Taumarere Flood Management Working Group

Saturday 6 September 2025 at 10:00 am

AGENDA

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Taumarere Flood Management Working Group Agenda

Meeting to be held in the Te Pokapu Centre
Wynyard Street, Kawakawa
on Saturday 6 September 2025, commencing at 10:00 am

Please note: working parties and working groups carry NO formal decision-making delegations from council. The purpose of the working party/group is to carry out preparatory work and discussions prior to taking matters to the full council for formal consideration and decision-making. Working party/group meetings are open to the public to attend (unless there are specific grounds under LGOIMA for the public to be excluded).

MEMBERSHIP OF THE TAUMARERE FLOOD MANAGEMENT WORKING GROUP

Chairperson, NRC Chair Geoff Crawford

Deputy Chair - Far North District Council, Councillor Kelly Stratford	Bay of Islands Vintage Railway and Kawakawa Hundertwasser Laurell Douglas	KiwiRail Representative Andrew de Lisle
New Zealand Transport Agency Representative Jacqui Hori-Hoult	Tangata Whenua Representative Riki Ngakoti	Local Business Representative Kevin Davidson
Karetu Iwi Representative John Harawene	Iwi Representative,Otiria/Moerewa/Pokapu Ngahau Davis	Iwi Representative, Waimio Nisha Marsh
Maromaku Iwi Representative Paul Tipene	Te Puna Aroha Trust (Otiria Neighbourhood Support) Represent Pamela-Ann Ngohe-Simon	Otiria / Moerewa Spillway Representative Sam Davis
Iwi Representative (Motutapu/Opahi/Matawaia) Rowena Tana		

RĪMITI (Item) **Page**

1.0 NGĀ MAHI WHAKAPAI/HOUSEKEEPING

2.0 NGĀ WHAKAPAHĀ/APOLOGIES

3.0 REPORTS

- *Kawakawa Deflection Bank*
- *High Level Spillway AFFCO*
- *Taumarere Business Case Update*
- *Any other Business*

TITLE:	**Record of Actions – 22 March 2025**
From:	Haylee Labelle, Personal Assistant Community Resilience
Authorised by Group Manager/s:	Louisa Gritt, Group Manager - Community Resilience, on 13 August 2025

Whakarāpopototanga / Executive summary

The purpose of this report is to present the Record of Actions of the last meeting (attached) held on 22 March 2025 for review by the meeting.

Attachments/Ngā tapirihanga

Attachment 1: Record of Actions - 22 March 2025 ⇩

Taumarere Flood Management Working Group
22 March 2025

Taumarere River Working Group Record of Actions

Meeting held in the Te Pokapu Centre, Wynyard Street, Kawakawa
on Saturday 22 March 2025, commencing at 10:00 am

Tuhinga/Present:

Bay of Islands Vintage Railway & Kawakawa Hundertwasser, Laurell Douglas

I Tae Mai/In Attendance:

Full Meeting
NRC Rivers Manager, Joe Camuso
NRC Rivers Project Manager, Meg Tyler
Chantez Conor-Kingi, Kai whiri iwituna\Senior Advisor – Rivers and Natural Hazards\Land Management
Gray Phillip
Kathy Phillips
Peter Woods
Audra Cooper
Susan Henare

The meeting commenced at 10am.

Ngā Mahi Whakapai/Housekeeping (Item 1.0)

Ngā Whakapahā/Apologies (Item 2.0)

Nisha Marsh, Rowena Tana, Josie Kemp-Baker, Terina Wihongi, Pamela Anne Ngahoe Simon, Warren Feek, May and Perry Hati, Maia Cooper, Auriole Ruka, Cr Shortland, Cr Stolwerk, Cr Blackwell, Cr Craw, Cr Robinson, Cr Stratford, Cr Crawford

Record of Actions – 16 November 2024 (Item 3.1)

Presented by: Joe Camuso

Agreed action points:

- NIL

Receipt of Action Sheet (Item 3.2)

Presented by: Joe Camuso

Agreed action points:

- NIL

Agenda Presentation (Item 3.3)

Presented by: Meg Tyler

Agreed action points:

- NIL

Budget (Item 3.4)

Presented by: Meg Tyler

Agreed action points:

- NIL

Secretarial notes: Community member queried how OPEX is calculated. This is when financial modelling complete a % of CAPEX is taken and depreciated over 100yrs

Nature Based Solutions - Upper Kawakawa Catchment Feasibility Update (Item 3.5)

Presented by: Meg Tyler

Agreed action points:

- NIL

CIP Otiria further works (Item 3.6)

Presented by: Meg Tyler

Agreed action points:

- NIL

Secretarial notes: Design is underway. The resource consent is being drafted. Working with KiwiRail and FNDC with an expectation to complete the work by the end of the current financial year

Any other business (Item 3.7)

Presented by: Meg Tyler

Agreed action points:

- **NRC to contact Sara Brill of NRC to develop planting and maintenance plan for pest plants at Kawakawa Deflection - Chantez Connor-Kingi**
- **NRC to raise concerns with NZTA about willows downstream of Kawakawa deflection bank in Waiomio River as it's a State Highway corridor and impacts the road – no machine access into this area– Joe Camuso**
- **NRC to send a letter to Te Papa Ora kaitiaki group regarding the willow trees that were killed to enquire if there are any plans to remove them – Chantez Connor-Kingi**

- **NRC to contact FNDC about Noy road for raising**
- **NRC and Laurell Douglas to undertake a site visit to locate fill sites at the deflection bank – Meg Tyler**

Secretarial notes: Discussion on willows killed north of three bridges. Community member raised concerns about willows downstream of Waiomio. Community member queries the road he thinks should be raised which Matt and Joe from NRC have visited previously. Community member is interested in viewing fill sites.

Whakamutunga (Conclusion)

The meeting concluded at 11.15am

TITLE:	**Receipt of Action Sheet**
From:	Haylee Labelle, Personal Assistant Community Resilience
Authorised by Group Manager/s:	Louisa Gritt, Group Manager - Community Resilience, on 03 September 2025

Whakarāpopototanga / Executive summary

The purpose of this report is to enable the meeting to receive the current action sheet.

Nga mahi tutohutia / Recommendation

That the action sheet be received.

Attachments/Ngā tapirihanga

Attachment 1: Action Sheet ⇩

Kawakawa Taumarere River Working Group - Action Tracker

Meeting date	Item	KTRWG action	Responsible staff	Status	Notes
29/11/2023	Kawakawa deflection bank (item 3.5)	Request for NRC collaboration with FNDC regarding stormwater around the deflection banks	NRC Rivers Team	**Complete**	Meg T has reached out to Tanya Proctor at FNDC regarding stormwater in Kawakawa **7/10/24** - Meg has continued to reach out to FNDC regarding stormwater and flood infrastructure interactions, no clear response from FNDC at this stage. **21/1/25** - NRC had external modelling completed to determine the size of the stormwater culverts installed in the deflection bank. The modelling determined 450mm culverts would be adequate but to account for future requirements and lack of information provided from FNDC, NRC upgraded the main stormwater culvert to a 1100mm culvert. If the committee would like NRC and FNDC to collaborate on stormwater further this request should go to FNDC to engage with NRC.
16/11/2024	Budget (item 3.4)	Chair Cr Geoff Crawford asked for NRC to calculate/breakdown the opex cost for the catchment going forward, to cover maintenance of the flood infrastructure built in the last few years.	NRC Rivers Manager	In progress	**11/8/25** NRC Rivers Manager has emailed NRC Financial Planning Manager **19/11/24** - We only have depreciation built in at this point in terms of Opex. Total for upper Kawakawa detention and Otiria is $70,419 for 2024-25.
16/11/2024	Taumarere Catchment Business Case (item 3.7)	Information requested from GM Environmental Services about the water quality testing locations in the catchment	GM Environmental Services	**Complete**	**31/1/25** - Water quality testing locations carried out by NRC environmental services staff will be presented at the group meeting & distributed with the agenda & minutes. All our current testing sites (and data for these) is available on our website's data hub https://www.nrc.govt.nz/environment/environmental-
16/11/2024	Any other business (item 3.8)	The committee has requested that Te Papa Pa Orooro remove the dead willows upstream of the 3 bridges before they become a debris hazard. NRC Rivers Manager to consider this request.	NRC Rivers Manager	In progress	11/8/25 Chantez to call Suzie

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Taumarere River Liaison Working Group

6 September 2025

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Agenda

1. Budget
2. Nature Based Solutions – Upper Catchment
3. CIP -Otiria further works
4. Kawakawa Deflection Bank
5. High Level Spillway AFFCO
6. Taumārere Business Case – Update
7. Any other business

Budget

Kawakawa Deflection Bank Financial Report

5652

	2024/2025			2025/2026 YTD August 2025		
Description	***Budget***	***Actual***	***Variance***	***Budget***	***Actual***	***Variance***
Operating Expenses						
Catering - council meetings	0	223	(223)	0	0	0
Insurance	0	143	(143)	0	36	(36)
Rate Collection Cost - TA's	0	369	(369)	61	0	61
Labour Charged	0	21,444	(21,444)	0	0	0
Sub Total	10,100	22,180	(12,080)	3,411	36	3,376
Operating Income						
Rates Revenue	19,593	19,313	(280)	3,266	0	(3,266)
Other Subsidies & Grants	0	215,600	215,600	0	0	0
Interest - Internal	0	4,148	4,148	0	0	0
Sub Total	19,593	239,061	219,468	3,266	0	(3,266)
Net operating Surplus / (Deficit)	9,493	216,882	207,389	(146)	(36)	110
Capital expenditure	25,000	154,953	(129,953)	0	0	0
Net operating and capital surplus / (Deficit)	(9,007)	61,929	70,936	938	(36)	(973)
Surplus / (Deficit) carried forward	**250,000**	**117,308**	**(132,692)**	**240,993**	**179,237**	**(61,756)**
Surplus / (Deficit) at balance date	**240,993**	**179,237**	**(61,756)**	**241,931**	**179,201**	**(62,730)**

Budget

Otiria-Moerewa Flood Modelling and Study FIR

5022

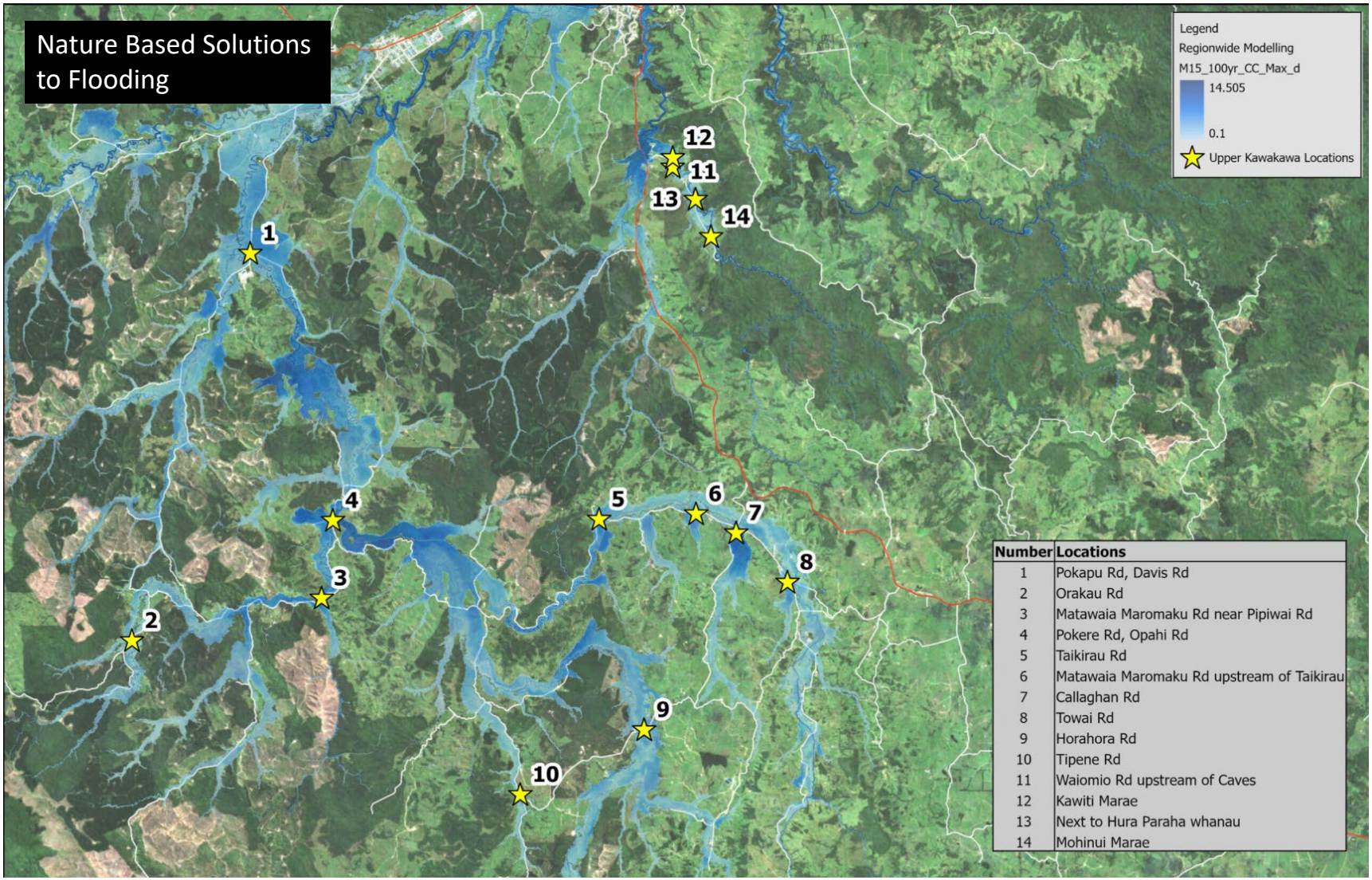
Description	2024/2025 Budget	2024/2025 Actual	2024/2025 Variance	2025/2026 YTD August 2025 Budget	2025/2026 YTD August 2025 Actual	2025/2026 YTD August 2025 Variance
Operating Expenses						
Catering - council meetings	0	295	(295)	0	0	0
Insurance	0	584	(584)	0	146	(146)
Consultants	0	110	(110)	0	0	0
Legal Fees	0	8,969	(8,969)	0	0	0
Rate Collection Cost - TA's	1,594	1,742	(148)	274	0	274
Depreciation - Infrastructure Assets	63,919	69,908	(5,989)	10,653	0	10,653
Labour Charged	0	150	(150)	0	0	0
Sub Total	73,348	81,757	(8,409)	13,066	146	12,920
Operating Income						
Rates Revenue	92,403	91,083	(1,320)	15,401	0	(15,401)
Sub Total	94,573	91,083	(3,491)	15,401	0	(15,401)
Net operating Surplus / (Deficit)	21,225	9,326	(11,900)	2,334	(146)	(2,480)
Transfers from Special Reserves						
Capital expenditure (70% of total)	441,000	622,908	(181,908)	0		0
Capital expenditure (30% of total)	189,000	266,960	(77,960)	0		0
Total Capital Expenditure	**630,000**	**889,868**	**(259,868)**	**0**	**0**	**0**
Less depreciation			0			0
Net operating and capital surplus / (Deficit)	(167,775)	(257,635)	(89,860)	2,334	(146)	(2,480)
Surplus / (Deficit) carried forward	**(1,402,152)**	**(28,880)**	**1,373,272**	**(1,569,927)**	**(286,515)**	**1,283,412**
Surplus / (Deficit) at balance date	**(1,569,927)**	**(286,515)**	**1,283,412**	**(1,567,593)**	**(286,661)**	**1,280,932**

