Appendix J Cost estimates

26 March 2025
Job No: 1093438.0000

Greater Wellington Regional Council
C/- Waipoua Project Group
PO Box 11646
Manners Street
Wellington 6142

Attention: Francie Morrow

Dear Francie

Waipoua River - Flood Management Optioneering
Scenario and Concept Costing, March 2025

1 Scenarios for concept costing

In January a cost estimate (Waipoua Stopbank Optioneering Estimate dated 17 January 2025) was developed for the Waipoua Project Group (WPG) based on the 4 (four) concepts for flood mitigation of the Waipoua river in Masterton. These concepts are based on mitigations that have been selected by the WPG. The WPG has now requested that for each of these concepts we consider 4 (four) cost estimate scenarios. These requested scenarios are:

1 Estimate baseline – 'standard' percentage professional fees and disposal of excavated material within 100 km
2 Scenario 1 – Reduced professional fees and disposal within 2 km
3 Scenario 2 – Reduced professional fees and disposal within 40 km
4 Scenario 3 – Reduced professional fees and load disposal truck only (in addition, an indication of the potential sale value of the excavated material was provided)

The standard fees that have been applied to the baseline estimate during the construction phase are:

- Construction monitoring: 5%
- Greater Wellington Regional Council (GWRC)/Masterton District Council (MDC) commissioning costs: 1%
- Environmental control and monitoring: 3%

The reduced fees that have been applied to Scenarios 1 - 3 during the construction phase are:

- Construction monitoring: 3%
- GWRC/MDC commissioning costs: 0.5%
- Environmental control and monitoring: 3%

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The standard fee allowances are based on typical percentages for civil engineering projects. The percentages have been reduced for the scenario analyses, to reflect the scale of the works and their relative complexity, where it may be reasonable to assume a lower % allowance for these items.

The only other differences between the baseline and scenario estimates are the costs for disposal of the excavated material which vary based upon transportation distance. It has been assumed for all of the estimates that there is no charge for disposal of the material at the receiving site.

Scenarios 1 and 3 are based upon information provided by WPG team member Andrew Donald:

- Scenario 1: He would allow disposal of excavated riverbed/berm material free of charge at his nearby property 'Mahunga Farm' (located within 2 km of the construction area), and
- Scenario 3: He has spoken with a local contractor who would be prepared to pay in the order of \$1.50-\$2.00/m^3 for gravel material.

Scenario 3 is an outlier, as it relies upon a third party to accept the material and pay a nominal sum per m^3. This scenario is based upon the main contractor performing all excavation, transportation, and stockpiling of the material. The cost for disposal included within the estimate includes for loading the third party's truck only. An indicative total payment from the third party to GWRC has then been calculated based upon the total disposal volume[1] as a saving assuming a rate of \$1.50/m^3. This approach has been adopted to inform indicative project budgets. If the third-party contractor did all of the excavation as well at no cost the savings would be greater (this has not been allowed for). The main contractor may be reluctant to allow an uncontracted third party to access the site and extract/select material. This has implications for insurances and the management of the work.

Risk and contingency allowances have been included in the estimates to include for standard risks to occur outside the control of the contractor/client. However, there does remain a residual risk of significant events occurring outside the control of these parties such as flooding, cyclones, etc that are not included within these risk allocations, and which should be considered as the methodology and programme are better understood.

The cost estimates we have calculated based upon the preceding approach are provided in Table 1.1 below. The detailed calculation of the cost estimates is provided in Appendix A.

[1] Assuming 100% usable gravel, the actual useable volume of gravel would realistically be 75% of this total volume.

Table 1.1: Summary of estimate baseline and scenarios

Scope	Concept 1	Concept 2	Concept 3	Concept 4
Estimate Baseline - Standard fees and disposal within 100 km				
P50	27,235,000	44,965,000	26,655,000	28,385,000
P95	38,135,000	62,965,000	37,355,000	39,785,000
Scenario 1 - Reduced fees and disposal within 2 km of site				
P50	23,035,000	30,895,000	21,055,000	23,305,000
P95	32,285,000	43,295,000	29,505,000	32,655,000
Scenario 2 - Reduced fees and disposal within 40 km of site				
P50	24,845,000	36,805,000	23,475,000	25,385,000
P95	34,795,000	51,555,000	32,875,000	35,585,000
Scenario 3 - Reduced fees and allowance for loading truck only				
P50	22,145,000	27,555,000	19,955,000	22,275,000
P95	31,045,000	38,605,000	27,955,000	31,225,000
Scenario 3 - Opportunity for sale of excavated material (saving on P50 and P95 estimates)	(38,471)	(131,601)	(50,259)	(44,825)

Note: We have provided P50 and P95 estimates. These estimates are the values with statistical probability of exceedance of 50% and 5% respectively, to provide budgeting guidance.

2 Applicability

This report has been prepared for the exclusive use of our client Greater Wellington Regional Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that this report will be used by Greater Welington Regional Council and its stakeholders in its decision-making processes in connection with flood mitigation for the Waipoua River.

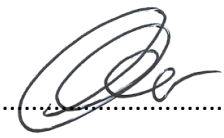
The construction rates utilised for this high-level cost estimate are based on assumed design concepts, estimated quantities, and a combination of recently submitted tender rates for similar projects within the regional area along with the latest available rates from QV Cost Builder database (formerly Rawlinsons). These rates are based on historic information and data and do not include allowance for any cost escalation since the date of the data other than where/as specifically stated.

Consequently, a significant margin of uncertainty exists on the cost estimate, and the contingency we have allowed should be considered as part of the cost rather than a potential add on.

Given this approach, no assessment has been made to forecast future market conditions in this estimate. We recommend you seek up-to-date specialist economic advice on what budgetary allowances over and above the nominal escalation contingency allowance included for future escalation, including for any potential changes in construction and timing based on the above.

Tonkin & Taylor Ltd
Environmental and Engineering Consultants

Report prepared by:



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Greg Fuller
Senior Estimator

Authorised for Tonkin & Taylor Ltd by:

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Hugh Cherrill
Project Director

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Appendix A Scenario and concept costing

Summary of Estimate Baseline and Scenarios

Scope	Concept 1	Concept 2	Concept 3	Concept 4
Estimate Baseline - Standard fees and disposal within 100km				
P50	27,235,000	44,965,000	26,655,000	28,385,000
P95	38,135,000	62,965,000	37,355,000	39,785,000
Scenario 1 - Reduced fees and disposal within 2km of site				
P50	23,035,000	30,895,000	21,055,000	23,305,000
P95	32,285,000	43,295,000	29,505,000	32,655,000
Scenario 2 - Reduced fees and disposal within 40km of site				
P50	24,845,000	36,805,000	23,475,000	25,385,000
P95	34,795,000	51,555,000	32,875,000	35,585,000
Scenario 3 - Reduced fees and allowance for loading truck only				
P50	22,145,000	27,555,000	19,955,000	22,275,000
P95	31,045,000	38,605,000	27,955,000	31,225,000
Scenario 3 - Opportunity for sale of excavated material (saving on P50 & P95 estimates)	(38,471)	(131,601)	(50,259)	(44,825)

PROJECT ESTIMATE

Project Name:	**Waipoua River Stopbank**
Current Phase:	**Baseline**
Base Date:	**27/02/2025**

