Terrestrial Habitat and Species																		
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Magnitude Assessment									Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
								Type	Extent	Duration	Frequency	Likelihood	Reversibility					
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Colum			Column18	Column19
1	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats	Loss of foraging habitat due to vegetation removal	Baseline. Upgrade to existing road within a largely urban environment. The potential for District Plan trees to provide foraging habitat for bats is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Partially				Negligible	Low
2	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats	Roost loss through vegetation removal	Baseline. Upgrade to existing road within a largely urban environment. The potential for District Plan trees to provide roosting habitat for bats is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Partially				Negligible	Low
3	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	Baseline. Upgrade to existing road within a largely urban environment. The potential for District Plan trees to provide roosting habitat and therefore be injured during vegetation removal is highly unlikely. However requirements of the Wildlife Act 1953 will need to be adhered to'	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible				Negligible	Low
4	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Partially				Negligible	Low
5	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats	Roost loss through vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Partially				Negligible	Low
6	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible				Negligible	Low
14																		
15	Construction	Vegetation removal	Other Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	**Baseline.** Potential for non-TAR birds to use district plan vegetation for foraging (which will be removed) is likely.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)	Partially				Low	Very Low
17	Construction	Vegetation removal	Other Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. Potential for non-TAR birds to be present is likely. However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)					Low	Very Low
18	Construction	Vegetation removal	Other Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)	Partially				Low	Very Low
20	Construction	Vegetation removal	Other Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)	Irreversible				Low	Very Low
21																	#VALUE!	
22	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Baseline. North Island kākā are a highly mobile species in the wider landscape, therefore loss of foraging habitat due to the removal of district plan trees is unlikely.	Direct	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Partially				Low	Low
24	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. North Island kākā are a highly mobile species in the wider landscape, therefore killing or injuring a North Island kākā due to the removal of district plan vegetation is highly unlikely. However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible				Negligible	Very Low
25	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Partially				Low	Low
27	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible				Negligible	Very Low
28																		
29	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Baseline. Long-tailed cuckoo are an infrrequent passage migrants in rural / urban areas, therefore loss of foraging habitat due to the removal of district plan vegetation is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Partially				Negligible	Low
31	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. Long-tailed cuckoo are an infrrequent passage migrant in rural / urban areasa and highly mobile species in the wider landscape, therefore killing or injuring a long-tailed cuckoo due to the removal of district plan vegetation is highly unlikely However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible				Negligible	Low
32	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Partially				Negligible	Low
34	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible				Negligible	Low
35																		
36																		
37	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Lizard habitat loss due to vegetation removal	Baseline. Potential for skinks to be present within district plan vegetation (Tree group 107, 108 and 113). Extent is local only due to extent of vegetation removed in the context of the wider habitat available in the landscape	Direct	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Partially				Low	Low
38	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Kill or injure individual due to vegetation removal	Baseline. Potential for skinks to be present within district plan vegetation (which will be removed). Impact likely to occur, impacting suitable lizard habitat, riparian vegetation along Slippery Creek (Tree group 107, 108 and 113).	Direct	>Local,<Regional	Permanent (>25 years)		Likely (>40-70% chance)	Irreversible				Moderate	High
39	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Lizard habitat loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)	Partially				Low	Low
40	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline	Direct	>Local,<Regional	Permanent (>25 years)		Likely (>40-70% chance)	Irreversible				Moderate	High