Budget

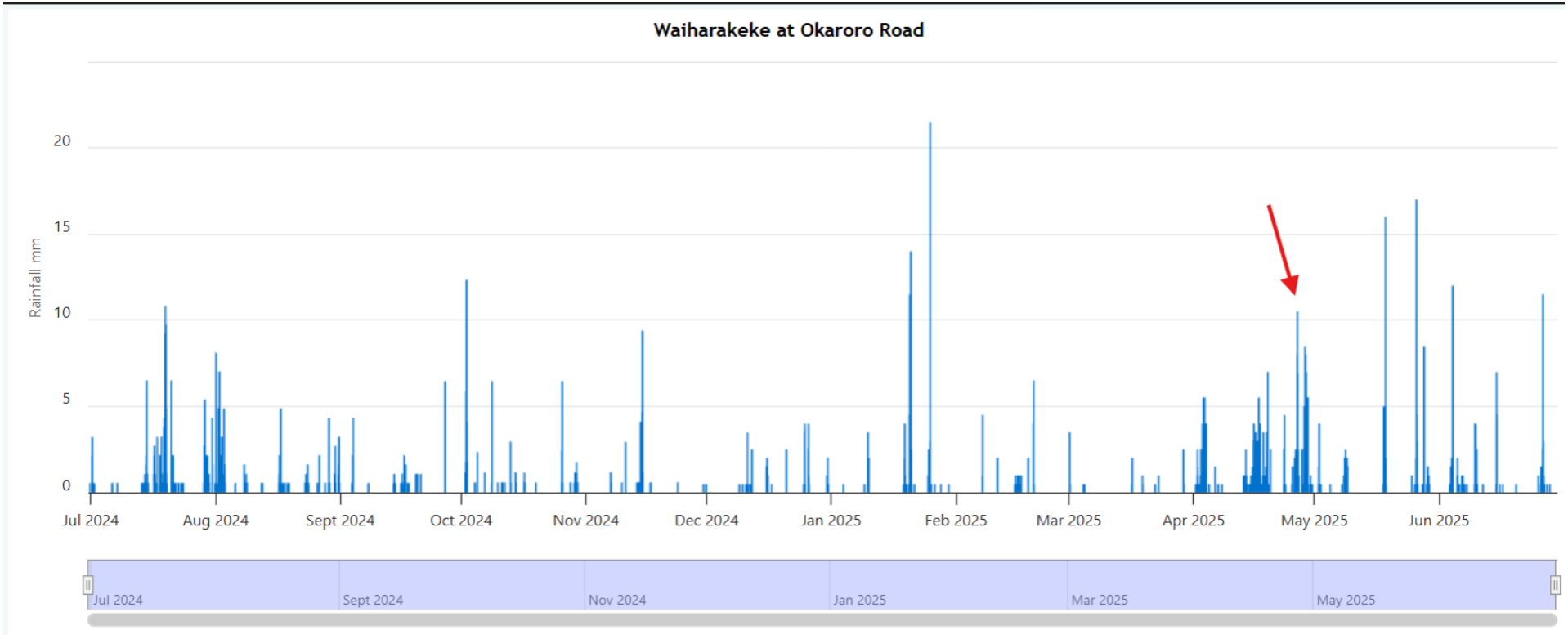
Otiria-Moerewa Additional Flood Mitigation Works Financial Report

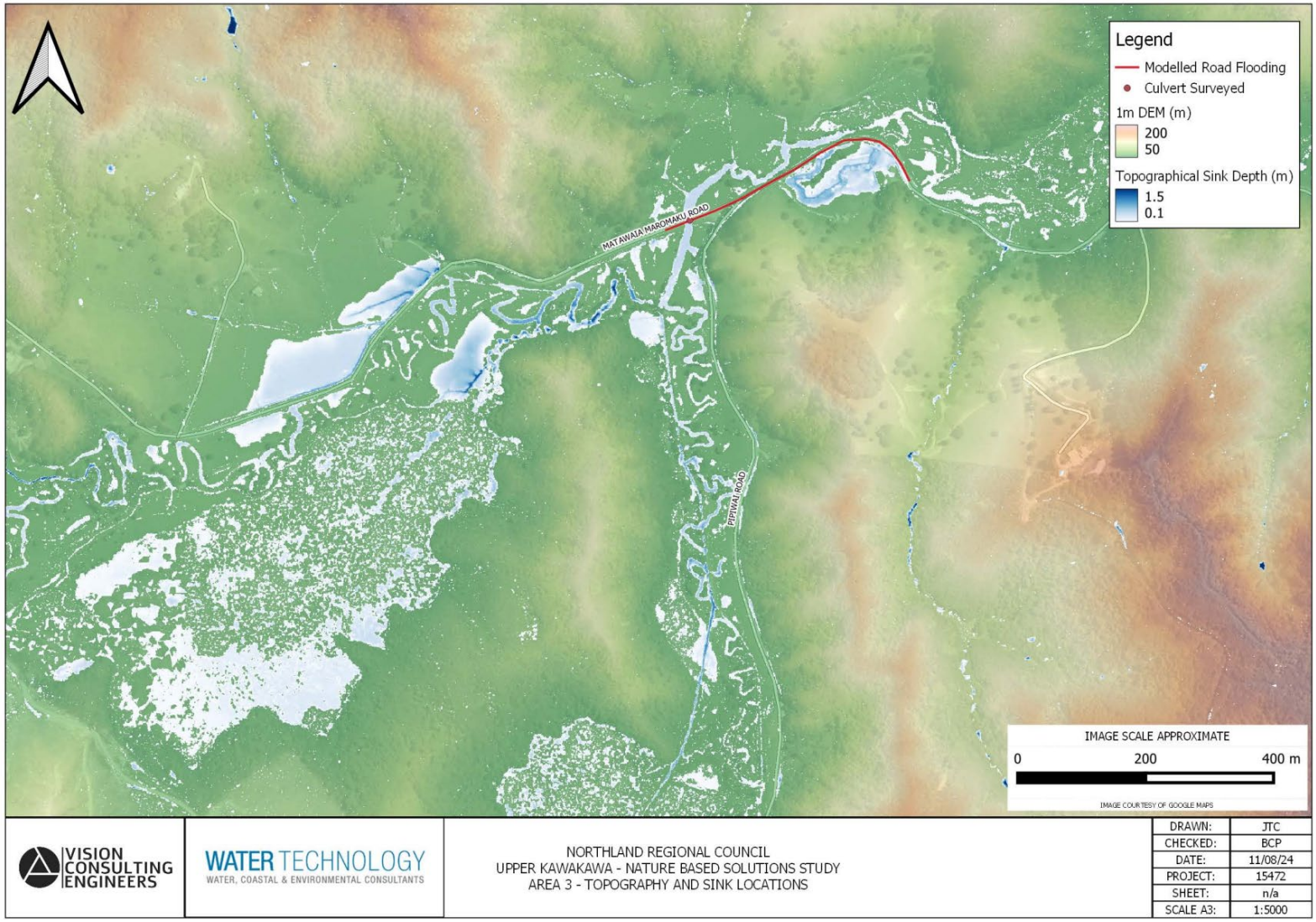
5653

Capex 240209		2024/2025			2025/2026 YTD August 2025		
Description		*Budget*	*Actual*	*Variance*	*Budget*	*Actual*	*Variance*
Operating Expenses							
Rate Collection Cost - TA's		0	411	(411)	0	0	0
Interest Paid - Sundry		7,943	4,319	3,624	1,221	0	1,221
Labour Charged		0	35,512	(35,512)	0	3,972	(3,972)
	Sub Total	16,793	40,242	(23,449)	2,696	3,972	(1,276)
Operating Income							
Rates Revenue		24,261	23,986	(275)	4,044	0	(4,044)
Other Subsidies & Grants		735,000	619,850	(115,150)	0	0	0
	Sub Total	759,261	643,836	(115,425)	4,044	0	(4,044)
Net operating Surplus / (Deficit)		742,468	603,593	(138,875)	1,348	(3,972)	(5,319)
Capital expenditure		0	163,460	(163,460)	0	0	0
Net operating and capital surplus / (Deficit)		751,318	440,133	(311,185)	2,823	(3,972)	(6,794)
Surplus / (Deficit) carried forward		**0**	**205,286**	**205,286**	**751,318**	**645,420**	**(105,898)**
Surplus / (Deficit) at balance date		**751,318**	**645,420**	**(105,898)**	**754,141**	**641,448**	**(112,693)**



Number	Locations
1	Pokapu Rd, Davis Rd
2	Orakau Rd
3	Matawaia Maromaku Rd near Pipiwai Rd
4	Pokere Rd, Opahi Rd
5	Taikirau Rd
6	Matawaia Maromaku Rd upstream of Taikirau
7	Callaghan Rd
8	Towai Rd
9	Horahora Rd
10	Tipene Rd
11	Waiomio Rd upstream of Caves
12	Kawiti Marae
13	Next to Hura Paraha whanau
14	Mohinui Marae


Waiharakeke at Okaroro Road
Rainfall mm
20
15
10
5
0
Jul 2024
Aug 2024
Sept 2024
Oct 2024
Nov 2024
Dec 2024
Jan 2025
Feb 2025
Mar 2025
Apr 2025
May 2025
Jun 2025
Jul 2024
Sept 2024
Nov 2024
Jan 2025
Mar 2025
May 2025


Legend
Modelled Road Flooding
Culvert Surveyed
1m DEM (m)
200
50
Topographical Sink Depth (m)
1.5
0.1
MATAWAIA/MAROMAKU ROAD
PIPIWAI ROAD
IMAGE SCALE APPROXIMATE
0
200
400 m
IMAGE COURTESY OF GOOGLE MAPS
VISION CONSULTING ENGINEERS
WATER TECHNOLOGY
WATER, COASTAL & ENVIRONMENTAL CONSULTANTS
NORTHLAND REGIONAL COUNCIL
UPPER KAWAKAWA - NATURE BASED SOLUTIONS STUDY
AREA 3 - TOPOGRAPHY AND SINK LOCATIONS
DRAWN: JTC
CHECKED: BCP
DATE: 11/08/24
PROJECT: 15472
SHEET: n/a
SCALE A3: 1:5000

What might help – Nature-based Solutions?

NbS aim to slow the flow, improve water quality, and bring biodiversity back into the landscape.

NbS 1 – Native Forest & Vegetation

NbS 2 – Steep Slope Erosion Control

NbS 3 – Leaky Barriers

NbS 4 – Silt Traps

NbS 5 – Riparian Planting

NbS 6 – Floodplain Reconnection

NbS 7 – Wetland Restoration

NbS 8 – Intertidal Wetland Restoration

Photo Credits: Landcare Trust, Living Water, Pacific Eco-Logic, NRC, Our Way of Life, Vision Consulting Engineers

NBS types selected for MCA

1 – Forest & Native Vegetation Restoration
Bare hills with little forest cover.
Native trees are planted to protect soil and restore habitat.

2 – Erosion Control & Steep Slope Planting
Steep, exposed slopes lose soil quickly.
Deep-rooted trees hold the ground and slow runoff.

3 – Catchment Management (Pastoral Use)
Overgrazed paddocks damage soil and water.
Fencing and lighter stocking help land recover.

4 – Leaky Barriers
Fast runoff leads to erosion and downstream flooding.
Simple timber barriers slow the flow and trap sediment.

5 – Silt Traps
Runoff carries loose soil into streams.
Shallow pits catch sediment before it reaches waterways.

6 – Riparian Planting
Unshaded streambanks erode and warm up.
Native plants stabilise banks and filter runoff.

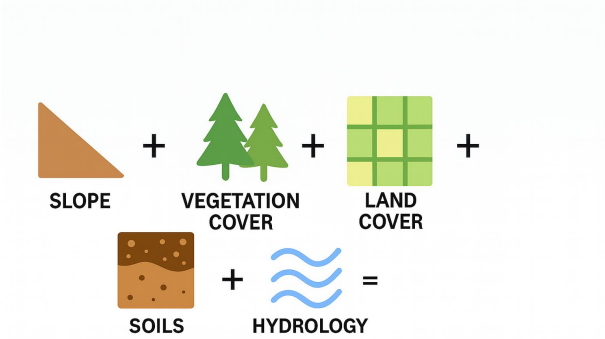
7 – Floodplain Connection & Wetland Restoration
Drained floodplains can't hold water or support wildlife.
Restored wetlands reduce flood risk and boost biodiversity.

Mapping the "Risk-scape"

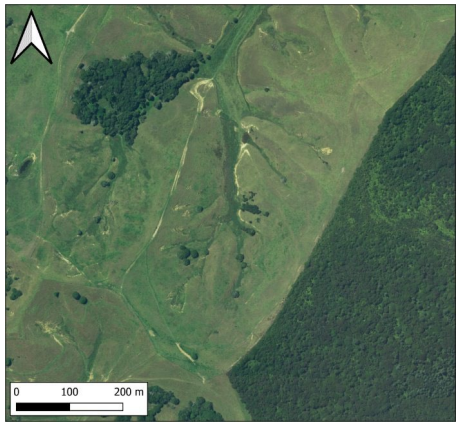
Before we can plan solutions, we needed to understand where the problems were rising.