PHASE	DESCRIPTION	%	Concept 1 TOTAL	Concept 2 TOTAL	Concept 3 TOTAL	Concept 4 TOTAL
Design						
	Preliminary Design (lump sum)		600,000.00	600,000.00	600,000.00	600,000.00
	Detailed Design (lump sum)		800,000.00	800,000.00	800,000.00	800,000.00
	Internal Design Team (GWRC/MDC) (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Design Total		**1,600,000.00**	**1,600,000.00**	**1,600,000.00**	**1,600,000.00**
Consenting						
	Internal (GWRC) (% of Construction Works)	0%	excluded	excluded	excluded	excluded
	External (Consultants / Contractors / Iwi) (% of Construction Works)	2%	400,000.00	700,000.00	400,000.00	450,000.00
	Lump Sum for investigations		100,000.00	100,000.00	100,000.00	100,000.00
	Consenting Total		**500,000.00**	**800,000.00**	**500,000.00**	**550,000.00**
Site Investigation						
	GIR / GFR / GBR (% of Construction Works)	0.5%	100,000.00	200,000.00	100,000.00	150,000.00
	Boreholes (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Service Location and Potholing (% of Construction Works)	1%	100,000.00	200,000.00	100,000.00	150,000.00
	Site Investigation Total		**400,000.00**	**600,000.00**	**400,000.00**	**500,000.00**
Property & Utilities						
	Private, Council Owned, AMA, NZTA, AT, Forestry, Kiwirail, Treaty land, Marine Work		500,000.00	500,000.00	500,000.00	500,000.00
	Property & Utilities Works		Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere
	Property & Utilities Total		**500,000.00**	**500,000.00**	**500,000.00**	**500,000.00**
Project Specific Insurances						
	Project Specific Insurances		included within the % allocations	included within the % allocations	included within the % allocations	included within the % allocations
	Project Specific Insurances Total		**0.00**	**0.00**	**0.00**	**0.00**
Construction						
	Internal PM (GWRC/MDC) (% of Direct Works)	0%	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC
	Construction Monitoring (Consultants) (% of Direct Works)	5%	700,000.00	1,150,000.00	650,000.00	700,000.00
	GWRC/MDC Commissioning Costs (% of Direct Works)	1%	150,000.00	250,000.00	150,000.00	150,000.00
	Environmental control and monitoring (% Of Direct Works)	3%	400,000.00	700,000.00	400,000.00	450,000.00
	Tree felling and removal		350,000.00	350,000.00	450,000.00	350,000.00
	Temporary works incl. laydown areas and access tracks		100,000.00	100,000.00	100,000.00	100,000.00
	Traffic management and temporary diversions		75,000.00	75,000.00	75,000.00	75,000.00
	Stopbanks, new and upgrading the existing		4,360,000.00	11,140,000.00	4,930,000.00	4,700,000.00
	River erosion protection		4,880,000.00	5,320,000.00	3,870,000.00	5,120,000.00
	Swale and low stopbank / bund		510,000.00	500,000.00	510,000.00	480,000.00
	Floodwall		350,000.00	350,000.00	360,000.00	350,000.00
	Channel widening and berm lowering		2,710,000.00	5,430,000.00	2,710,000.00	2,710,000.00
	Service crossings		250,000.00	250,000.00	250,000.00	250,000.00
	Construction Sub-Total		***14,835,000.00***	***25,615,000.00***	***14,455,000.00***	***15,435,000.00***
	On-site overhead (construction sub-total excl consultants)	15.0%	2,050,000.00	3,550,000.00	2,000,000.00	2,150,000.00
	Off-site overhead and profit (construction sub-total + indirects)	12.5%	2,000,000.00	3,400,000.00	1,950,000.00	2,050,000.00
	Contractor Risk (construction sub-total + indirects)	5.0%	800,000.00	1,400,000.00	800,000.00	850,000.00
	Construction Total		**19,685,000.00**	**33,965,000.00**	**19,205,000.00**	**20,485,000.00**
Base Estimate						
	Design Total		1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00
	Consenting Total		500,000.00	800,000.00	500,000.00	550,000.00
	Site Investigation Total		400,000.00	600,000.00	400,000.00	500,000.00
	Property & Utilities Total		500,000.00	500,000.00	500,000.00	500,000.00
	Project Specific Insurances Total		0.00	0.00	0.00	0.00
	Construction Total		19,685,000.00	33,965,000.00	19,205,000.00	20,485,000.00
	Base Estimate Total		**22,685,000.00**	**37,465,000.00**	**22,205,000.00**	**23,635,000.00**
Known/Unknown Risk						
	20% Allowance	*20%*	4,550,000.00	7,500,000.00	4,450,000.00	4,750,000.00
	Known / Unknown Risk Allocation Total		**4,550,000.00**	**7,500,000.00**	**4,450,000.00**	**4,750,000.00**
Expected Estimate P50						
	Base Estimate		22,685,000.00	37,465,000.00	22,205,000.00	23,635,000.00
	Known / Unknown Risk - 20% Allowance		4,550,000.00	7,500,000.00	4,450,000.00	4,750,000.00
	Expected Estimate Total		**27,235,000.00**	**44,965,000.00**	**26,655,000.00**	**28,385,000.00**
Funding Risk (Additional Client Risk)						
	40% Allowance	*40%*	10,900,000.00	18,000,000.00	10,700,000.00	11,400,000.00
	Funding Risk Total		**10,900,000.00**	**18,000,000.00**	**10,700,000.00**	**11,400,000.00**
95th Percentile Estimate P95						
	Expected Estimate		27,235,000.00	44,965,000.00	26,655,000.00	28,385,000.00
	Funding Risk		10,900,000.00	18,000,000.00	10,700,000.00	11,400,000.00
	95th Percentile Estimate		**38,135,000.00**	**62,965,000.00**	**37,355,000.00**	**39,785,000.00**

Level	Item	Bill description	Qty	Unit	Rate	Amount
1		**Waipoua River - Baseline**				**62,210,237.86**
2		**Concept 1**				**13,042,818.54**
3		**Stopbanks, new and upgrading the existing**				**4,358,909.38**
4		**New bank TRB upstream**				**598,561.69**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfill**				**535,423.03**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,778	/m3	67.66	323,267.28
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	10,177	/m3	14.8	150,649.53
4		**New bank TLB upstream**				**742,056.62**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfill**				**636,521.61**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	5,680	/m3	67.66	384,294.30
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	10,094	/m3	14.8	149,420.89
4		**Cameron Crescent Bund**				**197,431.16**
		Dig into channel widening stockpile and construct new stop bank	5,284	/m3	14.8	78,218.74
	1	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,762	/m3	67.66	119,212.42
4		**Disposal of surplus material from channel widening stockpile**				**2,820,859.91**
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 100km with free of charge disposal	25,647	/m3	109.99	2,820,859.91
3		**River erosion protection**				**4,875,440.19**
4		**Form bund**				**21,646.34**
		Push up and create bund with gravels	1,152	/m	18.79	21,646.34
4		**Rock lines**				**4,853,793.85**
		Supply and place D50=700mm rock including allowance for geotextiles	17,280	/ton	280.89	4,853,793.85
3		**Swale and low stopbank / bund**				**505,640.55**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfill**				**324,977.38**
		Dig into swale drain stockpile and form bund with excavated material	2,697	/m3	14.8	39,923.53
	2	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	899	/m3	67.66	60,824.05
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	6,002	/m3	14.8	88,847.25
	3	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	2,001	/m3	67.66	135,382.55
3		**Floodwall**				**349,723.65**
4		**Construct flexural wall**				**342,691.60**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	368	/m	931.23	342,691.60
4		**Construct nib wall**				**7,032.05**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		**Channel widening and berm lowering**				**2,703,104.77**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3		**Service crossings**				**250,000.00**
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		**Concept 2**				**22,968,914.40**
3		**Stopbanks, new and upgrading the existing**				**11,131,133.07**
4		**New bank TRB upstream**				**477,208.73**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfill**				**414,070.07**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	3,695	/m3	67.66	249,994.27
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	6,929	/m3	14.8	102,569.58
4		**New bank TLB upstream**				**832,111.31**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfill**				**726,576.30**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	6,489	/m3	67.66	439,029.18
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	12,480	/m3	14.8	184,740.70
4		**Cameron Crescent Bund**				**172,133.79**
		Dig into channel widening stockpile and construct new stop bank	4,608	/m3	14.8	68,211.95
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,536	/m3	67.66	103,921.84
4		**Disposal of surplus material from channel widening stockpile**				**9,649,679.24**
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 100km with free of charge disposal	87,734	/m3	109.99	9,649,679.24
3		**River erosion protection**				**5,315,584.10**

