MCDA CRITERIA – EFFECTIVELY MANAGES THE RISKS OF COASTAL INUNDATION

Management	Pathway	Pathway Description				Effectively Manages the Risks of Coasta		
Unit		Short term	Medium term	Long term	Score	Notes		
Management Unit 9A: Raumati (North of Wharemauku Stream) Erosion Unit	1	Status Quo ¹ and Community Education and Emergency Management ⁴	Enhance existing protection structure ² , Community Education and Emergency Management ⁴ (Enhance)	Re-establish the line with a setback sea wall ⁹ (Retreat & Protect)	2	 Pathway not designed to deal with the inundation hazard, around the Wharemauku Stream, setback from the coast. Enhancing existing structures over the medium term woul overtopping to beachfront properties, but would not deal wi coast. Re-establishment of the line may retreat some impacted prior reduce future overtopping. 		
	2	Enhance existing protection structure ² , Community Education and Emergency Management ⁴ (Enhance)	Sea wall ¹² (Protect – Hard Engineering)	Re-establish the line with a setback sea wall ⁹ (Retreat & Protect)	2	 Pathway not designed to deal with the inundation hazard, around the Wharemauku Stream, setback from the coast. Enhancing existing structures over the short term and have reduce the inundation risk from overtopping to beachfront properties setback from the coast. Re-establishment of the line may retreat some impacted protoreduce future overtopping. 		
	3	Enhance existing protection structure ² , Community Education and Emergency Management ⁴ (Enhance)	Re-establish the line with a setback sea wall ⁹ (Retreat & Protect)	Enhance Sea wall ¹² (Protect – Hard Engineering)	2	 Pathway not designed to deal with the inundation hazard, around the Wharemauku Stream, setback from the coast. Enhancing existing structures over the short term and ther term would likely have co-benefits in reducing risks to beach Future sea wall enhancements could be designed to reduce for the short term would be designed to reduce for term would be designed to red		
	4	Enhance existing protection structure ² , Community Education and Emergency Management ⁴ (Enhance)	Re-establish the line with a setback sea wall ⁹ & Dune reconstruction ¹¹ (Retreat & Protect)	Beach renourishment ¹⁰ (Protect – Soft Engineering)	2	 Pathway not designed to deal with the inundation hazard, around the Wharemauku Stream, setback from the coast. Enhancing existing structures over the short term and ther term would likely have co-benefits in reducing risks to beach 		

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5	Sea wall ¹² (Protect – Hard Engineering)	Enhance sea wall ¹² (Protect – Hard Engineering)	Enhance sea wall ¹² (Protect – Hard Engineering)	1	 Pathway not designed to deal with the inundation hazard, around the Wharemauku Stream, setback from the coast. Structure elevation and slope could be designed to reduce
6	Sea wall ¹² (Protect – Hard Engineering)	Re-establish the line with a setback sea wall ⁹ (Retreat & Protect)	Enhance sea wall ¹² (Protect – Hard Engineering)	2	 Pathway not designed to deal with the inundation hazard, around the Wharemauku Stream, setback from the coast. Re-establishment of the line in the medium term would lik beachfront properties effected by overtopping. Structure elevation and slope could be designed to reduce

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Stream)	1	Status Quo ¹ (Current new seawall as outlined in LTP) and Community Education and Emergency Management ⁴	Enhance existing protection structure ² , Community Education and Emergency Management ⁴ (Enhance)	Sea wall ¹² (Protect – Hard Engineering)	1	 Pathway not designed to deal with the inundation hazard, waround the Wharemauku Stream, setback from the coast. Structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce elevation and slope could be desi
Wharemauku S	2	Status Quo ¹ (Current new seawall as outlined in LTP) and Community Education and Emergency Management ⁴	Enhance existing protection structure ² , Community Education and Emergency Management ⁴ (Enhance)	Re-establish the line with a setback sea wall ⁹ & Dune reconstruction ¹¹ (Retreat & Protect)	2	 Pathway not designed to deal with the inundation hazard, waround the Wharemauku Stream, setback from the coast. Re-establishment of the line would likely have co-benefits i effected by overtopping. Structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce elevation and slope could be designed to redu
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nt Unit 10A: Raur Er	4	Status Quo ¹ (Current new seawall as outlined in LTP) and Community Education and Emergency Management ⁴	Re-establish the line with a setback sea wall ⁹ (Retreat & Protect)	Enhance sea wall ¹² (Protect – Hard Engineering)	2	 Pathway not designed to deal with the inundation hazard, waround the Wharemauku Stream, setback from the coast. Re-establishment of the line would likely have co-benefits i effected by overtopping. Structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce elevation and slope could be designed to redu
Managemer	5	Status Quo ¹ (Current new seawall as outlined in LTP) and Community Education and Emergency Management ⁴	Re-establish the line with a setback sea wall ⁹ & Dune reconstruction ¹¹ (Retreat & Protect)	Beach renourishment ¹⁰ (Protect – Soft Engineering)	2	 Pathway not designed to deal with the inundation hazard, waround the Wharemauku Stream, setback from the coast. Re-establishment of the line would likely have co-benefits i effected by overtopping. Structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce of the structure elevation and slope could be designed to reduce elevation and slope could be de

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Management	Pathway	Pathway Description			Effectively Manages the Risks of Coastal In		
Unit		Short term	Medium term	Long term	Score	Notes	
Management Unit 9B: Raumati AA	1	Status Quo ¹ and Community Education and Emergency Management ⁴	Enhance Existing Inundation Protection ³ and Community Education and Emergency Management ⁴ (Enhance)	Additional Hard Protection (e.g. Stopbanks ¹³ , Culverts ¹⁴ , Pumpstations ¹⁵) (Protect)	5	 Is proportionate to the nature and scale of the hazard. Progression of options over the medium to long term will likely There is potential for hard engineering options to exacerbate the likely be mitigated completely through design to reduce any neg Design would be informed by best practice at the time. 	
	2	Status Quo ¹ and Community Education and Emergency Management ⁴	Enhance Existing Inundation Protection ³ and Community Education and Emergency Management ⁴ (Enhance)	Flood proofing buildings and infrastructure ⁵ and/or Elevate floor levels of buildings ⁷ (Accommodate)	4	 Is proportionate to the nature and scale of the hazard. Progression of options over the medium to long term will likely Long term option of accommodating impacted buildings likely hazard - as might only be a small number of properties that are of Floodproofing individual properties would still result in some a Design would be informed by best practice at the time. 	
	3	Status Quo ¹ and Community Education and Emergency Management ⁴	Additional Hard Protection (e.g. Stopbanks ¹³ , Culverts ¹⁴ , Pumpstations ¹⁵) (Protect)	Enhance New Inundation Protection ³ (Enhance)	5	 Is proportionate to the nature and scale of the hazard, however required until the long term. Progression of options over the medium to long term will likely There is potential for hard engineering options to exacerbate the likely be mitigated completely through design to reduce any neg Design would be informed by best practice at the time. 	

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