Terrestrial Habitat and Species								Magnitude Assessment								
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column	Column18	Column19
1	Construction	Noise/Vibration/Dust	Bats	Very High	Construction- Bats	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Current conditions** Upgrade of existing road, largely within an urban area. Roost sites highly unlikely to occur within the designation	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
2	Operation	Presence of the roads	Bats	Very High	Operation- Bats	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Current conditions** The loss of habitat and connectivity is highly unlikely. Upgrade of existing road, largely within an urban area. Slippery Creek may form a bat corridor but the bridge crossing upgrade is unlikely to cause additional fragmentation.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
4	Operation	Lighting and noise	Bats	Very High	Operation- Bats	Disturbance and displacement of (new and existing) roosts and individuals due to lighting and noise/vibration	**Current conditions** Upgrade of existing road mostly within urban area. Roost sites highly unlikely to occur within the designation.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
6	Construction	Noise/Vibration/Dust	Bats	Very High	Construction- Bats	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely future conditions** No change from baseline.	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
7	Operation	Presence of the roads	Bats	Very High	Operation- Bats	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely future conditions** No change from baseline.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
9	Operation	Lighting and noise	Bats	Very High	Operation- Bats	Disturbance and displacement of (new and existing) roosts and individuals due to lighting and noise/vibration	**Likely future conditions** No change from baseline.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low

Terrestrial Habitat and Species																	
								Magnitude Assessment									
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column	Column18	Column19
1	Construction	Noise/vibration/Dust	Non-TAR species	Low	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of an existing road. If birds are present, they are unlikely to be disturbed by construction activities (due to habituation to current conditions). The most conservative non-TAR species, such as grey warbler, has been used for this assessment.	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Very Low
2	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Upgrade of an existing road. Existing baseline fragmentation (existing road and bridged/culverted streams) means that loss in connectivity resulting in changes to the population dynamics is unlikely.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
3	Operation	Lighting and noise	Non-TAR species	Low	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Upgrade of an existing road. If birds are present, they are unlikely to be disturbed by the presence of the road (due to habituation to current conditions).	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
4	Construction	Noise/vibration/Dust	Non-TAR species	Low	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Very Low
5	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
6	Operation	Lighting and noise	Non-TAR species	Low	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
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8	Construction	Noise/vibration/Dust	North Island kākā	High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of the existing Road. Potential of kākā to utilise Puriri Forest (WF7) within adjacent SEA_T_5248. However as only likely to occur fleetingly for seasonal foraging. No breeding habitat. Disturbance due to construction activity is highly unlikely.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Very Low
9	Operation	Presence of the road	North Island kākā	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Potential of kākā to utilise Puriri Forest (WF7) within adjacent SEA_T_5248. As it is an upgrade to an existing there will be no additional loss of connectivety.	Indirect	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Very Low
10	Operation	Presence of the road	North Island kākā	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Potential of kākā to utilise Puriri Forest (WF7) within adjacent SEA_T_5248. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Very Low
11	Construction	Noise/vibration/Dust	North Island kākā	High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Very Low
12	Operation	Presence of the road	North Island kākā	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Very Low
13	Operation	Presence of the road	North Island kākā	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Very Low
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15	Construction	Noise/vibration/Dust	Long-tailed cuckoo	Very High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of the existing Road. Potential of long-tailed cuckoo to utilise Puriri Forest (WF7) within adjacent SEA_T_5248. However as only likely to occur fleetingly for seasonal foraging. No breeding habitat. Disturbance due to construction activity is highly unlikely.	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
16	Operation	Presence of the road	Long-tailed cuckoo	Very High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Potential of long-tailed cuckoo to utilise Puriri Forest (WF7) within adjacent SEA_T_5248. As it is an upgrade to an existing there will be no additional loss of connectivety.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low