4		**Form bund**				**23,600.53**
		Push up and create bund with gravels	1,256	/m	18.79	23,600.53
4		**Rock lines**				**5,291,983.57**
		Supply and place D50=700mm rock including allowance for geotextiles	18,840	/ton	280.89	5,291,983.57
3		**Swale and low stopbank / bund**				**497,220.78**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfilling**				**316,557.61**
		Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	38,458.04
	5	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	866	/m3	67.66	58,591.35
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,875	/m3	14.8	86,967.28
	6	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,959	/m3	67.66	132,540.94
3		**Floodwall**				**349,723.65**
4		**Construct flexural wall**				**342,691.60**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	368	/m	931.23	342,691.60
4		**Construct nib wall**				**7,032.05**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		**Channel widening and berm lowering**				**5,425,252.80**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	120,224	/m3	45.13	5,425,252.80
3		**Service crossings**				**250,000.00**
	2	Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		**Concept 3**				**12,607,874.02**
3		**Stopbanks, new and upgrading the existing**				**4,925,432.22**
4		**New bank TRB upstream**				**498,740.25**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfilling**				**435,601.59**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	3,887	/m3	67.66	262,984.50
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	7,506	/m3	14.8	111,110.87
4		**New bank TLB upstream**				**560,927.92**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfilling**				**455,392.91**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,064	/m3	67.66	274,959.87
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	5,244	/m3	14.8	77,626.62
4		**Cameron Crescent Bund**				**180,509.16**
		Dig into channel widening stockpile and construct new stop bank	4,831	/m3	14.8	71,513.01
	3	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,611	/m3	67.66	108,996.15
4		**Disposal of surplus material from channel widening stockpile**				**3,685,254.89**
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 100km with free of charge disposal	33,506	/m3	109.99	3,685,254.89
3		**River erosion protection**				**3,868,187.79**
4		**Form bund**				**17,174.27**
		Push up and create bund with gravels	914	/m	18.79	17,174.27
4		**Rock lines**				**3,851,013.52**
		Supply and place D50=700mm rock including allowance for geotextiles	13,710	/ton	280.89	3,851,013.52
3		**Swale and low stopbank / bund**				**507,448.42**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfilling**				**326,785.25**
		Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	38,458.04
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	866	/m3	67.66	58,591.35
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	6,150	/m3	14.8	91,038.09
	5	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	2,050	/m3	67.66	138,697.77
3		**Floodwall**				**356,679.15**
4		**Construct flexural wall**				**353,866.33**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	380	/m	931.23	353,866.33
4		**Construct nib wall**				**2,812.82**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	8	/m	351.6	2,812.82
3		**Channel widening and berm lowering**				**2,700,126.44**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,835	/m3	45.13	2,700,126.44
3		**Service crossings**				**250,000.00**
	3	Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		**Concept 4**				**13,590,630.90**

3		**Stopbanks, new and upgrading the existing**				**4,692,692.04**
4		**New bank TRB upstream**				**519,652.24**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfilling**				**456,513.58**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,074	/m3	67.66	275,636.44
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	8,064	/m3	14.8	119,370.92
4		**New bank TLB upstream**				**711,029.06**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfilling**				**605,494.05**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	5,403	/m3	67.66	365,553.19
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	9,264	/m3	14.8	137,134.44
4		**Cameron Crescent Bund**				**175,242.04**
		Dig into channel widening stockpile and construct new stop bank	4,690	/m3	14.8	69,425.79
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,564	/m3	67.66	105,816.25
4		**Disposal of surplus material from channel widening stockpile**				**3,286,768.70**
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 100km with free of charge disposal	29,883	/m3	109.99	3,286,768.70
3		**River erosion protection**				**5,116,672.92**
4		**Form bund**				**22,717.39**
		Push up and create bund with gravels	1,209	/m	18.79	22,717.39
4		**Rock lines**				**5,093,955.53**
		Supply and place D50=700mm rock including allowance for geotextiles	18,135	/ton	280.89	5,093,955.53
3		**Swale and low stopbank / bund**				**479,596.76**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfilling**				**298,933.59**
		Dig into swale drain stockpile and form bund with excavated material	2,470	/m3	14.8	36,563.26
	5	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	824	/m3	67.66	55,749.74
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,530	/m3	14.8	81,860.26
	6	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,844	/m3	67.66	124,760.33
3		**Floodwall**				**348,564.41**
4		**Construct flexural wall**				**340,829.15**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	366	/m	931.23	340,829.15
4		**Construct nib wall**				**7,735.26**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	22	/m	351.6	7,735.26
3		**Channel widening and berm lowering**				**2,703,104.77**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3		**Service crossings**				**250,000.00**
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00

PROJECT ESTIMATE

Project Name:	**Waipoua River Stopbank**
Current Phase:	**Scenario 1 - adjusted construction stage consultancy percentages and reduced disposal transport distance (2km)**
Base Date:	**27/02/2025**

PHASE	DESCRIPTION	%	Concept 1 TOTAL	Concept 2 TOTAL	Concept 3 TOTAL	Concept 4 TOTAL
Design						
	Preliminary Design (lump sum)		600,000.00	600,000.00	600,000.00	600,000.00
	Detailed Design (lump sum)		800,000.00	800,000.00	800,000.00	800,000.00
	Internal Design Team (GWRC) (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Design Total		**1,600,000.00**	**1,600,000.00**	**1,600,000.00**	**1,600,000.00**
Consenting						
	Internal (GWRC/MDC) (% of Construction Works)	0%	excluded	excluded	excluded	excluded
	External (Consultants / Contractors / Iwi) (% of Construction Works)	2%	350,000.00	500,000.00	300,000.00	350,000.00
	Lump Sum for investigations		100,000.00	100,000.00	100,000.00	100,000.00
	Consenting Total		**450,000.00**	**600,000.00**	**400,000.00**	**450,000.00**
Site Investigation						
	GIR / GFR / GBR (% of Construction Works)	0.5%	100,000.00	150,000.00	100,000.00	100,000.00
	Boreholes (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Service Location and Potholing (% of Construction Works)	1%	100,000.00	150,000.00	100,000.00	100,000.00
	Site Investigation Total		**400,000.00**	**500,000.00**	**400,000.00**	**400,000.00**
Property & Utilities						
	Private, Council Owned, AMA, NZTA, AT, Forestry, Kiwirail, Treaty land, Marine Work		500,000.00	500,000.00	500,000.00	500,000.00
	Property & Utilities Works		Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere
	Property & Utilities Total		**500,000.00**	**500,000.00**	**500,000.00**	**500,000.00**
Project Specific Insurances						
	Project Specific Insurances		included within the % allocations	included within the % allocations	included within the % allocations	included within the % allocations
	Project Specific Insurances Total		**0.00**	**0.00**	**0.00**	**0.00**
Construction						
	Internal PM (GWRC/MDC) (% of Direct Works)	0%	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC
	Construction Monitoring (Consultants) (% of Direct Works)	3%	350,000.00	500,000.00	300,000.00	350,000.00
	GWRC/MDC Commissioning Costs (% of Direct Works)	0.5%	100,000.00	100,000.00	50,000.00	100,000.00
	Environmental control and monitoring (% Of Direct Works)	3%	350,000.00	500,000.00	300,000.00	350,000.00
	Tree felling and removal		350,000.00	350,000.00	450,000.00	350,000.00
	Temporary works incl. laydown areas and access tracks		100,000.00	100,000.00	100,000.00	100,000.00
	Traffic management and temporary diversions		75,000.00	75,000.00	75,000.00	75,000.00
	Stopbanks, new and upgrading the existing		2,110,000.00	3,420,000.00	1,980,000.00	2,070,000.00
	River erosion protection		4,880,000.00	5,320,000.00	3,870,000.00	5,120,000.00
	Swale and low stopbank / bund		510,000.00	500,000.00	510,000.00	480,000.00
	Floodwall		350,000.00	350,000.00	360,000.00	350,000.00
	Channel widening and berm lowering		2,710,000.00	5,430,000.00	2,710,000.00	2,710,000.00
	Service crossings		250,000.00	250,000.00	250,000.00	250,000.00
	Construction Sub-Total		***12,135,000.00***	***16,895,000.00***	***10,955,000.00***	***12,305,000.00***
	On-site overhead (construction sub-total excl consultants)	15.0%	1,750,000.00	2,400,000.00	1,550,000.00	1,750,000.00
	Off-site overhead and profit (construction sub-total + indirects)	12.5%	1,650,000.00	2,300,000.00	1,500,000.00	1,700,000.00
	Contractor Risk (construction sub-total + indirects)	5.0%	700,000.00	950,000.00	600,000.00	700,000.00
	Construction Total		**16,235,000.00**	**22,545,000.00**	**14,605,000.00**	**16,455,000.00**
Base Estimate						
	Design Total		1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00
	Consenting Total		450,000.00	600,000.00	400,000.00	450,000.00
	Site Investigation Total		400,000.00	500,000.00	400,000.00	400,000.00
	Property & Utilities Total		500,000.00	500,000.00	500,000.00	500,000.00
	Project Specific Insurances Total		0.00	0.00	0.00	0.00
	Construction Total		16,235,000.00	22,545,000.00	14,605,000.00	16,455,000.00
	Base Estimate Total		**19,185,000.00**	**25,745,000.00**	**17,505,000.00**	**19,405,000.00**
Known/Unknown Risk						
	20% Allowance	*20%*	3,850,000.00	5,150,000.00	3,550,000.00	3,900,000.00
	Known / Unknown Risk Allocation Total		**3,850,000.00**	**5,150,000.00**	**3,550,000.00**	**3,900,000.00**
Expected Estimate P50						
	Base Estimate		19,185,000.00	25,745,000.00	17,505,000.00	19,405,000.00
	Known / Unknown Risk - 20% Allowance		3,850,000.00	5,150,000.00	3,550,000.00	3,900,000.00
	Expected Estimate Total		**23,035,000.00**	**30,895,000.00**	**21,055,000.00**	**23,305,000.00**
Funding Risk (Additional Client Risk)						
	40% Allowance	*40%*	9,250,000.00	12,400,000.00	8,450,000.00	9,350,000.00
	Funding Risk Total		**9,250,000.00**	**12,400,000.00**	**8,450,000.00**	**9,350,000.00**
95th Percentile Estimate P95						
	Expected Estimate		23,035,000.00	30,895,000.00	21,055,000.00	23,305,000.00
	Funding Risk		9,250,000.00	12,400,000.00	8,450,000.00	9,350,000.00
	95th Percentile Estimate		**32,285,000.00**	**43,295,000.00**	**29,505,000.00**	**32,655,000.00**

