						Terrestrial Ha	bitat and Species				Magnitude Asse	essment			
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	Extent	Duration	Frequency	Likelihood	Reversibility	Magnitude (pre- mitigation)	Level of Effect mitigation
imn1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Colum Column18	Column19
						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								
1	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats	Roost loss through vegetation removal	provide foraging habitat for bats is highly unlikely.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Partially	Negligible	Low
						Roosciloss dirough vegetation removal	Upgrade to existing road within a largely urban environment. The potential for District Plan trees to								
2	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats	Kill or injure individual bats due to vegetation remova	provide roosting habitat for bats is highly unlikely. I Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Partially	Negligible	Low
							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 ²			Permanent (>25		Highly Unlikely			
3	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment.	Direct	Regional	years)		(<20% chance)	Irreversible	Negligible	Low
4	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats		Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Partially	Negligible	Low
						Roost loss through vegetation removal	Likely Future Ecological Environment.			Permanent (>25		Highly Unlikely			1
5	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats	Kill or injure individual bats due to vegetation remova	Same as Baseline. I Likely Future Ecological Environment.	Direct	Regional	years) Permanent (>25		(<20% chance) Highly Unlikely	Partially	Negligible	Low
6 14	Construction	Vegetation removal	Long-tailed bats	Very High	Construction- Bats		Same as Baseline.	Direct	Regional	years)		(<20% chance)	Irreversible	Negligible	Low
						Loss of foraging habitat due to vegetation removal	Baseline.								
15	Construction	Vegetation removal	Other Non-TAR birds	Low	Construction- Birds		Potential for non-TAR birds to use district plan vegetation for foraging (which will be removed) is likelv. Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)	Partially	Low	Very Low
							Potential for non-TAR birds to be present is likely. However requirements of the Wildlife Act 1953 will			Permanent (>25		Likely (>40-70%			
17	Construction	Vegetation removal	Other Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	need to be adhered to Likely Future Ecological Environment.	Direct	Local	years)		chance)		Low	Very Low
18	Construction	Vegetation removal	Other Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	Same as Baseline. Likely Future Ecological Environment.	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	Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)	Irreversible	Low #VALUE!	Very Low
21						Loss of foraging habitat due to vegetation removal	Baseline.							#VALUE!	
22	Construction	Vegetation removal	North Island kākā	High	Construction- Birds		North Island käkä 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< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td>Partially</td><td>Low</td><td>Low</td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)	Partially	Low	Low
						Kill or injure individual due to vegetation removal	Baseline. North Island käkä are a highly mobile species in the wider landscape, therefore killing or injuring a North Island käkä due to the removal of district plan vegetation is highly unlikely.								
24	Construction	Vegetation removal	North Island kākā	High	Construction- Birds		However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Highly Unlikely (<20% chance)</td><td>Irreversible</td><td>Negligible</td><td>Very Low</td></regional<>	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible	Negligible	Very Low
25	Construction	Vegetation removal	North Island kākā	Minh	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment. Same as Baseline.	Direct	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td>Partially</td><td>law</td><td>low</td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)	Partially	law	low
1,5	Construction					Kill or injure individual due to vegetation removal	Likely Future Ecological Environment.	Direct		Permanent (>25		Highly Unlikely			
27	Construction	Vegetation removal	North Island käkä	High	Construction- Birds		Same as Baseline. Baseline.	Direct	>Local, <regional< td=""><td>years)</td><td></td><td>(<20% chance)</td><td>Irreversible</td><td>Negligible</td><td>Very Low</td></regional<>	years)		(<20% chance)	Irreversible	Negligible	Very Low
						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			Permanent (>25		Highly Unlikely			
29	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction-Birds	Kill or injure individual due to vegetation removal	vesetation is hiehlv unlikelv. 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	Direct	Regional	years)		(<20% chance)	Partially	Negligible	Low
31	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds		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			Manufiliah	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment.	Direct	Designal	Permanent (>25		Highly Unlikely	Destially	Meelinikle	
32	construction	Vegetation removal	Long-tailed cuckoo	very High	Construction- Birds	Kill or injure individual due to vegetation removal	Same as Baseline Likely Future Ecological Environment.	Direct	negional	years) Permanent (>25		(<20% chance) Highly Unlikely	rattially	rvegrigible	LOW
35		Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds		Same as Baseline.	Direct	Regional	years)		(<20% chance)	Irreversible	Negligible	Low
36							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			Permanent (>25		Unlikely (20-40%			
37	Construction	Vegetation removal	Skinks	High		Lizard habitat loss due to vegetation removal	context of the wider habitat available in the landscape Baseline. Potential for skinks to be present within district plan vegetation (which will be removed). Impact likely to occur; impacting suitable lizard habitat, riparian vesetation alone Slipeory Creek (Tree group 107. 108	Direct	Local	years) Permanent (>25		chance) Likely (>40-70%	Partially	Low	Low
38	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Kill or injure individual due to vegetation removal	and 113). Likely Future Ecological Environment.	Direct	>Local, <regional< td=""><td>years) Permanent (>25</td><td></td><td>chance) Likely (>40-70%</td><td>Irreversible</td><td>Moderate</td><td>High</td></regional<>	years) Permanent (>25		chance) Likely (>40-70%	Irreversible	Moderate	High
	Construction	Vegetation removal	Skinks	righ	Construction-Herpetofauna (native) Construction-Herpetofauna (native)	Lizard habitat loss due to vegetation removal Kill or injure individual due to vegetation removal	Same as Baseline Likely Future Ecological Environment. Same as Baseline	Direct	Local >Local, <regional< td=""><td>years) Permanent (>25 years)</td><td></td><td>chance) Likely (>40-70% chance)</td><td>Partially</td><td>Low</td><td>LOW</td></regional<>	years) Permanent (>25 years)		chance) Likely (>40-70% chance)	Partially	Low	LOW

						Terrestrial Ha	bitat and Species									
							· · · ·				Magnitude Ass	essment				
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	Extent	Duration	Frequency	Likelihood	Reversibility		itude (pre- ligation)	Level of Effect (Pre mitigation)
Column1	Column2	Column3	Column4	ColumnS	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column Column	18	Column19
	Construction	Noise/Vibration/Dust			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			
			Bats	Very High										Negligit	de	Low
	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	Eurrent 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 framentation.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible	Negligit	Na	low
	Operation	Lighting and noise	Bats	Very High	Operation- Bats	Disturbance and displacement of (new and existing) roosts and individuals due to lighting and noise/virtation	Current conditions Upgrade of existing road mostly within urban area. Roost sites highly unlikely to occur within the	Indirect	Regional	Permanent (>25		Highly Unlikely (<20% chance)	Irreversible	Negligit		low
	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.)		Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally	Negligit		Low
	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	Negligit	de .	Iow
						Disturbance and displacement of (new and existing) roosts and individuals due to lighting and	Likely future conditions No change from baseline.			Permanent (>25		Highly Unlikely				
1	Operation	Lighting and noise	Bats	Very High	Operation- Bats	noise/vibration	-	Indirect	Regional	years)		(<20% chance)	Irreversible	Negligit	xle	Low

