Appendix A
Register of Significant Heritage Resources

Historic Buildings, Places and Sites

Planning Map Notation	Location	Name	Legal Description	Class/ Category
1.		Moa Hunter Site	Pt Marlborough Board endowment, Blk I, Clifford Bay SD	A/1
3.	Waihopai Valley	Leefield Station Homestead	Lot 1 DP 374238	A/2
4.	Waihopai Valley	Leefield Station Stables	Lot 2 DP 374238	A/2
5.	Waihopai Valley	Leefield Station Looseboxes	Lot 2 DP 374238	A/2
6.	Waihopai Valley	Leefield Station Maids' Quarters	Lot 1 DP 374238	A/2
7.	Waihopai Valley	Leefield Station Cookhouse/Shearers' Quarters	Lot 2 DP 374238	A/2
8.	Waihopai Valley	Leefield Station Woolshed	Lot 2 DP 374238	A/2
9.	Wairau Valley Town	Cob House including stone-lined well	Secs 42, 43 Blk IV Mount Olympus SD	A/2
10.	Awatere Valley Road, Awatere Valley	Blairich Chimney	P26 Secs 7, 9 - 11 Pt Sec 1 Blk XX Taylors Pass SD	A/2
11.	Awatere Valley Road, Awatere Valley.	Molesworth Station Cob Cottage	Runs 226, 227 Pt Run 345 Tarndale & St Helens Run	A/2
12.	Awatere Valley Road, Awatere Valley.	Molesworth Station Woolshed	Runs 226, 227 Pt Run 345 Tarndale & St Helens Run	A/2
13.	Awatere Valley Road, Awatere Valley.	Molesworth Stn Large Cob Homestead	Runs 226, 227 Pt Run 345 Tarndale & St Helens Run	A/2
14.	Awatere Valley Road, Awatere Valley.	Jordan Accommodation House (former)	P29 Sec 1 & 2 Blk XIII Hodder SD	A/2
15.	Awatere Valley Road, Awatere Valley.	Altimarloch Station Homestead	Lot 1 DP 369343	A/2
16.	Awatere Valley Road, Awatere Valley.	Mt Gladstone Cuddy	Secs 8/13 Pts 1/3 Upper Fairfield Downs Dist. Secs 6/7 etc	A/2
17.	Awatere Valley Road, Awatere Valley.	Mt Gladstone Station Cob Cottage	Secs 8/13 Pts 1/3 Upper Fairfield Downs Dist. Secs 6/7 etc	A/2
18.	Awatere Valley Road, Awatere Valley.	Langridge Station Dry Stone Enclosure	Secs 5/9, 15/41 Pts 1/4, 10/14 Muller Run Secs 42/61, 70/79 etc	A/2

Planning Map Notation	Location	Name	Legal Description	Class/ Category
19.	Awatere Valley Road, Awatere Valley.	Langridge Station Mens Hut	Secs 5/9, 15/41 Pts 1/4, 10/14 Muller Run Secs 42/61, 70/91 etc	A/2
20.	Awatere Valley Road, Awatere Valley.	Langridge Station Cob Cottage	Secs 5/9, 15/41 Pts 1/4, 10/14 Muller Run Secs 42/61, 70/91 etc	A/2
21.	Awatere Valley Road, Awatere Valley.	Langridge Station Oven	Secs 5/9, 15/41 Pts 1/4, 10/14 Muller Run Secs 42/61, 70/91 etc	A/2
22.	Alfred St & Seymour St, Blenheim	Courthouse	Lot 127 & Pt Lots 126, 128 Town of Blenheim	A/2
23.	42 Alfred Street & Seymour Street, Blenheim	Blenheim Borough School	Lot 131 Omaka District School	A/2
24.	60 Beaver Road, Blenheim	House	Lot 7 DP 1389 & Sec 130 Blk XVI Cloudy Bay SD	A/2
25.	23 Budge Street, Blenheim	House	Lot 1 DP 1154	A/2
26.	143 Charles Street, Blenheim	Piki Arero (dwelling)	Lot 21 DP 341	A/2
27.	8 Poynter Street/8Dillon Street, Blenheim	House	Lot 557 DP 523	A/2
28.	Dodson St & Herbert St, Blenheim	Whitehaven Winery	Pt DP 267	A/2
29.	12 Eltham Road, Blenheim	House	Lot 1 DP 3630	A/2
30.	56 George Street, Blenheim	House	Lots 364 & Pt Lots 363 being Pt Sec 3 Omaka District	A/2
31.	Grove Road (State Highway), Blenheim	Opawa River Bridge	Bridge 18/9 02	A/1
32.	43 Grove Road, Blenheim	Old Flour Mill Building	Pt Lot 1 DP 2864	A/2
33.	67 Grove Road, Blenheim	House	Pt Lots 39 & 71 being Pt Secs 47 & 48 Dist of Wairau	A/2
34.	125-127 High Street, Blenheim	Wain & Naysmith Office building	Lots 1 & 4 DP 4551	A/2
35.	42-44 High Street & Market Street, Blenheim	Farmers Building (street façade)	Units A-L & N-Q DP 6624 on Lot 1 DP 4877	A/2
36.	92 High Street, Blenheim	Blenheim Club	Pt Lots 1 & 2 DP 1105	A/2
37.	16 Lee Street, Blenheim	House	Pt Lot 47 & Lot 48 DP 341	A/2
38.	Market Square, Blenheim	Cleghorn Rotunda		A/2

Planning Map Notation	Location	Name	Legal Description	Class/ Category
39.	84-90 Market Street, Blenheim	Whites Footwear Building (street façade)	All DP 395	A/2
40.	57 Maxwell Road, Blenheim	St Mary's Church (Catholic)	Part Lot 411 and 412, Deed 15, Marlborough Registry, CT MB31/914	A/1
41.	Maxwell Road, Blenheim	Brick Wall & Gates - Blenheim A & P Assn.	Pt Lots 1 & 2 DP 1145 Scenic Reserve	A/2
42.	Maxwell Rd & Alabama Rd, Blenheim	Covered Sheep Pens - Blenheim Showgrounds	Pt Lots 1 & 2 DP 1145 Scenic Reserve	A/2
43.	Maxwell Rd & Alabama Rd, Blenheim	Grandstand - Blenheim A & P Showgrounds	Pt Lots 1 & 2 DP 1145 Scenic Reserve	A/2
44.	106 Maxwell Road, Blenheim	House	Lot 3 Deeds Plan 86	A/2
45.	2 Leitrim Street, Blenheim	Radfield House (dwelling)	Lot 2 DP 5715	A/2
46.	Marfell Downs Sea View Road, Seddon.	St Mary's Church Presbytery (Catholic)	Sec II BLK XI Clifford Bay S.D.	A/2
47.	72 Maxwell Road, Blenheim	House	Lots 1&2 DP 2969	A/2
48.	73 Maxwell Road, Blenheim	Catholic Family Home	Lot 1 DP 6831	A/2
49.	82 Maxwell Road, Blenheim	House	Lot 3 DP 3, Title ref 3D/1007	A/2
50.	4 Monro Street, Blenheim	House	Lot 4 DP 677	A/2
51.	6 Monro Street, Blenheim	House	Lots 5 & 6 DP 677	A/2
52.	44 Murphys Road, Blenheim	House	Lot 1 DP 9934	A/2
53.	72 Murphys Road, Blenheim	House	Lot 1 DP 401	A/2
54.	Nelson Street, Blenheim	Vercoes Flax Mill Ruins		A/2
55.	New Renwick Road, Blenheim	Woodbourne Homestead	Pt DP 420 Blk XIV Cloudy Bay SD	A/2
56.	29 Percy Street, Blenheim	House	Lot 1 DP 1108	A/2
57.	48-52 Queen Street, Blenheim	Public Trust Office Building	Lot 1 DP 1330	A/2
58.	Seymour Square, Blenheim	War Memorial & Clock Tower	Lot 1 DP 6917, Marlborough Registry C/T MBD/572	A/1
59.	Adjacent to Grove Road, Blenheim	Blenheim Railway Station	Railway	A/2

Planning Map Notation	Location	Name	Legal Description	Class/ Category
60.	Waihopai Valley Road, Blenheim	Murray Downs Homestead and stone lined wells	Lot 1 DP 11050	A/2
61.	80 New Renwick Road Burleigh, Blenheim	Addiscombe	Pt Lot 2 DP 2369	A/2
62.	Redwood Pass Road, Dashwood	Ugbrook Homestead	Pt Lot 2 DP 2726 Blks V, VI & VIII Clifford Bay SD	A/2
64.	State Highway 1, Koromiko	Church of St John in the Wilderness (Ang)	Pt Sec 25 Waitohi Valley Dist Blk XV Linkwater Sd	A/2
65.	Wairau Bar	Moa sites		A/1
66.	Rarangi, Marshlands	Flaxmill including weighbridge	Lots 6-8 DP 7750 Lot 15 DP 7751 Lt 2 DP 6231 Lots 16, 26 DP 6927	A/2
67.	47 Inkerman Street, Renwick	Cob House	Lot 2 DP 4134	A/2
68.	North Bank Road, Renwick	Langley Dale Station Stables/Granary/Chaff House	Lot 1 DP 2089 Blk XV Onamalutu SD	A/2
69.	North Bank Road, Renwick	Langley Dale Station Homestead	Lot 1 DP 2089 Blk XV Onamalutu SD	A
70.	North Bank Road, Renwick	Langley Dale Station Cow Byre	Lot 1 DP 2089 Blk XV Onamalutu SD	A/2
71.	North Bank Road, Renwick	Langley Dale Station Blacksmith's Shop	Lot 1 DP 2089 Blk XV Onamalutu SD	A/2
72.	North Bank Road, Renwick	Langley Dale Station Dog Meat Boiler	Lot 1 DP 2089 Blk XV Onamalutu SD	A/2
73.	North Bank Road, Renwick	Langley Dale Station Workshop	Lot 1 DP 2089 Blk XV Onamalutu SD	A/2
74.	North Bank Road, Renwick	Langley Dale Station Scab Dip	Lot 1 DP 2089 Blk XV Onamalutu SD	A/2
75.	Redwood Pass Road, Riverlands, Blenheim	Vernon Homestead	Pt DP 229 Blks II, III Clifford Bay Sd	A/2
76.	Ferry Road, Spring Creek	St Luke's Church (Anglican)	Lots 87 & 88 of Sec 50 Wairau Dist Blk XI Cloudy Bay SD	A/2
77.	Murrays Road, Spring Creek	Cob Cottage	Pt Lot 2 DP 11686	A/2
78.	Blind Creek Road, Tuamarina	Fredrick Smith's House		A/2
79.	Blind Creek Road, Tuamarina	Methodist Sunday School(former church)	Lot 5 of Sec 46 Waitohi Valley Dist Blk VII Cloudy Bay SD	A/2
80.	Tuamarina Track, Tuamarina	Woodside (dwelling)	Lot 1 DP 8437 & Pt Sec 4 & 6 Blk VII Cloudy Bay SD	A/2
81.	Wrekin Road, Waihopai Valley	Wrekin Toolshed(former dairy)	Lot 1 DP 7658 Lot 1 DP 7835 Lot 4 DP 7886 Blk III Taylor Pass SD	A/2

Planning Map Notation	Location	Name	Legal Description	Class/ Category
82.	Wairau Valley Road, Wairau Valley	Bankhouse Station Homestead	Lot 4 DP 11802	A/2
83.	SH1 Riverlands	Cob Cottage	Lot 1 DP 3554	A/1
85.	Maxwell Road	St Mary's Convent - Chapel only	Pt Lots 411 and 412, Omaka District	A/2
86.	Seymour Square, Blenheim	Old Cannon(Blenkinsopp's Carronade)		B
87.	1 High Street, Blenheim	Plaque on building - site of James Wynen's raupo store, Blenheim's first place of business, 1850	Pt lot 2 DP 1027	B
88.	Tuamarina	Maori Affray - Cemetery Monument		B
89.	Tuamarina	Tuamarina Settlers Memorial		B
90.	Woodbourne	Flight site (marked by Blenheim Rotary Club Plaque)		B
91.	New Renwick Road, Woodbourne	Flour mill		B
92.	926 Wairau Bar Road, Spring Creek.	Pilot's House	Section 5 Sq 28 North Boulder Bank Registration District	A/1

Heritage Trees

Planning Map Notation	Name	Location	Common Name	RNZIH Registration Number
1.	Eucalyptus obliqua	'Hawkesbury Vineyard', Hawkesbury Road, Renwick	Messmate gum	189
2.				
3.	Abies nordammiana (See also 165)	'Seven Oaks', Hawkesbury near Renwick	Caucasian fir	129
4.	Picea smithiana	'Seven Oaks', 106 Brookby Road, Hawkesbury near Renwick	Himalayan spruce	130
6.	Pseudotsuga menziesii	'Seven Oaks', 106 Brookby Road, Hawkesbury near Renwick	Douglas fir	132
7.	Cedrus deodara	'Seven Oaks', 106 Brookby Road, Hawkesbury near Renwick	Deodar	133
8.	Ulmus procera (See also 166-167)	108 Maxwell Road, Blenheim	Elm	024a
9.	Sequoiadendron giganteum	108 Maxwell Road, Blenheim	Wellingtonia	024b
10.	Aesculus hippocastanum	108 Maxwell Road, Blenheim	Horse chestnut	024c
11.	Magnolia grandiflora	108 Maxwell Road, Blenheim	Evergreen magnolia	024d
12.	Tilia x europaea	108 Maxwell Road, Blenheim	Lime (6)	024e
13.	Sequoiadendron giganteum	16 Bank Street, Blenheim	Wellingtonia (2)	175
14.	Sequoia sempervirens	19 Purkiss Street, Blenheim	Redwood	174
15.	Liquidamba styraciflua	22 Weld Street, Blenheim	Sweet gum	293a
16.	Quercus robur	22 Weld Street, Blenheim	Oak	293b
17.	Quercus rubra	22 Weld Street, Blenheim	Red oak	293c
18.	Juglans regia	22 Weld Street, Blenheim	Walnut	293d
19.	Sequoiadendron giganteum	25 Percy Street, Blenheim	Wellingtonia	038
20.	Sequoiadendron giganteum	70 Maxwell Road, Blenheim	Wellingtonia	023a
21.	Cinnamomum camphora	70 Maxwell Road, Blenheim	Camphor tree	023b
22.	Gingko biloba	70 Maxwell Road, Blenheim	Ginkgo	023c
23.	Betula pendula	70 Maxwell Road, Blenheim	Silver birch	023d
24.	Tilia x europaea	75 Litchfield Street, Blenheim	Lime	
25.	Quercus rubra	75 Litchfield Street, Blenheim	Red oak	

27.	Schinus molle	80 Nelson Street, Springlands, Blenheim	Pepper tree	260b
28.				
29.	Platanus x acerifolia	40 Kingwell Drive, Springlands, Blenheim	London plane (2)	260d
30.	Liriodendron tulipifera	40 Kingwell Drive, Springlands, Blenheim	Tulip tree	260e
31.	Quercus rubra	80 Nelson Street, Springlands, Blenheim	Red oak	260f
33.	Tilia x europea	80A Nelson Street, Springlands, Blenheim	Lime	259
34.	Sequoia sempervirens (See also 169-170)	84 Nelson Street, Springlands, Blenheim	Redwood	253a
35.	Taxodium distichum	84 Nelson Street, Springlands, Blenheim	Swamp cypress (2)	253b
36.	Gingko biloba	84 Nelson Street, Springlands, Blenheim	Maidenhair tree	253c
37.	Quercus robur (See also 171-172)	Bethsaida Home, Litchfield Street, Blenheim	Oak (2)	182
38.	Juglans regia	Blenheim School, 42 Alfred Street, Blenheim	Walnut	292a
39.	Acer pseudoplatanus	Blenheim School, 42 Alfred Street, Blenheim	Sycamore	292b
40.	Quercus robur	Blenheim School, 42 Alfred Street, Blenheim	Oak	292c
41.	Platanus x acerifolia	Blenheim/Picton State Highway 1	London plane (7)	163
42.	Eucalyptus viminalis	Burleigh Park, New Renwick Road, Blenheim	Manna gum	177
43.	Quercus robur	Church of the Nativity, Alfred Street, Blenheim	Oak	203
45.	Sophora japonica	Cnr Budge Street and Shirtliff Avenue, Blenheim	Pagoda tree	176
46.	Cedrus deodara	Eltham Road Reserve, Blenheim	Deodar	035a
47.	Sequoia sempervirens	Eltham Road Reserve, Blenheim	Redwood	035b
48.	Liriodendron tulipfera	Eltham Road Reserve, Blenheim	Tulip tree	035c
49.	Palatanus x acerifolia	Eltham Road Reserve, Blenheim	London plane	035d

50.	Eucalyptus viminalis (See also 173-176)	The Woodbourne Homestead, Fairhall, Blenheim	Manna gum	188
51.	Quercus robur	The Woodbourne Homestead, Fairhall, Blenheim	Oak	190
52.	Nestegis lanceolata	Freeths Road, Koromiko	White maire (59)	273a
53.	Nothofagus solandri var. 'Cliffortioides'	Freeths Road, Koromiko	Mountain beech (14)	273b
54.	Podocarpus hallii syn. Cunninghamii	Freeths Road, Koromiko	Hall's Totara (59)	273c
55.	Quercus robur	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Oak	274c
56.	Pseudotsuga menziesii	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Douglas fir (10)	274g
57.	Tilia x europaea	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Lime (3)	274a
58.	Aesculus hippocastanum	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Horse chestnut (2)	274b
59.	Quercus petraea	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Sessile oak	274d
60.	Quercus coccinea	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Scarlet oak	274e
61.	Quercus rubra	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Red Oak	
62.	Quercus petraea	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Sessile oak	
63.	Quercus coccinea	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Scarlet oak	
64.	Quercus rubra	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Red oak	274f
65.	Pseudotsuga menziesii	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Douglas fir	252
66.	Sequoiadendron giganteum	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Wellingtonia (10)	274h
67.	Cedrus atlantica	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Atlas cedar	274j
68.	Chamaecyparis nootkatensis	Hillersden Farm, Wairau Valley, R D 1, Marlborough	Nootka cypress	274k
69.	Abies pinsapo (See also 180)	Lake Timara near Renwick	Spanish fir	128a
70.	Catalpa bignonoides	Lake Timara near Renwick	Indian bean tree	128b
71.	Washingtonia filifera	Lake Timara near Renwick	Californian fan palm	128c
72.	Ulmus carpinifolia 'Webbiana' (See also 177-179)	Nelson Polytechnic Campus, Budge Street, Blenheim	Smooth leaved elm	254a

73.	Prunus cerasifera var 'Atropurpurea'.	Nelson Polytechnic Campus, Budge Street, Blenheim	Cherry plum	254b
74.	Castanea sativa	Nelson Polytechnic Campus, Budge Street, Blenheim	Sweet chestnut	254c
75.	Juglans regia	Nelson Polytechnic Campus, Budge Street, Blenheim	Walnut (7)	254d
77.	Araucaria bidwillii (See also 181)	Spring Creek Holiday Park, Rapaura Road	Bunya bunya	197
78.	Magnolia grandiflora	Spring Creek Holiday Park, Rapaura Road	Southern magnolia	198
79.	Alectryon excelsus	Wairau Incident Reserve, State Highway 1	Titoki	135
80.	Tilia x europaea	Whitney Street School Grounds, Blenheim	Lime (5)	134a
81.	Pseudotsuga menziesii	Whitney Street School Grounds, Blenheim	Douglas fir	134b
82.	Sequoia sempervirens	Whitney Street School Grounds, Blenheim	Redwood (4)	134c
83.	Agathis australis	82A Lakings Road, Blenheim	Kauri	
84.	Taxus baccata	80 Maxwell Road, Blenheim	English yew	
85.	Eucalyptus ficifolia	Cnr of Thompson Ford and Old Renwick Roads	Scarlet gum	
86.	Eucalyptus viminalis	Burleigh Park, Blenheim	Manna gum	
87.	Sequoia sempervirens	Burleigh Park, Blenheim	Redwood	
88.	Fagus sylvatica	32 Weld Street, Blenheim	Copper beech	
89.	Schinus molle	32 Weld Street, Blenheim	Pepper tree	
90.	Betula pendula	32 Weld Street, Blenheim	Silver birch	
91.	Chamaecyparis nootkaensis	32 Weld Street, Blenheim	Nootka cypress	
92.	Eucalyptus leucoxylon rosea.	Road Reserve 186 Redwood Street, Blenheim	Pink flowering gum (6)	
93.	Eucalyptus viminalis	Road Reserve 188 Redwood Street, Blenheim	Manna gum	
94.	Eucalyptus viminalis	Road Reserve 190 Redwood Street, Blenheim	Manna gum (2)	
95.	Eucalyptus viminalis	Road Reserve 200 Redwood Street, Blenheim	Manna gum	
96.	Eucalyptus leucoxylon rosea.	Road Reserve 124 Wither Road, Blenheim	Pink flowering gum (2)	
97.	Eucalyptus viminalis	Road Reserve 136 Wither Road, Blenheim	Manna gum	

98.	Eucalyptus leucoxylon rosea.	Road Reserve 138 Wither Road, Blenheim	Pink flowering gum (1)
99.	Eucalyptus leucoxylon rosea.	Road Reserve 140 Wither Road, Blenheim	Pink flowering gum (3)
100.	Eucalyptus leucoxylon rosea.	Road Reserve 142 Wither Road, Blenheim	Pink flowering gum (3)
101.	Quercus palustris	Seymour Square, Blenheim	Pin oak
102.	Eucalyptus viminalis	Morrington Reserve, Blenheim	Manna gum (13)
103.	Juglans regia	Ching Park, Blenheim	Walnut (4)
104.	Eucalyptus globulus	17 Nursery Lane, Seddon	Blue gum
105.	Morus nigra	52 Percy Street, Blenheim	Mulberry
106.	Psuedopanax lessonii hybrid	52 Percy Street, Blenheim	
107.	Prumnopitys ferruginea	52 Percy Street, Blenheim	Miro
108.	Sophora prostrata	52 Percy Street, Blenheim	Prostrat kowhai
109.	Podocarpus totara	52 Percy Street, Blenheim	Totara
110.	Cordyline australis	52 Percy Street, Blenheim	Cabbage tree
111.	Phyllocladus trichomanoides	52 Percy Street, Blenheim	Celery pine
112.	Pseudopanax ferox	52 Percy Street, Blenheim	Fierce lancewood
113.	Sophora microphylla	52 Percy Street, Blenheim	Kowhai (2)
114.	Nothofagus solandri var cliffortioides	52 Percy Street, Blenheim	Mountain beech
115.	Dacrydium cupressinum	52 Percy Street, Blenheim	Rimu (2)
116.	Dacrycarpus dacrydioides	52 Percy Street, Blenheim	Kahikatea (3)
117.	Nothofagus fusca	52 Percy Street, Blenheim	Red beech (2)
118.	Podocarpus nivalis	52 Percy Street, Blenheim	Snow totara
119.	Prumnopitys taxifolia	52 Percy Street, Blenheim	Matai
120.	Nothofagus solandri	52 Percy Street, Blenheim	Black beech
121.	Olearia paniculata	52 Percy Street, Blenheim	Akiraho
122.	Podocarpus totara	5 Camerons Road, Okaramio, RD 1, Havelock	Totara (2)
123.	Poplar deltoids	Road Reserve High Street, Renwick	Cottonwood poplar
124.	Sequoiadendron giganteum	Lansdowne, 2641 Wairau Valley, RD1, Blenheim	Wellingtonia (2)

