APPENDIX C: PREDICTED CONSTRUCTION NOISE LEVELS

Site Location	Most Affected Dwellings	Predicted Sound Level Without Mitigation	Main Sound-generating Activities	Duration of works (months)	Potential Mitigation Options	Predicted Sound Level With Mitigation	Effects After Mitigation	Management mitigation required?
		(dB L _{Aeq})				(dB L _{Aeq})		
Western Springs								
Daytime (Stage 1 Excavation)	42 Sefton Ave	64	Excavators, piling rigs, trucks, Rock breaking		Not required	64	Complies with PNC	-
Lacavaciony	6 Old Mill Road	52	Excavators, piling rigs, trucks, Rock breaking	0.5-1	Not required	52	Complies with PNC	-
	744 Great North Road	59	Excavators, piling rigs, trucks, Rock breaking		Not required	59	Complies with PNC	-
Daytime (Stage 2 Tunnelling)	42 Sefton Ave	58	Loaders, trucks, generators, gantry crane ventilation, treatment plant etc		Not required	58	Complies with PNC	-
	6 Old Mill Road	50	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc	5 years	Not required	50	Complies with PNC	-
	744 Great North Road	52	Loaders, trucks, generators, gantry crane ventilation, treatment plant etc		Not required	52	Complies with PNC	-
Night-time (Stage 1 Excavation)	No significant excavation works will occur during night-time	-	-	-	-	-	-	-
Night-time (Stage 2 Tunnelling)	42 Sefton Ave	58	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc		Insulation of shaft enclosure. Doors closed at night. No trucks in night-time period. Silencing of Central Interceptor tunnel vent outlets. Noise barrier.	45	Complies with PNC	-
	6 Old Mill Road	50	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc	5 years	Insulation of shaft enclosure. Doors closed at night. No trucks in night-time period. Silencing of Central Interceptor tunnel vent outlets. Noise barrier.	40	Complies with PNC	-
	744 Great North Road	52	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc		Insulation of shaft enclosure. Doors closed at night. No trucks in night-time period. Silencing of Central Interceptor tunnel vent outlets. Noise barrier.	40	Complies with PNC	-
May Road								
Daytime (Stage 1 Excavation)	41A Marion Ave	67	Rock breaking		Site noise barrier	64	Complies with PNC	-
Excavations	53A Marion Ave	80	Rock breaking	2	Site noise barrier	72	Possible short-term disturbance. No health effects.	Yes

Site Location	Most Affected Dwellings	Predicted Sound Level Without Mitigation	Main Sound-generating Activities	Duration of works (months)	Potential Mitigation Options	Predicted Sound Level With Mitigation	Effects After Mitigation	Management mitigation required?
		(dB L _{Aeq})				(dB L _{Aeq})		
	48 Marion Ave (first floor)	66	Rock breaking		Site noise barrier	65	Complies with PNC	-
	Commercial receiver – Roma Rd	68	Rock breaking		Not required	68	Complies with PNC	-
Daytime (Stage 2 Tunnelling)	41A Marion Ave	63	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc		Site noise barrier	58	Complies with PNC	-
	53A Marion Ave	65	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc	\f	Site noise barrier	51	Complies with PNC	-
	48 Marion Ave (first floor)	59	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc	5 years	Site noise barrier	49	Complies with PNC	-
	Commercial receiver – Roma Rd	63	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc	J	NA	63	Complies with PNC	-
Night-time (Stage 1 Excavation)	No significant excavation works will occur during night-time							-
Night-time (Stage 2 Tunnelling)	41A Marion Ave	63	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc		Insulation of shed. Doors closed at night. No trucks in night-time period. Silencing of Central Interceptor tunnel vent outlets. Noise barrier.	43	Complies with PNC	-
	53A Marion Ave	65	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc	5 years	Insulation of shed. Doors closed at night. No trucks in night-time period. Silencing of Central Interceptor tunnel vent outlets. Noise barrier.	43	Complies with PNC	-
	48 Marion Ave (first floor)	59	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc		Insulation of shed. Doors closed at night. No trucks in night-time period. Silencing of Central Interceptor tunnel vent outlets. Noise barrier.	39	Complies with PNC	
	Commercial receiver – Roma Rd	63	Loaders, trucks, generators, gantry crane, ventilation, treatment plant etc		Not required	63	Complies with PNC	-
Mt. Albert War Memorial – Reserve site	13A Wairere Ave	79	Rock breaking		Site noise barrier.	73	Potential short-term disturbance. No health risk.	Yes
	65B & C Asquith Ave (First floor)	77	Piling and excavation rig, Rock breaking	→ ¹	None due to receiver height above ground	77	Significant short-term disturbance. No health risk.	Yes
	9 Wairere Ave	73	Rock breaking		Site noise barrier	68	Complies with PNC	-

