Business Case – Kaihu Water Treatment and Truck Filler –

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This business case is required to be reviewed & approved by the Portfolio Oversight Group (POG). Please submit to PMO@Kaipara.govt.nz

VERSION HISTORY				
VERSION	APPROVED BY	REVISION DATE	DESCRIPTION OF CHANGE	AUTHOR

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Executive Summary

Write this last and keep it short! Briefly introduce the project and the reason for embarking on it. Summarise what is required to successfully execute the project. This should provide the reader with all the information they need to have a solid overview of the project and its requirements, including overall cost and high-level timeframes.

The project entails the construction of a water treatment plant to supply the Waikaraka Marae and a truck filler for the Kaihu community and water carters outside of the Marae grounds. This project seeks to address the water shortages that occur during drought for the non-reticulated community of Kaihu. Dargaville goes on restrictions during these times and water carters go further to fetch water to supply such households, usually at much higher prices than they pay under normal conditions. Some households in the Kaihu valley have connected to raw water meant for irrigation and stock for household usage and this issue is being addressed separately by helping them install roof water tanks.

The estimated cost is $500k which will be funded by Northland Regional Council with a proposal for Kaipara District Council to operate the plant at an estimated cost of $65,000 per annum, recoverable through a prepaid smart water metering system.

Project Overview

Problem/ Opportunity
What are the main problems we are trying to solve or opportunities we want to achieve?

The community of Kaihu is located north west of Dargaville where the Kaihu river runs through the Kaihu valley to the Wairoa River in Dargaville. It has 87 occupied households. The Kaihu River and the Waiparataniwha streams are the sources of water supply for treatment for the Dargaville town. Most of the community rely on roof tank water for their water supply. However, some have converted an intended agricultural extra ordinary raw water supply into household supply, a problem that is currently being fixed.

The dry summers in Northland often lead to water restrictions within Dargaville town and those communities on roof water tanks are affected because water carters in Dargaville are also restricted during these times and have to go further to get water rendering the price of water too expensive for many.

The community have previously raised concerns that although the raw water supply comes from their catchment, there is no direct benefit for the community to the subsequent treated water.

The community and Council have not been able to afford a treated water supply to the community, however there is a potential opportunity for collaboration with the Northland Regional Council, iwi and the Kaipara District Council to provide a treated water supply truck filler for Kaihu.

Background
Briefly describe any background context to the project. Offer an explanation here as to why this project is taking place (i.e. Compliance, Sustaining, Maintenance, Improvement, Growth (Compliance), Growth.)

After the 2019-2020 Northland drought, the Northland Regional Council (NRC), through Tony Phipps, the General Manger, Customer Services and Community Resilience approached Northland Councils for partnerships to provide rural water truck fillers throughout Northland. Kaipara District Council (KDC) saw this as an opportunity to collaborate with the NRC and Kaihu residents for a truck filler to be based at one of the Marae, likely to be Waikaraka, which is closer to the Kaihu township.

The proposal is for the NRC to provide the capital expenditure for the construction of a raw water rising main, treatment plant, a metered supply to the Marae and a standpipe capable of supplying truck fillers and the community. The proposed truck filler servicing water carters and members of the community will have a prepaid smart card system paying system. The community of Kaihu will provide the land on which to build the truck filler and any other enabling resources.

The Kaipara District Council will operate the water treatment supply and recover costs through the smart card payment system. It is difficult to rate for the supply as there is no individual household supply. Initially the metered Marae is the only property with a water rates charge.

Project Deliverables

Overall solution to the problem/ opportunity identified and the specific deliverables of the project as relates to this.
Your solution and deliverables should be specific to problem.

The solution here is the provision of a treated water supply to the Marae and a prepaid system truck filler for the community and water carters.

Benefits

The benefits should be a measurable improvement achieved by investment through this project. This could be items such as meeting safety compliance, meeting capacity requirements etc. They should link to the Problem/ Opportunity of the project and the deliverables. Ensure you have at least one main benefit

The benefits of this project are:

- Provision of clean drinking water to the community of Kaihu thereby improving the wellbeing of the community.
- Health benefit: Reduces the risk of community drinking from untreated raw watermain connection
- Resilience: Provides communities on tank water with a reliable supply during drought.

- Economic: The price of carted water will not increase from the usual.

Project Scope

In Scope

Briefly describe what deliverables will be considered within the scope of the project. What is required to be designed and built, changed or implemented, do not forget enabling activities such as stakeholder engagement or risk mitigation activities.

In order to provide this treated water supply, the following are required:

Stakeholder Engagement and Funding Agreements

1. Iwi liaising for land provision
2. Liaising with the NRC for funding agreement
3. Confirmation with the Kaipara District Council for Business Case project approval

Design

1. The proposed designers will be from the KDC's Panel of Consultants.

Construction

1. Booster pump
2. 100mm rising raw watermain
3. Packaged water treatment plant, complete with cartridge filtration, chlorination and UV treatment
4. Water tanks (assessment of existing Marae water tanks required, and if condition is good, this item can be removed)
5. Gravel finished truck turning circle
6. Any power upgrade requirements

Out of Scope

Briefly describe what will be considered Out of scope of the project.