125.	Sequioa sempervirens	Lansdowne, 2641 Wairau Valley, RD1, Blenheim	Redwood	
126.	Cedrus deodara	Lansdowne, 2641 Wairau Valley, RD1, Blenheim	Himalayan cedar	
127.	Eucalyptus ficifolia	Tua Marina Cemetery Hill	Scarlet gum	
128.	Juglans regia	McKendry Park, Orchard Lane, Blenheim	Walnut (28)	
129.	Juglans regia franquette	McKendry Park, Orchard Lane, Blenheim	Walnut (5)	
130.	Fagus sylvatica	2A Poynter Street, Blenheim	Copper Beech	
131.	Eucalyptus ficifolia	36A Mowat Street, Blenheim	Scarlet gum	
132.	Quercus robur	Marlborough Boys College	Oak (3)	339, 340, 342
133.	Fagus sylvatica purpureum	Marlborough Boys College	Copper beech	341
134.	Aesculus hippocastanum	Marlborough Boys College	Horse chestnut	343
135.	Podocarpus totara	Marlborough Boys College	Totara	
136.	Sophora sp	Marlborough Boys College	Kowhai	
137.	Elaeocarpus hookerianus	Marlborough Boys College	Pokaka	
138.	Cordyline Australia	Marlborough Boys College	Cabbage tree	
139.	Fagus slyvatica	Marlborough Boys College carpark, 20 Stephenson Street	Copper beech	
140.	Agathis australis	Marlborough Boys College	Kauri	344
141.	Dacrycarpus dacrydridioides	Marlborough Boys College	Kahikatea (2)	
142.	Eucalyptus viminalis	Sandhills, SH1	Gum	
143.	Quercus robur	81 Seymour Street, Blenheim	English oak	
144.	Quercus palustris	38 Beaver Road, Blenheim	Oak	
145.	Quercus robur	Road Reserve adjoining 42 Lakings Road, Blenheim	English oak	
146.	Chamaecyparis nootkaensis	Road Reserve adjoining 40 Lakings Road, Blenheim	Nootka cypress	
147.	Sequoidendron giganteum	Kinross Street carpark, Blenheim	Wellingtonia	
148.	Tilia europaea	16 Bank Street, Blenheim	Common lime	
149.	Quercus robur	5B Burden Street	English Oak	325
150.	Sequoiadendron giganteum	45 Houldsworth Street, Blenheim	Wellingtonia	
151.	Xcupressocyparis	43 Houldsworth Street, Blenheim		

152.	Xcupressocyparis	2 Park View Lane, Blenheim		
153.	Sequoiadendron giganteum	Spring Terrace, SH6	Wellingtonia (2)	312b
154.	Eucalyptus globulus	Spring Terrace, SH6	Tasmanian blue gum	312a
155.	Sequoiadendron giganteum	Livermere, 294 Middle Renwick Road, SH6	Wellingtonia	
156.	Cedrus deodara	Livermere, 294 Middle Renwick Road, SH6	Cedar	
157.	Pinus nigra (laricio)	Livermere, 294 Middle Renwick Road, SH6	Corsican pine	
158.	Sequioadendron giganteum	Livermere, 294 Middle Renwick Road, SH6	Wellingtonia	
159.	Araucaria bidwillii	Livermere, 294 Middle Renwick Road, SH6	Bunya bunya	
160.	Eucalyptus globulus	Langley Dale, Northbank Road	Gum	
161.	Quercus robar	Langley Dale, Northbank Road	Oak	
164.	Cedrus atlantica	Roundabout, Nelson Street Road Reserve, Blenheim	Cedar	
165.	Abies pinsapo	'Seven Oaks', 106 Brookby Road, Hawkesbury near Renwick	Spanish fir	
166.	Michelia	108 Maxwell Road, Blenheim	Silver cloud	
167.	Fraxinus excelsior	108 Maxwell Road, Blenheim	Ash	
168.	Tilia x europaea	16 Bank Street, Blenheim	Lime	175
169.	Agathis australis	84 Nelson Street, Springlands, Blenheim	Kauri	
170.	Aesculusx carnea	84 Nelson Street, Springlands, Blenheim	Red horse chestnut	
171.	Aesculus hippocastanum	Bethsaida Home, Litchfield Street, Blenheim	Horse chestnut	
172.	Magnolia grandiflora	Bethsaida Home, Litchfield Street, Blenheim	Magnolia	
173.	Taxus bacata fastigata	The Woodbourne Homestead, Fairhall, Blenheim	Irish yew	
174.	Quercus robur	The Woodbourne Homestead, Fairhall, Blenheim	English oak	
175.	Ilex aquifolium	The Woodbourne Homestead, Fairhall, Blenheim	Common holly	
176.	Populus deltoides	The Woodbourne Homestead, Fairhall, Blenheim	Poplar	
177.	Ginkgo biloba	Nelson Polytechnic Campus, Budge Street, Blenheim	Ginkgo	
178.	Liquidambar styraciflua	Nelson Polytechnic Campus, Budge Street, Blenheim	Liquidamber	

Planning Map Notation	Location	Name	Legal Description	Class/ Category
179.	Betula pendula	Nelson Polytechnic Campus, Budge Street, Blenheim	Silver birch (5)	
180.	Populus yunnanensis	Lake Timara near Renwick	Poplar	
181.	Cedrus deodara	Spring Creek Holiday Park, Rapaura Road	Himalayan cedar	196

Appendix B
Schedule of Designated Land

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
1	146	Minister of Defence	Woodbourne Air Base. SH 6	Pt Sec 166 Omaka RD. Blk XIV Cloudy Bay SD Marlborough RD. Pt Secs 72 & 73 Blk XIV. Pt Secs 74, 76, Omaka. Pt Lot 2, DP 2563. Pt Sec 166, Omaka. Pt Sec 73 Omaka RD. Blk XIV Cloudy Bay SD Pt old Omaka River Bed. Blk XIV Cloudy Bay SD Pt Lot 1, DP 3433. Pt DP 420. Pt Lots 5 & 6 DP 1326 Pt Sec 166 and Pt Old Omaka River Bed Blk XIV Cloudy Bay SD, Pt Secs 62 and 166 Omaka SD blk XIV Cloudy Bay SD Marlb RD	Defence Purposes (for explanation refer to Designation Area No. 1 at the end of Appendix B)
2	213	Minister of Defence	Woodbourne Air Base	Airspace	Defence Purposes-(for explanation refer to Designated Area No. 2 at the end of Appendix B)
3	156	Marlborough District Council	Middle Renwick Road	Part Lot 34 Deeds 18	Water Treatment Plant and Town Supply (Extension to existing designation to include 108 Middle Renwick Road – See DES0038)
4	162	Marlborough District Council	Rear of Fire Station	Lot 2 DP 4778	Road Re-alignment
7	156	Minister of Education	Springlands School, Aston St and Murphys Rd, Springlands, Blenheim.	Lots 48-52 and Pt Lots 54-56 DP 18 and Sec 1 Blk XVI Cloudy Bay S.D.	Primary School and Kindergarten
8	146	Meteorological Service of New Zealand	Sec 73 Blk XIV Cloudy Bay SD SO 4482	Sec 73 Blk XIV Cloudy Bay SD SO 4482	Meteorological Activities
9	146	Meteorological Service of New Zealand	Sec 73 Blk XIV Cloudy Bay SD SO 4482	Sec 73 Blk XIV Cloudy Bay SD SO 4482	Meteorological Activities
10	203	Meteorological Service of New Zealand	Adjacent to and within the Cape Campbell lighthouse	-	Meteorological Activities

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
11	128	Minister of Education	Cnr Cotterill St and Campbells Rd, Tuamarina. Tuamarina School	Secs 11, 18, 19 and Pt Secs 12, 13, 14, 15, 17 Village of Tuamarina.	Primary School
12	176	Minister of Education	Morse St, Wairau Valley Wairau Valley School	Sec 40 Blk IV Mount Olympus SD.	Primary School
14	165	Minister of Education	Cleghorn St, Redwoodtown, Blenheim. Redwoodtown School	Pt Lots 17-19 and Lots 34-38.	Primary School
15	165	Minister of Education	Weld St, Witherlea, Blenheim. Witherlea School	Pt Secs 18 & 19 Blk IV Taylor Pass SD and Lot 2 DP 2958.	Primary School (Alteration of existing designation – See DES0063)
16A	157	Minister of Education	Bohally Intermediate McLauchlan St	Pt sec 52 Omaka RD	Intermediate School
16B	157	Minister of Education	Marlborough Girls College Cnr McLauchlan and Nelson St	Pt sec 52 Omaka RD.	Secondary School
17	157	Minister of Education	Hutcheson St, Mayfield, Blenheim. Mayfield School	Pt Sec 50 Wairau RD	Primary School
18	161	Minister of Education	Alfred St, Blenheim. Blenheim School	Lot 74 DP 15, Pt Lots 75,76, 77, 78, 79 and 80 DP15	Primary School
21	145	Minister of Education	High, Brook and Havelock . Sts. Renwick Renwick School	Pt Sec 163 Wairau SD Sec 167 Wairau SD Sec 10 Blk XIII Cloudy Bay SD. Stopped Road.	Primary School and Playcentre
23	138	Minister of Education	Hammerichs Rd, Raupara. Raupara School	Lots 1 and 2 DP 1288 Blk X Cloudy Bay SD	Primary School
24	140, 141	Minister of Education	Ferry Rd, Spring Creek Spring Creek School	Lot 2 DP 2051, Lots 65 - 72 DP 485, Pt Sec 50 Wairau West RD, and Pt Lot 2 DP 961	Primary School and Playcentre
25	140	Minister of Education	Cnr Fell and Vickerman Sts, Grovetown. Grovetown School	Lots 1, 2 and 16 DP 1359 Blk XI Cloudy Bay SD	Primary School

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
26	163	Minister of Education	School Rd, Riverlands. Riverlands School	Pt Lot 2 DP 1232 and Pt Lot 23 DP 16 and Lot 2 DP 3694	Primary School (Extension to existing designation to include 17 School Road - See DES0035).
27	153	Minister of Education	New Renwick Rd, Fairhall Fairhall School	Pt Sec 20 Omaka SD, and Lots 1-3 DP 1239.	Primary School
28	132	Minister of Education	Pine Valley Rd, Pine Valley, Pine Valley School	Lot 3 of 2 Blk XVIII Pine Valley SD	Outdoor Education Centre
29	200	Minister of Education	Newcome, Wakefield (SH1) and Foster Sts, Seddon Seddon School	Sec 8 and Pt Secs 1 & 9 Blk XII Town of Seddon	Primary School and Playcentre
30	201	Minister of Education	Cnr Carroll and Duncan Sts, Ward Ward School	Sec 14 Blk VII Town of Ward	Primary School
31	161	Minister of Education	Whitney St, Blenheim Whitney Street School	Lots 5-7 and Pt lot 10 DP4, Pt Lots 2 and 5 DP 1236, Lot 2 DP 794, Pt Sec 4 Omaka RD.	Primary School and Playcentre
33	161, 162	Minister of Education	Stephenson, Scott and Francis Streets, Whitney, Blenheim. Marlborough Boys College	Lot 1 DP 8651, Pt Lot 1 DP 350, Pt Lot 3 DP 350,Pt DP 448,Lots 1 – 3 DP 1173, Pt DP 383, Pt Lot 1 Deeds 21. Lot 1 DP 1497, Lot 1 DP 2220, Lot 5 DP 1489. Pt lots 12 DP 52, Pt Lot 13 DP 52, Pt Lot 14 DP 52, Lots 15 – 19 DP 52, pt Sec 2 Omaka Dist, Pt Lot 21 DP195, Lot 1 DP 1151, Pt Lot 24 DP 429, Pt Lot 21 DP 429, Lots 19 & 20 DP 429, Lots 22 & 23 DP 429, Pt Lots 4 & 5 DP 429.	Secondary School and College park
34	162	Minister of Police	8 Main St, Blenheim.	Part Lot 1 DP 430 & Sec 98 Blk XVI Cloudy Bay SD	Police Station
35	145	Minister of Police	65A High St, Renwick	Lot 2 being part of a subdivision of Pt Lots 267, 268, 276 and277 DP 5A.	Community Policing Centre
36	140, 141	Telecom New Zealand Limited	Ferry Rd, Spring Creek.	Pt Lot 93 DP 12 Blk Cloudy Bay SD	Telecommunication and Radio Communication & Ancillary Buildings
37	162	Telecom New Zealand Limited	Main St, Blenheim.	Sec 2 & 3 SO 6756 Blk XVI Pt Sec 1 Dist Omaka, Borough of Blenheim	Telecommunication& Radio Communication & Ancillary Buildings

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
38	206	Telecom New Zealand Limited	Benmore, Sth of Ure River.	Scenic Reserve, Sec of Blks III, IV & IX, Whernside SD	Telecommunication& Radio Communication & Ancillary Buildings
39	187	Telecom New Zealand Limited	Jamies Knob, Cnr Redwood Pass Rd	Pt Sec 7 Pt DP 299 SO 4684 Blk Clifford Bay SD	Telecommunication& Radio Communication & Ancillary Buildings
40	162	Telecom New Zealand Limited	Stuart St, Blenheim.	Lot 16 DP 305341	Blenheim Microwave Station. (Uplifting of designation over part of road being Timandra Place, Blenheim, leaving the balance of the designation on Lot 16 DP 305341 – See DES0028)
41	186	Telecom New Zealand Limited	North East of SH1/Redwood Pass Rd Intersection,	Lot 1 DP 10843	Dashwood Microwave Station Clifford Bay SD
42	145	Telecom New Zealand Limited	High St Renwick	Sec 2 SO 6760 Blk XIII Cloudy Bay SD	Renwick Exchange
43	179	Telecom New Zealand Limited	Avon Valley Rd, Waihopai.	Pt Sec 2 Blk XIV Avon SD	Waihopai Exchange
44	201	Telecom New Zealand Limited	Seddon St, Ward.	Sec 5 Blk IX Twn of Ward	Ward Exchange
45	205	Telecom New Zealand Limited	SE of Ward	Pt Sec 8 Blk IX Cape Campbell SD	Ward Microwave Station
46	196	Telecom New Zealand Limited	Black Birch Observatory Site	Pt Run 16B, Blk VIII, Hodder SD & Pt Sec 1 Blk XIX Taylor Pass SD	Black Birch Range Landmobile Radio Station
47	200	Telecom New Zealand Limited	4 Richmond St, Seddon	Secs 1&2 SO 6761 Blk X Clifford Bay SD	Seddon Exchange
48	155	Telecom New Zealand Limited	SW Blenheim/Wither Hills	Lots 1&2 DP 2833 Blks IV and V Taylor Pass SD	Vernon Telepaging/ Landmobile Radio Station
49	205	Telecom New Zealand Limited	Weld Cone, SW of Ward Township.	Sec 2 SO 6530 Blk IX Cape Campbell SD	Weld Cone Microwave / Land Mobile Radio Station
50	128	Marlborough District Council	Taumarina	Lot 1 Dp 1442 PN 141057 & Sec 122 SO 6146 Gaz 1984 pg 659 PN 141057	Tuamarina Cemetery
51	165	Marlborough District Council	Cnrs Wither and Maxwell Rds	Pt Sec 25 Blk III Taylor Pass SD Gaz 1982 p336	Omaka Cemetery
52	165	Marlborough District Council	Cnrs Wither and Maxwell Rds	Lot 2 Cemetery Reserve Gaz 1982 p 336 Sec 8 Blk III Taylor Pass SD Cemetery Reserve Ga	Omaka Cemetery
53	146, 152	Marlborough District Council	New Renwick Rd, Fairhall	Pt Lot DP 4468 PN 162624	Fairhall Cemetery
54	199	Marlborough District Council	Marama Rd, Seddon	Sec 9 Blk XIII Clifford Bay.	Seddon Cemetery

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
55	201	Marlborough District Council	SH1, Ward.	Sec 21 Blk VI Cape Campbell SD PN 181569	Ward Cemetery
56	162	Marlborough Electric Limited	Alfred St Blenheim	Lot 1 DP 2026.	Administration Building
57	162	Marlborough Electric Limited	Alfred St Blenheim	Sec 230 Omaka SD	ROW Access
58	164, 165	Marlborough Electric Limited	Taylor Pass Rd, Blenheim	Lot 1 DP 4054 Pt Sec 24, 25 Blk III and Sec 32, 33 Blk III	Industrial Park
59	156	Marlborough Electric Limited	Old Renwick Rd, Blenheim	Lots 5, 6 DP 401	System control and Substation
60	200	Marlborough Electric Limited	Fearon St, Seddon	Lot 1 DP 7437	Substation and Depot
61	200	Marlborough Electric Limited	SH 1, Seddon	Lot 1 DP 3464	Switch Station
62	169	Marlborough Electric Limited	SH 1 Riverlands	Lot 16 DP 4721	Substation and Switch Station
63	146	Marlborough Electric Limited	Old Renwick Rd, Rapaura	Lot 3 DP 5599	Substation
64	140, 141	Marlborough Electric Limited	Rapaura Rd, Spring Creek	Lot 1 DP 2435 Pt Sec 50 Blk XI Cloudy Bay SD	Substation
65	144	Marlborough Electric Limited	SH 63 Renwick	Lot 1, 3 DP 4496	Substation
66	165	Marlborough Electric Limited	Hospital Rd, Blenheim	Lot 2 DP 5875	Substation
67	157	Marlborough Electric Limited	Nelson St Blenheim	Lot 1 DP 5917	Substation
68	201	Marlborough Electric Limited	Cnr Seddon and Carroll Sts, Ward	Sec 10 Blk XIII Twn of Ward	Substation
69	128	Marlborough Electric Limited	Hunter Rd, Tua marina	Lot 1 DP 4156	Switch Station
70	156	Marlborough Electric Limited	Old Renwick Rd, Blenheim	DP 1065 pt sec 67 Blk XVI Cloudy Bay SD	Diesel Generation Stn

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
71	175	Marlborough Electric Limited	Waihopai Electric	Pt Sec 137, 138 Dist Waihopai Sec 2 Blk XVI Avon SD; Sec 3, 4 Blk XVI Pt DP 1081 Blk XVI Pt Sec 50, 96, 97, 98 Dist Waihopai DP 1044 Blk XVI Avon SD Pt Sec 49 Dist Waihopai.	Waihopai River Power Scheme
72	172, 190, 191	Marlborough Electric Limited	Branch, Wairau Valley	Lot 12 DP 6494, Sec 1 SO 6339 Patriarch SD Lot 11 DP 6494 Lots 9 & 8 DP 6493	Branch River Power Scheme
73	190	Marlborough Electric Limited	Branch, Wairau Valley	Lots 1 and 4 DP 6492 Sec 10 Blk XVI Patriach SD Sec 1 SO 6338 Sec 9 Blk XVI Pt Sec 6 Blk XVI	Branch River Power Scheme
74	162	Marlborough Electric Limited	Cnr Seymour and Francis Sts Blenheim	Lot 2 DP 4869, Sec 139 Blk XVI Cloudy Bay SD	Future Substation
75	161	Marlborough Electric Limited	Alfred St Blenheim	Lot 3 DP 5473	Substation
76	161	Marlborough Electric Limited	Arthur St, Blenheim	Pt DP 78	Substation
77	162	Marlborough Electric Limited	Queen St, Blenheim	DP 453 and DP 557	Substation
78	161	Marlborough Electric Limited	Seymour St, Blenheim	Pt DP 804, Pt Lot 1 DP 1727	Substation
79	162	Marlborough Electric Limited	Kinross St, Blenheim	Lot 2 DP 5935	Substation
80	162	Marlborough Electric Limited	Wynen St, Blenheim	Lot 1 DP 5923	Substation
81	162	Marlborough Electric Limited	First Lane, Blenheim	Pt Lot 6 DP 3027	Substation
82	145	Marlborough District Council	High St, Renwick	Lot 1 DP 4579	Renwick Museum and Library
83	156	Transpower	Cnr Thomsons Ford Road and Old Renwick Road, Blenheim	Sec 1 SO 4246 Lot 1 DP 8572, Pt Sec 1 SO 6959	Substation
84	170	Marlborough District Council	Blenheim Sewage Treatment Plant, Hardings Road	Pt Sec 8 Opawa Dist, Pt Sec 2 & 5 Blk I Clifford Bay SD, Pt Sec 25 & 28 Opawa Dist, Lot 1 DP 3199 and Pt Section 24, Block II Wairau Registration District	Blenheim Sewage Treatment Plant
86	176	Marlborough District Council	Church Lane, Wairau Valley	Lot 1 DP 9728	Transfer Station Site Alteration to the location of existing designation (see DES0032).
87	201	Marlborough District Council	Cnr Seddon and Carroll Sts, Ward	Pt Sec 10 Blk XIII Town of Ward	Transfer Station Site

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
88	Numerous	Marlborough District Council	Wairau River	-	Floodway purposes and river control works in accordance with Appendix F
89	Numerous	New Zealand Railways Corporation	-	-	Railway Purposes (Designation altered re Awatere Bridge replacement - see DES0010) (Designation altered re Ōpaoa Bridge replacement)
90	Numerous	New Zealand Transport Agency	State Highway No 1 State Highway No 6 State Highway No 62 State Highway No 63	-	State Highway Purposes (refer to explanation at the end of Appendix B) (New Designation and alteration to existing Designation re Awatere Bridge replacement - see DES0008 and DES0009) (Part of designation over Sinclair Street, Blenheim uplifted) (Alteration to existing Designation to allow south bound passing lane at Riverlands – See DES0013) (Alteration to existing Designation re Seventeen Valley Passing Lane - see DES0014) (Alteration to existing Designation re Dashwood Passing Lane - see DES0015) (Alteration of existing Designation re construction of a northbound passing lane between Rapaura Road and Spring Creek bridge. - see DES0016) (Alteration to existing Designation re Speeds Road/Para Road Passing Lane - see DES0017) (Alteration of existing designation re: alignment of State Highway 1 at Lions Back, Seddon (DES0041) (Alteration of existing designation re: alignment of State Highway 6, Sneiders Creek Bridge, Okaramio - see DES0043)

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
90 (Cont)					(Alteration of existing designation re upgrade of State Highway 6, Bells Road and St Leonard Road intersection - see DES0049) (Alteration of existing designation re upgrade of Dashwood Pass overbridge and realignment of State Highway 1 - see DES0050) Alteration of existing designation re: upgrade of the Intersection of State Highway 1 and Alabama Road, Blenheim – see DES0051) (Alteration of existing designation to add an additional 384 square metres of land on the corner of State Highway 1 and State Highway 62 at Spring Creek – See DES0065) (Addition of State Highway No 62 – see DES0067) (Alteration of existing designation for State Highway 1 to provide for a new (additional) bridge and realigned approaches over the Ōpaoa River - see DES0075)
91	155, 165, 166, 168, 185	Marlborough District Council	Wither Hills Soil Conservation Reserve		Soil Conservation
92	127, 129	Marlborough District Council	Pukaka Floodway		Floodway purposes and river control works in accordance with Appendix F
93	126, 127, 129, 130	Marlborough District Council	Wairau Diversion	-	Floodway purposes and river control works in accordance with Appendix F
94	129, 170	Marlborough District Council	Lower Wairau River	-	Floodway purposes and river control works in accordance with Appendix F
95	Numerous	Marlborough District Council	Upper Opawa	-	Floodway purposes and river control works in accordance with Appendix F
96	155, 159, 170	Marlborough District Council	Roses Overflow	-	Floodway purposes and river control works in accordance with Appendix F

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
97	162, 163, 169, 170	Marlborough District Council	Lower Opawa	-	Floodway purposes and river control works in accordance with Appendix F
98	166, 167, 169	Marlborough District Council	Riverlands	-	Floodway purposes and river control works in accordance with Appendix F
99	155, 166	Marlborough District Council	Sutherlands	-	Floodway purposes and river control works in accordance with Appendix F
100	165, 168	Marlborough District Council	Rifle Range	-	Floodway purposes and river control works in accordance with Appendix F
101	157, 161, 162, 164	Marlborough District Council	Taylor	-	Floodway purposes and river control works in accordance with Appendix F
102	146, 147	Marlborough District Council	Fairhall	-	Floodway purposes and river control works in accordance with Appendix F
103	144, 147	Marlborough District Council	Omaka	-	Floodway purposes and river control works in accordance with Appendix F
104	140, 141	Marlborough District Council	Peninsula Road	-	Sewage Treatment Plant
105	200	Marlborough District Council	Seddon Transfer Station	Sec 13 SO 1383 CT 5B/236	Transfer Station Site
106	164	Marlborough District Council	Wither Road	Pt Sec 15 SO 1166 & Part River Reserve	Refuse Transfer Station
107	155, 168, 185	Marlborough District Council	Taylor Pass Road	CT 4C/1259	Bluegums Landfill
108	157	Marlborough District Council	McLauchlan Street	Lot 1 Dp 2777	Sewage Pumping Station
109	158	Marlborough District Council	Budge Street	Lot 1 DP 1351	Sewage Pumping Station
110	158	Marlborough District Council	Lane Street	Lot 1 DP 1348	Sewage Pumping Station
111	158	Marlborough District Council	Bomford Street	Pt Lot 1 DP 1347	Sewage Pumping Station
112	158	Marlborough District Council	Gascoigne Street	Lot 1 DP 1350	Sewage Pumping Station
113	161	Marlborough District Council	Purkiss Street	Lot 1 DP 2770	Sewage Pumping Station
114	162	Marlborough District Council	Symons Street	Pt Lot 2 DP 3893	Sewage Pumping Station