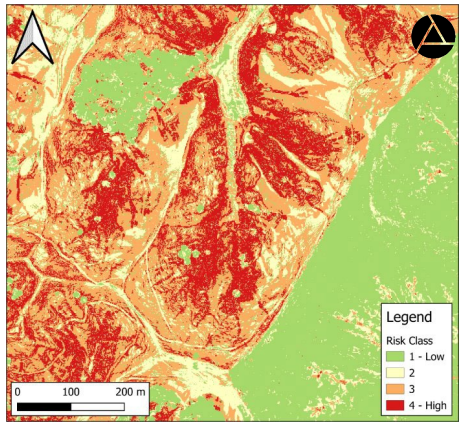
We combined data on slope, land use, waterways, and more to figure out where the catchment is most at risk — from flooding, erosion, and water quality decline.

The process is called **multi-criteria analysis (MCA)**, but think of it like baking a cake — each ingredient adds something to the final picture.

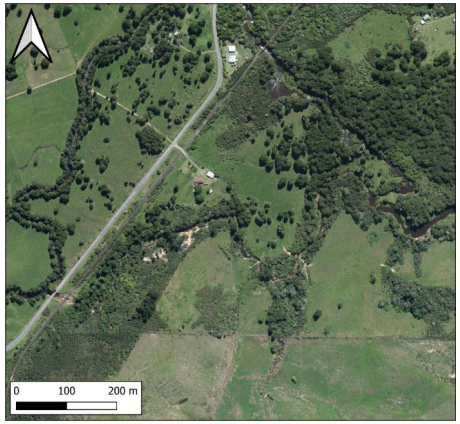


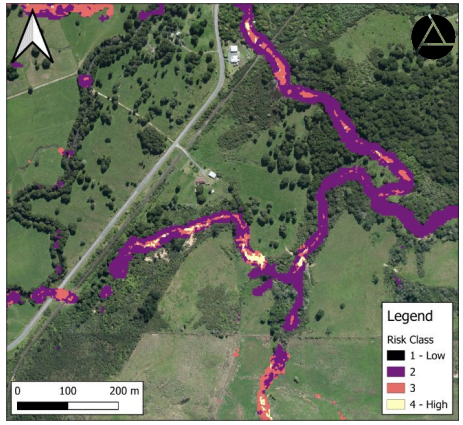
Steep Slope Erosion
Steep slopes with limited vegetation or with heavy grazing can increase the risk of slips and erosion as shown in the image below where higher risk is within steep treeless gullies.

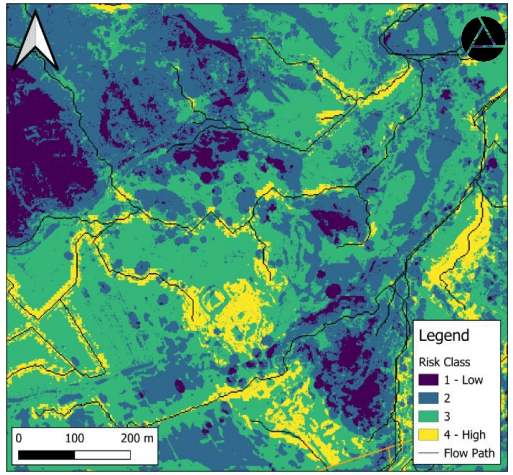




In-stream Erosion
Riverbanks and beds exposed to high flow events can lead to bank failure and scour, like in the image below of a high-flow diversion channel.





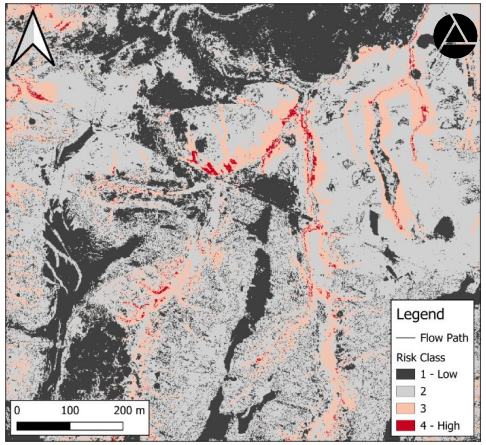


Nutrient & Pathogens

*Nutrients and pathogens are present in natural and manmade landscapes; this project is interested in how water might carry them into the rivers. The below image shows **potential** sources and pathways (black lines) from a legacy slurry pond to Otiria Stream to the north.*

Combined Weighted Risk – the "Hot Spots"

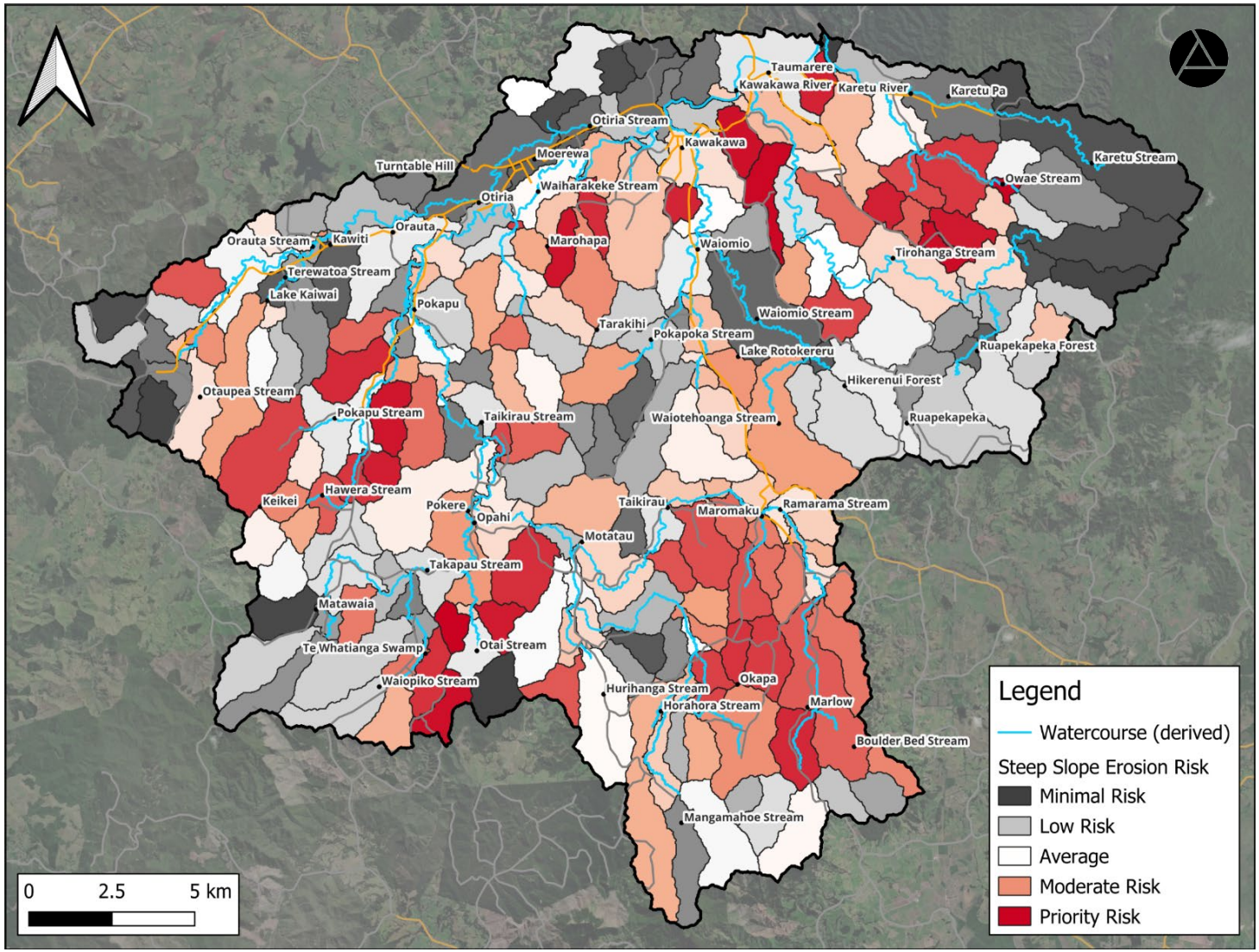
The three ***r**isk types were combined to allow us to look at the big picture and think holistically. The maps show how important the connection to waterways are in terms of risk, especially in agricultural zones and downstream of forestry clearing. Heavy rain and runoff can quickly convey pollutants to the moana (sea).*



Prioritising Risk

Risk 1 – Steep Slope Erosion

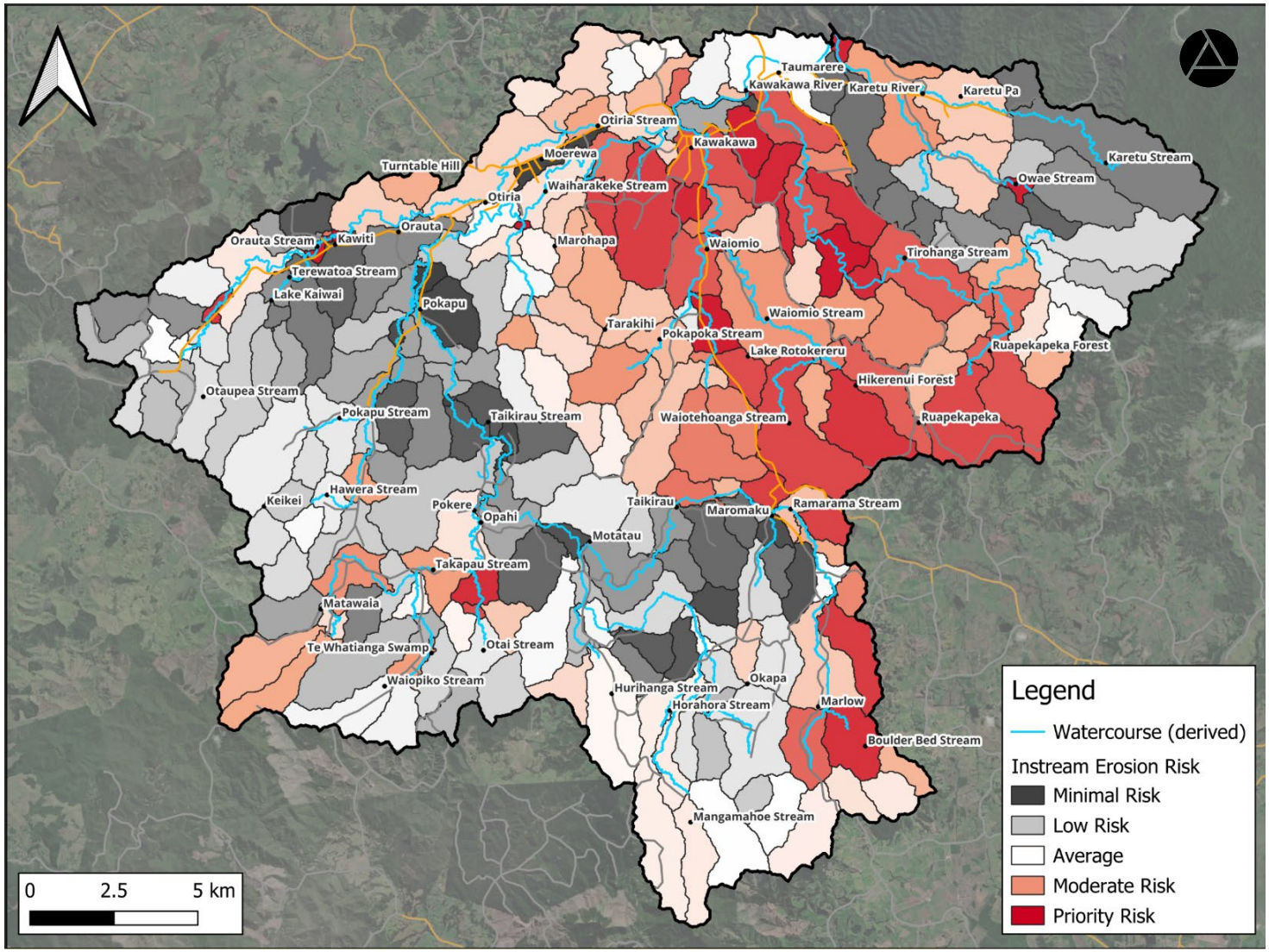
Focused on the vulnerability of steep bare hills with weaker soils to erosion driven by heavy rainfall.