17	Operation	Presence of the road	Long-tailed cuckoo	Very High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Potential of long-tailed cuckoo to utilise Puriri Forest (WF7)) within adjacent SEA_T_5248. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
18	Construction	Noise/vibration/Dust	Long-tailed cuckoo	Very High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
19	Operation	Presence of the road	Long-tailed cuckoo	Very High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
20	Operation	Presence of the road	Long-tailed cuckoo	Very High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
21															#VALUE!	
22	Construction	Noise/vibration/Dust	Shags and gulls	High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of the existing Road. Potential of Shag and gull species to utilise Otuwairoa Stream / Slippery Creek Corridor. Breeding potential is unlikely due to existing roads and human disturbance. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to construction presence is unlikely.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Low
23	Operation	Presence of the road	Shags and gulls	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Potential of Shag and gull species to utilise Otuwairoa Stream / Slippery Creek Corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
24	Operation	Presence of the road	Shags and gulls	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Potential of Shag and gull species to utilise Otuwairoa Stream / Slippery Creek Corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
25	Construction	Noise/vibration/Dust	Shags and gulls	High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone. Breeding potential is unlikely due to existing roads and human disturbance. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same as Baseline.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Low
26	Operation	Presence of the road	Shags and gulls	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same as Baseline.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
27	Operation	Presence of the road	Shags and gulls	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same as Baseline.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
28															#VALUE!	
29	Construction	Noise/vibration/Dust	Banded rail	High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of the existing Road. Potential of banded rail to utilise Otuwairoa Stream / Slippery Creek Corridor. Breeding potential is unlikely due to existing roads and human disturbance. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to construction presence is unlikely.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Low
30	Operation	Presence of the road	Banded rail	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Potential of banded rail to utilise Otuwairoa Stream / Slippery Creek Corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low

31	Operation	Presence of the road	Banded rail	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Potential of banded rails to utilise Otuwairoa Stream / Slippery Creek Corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
32	Construction	Noise/vibration/Dust	Banded rail	High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same as Baseline.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Low
33	Operation	Presence of the road	Banded rail	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same as Baseline.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
34	Operation	Presence of the road	Banded rail	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same as Baseline.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
35															#VALUE!	
36	Construction	Noise/vibration/Dust	Caspian tern	Very High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of the existing Road. Potential of caspian tern to utilise Otuwairoa Stream / Slippery Creek Corridor. Breeding potential is highly unlikely due to existing roads and human disturbance. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to construction presence is unlikely.	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
37	Operation	Presence of the road	Caspian tern	Very High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Potential of caspian tern to utilise Otuwairoa Stream / Slippery Creek Corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
38	Operation	Presence of the road	Caspian tern	Very High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Potential of caspian tern to utilise Otuwairoa Stream / Slippery Creek Corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
39	Construction	Noise/vibration/Dust	Caspian tern	Very High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone. Breeding potential is unlikely due to existing roads and human disturbance. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same as Baseline.	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
40	Operation	Presence of the road	Caspian tern	Very High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same as Baseline.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
41	Operation	Presence of the road	Caspian tern	Very High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same as Baseline.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low

Terrestrial Habitat and Species																	
								Magnitude Assessment									
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column15	Column18	Column19
1	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Loss of foraging habitat due to vegetation removal	Baseline. Upgrade to existing road within a largely urban environment. The potential for District Plan trees to provide foraging habitat for bats is Highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
2	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Roost loss through vegetation removal	Baseline. Upgrade to existing road within a largely urban environment. The potential for District Plan trees to	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
3	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	Baseline. Upgrade to existing road within a largely urban environment. The potential for District Plan trees to provide roosting habitat and therefore be injured during vegetation removal is Highly unlikely. However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
4	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
5	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Roost loss through vegetation removal	Likely Future Ecological Environment.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
6	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
7																	
8	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	**Baseline.** Potential for non-TAR birds to use district plan vegetation for foraging (which will be removed). Restricted to exotic willows with low foraging value for most native species.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
10	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. Potential for non-TAR birds to be present Rrequirements of the Wildlife Act 1953 will need to be adhered to	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
11	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Willows present are within riaparian margin and are likely to remain (or be enhanced with native planting) in a future environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
13	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Willows present are within riaparian margin and are likely to remain (or be enhanced with native planting) in a future environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
14																	
15	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Baseline. North Island kākā are a highly mobile species in the wider landscape, therefore loss of foraging habitat due to the removal of district plan trees is unlikely.	Direct	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)			Low	Low
16	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. North Island kākā are a highly mobile species in the wider landscape, therefore killing or injuring a North Island kākā due to the removal of district plan vegetation is highly unlikely. However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
17	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)			Low	Low
18	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
19																	
20	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Baseline. Long-tailed cuckoo are an infrrequent passage migrant in rural / urban areas, therefore loss of foraging habitat due to the removal of district plan vegetation is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
21	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. Long-tailed cuckoo are an infrrequent passage migrant in rural / urban areasa and highly mobile species in the wider landscape, therefore killing or injuring a long-tailed cuckoo due to the removal of district plan vegetation is highly unlikely However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
22	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Partially		Negligible	Low
23	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
24																	
25	Construction	Vegetation removal	Shags	High	Construction- Birds	Nest loss due to vegetation removal	Baseline. Shag can nest within mature tree overhanging wetland / waterbodies (Hingaia Stream). However, habitat quality is low and highly unlikely to support a breeding population. Therefore nest loss due to the removal of district plan vegetation is highly unlikely.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Very Low