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
115	161	Marlborough District Council	George Street	Lot 1 DP 1349	Sewage Pumping Station
116	162	Marlborough District Council	Stuart Street	Pt Sec 46 Opawa SD	Sewage Pumping Station
118	163	Marlborough District Council	Alabama Road	Lot 1 DP 5727	Sewage Pumping Station
119	158	Marlborough District Council	Pitchell Street	Lots 1 & 2 DP 5866	Water Pumping Station
120	161	Marlborough District Council	Graham Street	Lot 4 DP 7236	Water Pumping Station
121	161	Marlborough District Council	Beaver Road	Lot 1 DP 4489	Water Pumping Station
122	165	Marlborough District Council	Wither Road	Pt Sec 1 Blk III Taylor Pass SD	Water Pumping Station
123	144	Marlborough District Council	Boyce Street, Renwick	Lot 1 DP 4652	Water Pumping Station
124	144	Marlborough District Council	Terrace Road	Lot 1 DP 465 & Lot 1 DP 5238	Water Pumping Station
125	169	Marlborough District Council	Malthouse Road	Legal Road	Water Pumping Station
126	176	Marlborough District Council	Wairau Valley Township	Sec 77 Blk IV Mt Olympus SD	Water Pumping Station
127	126	Marlborough District Council	Speeds Road	Sec 161 Picton SD and Section 1 SO 434637	Water Pumping Station
128	131	Marlborough District Council	Rarangi	Lot 1 DP 8662	Water Pumping Station
129	157	Marlborough District Council	Old Renwick Road	Sec 71 Blk XVI Cloudy Bay SD	Flood Pump Station
130	157	Marlborough District Council	Parker Street	Pt Lot 1 DP 6572	Pumping Station
131	157	Marlborough District Council	Nelson Street	Pt Lot 2 DP 5503 & Pt Lot 15 DP 1530	Flood Pumping Station
132	159	Marlborough District Council	Budge Street	Sec 118 Blk XVI Cloudy Bay SD	Flood Control Structure
133	161	Marlborough District Council	Boyce Street	Lot 22 DP 3414	Flood Pumping Station
134	161	Marlborough District Council	Monro Street	Sec 134 BLK XVI, Lot 1 DP 5786, Pt Lot 2 DP 1482	Flood Pumping Station
135	161	Marlborough District Council	Andrew Street	Legal Road	Flood Pumping Station
136	162	Marlborough District Council	Park Terrace	Pt Lot 2 DP 3893	Flood Pumping Station

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
137	162	Marlborough District Council	Symons Street	Pt Lot 2 DP 3893	Flood Pumping Station
138	162	Marlborough District Council	Horton Street	Lot 31 DP 4921	Flood Control Structure
139	155	Marlborough District Council	Wither Farm	Sec 2 of 8 Blk IV Taylor Pass SD	Water Reservoir
140	196, 197	Marlborough District Council	Black Birch	Sec 1 7029 & Pt Sec 1 Blk XIV Taylor Pass SD	Water Supply Catchment
141	165	Marlborough District Council	Leafmare Subdivision	-	Flood Control Structure
142	165	Marlborough District Council	Harling Park	Lot 1 DP 4996 and Lot 3 DP 8450	Flood Control and Detention Area
143	169	Marlborough District Council	Riverlands	Pt Lot 1 DP 5686	Water Supply Reservoir
144	175	Marlborough District Council	Parsons Road	Lot 4 DP 3935	Quarry
145	200	Marlborough District Council	Seddon Fire Station	Sec 12 Blk XIV Town of Seddon	Fire Station
147	127, 130	Marlborough District Council	Pembers Road	Pt Sec 8 Marshlands Run	Quarry
150	132	Marlborough District Council	Fabians Quarry	Pt Sec 4 Blk IX Onamalutu SD	Quarry
151	134	Marlborough District Council	Langley Dale	Pt Lot 1 DP 7107	Quarry
152	135	Marlborough District Council	Kaituna Quarry	Pt Lot 3 DP 7195	Quarry
154	126	Marlborough District Council	Barnetts Quarry	Pt Sec 6 Raydale Run North Bank of Wairau District	Quarry
155	205	Broadcast Communications Limited	Weld Cone	Pt Lot 1 DP 8409	Telecommunications and Broadcasting
157	161	Minister for Courts	Blenheim Courthouse	Sec 4 SO 1640	Courthouse
158	162	Marlborough District Council	Railway Land East of Grove Road	SO 4971	Carpark
159	162	Marlborough District Council	Railway Land East of Grove Road	Pt Lot 2 DP 3893 SO 4971, Lot 2 DP 7883	Carpark
160	162	Marlborough District Council	Railway Land East of Grove Road	Legal Road	Carpark
161	Combined into 90	New Zealand Transport Agency	Railway Land East of Grove Road	Pt Lot 2 DP 3893 SO 4971	State Highway

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
162	Combined into 89	New Zealand Railways Corporation	Railway Land East of Grove Road	Pt Lot 2 DP 3893 Legal Road, Lot 1 DP 7994	Railway Purposes
163	162	Marlborough District Council	Railway Land East of Grove Road	Pt Lot 2 DP 3893 SO 4971	Road
164	162	Marlborough District Council	Wynen Street Carpark	Lot 1 DP 5265	Carpark
165	162	Marlborough District Council	10 Kinross Street	Lot 1 & 2 DP 2918, Lot 6 DP 1507	Proposed Carpark
166	162	Marlborough District Council	Alfred Street	Pt Lot 1 DP 1420, Lot 2 DP 1420, Lot 2 DP 1053, Pt DP 134, Lot 1 DP 8803, Pt DP 124, Pt DP 358, Lot 3 DP 1053	Carpark
167	158	Marlborough District Council	Cnr Bomford and Auckland Streets	Lot 5, DP 1466 and Lot 6 DP 1466	Town Water Supply Treatment Extension of designation to include adjoining property – See DES0033.
168	138	Marlborough Lines Limited	287 Hammerichs Road	Lot 1 DP 2323	Substation
169	5	Airways Corporation of New Zealand Ltd	Mt Robertson	Part Lot 9 SO 5876 Block XVI, Linkwater Survey District	Air Navigation Aid (see file DES0007) for conditions)
170	155, 185	Marlborough District Council	The Ned	Lot 5 DP 11451	Radio/ communication, telecommunicationan d broadcasting and ancillary and associated purposes. (See DES0022)
171	124	Marlborough District Council	Mt Riley	SO5479	Radio/ communication, telecommunicationan d broadcasting and ancillary and associated purposes. (See DES0019)
172	155, 168	Marlborough District Council	Wither Hills	Lot 1 DP8914 Sec 8 Blk IV Taylor Pass SO. Lot 198 DP 319588. Lot 195 DP 309561. Lot 198 DP 331969.	Radio/ communication, telecommunicationan d broadcasting and ancillary and associated purposes. (See DES0018)
173	5	Marlborough District Council	The Elevation	Lot 3 DP 7691	Radio/ communication, telecommunicationan d broadcasting and ancillary and associated purposes. (See DES0020)

ID No.	Map Number	Requiring Authority	Site Description	Legal Description	Designation
174	155	Broadcast Communications Limited	Wither Hills	Lot 1 DP 2833	Telecommunications and broadcasting
175	164	Marlborough District Council	Resource Recovery Centre, Taylor Pass Road	Sec 1 SO 379599	Resource Recovery Centre and Transfer Station
176	168	Marlborough District Council	Wither Hills	Lots 613 & 615 DP 409373	Water Reservoir Alteration to the designation as it applies to the access to the Wither Hills High/Low Reservoir site – (See DES0052)
177	169, 170	Marlborough Lines Limited	23 Cloudy Bay Drive	Lot 4 DP 404704 (CFR 416308)	Substation (See DES0045)
179	179	Marlborough Lines Limited	Waihopai Valley Road	Lot 1 DP 806 (CFR MB24/42)	Substation (See DES0047)
181	122	Marlborough District Council	Elevation, Picton	Lot 1 DP 4438	Water Reservoir (See DES0054)
182	199, 200	Marlborough District Council	Wakefield Street, Seddon	Lot 3 DP 307524	Seddon Water Treatment Plant (See DES0073)

Designated Area No 1 - Explanation

To be utilised for any or every purpose required by Section 5 of the Defence Act 1990, as follows:

a) The defence of New Zealand, and of any area for the defence of which New Zealand is responsible under any Act;

b) The protection of the interests of New Zealand, whether in New Zealand or elsewhere:

c) The contribution of forces under collective security treaties, agreements or arrangements;

d) The contribution of forces to, or for any of the purposes of, the United Nations, or in association with other organisations or states and in accordance with the principles of the charter of the United Nations.

e) The provision of assistance to the civil power either in New Zealand or elsewhere in time of emergency; and

f) The provision of any public service.

The designated area includes explosive storage facilities which require a safety separation radius of 220m centred on No. 1 Bomb Store.

The next page is App B - 13

Designated Area No 2 - Explanation

Woodbourne Airport Height Restrictions

a) Main Runway 07/25

The main runway is 1425 metres long and 45.7 metres wide and is orientated on a bearing of 86°00' True and has a sealed surface.

b) Main Strip

The main strip is currently 1545 metres long and 152.5 metres wide and contains the main runway symmetrically within it.

c) Parallel Grass Runway 07/25

Running parallel to the main sealed runway 07/25 is a grass strip of 1545 metres by 150 metres. Transitional side slopes and take-off climb/approach fans originate from this strip in the same manner as for the main runway. The close proximity of this parallel runway to the main runway means that these protection surfaces do not appear at the scale used for the planning maps. It is, however, displayed on the larger map held at the Council.

Subsidiary Strip 10/28

The subsidiary strip is 1335 metres long and 45 metres wide and is orientated on a bearing of 121°53' True.

d) Take-off Climb/Approach Slopes

There is a take-off climb/approach slope arising at a specific gradient from the level of the lowest part of the strip. Each take-off climb/approach slope extends over a horizontal distance specified below and is symmetrically disposed about the extended centre line of the strip with its sides diverging uniformly outward at a rate of 15% (8°32') from the corners of each strip end. In the case of the turning flight path surface a 4.6 metre step down occurs at the commencement of the turn and the whole width of the surface then continues.

e) Main Take-off Climb/Approach Slopes

Each of the two take-off climb/approach slopes off the main strip rises at a gradient of 1.6% (1 in 62.5) over a horizontal distance of 15000 metres. In addition there is a curved take-off climb surface with its origin at the western end of the main strip. The base line is 152.5 metres wide and extends straight ahead for a distance of 914 metres then curves right on a centre line radius of 1295.4 metres until it intercepts the 45 metres horizontal surface. The slope of this surface has a gradient of 1.6% (1 in 62.50). From point of commence of turn there is a 4.6 metre vertical step down across the full width of the fan and the gradient then continue on from this lower level at 1.6%

f) Subsidiary Strip Take-off Climb/Approach Slopes

Each of the two take-off climb/approach slopes off the subsidiary strip rises at a gradient of 2% (1 in 50) over a horizontal distance of 2500 metres.

g) Transitional Slopes

These extend upwards and outwards from both the sides of each approach slope and the length of the strip edge, rising at a gradient of 14.3% (1 in 7) to intercept the horizontal surface.

h) Horizontal Surface

The horizontal surface is a horizontal plane, with a height of 45 metres above the established airport datum and extending 4000 metres from all four sides of the strip edge. Where ground

rises so that it penetrates or becomes close to the horizontal surface, then, with the written permission of the Director of Civil Aviation, this surface may be adjusted in conformity with the ground so as to provide a vertical clearance of 10 metres above ground level.

i) Conical Surface

The conical surface extends from the periphery of the horizontal surface upwards and outwards at a slope of 5% until a height of 150 metres above the airfield datum is reached. Where ground rises so that it penetrates or becomes close to the conical surface then this surface may, with the written permission of the Director of Civil Aviation, be adjusted in conformity with the ground so as to provide vertical clearance of 10 metres.

Note:

All height restrictions are based on Civil Aviation (AC 139.06A) obstacle limitation surfaces.

All elevations in this notice are provided in metres above average mean sea level unless otherwise stated.

Designation for State Highways - Description of State Highway Purposes

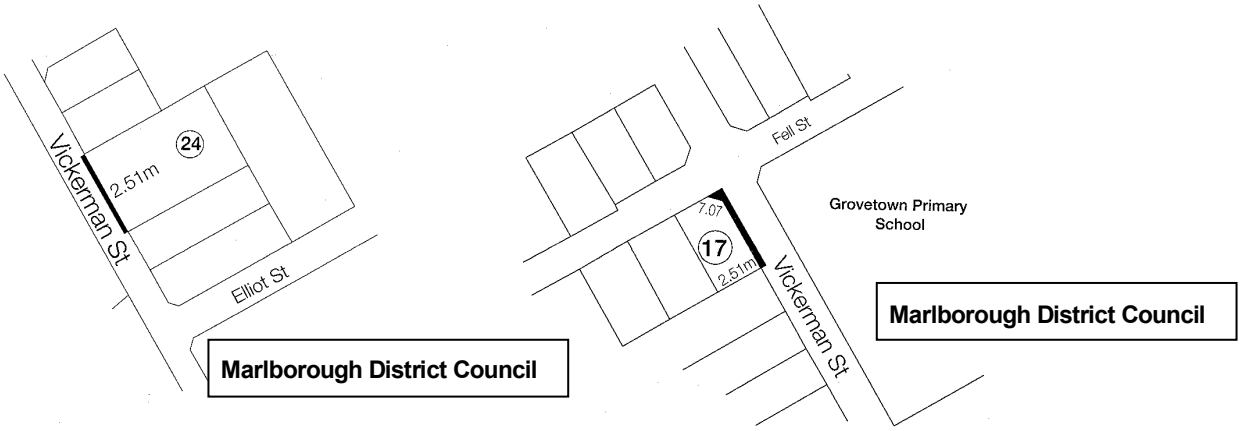
To control, manage and improve the state highway network including planning, design, research, construction and maintenance relating to all land within the designation. Such activities may involve realigning the road, altering its physical configuration, culverts, bridges and associated protection works.

Schedule of Road Widening

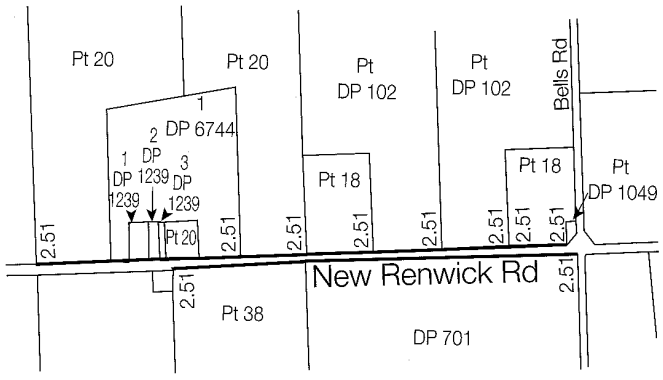
Legend: Requiring Authority: **Marlborough District Council**

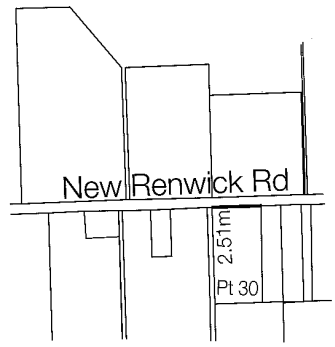
Street Number ①

Map 140

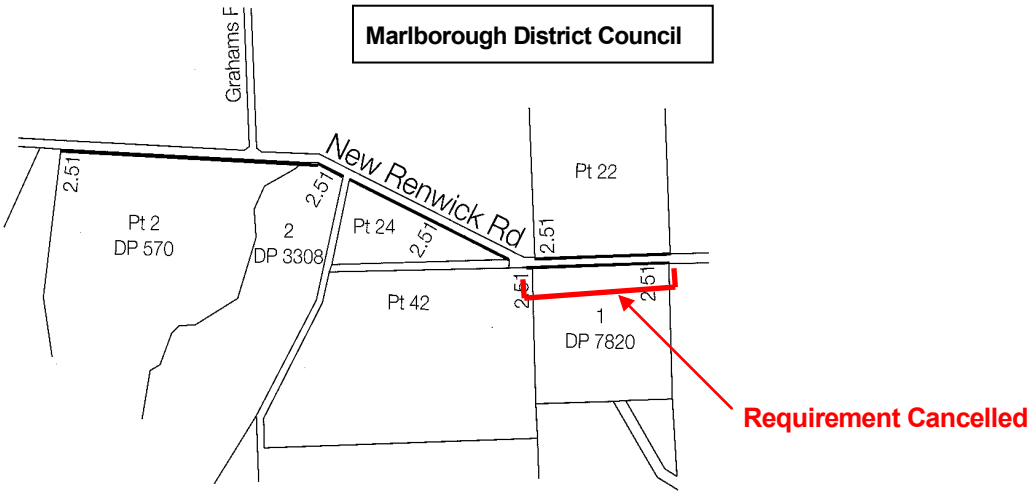


Map 153

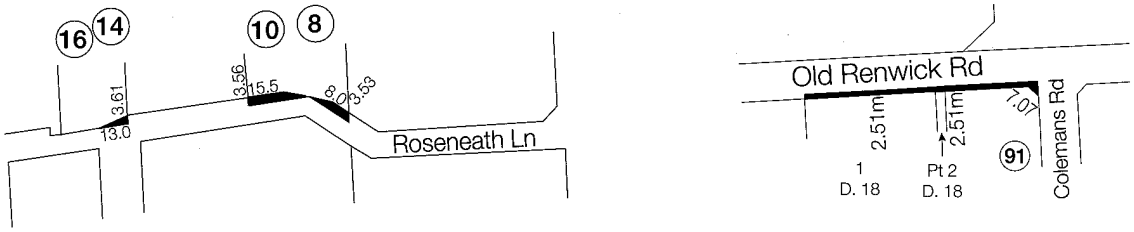


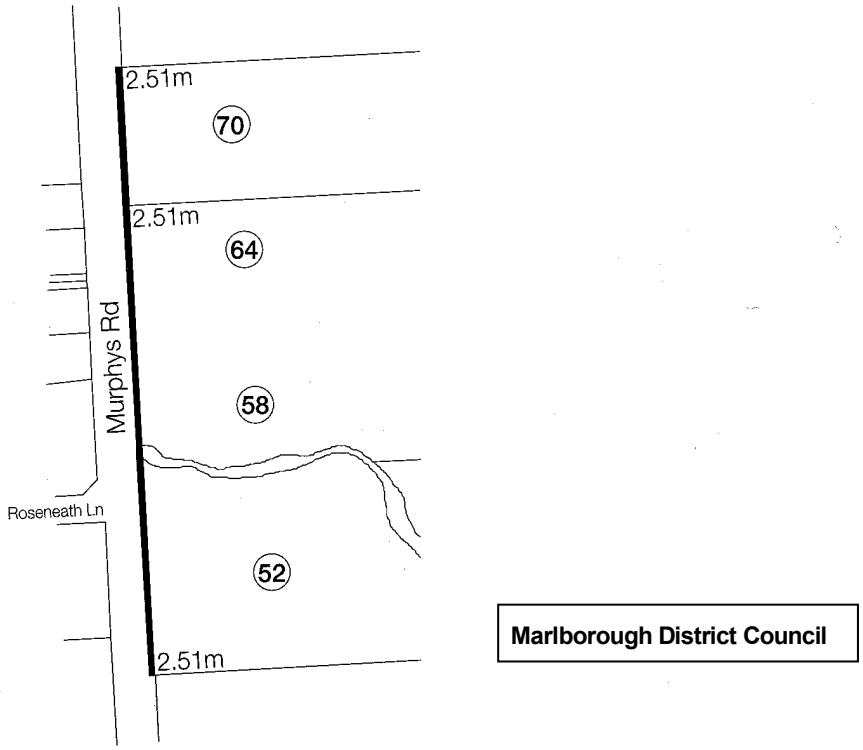


Map 154



Map 156





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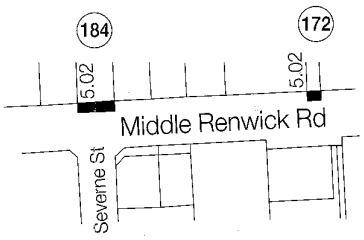
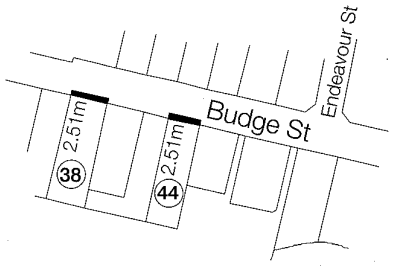


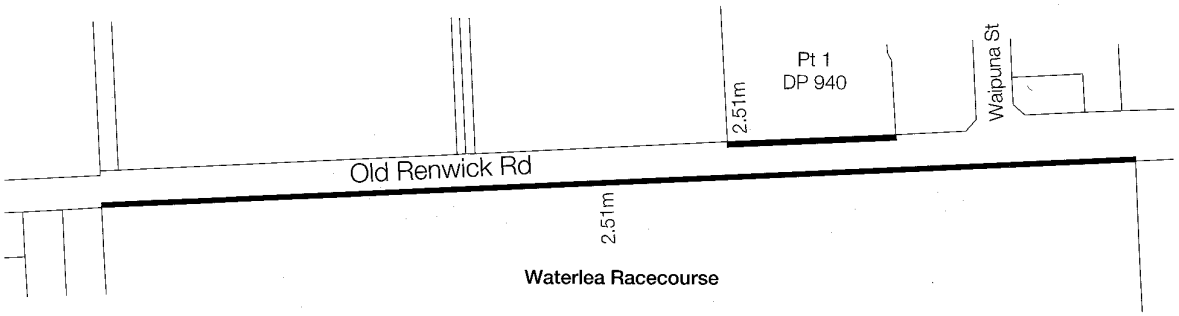
Marlborough District Council

Map 157



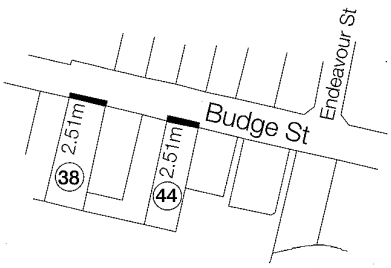
New Zealand Transport Agency

Marlborough District Council

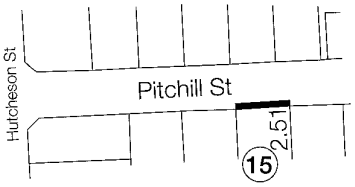


Marlborough District Council

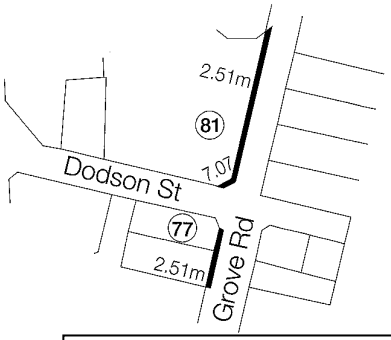
Map 158



Marlborough District Council



Marlborough District Council



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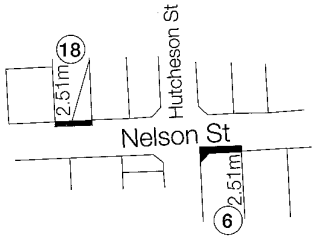
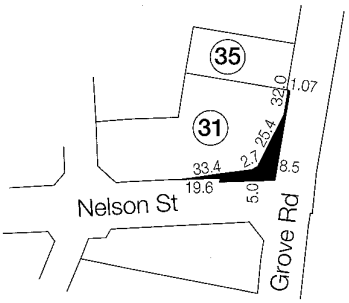
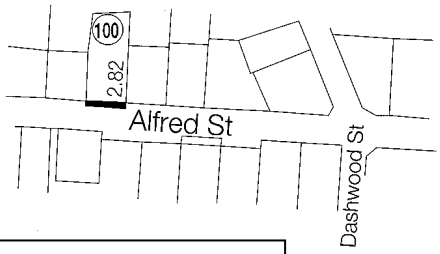


New Zealand Transport Agency

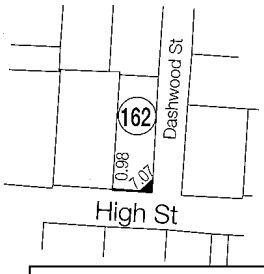


New Zealand Transport Agency

Map 161

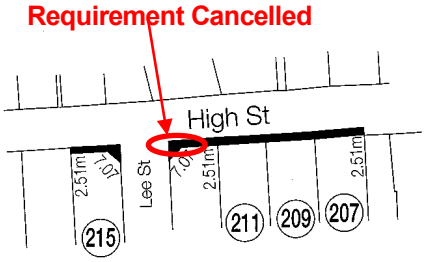


Marlborough District Council



Marlborough District Council

Requirement Cancelled



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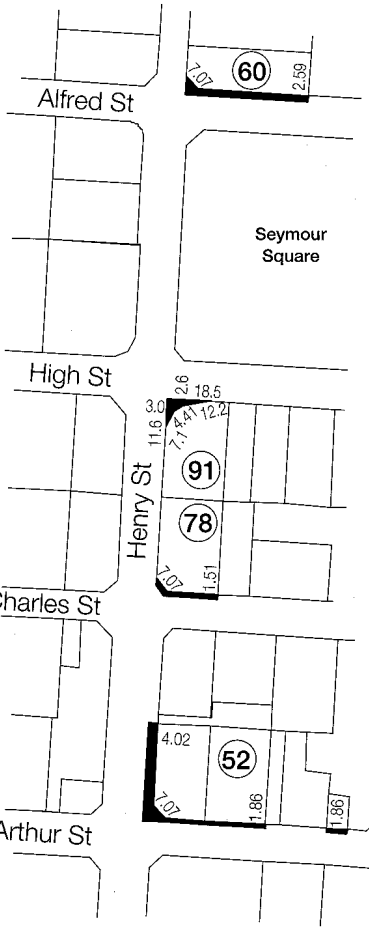