Prioritising Risk

Risk 2 – Instream Erosion

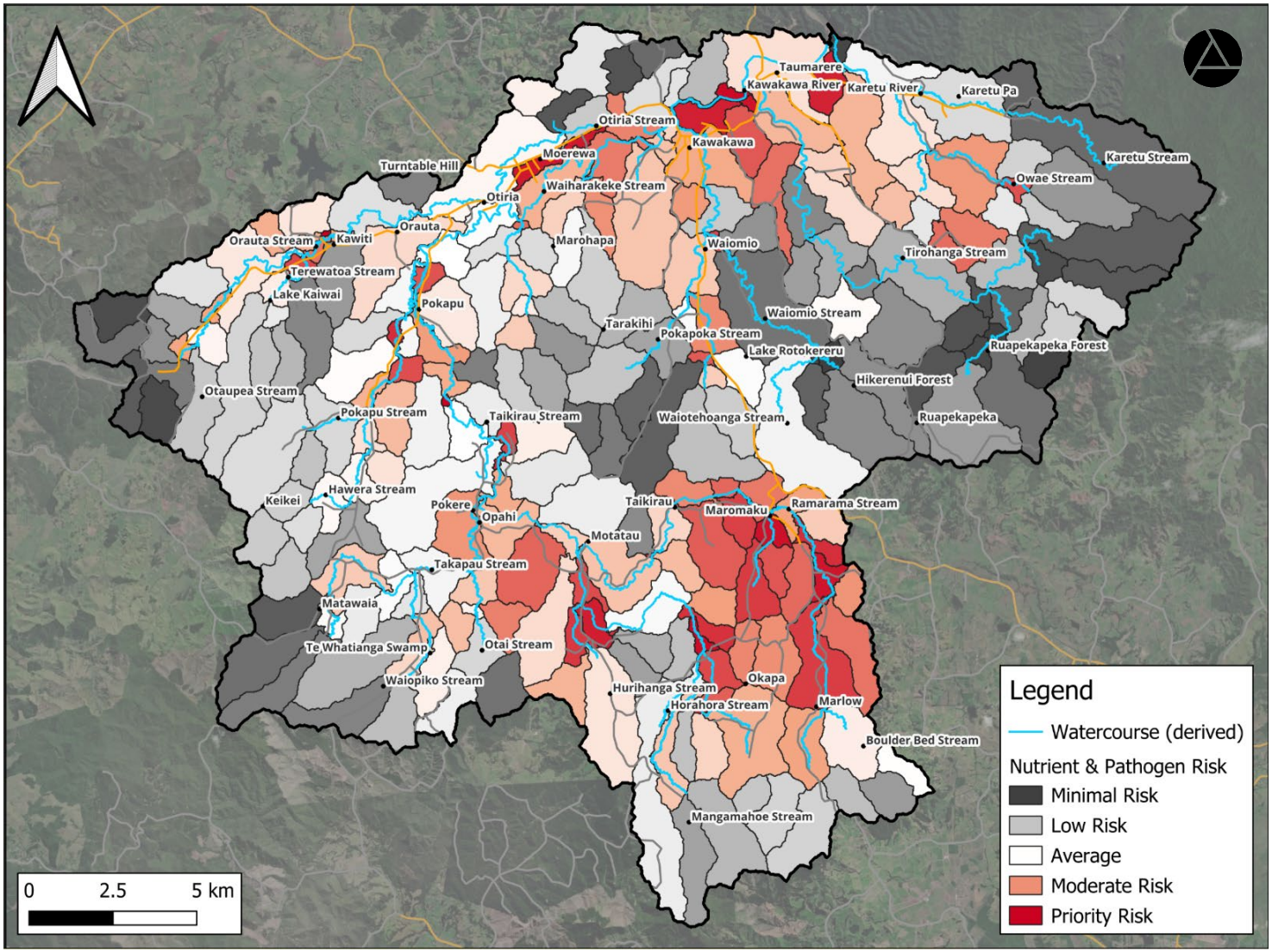
Focused on the vulnerability of weaker bare soils along waterways to high energy river flow events.



Prioritising Risk

Risk 3 – Nutrients & Pathogens

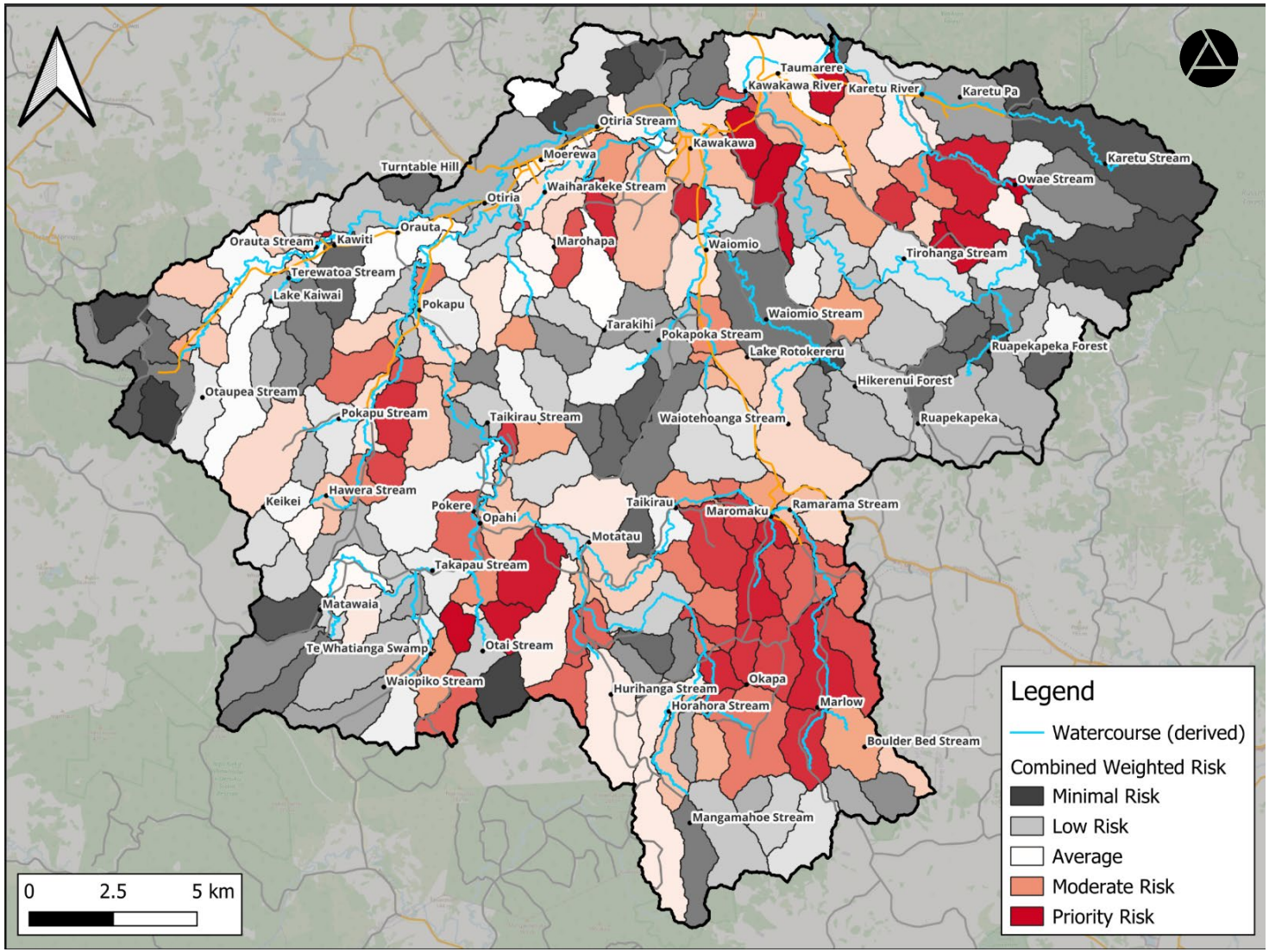
Focused on the vulnerability of receiving waterways and land to more intense land use like grazing. Overland runoff flow paths convey contaminants to waterways during rain.



Prioritising Risk

Risk 4 – Combined Weighted Risk

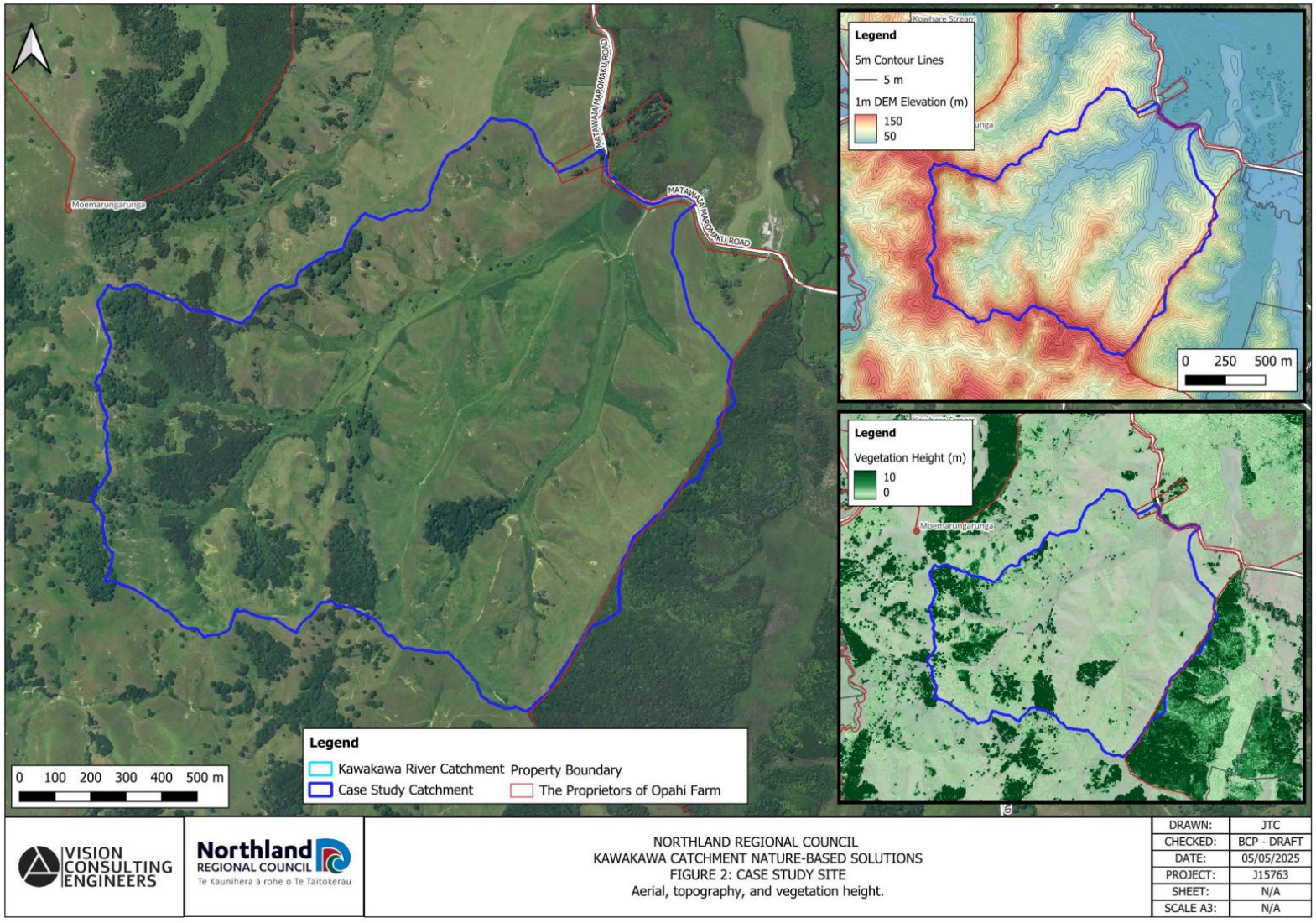
This layer is created from giving each individual risk layer a unique weighting value and combining the layers to show where in the catchment is more vulnerable overall.

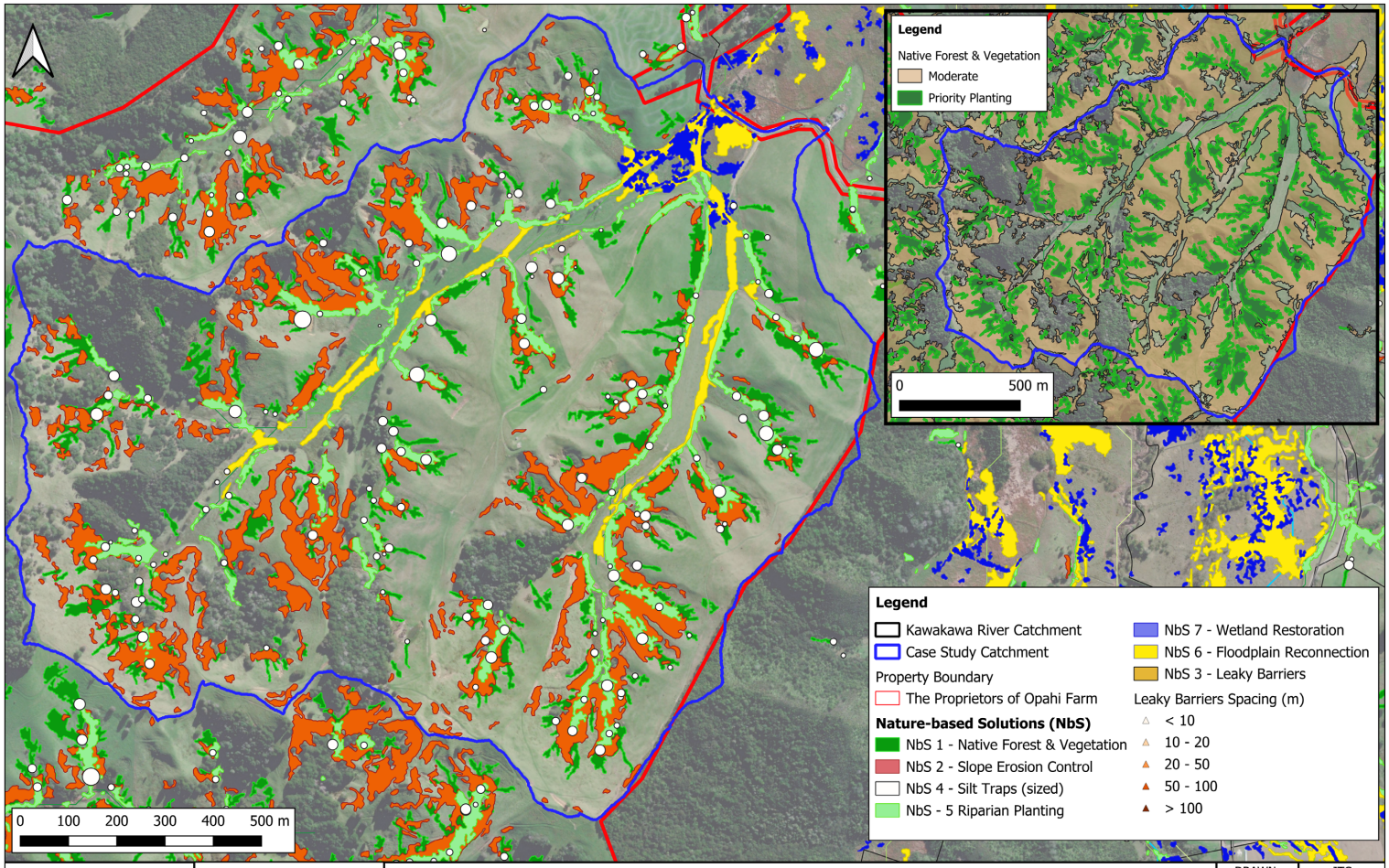


Case Study Site

Why this 200 ha Site?