26	Construction	Vegetation removal	Shags	High	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. Shags are highly mobile species in the wider landscape, therefore killing or injuring a them due to the removal of district plan vegetation is highly unlikely	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Very Low
27	Construction	Vegetation removal	Shags	High	Construction- Birds	Nest loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Very Low
28	Construction	Vegetation removal	Shags	High	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Very Low
29																
30	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Lizard habitat loss due to vegetation removal	Baseline. Potential for skinks to be present within district plan vegetation (which will be removed)(Tree group 114, 115 &116). Extent is local only due to extent of vegetation removed in the context of the wider habitat available in the landscape	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)	Partially		Low	Low
31	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Kill or injure individual due to vegetation removal	Baseline. Potential for skinks to be present within district plan vegetation (which will be removed). Impact likely to occur, impacting suitable lizard habitat, riparian vegetation along Hingaia Stream (Tree group 114, 115 &116).	Direct	>Local,<Regional	Permanent (>25 years)		Likely (>40-70% chance)	Irreversible		Moderate	High
32	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Lizard habitat loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)	Partially		Low	Low
33	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline	Direct	>Local,<Regional	Permanent (>25 years)		Likely (>40-70% chance)	Irreversible		Moderate	High

Terrestrial Habitat and Species								Magnitude Assessment								
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column	Column18	Column19
1	Construction	Noise/Vibration/Dust	Bats	Very High	Construction- Bats	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Current conditions** Upgrade of existing road, largely within an urban area. Roost sites highly unlikely to occur within the designation.	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
2	Operation	Presence of the roads	Bats	Very High	Operation- Bats	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Current conditions** The loss of habitat and connectivity is highly unlikely. Upgrade of existing road, largely within an urban area. Hingaia Stream may form a bat corridor but the bridge crossing upgrade is unlikely to cause additional fragmentation.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
4	Operation	Lighting and noise	Bats	Very High	Operation- Bats	Disturbance and displacement of (new and existing) roosts and individuals due to lighting and noise/vibration	**Current conditions** Upgrade of existing road mostly within urban area. Roost sites highly unlikely to occur within the designation.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
5																
6	Construction	Noise/Vibration/Dust	Bats	Very High	Construction- Bats	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely future conditions** No change from baseline.	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
7	Operation	Presence of the roads	Bats	Very High	Operation- Bats	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely future conditions** No change from baseline.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
9	Operation	Lighting and noise	Bats	Very High	Operation- Bats	Disturbance and displacement of (new and existing) roosts and individuals due to lighting and noise/vibration	**Likely future conditions** No change from baseline.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low