Level	Item	Bill description	Qty	Unit	Net Rate	Net Amount
1		**Waipoua River - Scenario 1**				**46,656,187.79**
2		**Concept 1**				**10,786,130.63**
3		**Stopbanks, new and upgrading the existing**				**2,102,221.47**
4		**New bank TRB upstream**				**598,561.69**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfill**				**535,423.03**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,778	/m3	67.66	323,267.28
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	10,177	/m3	14.8	150,649.53
4		**New bank TLB upstream**				**742,056.62**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfill**				**636,521.61**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	5,680	/m3	67.66	384,294.30
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	10,094	/m3	14.8	149,420.89
4		**Cameron Crescent Bund**				**197,431.16**
		Dig into channel widening stockpile and construct new stop bank	5,284	/m3	14.8	78,218.74
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,762	/m3	67.66	119,212.42
4		**Disposal of surplus material from channel widening stockpile**				**564,172.00**
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 2km with free of charge disposal	25,647	/m3	22	564,172.00
3		**River erosion protection**				**4,875,440.19**
4		**Form bund**				**21,646.34**
		Push up and create bund with gravels	1,152	/m	18.79	21,646.34
4		**Rock lines**				**4,853,793.85**
		Supply and place D50=700mm rock including allowance for geotextiles	17,280	/ton	280.89	4,853,793.85
3		**Swale and low stopbank / bund**				**505,640.55**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfill**				**324,977.38**
		Dig into swale drain stockpile and form bund with excavated material	2,697	/m3	14.8	39,923.53
		Construct new swale drain bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	899	/m3	67.66	60,824.05
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	6,002	/m3	14.8	88,847.25
		Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	2,001	/m3	67.66	135,382.55
3		**Floodwall**				**349,723.65**
4		**Construct flexural wall**				**342,691.60**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	368	/m	931.23	342,691.60
4		**Construct nib wall**				**7,032.05**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		**Channel widening and berm lowering**				**2,703,104.77**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3		**Service crossings**				**250,000.00**
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		**Concept 2**				**15,249,171.07**
3		**Stopbanks, new and upgrading the existing**				**3,411,389.74**
4		**New bank TRB upstream**				**477,208.73**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfill**				**414,070.07**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	3,695	/m3	67.66	249,994.27
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	6,929	/m3	14.8	102,569.58
4		**New bank TLB upstream**				**832,111.31**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfill**				**726,576.30**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	6,489	/m3	67.66	439,029.18
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	12,480	/m3	14.8	184,740.70
4		**Cameron Crescent Bund**				**172,133.79**
		Dig into channel widening stockpile and construct new stop bank	4,608	/m3	14.8	68,211.95
	1	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,536	/m3	67.66	103,921.84
4		**Disposal of surplus material from channel widening stockpile**				**1,929,935.91**
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 2km with free of charge disposal	87,734	/m3	22	1,929,935.91
3		**River erosion protection**				**5,315,584.10**
4		**Form bund**				**23,600.53**
		Push up and create bund with gravels	1,256	/m	18.79	23,600.53
4		**Rock lines**				**5,291,983.57**
		Supply and place D50=700mm rock including allowance for geotextiles	18,840	/ton	280.89	5,291,983.57
3		**Swale and low stopbank / bund**				**497,220.78**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfilling**				**316,557.61**
		Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	38,458.04
	2	Construct new swale drain bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	866	/m3	67.66	58,591.35
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,875	/m3	14.8	86,967.28

	2	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,959	/m3	67.66	132,540.94
3		**Floodwall**				**349,723.65**
4		**Construct flexural wall**				**342,691.60**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	368	/m	931.23	342,691.60
4		**Construct nib wall**				**7,032.05**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		**Channel widening and berm lowering**				**5,425,252.80**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	120,224	/m3	45.13	5,425,252.80
3		**Service crossings**				**250,000.00**
	2	Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		**Concept 3**				**9,659,670.13**
3		**Stopbanks, new and upgrading the existing**				**1,977,228.33**
4		**New bank TRB upstream**				**498,740.25**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfilling**				**435,601.59**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	3,887	/m3	67.66	262,984.50
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	7,506	/m3	14.8	111,110.87
4		**New bank TLB upstream**				**560,927.92**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfilling**				**455,392.91**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,064	/m3	67.66	274,959.87
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	5,244	/m3	14.8	77,626.62
4		**Cameron Crescent Bund**				**180,509.16**
		Dig into channel widening stockpile and construct new stop bank	4,831	/m3	14.8	71,513.01
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,611	/m3	67.66	108,996.15
4		**Disposal of surplus material from channel widening stockpile**				**737,051.00**
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 2km with free of charge disposal	33,506	/m3	22	737,051.00
3		**River erosion protection**				**3,868,187.79**
4		**Form bund**				**17,174.27**
		Push up and create bund with gravels	914	/m	18.79	17,174.27
4		**Rock lines**				**3,851,013.52**
		Supply and place D50=700mm rock including allowance for geotextiles	13,710	/ton	280.89	3,851,013.52
3		**Swale and low stopbank / bund**				**507,448.42**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfilling**				**326,785.25**
		Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	38,458.04
	3	Construct new swale drain bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	866	/m3	67.66	58,591.35
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	6,150	/m3	14.8	91,038.09
	4	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	2,050	/m3	67.66	138,697.77
3		**Floodwall**				**356,679.15**
4		**Construct flexural wall**				**353,866.33**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	380	/m	931.23	353,866.33
4		**Construct nib wall**				**2,812.82**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	8	/m	351.6	2,812.82
3		**Channel widening and berm lowering**				**2,700,126.44**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,835	/m3	45.13	2,700,126.44
3		**Service crossings**				**250,000.00**
	3	Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		**Concept 4**				**10,961,215.96**
3		**Stopbanks, new and upgrading the existing**				**2,063,277.10**
4		**New bank TRB upstream**				**519,652.24**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfilling**				**456,513.58**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,074	/m3	67.66	275,636.44
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	8,064	/m3	14.8	119,370.92
4		**New bank TLB upstream**				**711,029.06**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfilling**				**605,494.05**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	5,403	/m3	67.66	365,553.19
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	9,264	/m3	14.8	137,134.44
4		**Cameron Crescent Bund**				**175,242.04**
		Dig into channel widening stockpile and construct new stop bank	4,690	/m3	14.8	69,425.79
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,564	/m3	67.66	105,816.25
4		**Disposal of surplus material from channel widening stockpile**				**657,353.76**
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 2km with free of charge disposal	29,883	/m3	22	657,353.76
3		**River erosion protection**				**5,116,672.92**
4		**Form bund**				**22,717.39**
		Push up and create bund with gravels	1,209	/m	18.79	22,717.39
4		**Rock lines**				**5,093,955.53**