						Terrestrial Ha	bitat and Species				Magnitude Asse	essment			
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	Extent	Duration	Frequency	Likelihood	Reversibility	Magnitude (pre- mitigation)	Level of Effect (P mitigation)
					10-1C	letter 7	10-1		0.1	Column 44		- Colored 2	Column 4.4		
	olumn2 onstruction	Column3 Noise/vibration/Dust	Column4 Non-TAR species	Columns	Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	Baseline. Upgrade of an existing road.	Column9 Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally	Columi Column18	Column19
							If birds are present, they are unlikely to be disturbed by construction activities (due to habituation to current conditions).								
1	peration	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light	The most conservative non-TAR species, such as grey warbler, has been used for this assessment. t Baseline.	Indirect	Local	Permanent (>25		Unlikely (20-40%	Irreversible	Low	Very Low
						and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	Upgrade of an existing road. Existing baseline fragmentation (existing road and			years)		chance)			
2				Low			bridged/culverted streams) means that loss in connectivity resulting in changes to the population dynamics is unlikely.							Low	Very Low
0	Iperation	Lighting and noise	Non-TAR species		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.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		
3				Low			If birds are present, they are unlikely to be disturbed by the presence of the road (due to habituation to current conditions).							Low	Very Low
C	onstruction	Noise/vibration/Dust	Non-TAR species		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		
4	Iperation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light		Indirect	Local	Permanent (>25		Unlikely (20-40%	Irreversible	Low	Very Low
	per unon					and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	NoR is located in an existing urban area and therfore no change is expected.	indirect	Locui	years)		chance)	in contrainte		
0	Iperation	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	NoR is located in an existing urban area and therfore no	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible	LOW	very Low
6				Low			change is expected.							Low #VALUE!	Very Low
C	onstruction	Noise/vibration/Dust			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 käkå to utilise Puriri Forest (WF7) within adjacent SEA_T_5248.	Indirect	>Local, <regional< td=""><td>Short-term (<5 years)</td><td>Frequently</td><td>Highly Unlikely (<20% chance)</td><td>Totally</td><td></td><td></td></regional<>	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		
			North Bland kākā	Minh			However as only likely to occur fleetingly for seasonal foraging. No breeding habitat. Disturbance due to construction activity is highly unlikely.							Negligible	Venilow
0	peration	Presence of the road			Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, ligh 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 käkä to utilise Puriri Forest (WF7) within adjacent SEA_T_5248. As it is an upgrade to an existing there will be no	Indirect	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Highly Unlikely (<20% chance)</td><td>Irreversible</td><td></td><td></td></regional<>	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		
9	Ineration	Presence of the road	North Island käkä	High	Operation- Birds (native)	Disturbance and displacement of (new and existing)	additional loss of connectivety.	Indirect	>Local, <regional< td=""><td>Permanent (>25</td><td></td><td>Highly Unlikely</td><td>Irreversible</td><td>Negligible</td><td>Very Low</td></regional<>	Permanent (>25		Highly Unlikely	Irreversible	Negligible	Very Low
U	peration	Presence of the road			uperation- siros (native)	Disturbance and opplacement of (new and existing) nests and individuals due to lighting and noise/vibration		indirect	>Local, <kegional< td=""><td>years)</td><td></td><td>(<20% chance)</td><td>irreversible</td><td></td><td></td></kegional<>	years)		(<20% chance)	irreversible		
10	onstruction	Noise/vibration/Dust	North Island käkä	High	Construction- Birds	Disturbance and displacement to nests and individuals	disturbance due to road presence is unlikely.	Indirect	>Local, <regional< td=""><td>Short-term (<5</td><td>Frequently</td><td>Highly Unlikely</td><td>Totally</td><td>Negligible</td><td>Very Low</td></regional<>	Short-term (<5	Frequently	Highly Unlikely	Totally	Negligible	Very Low
11			North Island käkä	High		(existing) due to construction activities (noise, light, dust etc.)	NoR is located in an existing urban area and therfore no change is expected.			years)	quentiy	(<20% chance)		Negligible	Very Low
0	Iperation	Presence of the road			Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, ligh and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	L Likely Future Ecological Environment. NoR is located in an existing urban area and therfore no change is expected.	Indirect	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Highly Unlikely (<20% chance)</td><td>Irreversible</td><td></td><td></td></regional<>	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		
12	Iperation	Presence of the road	North Island käkä	High	Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration		Indirect	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Highly Unlikely (<20% chance)</td><td>Irreversible</td><td>Negligible</td><td>Very Low</td></regional<>	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible	Negligible	Very Low
13			North Island käkä	High			change is expected.						-	Negligible #VALUE!	Very Low
Ci	onstruction	Noise/vibration/Dust			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	Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally	WALCE!	
				Marchine			(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.								
15 0	Iperation	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_S248.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible	Negligible	LOW
16			Long-tailed cuckoo	Very High			As it is an upgrade to an existing there will be no additional loss of connectivety.							Negligible	Low

30			Banded rail	High			is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.							Low	Low
	Operation	Presence of the road			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	Potential of banded rail to utilise Otuwairoa Stream / Slippery Creek Corridor. As it is an uperade to an existing road, any bird present	Indirect	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td>Irreversible</td><td></td><td></td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		
29			Banded rail	High		(existing) due to construction activities (noise, light, dust etc.)	Upgrade of the existing Road. Potential of banded rail to utilize Otuwairoa Stream / Sippert (resk Corridor, Breeding potential is unlikely due to existing most 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.			,,				Low	Low
27 28	Construction	Noise/vibration/Dust	Shags and gulls	High	Construction- Birds	Disturbance and displacement to nests and individuals	Baseline.	Indirect	>Local, <regional< td=""><td>Short-term (<s< td=""><td>Frequently</td><td>Unlikely (20-40% chance)</td><td>Totally</td><td>Low #VALUE!</td><td>Low</td></s<></td></regional<>	Short-term (<s< td=""><td>Frequently</td><td>Unlikely (20-40% chance)</td><td>Totally</td><td>Low #VALUE!</td><td>Low</td></s<>	Frequently	Unlikely (20-40% chance)	Totally	Low #VALUE!	Low
							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 Raveline								
26	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	NoR largely urban. Athough Otuwairoa Stream /	Indirect	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td>Irreversible</td><td>Low</td><td>Low</td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible	Low	Low
	uperation	Presence of the road			uperation- Birds (native)	Loss in connectivity due to permament habital loss, juby and noise effects thom for and, kadital noise of the thomas fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	Ukely Yourke Ecological Environment. NoR largely urban. Athough Otuwarios Stream / Silperv Creek is alguent 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	>Locăt, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td>Irreversible</td><td></td><td></td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		
25	Operation	Presence of the road	Shags and gulls	High	Operation-Birds (native)		Sippery Creek is adjacent to a Future Urban Zone. Breedine potential is unkely 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< td=""><td>Permanent (>25</td><td></td><td>Unlikely (20-40%</td><td>Irreversible</td><td>Low</td><td>Low</td></regional<>	Permanent (>25		Unlikely (20-40%	Irreversible	Low	Low
24	Construction	Noise/vibration/Dust	Shags and gulls		Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light, dust etc.)	NoR largely urban. Athough Otuwairoa Stream /	Indirect	>Local, <regional< td=""><td>Short-term (<5 years)</td><td>Frequently</td><td>Unlikely (20-40% chance)</td><td>Totally</td><td>LOW</td><td>LOW</td></regional<>	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally	LOW	LOW
							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.			years)		chance)			
23	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	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. Baseline.	Indirect	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td>Irreversible</td><td>Low</td><td>Low</td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible	Low	Low
	Operation	Presence of the road	Trueby and Rolls		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.	Indirect	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td>Irreversible</td><td></td><td></td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		
22.			Shags and gulls	Hieh			Upgrade of the existing Road. Potential of Shag and guil species to utilise Olawairoa Stream / Slipper Veck Corridor. Ereceding potential is unlikely due to existing roads and human disturbance. As it is an upgrade to an existing road, any burd present is specietod to be habituated to for ad distance hence disturbance due to construction presence is unlikely.							low	low
20	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,		Indirect		Short-term (<s years)</s 	Frequently	Unlikely (20-40% chance)	Totally	Negligible #VALUE!	Low
19	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/vibratior	NoR is located in an existing urban area and therfore no	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible	Negligible	Low
	Operation	Presence of the road			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		Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		
18		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.)	NoR is located in an existing urban area and therfore no change is expected.	Indirect		Short-term (<s years)</s 	Frequently	Highly Unlikely (<20% chance)	Totally	Negligible	Low
17			Long-tailed cuckoo	Very High			Potential of long-tailed cuckoo to utilise Puriri Forest (WF7)) within adjacent SEA_T_S248. 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.							Negligible	Low
	Operation	Presence of the road			Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	h	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		