Terrestrial Habitat and Species																	
								Magnitude Assessment									
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column	Column18	Column19
1	Construction	Notice/vibration/Dust	Non-TAR species	Low	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of an existing road. If birds are present, they are unlikely to be disturbed by construction activities (due to habituation to current conditions). The most conservative non-TAR species, such as grey warbler, has been used for this assessment.	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Very Low
2	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Upgrade of an existing road. Existing baseline fragmentation (existing road and bridged/culverted streams) means that loss in connectivity resulting in changes to the population dynamics is unlikely.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
3	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Upgrade of an existing road. If birds are present, they are unlikely to be disturbed by the presence of the road (due to habituation to current conditions).	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
4	Construction	Notice/vibration/Dust	Non-TAR species	Low	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Very Low
5	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
6	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
7																
14		Notice/vibration/Dust	Shag and Gulls Species	High	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of the existing Road. Potential of shag species to utilise Hingaia Creek corridor. Breeding potential is unlikely due to existing roads and human disturbance. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to construction presence is unlikely.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Low
15	Construction	Presence of the road	Shag and Gulls Species	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Potential of shag species to utilise Hingaia Stream corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
16	Operation	Presence of the road	Shag and Gulls Species	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Potential of Shag species to utilise Hingaia Stream corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
17	Operation	Notice/vibration/Dust	Shag and Gulls Species	High	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** NoR largely urban. Athough Hingaia Stream is adjacent to a Future Urban Zone. Breeding potential is unlikely due to existing roads and human disturbance. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same a Baseline.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Low
18	Construction	Presence of the road	Shag and Gulls Species	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** NoR largely urban. Athough Hingaia Stream is adjacent to a Future Urban Zone. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same a Baseline.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low

19	Operation	Presence of the road	Shag and Gulls Species	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR largely urban. Athough Hingaia Stream is adjacent to a Future Urban Zone. Breeding potential is unlikely due to existing roads and human disturbance. There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same a Baseline.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low

Terrestrial Habitat and Species								Magnitude Assessment								
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column	Column18	Column19
1	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Loss of foraging habitat due to vegetation removal	Baseline. Upgrade to existing road within an urban environment. The potential for District Plan trees to provide foraging habitat for bats is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
2	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Roost loss through vegetation removal	Baseline. Upgrade to existing road within an urban environment. The potential for District Plan trees to provide roosting habitat for bats is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
3	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	Baseline. Upgrade to existing road within an urban environment. The potential for District Plan trees to provide roosting habitat and therefore be injured during vegetation removal is higly unlikely. However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
4	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
5	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Roost loss through vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
6	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
7																
8	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	**Baseline.** Potential for non-TAR birds to use district plan vegetation for foraging (which will be removed). Restricted to exotic willows with low foraging value for most native species.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
9	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Nest loss due to vegetation removal	Baseline. Potential for non-TAR bird nests to be present	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
10	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. Potential for non-TAR birds to be present Rrequirements of the Wildlife Act 1953 will need to be adhered to	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
11	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
12	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Nest loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
13	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
14																
15	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Baseline. North Island kākā are a highly mobile species in the wider landscape, therefore loss of foraging habitat due to the removal of district plan trees is highly unlikely.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
16	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Nest loss due to vegetation removal	Baseline. North Island kākā nests are generally in mature tree cavities on offshore islands (in the Auckland Region), therefore nest loss due to the removal of district plan vegetationis highly unlikely.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
17	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. North Island kākā are a highly mobile species in the wider landscape, therefore killing or injuring a North Island kākā due to the removal of district plan vegetation is highly unlikely. However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
18	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
19	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Nest loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
20	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
21																
22	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Baseline. Long-tailed cuckoo are an infrequent passage migrant in rural / urban areas, therefore loss of foraging habitat due to the removal of district plan vegetation is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
23	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Nest loss due to vegetation removal	Baseline. Long-tailed cuckoo do not breed in the Auckland Region (other than Little Barrier Island/ Te Hauturu-o-Toi). Therefore nest loss due to the removal of district plan vegetation is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low