		Supply and place D50=700mm rock including allowance for geotextiles	18,135	/ton	280.89	5,093,955.53
3		**Swale and low stopbank / bund**				**479,596.76**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfilling**				**298,933.59**
		Dig into swale drain stockpile and form bund with excavated material	2,470	/m3	14.8	36,563.26
	5	Construct new swale drain bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	824	/m3	67.66	55,749.74
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,530	/m3	14.8	81,860.26
	6	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,844	/m3	67.66	124,760.33
3		**Floodwall**				**348,564.41**
4		**Construct flexural wall**				**340,829.15**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	366	/m	931.23	340,829.15
4		**Construct nib wall**				**7,735.26**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	22	/m	351.6	7,735.26
3		**Channel widening and berm lowering**				**2,703,104.77**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3		**Service crossings**				**250,000.00**
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00

PROJECT ESTIMATE

Project Name:	**Waipoua River Stopbank**
Current Phase:	**Scenario 2 - Adjusted construction stage consultancy percentages and reduced disposal transport distance (40km)**
Base Date:	**27/02/2025**

PHASE	DESCRIPTION	%	Concept 1 TOTAL	Concept 2 TOTAL	Concept 3 TOTAL	Concept 4 TOTAL
Design						
	Preliminary Design (lump sum)		600,000.00	600,000.00	600,000.00	600,000.00
	Detailed Design (lump sum)		800,000.00	800,000.00	800,000.00	800,000.00
	Internal Design Team (GWRC) (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Design Total		**1,600,000.00**	**1,600,000.00**	**1,600,000.00**	**1,600,000.00**
Consenting						
	Internal (GWRC/MDC) (% of Construction Works)	0%	excluded	excluded	excluded	excluded
	External (Consultants / Contractors / Iwi) (% of Construction Works)	2%	400,000.00	550,000.00	350,000.00	400,000.00
	Lump Sum for investigations		100,000.00	100,000.00	100,000.00	100,000.00
	Consenting Total		**500,000.00**	**650,000.00**	**450,000.00**	**500,000.00**
Site Investigation						
	GIR / GFR / GBR (% of Construction Works)	0.5%	100,000.00	150,000.00	100,000.00	100,000.00
	Boreholes (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Service Location and Potholing (% of Construction Works)	1%	100,000.00	150,000.00	100,000.00	100,000.00
	Site Investigation Total		**400,000.00**	**500,000.00**	**400,000.00**	**400,000.00**
Property & Utilities						
	Private, Council Owned, AMA, NZTA, AT, Forestry, Kiwirail, Treaty land, Marine Work		500,000.00	500,000.00	500,000.00	500,000.00
	Property & Utilities Works		Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere
	Property & Utilities Total		**500,000.00**	**500,000.00**	**500,000.00**	**500,000.00**
Project Specific Insurances						
	Project Specific Insurances		included within the % allocations	included within the % allocations	included within the % allocations	included within the % allocations
	Project Specific Insurances Total		**0.00**	**0.00**	**0.00**	**0.00**
Construction						
	Internal PM (GWRC/MDC) (% of Direct Works)	0%	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC
	Construction Monitoring (Consultants) (% of Direct Works)	3%	400,000.00	600,000.00	350,000.00	400,000.00
	GWRC/MDC Commissioning Costs (% of Direct Works)	0.5%	100,000.00	100,000.00	100,000.00	100,000.00
	Environmental control and monitoring (% Of Direct Works)	3%	400,000.00	600,000.00	350,000.00	400,000.00
	Tree felling and removal		350,000.00	350,000.00	450,000.00	350,000.00
	Temporary works incl. laydown areas and access tracks		100,000.00	100,000.00	100,000.00	100,000.00
	Traffic management and temporary diversions		75,000.00	75,000.00	75,000.00	75,000.00
	Stopbanks, new and upgrading the existing		3,120,000.00	6,880,000.00	3,300,000.00	3,250,000.00
	River erosion protection		4,880,000.00	5,320,000.00	3,870,000.00	5,120,000.00
	Swale and low stopbank / bund		510,000.00	500,000.00	510,000.00	480,000.00
	Floodwall		350,000.00	350,000.00	360,000.00	350,000.00
	Channel widening and berm lowering		2,710,000.00	5,430,000.00	2,710,000.00	2,710,000.00
	Service crossings		250,000.00	250,000.00	250,000.00	250,000.00
	Construction Sub-Total		***13,245,000.00***	***20,555,000.00***	***12,425,000.00***	***13,585,000.00***
	On-site overhead (construction sub-total excl consultants)	15.0%	1,900,000.00	2,900,000.00	1,750,000.00	1,950,000.00
	Off-site overhead and profit (construction sub-total + indirects)	12.5%	1,800,000.00	2,800,000.00	1,700,000.00	1,850,000.00
	Contractor Risk (construction sub-total + indirects)	5.0%	750,000.00	1,150,000.00	700,000.00	750,000.00
	Construction Total		**17,695,000.00**	**27,405,000.00**	**16,575,000.00**	**18,135,000.00**
Base Estimate						
	Design Total		1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00
	Consenting Total		500,000.00	650,000.00	450,000.00	500,000.00
	Site Investigation Total		400,000.00	500,000.00	400,000.00	400,000.00
	Property & Utilities Total		500,000.00	500,000.00	500,000.00	500,000.00
	Project Specific Insurances Total		0.00	0.00	0.00	0.00
	Construction Total		17,695,000.00	27,405,000.00	16,575,000.00	18,135,000.00
	Base Estimate Total		**20,695,000.00**	**30,655,000.00**	**19,525,000.00**	**21,135,000.00**
Known/Unknown Risk						
	20% Allowance	*20%*	4,150,000.00	6,150,000.00	3,950,000.00	4,250,000.00
	Known / Unknown Risk Allocation Total		**4,150,000.00**	**6,150,000.00**	**3,950,000.00**	**4,250,000.00**
Expected Estimate P50						
	Base Estimate		20,695,000.00	30,655,000.00	19,525,000.00	21,135,000.00
	Known / Unknown Risk - 20% Allowance		4,150,000.00	6,150,000.00	3,950,000.00	4,250,000.00
	Expected Estimate Total		**24,845,000.00**	**36,805,000.00**	**23,475,000.00**	**25,385,000.00**
Funding Risk (Additional Client Risk)						
	40% Allowance	*40%*	9,950,000.00	14,750,000.00	9,400,000.00	10,200,000.00
	Funding Risk Total		**9,950,000.00**	**14,750,000.00**	**9,400,000.00**	**10,200,000.00**
95th Percentile Estimate P95						
	Expected Estimate		24,845,000.00	36,805,000.00	23,475,000.00	25,385,000.00
	Funding Risk		9,950,000.00	14,750,000.00	9,400,000.00	10,200,000.00
	95th Percentile Estimate		**34,795,000.00**	**51,555,000.00**	**32,875,000.00**	**35,585,000.00**