Image																
		Operation	Presence of the road			Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	Baseline.	Indirect	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td>Irreversible</td><td></td><td></td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		
Image: series of the series													,			
Image: state in the state																
Image: state in the state								is expected to be habituated to road disturbance hence								
Arabi Normal participants Arabi Arabi<	21			Banded rail	iliah			disturbance due to road presence is unlikely.							Low	Low
Image: second	51	Construction	Noise/vibration/Dust	balloed fail	ngo	Construction- Birds	Disturbance and displacement to nests and individuals	Likely Future Ecological Environment.	Indirect	>Local, <regional< td=""><td></td><td>Frequently</td><td></td><td>Totally</td><td>LOW</td><td>LOW</td></regional<>		Frequently		Totally	LOW	LOW
1 1 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>NoR largely urban. Athough Otuwairoa Stream /</td> <td></td> <td></td> <td>years)</td> <td></td> <td>chance)</td> <td></td> <td></td> <td></td>								NoR largely urban. Athough Otuwairoa Stream /			years)		chance)			
Image: state in the state								Slippery Creek is adjacent to a Future Urban Zone.								
Image: state in the state i								There is no expected change to baseline as riparian								
No. No. <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>corridor will remain.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								corridor will remain.								
Martin Martin <td></td> <td></td> <td></td> <td>Randod roll</td> <td>dish.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Law</td> <td>Low</td>				Randod roll	dish.										Law	Low
	32	Operation	Presence of the road	balloed fail	ngo	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light		Indirect	>Local, <regional< td=""><td>Permanent (>25</td><td></td><td>Unlikely (20-40%</td><td>Irreversible</td><td>LOW</td><td>LOW</td></regional<>	Permanent (>25		Unlikely (20-40%	Irreversible	LOW	LOW
A A							fragmentation of terrestrial, wetland and riparian				years)		chance)			
n n <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>habitat due to the presence of the infrastructure</td> <td>Slippery Creek is adjacent to a Future Urban Zone.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							habitat due to the presence of the infrastructure	Slippery Creek is adjacent to a Future Urban Zone.								
····································								There is no expected change to baseline as riparian								
1 1 <th1< th=""> 1 1 1 1<td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th1<>																
Mark								The magnitude and level of effect are the same as Baseline								
		Oneration	Presence of the road	Banded rail	High	Oneration- Birds (nation)			Indirect	Noral (Regional	Permanent /> 25		Unlikely (30,406)	Irreversible	Low	Low
- - <td></td> <td>opeiduuri</td> <td>- coence or the road</td> <td></td> <td></td> <td>operation- ands (native)</td> <td>nests and individuals due to lighting and noise/vibration</td> <td></td> <td>addrect</td> <td>- wear, sregional</td> <td>years)</td> <td></td> <td>chance)</td> <td></td> <td></td> <td></td>		opeiduuri	- coence or the road			operation- ands (native)	nests and individuals due to lighting and noise/vibration		addrect	- wear, sregional	years)		chance)			
- - <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									1							
Image: state in the state i																
i i </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>corridor will remain.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								corridor will remain.								
i i </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>The magnitude and level of effect are the same as</td> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								The magnitude and level of effect are the same as								
· · · · · · · · · · · · · · · · · · ·	24			Banded rail	High			Baseline.							Low	low
Image: series of the series	35								1						#VALUE!	
Image: series of the series		Construction	Noise/vibration/Dust			Construction- Birds	(existing) due to construction activities (noise, light,	Baseline.	Indirect	Regional	short-term (<5 years)	Frequently	(<20% chance)	lotaly		
$ \begin begin be$							dust etc.)	Upgrade of the existing Road.								
index								Potential of caspian tern to utilise Otuwairoa Stream /								
Image: series of the series								unlikely due to existing roads and human disturbance.								
Image: series of the series								As it is an upgrade to an existing road, any bird present								
i i i i i i i i i i i i i i i i i i i								is expected to be habituated to road disturbance hence								
Partial Partint Partial Partial				Construction of the Construction	1			and a serve out to construction presence is unlikely.							ALC STOCKED	
Image: second	36	Operation	Presence of the road	caspian tern	very righ	Operation- Birds (native)		Baseline.	Indirect	Regional				Irreversible	rvegrigible	LOW
i i <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian</td> <td>Potential of caspian tern to utilise Otuwairoa Stream /</td> <td></td> <td></td> <td>years)</td> <td></td> <td>(<20% chance)</td> <td></td> <td></td> <td></td>							and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian	Potential of caspian tern to utilise Otuwairoa Stream /			years)		(<20% chance)			
Image: space							habitat due to the presence of the infrastructure	Slippery Creek Corridor.	1							
j control contrel control control <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>As it is an upgrade to an existing road, any bird present</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								As it is an upgrade to an existing road, any bird present								
3° $(-)$ <								is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.								
A province of the second se	37	Operation	Presence of the road	Caspian tern	Very High	Operation- Birds (native)			Indirect	Regional	Permanent (>25		Highly Unlikely	Irreversible	Negligible	Low
Mark							nests and individuals due to lighting and noise/vibration									
i Alone <																
i Alone <								As it is an upgrade to an existing road, any bird present								
30 Captor term Captor term <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>is expected to be habituated to road disturbance hence</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>								is expected to be habituated to road disturbance hence								
Interfact	38			Caspian tern	Very High										Negligible	Low
Image: space of the range		Construction	Noise/vibration/Dust			Construction- Birds	(existing) due to construction activities (noise, light,		Indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		
image image <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>								NoR largely urban. Athough Otuwairoa Stream / Slippery Creek is adjacent to a Future Urban Zone								
Image: space spac								Breeding potential is unlikely due to existing roads and								
3 3 3 4 4 4 4 6																
39 Capate tem								There is no expected change to baseline as riparian corridor will remain.								
joint Carpin term Very High Carpin term Carpin term Carpin term Carpin term Carpin term Relience.																
Image: space in the space	39			Caspian tern	Very High			Baseline.							Negligible	Low
Image: space in the space		Operation	Presence of the road			Operation- Birds (native)	and noise effects from the road, leading to		Indirect	Regional				Irreversible		
Image: problem in the strength							fragmentation of terrestrial, wetland and riparian	NoR largely urban. Athough Otuwairoa Stream / Slinnery Creek is adjacent to a Future Urban Zone								
Image: problem in the same in the s							in the second protocol of the simulation of the									
a cpantern verrigin cpantern verrigin cpantern defendern cpantern cpant								corridor will remain.								
a cpantern verrigin cpantern verrigin cpantern defendern cpantern cpant								The magnitude and level of effect are the same as								
Operation Presence of the road Operation-Birds (native) Daturbance and displacement of (new and existing) Indirect Regional Permanent (>25 Highly Unikely Interesting No netst and individual due to lighting and noisy/draviting No No Permanent (>25 Highly Unikely Interesting Versity Versity <td></td> <td></td> <td></td> <td>Casnian tern</td> <td>Very High</td> <td></td> <td></td> <td>Baseline.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Negligible</td> <td>Low</td>				Casnian tern	Very High			Baseline.							Negligible	Low
NoR largely urban. Athoogy Otowarios Stream / Signey Creek & Signest Creek Information There is no expected change to baseline as sparian corridor will remain. There are as Baseline.	40	Operation	Presence of the road			Operation- Birds (native)		Likely Future Ecological Environment.	Indirect	Regional				Irreversible		
Sipper Creek is adjacent to a Future Urban Zone. There is not specified to baseline as riparian corridou will remain. The magnitude and level of effect are the same as Baseline.								NoR largely urban. Athough Otuwairoa Stream /			years)		(<20% chance)			
corridor will remain. The magnitude and level of effect are the same as Baseline.								Slippery Creek is adjacent to a Future Urban Zone.								
The magnitude and level of effect are the same as Bateline.								There is no expected change to baseline as riparian								
Baseline.																
41 Capian term Very High Low	1															

					Terrestrial Ha	bitat and Species								
										Magnitude Asse	ssment			
Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	Extent	Duration	Frequency	Likelihood	Reversibility	Magnitude (j mitigation	
Column1 Column2	Column3	Column4	ColumnS	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Colum Column18	Column19
					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.			Permanent (>25		Highly Unlikely			
1 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Roost loss through vegetation removal	Baseline. Upgrade to existing road within a largely urban	Direct	Regional	years)		(<20% chance)		Negligible	Low
2 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	environment. The potential for District Plan trees to	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)		Negligible	Low
						Upgrade to existing road within a largely urban environment. The potential for District Plan trees to provide roosing habitat and therefore be injured during vegetation removal is Highly unlikely. However requirements of the Wildlife Act 1953 will need to be adhered to			Permanent (>25		Highly Unlikely			
3 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats			Direct	Regional	years)		(<20% chance)		Negligible	Low
					Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment.			Permanent (>25		Highly Unlikely			
4 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Roost loss through vegetation removal	Same as Baseline. Likely Future Ecological Environment.	Direct	Regional	years) Permanent (>25		(<20% chance) Highly Unlikely		Negligible	Low
5 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal		Direct	Regional	years)	-	(<20% chance)		Negligible	Low
					num or injure individual dats due to vegetation removal				Permanent (>25		Highly Unlikely			
6 Construction 7	Vegetation removal	Long-tailed bat	Very High	Construction- Bats		Same as Baseline.	Direct	Regional	years)		(<20% chance)		Negligible	Low
					Loss of foraging habitat due to vegetation removal	Baseline. Potential for non-TAR birds to use district plan								
8 Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds		vegetation for foraging (which will be removed). Restricted to exotic willows with low foraging value for most native species. Baselion	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)		Low	Very Low
					Kill or injure individual due to vegetation removal	Potential for non-TAR birds to be present Rrequirements of the Wildlife Act 1953 will need to be			Permanent (>25		Likely (>40-70%			
10 Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	adhered to Likely Future Ecological Environment. Willows present are within riaparian margin and are	Direct	Local	years)		chance)		Low	Very Low
11 Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	likely to remain (or be enhanced with native planting) in a future environment. Same as Baseline. Likely Future Ecological Environment.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)		Low	Very Low
					kill or injure individual due to vegetation removal	Willows present are within riaparian margin and are likely to remain (or be enhanced with native planting) in a future environment.			Permanent (>25		Likely (>40-70%			
13 Construction 14	Vegetation removal	Non-TAR birds	Low	Construction- Birds		Same as Baseline.	Direct	Local	years)		chance)		Low	Very Low
15 Construction	Vegetation removal	North Island kökö	blints	Construction- Birds	Loss of foraging habitat due to vegetation removal	Baseline. North Island käkä 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< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td></td><td>Low</td><td>low</td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)		Low	low
			v		Kill or injure individual due to vegetation removal	Baseline. North Island käkä are a highly mobile species in the wider Indscape, herdre killing or injuring a North Island käkä due to the removal of district plan vegetation is highly unlikely. However requirements of the Widlife Act 1953 will			Permanent (>25		Highly Unlikely			
16 Construction	Vegetation removal	North Island käkä	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	need to be adhered to Likely Future Ecological Environment.	Direct	>Local, <regional< td=""><td>years)</td><td></td><td>(<20% chance)</td><td></td><td>Negligible</td><td>Very Low</td></regional<>	years)		(<20% chance)		Negligible	Very Low
17 Construction	Vegetation removal	North Island käkä	High	Construction- Birds	Kill or injure individual due to vegetation removal	Same as Baseline. Likely Future Ecological Environment.	Direct	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td></td><td>Low</td><td>Low</td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)		Low	Low
18 Construction	Vegetation removal	North Island käkä	High	Construction- Birds		Same as Baseline.	Direct	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Highly Unlikely (<20% chance)</td><td></td><td>Negligible</td><td>Very Low</td></regional<>	Permanent (>25 years)		Highly Unlikely (<20% chance)		Negligible	Very Low
19					Loss of foraging habitat due to vegetation removal	Baseline.				-				
20 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds		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
					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 Widlife Act 1953 will			Permanent (>25		Highly Unlikely			
21 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction-Birds	Loss of foraging habitat due to vegetation removal	need to be adhered to Likely Future Ecological Environment.	Direct	Regional	years) Permanent (>25		(<20% chance) Highly Unlikely	ni eversible	Negligible	Low
22 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Kill or injure individual due to vegetation removal	Same as Baseline Likely Future Ecological Environment. Same as Baseline.	Direct	Regional	vears) Permanent (>25 years)		(<20% chance) Highly Unlikely (<20% chance)	Partially	Negligible	Low
23 Construction 24	Vegetation removal	Long-tailed cuckoo	very dign	Construction Birds			Difect	ine Brottal	ycarsj		(saos chance)	a revel sure	wegrigible	LUW
					Nest loss due to vegetation removal	Baseline. Shag can nest within mature tree overhanging wetland / waterbodies (Hingais Stream). However, habitat quality is low and highly unlikely to support a breeding population. Therefore nest loss due to the removal of								
25 Construction	Vegetation removal	Shags	High	Construction- Birds		district plan vegetation is highly unlikely.	Direct	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Highly Unlikely (<20% chance)</td><td>Irreversible</td><td>Negligible</td><td>Very Low</td></regional<>	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible	Negligible	Very Low