Consents for the provision of extra water from the catchment is out of scope and dealt with separately.

Constraints and Assumptions

Detail key assumptions, such as expected funding, and constraints, such as the need for special equipment or technical resources.

The project assumptions are that:

1. Funding for the capital project is availed by the NRC
2. Extra water take volumes for Ahikiwi and or Waiparataniwha are approved by the NRC
3. Iwi agree to provide land for the treatment plant and truck filler.
4. Ownership is assumed to be transferred to KDC. KDC approves the operational expenses associated with running the water treatment plant and funds depreciation
5. Another option is for the NRC to continue to own the treatment plant with KDC as operators.
6. The telecommunication required (internet, radio etc) to make the prepaid payments technology work is available in the Kaihu valley.

Dependencies

Consider any dependencies this project may have (e.g. does it require another projects completion before it can begin?)

The project is depended on the following:

1. availability of extra water allocation from the catchment from the NRC.
2. external capital funding from the NRC
3. KDC approval of water treatment plant ownership
4. KDC operational expenditure approval

Procurement

State the Procurement approach as indicated in the Procurement Manual.
Attach to this business case the Procurement Plan (>500k) or Procurement Plan Lite (<500K) as required.

Risk Analysis

Consider and document here any risks to the project known at this time

Risk Description	Impact	Mitigating Actions	Risk Level (high, medium, low)
Funding approval	High	Engagement with NRC early on proposal and continued liaising to get the funding agreement signed once they approve of the proposal.	**High**

Land availability	High	Have verbally presented the proposal to representatives of Iwi and formal consultation to follow.	**Low**
Adoption by Iwi and Community	Medium	Early engagement with Iwi will ensure buy-in from the community	**Low**
Operational expenditure approval	Medium	A business case is provided with the procurement plan to seek approval for the operational expenditure.	**Medium**
Availability of Water	High	Liaise with NRC in the application for extra water at Ahikiwi Consent application	**Medium**
Telecommunication network availability	Low	Use alternative methods of payment	**Low**

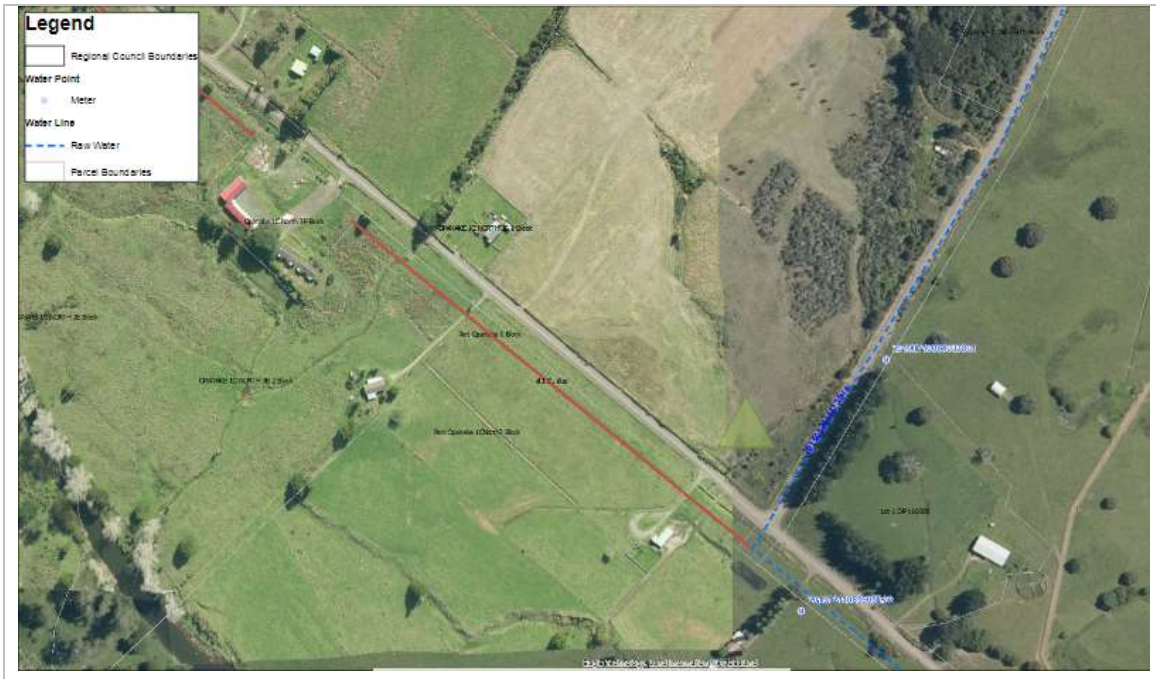
Links with other projects

Consider and document here how other projects may be affected by, or in turn may affect, this project. Does this project link with an overarching strategy or vision? What are the impacts of this?