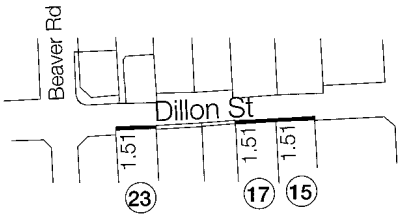

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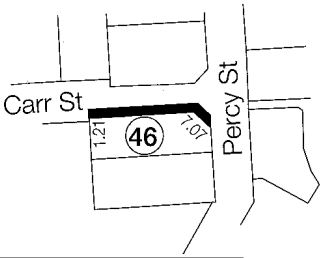

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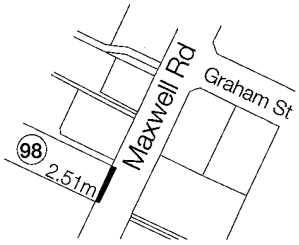

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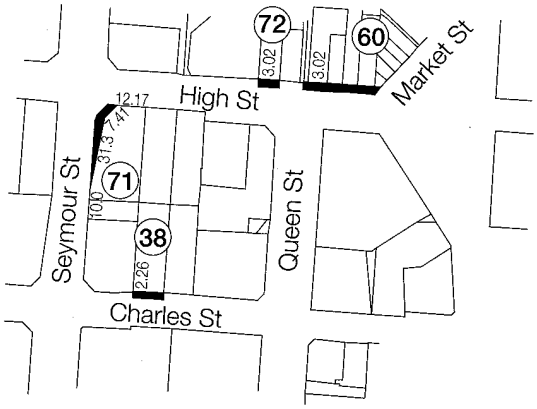
Map 161/162



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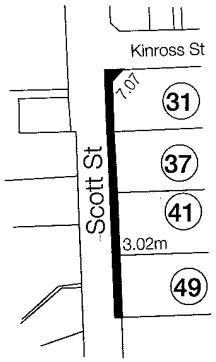
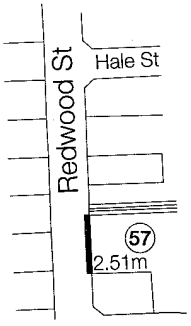
Map 162

Marlborough District Council

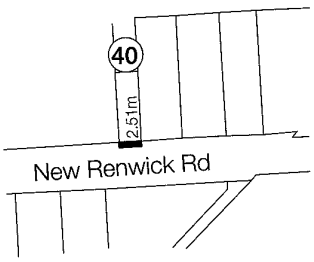


Marlborough District Council



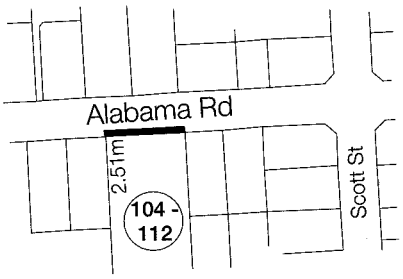
Marlborough District Council

Map 164

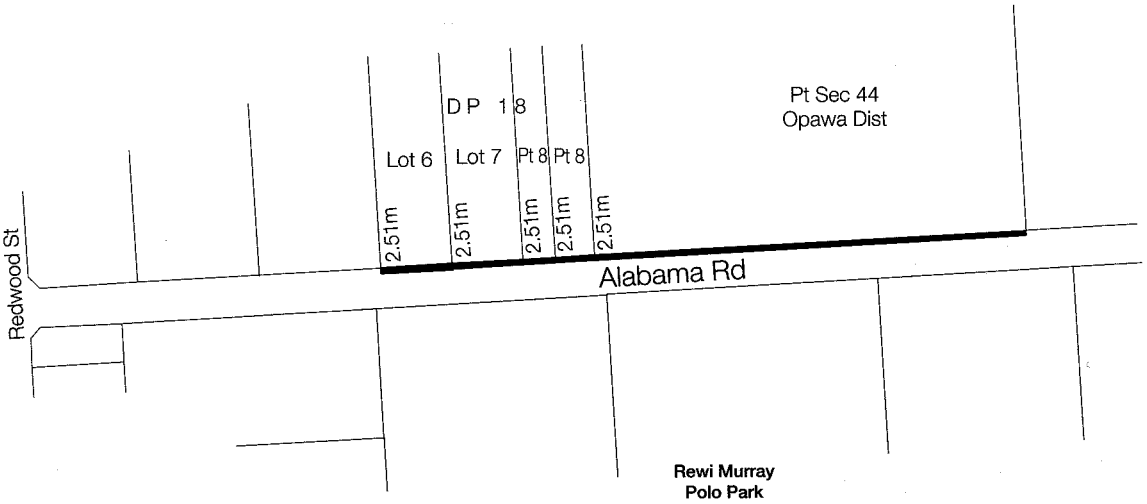


Marlborough District Council

Map 166



Marlborough District Council



Marlborough District Council

Appendix C
Hazardous Facility Screening Procedure

Introduction

The Hazardous Facility Screening Procedure (HFSP) is to be applied to all proposed facilities and activities using or storing hazardous substances. The purpose of the HFSP is to determine the level of risk posed by the presence of hazardous substances. The level of risk will establish the status of the activity relative to rules in the Plan.

Hazardous facilities can range from home occupations to large chemical processing factories. Common examples of hazardous substances are acids, solvents, paints, fuels, and pesticides.

The HFSP is derived from Land Use Planning for Hazardous Facilities, 1995.

Exemptions, Where the HFSP may be waived

Hazardous Facilities which have well developed industry standards and codes of practice based on well established levels of risk may be exempted from the HFSP.

Activities deemed to comply with this exemption are:

- The retail sale of petrol, up to a storage of 100,000 litres of petrol in underground storage tanks and up to 50,000 litres of diesel, provided that the "Code of Practice for the Design, Installation and Operation of Underground Petroleum Systems", published by The Department of Labour - OSH, is adhered to.

- Retail LPG outlets, with storage of up to 6 tonnes (single vessel storage) of LPG, provided that the "Australian Standard (AS 1596 - 1989) for LP Gas Storage and Handling - Siting of LP Gas Automotive Retail Outlets" is adhered to.

Overview and Terminology

The HFSP establishes a Base Threshold for each hazardous substance. The Base Threshold is dependent on the intrinsic properties of the substance but can be modified by an Adjustment Factor. The Adjustment Factor relates to the physical state of the substance, type of storage and activity, site layout, and the environmental sensitivity of the site and location.

The multiplication of the Base Threshold with the Adjustment Factor generates an Adjusted Threshold for any effect. Next, the calculation of the Effects Ratio represents the quantity of substance relative to the Adjusted Threshold. The Effects Ratio forms the basis for determining the Plan status of a particular facility or activity.

The HFSP is illustrated in Figure C1: HFSP Conceptual Overview

Effects Groups

The types of effects from hazardous substances are put into three different Effect Groups, being:

Fire/Explosive Effect Group:	concerned with damage to property and the built environment, and danger to people
Health Effect Group:	concerned with reduction of the well-being, and health and safety of the community and people
Ecosystem Effect Group:	concerned with adverse effects on ecosystems and natural resources

Each of the Effect Groups is divided into levels of effect. The Fire/Explosive Effect Group is divided into three levels: high, medium and low. The Health, and Ecosystem Effect Groups are divided into four levels: extreme, high, medium, and low. The division into high, medium and low is based on the United Nations (UN) Hazardous Substances Classification System*. The extreme level is added to deal with substances recognised as very hazardous. The UN system divides classes of effects into divisions.

Table C1: Classification of Hazardous Substances, shows how the UN Classes and Divisions are allocated Effect Groups and levels.

Base Threshold

The Base Threshold (B) is dependent on the substances intrinsic hazardous properties. The Base Threshold is expressed as the weight (tonnes), or volume for compressed gases (m3 at 101.3kPA and 20C), of each substance stored or used on site. Base Thresholds for Effect Group Levels are given in Table C2: Base Thresholds for all Effect Groups and Hazard Levels.

Adjustment Factor

Adjustment Factors provide for circumstances that influence the severity of an effect reflected by the risk or consequences of release. Adjustment Factors consider:

- physical state of the substance
- pressure and temperature required for storage and usage
- type of storage
- type of activity or use
- separation distance to site boundary
- environmental sensitivity of the site and location

However, not all considerations are relevant to each Effect Group. Within each Effect Group, the Adjustment Factor is calculated by multiplying individual consideration values to produce a single value. Table C3: Adjustment Factors, presents consideration values for calculation of the Adjustment Factor.

FF, FH, and FF are adjustment Factors for the Fire/Explosion, Health, and Ecological Effect Groups, respectively.

Adjusted Threshold

The Adjusted Threshold (T) is calculated for each Effect Group by multiplying the Base Threshold by the relevant Adjustment Factor. For example:

B x FF = T	Adjusted Threshold for a substance in the Fire/Explosion Effect Group
B x FH = T	Adjusted Threshold for a substance in the Health Effect Group
B x FE = T	Adjusted Threshold for a substance in the Ecological Effect Group

The Adjusted Threshold defines the amount of a substance generating no significant off-site effects when released, after taking account of site and substance consideration.

Effects Ratio

The Effects Ratio (R) represents the proposed quantity of hazardous substance divided by the Adjusted Threshold. Effects Ratios fulfil two important purposes. First, they define the hazardous facility threshold and determine the activities status within the Plan. The status is set by the highest value for R in any of the Effect Groups. Second, they assess the cumulative effects that may be created by several hazardous substances on the same site. By using a ratio it is possible to aggregate the assessment of effects from multiple substances on the same site.

FIGURE C1

HFSP Conceptual Overview

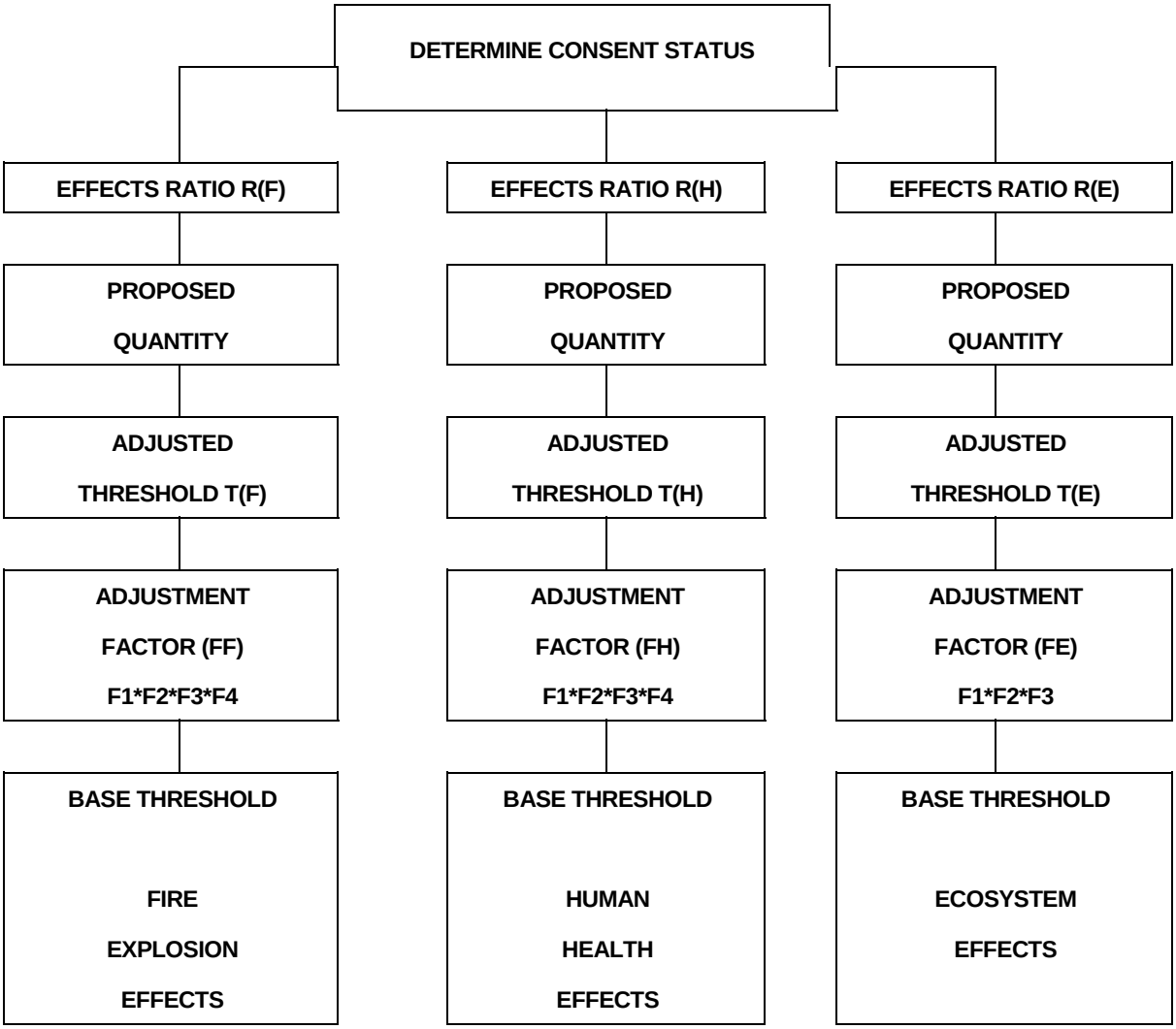


TABLE C1

Classification of Hazardous Substances

Un Class	Hazard	Division	Description	Effects Group	Hazard Level
1	Explosives	1.1	Articles and substances having a mass explosion hazard.	Fire/Explosion	Extreme
		1.2	Articles and substances having a projection hazard, but not a mass explosion hazard.	Fire/Explosion	High
		1.3	Articles and substances having a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard. This division comprises articles and substances that: • give rise to considerable radiant heat; or • burn one after another, producing minor blast and/or projection effects.	Fire/Explosion	Medium
		1.4, 1.5, 1.6	Not applicable.		
2	Gases	LPG		Fire/Explosion	Medium
		2.1	Flammable gases: Gases which at 20^{o}C and a standard pressure of 101.3 kPa: • are ignitable when in a mixture of 13% or less by volume with air; or • have a flammable range with air of at least 12% regardless of the lower flammability limit. This class includes aerosols containing flammable propellants.	Fire/Explosion	High
		2.2	Not applicable.		
		2.3	Toxic gases: Gases which are known to be toxic or corrosive to humans and pose a hazard to health. This division is divided into the following categories: Inhalation toxicity vapours LC_{50}: <200 ppm (= ml/m^3) Inhalation toxicity vapours LC_{50}: ≥200 ppm (= ml/m^3) < 5,000 ppm (= ml/m^3)	 Health Health	 Extreme High
3	Flammable Liquids		Flammable liquids comprising liquids, mixtures of liquids, or liquids containing solids in suspension which give off a flammable vapour at specific temperatures. This class is divided into packaging groups (PG).		
		3PG(I)	Flash point:- <23ºC Initial boiling point: <35^{o}C	Fire/Explosion	High

Un Class	Hazard	Division	Description	Effects Group	Hazard Level
		3PG(II)	Flash point: <23°C Initial boiling point: >35°C	Fire/Explosion	High
		3PG(III)	Flash point: ≥23°C; ≤60.5°C Initial boiling point: >35°C	Fire/Explosion	Medium
		Combustible Liquids	Flash point: >60.5°C	Fire/Explosion	Low
				Ecological	Medium
4	Flammable Solids	4.1	• Flammable solids that are readily combustible or may cause fire easily through an ignition source or friction. • Self-reacting substances that are thermally unstable and are liable to undergo a strongly exothermic decomposition even without the participation of oxygen. • Desensitised explosives: Substances which are wetted with water or alcohol or diluted with other substances to suppress their explosive properties.	Fire/Explosion	High
		4.2	Substances liable to spontaneous combustion: • Pyrophoric substances: liquid or solid substances which, even in small quantities, ignite within 5 minutes of coming in contact with air. • Self heating substances: solid substances which generate heat when in contact with air without additional energy supply.	Fire/Explosion	Extreme
		4.3	Substances, which in contact with water, become spontaneously flammable, or emit flammable gases.	Fire/Explosion	Extreme
5	Oxidising Substances and Organic Peroxides	5.1	Oxidising substances: substances, which, in themselves are not necessarily combustible, but may cause or contribute to the combustion of other materials by yielding oxygen.	Fire/Explosion	High
		5.2	Organic peroxides: organic substances that are thermally unstable and may undergo exothermic, self accelerating decomposition. They may: • Be liable to explosive decomposition; • Burn rapidly; • Be sensitive to impact or friction; • React dangerously with other substances; • Cause damage to the eyes.	Fire/Explosion	Extreme

Un Class	Hazard	Division	Description	Effects Group	Hazard Level
6	Poisonous (Toxic) Substances	6.1	Poisonous substances: poisonous substances which are liable to cause death or injury or to harm human health if swallowed, inhaled, or contacted by the skin. This division is divided into three packaging groups (PG).		
		6.1PG(I)	a) Oral toxicity LD_{50} (mg/kg): ≤1 Dermal toxicity LD_{50} (mg/kg): ≤10 Inhalation toxicity dust/mist LC^{50} (mg/l): ≤0.5	Health	Extreme
			b) Oral toxicity LD_{50} (mg/kg): >1≤5 Dermal toxicity LD_{50} (mg/kg): > 10≤40 Inhalation toxicity dust/mist LC_{50} (mg/l): ≤0.5	Health	High
		6.1PG(II)	c) Oral toxicity LD_{50} (mg/kg): >5≤50 Dermal toxicity LD_{50} (mg/kg): >40≤200 Inhalation toxicity dust/mist LC_{50} (mg/l): >0.5≤2	Health	Medium
		6.1PG(III)	d) Oral toxicity LD_{50} (mg/kg) >50<500 (liquids) / >50 ≤500 (liquids) >50< 200 (solids) Dermal toxicity LD_{50} (mg/kg): >200<1000 Inhalation toxicity dust/mist LC_{50} (mg/l): >2<10	Health	Low
			Carcinogen.	Health	Low
		6.2	Not applicable.		
7	Radio-actives		Not applicable.		
8	Corrosives		Substances which, by chemical action, can cause severe damage when in contact with living tissue or, in the case of leakage, will materially damage or destroy other materials. Corrosives are divided into three packaging groups (PG).		
		8 PG I	Very dangerous substances and preparations.	Health Ecological	Medium High
		8 PG II	Substances and preparations presenting medium hazard.	Health Ecological	Medium High
		8 PG III	Substances and preparations presenting minor hazard.	Ecological	High

Un Class	Hazard	Division	Description	Effects Group	Hazard Level
9	Ecotoxic	**Group 1**	Ecotoxic substances: any substance exhibiting a toxic effect on the ecosystem, based on the toxicity to aquatic life. This division is sub-divided into four categories: a) 96 hr LC_{50} salmonid fish (mg/l): < 0.1 48 hr EC_{50} daphnia (mg/l): < 0.1 72 hr EC_{50} algae (mg/l): < 0.1	Ecological	Extreme
			b) 96 hr LC_{50} salmonid fish (mg/l): ≥0.1 < 1.0 48 hr EC_{50} daphnia (mg/l): ≥0.1 < 1.0 72 hr EC_{50} algae (mg/l): ≥0.1 < 1.0	Ecological	High
			c) 96 hr LC_{50} salmonid fish (mg/l): ≥1.0 < 10.0 48 hr EC_{50} daphnia (mg/l): ≥1.0 < 10.0 72 hr EC_{50} algae (mg/l): ≥1.0 < 10.0	Ecological	Medium
			d) 96 hr LC_{50} salmonid fish (mg/l): ≥10.0 < 100.0 48 hr EC_{50} daphnia (mg/l): ≥10.0 < 100.0 72 hr EC_{50} algae (mg/l): ≥10.0 < 100.0	Ecological	Low
	Ecotoxic	**Group 2**	Environmentally damaging or persistent substances: any substance exhibiting a damaging (other than toxic) effect on the ecosystem. This division is sub-divided into two categories: a) BOD_5 (mg/l): > 10,000	Ecological	Medium
			b) BOD_5 (mg/l): > 1,000	Ecological	Low
		Pesticides	Pesticides are deemed to have an extreme hazard level unless data can be provided to demonstrate lesser toxicity.	Ecological	Extreme
		Corrosives	All corrosives (Class 8, PG 1 - 111) have a high Ecological Effects hazard level.	Ecological	High

TABLE C2

Base Thresholds for All Effect Groups and Hazard Levels

Fire/Explosion Effect Group					
		Hazard Levels			
Un Class	Hazard	Low	Medium	High	Extreme
Sub-Category: Flammables					
	LPG		LPG		
2	Gases			2.1 (exclude LPG)	
3	Flammable Liquids	Combustible Liquids	3 PGIII	3 PGI 3 PGII	
4	Flammable Solids			4.1	4.2 4.3
5	Oxidisers			5.1	5.2
B (tonnes)		100	30	10	1
B (m³)*				10,000	
Sub-Category: Explosives					
1	Explosives		1.3	1.2	1.1
B (tonnes)			3	1	0.1

Health Effect Group					
		Hazard Levels			
Un Class	Hazard	Low	Medium	High	Extreme
2.3	Toxic Gases			2.3(b) - (d)	2.3(a)
6	Poisons	6.1 PGIII	6.1 PGII	6.1 PGI(b)	6.1 PGI(a)
	Carcinogen			Carcinogen	
8	Corrosives		8 PGI 8 PGII		
B (tonnes)		30	10	1	0.1
B (m³)*				500	50

Ecological Effect Group					
		Hazard Levels			
Un Class	Hazard	Low	Medium	High	Extreme
3	Flammable Liquids		3 C		
8	Corrosives			8 PGI 8 PGII 8 PGIII	
	Ecotoxic	Group 1(d) Group 2(d)	Group 1(c) Group 2(c)	Group 1(b)	Group 1(a)
	Pesticides				Pesticides
B (tonnes)		100	30	3	0.3

Note: * Base Threshold in m³ at 101.3 kPA and 20°C for permanent or compressed gases.

TABLE C3

Adjustment Factors for Each Effect Group

Adjustment Factors for fire/Explosion Effect Group		Adjustment Factors for Health Effect Group		Adjustment Factors for Ecological Effect Group	
F1: Substance Form		**F1: Substance Form**		**F1: Substance Form**	
Solid	= 1	Solid	= 3	Solid	= 3
Liquid, Powder	= 1	Liquid, Powder	= 1	Liquid, Powder	= 1
Gas (at 101.3 kPA and 20°C)	= 0.1	Gas (at 101.3 kPA and 20°C)	= 0.1		
F2: Handling/Storage Conditions		**F2: Separation Distance From Site Boundary (For Gases Only)**		**F2: Environmental Sensitivity**	
Stored < flash point	= 1	< 30 metres	= 1	Normal	= 1
Stored > flash point < boiling point	= 0.3	> 30 metres	= 3	Proximity to ecological area *2	= 0.3
Stored > boiling point	= 0.1				
F3: Separation Distance from Site Boundary		**F3: Proximity to Potable Water Resource**		**F3: Type of Activity**	
≤30 metres	= 1	Normal	= 1	Use	= 3
>30 metres	= 3	Proximity to potable water resource *1	= 0.3	Above ground storage	= 1
				Underground storage	= 3
F4: Type of Activity		**F4: Type of Activity**			
Use	= 0.3	Processing	= 0.3		
Above ground storage	= 1	Above ground storage	= 1		
Underground storage *3	= 10	Underground storage *3	= 10		
F1*F2*F3*F4 = FF		F1*F2*F3*F4 = FH		F1*F2*F3 = FE	

*1 As identified by Council

*2 As identified by Council

*3 Applicable to UN Clause 3 Substances (Flammable Liquids) and Combustible Liquids only.

HFSP Step By Step Guide

The following provides a step by step guide to use of the HFSP. The sequence of steps is shown in Figure C2: HFSP Step by Step Guide. In addition, standard forms provide a check list, and present information in a standard format for use in the HFSP.

