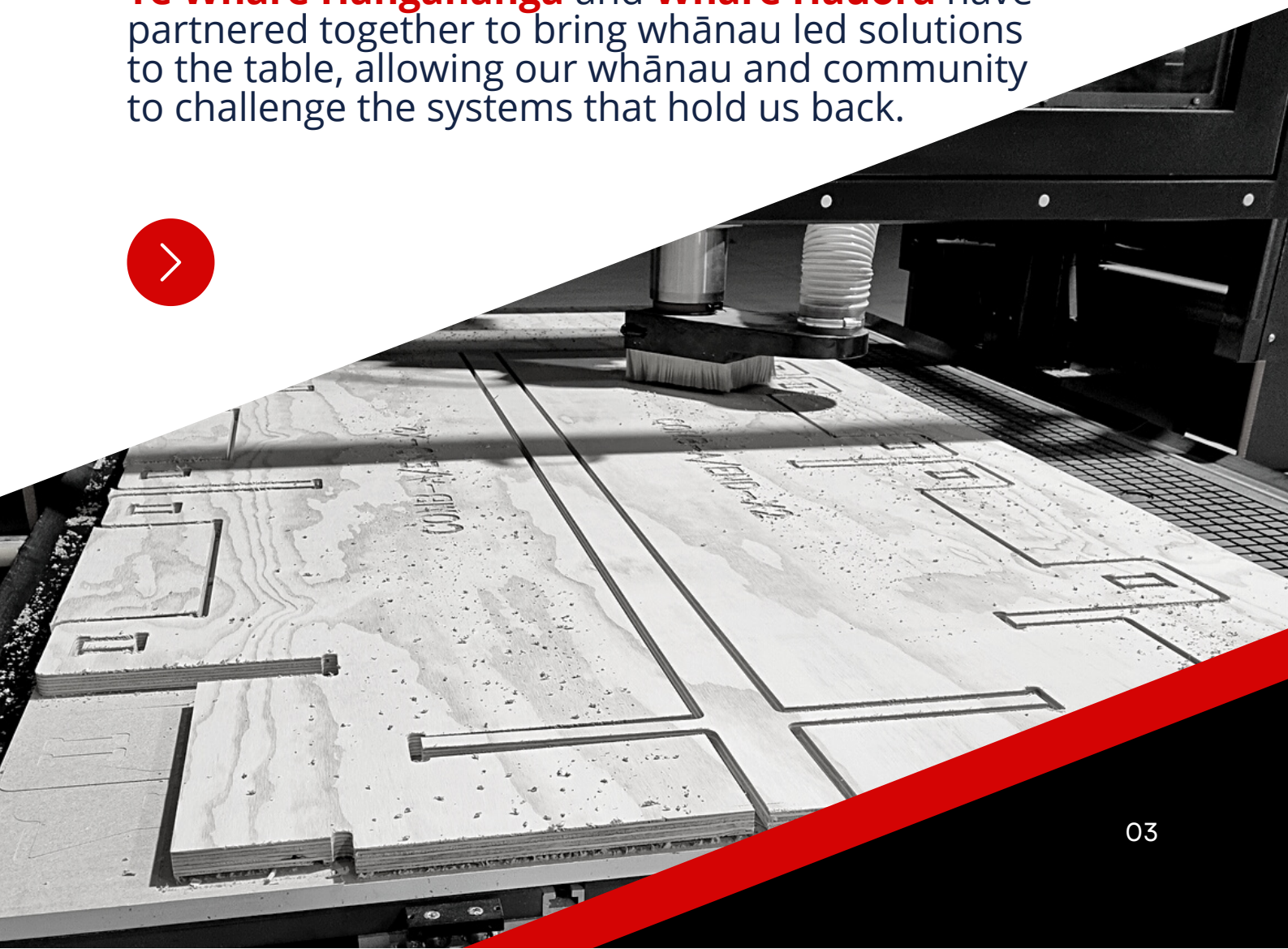
Building
System
Details



Our vision at Te Whare Hangahanga is to **empower our whānau** and wider community to **lead kaupapa** that will **create an equitable te ao.**

We focus on the key outcomes that our whānau and community need. This allows us to adapt quickly and not be tied to any particular solutions.

Te Whare Hangahanga and **Whare Hauora** have partnered together to bring whānau led solutions to the table, allowing our whānau and community to challenge the systems that hold us back.



ke inga

Our Mission

We want to enable equitable solutions to create homes for our whānau and community that are healthy and affordable.

Our whānau need warm, safe, dry and long-term homes, but the current market and systems make this an impossible dream.



We focus on strategies to build affordable where fast; in a way that is good for both us and Papatūāunuku; and that puts control back in the hands of our whānau.

We are **led** by **mātauranga Māori**, implementing solutions that **honour** **ngā Ātua, ngā tīpuna**.

