

Appendix 4: ECOLOGICAL MITIGATION TABLE  
Site Specific Management Plan 002 [Sectors 330-340-350]  
MacKays to Peka Peka Expressway  
M2PP-121-D-PLNM-002

## M2PP Explanation of Changes to Mitigation Requirements and Availability

These tables compare consented habitat loss and mitigation requirements, with the locations and quantum resulting from Detailed Design Table 1 and 1A compare the amount of habitat loss and its location. Table 2 and 2A compare the amount of mitigation to be provided and its location. Note that habitat loss is measured at 17 discrete sites (AEE). Mitigation is provided for in a 6 broad mitigation areas (SSEMP). The final rows identify if there is a surplus or shortfall in available mitigation sites necessary to meet the updated calculations. This worksheet will be updated as each SSEMP is developed and will guide design of subsequent SSEMPs to ensure mitigation requirements are met.

Source - AEE and EMP Calculations				
Table 1: Habitat Loss by Site / Stream	Indigenous Wetland Habitat (ha)	Indigenous Terrestrial Habitat (ha)	Stream Habitat - Freshwater (linear m)	
Raumati Manuka Wetland	0.03			
Southern Otaihangā Wetland	0.55			
Northern Otaihangā Wetland	0.53			
El Rancho Wetland	0.38			
Unnamed Sites 1 - 7	0.01	1.80		
Tuku Rakau Forest	0.30	0.25		
Ngarara Mahoe		0.86		
Otaihangā Kanuka Forest		0.17		
Mahoe Vegetation Along Drain 7		0.35		
Raumati Road Kanuka		0.35		
Waikanae River Riparian (planted)		0.13		
Kakariki Stream Riparian (planted)		0.18		
Culverts (inc armouring)			1,119	
Diversions			1,525	
Bridges (armouring)			327	
<b>Loss Allowed by Consent (G.42)</b>	<b>1.8</b>	<b>4.09</b>	<b>2,971</b>	

As progressively updated by Detailed Design				
Table 1A: Habitat Loss by Site / Stream	Indigenous Wetland Habitat (ha)	Indigenous Terrestrial Habitat (ha)	Stream Habitat - Freshwater (linear m)	
Raumati Manuka Wetland	0.02			
Southern Otaihangā Wetland	0.86			
Northern Otaihangā Wetland	0.41			
El Rancho Wetland	0.34			
Scattered cabbage trees	0.01	1.80		
Tuku Rakau Forest	0.06	0.47		
Ngarara Mahoe		0.92		
Otaihangā Kanuka Forest		0.06		
Mahoe Vegetation Along Drain 7		0.62		
Raumati Road Kanuka		0.54		
Waikanae River Riparian		0.22		
Kakariki Stream Riparian		0.64		
Permanent Culverts (inc armouring)			1,119	
Diversions			1,525	
Bridges (armouring)			327	
<b>Revised Total Loss</b>	<b>1.70</b>	<b>5.27</b>	<b>2,971</b>	
<b>Difference consented and actual</b>	<b>-0.10</b>	<b>1.18</b>	<b>0.00</b>	

Reference
Updated by Detailed Design
Updated by Detailed Design
Updated by Detailed Design
Updated by Enabling Works
AEE Calc
Updated by Enabling Works
Updated by Enabling Works
Updated by Detailed Design
Updated by Enabling Works
AEE Calc
AEE Calc
AEE Calc

Table 2: Ecological Mitigation Requirements	Indigenous Wetland Habitat (ha)	Indigenous Terrestrial Habitat (ha)	Stream Habitat - Freshwater (linear m)	Stream Habitat - Riparian (ha)
<b>Total Mitigation Required</b>	<b>5.4</b>	<b>7.6</b>	<b>5,240</b>	<b>17.7</b>
<b>+ Flood storage areas 2A &amp; 3</b>	<b>4.1</b>	<b>0</b>	<b>1,400</b>	<b>5.9</b>
<b>Combined Total (G.42)</b>	<b>9.5</b>	<b>7.6</b>	<b>6,640</b>	<b>23.6</b>
Raumati Manuka	2.07	1.15	330	1.14
Otaihangā Wetlands	1.14	4.34	440	1.77
Muaupoko	0	0	75	0.46
Kakariki / Smithfield	2.33	4.32	2,350	8.8
Hadfield / Paetawa	0	1.65	1,375	5.25
Drain 7	3.92	0	1,560	6.32
<b>Total Available Mitigation Area/Length</b>	<b>9.46</b>	<b>11.46</b>	<b>6,130</b>	<b>23.74</b>
<b>Surplus / Shortfall</b>	<b>-0.04</b>	<b>3.86</b>	<b>-510</b>	<b>0.14</b>
<b>Situation</b>	Shortfall	Surplus	Shortfall	Surplus

Table 2A: Ecological Mitigation Areas	Indigenous Wetland Habitat (ha)	Indigenous Terrestrial Habitat (ha)	Stream Habitat - Freshwater (linear m)	Stream Habitat - Riparian (ha)
<b>Revised Mitigation Requirements</b>	<b>5.1</b>	<b>9.1</b>	<b>5,240</b>	<b>17.7</b>
<b>+ Flood storage areas 2A &amp; 3</b>	<b>4.1</b>	<b>0</b>	<b>1,400</b>	<b>5.9</b>
<b>Combined Total (G.42)</b>	<b>9.2</b>	<b>9.1</b>	<b>6,640</b>	<b>23.6</b>
Raumati Manuka	2.43	1.15	317	1.2
Otaihangā Wetlands	1.81	3.57	438	1.55
Muaupoko	0	0	72	0.22
Kakariki / Smithfield	2.33	4.32	2,350	8.8
Hadfield / Paetawa	0	1.65	1,375	5.25
Drain 7	5.48	0	1,712	5.36
<b>Total Available Mitigation Area/Length</b>	<b>12.05</b>	<b>10.69</b>	<b>6264.20</b>	<b>22.38</b>
<b>Surplus / Shortfall</b>	<b>2.85</b>	<b>1.56</b>	<b>-375.8</b>	<b>-1.22</b>
<b>Revised Situation</b>	Surplus	Surplus	Shortfall	Shortfall

Recalculated
Updated by Detailed Design
Updated by Detailed Design
Updated by Detailed Design
EMP calc
EMP calc
Updated by Detailed Design