Level	Item	Bill description	Qty	Unit	Rate	Amount
1		**Waipoua River - Scenario 2**				**53,632,636.85**
2		**Concept 1**				**11,798,321.55**
3		**Stopbanks, new and upgrading the existing**				**3,114,412.39**
4		**New bank TRB upstream**				**598,561.69**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfill**				**535,423.03**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,778	/m3	67.66	323,267.28
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	10,177	/m3	14.8	150,649.53
4		**New bank TLB upstream**				**742,056.62**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfill**				**636,521.61**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	5,680	/m3	67.66	384,294.30
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	10,094	/m3	14.8	149,420.89
4		**Cameron Crescent Bund**				**197,431.16**
		Dig into channel widening stockpile and construct new stop bank	5,284	/m3	14.8	78,218.74
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,762	/m3	67.66	119,212.42
4		**Disposal of surplus material from channel widening stockpile**				**1,576,362.92**
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 40km with free of charge disposal	25,647	/m3	61.46	1,576,362.92
3		**River erosion protection**				**4,875,440.19**
4		**Form bund**				**21,646.34**
		Push up and create bund with gravels	1,152	/m	18.79	21,646.34
4		**Rock lines**				**4,853,793.85**
		Supply and place D50=700mm rock including allowance for geotextiles	17,280	/ton	280.89	4,853,793.85
3		**Swale and low stopbank / bund**				**505,640.55**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfill**				**324,977.38**
		Dig into swale drain stockpile and form bund with excavated material	2,697	/m3	14.8	39,923.53
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	899	/m3	67.66	60,824.05
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	6,002	/m3	14.8	88,847.25
		Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	2,001	/m3	67.66	135,382.55
3		**Floodwall**				**349,723.65**
4		**Construct flexural wall**				**342,691.60**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	368	/m	931.23	342,691.60
4		**Construct nib wall**				**7,032.05**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		**Channel widening and berm lowering**				**2,703,104.77**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3		**Service crossings**				**250,000.00**
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		**Concept 2**				**18,711,703.07**
3		**Stopbanks, new and upgrading the existing**				**6,873,921.74**
4		**New bank TRB upstream**				**477,208.73**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfill**				**414,070.07**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	3,695	/m3	67.66	249,994.27
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	6,929	/m3	14.8	102,569.58
4		**New bank TLB upstream**				**832,111.31**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfill**				**726,576.30**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	6,489	/m3	67.66	439,029.18
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	12,480	/m3	14.8	184,740.70
4		**Cameron Crescent Bund**				**172,133.79**
		Dig into channel widening stockpile and construct new stop bank	4,608	/m3	14.8	68,211.95
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,536	/m3	67.66	103,921.84
4		**Disposal of surplus material from channel widening stockpile**				**5,392,467.91**
		Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 40km with free of charge disposal	87,734	/m3	61.46	5,392,467.91
3		**River erosion protection**				**5,315,584.10**
4		**Form bund**				**23,600.53**
		Push up and create bund with gravels	1,256	/m	18.79	23,600.53
4		**Rock lines**				**5,291,983.57**
		Supply and place D50=700mm rock including allowance for geotextiles	18,840	/ton	280.89	5,291,983.57

3	**Swale and low stopbank / bund**				**497,220.78**
4	**Excavation**				**180,663.17**
	Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4	**Backfilling**				**316,557.61**
	Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	38,458.04
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	866	/m3	67.66	58,591.35
	Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,875	/m3	14.8	86,967.28
	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,959	/m3	67.66	132,540.94
3	**Floodwall**				**349,723.65**
4	**Construct flexural wall**				**342,691.60**
	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	368	/m	931.23	342,691.60
4	**Construct nib wall**				**7,032.05**
	Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3	**Channel widening and berm lowering**				**5,425,252.80**
	Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	120,224	/m3	45.13	5,425,252.80
3	**Service crossings**				**250,000.00**
	Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2	**Concept 3**				**10,982,026.31**
3	**Stopbanks, new and upgrading the existing**				**3,299,584.51**
4	**New bank TRB upstream**				**498,740.25**
5	**Excavation**				**63,138.66**
	Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5	**Backfilling**				**435,601.59**
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	3,887	/m3	67.66	262,984.50
	Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
	Dig into channel widening stockpile and construct new stop bank	7,506	/m3	14.8	111,110.87
4	**New bank TLB upstream**				**560,927.92**
5	**Excavation**				**105,535.01**
	Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5	**Backfilling**				**455,392.91**
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,064	/m3	67.66	274,959.87
	Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
	Dig into channel widening stockpile and construct new stop bank	5,244	/m3	14.8	77,626.62
4	**Cameron Crescent Bund**				**180,509.16**
	Dig into channel widening stockpile and construct new stop bank	4,831	/m3	14.8	71,513.01
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,611	/m3	67.66	108,996.15
4	**Disposal of surplus material from channel widening stockpile**				**2,059,407.18**
	Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 40km with free of charge disposal	33,506	/m3	61.46	2,059,407.18
3	**River erosion protection**				**3,868,187.79**
4	**Form bund**				**17,174.27**
	Push up and create bund with gravels	914	/m	18.79	17,174.27
4	**Rock lines**				**3,851,013.52**
	Supply and place D50=700mm rock including allowance for geotextiles	13,710	/ton	280.89	3,851,013.52
3	**Swale and low stopbank / bund**				**507,448.42**
4	**Excavation**				**180,663.17**
	Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4	**Backfilling**				**326,785.25**
	Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	38,458.04
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	866	/m3	67.66	58,591.35
	Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	6,150	/m3	14.8	91,038.09
	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	2,050	/m3	67.66	138,697.77
3	**Floodwall**				**356,679.15**
4	**Construct flexural wall**				**353,866.33**
	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	380	/m	931.23	353,866.33
4	**Construct nib wall**				**2,812.82**
	Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	8	/m	351.6	2,812.82
3	**Channel widening and berm lowering**				**2,700,126.44**
	Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,835	/m3	45.13	2,700,126.44
3	**Service crossings**				**250,000.00**
	Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2	**Concept 4**				**12,140,585.92**
3	**Stopbanks, new and upgrading the existing**				**3,242,647.06**
4	**New bank TRB upstream**				**519,652.24**
5	**Excavation**				**63,138.66**
	Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5	**Backfilling**				**456,513.58**

	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,074	/m3	67.66	275,636.44
	Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
	Dig into channel widening stockpile and construct new stop bank	8,064	/m3	14.8	119,370.92
4	**New bank TLB upstream**				**711,029.06**
5	**Excavation**				**105,535.01**
	Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5	**Backfilling**				**605,494.05**
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	5,403	/m3	67.66	365,553.19
	Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
	Dig into channel widening stockpile and construct new stop bank	9,264	/m3	14.8	137,134.44
4	**Cameron Crescent Bund**				**175,242.04**
	Dig into channel widening stockpile and construct new stop bank	4,690	/m3	14.8	69,425.79
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,564	/m3	67.66	105,816.25
4	**Disposal of surplus material from channel widening stockpile**				**1,836,723.72**
	Disposal of surplus excavated material from swale drain excavation, rate based on transportation distance of 40km with free of charge disposal	29,883	/m3	61.46	1,836,723.72
3	**River erosion protection**				**5,116,672.92**
4	**Form bund**				**22,717.39**
	Push up and create bund with gravels	1,209	/m	18.79	22,717.39
4	**Rock lines**				**5,093,955.53**
	Supply and place D50=700mm rock including allowance for geotextiles	18,135	/ton	280.89	5,093,955.53
3	**Swale and low stopbank / bund**				**479,596.76**
4	**Excavation**				**180,663.17**
	Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4	**Backfilling**				**298,933.59**
	Dig into swale drain stockpile and form bund with excavated material	2,470	/m3	14.8	36,563.26
	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	824	/m3	67.66	55,749.74
	Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,530	/m3	14.8	81,860.26
	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,844	/m3	67.66	124,760.33
3	**Floodwall**				**348,564.41**
4	**Construct flexural wall**				**340,829.15**
	Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	366	/m	931.23	340,829.15
4	**Construct nib wall**				**7,735.26**
	Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	22	/m	351.6	7,735.26
3	**Channel widening and berm lowering**				**2,703,104.77**
	Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3	**Service crossings**				**250,000.00**
	Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00