						Kill or injure individual due to vegetation removal	Baseline.		1						
							Shags are highly mobile species in the wider landscape,								
							therefore killing or injuring a them due to the removal								
										Permanent (>25	Highly Unlikely				
26	Construction	Vegetation removal	Shags	10.0	Construction- Birds		of district plan vegetation is highly unlikely	Direct	>Local. <regional< td=""><td>vears)</td><td>(<20% chance)</td><td>Irreversible</td><td>Neglip</td><td></td><td>Very Low</td></regional<>	vears)	(<20% chance)	Irreversible	Neglip		Very Low
20	construction	vegetauon removai	Silags	High	Construction- Birds	All and from the second address on the later	Likely Future Ecological Environment.	Dilect	>Edeal, <regional< td=""><td>yearsy</td><td>(<20% chance)</td><td>III EVELSIDIE</td><td>rvegij</td><td>gible</td><td>very Low</td></regional<>	yearsy	(<20% chance)	III EVELSIDIE	rvegij	gible	very Low
						Nest loss due to vegetation removal	Likely Future Ecological Environment.			Permanent (>25	Highly Unlikely				
	Construction		Characterization of the second s	10.00	Construction- Birds			Direct	a second and a second	vears)	(<20% chance)	Irreversible	1.00	-244	Margaret and
27	Construction	Vegetation removal	Shags	High	Construction- Birds			Direct	>Local, <regional< td=""><td>years)</td><td>(<20% chance)</td><td>Irreversible</td><td>Neglig</td><td>gible</td><td>Very Low</td></regional<>	years)	(<20% chance)	Irreversible	Neglig	gible	Very Low
			1			Kill or injure individual due to vegetation removal	Likely Future Ecological Environment.								
										Permanent (>25	Highly Unlikely				
	Construction	Vegetation removal	Shags	High	Construction- Birds		Same as Baseline.	Direct	>Local, <regional< td=""><td>years)</td><td>(<20% chance)</td><td>Irreversible</td><td>Neglig</td><td>gible</td><td>Very Low</td></regional<>	years)	(<20% chance)	Irreversible	Neglig	gible	Very Low
29															
							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			Permanent (>25	Likely (>40-70%				
30	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Lizard habitat loss due to vegetation removal	available in the landscape	Direct	Local	years)	chance)	Partially	Low		Low
							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			Permanent (>25	Likely (>40-70%				
31	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Kill or injure individual due to vegetation removal	&116).	Direct	>Local, <regional< td=""><td>years)</td><td>chance)</td><td>Irreversible</td><td>Mode</td><td>erate</td><td>High</td></regional<>	years)	chance)	Irreversible	Mode	erate	High
							Likely Future Ecological Environment.			Permanent (>25	Likely (>40-70%				
32	Construction	Vegetation removal	Skinks	High	Construction- Herpetofauna (native)	Lizard habitat loss due to vegetation removal	Same as Baseline	Direct	Local	years)	chance)	Partially	Low		Low
							Likely Future Ecological Environment.			Permanent (>25	Likely (>40-70%				
22	Construction	Vegetation removal	Skinks	Minh	Construction- Herpetofauna (native)	Kill or injure individual due to vegetation removal	Same as Baseline	Direct	>Local, <regional< td=""><td>vears)</td><td>chance)</td><td>Irreversible</td><td>Mode</td><td>arata</td><td>High</td></regional<>	vears)	chance)	Irreversible	Mode	arata	High

						Terrestrial Hal	pitat and Species								
											Magnitude Asse	ssment			
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	Extent	Duration	Frequency	Likelihood	Reversibility	Magnitude (pi mitigation)	E- Level of Effect (Pre- mitigation)
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14 G	lumi Column18	Column19
	Construction	Noise/Vibration/Dust			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		
	1		Bats	Very High										Negligible	Low
	Operation	Presence of the roads			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	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	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		
	2		Bats	Very High		Disturbance and displacement of (new and existing) roosts and individuals due to lighting and	fragmentation. <u>Current conditions</u> Upgrade of existing road mostly within urban area. Roost sites highly unlikely to occur within the			Permanent (>25		Highly Unlikely		Negligible	Low
	4 Operation	Lighting and noise	Bats	Very High	Operation- Bats	noise/vibration	designation.	Indirect	Regional	years)		(<20% chance)	Irreversible	Negligible	Low
	Construction 6	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
	Operation 7	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 Ha	bitat and Species				Magnitude Ass	essment			
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	Extent	Duration	Frequency	Likelihood	Reversibility	Magnitude (pre- mitigation)	Level of Effect (Promitigation)
olumn1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Columi Column18	Column19
	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.	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		
							If birds are present, they are unlikely to be disturbed by construction activities (due to habituation to current conditions).	v							
1	Operation		Non-TAR species	1.00	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, ligh	The most conservative non-TAR species, such as grey warbler, has been used for this assessment.	Indirect	Local	Permanent (>25		Unlikely (20-40%	Irreversible	Low	Very Low
	Operation		Non-LAR species	LOW	Operation- Birds (native)	Loss in connectivity due to permanent national loss, light and noise effects from the read, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	Upgrade of an existing road. Existing baseline fragmentation (existing road and	indirect	Local	years)		chance)	irreversible		
2		Presence of the road					bridged/culverted streams) means that loss in connectivity resulting in changes to the population dynamics is unlikely.							Low	Very Low
	Operation		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.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		
3		Presence of the road					If birds are present, they are unlikely to be disturbed by the presence of the road (due to habituation to current conditions).	t						Low	Very Low
А	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
	Operation		Non-TAR species	Low	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, ligh 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		
5	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	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible	Low	Very Low
6		Presence of the road					change is expected.							Low	Very Low
		Notice/vibration/Dust					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	Indirect			Frequently				
14			Shag and Gulls Species	High	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	is expected to be habituated to road disturbance hence disturbance due to construction presence is unlikely.	-	>Local, <regional< td=""><td>Short-term (<5 years)</td><td></td><td>Unlikely (20-40% chance)</td><td>Totally</td><td>Low</td><td>Low</td></regional<>	Short-term (<5 years)		Unlikely (20-40% chance)	Totally	Low	Low
	Construction		Shag and Gulls Species			Loss in connectivity due to permanent habitat loss, ligh and noise effects from the road, leading to	Baseline. Potential of shag species to utilise Hingaia Stream corridor.	Indirect				Unlikely (20-40% chance)	Irreversible		
15		Presence of the road		High	Operation- Birds (native)	fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	is expected to be habituated to road disturbance hence disturbance due to road presence is unlikely.	-	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td></td><td></td><td>Low</td><td>Low</td></regional<>	Permanent (>25 years)				Low	Low
	Operation		Shag and Gulls Species				Baseline. Potential of Shag species to utilise Hingaia Stream	Indirect				Unlikely (20-40% chance)	Irreversible		
						Disturbance and displacement of (new and existing)	corridor. As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence			Permanent (>25					
16		Presence of the road	Shag and Gulls Species	High	Operation- Birds (native)	nests and individuals due to lighting and noise/vibration	a disturbance due to road presence is unlikely. Likely Future Ecological Environment.	Indirect	>Local, <regional< td=""><td>years)</td><td>Frequently</td><td>Unlikely (20-40% chance)</td><td>Totally</td><td>Low</td><td>Low</td></regional<>	years)	Frequently	Unlikely (20-40% chance)	Totally	Low	Low
							NoR largely urban. Athough Hingaia Stream is adjacent to a Future Urban Zone. Breeding potential is unikely due to existing roads and human disturbance. There is no expected change to baseline as riparian corridor will remain.					a nan nat f			
	Operation	Notice/vibration/Dust		Minh	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)			>Local, <regional< td=""><td>Short-term (<5 years)</td><td></td><td></td><td></td><td>Low</td><td>low</td></regional<>	Short-term (<5 years)				Low	low
17	- mp-2 MANNY		Shag and Gulls Species		contraction and		Likely Future Ecological Environment. NoR largely urban. Athough Hingaia Stream is adjacent to a Future Urban Zone.	Indirect		9-60-6J		Unlikely (20-40% chance)	Irreversible		
						Loss in connectivity due to permanent habitat loss, ligh and noise effects from the road. leading to	There is no expected change to baseline as riparian corridor will remain. The magnitude and level of effect are the same a								
18	Construction	Presence of the road		High	Operation- Birds (native)		The magnitude and level of effect are the same a Baseline.		>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td></td><td></td><td>Low</td><td>Low</td></regional<>	Permanent (>25 years)				Low	Low