Step1: Site Specific Information

A Site Information Sheet (refer Attachment C1) is used to describe the site with data from the Form used together with the Substance Data Record Sheet to carry out the HFSP calculation.

Step 2: Hazardous Substance Inventory

It is necessary to create a full inventory of hazardous substances held on site. Such an inventory should initially comprise the names, quantities and UN Classes.

Step 3: Select Priority Substances

It is common for several hazardous substances to be held on a single site. It is neither practical or necessary to submit every substance to the HFSP. Where multiple hazardous substances occur on a site:

- If ten or less substances, carry out the HFSP on individual substances.
- If more than ten substances, carry out the HFSP on those substances that have an extreme or high effect level, or are held in quantities exceeding 10% of the appropriate Base Threshold.

Step 4: Substance Specific Information

Substance specific information required is defined on the Hazardous Substance Inventory Sheet (refer Attachment C2). This information forms the basis for determining the level of effects for hazardous substances held. To assist classification of substances into Effect Groups and Levels, refer to the Hazardous Substance Worksheet. (Refer Attachment C3). Information for Sheets is available in material safety data sheets, national and international data bases, and text and reference books.

Step 5: Identify Effects Groups and Levels

Hazardous substances can be classified into Effect Groups and Levels using Table C1: Classification of Hazardous Substances. The Effect Group and Levels can be recorded on Attachment C4: Summary Sheet for Manual HFSP Calculation.

Step 6: Find Base Threshold Quantities

The Base Threshold for substances are found in Table C2: Base Thresholds for all Effect Groups and Hazard Levels. Record data on the Summary Sheet for Manual HFSP Calculations (Attachment C4).

Step 7: Find Adjustment Factors

Pre-calculated Adjustment Factors for each Effect Group are found in Table C3: Adjustment Factors for each Effect Group. Record data on the Summary Sheet for Manual HFSP calculation.

Step 8: Calculate Adjusted Threshold Quantities

Adjusted Threshold is calculated by multiplying the Base Threshold by the relevant Adjustment Factor. Record data on the Summary Sheet for Manual HFSP calculation.

Step 9: Calculate Effects Ratio

The Effects Ratio (R) is a dimensionless number. It is obtained by dividing the proposed quantity of a substance (Q) by the Adjusted Threshold (T).

$R = Q/T$

Record data on the Summary Sheet for Manual HFSP calculation and Total Effects Ratio: Manual Calculation Sheet: Attachment C5.

The Effects Ratio of hazardous substances will form the basis for determining the Plan status of any particular activity, by reference to the hazardous facility threshold standard for the particular activity or site.

Step 10: HFSP Calculations

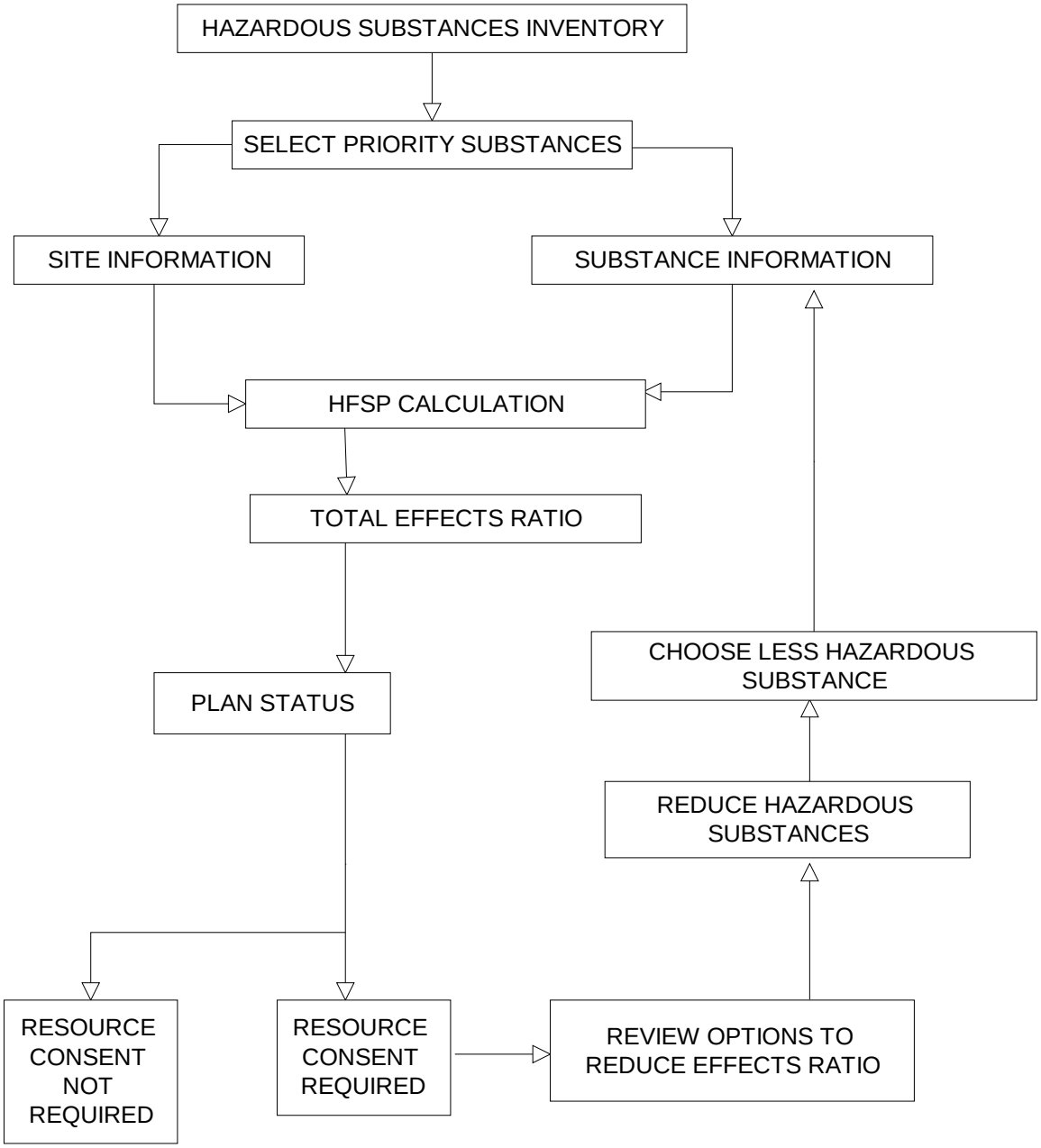
The HFSP calculation of a hazardous substance Effects Ratio is undertaken using the HFSP Evaluation Form (refer Attachment C3). Where several hazardous substances occur on a single site, it will be necessary to sum the individual Effects Ratios.

Step 11: Determine Activity Status

The Total Effects Ratio determines the Plan status of an activity involving hazardous substances when compared against trigger levels for zones. The Total Effects Ratio is determined by summing the individual ratio for each Effect Group.

The highest Effects Ratio will determine the activities status: whether the activity is Permitted, Controlled, Discretionary or Non-complying. Where the activity is not Permitted it may be appropriate to review options to reduce the effects. This reduction may be achieved by reducing the number or quantity of substances held on site.

FIGURE C2: HFSP Step by Step Guide



ATTACHMENT C1

Site Information Form

Item	Information
Facility Name	
Address	
Map Reference	
Description of activity	
Nature of adjoining land use	
Proximity to potable water resource[1]	
Within 20 metres of a waterbody[2]	
Map of Site (Show adjoining land uses and location of waterbodies)	

[1] Groundwater reservoir/aquifer as identified by the Council.

[2] 'Waterbody' includes streams, springs, lakes, wetlands, sea and estuaries, but does not include aquifers and entry points to the stormwater drainage network.

ATTACHMENT C2: Hazardous Substances Inventory Sheet

Facility: _____

Name: _____

Address: _____

Date: _____

Substance Name	Substance Form	Con.[3] (%)	Specific Gravity	Proposed Quantity (in known measurements)	Proposed Quantity (converted to tonnes or m³)[4]	UN Class	Storage or Use	Type and Number of Storage Containers[5]	Location of Storage Containers	Distance from Site Boundary (m)

[3] Concentration.

[4] Convert to tonnes for solids, liquids and powders, and to m³ for gases.

[5] Identify type of container (eg; drums, bulk storage), typical size (eg; 209 litre drum) and number of containers.

ATTACHMENT C3:
Hazardous Substance Worksheet

1. Substance Description			
Substance Name			
Proprietary Name and Supplier			
Substance Form (Gas, liquid, solid, powder)			
2. Available Information (Extract from packaging material, MSDS, UN Recommendation for the Transport of Dangerous Goods (8th edition)			
UN Number			
UN Primary Class			
UN Subsidiary Class			
Packaging Group(s)			
3. Additional Information Requirements			Data Source
Physical parameters	Initial boiling point (°C)		
	Flash point (°C)		
	Specific gravity @ (20°C)		
	Molecular weight		
	Vapour pressure (mm Hg at 20°C)		
Toxicity Data[6]	Oral toxicity LD_{50} (mg/kg)		
	Dermal Toxicity LD_{50} (mg/kg)		
	Inhalation Toxicity LC_{50} (ppm)		
	Carcinogen[7] (yes/no)		
Ecotoxicity Data[8]	LC_{50} (Salmonid fish) (mg/l)		
	EC_{50} (Daphnia) (mg/l)		
	EC_{50} (Algae)mg/l		
	Pesticide (yes/no)		
Other			

[6] List lowest level available for human or mammalian species, type of species, test duration and data source.

[7] See Appendix B, Land Use Planning for Hazardous Facilities, June 1995.

[8] For LC_{50} and EC_{50} list lowest levels for indicated or other aquatic species, type of species and data source.

4. Assessment (Extract from information in categories 2 and 3)						
Hazard	UN Class	Division/Packaging Group	Does hazardous property apply? (Yes/No)	Effects Groups and Hazard Level[9]		
				Fire/Explosion	Human Health	Environmental
Explosive	1.1 - 1.3					
Flammable Gas	2.1					
Flammable liquid	3					
Flammable solid	4.1 - 4.3					
Oxidiser	5.1 - 5.2					
Toxic Gas	2.3					
Toxic material	6.1					
Corrosive	8					
Ecotoxic						

[9] Use E for Extreme hazard level, H for High, M for Medium, L for Low and OSL if hazard is outside specified levels.

ATTACHMENT C4: Summary Sheet for Manual HFSP Calculations

Step 4			Step 6	Step 7					Step 8		Step 9
Substance	Effect Group	Hazard Level	Base Threshold B(t/m³)	Adjustment Factors				Product of Adjustment Factors FF, FH, FE	Adjusted Threshold T (t/m³)	Proposed Quantity Q (t/m ³)	Effects Ratio R = Q/T
				F1	F2	F3	F4				
1	Fire/Explosion										
	Health										
	Ecological										
2	Fire/Explosion										
	Health										
	Ecological										
3	Fire/Explosion										
	Health										
	Ecological										
4	Fire/Explosion										
	Health										
	Ecological										
5	Fire/Explosion										
	Health										
	Ecological										

WORKSHEET 5:

Total Effects Ratios: Manual Calculation Sheet

SUBSTANCE	Fire/Explosion Effects Ratio	Health Effects Ration	Ecological Effects Ratio
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
Total Effects Ratios			

Note: Only fill out those sections applicable to the substance being assessed: for example, non-flammables need not be assessed in the Fire/Explosion *Effects Group*.

Appendix D
Areas of Significant Conservation Value

The information contained in Appendix D has been obtained from Davidson, R J; Courtney, S P; Millar, I R; Brown, D A; Deans, N; Clerke, P R ; Dix, J C; Lawless, P F; Mavor, S J; McRae, S M 1995: Ecologically important marine, freshwater, island and mainland areas from Cape Soucis to Ure River, Marlborough, New Zealand: Recommendations for Protection. Department of Conservation, Nelson/Marlborough Conservancy. Occasional Publication No 16, 286 p.

Coastal and Marine (Intertidal and Subtidal)

Number	Site	Status	Page	Conservation Value
1 /30	Whites Bay, Cloudy Bay, East Coast	Regional	68	Highly modified but forest regenerating. Large variety of exposed east coast marine life, sandy coast, sand, tussock and spinifex (regionally unique community). Nationally unique regenerating coastal broad leaf. Cultural (Maori) dwarf false musk. Re-establishment of Pingao.
1/30	Rarangi, Cloudy Bay, East Coast	Regional	68	As above.
1/31	Wairau Lagoons, Cloudy Bay, East Coast	National	70	Largest biologically important estuary on east coast. 90 species avifauna - 27% of which are endangered vulnerable or rare. Royal spoonbill, wrybill, caspian tern, banded dotterel (vulnerable) black stilt (endangered). Waterfowl. 22 species of fish include two species flatfish, whitebait. Lagoon acts as nursery area. White bluffs dominant feature, boulder bank.
1/31	White Bluffs, Cloudy Bay, East Coast	National	70	As above.
1/32	Seaview, Clifford Bay, East Coast	National	73	Weeping broom (threatened). Scientific reserve (flora).
1/34	Cloudy Bay Hectors Dolphin Area, East Coast	National	77	Hectors dolphin (nationally large population).
1/34	Clifford Bay Hectors Dolphin Area, East Coast	National	77	As above.
1/35	Cape Campbell Kelp Beds and Shore Platforms, East Coast	Regional	79	*Macrocystis pyifera* (kelp) and, adjacent to Cape. Marine habitat.
1/36	Chancet Rocks, East Coast	International	80	Silicifed fossil sponges (genus Turonia). Chancet rocks. Pingao, banded dotterel (threatened), New Zealand fur seal haulout area. High degree of natural character.
1/36	Needles, East Coast	International	80	As above.
1/36	Mirza Creek, East Coast	Regional	80	As above.

Appendix E
Requirements for Chimney Height

1.0 In uncomplicated terrain without the presence of high buildings, or no other significant sources of air-borne contaminants, the height of any chimney discharging the products of combustion from conventional fuel burning equipment from the combustion of:

1.1 Coal or oil where the release of sulphur dioxide or nitrogen oxides is individually less than 2 kg/hr; the minimum chimney height shall be the higher of either 8 metres above finished ground level or 3 metres above the highest substantial part of any building located within 40 meters of the chimney or any part of the building to which the chimney may be attached;

1.2 Natural gas, liquefied gas or wood, where the release of nitrogen oxides is less than 0.5 kg/hour or the heat input is less than 2 MW: the minimum chimney height shall be the higher of either 8 metres above finished ground level or 3 metres above the highest substantial part of any building located within 40 metres of the chimney or any part of the building to which the chimney may be attached;

1.3 Coal or oil where the release of sulphur dioxide is equal to or exceeds 2 kg/hour but is less than 50 kg/hour and the maximum energy release is less than 10 MW: the height of the chimney shall be calculated in accordance with Table 1;

1.4 Natural gas, liquefied gas or wood, where the release of nitrogen oxides is equal to or exceeds 0.5 kg/hour but is less than 20 kg/hour and the maximum energy release is less than 50 MW: the minimum chimney height of the chimney shall be calculated in accordance with Table 2.

Table 1
Minimum chimney heights where coal or oil is used as fuel (1.3)

Sulphur Dioxide Height (metres)	Chimney Emission (kg/hour)	Sulphur Dioxide Height (metres)	Chimney Emission (kg/hour)
2.0	8.5	14.0	20.3
2.5	9.5	15.0	20.6
3.0	10.4	16.0	20.9
4.0	12.0	17.0	21.1
5.0	13.4	18.0	21.4
6.0	14.7	19.0	21.6
7.0	15.9	20.0	21.8
8.0	17.0	25.0	22.8
9.0	18.0	30.0	23.7
10.0	19.0	35.0	24.4
11.0	19.4	40.0	25.1
12.0	19.7	45.0	25.7
13.0	20.0	50.0	26.2

Table 2 Minimum chimney heights where natural gas, liquefied gas or wood used as fuel (1.4)					
Heat Input (MW)	**Nitrogen Oxides Emission (kg/hour)**	**Chimney Height (metres)**	**Heat Input (MW)**	**Nitrogen Oxides Emission (kg/hour)**	**Chimney Height (metres)**
2.0	0.5	8.3	14.0	4.5	11.7
2.5	0.6	8.5	15.0	4.8	11.9
3.0	0.8	8.7	16.0	5.2	12.1
4.0	1.1	9.1	17.0	5.6	12.3
5.0	1.4	9.4	18.0	5.9	12.5
6.0	1.7	9.7	19.0	6.3	12.7
7.0	2.0	10.0	20.0	6.7	12.8
8.0	2.4	10.3	25.0	8.6	13.7
9.0	2.7	10.6	30.0	10.6	14.5
10.0	30.0	10.8	35.0	12.7	15.2
11.0	3.4	11.0	40.0	14.7	15.8
12.0	3.7	11.3	45.0	16.9	16.4
13.0	4.1	11.5	50.0	19.0	17.0

2.0 For any discharge from a chimney:

- Where the maximum energy release from the combustion of
  - coal or oil exceeds 10 MW or the release of sulphur dioxide exceeds 50 kg/hour;
  - natural gas, liquefied gas, or wood exceeds 50 MW; or
- In terrain where the land rises within 5 times the indicative height of the chimney to more than half the indicative height, or in the presence of buildings which have maximum height of more than 0.4 times the indicative height of the chimney, or where there are other significant sources of sulphur dioxide or nitrogen oxides;

the height of the chimney is to be determined so that the discharge will not give rise to contaminant levels in excess if an indicator level based on 40% of the New Zealand Air Quality Guidelines, Ministry for the Environment, 1994.

Appendix F

River Control and Drainage Works Programme

1. Introduction

This appendix details the river control and drainage channel works permitted in Rule 27.1.8.1 (General Rules) of this Plan and for River Control Works which are designated and listed in Appendix B.

This document updates the Wairau River Floodways Management Plan (1994) Sections D, F & G to allow for the river works that have been carried out and other changes that have occurred over the last three years. This document also incorporates works now proposed on small rivers and drainage channels.

The River Control Programme deals with the Wairau River, its tributaries, distributaries and floodways; and the Drainage Works Programme with channels and small rivers in the Rural 3 Zone.

Discussion of the issues and the reasons for the river works and drainage methods are not repeated in this document.

2. Priority of Works

The higher priority works detailed in the Wairau River Floodways Management Plan have now been virtually completed. The need to specify a priority order for carrying out the further river works required is now much less of an issue. This document therefore does not specify a priority order, though the order of doing works will continue to be a blend of current standard of protection, engineering practicality and consequences of failure.

3. Wairau Floodplain Definition

The Wairau River Floodways Management Plan divided the river systems into two separate zones; the Wairau floodplain zone and tributaries outside the floodplain. The standard of works and method of funding was different for the two zones. This is continued in the Wairau/Awatere Resource Management Plan.

The Wairau floodplain downstream of the Waihopai confluence is a contiguous system of interlocking rivers, diversions and floodways, from which flood breakout is prevented by stopbanks. For this area a standard of flood protection for floods up to a 100 year return period flood is specified, unless impractical to achieve.

This Wairau floodplain generally follows that of the Rural 3 zoning.

The difference is approximately 3500 ha of land in the Rural 3 Zone to the south of the road line New Renwick Road/Dog Point Road/Hawkesbury Road/SH 63 which is not part of the Wairau floodplain. This area does not have a stopbanking system on its rivers and currently it is not economic or practical to provide a one in 100 year flood protection standard here.

4. Maintenance and Flood Damage Repair

Maintenance and flood damage repair will be carried out on all rivers and drainage channels.

These are activities that restore the channel to its existing condition, and/or restore bank edge protection, and/or maintain the stopbanks. (Not all of the listed activities are carried out on every river or drainage channel).

- Rock, rubble and gabion structural bank protection.
- Gravel or sediment shaping above water level.
- Gravel or sediment removal above water level.
- Sediment removal below water level.
- Tree, scrub and other vegetation control and removal from the channel.
- Tree planting and maintenance on the banks or floodway berms.
- Grass and lucerne planting and maintenance on berms and stopbanks.
- Diversions within braided gravel river channels.
- Rock recovery from channel.
- Piled or anchored retards on river banks.
- Aquatic weed control.
- Stopbank maintenance and reconstruction.
- Maintenance and replacement of culverts through stopbanks.
- Repair and replacement of pumps, floodgates (flapgates), control gates, and ancillary structures.
- Lining of drainage channels with timber or concrete.

5. Wairau Floodplain Rivers and Drainage Channel Works

5.1 Lower Wairau

5.1.1 Design Intentions

5.1.1.1 Achieve a hydraulically efficient channel by removal of overhanging willow trees flanking the channel. On the inside of bends this will be complete removal of trees, on the outside of bends this will be removal of overhanging limbs only.

5.1.1.2 Maintain a directly opening hydraulically efficient river mouth by extending existing guide bank or pilot cuts through beach gravels.

5.1.1.3 Raise and upgrade low and/or structurally unsound sections of stopbank in two areas.

5.1.1.4 Encourage channel realignment at Peninsula Road through erosion of the opposite inside of the bend on Morrins Hollow.

5.1.1.5 Subject to detailed hydraulic confirmation, allow stopbanks flanking wide berms to be brought in closer to the river; and in the Jones Road area to construct a new realigned stopbank.

5.1.2 New Works Required

- Deliberate strategic gravel and sediment removal upstream of Ferry Bridge.
- Stopbank raising Ferry Road to Watsons Road.
- Stopbank relocation below Jones Road.
- Stopbank upgrading in vicinity of Eckfords Road.
- Straighten and extend guide bank at river mouth.

5.2 Wairau Diversion

5.2.1 Design Intentions

5.2.1.1 Enlarge the existing active channel out to the already constructed rock lines by using strategic sediment removal to encourage and supplement natural erosion.

5.2.1.2 Maintain the existing rock lines that delineate the active channel.

5.2.1.3 Keep the berms hydraulically efficient by keeping in grass cover only.

5.2.1.4 Maintain a directly opening mouth by occasional pilot cuts through the bar.

5.2.2 New Works Required

- Strategic gravel and sediment removal, especially at the top of the Diversion and downstream of Rarangi Bridge.

5.3 Flow Division Area of Lower Wairau and Diversion Including Road and Rail Bridges

(Note: This covers from the road bridge to 1.5 km down each river reach).

5.3.1 Design Intentions

5.3.1.1 To improve the waterway capacity of this reach so as to reduce flood levels in a 5,800 m^3/sec flood to below road and rail bridge soffit levels. This will be done by gravel and other sediment removal.

5.3.1.2 To attain a flow split in floods of 45% lower Wairau, 55% Diversion, but in low flow periods of at least 50% in the lower Wairau.

5.3.1.3 To maintain hydraulically efficient channels by removal of trees and debris from the active river channel.

5.3.1.4 To assess the need and design parameters for a flow control structure here.

5.3.2 New Works Required

- Strategic gravel and sediment removal.

5.4 Wairau (Tuamarina to Waihopai Confluence)

5.4.1 Design Intentions

5.4.1.1 Encourage commercial gravel extraction from the river channel in locations that will be of most benefit to maintaining channel waterway capacity, and/or to achieve a desirable river channel alignment.

5.4.1.2 Maintain a cleared active channel of typically 380 metres by removal of vegetation, on a defined slightly sinuous meander pattern.

5.4.1.3 Provide and maintain bank edge protection for this active channel by means of rock lined training banks on the outside of bends of the defined meander pattern; willow and poplar tree planting on the inside of the bends strengthened by rail iron retards, and as necessary strengthened by isolated rock work.

5.4.1.4 Upstream of Conders groyne where a defined meander pattern cannot be held, to build and maintain rock headed cross banks on the south bank to constrain the active channel.

5.4.1.5 To raise low stopbanks on the south bank between Selmes Road and Giffords Road.

5.4.1.6 To strengthen and raise the training banks in Barnetts area that guide Wairau flood waters away from the Tuamarina village area stopbanks.

5.4.1.7 To raise three low open ended Northbank stopbanks.

5.4.1.8 To strengthen stopbanks identified as prone to piping failure at Hillocks Road and possibly other sites.

5.4.1.9 To complete stopbanking on the south bank by erecting new stopbanking to join the lower Conders and upper Conders stopbanks.

5.4.1.10 To raise and relocate the low stopbank in the lower Conders area and also raise upper Conders stopbank, that to date have been left low until works downstream have been brought to an adequate standard.

5.4.1.11 Improve the hydraulic efficiency of the berms by partial removal of spur banks and guide banks, while leaving enough banking to counter potential stopbank erosion.

5.4.1.12 Maintaining a controlled blend of appropriate trees and vegetation on the berms to achieve good hydraulic efficiency while leaving sufficient vegetation to inhibit scour and erosion.