PROJECT ESTIMATE

Project Name:	**Waipoua River Stopbank**
Current Phase:	**Scenario 3 - Adjusted construction stage consultancy percentages and loading contractor truck for disposal only**
Base Date:	**27/02/2025**

PHASE	DESCRIPTION	%	Concept 1 TOTAL	Concept 2 TOTAL	Concept 3 TOTAL	Concept 4 TOTAL
Design						
	Preliminary Design (lump sum)		600,000.00	600,000.00	600,000.00	600,000.00
	Detailed Design (lump sum)		800,000.00	800,000.00	800,000.00	800,000.00
	Internal Design Team (GWRC) (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Design Total		**1,600,000.00**	**1,600,000.00**	**1,600,000.00**	**1,600,000.00**
Consenting						
	Internal (GWRC/MDC) (% of Construction Works)	0%	excluded	excluded	excluded	excluded
	External (Consultants / Contractors / Iwi) (% of Construction Works)	2%	350,000.00	400,000.00	300,000.00	350,000.00
	Lump Sum for investigations		100,000.00	100,000.00	100,000.00	100,000.00
	Consenting Total		**450,000.00**	**500,000.00**	**400,000.00**	**450,000.00**
Site Investigation						
	GIR / GFR / GBR (% of Construction Works)	0.5%	100,000.00	100,000.00	100,000.00	100,000.00
	Boreholes (lump sum)		200,000.00	200,000.00	200,000.00	200,000.00
	Service Location and Potholing (% of Construction Works)	1%	100,000.00	100,000.00	100,000.00	100,000.00
	Site Investigation Total		**400,000.00**	**400,000.00**	**400,000.00**	**400,000.00**
Property & Utilities						
	Private, Council Owned, AMA, NZTA, AT, Forestry, Kiwirail, Treaty land, Marine Work		500,000.00	500,000.00	500,000.00	500,000.00
	Property & Utilities Works		Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere	Refer service crossings elsewhere
	Property & Utilities Total		**500,000.00**	**500,000.00**	**500,000.00**	**500,000.00**
Project Specific Insurances						
	Project Specific Insurances		included within the % allocations	included within the % allocations	included within the % allocations	included within the % allocations
	Project Specific Insurances Total		**0.00**	**0.00**	**0.00**	**0.00**
Construction						
	Internal PM (GWRC/MDC) (% of Direct Works)	0%	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC	separate inclusion by GWRC/MDC
	Construction Monitoring (Consultants) (% of Direct Works)	3%	350,000.00	450,000.00	300,000.00	350,000.00
	GWRC/MDC Commissioning Costs (% of Direct Works)	0.5%	100,000.00	100,000.00	50,000.00	100,000.00
	Environmental control and monitoring (% Of Direct Works)	3%	350,000.00	450,000.00	300,000.00	350,000.00
	Tree felling and removal		350,000.00	350,000.00	450,000.00	350,000.00
	Temporary works incl. laydown areas and access tracks		100,000.00	100,000.00	100,000.00	100,000.00
	Traffic management and temporary diversions		75,000.00	75,000.00	75,000.00	75,000.00
	Stopbanks, new and upgrading the existing		1,570,000.00	1,580,000.00	1,280,000.00	1,440,000.00
	River erosion protection		4,880,000.00	5,320,000.00	3,870,000.00	5,120,000.00
	Swale and low stopbank / bund		510,000.00	500,000.00	510,000.00	480,000.00
	Floodwall		350,000.00	350,000.00	360,000.00	350,000.00
	Channel widening and berm lowering		2,710,000.00	5,430,000.00	2,710,000.00	2,710,000.00
	Service crossings		250,000.00	250,000.00	250,000.00	250,000.00
	Construction Sub-Total		***11,595,000.00***	***14,955,000.00***	***10,255,000.00***	***11,675,000.00***
	On-site overhead (construction sub-total excl consultants)	15.0%	1,650,000.00	2,100,000.00	1,450,000.00	1,650,000.00
	Off-site overhead and profit (construction sub-total + indirects)	12.5%	1,600,000.00	2,050,000.00	1,400,000.00	1,600,000.00
	Contractor Risk (construction sub-total + indirects)	5.0%	650,000.00	850,000.00	600,000.00	650,000.00
	Construction Total		**15,495,000.00**	**19,955,000.00**	**13,705,000.00**	**15,575,000.00**
Base Estimate						
	Design Total		1,600,000.00	1,600,000.00	1,600,000.00	1,600,000.00
	Consenting Total		450,000.00	500,000.00	400,000.00	450,000.00
	Site Investigation Total		400,000.00	400,000.00	400,000.00	400,000.00
	Property & Utilities Total		500,000.00	500,000.00	500,000.00	500,000.00
	Project Specific Insurances Total		0.00	0.00	0.00	0.00
	Construction Total		15,495,000.00	19,955,000.00	13,705,000.00	15,575,000.00
	Base Estimate Total		**18,445,000.00**	**22,955,000.00**	**16,605,000.00**	**18,525,000.00**
Known/Unknown Risk						
	20% Allowance	*20%*	3,700,000.00	4,600,000.00	3,350,000.00	3,750,000.00
	Known / Unknown Risk Allocation Total		**3,700,000.00**	**4,600,000.00**	**3,350,000.00**	**3,750,000.00**
Expected Estimate P50						
	Base Estimate		18,445,000.00	22,955,000.00	16,605,000.00	18,525,000.00
	Known / Unknown Risk - 20% Allowance		3,700,000.00	4,600,000.00	3,350,000.00	3,750,000.00
	Expected Estimate Total		**22,145,000.00**	**27,555,000.00**	**19,955,000.00**	**22,275,000.00**
Funding Risk (Additional Client Risk)						
	40% Allowance	*40%*	8,900,000.00	11,050,000.00	8,000,000.00	8,950,000.00
	Funding Risk Total		**8,900,000.00**	**11,050,000.00**	**8,000,000.00**	**8,950,000.00**
95th Percentile Estimate P95						
	Expected Estimate		22,145,000.00	27,555,000.00	19,955,000.00	22,275,000.00
	Funding Risk		8,900,000.00	11,050,000.00	8,000,000.00	8,950,000.00
	95th Percentile Estimate		**31,045,000.00**	**38,605,000.00**	**27,955,000.00**	**31,225,000.00**
Opportunity						
	Selling excavated material as fill to contractor ($3/m3)		38,470.50	131,601.00	50,259.00	44,824.50