- Flood-prone road location
- Steep, eroding grazed slopes
- Straight ditches
- Livestock access to wet areas
- Sediment & water quality issues
- Local farmer involved and confirms shift in tuna movement & water availability
- MCA-informed selection
- Adjacent catchment = control site





VISION CONSULTING ENGINEERS

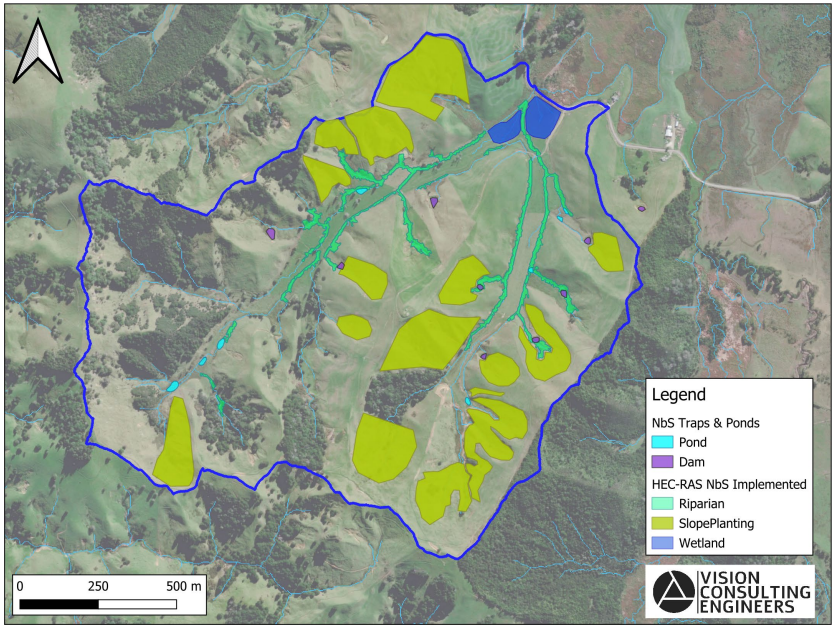
Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

NORTHLAND REGIONAL COUNCIL
KAWAKAWA CATCHMENT NATURE-BASED SOLUTIONS
FIGURE 5: POSSIBLE NATURE-BASED SOLUTIONS

DRAWN:	JTC
CHECKED:	BCP - DRAFT
DATE:	05/07/2025
PROJECT:	J15763
SHEET:	N/A
SCALE A3:	N/A

The Case Study - will NbS work?

Hydraulic model outputs and costing



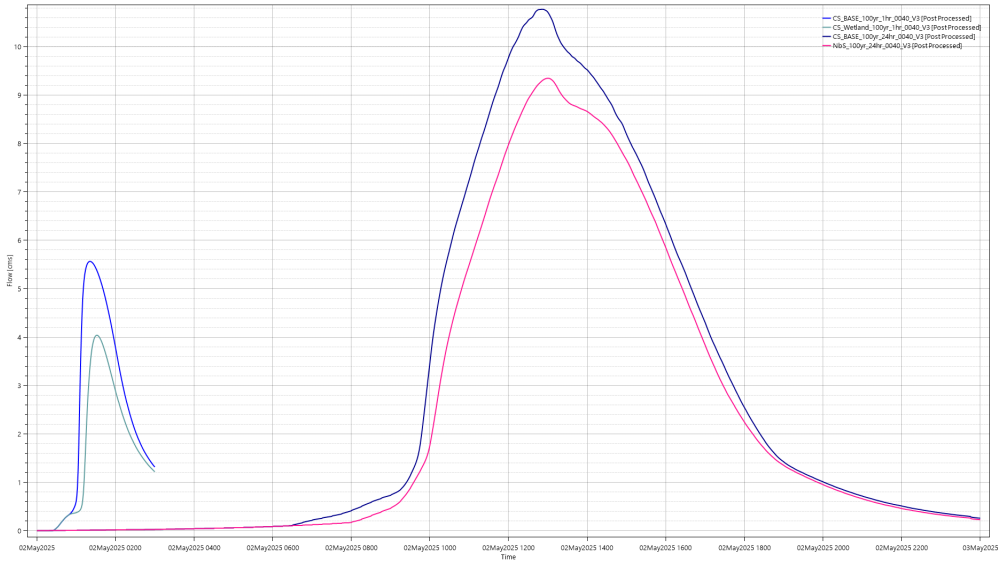
Benefits:

- **Flood Risk Reduction:** modelled 15-20% reduction in peak flows; Road access for longer during heavy rains.
- **Habitat Improvement:** Riparian, wetland and edge habitat for native fish & insects.
- **Water Quality:** Sediment and nutrients trapped before entering main waterway.
- **More Stable Soils:** Reduced hill and instream erosion.
- **Community Co-Benefits:** Support for community-led land stewardship and knowledge-sharing

Proposed Restoration Design & Estimated Costs:

NbS Type	Unit	Quantity	Estimated Cost (Low)	Estimated Cost (High)
Riparian Planting	ha	2.7	$13,600	$17,680
Riparian Fencing	m	3,000	$39,000	$75,000
Slope Planting	ha	30	$120,000	$240,000
Slope Fencing	m	5,000	$65,000	$125,000
Wetland Restoration	ha	1.6	$12,960	$32,400
Silt Traps & Dams	units	16	N/A - costed as excavator hire	
Excavator Use (Traps)	days	8	$8,000	$12,000
Monitoring (3 years)	-	1	$20,000	$20,000
Total			$278,560	$522,080

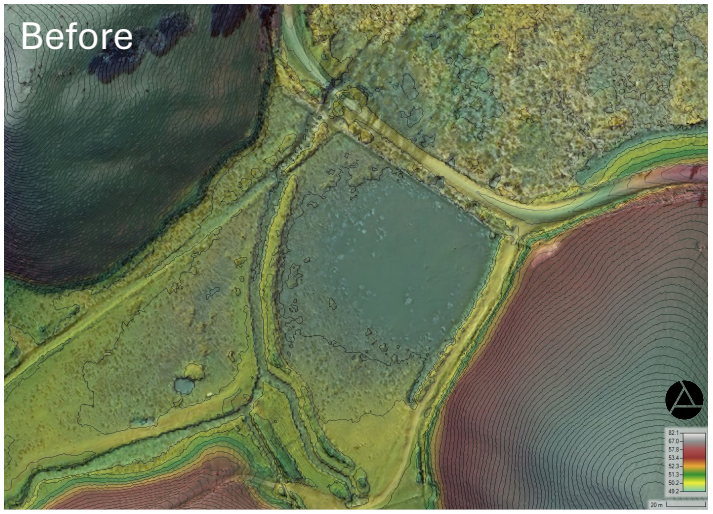
The flow was slowed and hazard over the road reduced.

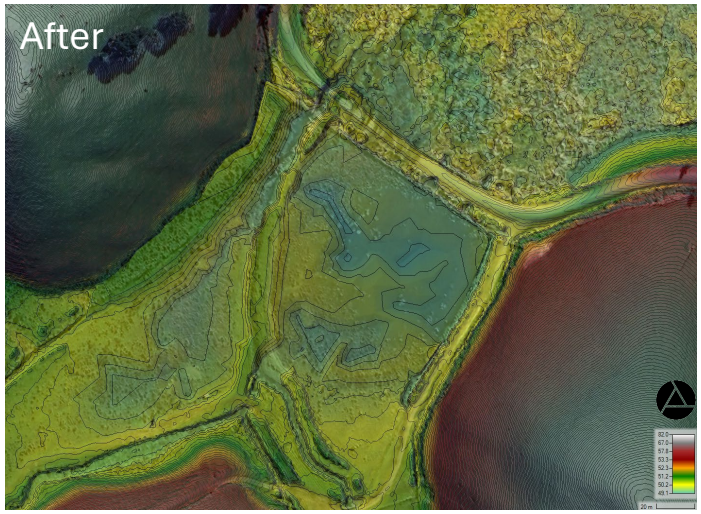


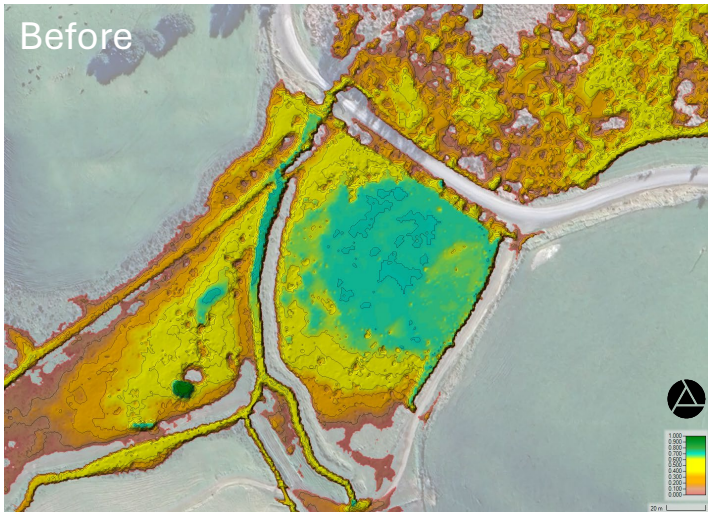
The Case Study – Designing for ecological benefit:

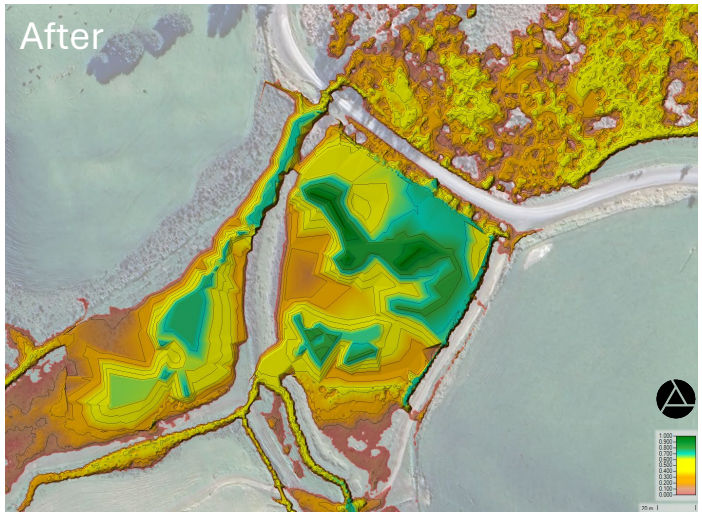
Juvenile Longfin Eels

- **Blends ecology and design** through targeted wetland shaping
- **Prime habitat created** for juvenile longfin eel (tuna)
- **Supports taonga species** and aligns with cultural priorities
- **Locally grounded** using NZ-specific science
- **Protects infrastructure** by reducing flow pressure at roads