5.4.1.13 To carry out berm shaping works to inhibit potential channel forming erosion on the berms and promote a slope from the stopbank towards the channel edge.

5.4.2 New Works Required

- Strategic gravel and sediment removal.
- Extension of the 12 rock lined training banks upstream and downstream as required.
- Lowering and partial removal of the ends of guide banks and spurs within the floodway; on the north bank opposite Giffords and Selmes Road; and on the south bank at McLauchlans, Wratts Road, Jeffries Road, near Selmes Road and near Cravens Road.
- Raising stopbanks on the south bank upstream of Selmes Road.

- Raising low stopbanks at upper Conders and lower Conders area.
- Two new rock headed groynes at upper Conders.
- Construct new stopbanking to complete the stopbanking between upper and lower Conders areas.
- Planting trees as bank edge protection, and in places strengthening with rail iron retards.
- Raising low open ended stopbanks on the north bank at Barnetts, Norths and Huddlestones.
- Stopbank strengthening work at Upper Barnetts and Hillocks Road.
- Berm shaping works at Upper Barnetts, Cravens Road, Wratts Road areas.
- Tuamarina pocket stopbank raising.

5.5 Waihopai River (Confluence to 300 metres upstream of SH 63 Bridge)

5.5.1 Design Intentions

5.5.1.1 To clear and maintain a fairway of typically 150 metres width on the river.

5.5.1.2 To provide and maintain bank edge protection for this reach by maintenance of existing rock training banks, by retards and tree planting and as necessary isolated rock work.

5.5.1.3 To prevent overflow on to the Wairau/Waihopai floodplain.

5.5.2 New Works Required

- Stopbank on the right bank above the confluence with the Wairau.
- Tree planting and piled retards bank protection.

5.6 Lower Opawa/Taylor (up to Wither Road)

5.6.1 Design Intentions

5.6.1.1 To increase the hydraulic efficiency of the lower Opawa by removal of trees growing on the banks or overhanging into the river from upstream of Swamp Road.

5.6.1.2 To increase the effective waterway capacity of the berms and better flow interaction with the main channel by removing impeding banking (much of it natural 'banking') and carrying out berm shaping works upstream of Swamp Road.

5.6.1.3 To control vegetation planting on the berms that may impede flood flow upstream of Swamp Road.

5.6.1.4 To reconstruct lengths of narrow, weak and under-height stopbank downstream of Riverlands corner.

5.6.1.5 To repair or replace inadequate culverts through the stopbanks.

5.6.1.6 To strengthen or replace structurally questionable lengths of stopbank of the Taylor through Blenheim.

5.6.2 New Works Required

- Removal of overhanging willow and other riparian trees from upstream of Swamp Road.
- Berm shaping works on both banks from upstream of Swamp Road.
- Stopbank raising from downstream of Riverlands corner.
- Narrow stopbank reconstruction.
- Stopbank strengthening of Taylor River in Blenheim.
- Replacement of inadequate culverts.

5.7 Upper Opawa and Roses Overflow

5.7.1 Design Intentions

5.7.1.1 Ensure the extensive berms are maintained in a hydraulically efficient state by removing impeding vegetation and preventing the planting of impeding vegetation.

5.7.1.2 Upgrade poor condition stopbanks in isolated areas.

5.7.2 New Works Required

- Reconstruct and raise low stopbanks downstream of Thompsons Ford Road.

5.8 Omaka River (to Hawkesbury Road Bridge)

5.8.1 Design Intentions

5.8.1.1 Maintain a cleared fairway of typically 50 metres width within a stopbanked system or natural terrace system.

5.8.1.2 Maintain bank edge protection of this cleared fairway of willow tree plantings supported by retards, and in places of heavy bank attack, rock work.

5.8.1.3 To have a moratorium of gravel extraction downstream until there is evidence of the river channel aggrading and reducing waterway capacity.

5.8.2 New Works Required

- Tree planting bank edge protection with rail iron retards.

5.9 Fairhall and Mill Streams (up to New Renwick Road)

5.9.1 Design Intentions

5.9.1.1 For the stopbanked Fairhall diversion to maintain its river berms in a clear hydraulically efficient condition.

5.9.1.2 For the Fairhall and Mill stream channels up to New Renwick Road to maintain clear stable channels and enlarge if proven necessary to carry a one in a 100 year flood.

5.9.2 New Works Required

- Enlarge and clear Fairhall and Mill channels downstream of New Renwick Road.

5.10 Riverlands Floodway and Wither Hills Streams

(Note: the Wither Hills streams include Mapps, Jacksons, 15 Valley, Sutherlands, Wither and Rifle Range).

5.10.1 Design Intentions

5.10.1.1 To maintain the Riverlands floodway in a clear and easily maintained condition.

5.10.1.2 To achieve a hydraulically efficient channel of Wither Stream through Blenheim by construction and maintenance of a concrete lined channel.

5.10.1.3 To minimise debris and sediment being brought down from Wither Hills streams into the Riverlands channel system.

5.10.2 New Works Required

- Completion of concrete lined channel.
- Construct debris retards and screens.

5.11 Doctors Creek (up to New Renwick Road)

5.11.1 Design Intentions

5.11.1.1 To upgrade to a consistent standard and maintain a small channel to carry minor floods.

5.11.1.2 To zone as a flood hazard area land flanking Doctors Creek that floods and ponds in major floods.

5.11.2 New Works Required

- To enlarge and improve channel downstream of New Renwick Road culvert.

5.12 Pukaka

5.12.1 Design Intentions

5.12.1.1 To strengthen weak stopbanks.

5.12.1.2 To maintain an overflow spillway on the eastern bank that spills into a zoned flood hazard area at times of high Pukaka flood and/or coincidence of high Diversion flood.

5.12.1.3 To investigate options of increasing Pukaka outlet culvert capacity into the Wairau Diversion.

5.12.1.4 To investigate options of environmental planting on the Pukaka berms.

5.12.2 New Works Required

- To reconstruct weak parts of the eastern stopbank beside the spillway.
- Enlarge Pukaka outlet culvert.

5.13 Gibsons Creek

5.13.1 Design Intentions

5.13.1.1 To maintain the Gibsons Creek channels to carry water abstracted from the Waihopai so as to recharge the aquifer downstream of Renwick.

5.13.1.2 To improve the hydraulic efficiency of Gibsons Creek through Renwick to prevent breakout of floods in a 1 in a 100 year return period flood.

5.13.1.3 To reduce flood levels in Gibsons Creek to enable good outflow in flood conditions for School Creek and Terrace Creek.

5.13.1.4 Investigate the use of the Earthquake Swamp as a controlled detention area.

5.13.2 New Works Required

- Enlargement of the channel to 8 metres width so as to restore it to its previous size.
- Clearing willow trees and other obstructions from this channel.

5.14 Small Urban Rivers

(This includes Opawa Loop, Fultons Creek, Murphys Creek in Blenheim; School Creek and Terrace Creek, Renwick).

New works on these rivers will be subject to consultation with affected urban residents and specific resource consent to carry out the works.

5.15 Small Rural Rivers and Drainage Channels

5.15.1 Design Intentions

5.15.1.1 To maintain drainage channels in a hydraulically efficient state by regular removal of deposited sediment and weed growth.

5.15.1.2 To maintain the 305 floodgated outlet structures into the major rivers that prevent the backflow of river floodwater.

5.15.1.3 To maintain and enlarge the pumping stations that supplement the gravity outfalls.

5.15.2 Proposed Works

- The enlargement of 25 pumping stations as follows:

Item	Location	Existing Discharge	Increased Discharge
		(Units are mm of runoff in 24 hours)	
1	Lower Wairau	9.20	15.40
2	Pembers Road	25.60	25.60
3	Dillons Point	8.20	10.25
4	Waterlea Creek	46.00	74.40
5	Chaytors	7.00	10.50
6	Swamp Road	9.35	16.20
7	Grovetown	8.80	17.60
8	Alabama Road	36.50	36.50
9	Monro Street	86.00	86.00
10	Andrew Street	57.00	89.00
11	Rouses Drain	8.90	16.30
12	Roberts Drain	11.00	22.50
13	Caseys Creek	18.40	32.20
14	Tuamarina Lagoon	15.20	22.60
15	Thomas Road	25.60	25.60
16	Blind Creek	19.30	19.30
17	Blind Creek	19.30	19.30
18	High Street	35.90	72.00
19	Main Street	25.00	42.90
20	Redwood Street	27.70	55.30
21	Woolley and Jones	17.30	17.30
22	Pukaka Road	20.88	29.80
23	Town Branch	36.50	36.50
24	Watsons Road	18.50	18.50
25	Boyce Street	75.00	75.00

- The upgrading of culvert outlet structures including outlet floodgates as follows:

1. Marukoko Return Bank

M-001 Install gabions

M-009 Replace with twin 900 mm diameter fibreglass gates and install gabions.

2. Opawa River

OR-001	Replace with fibreglass gate and install gabions
OR-006	Replace with fibreglass gate and install gabions
OR-014B	Replace with steel gate
OR-018	Replace with fibreglass gate
OR-022	Replace with fibreglass gate

3. Pukuka Stream

PS-001	Install gabions
PS-011	Install gabions
PS-012	Install gabions
PS-015	Install fibreglass gate and gabion

4. Riverlands Floodway

RC-006	Extend pipeline and install fibreglass gate
RC-010	Replace with fibreglass gate
RC-011	Replace with fibreglass gate

5. Roses Overflow

RO-002	Extend and install fibreglass gate
RO-004	Replace with fibreglass gate
RO-005	Improve outlet and install fibreglass gate
RO-006	Install gabions
RO-009	Improve outlet and install fibreglass gate

6. Spring Creek

SC-002	Replace with fibreglass gate
SC-003	Replace with fibreglass gate
SC-007	Replace with fibreglass gate
SC-009	Replace with fibreglass gate
SC-011	Replace with fibreglass gate
SC-012	Replace with steel gate
SC-013	Replace with fibreglass gate
SC-014	Replace with steel gate
SC-023	Replace with steel gate
SC-026	Replace with fibreglass gate

7. Tuamarina River

TU-011	Replace with fibreglass gate
TU-012	Extend pipeline

TU-014 Extend pipeline

8. Vernon Lagoons

VL-002 Replace with fibreglass gate

VL-003 Replace with fibreglass gate

VL-004 Remove

VL-005 Remove

9. Wairau River

WR-005a Replace with side hung gates

WR-012 Install gabions

WR-021 Install gabions

WR-024 Replace with fibreglass gate and install gabions

WR-025 Replace with side hung gate

WR-026 Install gabions

WR-027 Install gabions

WR-031 Install gabions

WR-034 Install gabions

WR-042 Install gabions

WR-043 Install gabions

10. Wairau River Diversion

WRD-001 Replace with side hung gate

WRD-002 Replace with fibreglass gate

WRD-006 Replace with fibreglass gate

11. Taylor River/Opawa River (Urban Blenheim)

TR-002 Replace with "Penstock" gate with new intake structure

TR-003 Replace with "Penstock" gate with new intake structure

TR-007 Replace with "Penstock" gate with new intake structure

TR-012 Replace with a new 600 mm diameter floodgated culvert

TR-014 Replace with a new 600 mm diameter floodgated culvert

TR-015 Install debris screens and a supplementary "Penstock"gate

- To investigate drainage improvements in the Cravens Road and Riverlands area.

6. Rivers Outside Wairau Floodplain

6.1 Wairau Above Waihopai Confluence

6.1.1 Design Intentions

6.1.1.1 To prevent obstructions by willow trees or other debris forming islands in the active channel which could divert braids against the river banks.

6.1.1.2 To carry out flood damage repair work to existing bank protection works on an as practical and economic basis.

6.1.1.3 For non-programmed works where the landowner(s) desire river works to a higher standard, then jointly funded works may be carried out with Council contribution of up to 50%.

6.2 Other Tributaries

6.2.1 Design Intentions

6.2.1.1 To maintain clear stable channels as far as practical and economic.

6.2.1.2 To carry out maintenance and flood damage repairs on an as practical and economic basis.

6.2.1.3 To use the annual rate intake from the relevant tributary ratepayers as a guide to the scale of works to be carried out.

6.2.1.4 To liaise with local residents/advisory groups in carrying out these tributary river works.

6.2.1.5 For non-programmed works where the landowner(s) desire river works to a higher standard, then jointly funded works may be carried out with Council contribution of up to 50%.

Appendix G

Register of Specifically Identified Activities

1. Lansdowne Park (on land described as Part Lot 1 DP 2971 Blk XVI Cloudy Bay Survey District)

1.1 Permitted Activities

The following activities will be permitted without a resource consent, where together with any relevant condition, they conform to the conditions set out below:

- **Grandstands;**
- **Club facilities;**
- **Changing rooms;**
- **Seating;**
- **Lighting (including training lights);**
- **Goalposts.**

1.2 Conditions for Permitted Activities

a) All buildings must be associated with the use of the site as a sportsground.

b) No buildings (with the exception of goalposts, posts or poles or lighting towers) may be erected within the flood hazard overlay.

c) No building may be located closer than 50 metres from an urban residential zone boundary.

d) Lighting of sport surfaces is to be implemented such that luminaries mounted higher than 4 metres will not be directly visible from outside the zone. The lighting level at any point in the ground 2 metres inside the boundary of the zone shall not exceed 10 lux measured horizontally and vertically.

e) All Permitted Activities shall in all other respects comply with the standards for Permitted Activities in the District Recreation Zone.

1.3 Discretionary Activities

Application must be made for a resource consent for a Discretionary Activity for the following:

- **Lighting towers not a Permitted Activity.**

2. Nelson Marlborough Institute of Technology (on land described as Pt 50 SO 3824 Deeds Plan 43)

2.1 On these sites, the following activities shall be permitted, provided they meet the standards set out below:

- **Education, research and training facilities and buildings associated with the tertiary education facility;**
- **Sales of goods and services arising only as ancillary activities to educational activities;**
- **On site accommodation facilities for students attending the facility;**
- **Childcare facilities for staff and students attending the facility;**
- **Growing and processing of produce incidental to training activities;**
- **Temporary buildings constructed on site by students as part of an education programme;**
- **Sportsgrounds and recreational facilities associated with education activities;**
- **Accessory buildings for any of the above uses;**
- **Hazardous facilities.**

2.2 Standards

2.2.1 Parking and Loading

The minimum amount of parking to be provided on this site shall be:

- one space per 7 equivalent full time staff members; plus
- one space per 7 equivalent full time students.

Parking and loading facilities shall otherwise be provided in accordance with Rules 27.2.2 and 27.2.3.

2.2.2 Amenities

2.2.2.1 Maximum Height

The maximum permitted height of any building or structure shall be 15 metres.

2.2.2.2 Open Space

The maximum percentage of net site area which may be covered permanently by buildings shall be 35%.

2.2.2.3 Building Setback

All buildings shall be set back 10 metres from any road boundary and 10 metres from any side or rear boundary of the site.

2.2.2.4 Lighting

All exterior lighting shall be directed away from the adjacent properties and roads so as to avoid any adverse effects on the neighbourhood and/or traffic safety.

No activities shall result in greater than 2.5 lux spill (horizontal and vertical) of light onto any adjoining property which is zoned Urban Residential.

2.2.2.5 Landscaping

The site shall include a landscape strip (as defined in the Plan) for a minimum depth of 2 metres from any road boundary.

2.2.2.6 Noise

Outdoor activities associated with educational facilities conducted on the site of the institution between 0700 - 2100 hours, shall not exceed the noise standard of the zone in which it is being received, increased numerically by 10dBA, when measured at the boundary of the receiving site.

From 2100 to 0700 the Urban Residential Zone noise provisions shall apply.

2.2.3 General

All activities shall be carried out to comply with Rules 32.1.3.4, (Daylight Admission and Streetscape), 32.1.4 (Heritage), 32.1.5 (Hazards), and 32.1.6 (Earthworks) of the Urban Residential Zone.

2.2.4 Discharges

All discharges shall comply with Rule 32.1.7 of the Urban Residential Zone, except that in relation to the growing or produce, the application of fertiliser and agrichemicals shall be in accordance with Rules 30.1.7.3 and 30.1.7.5 of the Rural Zone.

2.2.5 Hazardous Facilities

Any activity having an effects ratio of no greater than 0.2 shall be a Permitted Activity. The effects ratio shall be calculated in accordance with the Hazardous Facilities Screening Procedure set out in Appendix C.

Site design, waste management, fire safety, signage and emergency evacuation plans shall be in accordance with Rules 30.1.11.2 to 30.1.11.6 for the Rural Zone.

2.2.6 Sale or Service Activities

All sale or service activities shall be limited to goods or services resulting directly from training activities undertaken on the site.

2.2.7 Temporary Buildings

Any temporary building being constructed on site by students shall be on site for no longer than one academic year.

3. Marine Farming Servicing Yard (on land described as Lots 53 and 54 of Section 38 Wairau West District, Block II Cloudy Bay Survey District in Nolans Road, Grovetown)

3.1 The following activities shall be permitted, provided they comply with the standards for Permitted Activities in the Rural Zone.

- **Manufacture, repair, storage and dispatch of goods used within the marine farming industry;**
- **Associated buildings and offices; and**
- **A manager's residence.**

4. Fulton Hogan Renwick Gravel Processing (on land described as Lots 4 & 5 DP 3397 and Lot 1 DP 4242 in Blenheim Street, Renwick)

4.1 The following activities shall be permitted, provided they comply with the standards for Permitted Activities in the Rural Zone:

- **Crushing and screening of gravel;**
- **Dispatch and sale of gravel.**

5. Hospital Activities (Nelson Marlborough Health Services Ltd) (on land described as Lot1 DP 771, pt Sec 7 SO 2229, pt Sec 2 of Sec 27 and Lot 1 DP 137)

5.1 Application of this Schedule

5.1.1 This schedule applies to the sites shown on Map 165 in Taylor Pass Road and Hospital Road (presently known as Wairau Base Hospital) with the notation schedule site G(1).

5.1.2 For the purpose of this schedule and this plan, any reference to site boundaries is to the boundaries of a scheduled site.

5.2 Permitted Activities

5.2.1 Any Permitted Activity in the Urban Residential Zone which complies with the conditions for that zone is a Permitted Activity on scheduled site G(1).

5.2.2 Health services, including services relating to physical and mental health needs, and ancillary services including laundry facilities, laboratory facilities, pharmaceutical supplies, counselling and other health support facilities are permitted activities if they comply with the conditions in Rule 5.3 below.

5.3 Conditions for Permitted Activities

5.3.1 Maximum Building Height

20 metres, provided the sunlight and privacy requirements for the Urban Residential Zone (Rule 32.1.3.4) are met at the boundaries of the scheduled site.

5.3.2 Set Back from Road Boundaries

Buildings shall be set back a minimum of 3 metres from any road boundary.

5.3.3 Set Back from Other Boundaries

On external boundaries of the scheduled site, other than on road boundaries, buildings shall be set back a minimum of 3 metres from the boundary and shall comply with the sunlight and privacy requirements for the Urban Residential Zone.

5.3.4 Landscape Treatment

A landscape strip of an average width of not less than 1 metre shall be established along any road boundary.

Along all other external boundaries of the scheduled site, landscaping, a fence or wall, or a combination of the above must be provided along the length of the boundary to a

height of not less than 1.8 metres and, if landscaping, to an average width of not less than 1.5 metres.

5.3.5 Parking and Loading

Hospitals - 1 space/5 beds and 1 space/2 staff members (calculated from staff numbers on the largest shift).

Other health facilities - 1 space/employee plus 1 space/26m² gross floor area.

5.3.6 Access Standards

See Rule 32.1.2.1 for the Urban Residential Zone.

5.3.7 Outdoor Storage

Goods and material stored outside shall not be readily visible from a road or an adjoining site.

5.3.8 Radioactive Material

The use, storage or disposal of radioactivity in excess of 1000 terabecquerels is a Prohibited Activity.

5.3.9 Hazards

See Rule 32.1.5 for the Urban Residential Zone.

5.3.10 Earthworks

See Rule 32.1.6 for the Urban Residential Zone.

5.3.11 Discharges

See Rule 32.1.7 for the Urban Residential Zone.

5.4 Limited Discretionary Activities

5.4.1 See Rules 32.3.1 - 32.3.4 for the Urban Residential Zone.

5.5 Discretionary Activities

5.5.1 Any activity that does not comply with the standards and/or conditions for a Permitted or Limited Discretionary Activity, and is not a Non-complying or Prohibited Activity, shall be a Discretionary Activity.

5.5.2 Any activity listed as and complying with the standards for a Discretionary Activity in the Urban Residential Zone shall be a Discretionary Activity on scheduled site G(1).

5.6 Assessment Criteria

- Any adverse effects of reduced set back of buildings, particularly on any adjoining residential sites.
- The ability to mitigate adverse effects by additional landscaping or screening
- Any adverse effects on adjoining sites in terms of the dominance of buildings and loss of privacy.
- In the case of reduced set back, the ability to better utilise the site and provide better environmental quality elsewhere on the site.

- The nature of the activity to occur and its likely effects on the residential neighbours or streetscape.
- The nature and timing of noise and its likely effects.
- The hours of operation of the activity.
- The type and volume of any materials to be stored on the site, and any other means of screening.
- The scale of the activity, taking into account the cumulative effects on the neighbourhood.
- Any risk posed to people and property by intensification or alteration of activities.
- Effects of the safety and efficiency of the local road network.
- Where the activity contravenes one of the rules for the Urban Residential Zone for a Permitted Activity, the assessment criteria for that rule shall apply.

5.7 Non Complying Activities

5.7.1 Any activity not provided for as a Permitted, Limited Discretionary, Discretionary or Prohibited Activity is a Non-complying Activity on scheduled site G(1).

5.8 Prohibited Activities

5.8.1 See Rule 32.6.1 for the Urban Residential Zone.

5.8.2 The use, storage or disposal of radioactivity in excess of 100 terabecquerels.

5.9 Explanation

Nelson Marlborough Health Services Ltd does not have the ability to designate in the Plan. The scheduled site therefore makes provision for the operation of Wairau Hospital and related services. Relying on existing use rights alone would be very limiting for this activity.

The schedule allows for normal hospital and related activities, while ensuring that the residential amenity of neighbouring areas at the boundary of the site is maintained. The site has been scheduled over and above its residential zoning so that, in the event of health services ceasing on some or all of the site, there is provision for alternative use compatible with the amenity and quality of the local environment.

6. Neylon Developments Ltd (occupied by Cloudy Bay Packers/Provincial Coldstores/Bretlon Engineering) (on land described as Pt Lot 2 DP 3667 (CT3E/309))

6.1 The following activities shall be permitted, provided they comply with the terms and conditions of the particular resource consents relevant to them.

- **Fruit and primary produce, grading and packing;**
- **Controlled atmosphere storage of fruit and produce;**
- **Processing of primary produce (excluding timber and livestock);**

- **Manufacture and maintenance of machinery used for harvesting, grading and packing of primary produce;**
- **Storage of bins and containers associated with the handling of primary produce.**

7. New Zealand Apple and Pear Marketing Board (ENZA) on land described as Pt Sec 50 District of Wairau West, Block XI Cloudy Bay Survey District and Pt Lot 28 DP485 (CT1A/171) and Section 135 Wairau West Registration District (CT 1A/1175))

7.1 The following activities shall be permitted, provided they comply with the terms and conditions of the relevant resource consents.

- **Fruit grading and packing;**
- **Controlled atmosphere storage of fruit and produce;**
- **Transport operations associated with the fruit processing and Storage activity.**

8. Emergency Service Activities (New Zealand Fire Service Commission) (on land as described in the following schedule).

8.1 Emergency service activities of the New Zealand Fire Service Commission on the following sites shall be permitted, provided they comply with the standards for Permitted Activities in the zone in which they are located.

Exceptions:

8.2 Sirens and call out sirens are exempt from the noise standards in each zone.

Site No	Emergency Services Activities Site	Location	Legal Description	Zoning
8a	Blenheim Fire Station	Symons Street, Blenheim	Lot 2 DP 4771 Borough of Blenheim	Central Business
8b	Renwick Fire Station	Uxbridge Street, Renwick	Part of Lot 1 DP 11063	Rural 3
8c	Wairau Valley Fire Station	SH63, Wairau Valley Township	Lot 1 DP 5102 Block IV Mount Olympus Survey District	Rural 4
8d	Seddon Fire Station	5 Richmond Street, Seddon	Section 10 Block XIV Town of Seddon	Township Residential
8e	Ward Fire Station	Duncan Street, Ward	Lot 1 DP 5124 Block IX Cape Campbell Survey District	Township Residential

9. St Mary's School (on land described as Lots 602-604 Deed 15, Pt Lot 10 DP 3, Pt Lots 406-412 Deed 15, and Sec 249 Blk XVI Cloudy Bay Survey District); and Richmond View School (on land described as Lot 1 DP 5351)

9.1 On these sites, the following activities shall be permitted, provided they meet the standards set out below:

- **Education and training facilities and buildings, for primary, intermediate, and secondary students;**
- **Sports grounds and recreational facilities associated with the education facility;**
- **Accessory buildings for any of the above uses.**

9.2 Standards

9.2.1 Parking and Loading

The minimum amount of parking to be provided on this site shall be:

- One space per equivalent full time staff member; plus
- One space per 15 equivalent full time equivalent students aged 16 or over.