How do we do this?

- We tailor-make every proposal with **your pūrākau, mātauranga** and desired **outcomes** for your whānau and community, while still implementing modular and template solutions to allow for fast deployments.
- We utilise our **Hinekauorohia Framework** allowing us to **incorporate** our **past, present and future considerations** into every solution.
- We utilise **collective bargaining** power on your behalf to bulk order with our other clients to **discount your materials**.
- We **never compromise** on **whānau health**. We focus on how to make **accessibility** and **sustainability affordable** with every build.
- We genuinely care. Our clients are whānau and friends.
- Housing is a human right and we believe everyone deserves a warm, dry whare to call their home.

Proposal

Our proposals includes an initial wānanga with your whānau, hapū or rōpū to discuss:

- What goals and outcomes you want to achieve?
- What you are expecting from your whare?
- What are the principles we need to uphold that are important to you?
- Where will your whare stand and what is the history of this whenua?
- Any mātauranga you wish to share

This will help us scope up and design the whare, allowing us to generate a more detailed proposal.

Below is an example of a rendered photo of an XFrame built whare.



XFRAME[™] Rendering Engine Rendered Perspective

Project Name & Address
Accessory Dwelling Unit

<small>Rendering Version</small>	<small>Author</small>	<small>Date Issued</small>	<small>W/P Version</small>
	KM	09-05-22	8.25



What You Get With Each Whare?

For every whare we work on, we ensure that we maintain a high level of standard for our whānau.

We work with you to ensure that we can maintain whānau-led designs and construction in areas that your whānau, hapū, iwi and community are comfortable with.

We will stand and tautoko you where we need to, or implement solutions on your behalf, when asked to.



Inclusive design and build

All designs are done with energy efficiency, accessibility and health principles in mind. Our housing is warm, dry and accessible.



Precision and Reduction of waste

Our whare components are digitally fabricated to precision. They fit together perfectly to create consistent and accurate measurements every time. Every module can be reutilised or recycled if situations change, allowing greater flexibility.

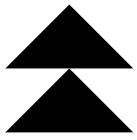


Building Resilience

Every whare is built to ensure resilience for our whānau. Being "off-grid" from power, water and other resources reduces impacts on aging rural infrastructures.

"We believe part of decolonising is about removing our dependancy on colonial systems. This kaupapa is about returning our whānau to ways of living that we have control over and confidence in." ~Amber Craig

Why We Are Different?



Utilising technology

Both of the building systems we work with allow us to build where quickly, reducing build time and costs. Instead of months, building usually takes just weeks. We utilise the best options technology can provide to offgrid our where. Offgridding reduces impacts on already fraught council infrastructure and systems, and also reduces the impact on Papatūānuku.



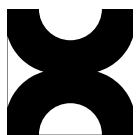
We have invested our time and skills in looking for building systems that will challenge status quos today and give our whānau autonomy.

These systems focus on our environment and inclusive design first. This allows us to create homes for whānau quickly.



Continuously Improving

We are constantly on the look out for new technologies (or a return to old technologies) to help us improve our systems and processes. For example, we are conducting research into how to utilize raupō as an insulation solution, and are in discussions with BRANZ about the standards to support the national use of this.



Whānau-led

We are focused on making a difference for our whānau. We are not technology-led, but we utilise technology to awhina our whānau. We listen to the stories of what is happening on the ground and shape our solutions to resolve those key issues, tackling root causes where possible.
tewharehangahanga.nz

Our Proposed Mahi Framework

*"By empowering our whānau, our hapū and our iwi - you in turn empower our wider community."
Teresa Aporo*



> **whakamātau**

Prototype the establishment of an emergency whare (<30 sqm).

> **wānanga**

Establishment of assembly hubs to create whānau-led construction teams.

> **whakamana**

We work to support your whānau and community to learn key skills to enable their own autonomy for ongoing support and solutions.

How We Build Whare?



Design

We work with the relevant teams to design the system we believe suits your needs best.

Whether WikiHouse or XFrame, these designs will determine the materials, cost and print files.

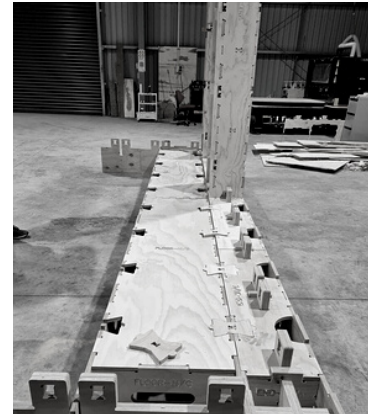
These details will also feed into other mahi, including utility unit fabrication and offgrid resourcing.



Fabricate

We take the print files and will print in our warehouse in Houhou Pounamu (Carterton). We can load up the CNC Router with the right materials to "print" out your whare.