24	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. Long-tailed cuckoo are an infrequent passage migrant in rural / urban areasa and highly mobile species in the wider landscape, therefore killing or injuring a long-tailed cuckoo due to the removal of district plan vegetation is highly unlikely However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
25	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
26	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Nest loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
27	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
28																	
29	Construction	Vegetation removal	Skink	High	Construction- Herpetofauna (native)	Lizard habitat loss due to vegetation removal	Baseline. Potential for skinks to be present within district plan vegetation (which will be removed) (Tree group 38, 39, 40 & 41). Extent is local only due to extent of vegetation removed in the context of the wider habitat available in the landscape	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)	Partially		Low	Low
30	Construction	Vegetation removal	Skink	High	Construction- Herpetofauna (native)	Kill or injure individual due to vegetation removal	Baseline. Potential for skinks to be present within district plan vegetation (which will be removed). Impact likely to occur, impacting suitable lizard habitat, riparian vegetation along Hingaia Stream (Tree group 38, 39, 40 & 41).	Direct	>Local,<Regional	Permanent (>25 years)		Likely (>40-70% chance)	Irreversible		Moderate	High
31	Construction	Vegetation removal	Skink	High	Construction- Herpetofauna (native)	Lizard habitat loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)	Partially		Low	Low
32	Construction	Vegetation removal	Skink	High	Construction- Herpetofauna (native)	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Likely (>40-70% chance)	Irreversible		Moderate	High

Terrestrial Habitat and Species								Magnitude Assessment								
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column	Column18	Column19
1	Construction	Noise/Vibration/Dust	Bats	Very High	Construction- Bats	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Current conditions** Upgrade of existing road, within an urban area. Roost sites unlikely to occur within the designation.	Indirect	<Local	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
2	Operation	Presence of the roads	Bats	Very High	Operation- Bats	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Current conditions** The loss of habitat and connectivity is highly unlikely. Upgrade of existing road, within an urban area.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
4	Operation	Lighting and noise	Bats	Very High	Operation- Bats	Disturbance and displacement of (new and existing) roosts and individuals due to lighting and noise/vibration	**Current conditions** Upgrade of existing road mostly within urban area. Existing conditions are likely to deter bats.	Indirect	Local	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
5																
6	Construction	Noise/Vibration/Dust	Bats	Very High	Construction- Bats	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely future conditions** No change from baseline.	Indirect	<Local	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
7	Operation	Presence of the roads	Bats	Very High	Operation- Bats	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely future conditions** No change from baseline.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
9	Operation	Lighting and noise	Bats	Very High	Operation- Bats	Disturbance and displacement of (new and existing) roosts and individuals due to lighting and noise/vibration	**Likely future conditions** No change from baseline.	Indirect	Local	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low

Terrestrial Habitat and Species								Magnitude Assessment								
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column	Column18	Column19
1	Construction	Noise/Vibration/Dust	Non-TAR species	Low	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of an existing road. If birds are present, they are unlikely to be disturbed by construction activities (due to habituation to current conditions). The most conservative non-TAR species, such as grey warbler, has been used for this assessment.	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Very Low
2	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Upgrade of an existing road. Existing baseline fragmentation (existing road and bridged/culverted streams) means that loss in connectivity resulting in changes to the population dynamics is unlikely.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
3	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Upgrade of an existing road. If birds are present, they are unlikely to be disturbed by the presence of the road (due to habituation to current conditions).	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
4	Construction	Noise/Vibration/Dust	Non-TAR species	Low	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Very Low
5	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
6	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
7				Negligible												
8	Construction	Noise/Vibration/Dust	Dabchick	Very High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of an existing road. May utilise stormwater wetland near SH1 bridge crossing adjacent to Project Area for foraging and/or breeding, Unlikely to occur in urban areas, impact highly unlikely.	Indirect	Local	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
9	Operation	Presence of the road	Dabchick	Very High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Upgrade of an existing road. May utilise stormwater wetland near SH1 bridge crossing adjacent to Project Area. Existing baseline fragmentation (existing road and bridged/culverted streams) means that loss in connectivity resulting in changes to the population dynamics is unlikely.	Indirect	Local	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
10	Operation	Presence of the road	Dabchick	Very High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Upgrade of an existing road. If birds are present, they are unlikely to be disturbed by the presence of the road (due to habituation to current conditions).	Indirect	Local	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
11	Construction	Noise/Vibration/Dust	Dabchick	Very High	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
12	Operation	Presence of the road	Dabchick	Very High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
13	Operation	Presence of the road	Dabchick	Very High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR is located in an existing urban area and therfore no change is expected.	Indirect	Local	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low