Parking and loading facilities shall otherwise be provided in accordance with Rules 27.2.2 and 27.2.3.

9.2.2 Amenities

9.2.2.1 Maximum Height

The maximum permitted height of any building or structure shall be 10 metres.

9.2.2.2 Open Space

The maximum percentage of net site area which may be covered by buildings shall be 35%.

9.2.2.3 Building Setback

All buildings shall be set back 10 metres from any road boundary and 5 metres from any side or rear boundary of the site.

9.2.2.4 Lighting

All exterior lighting shall be directed away from the adjacent properties and roads so as to avoid any adverse effects on the neighbourhood and/or traffic safety.

No activities shall result in greater than 2.5 lux spill (horizontal and vertical) of light onto any adjoining property which is zoned Urban Residential.

9.2.2.5 Landscaping

The site shall include a landscape strip (as defined in the Plan) for a minimum depth of 2 metres from any road boundary.

9.2.2.6 Noise

Outdoor activities associated with educational institutions conducted on the site of the institution between 0700 - 2100 hours, shall not exceed the noise standard of the zone in which it is being received, increased numerically by 10dBA, when measured at the boundary of the receiving site.

From 2100 to 0700 the Urban Residential Zone noise provisions shall apply.

9.2.3 General

All activities shall be carried out to comply with Rules 32.1.3.4 (Daylight Admission and Streetscape), 32.1.4 (Heritage), 32.1.5 (Hazards), and 32.1.6 (Earthworks) of the Urban Residential Zone.

10. 121 Middle Renwick Road, Blenheim (on land described as Lot 4 DP 3279 or its successor)

At the time the Neighbourhood Business Zone in Springlands was expanded through Variation 50, the owner of Lot 4 DP 3279 (CT MB 1D/703, 121 Middle Renwick Road) wished to continue residential use of that property. The scheduling of the site enables residential use to continue (and the corresponding Urban Residential Rules to continue to apply) although the land is now zoned Neighbourhood Business Zone.

The relevant Neighbourhood Business Zone provisions will apply, and the Urban Residential Rules will cease to apply, once the site is used for any commercial activity. In that event the site shall for the purposes of the Plan be treated as Neighbourhood Business Zone and the objectives, policies and rules relevant to that zone shall apply instead of the Rules for the Urban Residential Zone 2.

10.1 Permitted Activities

Unless expressly limited elsewhere in this Plan the following activities will be permitted without a resource consent, where they conform to the conditions set out below:

- **While the site is used exclusively for residential activity its use and development will be subject to the Rules contained in the Urban Residential Zone 2.**
- **When and if the site is used in whole or in part for any commercial activity the use and development of the site will from then on be subject to the Rules for the Neighbourhood Business Zone.**

10.2 Conditions for Permitted Activities

10.2.1 Where any part of the site is used for commercial activity then the relevant permitted activity conditions in the Neighbourhood Business Zone apply, except that an additional 300m2 of gross floor area may be used for commercial activities on Lot 4 DP3279 in addition to the 5700m2 limit in rule 36.1.1.

11. Colonial Vineyard, Corner of New Renwick Road and Aerodrome Road, Lot 2 DP 350626

11.1 On this site, the rules and standards of the underlying zone shall apply except as follows:

11.1.1 Roading

Roading within the site shall meet either the standards in table 29.2.8.1, or shall be designed in accordance with the roading standards in New Zealand Standard NZS 4404:2010.

11.1.2 Controlled Activity Subdivision Additional Matter of Control

Controlled activity subdivision to create any new allotment on Lot 2 DP 350626 and Lot 1 DP 11019 shall be subject to matters of control contained in rule 28.2.5, and the following additional matter of control:

- Consistency with the Urban Design Principles contained in Policy 11.2.2.4.10.

11.1.3 Reverse Sensitivity Covenant on Subdivision

Subdivision to create any new allotment on Lot 2 DP 350626 and Lot 1 DP 11019 shall include a legal instrument registered on each title which restricts owners and subsequent owners and occupiers from making, lodging, being party to, financing or contributing to the cost of any complaint, submission, application, proceeding or appeal either pursuant to the Resource Management Act 1991 or otherwise) designed or intended to limit, prohibit or restrict the continuation or recommencement of the following activities:

a) Aviation activities, aviation events and associated ground operations at Omaka aerodrome;

b) Activities and events at the Omaka Aviation Heritage Centre.

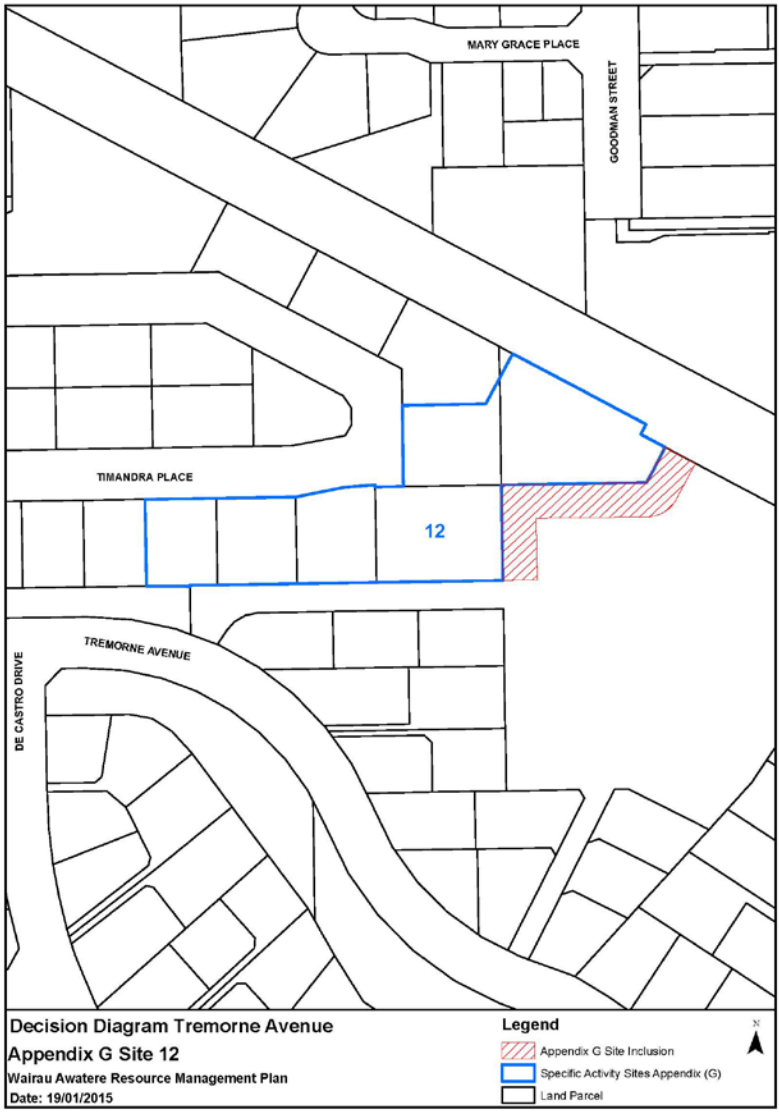
Note: The roading and open space shown on the planning maps is indicative only and may vary at the time of subdivision.

12.0 Amenity Controls (on land described as Lots 16 to 20 DP 348832 and Lot 2 DP 352510)

12.1 This schedule applies the sites shown on planning map 162 and the attached diagram with the notation 12.

12.2 For the purpose of this Schedule and this Plan, any reference to site boundaries is to the boundaries of a scheduled site.

12.3 The 'Amenities' provision at Rule 37.1.3 shall be applied to Lots 16 to 20 DP 348832 and Lot 2 DP 352510 as though these sites do not adjoin an Urban Residential Zone boundary.



13.0 Beekeeping Operation (on land described as 168 Old Renwick Road and legally described as Lot 1 DP 2064).

The following activities shall be permitted, provided they comply with the standards for Permitted Activities in the Rural Zone.

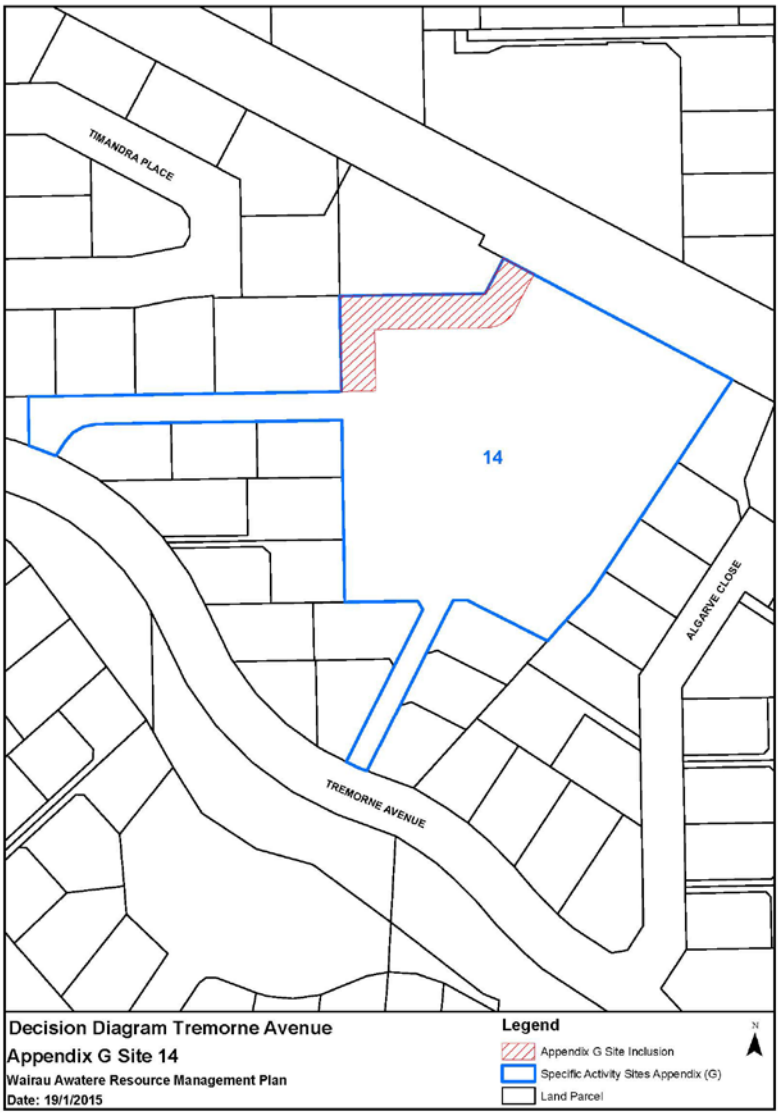
- **Beekeeping and honey making**

14.0 Tremorne Avenue Blenheim (on land described as Lot 15 DP 395435)

14.1 This schedule applies to the site shown on planning map 162 and the attached diagram with the notation 14.

14.2 The Urban Residential 2 Zone provisions shall apply to this site provided that no habitable buildings shall be erected in the buffer area identified on the site (measured 12m from property boundary). Habitable buildings include a dwelling house or unit, sleep out, visitor accommodation or other habitable building.

14.3 The erection of habitable buildings within the buffer area is a prohibited activity.



Appendix H1

Schedule of 3,000+ m² Sites in Urban Residential 2 Zone

Street Address			Legal Description
3	Brilyn Cres	LOT 2	DP 7921
5	Brilyn Cres	LOT 4	DP 7921
7	Brilyn Cres	LOT 3	DP 7921
9	Brilyn Cres	LOT 5	DP 7921
11	Brilyn Cres	LOT 6	DP 7921
13	Brilyn Cres	LOT 7	DP 7921
1	Glenhill Dr	LOT 5	DP 6199
3	Glenhill Dr	LOT 6	DP 6199
4	Glenhill Dr	LOT 2	DP 6199
5	Glenhill Dr	LOT 8	DP 6199
6	Glenhill Dr	LOT 3	DP 6199
7	Glenhill Dr	LOT 9	DP 6199
8	Glenhill Dr	LOT 4	DP 6199
9	Glenhill Dr	LOT 10	DP 6199
10	Glenhill Dr	LOT 18	DP 6199
11	Glenhill Dr	LOT 11	DP 6199
11 A	Glenhill Dr	LOT 12	DP 6599
12	Glenhill Dr	LOT 19	DP 6199
14	Glenhill Dr	LOT 20	DP 6599
15	Glenhill Dr	LOT 13	DP 6599
16	Glenhill Dr	LOT 21	DP 6599
17	Glenhill Dr	LOT 14	DP 6599
18	Glenhill Dr	LOT 22	DP 6599
19	Glenhill Dr	LOT 15	DP 6599
20	Glenhill Dr	LOT 23	DP 6599
21	Glenhill Dr	LOT 16	DP 6599
23	Glenhill Dr	LOT 17	DP 6599
188	Hospital Rd	LOT 1	DP 6199

Street Address		Legal Description	
194	Hospital Rd	LOT 7	DP 6199
155	Wither Rd	LOT 1	DP 7921
10	Grant Pl	LOT 12	DP 8450
11	Grant Pl	LOT 13	DP 8450
11A	Grant Pl	LOT 14	DP 8450

Appendix H2

Schedule of 1,200+ m² Sites in Urban Residential 2 Zone

Legal Description
Proposed Lots 1 - 11 Pt Lot 1 DP 7884

Appendix I


Appendix I :
North West Blenheim - Zone Development Levy Areas
N
Old Renwick Rd
2
1
3
Murphys Rd
Colemans Rd
Middle Renwick Rd

Appendix J

Water Quality Classifications

Resource	Water Quality Classification (blank if just underlying classification)
WAIRAU CATCHMENT	
Surface Water	
All surface waters (underlying classification)	F - managed for fishery purposes (primary objective being safe consumption of fish)
Tuamarina River	
Other lower Wairau northern tributaries (Top Valley Stream to sea) (includes Pukaka Stream)	FS - managed for fish spawning
Wairau northern tributaries above Top Valley Stream (includes Lake Chalice and Goulter River)	NS - managed in its natural state (catchments within Conservation Estate) FS - managed for fish spawning AE - managed for aquatic ecosystem purposes
Wairau Diversion	FS - managed for fish spawning (from mouth to confluence of Pukaka Drain only)
Lower Wairau River (SH1 to sea)	CR - managed for contact recreation purposes FS - managed for fish spawning
Middle Reaches Wairau River (SH1 to Wash Bridge)	CR - managed for contact recreation purposes FS - managed for fish spawning
Upper Wairau River (source to Wash Bridge including tributaries)	FS - managed for fish spawning AE - managed for aquatic ecosystem purposes
Upper Wairau southern tributaries (Branch/Leatham Rivers to Marchburn River)	AE - managed for aquatic ecosystem purposes FS - managed for fish spawning CR managed for contact recreation purposes
Waihopai River	CR - managed for contact recreation purposes
Upper Opawa (upstream of Hammerichs Rd including tributaries)	
Middle Opawa River (from SH1 to Hammerichs Rd)	CR - managed for contact recreation purposes FS - managed for fish spawning
Lower Opawa River	FS - managed for fish spawning
Upper Taylor River (upstream of Taylor Dam)	
Lower Taylor River (including Taylor Dam and Doctors Ck, Fultons Creek and Murphys Creek)	AE - managed for aquatic ecosystem purposes CR - managed for contact recreation purposes
Riverlands Industrial Estate Drain	
Co-op Drain	
Spring Creek and catchment	A - managed for aesthetic purposes AE - managed for aquatic ecosystem purposes

Resource	Water Quality Classification (blank if just underlying classification)
Grovetown Lagoon	
Roses Overflow	FS - managed for fish spawning
Significant wetlands (eg Bothams Bend, Para Swamp, Rarangi Beach wetlands)	
Groundwater	
Wairau Unconfined Aquifer (Renwick Road to Hammerichs Road)	DW - managed at drinking water quality
Wairau Semiconfined Aquifer (Hammerichs Road to SH1)	DW - managed at drinking water quality
Wairau Confined Aquifer (SH1 to sea)	DW - managed at drinking water quality
Rarangi Shallow Aquifer	DW - managed at drinking water quality (except Fe)
Southern Valley Aquifer Systems	DW - managed at drinking water quality (except Fe and Mn)
AWATERE CATCHMENT	
Surface Water	
All surface waters (underlying classification)	F - managed for fishery purposes
Black Birch Stream	WS - managed for water supply purposes FS - managed for fish spawning
Blairich Stream	FS - managed for fish spawning
Tributaries in Conservation Estate	NS - managed in its natural state
Lower Awatere River below Medway Bridge (including tributaries)	
Upper Awatere River above Medway Bridge (including tributaries)	FS - managed for fish spawning
EAST COAST CATCHMENTS	
Surface Water	
All surface waters (underlying classification)	F - managed for fishery purposes
Flaxbourne and Blind Rivers	
Lake Elterwater	
Waima (Ure) River	
CLARENCE CATCHMENT	
Surface Water	
Clarence River and tributaries	FS - managed for fishery spawning AE - managed for aquatic ecosystem purposes
COASTAL MARINE AREA	
All coastal marine area	SG - managed for shellfish gathering

Surface Water Quality Classes

Standard **(from RMA Third Schedule, unless marked † in which case from RMA Section 70)**		**Numeric Interpretation of Standard**
F - Water Managed for Fishery Purposes (underlying class)		
† Conspicuous oil or grease films, scums or foams, or floatable or suspended materials	Shall not be produced	No numeric interpretation available
† Colour or visual clarity	Shall not change	Hue shall not be changed by more than 10 points on the Munsell scale.
		The natural clarity shall not be conspicuously changed due to sediment or sediment laden discharge originating from the site of a land disturbance operation. There shall be no greater than 33% reduction in the visual clarity of the receiving water as measured by the horizontal sighting of a black disk; and/or There shall be no greater than 15% increase in the turbidity of the receiving water as measured in NTU. Measurements are to be made immediately above or upstream of the discharge and below the discharge after reasonable mixing. For a description of the two methods refer to the Ministry for the Environment Water Quality Guidelines No. 2, Guidelines for the Management of Water Colour and Clarity, June 1994. See the Definition Chapter for the definition of Reasonable Mixing.
† Objectionable odour	Shall not be emitted	No numeric interpretation available
† Suitability for consumption by farm animals	Shall not be rendered unsuitable	No numeric interpretation available

<table>
<tr><th colspan="2">Standard
(from RMA Third Schedule, unless marked † in which case from RMA Section 70)</th><th>Numeric Interpretation of Standard</th></tr>
<tr><td>† Aquatic life</td><td>Shall not be any significant adverse effects</td><td>Light Penetration
In water deeper than half the euphotic depth, the euphotic depth shall not be changed by more than 10%.
In waters shallower than half the euphotic depth, the lighting at the bed shall not be reduced by more than 20%.
Ammonia Toxicity
The four-day average concentration of total ammonia shall not exceed the following values
<table><tr><th></th><th colspan="3">Total Ammonia, NH_4-N (g/m^3)</th></tr><tr><th>pH</th><th>≤15°C</th><th>20°C</th><th>25°C</th></tr><tr><td>7.50</td><td>1.81</td><td>1.23</td><td>0.86</td></tr><tr><td>7.75</td><td>1.64</td><td>1.15</td><td>0.81</td></tr><tr><td>8.00</td><td>1.09</td><td>0.76</td><td>0.54</td></tr><tr><td>8.25</td><td>0.62</td><td>0.44</td><td>0.32</td></tr><tr><td>8.50</td><td>0.36</td><td>0.26</td><td>0.19</td></tr></table>
Note that daily average based on single sample taken noon - 2pm (NZST)
Particulate Organic Material
The daily average concentration of particulate organic matter shall not exceed 4g/m³</td></tr>
<tr><td rowspan="2">Temperature</td><td>Shall not be changed by more than 3°C.</td><td rowspan="2">N/A</td></tr>
<tr><td>Shall not exceed 20°C.
(Note that this is more stringent than the 25°C in the RMA Third Schedule)</td></tr>
<tr><td>Dissolved Oxygen</td><td>Shall exceed 80% of saturation</td><td>N/A</td></tr>
<tr><td>Suitability of fish for human consumption</td><td>Shall not be rendered unsuitable by the presence of contaminants</td><td>No numeric interpretation available</td></tr>
<tr><td colspan="3">AE - Water Managed for Aquatic Ecosystem Purposes*</td></tr>
<tr><td>Aquatic Life</td><td>Shall not be any adverse effect from:
• pH change
• increase in the deposition of matter on the bed
• contaminants</td><td>Australian Water Quality Guidelines for Fresh and Marine Waters (ANZECC 1992)</td></tr>
</table>

Standard **(from RMA Third Schedule, unless marked † in which case from RMA Section 70)**		**Numeric Interpretation of Standard**
Biological Growths	Shall be no undesirable growths	Bacterial and/or fungal slime growths shall not be visible to the naked eye as obvious plumose growths or mats
		The daily average carbonaceous BOD_5 due to dissolved organic compounds (ie those passing a GF/C filter) shall not exceed 2 g/m^3.
		The median concentration of dissolved reactive phosphorus (DRP) shall be less than 15 mg/m^3 at low flows, unless other physical and/or biological factors prevent undesirable biological growths developing at higher DRP concentrations
FS - Water Managed for Fish Spawning Purposes*		
Temperature	Shall not adversely affect spawning of specified fish species during the spawning season	Shall not exceed 14 °C between April and October except where naturally occuring. Species: • trout • salmon • lamprey • giant kokopu • koaro • inanga
Biological Growths	Refer Class AE	Refer Class AE
CR - Water Managed for Contact Recreation Purposes*		
Visual Clarity	Shall not be so low as to be unsuitable for bathing	Horizontal sighting range of 200mm black disk shall exceed 1.6m during low flows.
Contaminants	Shall not render water unsuitable for bathing	Median concentration of enterococci of at least 20 samples taken throughout the bathing season shall not exceed 33 per 100 mL, nor shall any sample exceed 107 enterococci per 100 mL. The bathing season is defined as the period of 1 November 10 to 1 April inclusive.
Biological Growths	Shall be no undesirable growths	Refer Class AE Seasonal maximum cover of stream or river beds by periphyton as filamentous growths or mats (more than 3mm thick) shall not exceed 40%, and the biomass on the bed shall not exceed 100mg chlorophyll a/m^2
WS- Water Managed for Water Supply Purposes*		
pH	Shall be within the range 6.0 - 9.0	N/A
Suitability for treatment	Shall not be rendered unsuitable for treatment (equivalent to coagulation, filtration, and disinfection) by presence of contaminants	Turbidity, except that produced naturally under flood conditions, shall not exceed 20 NTU

Standard (from RMA Third Schedule, unless marked † in which case from RMA Section 70)		**Numeric Interpretation of Standard**
Suitability for human consumption or irrigation	Shall not be tainted or contaminated so as to make it unpalatable or unsuitable for human consumption after treatment, or unsuitable for irrigation.	**Human Consumption** Water treated by coagulation/filtration/ disinfection shall be able to comply with the Drinking-Water Standards for New Zealand 1995
		Irrigation Shall comply with irrigation guidelines in Australian Water Quality Guidelines for Fresh and Marine Waters (ANZECC 1992).
Biological Growths		The daily average carbonaceous BOD_5 due to dissolved organic compounds (ie those passing a GF/C filter) shall not exceed 2 g/m^3
		Phytoplankton chlorophyll-a shall be less than 20 mg/ m^3 The median concentration of dissolved reactive phosphorus (DRP) shall be less than 15 mg/m^3 at low flows, unless other physical and/or biological factors prevent undesirable biological growths developing at higher DRP concentrations
NS - Water Managed in its Natural State		
Natural Quality	Shall not be altered	No numeric interpretation available
A - Water Managed for Aesthetic Purposes		
Visual Clarity		Hue shall not be changed by more than 5 points on the Munsell scale.
		The natural clarity of any permanently flowing river, lake, wetland, or the sea shall not be conspicuously changed due to sediment or sediment laden discharge originating from the site of a land disturbance operation. There shall be no greater than 20% reduction in the visual clarity of the receiving water as measured by the horizontal sighting of a black disk; and/or There shall be no greater than 10% increase in the turbidity of the receiving water as measured in NTU. Measurements are to be made immediately above or upstream of the discharge and below the discharge after reasonable mixing. For a description of the two methods refer to the Ministry for the Environment Water Quality Guidelines No. 2, Guidelines for the Management of Water Colour and Clarity, June 1994. See the Definition Chapter for the definition of Reasonable Mixing.
		Reflectance shall not be changed by more than 50%.