If you are part of our Taupuhipuhi network and have your own CNC Router, we will send through the print files and provide support for you and your whānau to do this yourselves.



Construct

To help reduce transporting costs we prefer to move parts to the places they will be used. We like to establish assembly hubs at your location to support the assembly of the modules that will make up the whare.

We bring a small team to assist and have oversight over the building process while your whānau establish your whare.



How We Build Whare?



Although we stand up our whare quickly, we want to make sure it is dry and cladded fast to ensure we maintain an effective and efficient whare.

We will work with you to decide which cladding and roofing best suits your situation and goals. For example which roof will be best for rainwater capture or shade. We are able to incorporate any mātauranga Māori design elements.



Offgridding a house can be complicated and frustrating. Our team make it easy. We bring in tools we have personally tested and understand. We help make sure everything is set up and we will provide wānanga so your whānau can continue to support themselves. We also provide information about automation and sensors to help whānau ensure their whare is healthy.



We build internal utility units like cupboards and shelvings for many parts of the whare including kitchen, bathroom and bedroom. We can even print furniture! Want to furnish yourself? You absolutely can, but we're pleased to offer printed options that are cost-effective and stylish too.



We Build Together

Assembly Hubs



- **We establish assembly hubs**
- Building modules on site
- **Reducing transport costs** by not needing large trucks

Wānanga



- **sharing knowledge** of construction, how to implement design solutions and achieve offgrid goals
- **incorporating local mātauranga**
- building on feedback for **continuous improvement**

Healthy Homes



- all warm, dry, cost-effective, sustainable and good for Papatūānuku as well as whānau
- Triple glazing is a minimum standard

Reducing Impact



- reducing all **building waste**
- minimizing single use plastic
- focused on **offgrid solutions**
- facilitating **self-sufficiency**
- **easing pressure** on roads and infrastructure

Estimating A Cost

Estimating a cost for housing can be quite tricky, as there are a lot of factors that contribute to the total cost, including the whenua in which you build on.

Once our **Te Whare Hangahanga** and **Whare Hauora** team wānanga with you and your whānau to work out the outcomes we all want to achieve, we provide pricing.

With it costing between \$2000 - \$4000 per sqm to build a house in Aotearoa, we **aim for** the lower end of this at **\$2000 or less per sqm** inclusive of an offgrid solution and interior utility units built.

The **simplicity** and **modular capabilities** of the building systems we utilise, as well as the **collective bargaining** abilities we have with our suppliers, means we can **provide reduced labour and material costs** without unfairly paying our people.



About Us - Ko wai?



Te Whare Hangahanga and **Whare Hauora** are two organisations with a **strong alignment in values.**



Amber Craig
KAIWHAKAREWA
TE WHARE HANGAHANGA
RANGITĀNE, NGĀTI KAHUNGUNU,
MUAŪPOKO



Hīria Te Rangi
KAIWHAKAHAERA
WHARE HAUORA
NGĀTI POROU, TŪWHARETOA



Tūkotahi Phillips
KAIWHAKAHAERA MAHI
TE WHARE HANGAHANGA
TAMAHAKI, TE ATIHAUNUI-A-
PĀPĀRANGI, NGĀTI KAHUNGUNU
tewharehangahanga.nz



Alice Cameron
KAIWHAKAHAERE WHAKAPĀ
TE WHARE HANGAHANGA
TE WHĀNAU-Ā-APANUI

Join us and be part of the collective.

Te Whare Hangahanga in partnership with Whare Hauora.

We're available to have a chat and tailor your proposal as best to your needs as possible.



tewharehangahanga.nz



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Thank You

WikiHouse

WikiHouse is an OpenSource **modular building** system that makes it **easy to design, manufacture** and **assemble** high-performance homes and small buildings.

Created in England in 2011, since then WikiHouse has been through many tests, modifications and improvements.



We use the **SkyLark** version 0.2 system which was released March 2023. This system has important strengthened design that will meet our New Zealand wind and earthquake standards.

WikiHouse is designed with precision manufacturing to be **highly insulated, lightweight, carbon negative, durable, circular, easy to assemble,** and **interoperable.**

More details at:
<https://www.wikihouse.cc/>

Photo is of the community designed and built housing at WikiHouse Almere.
tewharehangahanga.nz



XFrame

XFrame is a proprietary, recoverable and **reusable framing** for the next generation of sustainable construction.

XFrame was developed by Ged Finch at Victoria University, Wellington, from a **vision to create a modular wall framing** system that **reduces building industry waste** and facilitates end-of-life recovery and **reuse**.

XFrame is designed with precision manufacturing to be lightweight, carbon negative, durable, circular, easy to assemble, and interoperable.

It has **12 standardised parts** and **transporting costs are reduced** if you assembly on site at your location.

More details at:
<https://xframe.com.au/>