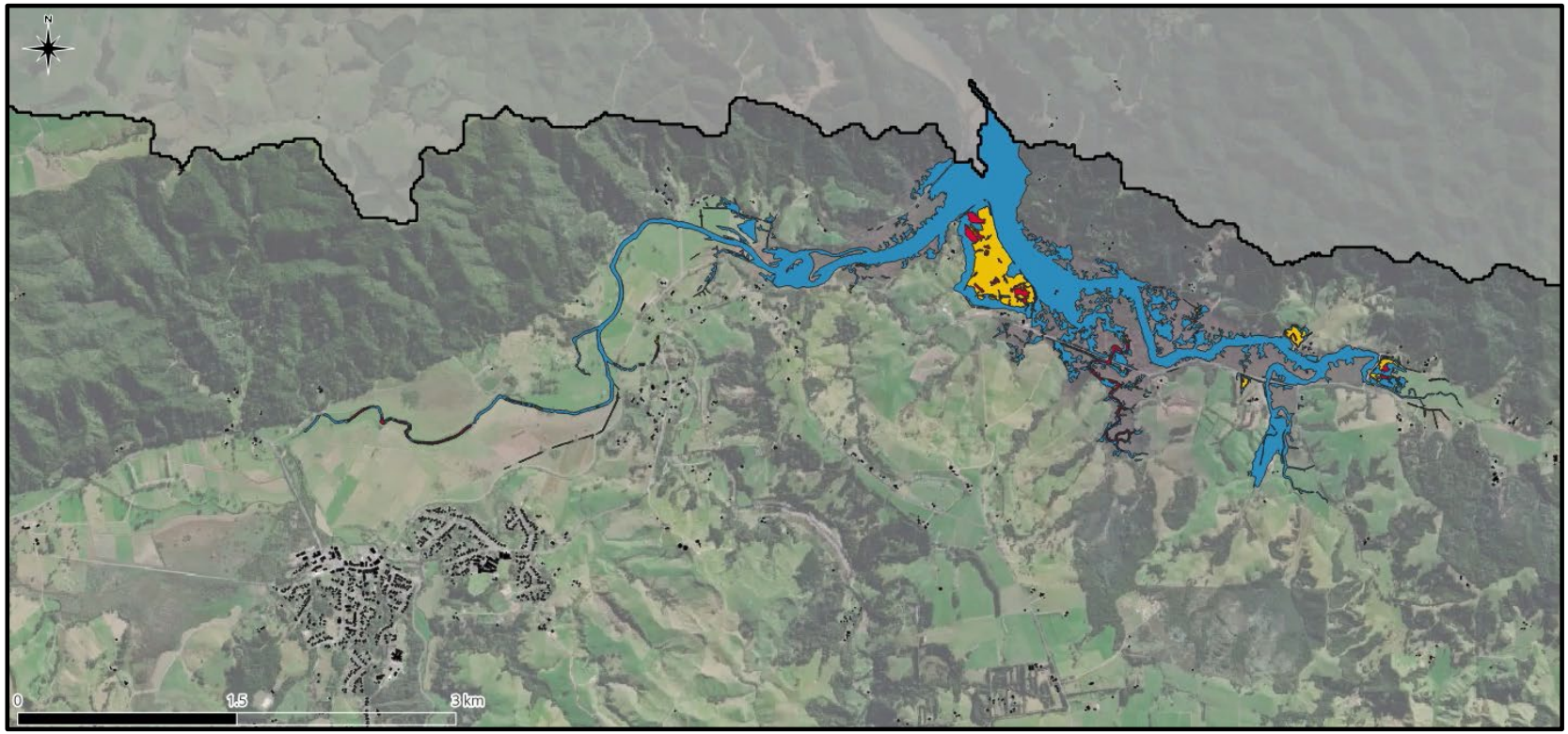




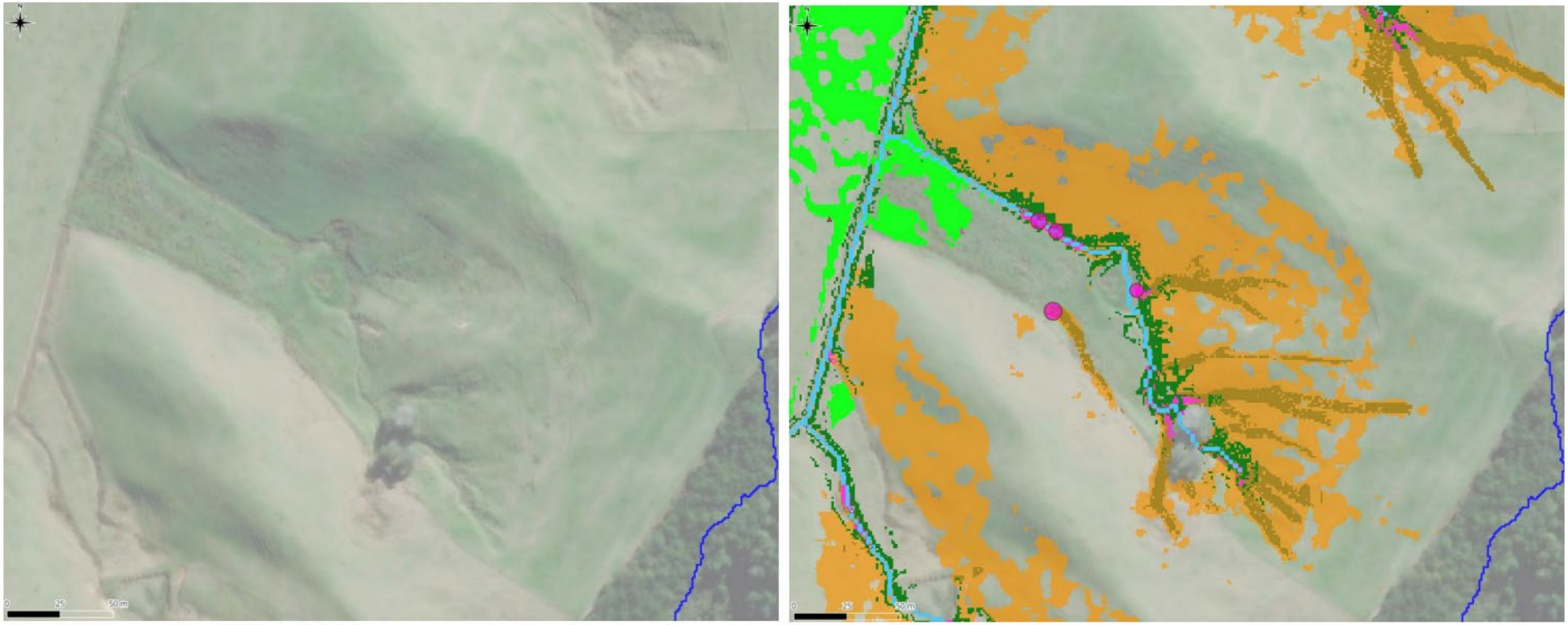
Phased Intertidal Wetland and Habitat Restoration

Benefits:

- Create space for floodwaters during high flows and mid-high tides
- Reduce long-term costs of stopbank upgrades and repairs
- Support intergenerational resilience and land use transition
- Enhance spawning and refuge habitat for īnanga and other native fish



Example area for NbS in heavily degraded micro-catchment.

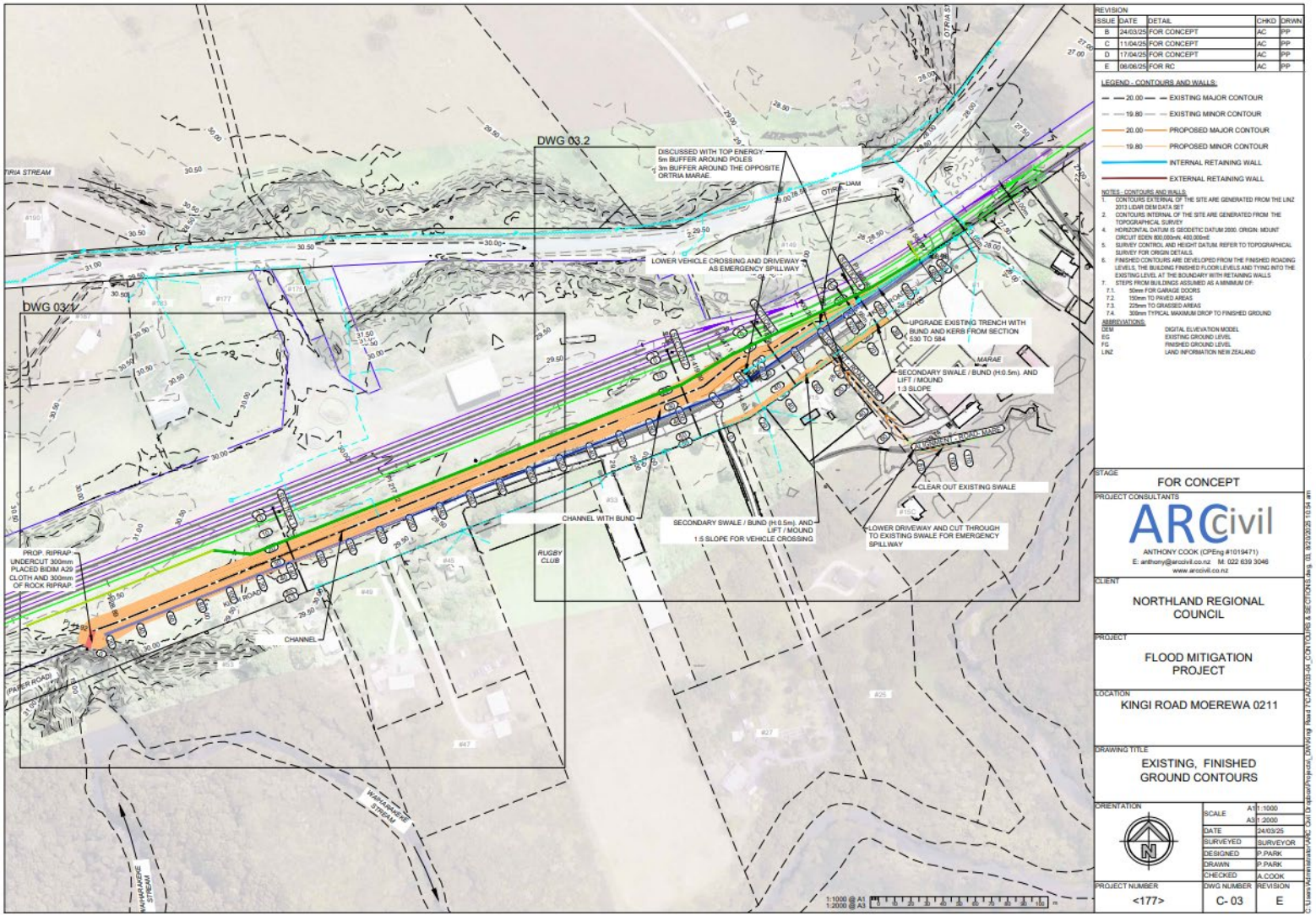


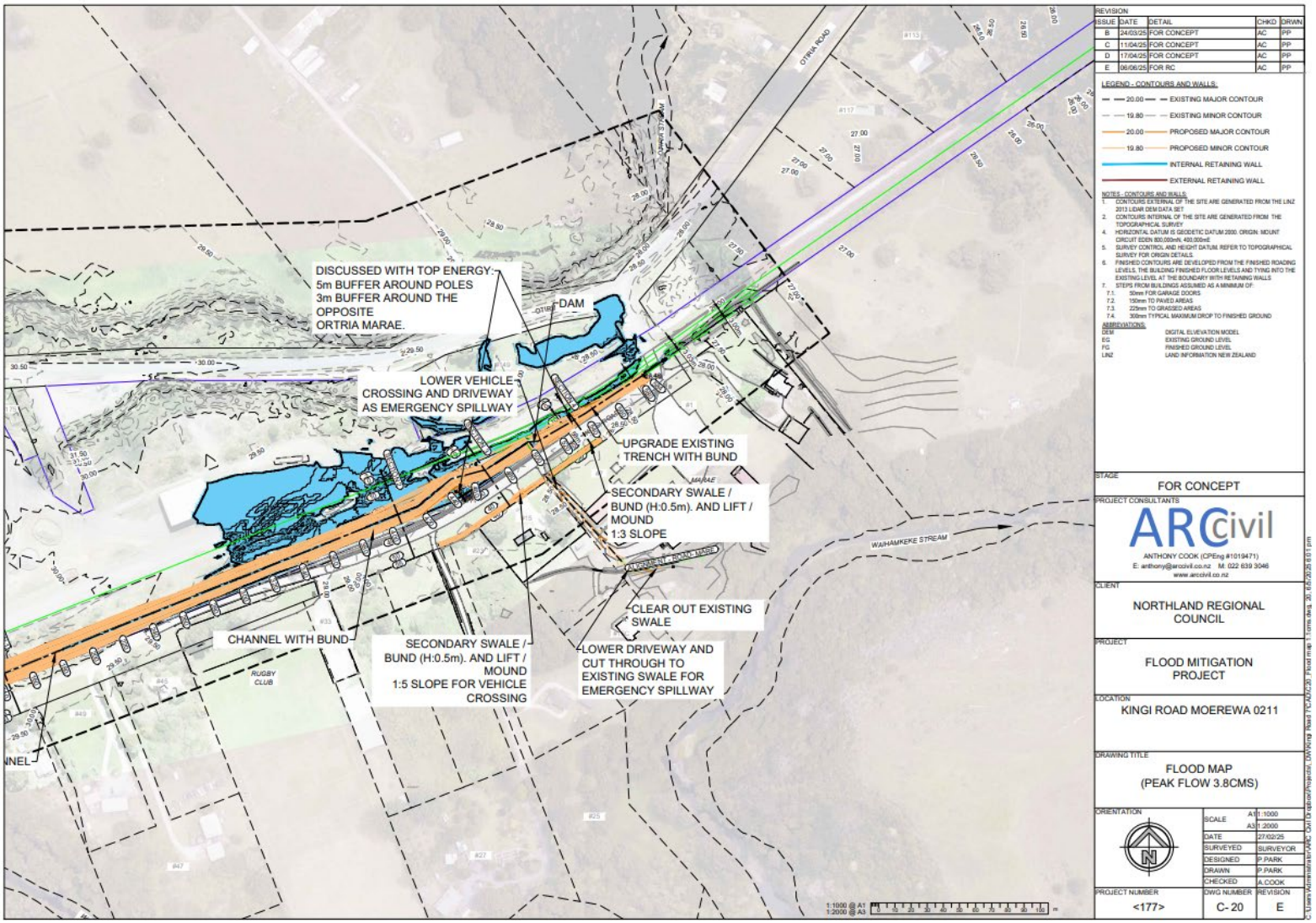
- wetland restoration (bright green), erosion control/ planting and fencing (orange), leaky barriers (pink areas and triangles), silt traps (brown areas and pink circles), riparian planting (dark green areas), topographical sinks (potential wetlands – in blue)

Otiria Further Works - CIP

Blocked overland flow paths around Otiria Marae Opening overland flow paths

1. Resource Consent Granted
2. Detailed Design Finalised
3. Tender ready to be put on GETS


DWG 03.2
DWG 03.1
DISCUSSED WITH TOP ENERGY
5m BUFFER AROUND POLES
3m BUFFER AROUND THE OPPOSITE
ORTRIA MARAE
LOWER VEHICLE CROSSING AND DRIVEWAY
AS EMERGENCY SPILLWAY
UPGRADE EXISTING TRENCH WITH
BUND AND KERB FROM SECTION
530 TO 584
SECONDARY SWALE / BUND (H.0.5m). AND
LIFT / MOUND
1:3 SLOPE
CLEAR OUT EXISTING SWALE
CHANNEL WITH BUND
SECONDARY SWALE / BUND (H.0.5m). AND
LIFT / MOUND
1:5 SLOPE FOR VEHICLE CROSSING
LOWER DRIVEWAY AND CUT THROUGH
TO EXISTING SWALE FOR EMERGENCY
SPILLWAY
PROP. RIPRAP -
UNDERCUT 300mm
PLACED BIDIM A29
CLOTH AND 300mm
OF ROCK RIPRAP
CHANNEL
RUGBY
CLUB
MARAE
KINGI ROAD
PARKER ROAD
OTRIA STREAM
WAHARAWERE
STREAM
REVISION
ISSUE DATE DETAIL CHKD DRWN
B 24/03/25 FOR CONCEPT AC PP
C 11/04/25 FOR CONCEPT AC PP
D 17/04/25 FOR CONCEPT AC PP
E 06/06/25 FOR RC AC PP
LEGEND - CONTOURS AND WALLS:
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
PROPOSED MAJOR CONTOUR
PROPOSED MINOR CONTOUR
INTERNAL RETAINING WALL
EXTERNAL RETAINING WALL
NOTES - CONTOURS AND WALLS:
1. CONTOURS EXTERNAL OF THE SITE ARE GENERATED FROM THE LINZ 2013 LIDAR DEM DATA SET
2. CONTOURS INTERNAL OF THE SITE ARE GENERATED FROM THE TOPOGRAPHICAL SURVEY
4. HORIZONTAL DATUM IS GEODETIC DATUM 2000. ORIGIN: MOUNT CIRCUIT EDEN 800,000mN, 400,000mE
5. SURVEY CONTROL AND HEIGHT DATUM. REFER TO TOPOGRAPHICAL SURVEY FOR ORIGIN DETAILS.
6. FINISHED CONTOURS ARE DEVELOPED FROM THE FINISHED ROADING LEVELS, THE BUILDING FINISHED FLOOR LEVELS AND TYING INTO THE EXISTING LEVEL AT THE BOUNDARY WITH RETAINING WALLS
7. STEPS FROM BUILDINGS ASSUMED AS A MINIMUM OF:
7.1. 50mm FOR GARAGE DOORS
7.2. 150mm TO PAVED AREAS
7.3. 225mm TO GRASSED AREAS
7.4. 300mm TYPICAL MAXIMUM DROP TO FINISHED GROUND
ABBREVIATIONS:
DEM DIGITAL ELEVEVATION MODEL
EG EXISTING GROUND LEVEL
FG FINISHED GROUND LEVEL
LINZ LAND INFORMATION NEW ZEALAND
STAGE
FOR CONCEPT
PROJECT CONSULTANTS
ARCivil
ANTHONY COOK (CPEng #1019471)
E: anthony@arcivil.co.nz M: 022 639 3046
www.arcivil.co.nz
CLIENT
NORTHLAND REGIONAL COUNCIL
PROJECT
FLOOD MITIGATION PROJECT
LOCATION
KINGI ROAD MOEREWA 0211
DRAWING TITLE
EXISTING, FINISHED GROUND CONTOURS
ORIENTATION
SCALE A1 1:1000 A3 1:2000
DATE 24/03/25
SURVEYED SURVEYOR
DESIGNED P.PARK
DRAWN P.PARK
CHECKED A.COOK
PROJECT NUMBER <177>
DWG NUMBER C- 03
REVISION E