Terrestrial Habitat and Species								Magnitude Assessment								
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column	Column18	Column19
1	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Loss of foraging habitat due to vegetation removal	Baseline. Upgrade to existing road. The potential for District Plan trees to provide foraging habitat for bats is unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
2	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Roost loss through vegetation removal	Baseline. Upgrade to existing road. The potential for District Plan trees to provide foraging habitat for bats is unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
3	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	Baseline. Upgrade to existing road. The potential for District Plan trees to provide foraging habitat for bats is unlikely. Requirements of the Wildlife Act 1953 will need to be adhered to	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
4	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
5	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Roost loss through vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
6	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
7																
8	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	**Baseline.** Potential for non-TAR birds to use district plan vegetation for foraging (which will be removed).	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
9	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Nest loss due to vegetation removal	Baseline. Potential for non-TAR bird nests to be present	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
10	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. Potential for non-TAR birds to be present Rrequirements of the Wildlife Act 1953 will need to be adhered to	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
11	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
12	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Nest loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
13	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)			Low	Very Low
14																
15	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Baseline. North Island kākā are a highly mobile species in the wider landscape, therefore loss of foraging habitat due to the removal of district plan trees is unlikely.	Direct	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)			Low	Low
16	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Nest loss due to vegetation removal	Baseline. North Island kākā nests are generally in mature tree cavities on offshore islands (in the Auckland Region), therefore nest loss due to the removal of district plan vegetationis highly unlikely.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
17	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. North Island kākā are a highly mobile species in the wider landscape, therefore killing or injuring a North Island kākā due to the removal of district plan vegetation is highly unlikely.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
18	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
19	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Nest loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
20	Construction	Vegetation removal	North Island kākā	High	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
21																
22	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Baseline. Long-tailed cuckoo are an infrrequent passage migrant in rural / urban areas, therefore loss of foraging habitat due to the removal of district plan vegetation is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
23	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Nest loss due to vegetation removal	Baseline. Long-tailed cuckoo do not breed in the Auckland Region (other than Little Barrier Island/ Te Hauturu-o-Toi). Therefore nest loss due to the removal of district plan vegetation is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
24	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. Long-tailed cuckoo are an infrrequent passage migrant in rural / urban areasa and highly mobile species in the wider landscape, therefore killing or injuring a long-tailed cuckoo due to the removal of district plan vegetation is highly unlikely However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
25	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low

26	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Nest loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
27	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Low
28																
29	Construction	Vegetation removal	Shags	High	Construction- Birds	Nest loss due to vegetation removal	Baseline. Shag can nest within mature tree overhanging wetland / waterbodies. However, habitat quality is low and highly unlikely to support a breeding population. Therefore nest loss due to the removal of district plan vegetation is highly unlikely.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
30	Construction	Vegetation removal	Shags	High	Construction- Birds	Kill or injure individual due to vegetation removal	Baseline. Shags are highly mobile species in the wider landscape, therefore killing or injuring a them due to the removal of district plan vegetation is highly unlikely However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
31	Construction	Vegetation removal	Shags	High	Construction- Birds	Nest loss due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low
32	Construction	Vegetation removal	Shags	High	Construction- Birds	Kill or injure individual due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)			Negligible	Very Low