		1	Shag and Gulls Species				Likely Future Ecological Environment.	Indirect			Unlikely (20-40%	Irreversible			
											chance)				
							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.								
						Disturbance and displacement of (new and existing)				Permanent (>25					
1	9 Operation	Presence of the road		High	Operation- Birds (native)	nests and individuals due to lighting and noise/vibratio	n		>Local, <regional< td=""><td>years)</td><td></td><td></td><td>L</td><td>.ow</td><td>Low</td></regional<>	years)			L	.ow	Low

						Terrestrial Ha	bitat and Species				Magnitude Asse	ssment			
															Level of Effect (P
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	Extent	Duration	Frequency	Likelihood	Reversibility	Magnitude (pre mitigation)	mitigation)
olumn1	Column2	Column3	Column4	ColumnS	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Columi Column18	Column19
						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.			Permanent (>25		Highly Unlikely			
1	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats			Direct	Regional	years)		(<20% chance)		Negligible	Low
						Roost loss through vegetation removal	Baseline.								
							Upgrade to existing road within an urban environment. The potential for District Plan trees to provide roosting								
					Construction- Bats		habitat for bats is highly unlikely.			Permanent (>25 years)		Highly Unlikely (<20% chance)			
2	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	Baseline.	Direct	Regional	years)		(<20% chance)		Negligible	Low
							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.								
	Construction	Vegetation removal	Long-tailed bat	Manuklink	Construction- Bats		However requirements of the Wildlife Act 1953 will need to be adhered to	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)		Negligible	Low
3	construction	vegetation removal	cong-tailed bat	very rigi	Construction- Bats	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment.	Direct	Regional					wegrigible	LOW
4	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats		Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)		Negligible	Low.
-						Roost loss through vegetation removal	Likely Future Ecological Environment.			Permanent (>25		Highly Unlikely			
5	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats		Same as Baseline.	Direct	Regional	years)		(<20% chance)		Negligible	Low
						Kill or injure individual bats due to vegetation removal	Likely Future Ecological Environment.			Permanent (>25		Highly Unlikely			
6	Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats		Same as Baseline.	Direct	Regional	years)		(<20% chance)		Negligible	Low
7				+	+	Loss of foraging habitat due to vegetation removal	Baseline.								-
		1													
							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								
	Construction	Vegetation removal	Non-TAR birds	Law	Construction- Birds		Restricted to exotic willows with low foraging value for most native species.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)		1.000	Very Low
°	construction	vegetation removal	NOI-TAK DIGS	LOW		Nest loss due to vegetation removal	Baseline.	Direct	Local					LOW	very tow
9	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds		Potential for non-TAR bird nests to be present	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)		Low	Very Low
-						Kill or injure individual due to vegetation removal	Baseline.			100.07					
							Potential for non-TAR birds to be present								
10	Construction	Vegetation removal	Non-TAR birds	low	Construction- Birds		Rrequirements of the Wildlife Act 1953 will need to be adhered to	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)		1.000	Very Low
10	construction	vegetation removal	NOI-TAK DI US	LOW	Construction- Birds	Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment.	Direct	cocai					LOW	very cow
11	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds		Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)		Low	Very Low
						Nest loss due to vegetation removal	Likely Future Ecological Environment.			Permanent (>25		Likely (>40-70%			
12	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds		Same as Baseline.	Direct	Local	years)		chance)		Low	Very Low
						Kill or injure individual due to vegetation removal	Likely Future Ecological Environment.			Permanent (>25		Likely (>40-70%			
13	Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds		Same as Baseline.	Direct	Local	years)		chance)		Low	Very Low
14						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			Permanent (>25		Highly Unlikely			
15	Construction	Vegetation removal	North Island käkä	High	Construction- Birds		to the removal of district plan trees is highly unlikely.	Direct	>Local, <regional< td=""><td>years)</td><td></td><td>(<20% chance)</td><td></td><td>Negligible</td><td>Very Low</td></regional<>	years)		(<20% chance)		Negligible	Very Low
						Nest loss due to vegetation removal	Baseline.								
							North Island käkä nests are generally in mature tree								
							cavities on offshore islands (in the Auckland Region), therefore nest loss due to the removal of district plan			Permanent (>25		Highly Unlikely			
16	Construction	Vegetation removal	North Island käkä	High	Construction- Birds	APPE as to four to divide all does to constant as	vegetationis highly unlikely.	Direct	>Local, <regional< td=""><td>years)</td><td></td><td>(<20% chance)</td><td></td><td>Negligible</td><td>Very Low</td></regional<>	years)		(<20% chance)		Negligible	Very Low
						Kill or injure individual due to vegetation removal	Baseline.								
		1					North Island käkä are a highly mobile species in the wider landscape, therefore killing or injuring a North								
		1					Island kākā due to the removal of district plan								
							vegetation is highly unlikely. However requirements of the Wildlife Act 1953 will			Permanent (>25		Highly Unlikely			
17	Construction	Vegetation removal	North Island käkä	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	need to be adhered to Likely Future Ecological Environment.	Direct	>Local, <regional< td=""><td>years)</td><td></td><td>(<20% chance)</td><td> </td><td>Negligible</td><td>Very Low</td></regional<>	years)		(<20% chance)		Negligible	Very Low
		1								Permanent (>25		Highly Unlikely			
18	Construction	Vegetation removal	North Island käkä	High	Construction- Birds	Nest loss due to vegetation removal	Same as Baseline. Likely Future Ecological Environment.	Direct	>Local, <regional< td=""><td>years)</td><td></td><td>(<20% chance)</td><td> </td><td>Negligible</td><td>Very Low</td></regional<>	years)		(<20% chance)		Negligible	Very Low
10	Construction	Vegetation removal	North Island käkä	Minh	Construction- Birds		Same as Baseline.	Direct	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Highly Unlikely (<20% chance)</td><td></td><td>Negligible</td><td>Very Low</td></regional<>	Permanent (>25 years)		Highly Unlikely (<20% chance)		Negligible	Very Low
19		Berneron relitional			second and	Kill or injure individual due to vegetation removal	Same as Baseline. Likely Future Ecological Environment.		- seen, snogodial					inc bigible	10.9.00
20	Construction	Vegetation removal	North Island käkä	High	Construction- Birds		Same as Baseline.	Direct	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Highly Unlikely (<20% chance)</td><td></td><td>Negligible</td><td>Very Low</td></regional<>	Permanent (>25 years)		Highly Unlikely (<20% chance)		Negligible	Very Low
21						Loss of forming lighted designs	Baseline.								
						Loss of foraging habitat due to vegetation removal									
							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			Permanent (>25		Highly Unlikely			
22	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Nest loss due to vegetation removal	unlikely. Baseline.	Direct	Regional	years)		(<20% chance)		Negligible	Low
							Long-tailed cuckoo do not breed in the Auckland								
		1					Region (other than Little Barrier Island/ Te Hauturu-o-								
							Toi). Therefore nest loss due to the removal of district plan vegetation is highly unlikely.			Permanent (>25		Highly Unlikely			
			Long-tailed cuckoo		Construction- Birds				1	years)		(<20% chance)			

					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			Permanent (>25	Highly Unlikely			
24 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds		need to be adhered to	Direct	Regional	years)	(<20% chance)		Negligible	Low
					Loss of foraging habitat due to vegetation removal	Likely Future Ecological Environment.							
									Permanent (>25	Highly Unlikely			
25 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds		Same as Baseline	Direct	Regional	years)	(<20% chance)		Negligible	Low
					Nest loss due to vegetation removal	Likely Future Ecological Environment.							1
									Permanent (>25	Highly Unlikely			
26 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds		Same as Baseline.	Direct	Regional	years)	(<20% chance)		Negligible	Low
					Kill or injure individual due to vegetation removal	Likely Future Ecological Environment.							
									Permanent (>25	Highly Unlikely			
27 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds		Same as Baseline.	Direct	Regional	years)	(<20% chance)		Negligible	Low
28													
					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			Permanent (>25	Likely (>40-70%			
29 Construction	Vegetation removal	Skink	High	Construction- Herpetofauna (native)		the landscape	Direct	Local	years)	chance)	Partially	Low	Low
					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			Permanent (>25	Likely (>40-70%			
30 Construction	Vegetation removal	Skink	High	Construction- Herpetofauna (native)		& 41).	Direct	>Local, <regional< td=""><td>years)</td><td>chance)</td><td>Irreversible</td><td>Moderate</td><td>High</td></regional<>	years)	chance)	Irreversible	Moderate	High
						Likely Future Ecological Environment.							
									Permanent (>25	Likely (>40-70%			1
31 Construction	Vegetation removal	Skink	High	Construction- Herpetofauna (native)	Lizard habitat loss due to vegetation removal	Same as Baseline.	Direct	Local	years)	chance)	Partially	Low	Low
						Likely Future Ecological Environment.							
									Permanent (>25	Likely (>40-70%			