DISCUSSED WITH TOP ENERGY:-
5m BUFFER AROUND POLES
3m BUFFER AROUND THE OPPOSITE
ORTRIA MARAE.
DAM
LOWER VEHICLE CROSSING AND DRIVEWAY AS EMERGENCY SPILLWAY
UPGRADE EXISTING TRENCH WITH BUND
SECONDARY SWALE / BUND (H:0.5m). AND LIFT / MOUND
1:3 SLOPE
CLEAR OUT EXISTING SWALE
LOWER DRIVEWAY AND CUT THROUGH TO EXISTING SWALE FOR EMERGENCY SPILLWAY
CHANNEL WITH BUND
SECONDARY SWALE / BUND (H:0.5m). AND LIFT / MOUND
1:5 SLOPE FOR VEHICLE CROSSING
ORTRIA ROAD
WAIHAMKEKE STREAM
RUGBY CLUB
REVISION
ISSUE | DATE | DETAIL | CHKD | DRWN
B | 24/03/25 | FOR CONCEPT | AC | PP
C | 11/04/25 | FOR CONCEPT | AC | PP
D | 17/04/25 | FOR CONCEPT | AC | PP
E | 06/06/25 | FOR RC | AC | PP
LEGEND - CONTOURS AND WALLS:
20.00 EXISTING MAJOR CONTOUR
19.80 EXISTING MINOR CONTOUR
20.00 PROPOSED MAJOR CONTOUR
19.80 PROPOSED MINOR CONTOUR
INTERNAL RETAINING WALL
EXTERNAL RETAINING WALL
NOTES - CONTOURS AND WALLS:
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LINZ LAND INFORMATION NEW ZEALAND
STAGE
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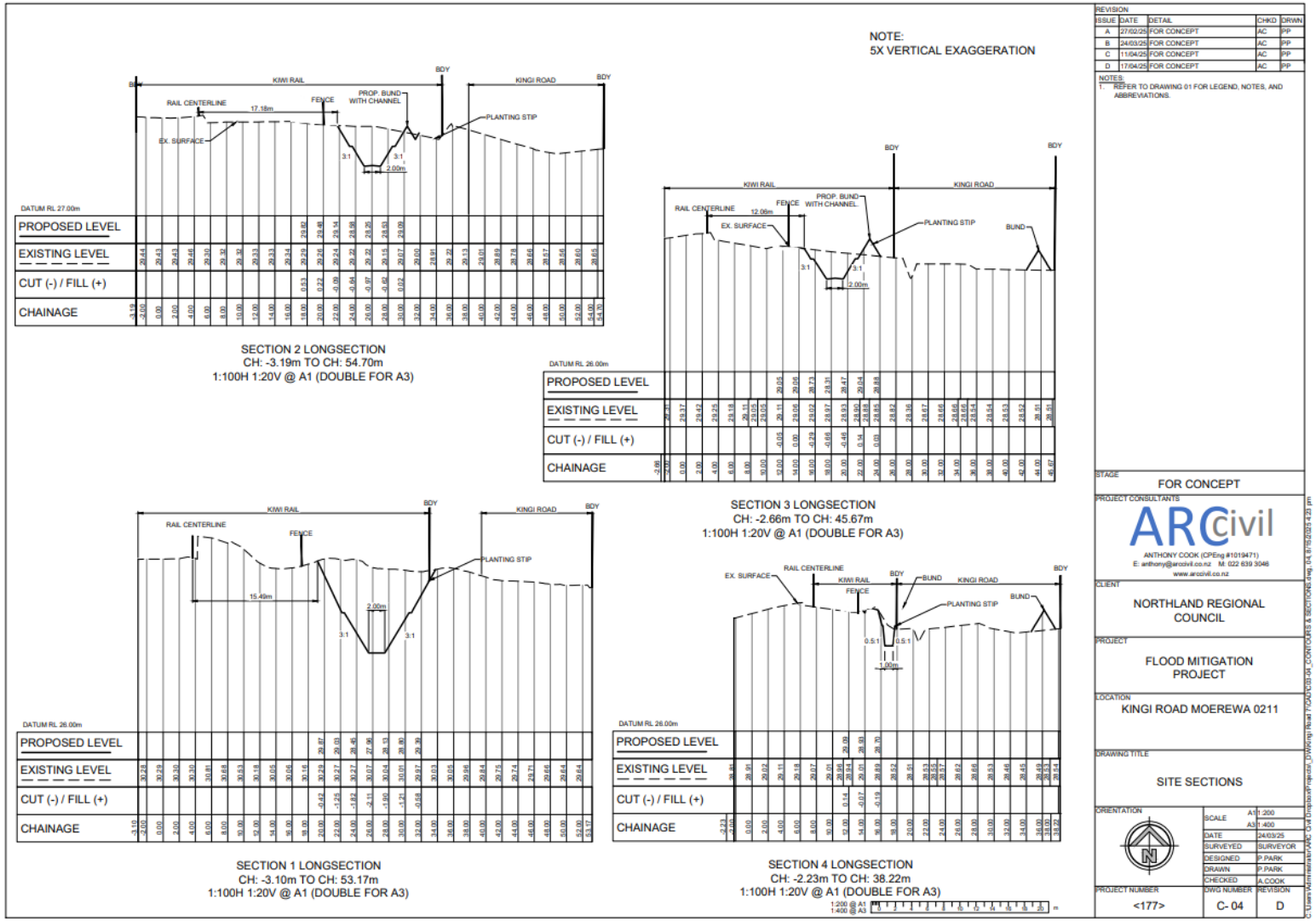
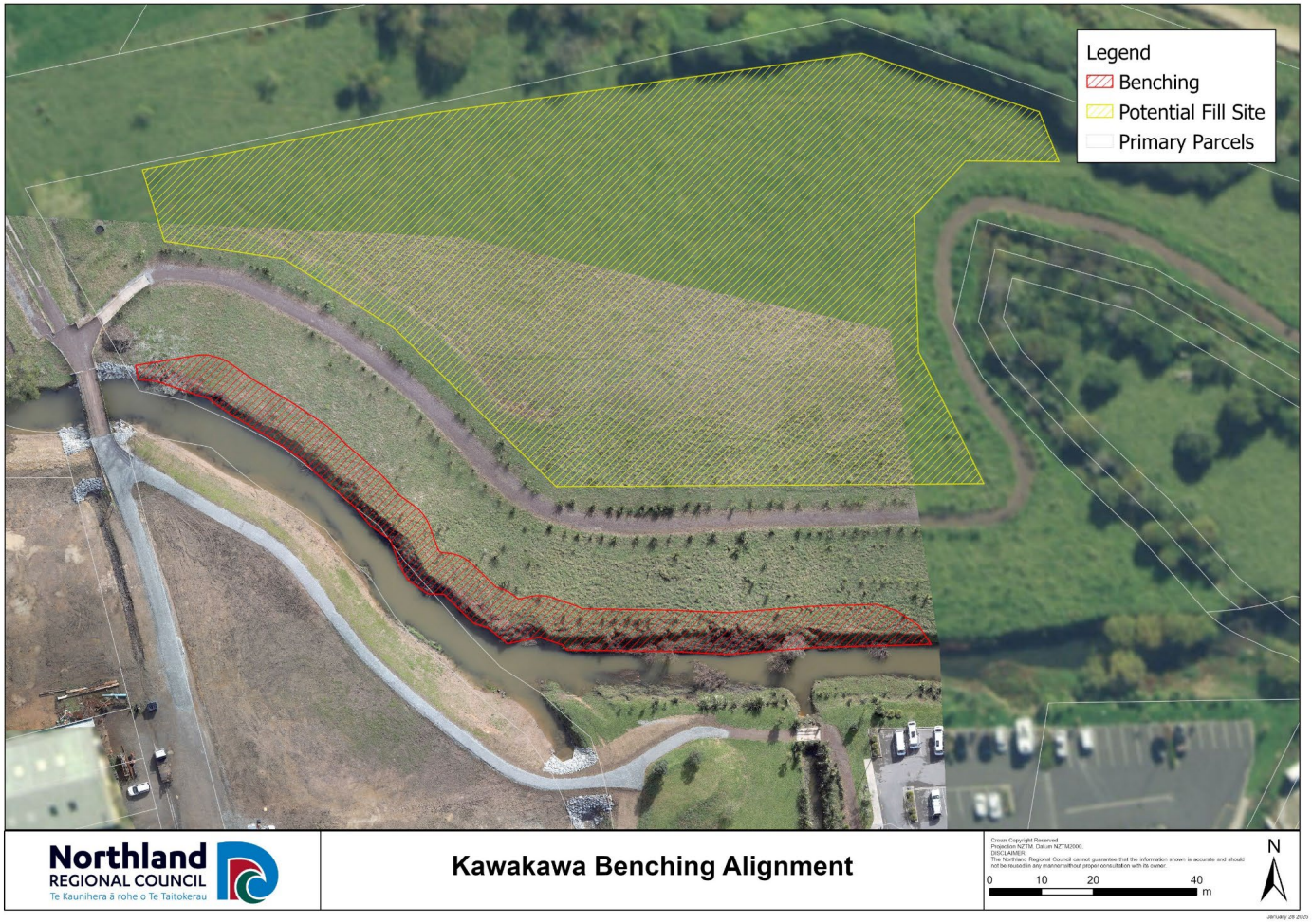
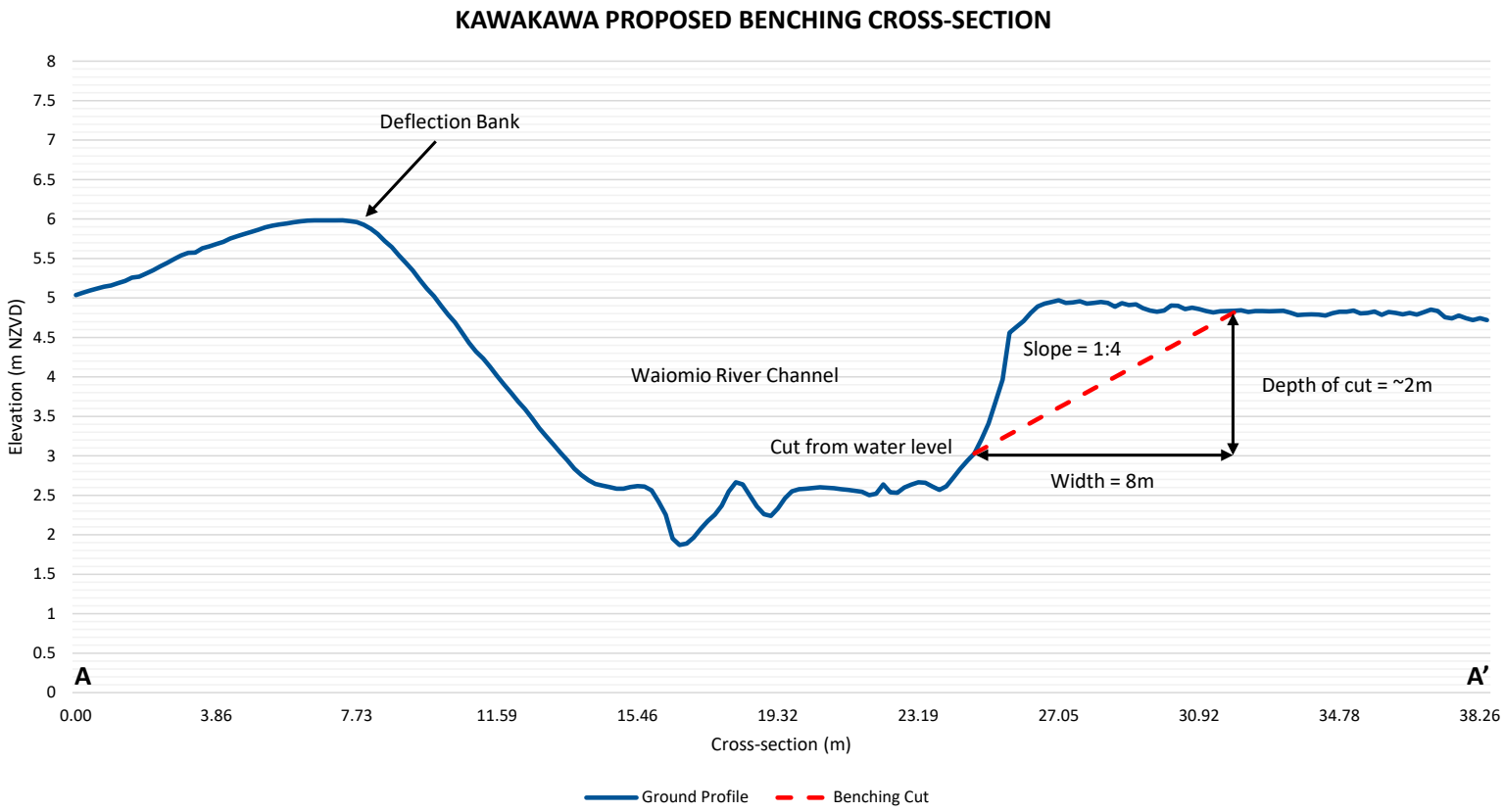
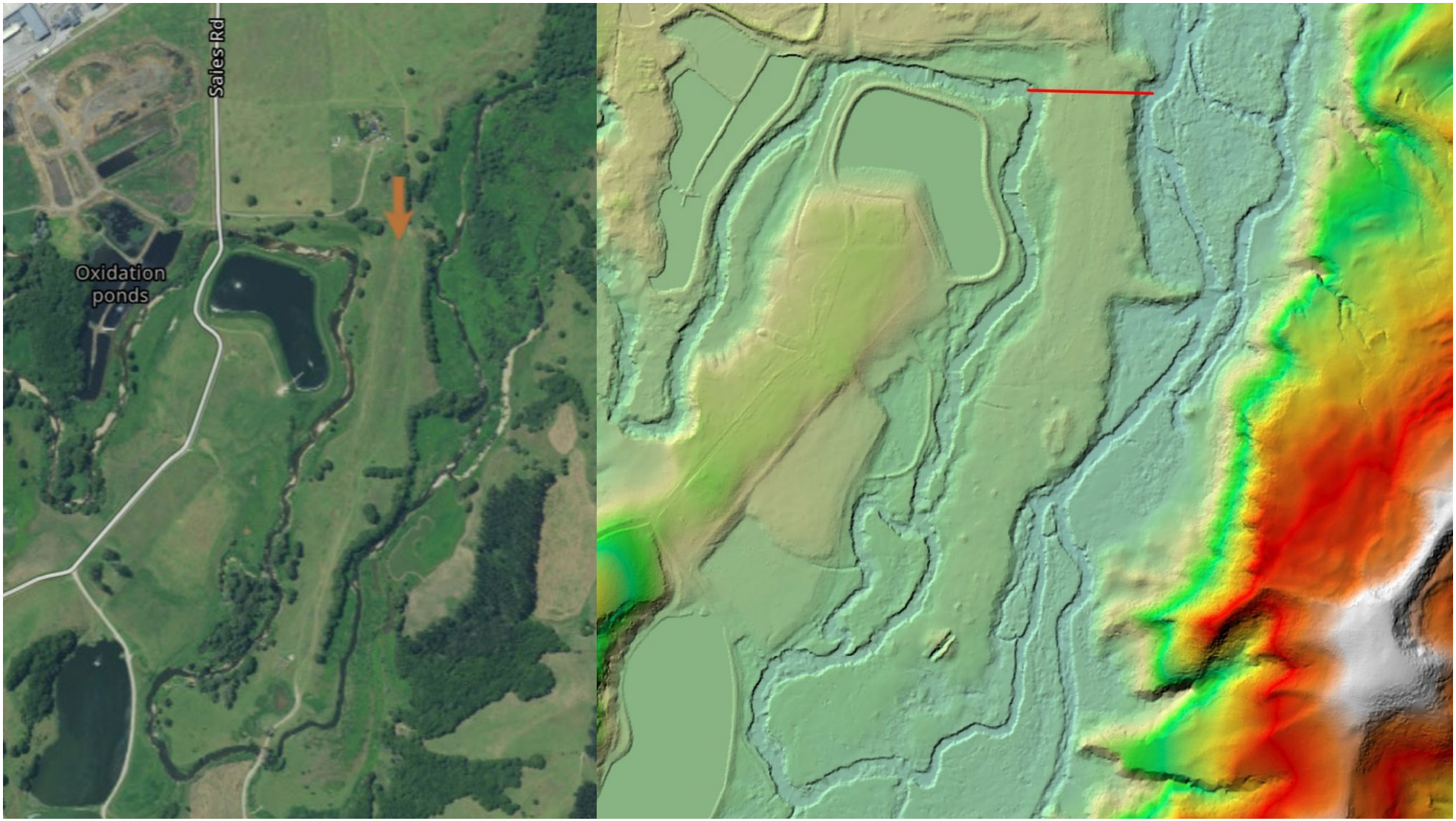
www.arcivil.co.nz
CLIENT
NORTHLAND REGIONAL COUNCIL
PROJECT
FLOOD MITIGATION PROJECT
LOCATION
KINGI ROAD MOEREWA 0211
DRAWING TITLE
FLOOD MAP
(PEAK FLOW 3.8CMS)
ORIENTATION
SCALE A1 1:1000
A3 1:2000
DATE 27/02/25
SURVEYED SURVEYOR
DESIGNED P.PARK
DRAWN P.PARK
CHECKED A.COOK
PROJECT NUMBER <177>
DWG NUMBER C- 20
REVISION E
1:1000 @ A1
1:2000 @ A3