Terrestrial Habitat and Species																	
								Magnitude Assessment									
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column	Column18	Column19
1	Construction	Noise/Vibration/Dust	Bats	Very High	Construction- Bats	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Current conditions** Upgrade of existing Road. Bat roost potential unlikely to occur within the designation. Bats unlikely to be disturbed by construction activities.	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Low
2	Operation	Presence of the road	Bats	Very High	Operation- Bats	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Current conditions** The loss of habitat and connectivity is highly unlikely. Upgrade of existing road, largely within an urban area. Papakura Stream amay form a bat corridor but the upgrade of the bridge crossing it is unlikely to cause additional fragmentation.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
3	Operation	Lighting and noise	Bats	Very High	Operation- Bats	Disturbance and displacement of (new and existing) roosts and individuals due to lighting and noise/vibration	**Current conditions** Upgrade of existing road. Bats are likely only fleeting visitors to the area.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
4																
5	Construction	Noise/Vibration/Dust	Bats	Very High	Construction- Bats	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely future conditions** No change from baseline.	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
6	Operation	Presence of the road	Bats	Very High	Operation- Bats	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely future conditions** No change from baseline.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
7	Operation	Lighting and noise	Bats	Very High	Operation- Bats	Disturbance and displacement of (new and existing) roosts and individuals due to lighting and noise/vibration	**Likely future conditions** No change from baseline.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low

Terrestrial Habitat and Species																	
								Magnitude Assessment									
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Type	Extent	Duration	Frequency	Likelihood	Reversibility		Magnitude (pre-mitigation)	Level of Effect (Pre-mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column	Column18	Column19
1	Construction	Notice/vibration/Dust	Non-TAR species	Low	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	Baseline. Upgrade of an existing road. If birds are present, they are unlikely to be disturbed by construction activities (due to habituation to current conditions). The most conservative non-TAR species, such as grey warbler, has been used for this assessment.	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Very Low
2	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	Baseline. Upgrade of an existing road. Existing baseline fragmentation (existing road and bridged/culverted streams) means that loss in connectivity resulting in changes to the population dynamics is unlikely.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
3	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	Baseline. Upgrade of an existing road. If birds are present, they are unlikely to be disturbed by the presence of the road (due to habituation to current conditions).	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
4	Construction	Notice/vibration/Dust	Non-TAR species	Low	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** No expected change to baseline	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Very Low
5	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** No expected change to baseline	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
6	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** No expected change to baseline	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Very Low
7																
8	Construction	Notice/vibration/Dust	New Zealand Pipit	High	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of the existing Road. Potential of NZ Pipit to utilise rough grassland within adjacent FUZ. Disturbance due to construction activity likely.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Likely (>40-70% chance)	Totally		Low	Low
9	Operation	Presence of the road	New Zealand Pipit	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Potential of NZ Pipit to utilise rough grassland within adjacent FUZ. NoR doesn't cover much habitat, connectivity loss resulting in changes in population dynamics unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
10	Operation	Presence of the road	New Zealand Pipit	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	Baseline. Potential of NZ Pipit to utilise rough grassland within adjacent FUZ. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
11	Construction	Notice/vibration/Dust	New Zealand Pipit	High	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** No expected change to baseline as riparian corridor will remain.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		Negligible	Very Low
12	Operation	Presence of the road	New Zealand Pipit	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** No expected change to baseline as riparian corridor will remain.	Indirect	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Very Low
13	Operation	Presence of the road	New Zealand Pipit	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** NoR is located in Future Urban Zone. Suitable habitat will likely have been removed. The magnitude and level of effect are lower than Baseline.	Indirect	>Local,<Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Very Low
14		Notice/vibration/Dust	Shag Species	High	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Baseline.** Upgrade of the existing Road. Potential of Shag species to utilise Papakura Stream Corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to construction presence is unlikely.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Low
15	Construction	Presence of the road	Shag Species	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Baseline.** Potential of Shag species to utilise Papakura Stream Corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low

16	Operation	Presence of the road	Shag Species	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Baseline.** Potential of Shag species to utilise Papakura Stream Corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
17	Operation	Notice/vibration/Dust	Shag Species	High	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	**Likely Future Ecological Environment.** No expected change to baseline as riparian corridor will remain.	Indirect	>Local,<Regional	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		Low	Low
18	Construction	Presence of the road	Shag Species	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	**Likely Future Ecological Environment.** No expected change to baseline as riparian corridor will remain.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low
19	Operation	Presence of the road	Shag Species	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	**Likely Future Ecological Environment.** No expected change to baseline as riparian corridor will remain.	Indirect	>Local,<Regional	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		Low	Low