						Terrestrial Ha	bitat and Species									
											Magnitude Asse	ssment				
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	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	Colum	Column18	Column19
	Construction	Noise/Vibration/Dust			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< td=""><td>Short-term (<s years)</s </td><td>Frequently</td><td>Highly Unlikely (<20% chance)</td><td>Totally</td><td></td><td></td><td></td></local<>	Short-term (<s years)</s 	Frequently	Highly Unlikely (<20% chance)	Totally			
1			Bats	Very High											Negligible	Low
	Operation	Presence of the roads			Operation- Bats	Loss in connectivity due to permanent habitat loss, ligh 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			
2	2		Bats	Very High		Disturbance and displacement of (new and existing)	Current conditions							-	Negligible	Low
4	4 Operation	Lighting and noise	Bats	Very High	Operation- Bats	roosts and individuals due to lighting and noise/vibration	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
	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< td=""><td>Short-term (<5 years)</td><td>Frequently</td><td>Highly Unlikely (<20% chance)</td><td>Irreversible</td><td></td><td>Negligible</td><td>Low</td></local<>	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
;	Operation	Presence of the roads	Bats	Very High	Operation- Bats	Loss in connectivity due to permanent habitat loss, ligh and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	No change from baseline.	Indirect	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible		Negligible	Low
ġ	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 Ha	pitat and Species				Magnitude Ass	essment			
	Dhave	Design that the balance	Resource Unit	Fools also Makes	fffeet Decodetion Main	Cffeet Description Detailed (Description)	ffrair Davalation Manual		F-44	Duration			Reversibility	Magnitude	(pre-Level of Effect
	Phase	Project Activity	(Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	Extent	Duration	Frequency	Likelihood	Reversibility	mitigati	on)
lumn1		Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Columi Column18	Column19
	Construction	Noise/Vibration/Dust			Construction- Birds	Disturbance and displacement to nests and individuals (existing) due to construction activities (noise, light,	Baseline.	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		
						dust etc.)	Upgrade of an existing road.			,,		,			
							If birds are present, they are unlikely to be disturbed by construction activities (due to habituation to current ronditions)								
1			Non-TAR species	low			The most conservative non-TAR species, such as grey warbler, has been used for this assessment.							low	Very Low
	Operation	Presence of the road			Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light		Indirect	Local	Permanent (>25		Unlikely (20-40%	Irreversible		,
						and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian	Upgrade of an existing road.			years)		chance)			
						habitat due to the presence of the infrastructure	opgrade of an existing road.								
							Existing baseline fragmentation (existing road and								
							bridged/culverted streams) means that loss in connectivity resulting in changes to the population								
2			Non-TAR species	Low			dynamics is unlikely.							Low	Very Low
	Operation	Presence of the road			Operation- Birds (native)	Disturbance and displacement of (new and existing)		Indirect	Local	Permanent (>25		Unlikely (20-40%	Irreversible		
						nests and individuals due to lighting and noise/vibration	Upgrade of an existing road.			years)		chance)			
							If birds are present, they are unlikely to be disturbed by								
3			Non-TAR species	Low			the presence of the road (due to habituation to current conditions).							Low	Very Low
	Construction	Noise/Vibration/Dust			Construction- Birds	Disturbance and displacement to nests and individuals		Indirect	Local	Short-term (<5	Frequently	Unlikely (20-40%	Totally		
						(existing) due to construction activities (noise, light, dust etc.)	NoR is located in an existing urban area and therfore no			years)		chance)			
						dust etc.)	change is expected.								
4			Non-TAR species	Low										Low	Very Low
	Operation	Presence of the road			Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to	Likely Future Ecological Environment.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		
						fragmentation of terrestrial, wetland and riparian	NoR is located in an existing urban area and therfore no			, cur sy					
-			Non-TAR species	Law		habitat due to the presence of the infrastructure	change is expected.							Law	Manufaur
5	Operation	Presence of the road	NOR-LAK Species	LOW	Operation- Birds (native)	Disturbance and displacement of (new and existing)	Likely Future Ecological Environment.	Indirect	Local	Permanent (>25		Unlikely (20-40%	Irreversible	LOW	Very Low
						nests and individuals due to lighting and noise/vibration				years)		chance)			
			Non-TAR species				NoR is located in an existing urban area and therfore no change is expected.								Manufactor
7			Non-TAK species	Negligible			change is expected.							LOW	Very Low
	Construction	Noise/Vibration/Dust			Construction- Birds	Disturbance and displacement to nests and individuals	Baseline.	Indirect	Local						
						(existing) due to construction activities (noise, light, dust etc.)	Upgrade of an existing road.								
							May utilise stormwater wetland near SH1 bridge								
							crossing adjacent to Project Area for foraging and/or breeding,								
							breeding,								
							Unlikely to occur in urban areas, impact highly unlikely.			Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Totally		
8	Operation	Presence of the road	Dabchick	Very High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light	Baseline.	Indirect	Local	Permanent (>25	Frequently	(<20% chance)	Irreversible	Negligible	Low
						and noise effects from the road, leading to				years)					
						fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	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								
							fragmentation (existing road and bridged/culverted streams) means that loss in connectivity resulting in	1							
							changes to the population dynamics is unlikely.					Highly Unlikely			
9	Operation	Presence of the road	Dabchick	Very High	Operation- Birds (native)	Disturbance and displacement of (new and existing)	Baseline.	Indirect	Local	Permanent (>25		(<20% chance)	Irreversible	Negligible	Low
					operation birds (notive)	nests and individuals due to lighting and noise/vibration				years)					
							Upgrade of an existing road.								
							If birds are present, they are unlikely to be disturbed by	,							
			L				the presence of the road (due to habituation to current					Highly Unlikely			
10	Construction	Noise/Vibration/Dust	Dabchick	Very High	Construction- Birds	Disturbance and displacement to nests and individuals	conditions). Likely Future Ecological Environment.	Indirect	Local			(<20% chance)		Negligible	Low
	Contraction of Contraction				and action birds	(existing) due to construction activities (noise, light,									
						dust etc.)	NoR is located in an existing urban area and therfore no			Short-term (<5		Highly Unlikely			
11			Dabchick	Very High			change is expected.			years)	Frequently	(<20% chance)	Totally	Negligible	Low
	Operation	Presence of the road			Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light	Likely Future Ecological Environment.	Indirect	Local	Permanent (>25			Irreversible		
						and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian	NoR is located in an existing urban area and therfore no			years)					
							NoR is located in an existing urban area and therfore no change is expected.	1				Highly Unlikely			
12			Dabchick	Very High						-		(<20% chance)		Negligible	Low
	Operation	Presence of the road			Operation- Birds (native)	Disturbance and displacement of (new and existing) nests and individuals due to lighting and noise/vibration	Likely Future Ecological Environment.	Indirect	Local	Permanent (>25 years)			Irreversible		
							NoR is located in an existing urban area and therfore no			yearsy		Highly Unlikely			
			Dahchick	and the second		The second se	change is expected.		1			(<20% chance)			