Standard **(from RMA Third Schedule, unless marked † in which case from RMA Section 70)**		**Numeric Interpretation of Standard**
SG - Water Managed for the gathering or cultivation of shellfish for human consumption		
Temperature	Shall not be changed by more than $3^{o}C$.	
Dissolved Oxygen	Shall exceed 80% of saturation	N/A
Suitability of fish for human consumption	Shall not be rendered unsuitable by the presence of contaminants	Median faecal coliform concentration of not less than five samples, taken within any consecutive 30 day period, shall not exceed a Most Probable Number (MPN) of 14 per 100ml (or Colony Forming Units per 100ml), and not more than ten percent of samples taken within any consecutive 30 day period shall exceed an MPN of 43 per 100ml (or Colony Forming Units per 100ml) as a result of any discharge of a contaminant or water. Samples shall not be taken on the same or consecutive days.
* Note that to avoid repetition those Third Schedule Standards which are covered by, or exceeded by, the underlying class (F) have been omitted.		

Appendix M
Airport Noise Sensitive Activities

1. Buildings shall be designed to reduce the effects of aircraft noise in the internal environment in accordance with the table below. Nothing in the table shall preclude a building form having openings (e.g. windows) provided the attenuation of aircraft noise levels are achieved when the building is in a normally closed condition.

Indoor Design Sound Levels		
Building Type and Activity	**Indoor Design and Sound Level**	
	L_{max} dBA	**Ldn dBA**
Residential units		
Sleeping areas	55	40
Other habitable areas	65	50
Travellers' accommodation		
Relaxing or sleeping	55	40
Conference meeting rooms	55	40
Services activities	75	60
Education activities		
Libraries, study areas	55	40
Teaching areas, assembly areas	55	40
Workshops, gymnasia	75	60
Commercial activities, services and offices		
Conference	55	40
Private Offices	60	45
Drafting, open offices, exhibition spaces	65	50
Typing, data processing	70	55
Shops, supermarkets, showrooms	75	60
Health care facilities, day care facilities, rest homes, hospitals		
Sleeping areas	55	40
Other habitable areas	65	50

2. Prior to the issue by the Council of a Building Consent for any dwelling or any addition or alteration to a dwelling, an acoustic certificate shall be provided to the Council by a suitably qualified and experienced acoustic engineer to demonstrate that the building design will reduce aircraft noise to acceptable levels within habitable spaces.

Appendix N
Definition of Potable Water

All potable waters shall maintain and comply with the following maximum acceptable values for contaminants:

Contaminants	Maximum Acceptable Values
Faecal coliforms	< 1 CFU/100 mls of sample
Turbidity	0.5 NTU

In addition depending on source (e.g. surface water, roof water or bore water) the aesthetic water quality shall, as indicated, be determined with reference to the following guideline values for contaminants:

Contaminants	Guideline Value
Ammonium (surface and bore water)	< 1.5 milligrams per litre
Hardness (surface and bore water)	< (Ca+Mg) 200 milligrams per litre
Iron (surface and bore water)	< 0.2 milligrams per litre
Lead (roof water)	< 0.01 milligrams per litre
Manganese (bore water)	< 0.05 milligrams per litre
Nitrate (surface and bore water)	< 50 milligrams per litre
pH (surface, roof and bore water)	pH between 6.5 and 8.5

Non-compliance with the values for aesthetic water quality will not render water as "non-potable" for the purposes of this Plan. For values outside the recommended guidelines, water treatment is recommended.

Appendix O

Quality of Effluent Suitable for Application to Surface Irrigation

Scope

This appendix sets out methodology for determining whether the effluents discharged from small septic tanks or aeration systems are suitable for application to surface irrigation systems.

Procedure

The procedure shall be as follows:

- The system shall be commissioned in accordance with the manufacturer's instructions and operated under stable conditions for not less than two months with an average daily load per bedroom of:
  - Volume, 300 L;
  - Five-day biochemical oxygen demand (BOD_5), 120 g;
  - Suspended solids, 120 g;
  - Total nitrogen, 30 g; and
  - Total phosphorous, 5 g.
- The effluent samples shall be taken from the outlet of the disinfection chamber, or other location approved by the Council.
- The effluent storage chamber shall be emptied and allowed to refill before taking the first sample each day.
- Testing shall be undertaken on four consecutive days.
- Five samples shall be taken at 30 minute intervals during the test period when the plant is under a maximum flow of 120 L/bedroom for any 2 hour period.
- At the completion of this 2 hour period on each day, the flow shall be increased to the maximum flow for a 30 minute period of 300 L and the effluent from the disinfection chamber shall be tested for free residual chlorine. At the completion of testing on each day, the flow shall be adjusted so that the flow to the plant during each 24 hour period is 300 L/bedroom.
- Samples shall be taken in the presence of a representative of the Council or the approved testing agency accredited by the Joint Accreditation System of Australia and New Zealand (JAS - ANZ).
- The samples shall be tested by a registered laboratory for the parameters set out in Quality of Effluent below:

Quality of Effluent

Effluent that is suitable for application to a surface irrigation system shall comply with the following criteria:

- 90% of the samples shall have a BOD_5 less than or equal to 20 mg/L with no samples greater than 30 mg/L.
- 90% of the samples shall have total suspended solids less than or equal to 30 mg/L with no sample greater than 45 mg/L.
- 90% of the measurements of dissolved oxygen in the aerobic chamber shall be equal to or greater than 2 mg/L.
- The samples taken on each day shall have a thermotolerant coliform count (determined by either multiple tube dilution or membrane filter technique) not exceeding a median value of 10 organisms per 100 mL with four out of five samples containing less than 20 organisms per 100 mL.
- The free residual chlorine concentrations shall be greater than or equal to 0.5 mg/L in all four samples under the maximum 30 minute flow.

Appendix P
Irrigation Water Quality Guidelines

This appendix provides guidelines for irrigation water quality. It draws heavily on the Australian Water Quality Guidelines for Fresh and Marine Waters, published in November 1992 by the Australian and New Zealand Environmental and Conservation Council.

For a more detailed account and explanation of the rationale behind the levels set out in this appendix, readers are referred to Section 5.1 (Irrigation) of Chapter 5 (Agricultural Water Uses) of the above publication.

Table P1 - Summary of Guidelines for Irrigation Water Quality

Parameter	Guideline (mg/L, unless otherwise stated)	Comment
Chloride	30-700 (Tables P2, P3, P4)	Maximum concentration should be set according to sensitivity of crop
Sodium	Crops Table P5	
Total dissolved solids	Tables P6, P7	
*Heavy Metals and Trace Irons**		
Aluminium	5.0	High toxicity in acid soils
Arsenic	0.1	
Beryllium	0.1	
Boron	0.5-6.0	Table P8
Cadmium	0.01	Higher toxicity in acid soils
Chromium	1.0	Limit chromium (VI) concentration to 0.1 mg/L.
Cobalt	0.05	
Copper	0.2	
Fluoride	1.0	
Iron	1.0	
Lead	0.2	
Lithium	2.5	Citrus 0.075 mg/L
Manganese	2.0	If acid soils, limit to 0.2 mg/L.
Mercury	0.002	
Molybdenum	0.01	
Nickel	0.2	
pH ($CaCl_2$)	4.5-9.0	
Selenium	0.02	

Table P1 - Summary of Guidelines for Irrigation Water Quality		
Parameter	**Guideline (mg/L, unless otherwise stated)**	**Comment**
Uranium	0.01	
Vanadium	0.1	
Zinc	2.0	1 mg/L is recommended for sandy soil below pH 6
Pesticides		
Insecticides	-	No guidelines recommended
Herbicides	Table P9	
Radioactivity	Gross Alpha 0.1 Bq/L. Gross Beta 0.1 Bq/L	

* Higher maximum concentrations may be recommended in neutral to alkaline soils.

Table P2 - Chloride Tolerance of Fruit and Woody Crops by Root Uptake			
Rootstocks	**Chloride in Irrigation Water (mg/L)**	**Cultivars**	**Chloride in Irrigation Water (mg/L)**
Grapes	710-960	Boysenberry	250
Stone-fruits (peaches, plums etc)	180-600	Blackberry	
Strawberries	110-180	Raspberry	

Sources: Westcot and Ayers (1984); CCREM (1991)

Table P3 - Chloride Concentrations in Irrigation Water causing Foliar Damage		
Sensitivity	**Chloride (mg/L)**	**Affected Crop**
Sensitive	<178	Almond, Apricot, Plum
Moderately sensitive	178-355	Grape, Pepper, Potato, Tomato
Moderately Tolerant	355-710	Alfalfa, Barley, Corn, Cucumber
Tolerant	>710	Cauliflower, Cotton, Safflower, Sesame, Sorghum, Sugar-beet, Sunflower

Sources: Westcot and Ayers (1984)

Table P4 - Tolerance of Chloride Sensitive Crops to Chloride in Irrigation Water		
Crop	**Irrigation Method**	**Maximum Chloride Concentrations (mg/L)**
Citrus	Overhead Sprinklers	100
	Under-tree Sprinklers	265
Stone-fruit	Overhead Sprinklers	70
	Under-tree Sprinklers	175
Vines	-	350
Tobacco	Overhead Sprinklers	30

Source: Callinan (1970), Jones (1972), AWRC (1969)

Table P5 - Tolerance of Crop to Sodium			
Tolerance	***SAR of Irrigation Water**	**Crop**	**Condition**
Very sensitive	2-8	Deciduous fruits, nuts, citrus, avocado	Leaf tip burn, leaf scorch
Sensitive	8-18	Beans	Stunted, soil structure favourable
Moderately tolerant	18-46	Clover, oats, tall fescue, rice	Stunted due to nutrition and soil structure
Tolerant	46-102	Wheat, lucerne, barley, tomatoes, beets, tall wheat grass, crested grass, fairway grass	Stunted due to poor soil structure

Source: Hart (1974)

* SAR - Sodium Adsorption Ratio (the relative proportions of sodium ions to calcium and magnesium ions in the water).

Table P6 - General Guidelines for Salinity of Irrigation Water			
Class	**Comment**	**Electrical Conductivity (μS/cm)**	**TDS (mg/L)***
1	Low salinity water can be used with most crops on most soils and with all methods of water application with little likelihood that a salinity problem will develop. Some leaching is required, but this occurs under normal irrigation practices except in soils of extremely low permeability.	0-280	0-175

Table P6 - General Guidelines for Salinity of Irrigation Water			
Class	**Comment**	**Electrical Conductivity (μS/cm)**	**TDS (mg/L)***
2	Medium-salinity water can be used if moderate leaching occurs. Plants with medium salt tolerance can be grown, usually without special measures for salinity control. Sprinkler irrigation with the more-saline waters in this group may cause leaf scorch on slat-sensitive crops, especially at high temperatures in the daytime and with low application rates.	280-800	175-500
3	High-salinity water cannot be used on soils with restricted drainage. Even with adequate drainage, special management for salinity control may be required, and the salt tolerance of the plants to be irrigated must be considered.	800-2,300	500-1,500
4	Very high-salinity water is not suitable for irrigation water under ordinary conditions. For use, soils must be permeable, drainage adequate, water must be applied in excess to provide considerable leaching, and salt-tolerant crops should be selected.	2,300-5,500	1,500-3,500
5	Extremely high-salinity water may be used only on permeable, well-drained soils under good management, especially in relation to leaching and for salt-tolerant crops, or for occasional emergency use.	>5,500	>3,500

Source: Hart (1974)

* TDS (mg/L) = 0.68 x electrical conductivity (μS/cm).

Table P7 - Relative Tolerance of Crop Plants to Saline Irrigation Water							
Water Class	**EC (µS/cm)**	**TDS (mg/L)**	**Suggested Plant**				**Precautions for Irrigation Uses**
			Pastures and Fodders	**Fruit**	**Vegetables**	**Ornamentals**	
1 / 2	0-800	0-500	Ladino Clover Red Clover Alsike Clover White Dutch Clover Subterranean Clover	Persimmon Loquat Passionfruit Strawberry Avocado Almond Apricot Peach Plum Lemon Grapefruit Orange Grape Walnut	Parsnips Green beans Celery Radish Cucumber Squash Peas Onion Carrot Potatoes Sweet Corn Lettuce French beans	Violet African Violet Primula Gardenia Begonia Azalea Camellia Magnolia Fuchsia Dahlia	Avoid wetting leaves on hot, dry days
3	800-2,000	500-1,500	Cocksfoot Perennial ryegrass	Mulberry Apple Pear Raspberry] Quince	Cauliflower Bell pepper Cabbage Broccoli Tomato Broad beans Field beans Sweet potato Artichoke	Geranium Gladiolus Bauhinia Zinnia Rose Aster Poinsettia Musa Podocarpus	Avoid wetting leaves during daytime. Avoid light, frequent waterings. Water quickly and use continuous-wetting sprinklers if wetting the leaves.

Table P7 - Relative Tolerance of Crop Plants to Saline Irrigation Water							
Water Class	**EC (µS/cm)**	**TDS (mg/L)**	**Suggested Plant**				**Precautions for Irrigation Uses**
			Pastures and Fodders	**Fruit**	**Vegetables**	**Ornamentals**	
4	2,300-5,500	1,500-3,500	Oats (hay) Wheat (hay) Rye (hay) Lucerne Sudan grass *Paspalum dilatatum* Strawberry clover Sweet clovers Millet Wimmera ryegrass Rhodes grass Couch grass Barley Bridsfoot trefoil	Olive Fig Pomegranate Cantaloupe	Spinach Asparagus Kale Garden beets Gherkins	Stock Chrysanthemum Carnation Hibiscus Oleander Bougainvillea Vinca Aust. Hop bush Coprosma (green and variegated) Japanese pepper *Fiscus. Spp.* In gen *Fiscus hilli* False acacia Qld pyramid tree NZ Christmas Bush False mahogany Rottnest ti-tree *C. cuppressiformis* Rottnest cyprus *Acacia longifolia* Buffalo grass Kikuyu grass Portulaca Mesembryanthemum Boobyalla Morrel Swamp yate York gum	Avoiding wetting leaves of most plants where possible. Adequate leaching necessary.

Table P7 - Relative Tolerance of Crop Plants to Saline Irrigation Water							
Water Class	**EC (µS/cm)**	**TDS (mg/L)**	**Suggested Plant**				**Precautions for Irrigation Uses**
			Pastures and Fodders	**Fruit**	**Vegetables**	**Ornamentals**	
5	>5,500	3,500	Seashore paspalum *Puccinella ciliata* Saltwater couch	Date palm		Couch grass Bamboo Kondinin blackbutt Canary palm *Paspalum vaginatum* Salt sheoaks Salt river gum Tamarisks (evergreen and deciduous) Saltbushes	Do not wet leaves where possible. Excellent drainage and leaching essential.

EC: Electrical Conductivity

Note:

The plant and water groupings are not meant to be rigid, but merely provide a general guide. Plants are arranged in approximate order of salt tolerance in each column, with the least tolerant at the top. Soil texture and drainage may be extremely important. Plants listed as suitable for saline water will grow better with less-saline water.

Source: Hart (1974)

Table P8 - Relative Tolerance of Agricultural Crops to Boron		
Tolerance*	**Concentration of boron in soil water (mg/L)****	**Agricultural Crop**
Very sensitive	<0.5	Blackberry
Sensitive	0.5-1.0	Peach, cherry, plum, grape, cowpea, onion, garlic, sweet potato, wheat, barley, sunflower, mung bean, sesame, lupin, strawberry, Jerusalem artichoke, kidney beans, lima beans
Moderately sensitive	1.0-2.0	Red pepper, pea, carrot, radish, potato, cucumber
Moderately tolerant	2.0-4.0	Lettuce, cabbage, celery, turnip, Kentucky bluegrass, oat, corn, artichoke, tobacco, mustard, clover, squash, musk melon.
Tolerant	4.0-6.0	Sorghum, tomato, alfalfa, purple, vetch, parsley, red beet, sugar-beet.
Very Tolerant	6.0-15.0	Asparagus

* Tolerance will vary with climate, soil conditions and crop varieties; values are to be used as a guideline only.

** Maximum concentrations tolerated in irrigation water without reduction in yield or vegetative growth are approximately equal to soil water values.

Table P9 - Herbicides Registered for Use in or near waters (mg/L)			
Herbicide	**Residue Limits in Irrigation Water**	**Hazard to Crops from Residue in Water****	**Crop Injury Threshold in Irrigation Water (mg/L)**
Acrolein	0.1	+	Flood or furrow: beans 60, corn 60, cotton 80, soybeans 20, sugar-beets 60. Sprinkler: corn 60, soybeans 15, sugar-beets 15
AF 100	*	+	Beets (rutabag) >3.5, corn 3.5
Amitrol	0.002	++	Lucerne 1600, beans 1200, carrots 1600, corn 3000, cotton 1600, grains sorghum >800,
Aromatic solvents (Xylene)	*	+	Oats 2400, potatoes 1300, wheat 1200.
Asulam	*	++	
Atrazine	*	++	
Bromazil	*	+++	
Chlorthiamid	*	++	
Copper sulfate	*	+	Apparently above concentrations used for weed control (see irrigation criterion for copper)
2,4-D	*	++	Field beans 3..5-10, grapes 0.7-1.5, sugar-beets 1.0-10
Dicamba	*	++	Cotton 0.18
Dichlobenil	*	++	Lucerne 10, corn >10, soybean 1.0, sugar-beets 1.0-10, corn 125, beans 5
Diquat	*	+	
Diuron	0.002	+++	
2,2-DPA (Dalapon)	0.004	++	Beets >70, corn <0.35
Fosamine	*	+++	
Fluometuron	*	++	Sugar-beets, alfalfa, tomatoes, squash >2.2
Glyphosate	*	+	
Hezaxinone	*	+++	
Karbutilate	*	+++	

Table P9 - Herbicides Registered for Use in or near waters (mg/L)			
Herbicide	**Residue Limits in Irrigation Water**	**Hazard to Crops from Residue in Water****	**Crop Injury Threshold in Irrigation Water (mg/L)**
Molinate	*	++	
Paraquat	*	+	Corn >10, field beans 0.1, sugar-beets <1.0
Picloram	*	+++	
Propanil	*	++	Alfalfa 0.15, brome grass (eradicated) 0.15
Simazine	*	++	
2,4,5-T	*	++	Potatoes, alfalfa, garden peas, corn, sugar-beets, wheat, peaches, grapes, apples, tomatoes
TCA	*	+++	>0.5
Terbutryne	*	++	
Triclopyr	*	++	

* Guideline not set except as a general limit (0.1 mg/L) for specific herbicides in Tasmania and all herbicides in New South Wales.
** Hazard from residue at the expected minimum concentrations" + = low, ++ = moderate, +++ = high.
> Damage may occur at higher than this level.

Sources: NHMRC (1985), Hart (1974)m, CCREM (1991), Demint et al (1975), Bruns et al. (1972), Comes and Kelly (1979).

Appendix Q

Schedule of Water Bodies for Riparian Management Purpose

Waterbody	Location NZMS 260 Grid Start	Location NZMS 260 Grid Finish
Lake Sedgemere	N30 03033 96888 (centroid)	N30 03033 96888 (centroid)
Island Lake	N30 04739 94821 (centroid)	04739 94821 (centroid)
Fish Lake	N30 04355 98473 (centroid)	N30 04355 98473 (centroid)
Bowscale Tarn	N30 06205 97728 (centroid)	N30 06205 97728 (centroid)
Wairau River	N30 96002 95765	P28 98594 66853
Judges Creek	N30 09016 10606	N30 03994 04480
Coldwater Creek	N30 06397 11303	N30 03466 04984
Rainbow River	N30 93899 03701	N30 01390 08833
Paske Creek	M30 89885 99550	N30 93899 03701
Begley Creek	N30 93316 08251	N30 93899 03701
St Ronans Stream	N30 99971 19935	N30 01533 18373
Hamilton River	N30 96687 15062	N30 01558 17007
Lees Creek	N30 05863 16134	N30 01706 16749
Six Mile Stream	N29 08479 39443	N29 11907 40995
Branch River	N29 14079 217 25	N29 24827 48304
Leatham River	N29 21660 20233	N29 23791 42855
Enchanted Stream	O29 31482 41575	N29 26836 40313
Waihopai River	O29 57538 49608	P28 70684 65928
Sweets Stream	O29 52169 49629	O29 54108 48351
Upper Reaches of the Avon River (including Upton Brook and Non Upton Brook)	O29 54876 35501 O29 57546 34648 O29 55914 33739	O29 57916 38616 O29 56433 36725 O29 55877 36001
Lake Alexander	O29 64973 39793 (centroid)	O29 64973 39793 (centroid)
Lake Chalice	O28 36629 60362	O28 34987 59082
Goulter River	O28 34796 59426	N28 28328 51394
Top Valley Stream	O28 39895 64755	O28 51337 60973
Staircase Stream	O28 42161 62180	O28 44016 62558
Quartz Creek	O28 43365 60559	O28 45220 61803
Timms Stream	O28 46791 68040	O28 53228 62176
Cat Creek and tributary	O28 50344 66474 O28 52278 63940	O28 51604 62501 O28 51451 62979
Pine Valley Stream	O28 52700 67134	O28 55441 63368
Fabians Creek	O28 55471 69062	O28 59508 66290
Bartletts Creek	O28 62521 70779	O28 60050 65025

Waterbody	Location NZMS 260 Grid Start	Location NZMS 260 Grid Finish
Onamalutu River and tributaries	O28 65854 74290 O28 69541 74879 O28 66738 73724	P28 77731 69964 O28 69660 72609 O28 66284 73517
Nutmeg Creek	O28 65237 70329	O28 67439 71494
Apple Tree Creek	O28 64250 72402	O28 66155 72974
Waikakaho River	P27 83178 80635	P28 85577 73302
Tuamarina River	P27 89885 83318	P28 90276 76235
Mount Dobson Stream	P28 87365 77941 P28 87332 75833	P28 90276 76235 P28 88637 76480
Para Stream (including Jackson Stream)	P28 85214 79884	P27 89144 81006
Speeds Road Stream	P27 90016 87124	P27 89612 83184
Pukaka Stream	P28 95125 79337	P28 93694 73310
Pipitea Wetland	P28 95755 75736	P28 95372 73675
Spring Creek	P28 85479 69921	P28 91003 72791
Grovetown Lagoon	P28 92299 69704	P28 92403 69580
Opawa River	P28 90269 65690 P28 88218 68900	P28 97612 66104 P28 91610 66392
Roses Overflow	P28 91610 66392	P28 95988 67420
Taylor River (including Branch River)	P28 91260 55404 P28 87690 54781 P28 88498 63818	P28 87371 60128 P28 89133 56042 P28 90269 65690
Wairau Lagoons		
Wetland at the mouth of Boundary Stream	P28 06996 55761 (centroid)	P28 06996 55761 (centroid)
Awatere River	O30 32070 01878	P28 07272 54906
Lake Jasper	P29 91102 48846 (centroid)	P29 91102 48846 (centroid)
Blairich River	B29 81715 47430	P29 88077 46169
Black Birch Stream	P29 79794 43299	P29 84042 42368
Scrub Rough Creek	P29 77438 36750	P29 79532 35633
Cow Creek	P29 72907 35556	P29 74148 32949
Ring Creek	P29 71060 34345	P29 73372 32297
Penk River	O29 67941 33197	P29 70827 30264
Hodder River	O30 64032 18326	O29 63192 24641
Isis Stream	O29 69602 25004	O29 67817 27719
McRae River	P29 70874 25314	O29 69958 28371
Awatere River tributary (The Downs)	P29 85109 38469	P29 84508 42154
Lake Elterwater	P29 05876 33555 (centroid)	P29 05876 33555 (centroid)
Flaxbourne River	P29 06511 31155	P29 08275 28079
Waima River	P29 86757 24019 P29 89561 21661	P29 03121 22150 P29 89306 23360
Clarence River	N31 07411 68249	O30 49990 91593

Waterbody	Location NZMS 260 Grid Start	Location NZMS 260 Grid Finish
Elliot Stream	O30 39627 92616	O31 38551 86267
Lake McRae	O30 37265 91436 (centroid)	O30 37265 91436 (centroid)
Dillon River	N31 22678 81230	N31 16328 67849
Acheron River	N30 28997 09251	N31 07411 68249
Guide River	N31 21445 85585	N31 15725 82673
Yarra River	N31 09822 79787	N31 15174 85559
Severn River	N30 12403 04191	N30 17593 94245
Alma River	N30 06421 91265	N30 14542 97032
Saxton River	N30 25209 11760	N30 22086 00636