The Kaihu Valley Trail project is potentially connected with Kaihu Water Treatment project. Both follow the railway corridor with the rising main to the treatment plant stretching 500m from the main connection to the garage type/container water treatment plant.

Timing of these 2 projects is yet to be established so that any synergies can be utilised. If the Kaihu water supply is extended into a reticulated supply into the future, the mains will follow the rail corridor where the trail is to be constructed.

See Fig 2. Below



Alternative Analysis

Provide an overview of options other than the proposed solution considered to address the business problem

There are X options available at this stage:

- Option 1 – Do nothing
- Option 2 – Provide a treated water supply to the Marae, with a truck filler outside Marae grounds for water carters and the community to tap from. Payment is through a proposed prepaid smart card or a similar system.
- Option 3 – Provide a treated water supply to the Marae, with a truck filler outside Marae grounds for water carters and the community with a reticulated water supply. Payment is through a proposed prepaid smart card or a similar system.

Category	Option 1 – Do nothing	Option 2	Option 3
Benefits	No money spent	Provision of a clean drinking water supply: 1. For the Marae 2. from a central collection point for the community 3. for water carters	Provision of a reticulated clean drinking water supply for the community, supply for the Marae and water carters standpipes for those not on reticulated supply.
Capital Expense	$0	$500k	Over $2m
Operating Impact	Difficult for the community to be resilient during drought	With a prepaid smart metering, the operational involvement of manually managing water allocations will be minimum	The reticulated system will increase both the capital and operational expenditure. Rating connected households will be easier so the prepaid smart water meters may not be required.
Risks	The community will tap into untreated water supplies creating health issues. Expensive carted water for the community during drought.	The community not taking up the prepaid card system and therefore missing the benefits.	The costs associated with construction and maintenance will not be affordable for the community as this will be, like all current KDC schemes, a ring-fenced scheme.
Interdependencies with other projects/ initiatives	None	The Kaihu Valley trail project will be in the same rail corridor as the watermain route. The application to obtain extra water from the catchment is required.	The Kaihu Valley trail project will be in the same rail corridor as the watermain route. In addition, reticulation mains will be in the same rail corridor. The application to obtain extra water from the catchment is required.

Major Project Milestones

Provide target completion dates for the standard milestones below and insert additionally identified milestones as needed. You may also insert a timeline diagram or attached a project schedule to further show the interdependencies between activities

Milestone/ Deliverable	Target Date
Project Kick off	March 2021

Preliminary design complete	June 2021
Detailed Design stage complete	September 2021
Construction stage completed	March 2022
Operational Handover	April 2022
Closeout/Project Completion	April 2022

Resource Requirements

Describe what resources the project will require (include items such as equipment where this is a limited resource)

Role	Company/Council	Duration (estimate)	Hours per week (estimate)
Project Financier	Northland Regional Council	18 months	3
Project Manager	Kaipara District Council	18 months	32
Iwi Stakeholder	Te Roroa	18 months	1
Community Representative	Kaihu Community	18 months	1
Scoping and Design Engineering	KDC Panel Consultant	6 months	10
Electrical and Telecommunications/Controls Engineers	Subcontracted to KDC Panel Consultant	2 months	20
Construction	Construction Contractor	6 months	40

Cost

Funding Request

Detail below what funding is required for the project

Internal Funding Required	OPEX: $65,000 p.a.	CAPEX: $0	TOTAL: $65,000 p.a.
Budgeted in LTP	NO		
Planned Budget (where budgeted in LTP)	OPEX:	CAPEX:	TOTAL:
Externally Funded?	YES		
External Funding Source	Northland Regional Council		$ AMOUNT: 500,000
TOTAL COST	OPEX: 65,000 p.a.	CAPEX: $50,000	TOTAL: $565,000

Funding History

Detail below any previous funding requests which have been approved (where applicable)

Previous Request/s				
FR#X	*Comment*	*Opex*	*Capex*	*Total*
	Existing Approved Spend	$0	$0	$0
Current Request				
FR#Y				
	Total Requests	**$65,000**	**$500,000**	**$500,000**

Health and Safety

Outline any specific Health & Safety risks/issues associated with this project and how they will be managed. These may be referenced in supporting documentation such as the Risk Register.

Health and Safety Risks associated with the project are:

H & S Risk	**Mitigation**
Working near or in water	Appropriate PPE, awareness of surroundings, toolbox sessions each morning before work
Working with electrical power	Appropriate PPE, awareness of surroundings, toolbox sessions each morning before work
Construction within a rural road corridor	Approved traffic management controls