NOTE:
5X VERTICAL EXAGGERATION
KIWI RAIL
KINGI ROAD
BDY
RAIL CENTERLINE
FENCE
PROP. BUND WITH CHANNEL
PLANTING STIP
EX. SURFACE
BUND
DATUM RL 27.00m
PROPOSED LEVEL
EXISTING LEVEL
CUT (-) / FILL (+)
CHAINAGE
SECTION 2 LONGSECTION
CH: -3.19m TO CH: 54.70m
1:100H 1:20V @ A1 (DOUBLE FOR A3)
DATUM RL 26.00m
SECTION 3 LONGSECTION
CH: -2.66m TO CH: 45.67m
1:100H 1:20V @ A1 (DOUBLE FOR A3)
SECTION 1 LONGSECTION
CH: -3.10m TO CH: 53.17m
1:100H 1:20V @ A1 (DOUBLE FOR A3)
SECTION 4 LONGSECTION
CH: -2.23m TO CH: 38.22m
1:100H 1:20V @ A1 (DOUBLE FOR A3)
REVISION
ISSUE DATE DETAIL CHKD DRWN
A 27/02/25 FOR CONCEPT AC PP
B 24/03/25 FOR CONCEPT AC PP
C 11/04/25 FOR CONCEPT AC PP
D 17/04/25 FOR CONCEPT AC PP
NOTES:
1. REFER TO DRAWING 01 FOR LEGEND, NOTES, AND ABBREVIATIONS.
STAGE
FOR CONCEPT
PROJECT CONSULTANTS
ARCivil
ANTHONY COOK (CPEng #1019471)
E: anthony@arccivil.co.nz M: 022 639 3046
www.arccivil.co.nz
CLIENT
NORTHLAND REGIONAL COUNCIL
PROJECT
FLOOD MITIGATION PROJECT
LOCATION
KINGI ROAD MOEREWA 0211
DRAWING TITLE
SITE SECTIONS
ORIENTATION
SCALE A1/1:200 A3/1:400
DATE 24/03/25
SURVEYED SURVEYOR
DESIGNED P.PARK
DRAWN P.PARK
CHECKED A.COOK
PROJECT NUMBER <177>
DWG NUMBER C- 04
REVISION D

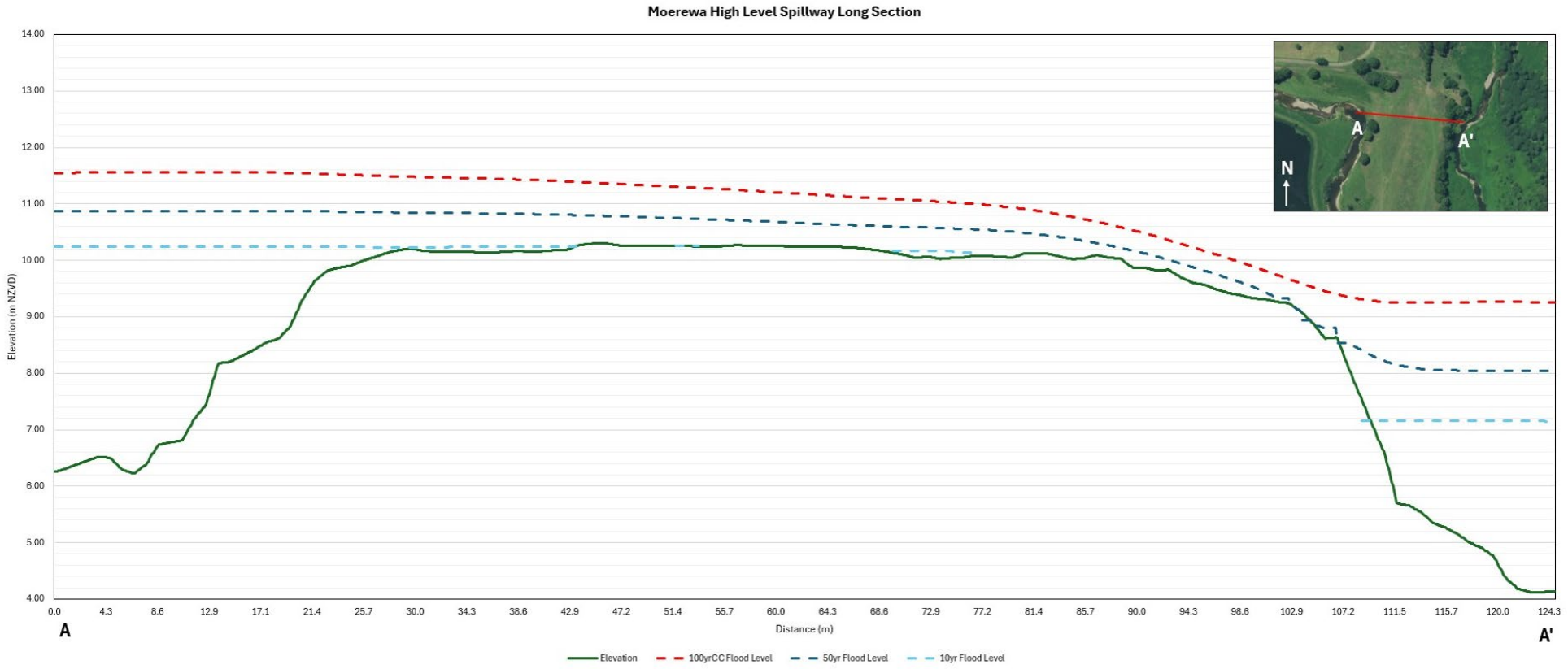
Kawakawa Deflection Bank




KAWAKAWA PROPOSED BENCHING CROSS-SECTION
Deflection Bank
Waiomio River Channel
Cut from water level
Slope = 1:4
Depth of cut = ~2m
Width = 8m
A
A'
Elevation (m NZVD)
Cross-section (m)
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
6.5
7
7.5
8
0.00
3.86
7.73
11.59
15.46
19.32
23.19
27.05
30.92
34.78
38.26
Ground Profile
Benching Cut


Sales Rd
Oxidation ponds

High Level Spillway AFFCO




Ngā mihi Thank you
He pātai? Any questions?

Northland
REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

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Taumārere Business Case – Update 6 September 2025
From: Ruben Wylie

Executive summary/Whakarāpopototanga
The purpose of this report is to update the Working Group on progress with the development of a business case to improve the state of fresh and coastal receiving waters of the Taumārere catchment. It will be important that implementation of the water quality mitigations identified in the business case recognise the co-benefits in terms of flood risk reduction (and vice versa) - it will therefore be important that the Working Group be engaged regularly during the delivery phase to ensure synergies are optimised and to avoid working at cross purposes.

Background
At the 24 September 2024 council meeting, it was resolved that a full business to improve fresh and coastal receiving waters of the Taumārere catchment be developed in partnership with Ngāti Hine. The Taumārere catchment was identified as a good candidate for this on the basis that:

- Ngāti Hine, who have mana i te whenua, mana i te moana over much of the catchment indicated the willingness and the capacity to partner with council in the initiative
- The catchment contributes a significant proportion of the sediment impacting Bay of Islands (via the Taumārere River)
- There is a good level of information available to support a business case
- The catchment is a good representative of Northland's freshwater issues and range of land uses / land cover and is therefore an ideal pilot for such catchment planning initiatives.

Martin Jenkins has been engaged to assist in developing the business case which was overseen by a governance group made up of representatives from Ngāti Hine and council. A draft business case: *Taumārere: Giving effect to Te Mana me te Mauri o te Wai* has been developed and was endorsed by the governance group on 28 August 2025. The core focus of the business case is to guide investment in the catchment and to act as a 'blueprint' for Māori-led regeneration of the catchment and improvement of the state of fresh and coastal receiving waters. The audience for the business case is potential funding partners, including Government, NGOs and council.

The development of the business case was underpinned by multiple sources of information including:

- The mātauranga and expertise of Ngāti Hine representatives and staff, the Ngāti Hine Environmental Management Plan 2022 and other strategic / catchment planning documents held by Ngāti Hine
- The Mana Whakahono ā Rohe agreement between Te Rūnanga o Ngāti Hine and council and commitments set out in Tāiki ē
- Council monitoring data and previous investigations into catchment water quality
- Studies into sediment sources impacting the Bay of Islands
- CLUES water quality mitigation modelling for the region (adapted to target mitigations where they are likely to be most effective in the Taumārere catchment).
- Advice from council's water quality and coastal teams
- Up to date costings for the range of mitigation measures applied.
- Experience and lessons learnt from similar projects (e.g. the Kaipara Moana Remediation Project).

The NIWA CLUES model was used to identify and target mitigations in the Taumārere catchment to areas where they would be most effective in reducing sediment and *E.coli* concentrations (co-benefits of mitigations were also identified). The areas subject to mitigations and up to date cost estimates were then used to estimate implementation costs over a nominal 20-year period.

Total costs of direct mitigation ($69.5m) and programme governance and management ($17.4) are forecast to be $86.9m over 20years. The business case identifies a phased approach to implementation starting with an 'ease of rollout' scenario focussed on space planting highly erodible land and riparian fencing and planting, shifting to a more aspirational scenario with greater focus on native afforestation and wetland creation.

Next steps
The business case will be presented to Council at the meeting of 23 September. No decisions on implementation or financial or other resourcing commitments are sought from council at this stage. This will enable staff and Ngāti Hine to advance work on identifying potential funding partners and implementation approaches to ensure council and Ngāti Hine are well placed to use the business case as a platform for securing funding in the new year.

Key elements of implementation are summarised below:

- Delivery structure: establishing structures to support delivery including governance and operational teams
- Engagement: raising awareness with tangata whenua, landowners, government and potential funding / support partners and key stakeholders (such as the Working Group)
- Seeking investment: sourcing funding, investment and other forms of support
- Delivery: establishing mitigations on the ground in partnership with landowners
- Monitoring and review: tracking and reporting on progress and outcomes.

It will be important that implementation of the business case recognises synergies with the flood risk reduction aims of the Working Group given the co-benefits of water quality mitigations in terms of reducing flood risk and vice versa – for example the synergies evident between the business case mitigations and the Nature Based Solutions project by the NRC Rivers Team to identify options to reduce flood risk in the catchment.

While governance and operational arrangements for delivery of the business case have yet to be confirmed, it will include direct liaison with the Working Group as a key stakeholder and source of technical input given synergies and the expertise and knowledge of the Working Group.