					Terrestrial Ha	bitat and Species									
										Magnitude Asse	ssment				
Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	Extent	Duration	Frequency	Likelihood	Reversibility	Mag n	gnitude (pre- nitigation)	Level of Effect (Pre- mitigation)
Column1 Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Columi Colur	mn18	Column19
					Loss of foraging habitat due to vegetation removal	Baseline.									
1 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats		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)		Neglij	gible	Low
					Roost loss through vegetation removal										
2 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats		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)		Neglij	gible	Low
					Kill or injure individual bats due to vegetation removal	upgrade to existing road. The potential for District Plan trees to provide foraging habitat for bats is unlikely.									
3 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Loss of foraging habitat due to vegetation removal	Requirements of the Wildlife Act 1953 will need to be adhered to Likely Future Ecological Environment.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)		Neglij	gible	Low
4 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Roost loss through vegetation removal	Same as Baseline. Likely Future Ecological Environment.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)		Neglij	gible	Low
5 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats	Kill or injure individual bats due to vegetation removal	Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)		Neglij	gible	Low
6 Construction	Vegetation removal	Long-tailed bat	Very High	Construction- Bats		Same as Baseline.	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)		Nection	gible	Low
7	- ceculon removal			were about hird	Loss of foraging habitat due to vegetation removal	Same as baseline.			,		(0	
8 Construction	Vegetation removal	Non-TAR birds	law	Construction- Birds	Loss of foraging nabitat due to vegetation removal	Potential for non-TAR birds to use district plan vegetation for foraging (which will be removed).	Direct	Ioral	Permanent (>25 years)		Likely (>40-70% chance)		low		Very Low
					Nest loss due to vegetation removal	Baseline.			Permanent (>25		Likely (>40-70%				
9 Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	Potential for non-TAR bird nests to be present Baseline.	Direct	Local	years)		chance)		Low		Very Low
						Potential for non-TAR birds to be present Rrequirements of the Wildlife Act 1953 will need to be			Permanent (>25		Likely (>40-70%				
10 Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Loss of foraging habitat due to vegetation removal	adhered to Likely Future Ecological Environment.	Direct	Local	years)		chance) Likely (>40-70%		Low		Very Low
11 Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Nest loss due to vegetation removal	Same as Baseline. Likely Future Ecological Environment.	Direct	Local	Permanent (>25 years)		chance)		Low		Very Low
12 Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds	Kill or injure individual due to vegetation removal	Same as Baseline. Likely Future Ecological Environment.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)		Low		Very Low
13 Construction	Vegetation removal	Non-TAR birds	Low	Construction- Birds		Same as Baseline.	Direct	Local	Permanent (>25 years)		Likely (>40-70% chance)		Low		Very Low
14					Loss of foraging habitat due to vegetation removal	Baseline. North Island käkä are a highly mobile species in the									
15 Construction	Vegetation removal	North Island kākā	High	Construction- Birds		wider landscape, therefore loss of foraging habitat due to the removal of district plan trees is unlikely.	Direct	>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Unlikely (20-40% chance)</td><td></td><td>Low</td><td></td><td>Low</td></regional<>	Permanent (>25 years)		Unlikely (20-40% chance)		Low		Low
		North Island käkä			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			Permanent (>25		Highly Unlikely (<20% chance)			and a	
16 Construction	Vegetation removal		High	Construction- Birds	Kill or injure individual due to vegetation removal	vegetationis highly unlikely. Baseline. North Island käkä are a highly mobile species in the wider landscape, therefore killing or injuring a North Island käkä due to the removal of district plan	Direct	>Local, <regional< td=""><td>years) Permanent (>25</td><td></td><td>Highly Unlikely</td><td></td><td>Neglij</td><td></td><td>Very Low</td></regional<>	years) Permanent (>25		Highly Unlikely		Neglij		Very Low
17 Construction	Vegetation removal	North Island käkä	High	Construction- Birds	Loss of foraging habitat due to vegetation removal	vegetation is highly unlikely. Likely Future Ecological Environment.	Direct	>Local, <regional< td=""><td>years) Permanent (>25</td><td></td><td>(<20% chance) Highly Unlikely</td><td></td><td></td><td>gible</td><td>Very Low</td></regional<>	years) Permanent (>25		(<20% chance) Highly Unlikely			gible	Very Low
18 Construction	Vegetation removal	North Island käkä	High	Construction- Birds	Nest loss due to vegetation removal	Same as Baseline. Likely Future Ecological Environment.	Direct	>Local, <regional< td=""><td>years) Permanent (>25</td><td></td><td>(<20% chance) Highly Unlikely</td><td></td><td></td><td>gible</td><td>Very Low</td></regional<>	years) Permanent (>25		(<20% chance) Highly Unlikely			gible	Very Low
19 Construction	Vegetation removal	North Island käkä	High	Construction- Birds	Kill or injure individual due to vegetation removal	Same as Baseline. Likely Future Ecological Environment.	Direct	>Local, <regional< td=""><td>years) Permanent (>25</td><td></td><td>(<20% chance)</td><td></td><td></td><td>gible</td><td>Very Low</td></regional<>	years) Permanent (>25		(<20% chance)			gible	Very Low
20 Construction 21	Vegetation removal	North Island käkä	High	Construction- Birds		Same as Baseline.	Direct	>Local, <regional< td=""><td>years)</td><td></td><td>(<20% chance)</td><td></td><td>Neglij</td><td>gible</td><td>Very Low</td></regional<>	years)		(<20% chance)		Neglij	gible	Very Low
					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		Period	Permanent (>25		Highly Unlikely			-761-	
22 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Nest loss due to vegetation removal	unlikely. 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 share weathing in bibly unlikely.	Direct	Regional	years) Permanent (>25		(<20% chance)		Neglij	gible	Low
23 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Kill or injure individual due to vegetation removal	plan vegetation is highly unlikely. 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 reacisements of the Wildlife Act 1953 will However reacisements of the Wildlife Act 1953 will	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance) Highly Unlikely		Neglij	gible	Low
24 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds	Loss of foraging habitat due to vegetation removal	need to be adhered to Likely Future Ecological Environment.	Direct	Regional	years)		(<20% chance)		Neglij	gible	Low
25 Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds		Same as Baseline	Direct	Regional	Permanent (>25 years)		Highly Unlikely (<20% chance)		Neglij	gible	Low

						Nest loss due to vegetation removal	Likely Future Ecological Environment.						
										Permanent (>25	Highly Unlikely		
26	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds		Same as Baseline.	Direct	Regional	years)	(<20% chance)	Negligible	Low
						Kill or injure individual due to vegetation removal	Likely Future Ecological Environment.						
										Permanent (>25	Highly Unlikely		
27	Construction	Vegetation removal	Long-tailed cuckoo	Very High	Construction- Birds		Same as Baseline.	Direct	Regional	years)	(<20% chance)	Negligible	Low
28													
						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.			Permanent (>25	Highly Unlikely		
29	Construction	Vegetation removal	Shags	High	Construction- Birds			Direct	>Local, <regional< td=""><td>years)</td><td>(<20% chance)</td><td>Negligible</td><td>Very Low</td></regional<>	years)	(<20% chance)	Negligible	Very Low
						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			Permanent (>25	Highly Unlikely		
30	Construction	Vegetation removal	Shags	High	Construction- Birds			Direct	>Local, <regional< td=""><td>years)</td><td>(<20% chance)</td><td>Negligible</td><td>Very Low</td></regional<>	years)	(<20% chance)	Negligible	Very Low
						Nest loss due to vegetation removal	Likely Future Ecological Environment.						
										Permanent (>25	Highly Unlikely		
31	Construction	Vegetation removal	Shags	High	Construction- Birds		Same as Baseline.	Direct	>Local, <regional< td=""><td>years)</td><td>(<20% chance)</td><td>Negligible</td><td>Very Low</td></regional<>	years)	(<20% chance)	Negligible	Very Low
						Kill or injure individual due to vegetation removal	Likely Future Ecological Environment.						
						-				Permanent (>25	Highly Unlikely		
32	Construction	Vegetation removal	Shags	High	Construction- Birds		Same as Baseline.	Direct	>Local. <regional< td=""><td>vears)</td><td>(<20% chance)</td><td>Negligible</td><td>Very Low</td></regional<>	vears)	(<20% chance)	Negligible	Very Low

						Terrestrial Ha	bitat and Species								
											Magnitude Asse	essment			
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	Extent	Duration	Frequency	Likelihood	Reversibility	Magnitude (pre mitigation)	Level of Effect (P mitigation)
lumn1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Columi Column18	Column19
	Construction	Noise/Vibration/Dust			Construction- Bats	Disturbance and displacement to roosts and individuals	Current conditions	Indirect	Regional	Short-term (<5	Frequently	Highly Unlikely	Totally		
						(existing) due to construction activities (noise, light,	Upgrade of existing Road. Bat roost potential unlikely to			years)		(<20% chance)			
						dust etc.)	occur within the designation. Bats unlikely to be								
1	Operation	Presence of the road	Bats	Very High	Operation- Bats	Loss in connectivity due to permanent habitat loss, light	disturbed by construction activities.	Indirect	Regional	Permanent (>25		Highly Unlikely	Irreversible	Negligible	Low
	Operation	Presence of the road			Operation- Bats	and noise effects from the road, leading to	The loss of habitat and connectivity is highly unlikely.	indirect	Regional	vears)		(<20% chance)	irreversible		
						fragmentation of terrestrial, wetland and riparian	Upgrade of existing road, largely within an urban area.			years)		(<20% chance)			
						habitat due to the presence of the infrastructure	Papakura Stream amay form a bat corridor but the								
						haddat due to the presence of the influence	upgrade of the bridge crossing it is unlikely to cause								
2			Bats	Very High			additional fragmentation.							Negligible	Low
						Disturbance and displacement of (new and existing)	Current conditions								
						roosts and individuals due to lighting and	Upgrade of existing road. Bats are likely only fleeting			Permanent (>25		Highly Unlikely			
3	Operation	Lighting and noise	Bats	Very High	Operation- Bats	noise/vibration	visitors to the area.	Indirect	Regional	years)		(<20% chance)	Irreversible	Negligible	Low
4		Noise/Vibration/Dust				Disturbance and displacement to roosts and individuals		Indirect							
	Construction	Noise/vibration/Dust			Construction- Bats		No change from baseline.	indirect	Regional	Short-term (<5 years)	Frequently	Highly Unlikely (<20% chance)	Irreversible		
			Bats	Very High		(existing) due to construction activities (noise, light, dust etc.)	No change from baseline.			years)		(<20% chance)		Negligible	Low
	Operation	Presence of the road			Operation- Bats	Loss in connectivity due to permanent habitat loss, light	Likely future conditions	Indirect	Regional	Permanent (>25		Highly Unlikely	Irreversible	1100-0-0-0	
						and noise effects from the road, leading to	No change from baseline.			years)		(<20% chance)			
						fragmentation of terrestrial, wetland and riparian	-					1 · · ·			
						habitat due to the presence of the infrastructure									
e			Bats	Very High										Negligible	Low
						Disturbance and displacement of (new and existing)	Likely future conditions								
						roosts and individuals due to lighting and	No change from baseline.			Permanent (>25		Highly Unlikely			
	Operation	Lighting and noise	Bats	Very High	Operation- Bats	noise/vibration		Indirect	Regional	years)		(<20% chance)	Irreversible	Negligible	LOW