Level	Item	Bill description	Qty	Unit	Rate	Amount
1		**Waipoua River - Scenario 3**				**42,962,570.46**
2		**Concept 1**				**10,250,235.38**
3		**Stopbanks, new and upgrading the existing**				**1,566,326.22**
4		**New bank TRB upstream**				**598,561.69**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfill**				**535,423.03**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,778	/m3	67.66	323,267.28
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	10,177	/m3	14.8	150,649.53
4		**New bank TLB upstream**				**742,056.62**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfill**				**636,521.61**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	5,680	/m3	67.66	384,294.30
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	10,094	/m3	14.8	149,420.89
4		**Cameron Crescent Bund**				**197,431.16**
		Dig into channel widening stockpile and construct new stop bank	5,284	/m3	14.8	78,218.74
	1	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,762	/m3	67.66	119,212.42
4		**Disposal of surplus material from channel widening stockpile**				**28,276.75**
		Disposal of surplus excavated material from swale drain excavation, rate based on loading contractor truck only	25,647	/m3	1.1	28,276.75
3		**River erosion protection**				**4,875,440.19**
4		**Form bund**				**21,646.34**
		Push up and create bund with gravels	1,152	/m	18.79	21,646.34
4		**Rock lines**				**4,853,793.85**
		Supply and place D50=700mm rock including allowance for geotextiles	17,280	/ton	280.89	4,853,793.85
3		**Swale and low stopbank / bund**				**505,640.55**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfill**				**324,977.38**
		Dig into swale drain stockpile and form bund with excavated material	2,697	/m3	14.8	39,923.53
	2	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	899	/m3	67.66	60,824.05
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	6,002	/m3	14.8	88,847.25
	3	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	2,001	/m3	67.66	135,382.55
3		**Floodwall**				**349,723.65**
4		**Construct flexural wall**				**342,691.60**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	368	/m	931.23	342,691.60
4		**Construct nib wall**				**7,032.05**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		**Channel widening and berm lowering**				**2,703,104.77**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3		**Service crossings**				**250,000.00**
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		**Concept 2**				**13,415,965.08**
3		**Stopbanks, new and upgrading the existing**				**1,578,183.75**
4		**New bank TRB upstream**				**477,208.73**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfill**				**414,070.07**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	3,695	/m3	67.66	249,994.27
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	6,929	/m3	14.8	102,569.58
4		**New bank TLB upstream**				**832,111.31**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfill**				**726,576.30**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	6,489	/m3	67.66	439,029.18
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	12,480	/m3	14.8	184,740.70
4		**Cameron Crescent Bund**				**172,133.79**
		Dig into channel widening stockpile and construct new stop bank	4,608	/m3	14.8	68,211.95
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,536	/m3	67.66	103,921.84
4		**Disposal of surplus material from channel widening stockpile**				**96,729.92**

		Disposal of surplus excavated material from swale drain excavation, rate based on loading contractor truck only	87,734	/m3	1.1	96,729.92
3		**River erosion protection**				**5,315,584.10**
4		**Form bund**				**23,600.53**
		Push up and create bund with gravels	1,256	/m	18.79	23,600.53
4		**Rock lines**				**5,291,983.57**
		Supply and place D50=700mm rock including allowance for geotextiles	18,840	/ton	280.89	5,291,983.57
3		**Swale and low stopbank / bund**				**497,220.78**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfilling**				**316,557.61**
		Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	38,458.04
	5	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	866	/m3	67.66	58,591.35
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,875	/m3	14.8	86,967.28
	5	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,959	/m3	67.66	132,540.94
3		**Floodwall**				**349,723.65**
4		**Construct flexural wall**				**342,691.60**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	368	/m	931.23	342,691.60
4		**Construct nib wall**				**7,032.05**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	20	/m	351.6	7,032.05
3		**Channel widening and berm lowering**				**5,425,252.80**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	120,224	/m3	45.13	5,425,252.80
3		**Service crossings**				**250,000.00**
	2	Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		**Concept 3**				**8,959,560.71**
3		**Stopbanks, new and upgrading the existing**				**1,277,118.91**
4		**New bank TRB upstream**				**498,740.25**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfilling**				**435,601.59**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	3,887	/m3	67.66	262,984.50
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	7,506	/m3	14.8	111,110.87
4		**New bank TLB upstream**				**560,927.92**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfilling**				**455,392.91**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,064	/m3	67.66	274,959.87
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	5,244	/m3	14.8	77,626.62
4		**Cameron Crescent Bund**				**180,509.16**
		Dig into channel widening stockpile and construct new stop bank	4,831	/m3	14.8	71,513.01
	3	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,611	/m3	67.66	108,996.15
4		**Disposal of surplus material from channel widening stockpile**				**36,941.58**
		Disposal of surplus excavated material from swale drain excavation, rate based on loading contractor truck only	33,506	/m3	1.1	36,941.58
3		**River erosion protection**				**3,868,187.79**
4		**Form bund**				**17,174.27**
		Push up and create bund with gravels	914	/m	18.79	17,174.27
4		**Rock lines**				**3,851,013.52**
		Supply and place D50=700mm rock including allowance for geotextiles	13,710	/ton	280.89	3,851,013.52
3		**Swale and low stopbank / bund**				**507,448.42**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfilling**				**326,785.25**
		Dig into swale drain stockpile and form bund with excavated material	2,598	/m3	14.8	38,458.04
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	866	/m3	67.66	58,591.35
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	6,150	/m3	14.8	91,038.09
	5	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	2,050	/m3	67.66	138,697.77
3		**Floodwall**				**356,679.15**
4		**Construct flexural wall**				**353,866.33**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	380	/m	931.23	353,866.33
4		**Construct nib wall**				**2,812.82**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	8	/m	351.6	2,812.82
3		**Channel widening and berm lowering**				**2,700,126.44**

		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,835	/m3	45.13	2,700,126.44
3		**Service crossings**				**250,000.00**
	3	Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00
2		**Concept 4**				**10,336,809.29**
3		**Stopbanks, new and upgrading the existing**				**1,438,870.43**
4		**New bank TRB upstream**				**519,652.24**
5		**Excavation**				**63,138.66**
		Excavate into existing river bank and form stockpile	4,155	/m3	15.2	63,138.66
5		**Backfilling**				**456,513.58**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	4,074	/m3	67.66	275,636.44
		Dig into existing river bank stockpile and construct new stop bank	4,155	/m3	14.8	61,506.22
		Dig into channel widening stockpile and construct new stop bank	8,064	/m3	14.8	119,370.92
4		**New bank TLB upstream**				**711,029.06**
5		**Excavation**				**105,535.01**
		Excavate into existing river bank and form stockpile	6,945	/m3	15.2	105,535.01
5		**Backfilling**				**605,494.05**
		Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	5,403	/m3	67.66	365,553.19
		Dig into existing river bank stockpile and construct new stop bank	6,945	/m3	14.8	102,806.42
		Dig into channel widening stockpile and construct new stop bank	9,264	/m3	14.8	137,134.44
4		**Cameron Crescent Bund**				**175,242.04**
		Dig into channel widening stockpile and construct new stop bank	4,690	/m3	14.8	69,425.79
	4	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,564	/m3	67.66	105,816.25
4		**Disposal of surplus material from channel widening stockpile**				**32,947.09**
		Disposal of surplus excavated material from swale drain excavation, rate based on loading contractor truck only	29,883	/m3	1.1	32,947.09
3		**River erosion protection**				**5,116,672.92**
4		**Form bund**				**22,717.39**
		Push up and create bund with gravels	1,209	/m	18.79	22,717.39
4		**Rock lines**				**5,093,955.53**
		Supply and place D50=700mm rock including allowance for geotextiles	18,135	/ton	280.89	5,093,955.53
3		**Swale and low stopbank / bund**				**479,596.76**
4		**Excavation**				**180,663.17**
		Excavate swale drain and form stockpile for material to be used elsewhere	11,889	/m3	15.2	180,663.17
4		**Backfilling**				**298,933.59**
		Dig into swale drain stockpile and form bund with excavated material	2,470	/m3	14.8	36,563.26
	5	Construct new stopbank with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	824	/m3	67.66	55,749.74
		Dig into channel widening stockpile and form Mahunga Drive bund with excavated material	5,530	/m3	14.8	81,860.26
	6	Construct new Mahunga Drive bund with imported clay fill, sourced within 15km of site, with a royalty fee of $10/m3	1,844	/m3	67.66	124,760.33
3		**Floodwall**				**348,564.41**
4		**Construct flexural wall**				**340,829.15**
		Construct flexural concrete wall in 25MPa concrete and an allowance for reinforcement	366	/m	931.23	340,829.15
4		**Construct nib wall**				**7,735.26**
		Construct concrete nib wall in 25MPa concrete and an allowance for reinforcement	22	/m	351.6	7,735.26
3		**Channel widening and berm lowering**				**2,703,104.77**
		Excavate to widen channel and lower bund, rate to include for bulldozer working in river pushing material to bank, and excavator on the bank excavating and forming a stockpile (not exceeding 5 minute travel distance) for material to be used elsewhere	59,901	/m3	45.13	2,703,104.77
3		**Service crossings**				**250,000.00**
		Allow Provisional Sum for misc. works to divert, lower or protect existing mains infrastructure	1	/sum	250,000.00	250,000.00