						Terrestrial Ha	bitat and Species								
											Magnitude Ass	essment			
	Phase	Project Activity	Resource Unit (Habitat/Species)	Ecological Value	Effect Description Main	Effect Description Detailed (Dropdown)	Effects Description Manual	Туре	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		Columi Column18	Column19
	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.)	Upgrade of an existing road.	Indirect	Local	Short-term (<5 years)	Frequently	Unlikely (20-40% chance)	Totally		
							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	<i></i>							
1							warbler, has been used for this assessment.							Low	Very Low
	Operation		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	Upgrade of an existing road.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		
2		Presence of the road					Existing baseline fragmentation (existing road and bridged/culverted streams) means that loss in connectivity resulting in changes to the population dynamics is unlikely.							Low	Very Low
	Operation		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.	Indirect	Local	Permanent (>25 years)		Unlikely (20-40% chance)	Irreversible		
							If birds are present, they are unlikely to be disturbed by the presence of the road (due to habituation to current	(
3	Construction	Presence of the road Notice/vibration/Dust	Non-TAR species	Low	Construction- Birds	Disturbance and displacement to roosts and individuals	conditions).	Indirect	Local	Short-term (<5	Frequently	Unlikely (20-40%	Totally	Low	Very Low
4						(existing) due to construction activities (noise, light, dust etc.)	No expected change to baseline			years)	1	chance)		Low	Very Low
	Operation		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		
5	Operation	Presence of the road	Non-TAR species	Low	Operation- Birds (native)	Disturbance and displacement of (new and existing)	Likely Future Ecological Environment.	Indirect	Local	Permanent (>25		Unlikely (20-40%	Irreversible	Low	Very Low
6		Presence of the road				nests and individuals due to lighting and noise/vibration	No expected change to baseline			years)		chance)		Low	Very Low
	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.	Indirect	>Local, <regional< td=""><td>Short-term (<5 years)</td><td>Frequently</td><td>Likely (>40-70% chance)</td><td>Totally</td><td></td><td></td></regional<>	Short-term (<5 years)	Frequently	Likely (>40-70% chance)	Totally		
							Potential of NZ Pipit to utilise rough grassland within adjacent FUZ.								
8	Operation		New Zealand Pipit	High	Operation- Birds (native)	Loss in connectivity due to permanent habitat loss, light	Disturbance due to construction activity likely. t Baseline.	Indirect	>Local, <regional< td=""><td>Permanent (>25</td><td></td><td>Unlikely (20-40%</td><td>Irreversible</td><td>Low</td><td>Low</td></regional<>	Permanent (>25		Unlikely (20-40%	Irreversible	Low	Low
						and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian habitat due to the presence of the infrastructure	Potential of NZ Pipit to utilise rough grassland within adjacent FUZ.			years)		chance)			
9		Presence of the road		High			NoR doesn't cover much habitat, connectivity loss resulting in changes in population dynamics unlikely.							Low	Low
							Baseline. Potential of NZ Pipit to utilise rough grassland within adjacent FUZ.								
						Disturbance and displacement of (new and existing)	As it is an upgrade to an existing road, any bird present is expected to be habituated to road disturbance hence			Permanent (>25		Unlikely (20-40%			
10	Operation	Presence of the road	New Zealand Pipit	High	Operation- Birds (native)	nests and individuals due to lighting and noise/vibration	disturbance due to road presence is unlikely. Likely Future Ecological Environment.	Indirect Indirect	>Local, <regional< td=""><td>years)</td><td>-</td><td>chance)</td><td>Irreversible</td><td>Low</td><td>Low</td></regional<>	years)	-	chance)	Irreversible	Low	Low
						Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light,	No expected change to baseline as riparian corridor will	1		Short-term (<5		Highly Unlikely			
11	Construction	Notice/vibration/Dust	New Zealand Pipit	High	Construction- Birds	dust etc.)	remain. Likely Future Ecological Environment.	Indirect	>Local, <regional< td=""><td>years)</td><td>Frequently</td><td>(<20% chance)</td><td>Totally</td><td>Negligible</td><td>Very Low</td></regional<>	years)	Frequently	(<20% chance)	Totally	Negligible	Very Low
12	Operation	Presence of the road	New Zealand Pipit		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	No expected change to baseline as riparian corridor will remain.		>Local, <regional< td=""><td>Permanent (>25 years)</td><td></td><td>Highly Unlikely (<20% chance)</td><td>Irreversible</td><td>Negligible</td><td>Very Low</td></regional<>	Permanent (>25 years)		Highly Unlikely (<20% chance)	Irreversible	Negligible	Very Low
							Likely Future Ecological Environment. NoR is located in Future Urban Zone. Suitable habitat will likely have been removed.	Indirect							
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	The magnitude and level of effect are lower than Baseline. Baseline.	Indirect	>Local, <regional< td=""><td>Permanent (>25 years)</td><td>France-1</td><td>Highly Unlikely (<20% chance)</td><td>Irreversible</td><td>Negligible</td><td>Very Low</td></regional<>	Permanent (>25 years)	France-1	Highly Unlikely (<20% chance)	Irreversible	Negligible	Very Low
		wotice/vioration/Dust					Baseline. Upgrade of the existing Road. Potential of Shag species to utilise Papakura Stream Corridor.	narect			Frequently				
14			Shag Species	High	Construction- Birds	Disturbance and displacement to roosts and individuals (existing) due to construction activities (noise, light, dust etc.)	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.		>Local, <regional< td=""><td>Short-term (<5 years)</td><td></td><td>Unlikely (20-40% chance)</td><td>Totally</td><td>Low</td><td>Low</td></regional<>	Short-term (<5 years)		Unlikely (20-40% chance)	Totally	Low	Low
	Construction		Shag Species				Baseline. Potential of Shag species to utilise Papakura Stream Corridor.	Indirect				Unlikely (20-40% chance)			
						Loss in connectivity due to permanent habitat loss, light and noise effects from the road, leading to fragmentation of terrestrial, wetland and riparian	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.			Permanent (>25					
15	d	Presence of the road		High	Operation- Birds (native)	habitat due to the presence of the infrastructure			>Local, <regional< td=""><td>years)</td><td>1</td><td></td><td></td><td>Low</td><td>Low</td></regional<>	years)	1			Low	Low

	Operation		Shag Species				Baseline.	Indirect				Unlikely (20-40% chance)	Irreversible		
												,			
							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			Permanent (>25					
16		Presence of the road		High	Operation-Birds (native)	nests and individuals due to lighting and noise/vibration	disturbance due to road presence is unlikely.		>Local, <regional< td=""><td>years)</td><td></td><td></td><td></td><td>Low</td><td>Low</td></regional<>	years)				Low	Low
			Shag Species				Likely Future Ecological Environment.	Indirect			Frequently	Unlikely (20-40%	Totally		
						Disturbance and displacement to roosts and individuals						chance)			
						(existing) due to construction activities (noise, light,	No expected change to baseline as riparian corridor will			Short-term (<5					
17	Operation	Notice/vibration/Dust		High	Construction- Birds	dust etc.)	remain.		>Local, <regional< td=""><td>years)</td><td></td><td></td><td></td><td>Low</td><td>Low</td></regional<>	years)				Low	Low
			Shag Species					Indirect				Unlikely (20-40%	Irreversible		
						Loss in connectivity due to permanent habitat loss, light						chance)			
							No expected change to baseline as riparian corridor will								
							remain.			Permanent (>25					
18	Construction	Presence of the road		High	Operation- Birds (native)	habitat due to the presence of the infrastructure			>Local, <regional< td=""><td>years)</td><td></td><td></td><td></td><td>Low</td><td>Low</td></regional<>	years)				Low	Low
			Shag Species				Likely Future Ecological Environment.	Indirect				Unlikely (20-40% chance)	Irreversible		
						Disturbance and displacement of (new and existing)	No expected change to baseline as riparian corridor will			Permanent (>25		chance)			
	Operation	Presence of the road		High		nests and individuals due to lighting and noise/vibration			>Local. <regional< td=""><td>vears)</td><td></td><td>1</td><td></td><td>Low</td><td>Low</td></regional<>	vears)		1		Low	Low