Carper C	anagement ition required?	Effects After Mitigation	edicted Sound Level With Mitigation	n F	Potential Mitigation Options	Duration of works (months)	Main Sound-generating Activities	Predicted Sound Level Without Mitigation	Most Affected Dwellings	Site Location
Mount, Albert War Memorial Reserve			(dB L _{Aeq})					(dB L _{Aeq})		
Memorial Reserve - Car Park site - Car Park si	-	Complies with PNC	63		Not required		Rock breaking	63	22 Selcourt Road	
Rock breaking Site noise barrier 67 Complies with PNC	-	Complies with PNC	68		Site noise barrier		Rock breaking	77	13A Wairere Ave	Memorial Reserve
Lyon Ave Lyon Ave Lyon Ave 11-27 Morningstar Place 74 Pling and excavation rig, Rock breaking 74 Pling and excavation rig, Rock breaking 75 Pling and excavation rig, Rock breaking 76 Pling and excavation rig, Rock breaking 77 Rock breaking 78 Pling and excavation rig, Rock breaking 79 Possible short-term disturbance. No health risk. Mount Albert Grammar School (classrooms) 79 Pling and excavation rig, Rock breaking 70 Rock breaking 70 Rock breaking 70 Rock breaking 71 Rock breaking 70 Complies with PNC 70 Rock breaking 70 Rock breaking 70 Complies with PNC 70 Rock breaking 70 Rock breaking 70 Complies with PNC 70 Rock breaking 71 Rock breaking 72 Sheet piling, Rock breaking 73 Sheet piling, Rock breaking 74 Rock breaking 75 Sheet piling, Rock breaking 76 Rock breaking 77 Sheet piling, Rock breaking 78 Sheet piling, Rock breaking 79 Rock breaking 70 Rock breaking 71 Rock breaking 72 Site acoustic barrier 73 Rock breaking 74 Rock breaking 75 Rock breaking 76 Rock breaking 77 Rock breaking 78 Site acoustic barrier 79 Significant short-term disturbance. No health risk 78 Rock breaking 79 Significant short-term disturbance. No health risk 79 Rock breaking 79 Significant short-term disturbance. No health risk 79 Rock breaking 70 Rock breaking 70 Rock breaking 70 Rock breaking 70 Rock breaking 71 Roc	-	Complies with PNC	67		Site noise barrier	1	Rock breaking	72		
Lyon Ave 11-27 Morningstar Place 74 Rock breaking 12-28 Morningstar Place 80 Piling and excavation rig. Rock breaking 2-2.5 None due to high-rise receivers 80 Significant short-term disturbance. No health risk.	-	Complies with PNC	68		Site noise barrier		Rock breaking	80	9 Wairere Ave	
11-27 Morningstar Place 74 Rock breaking Note due to high-rise receivers 74 disturbance. No health risk receivers 74 disturbance. No health risk	-	Complies with PNC	60		Site noise barrier		Rock breaking	68	22 Selcourt Road	
Haverstock Rd Rd Place Rock breaking Rock Br	Yes	disturbance. No health	74	e				74	11-27 Morningstar Place	Lyon Ave
School (classrooms) School (classrooms) Rock breaking 7 Camden Rd 98 - 102 Haverstock Rd 98 - 102 Haverstock Rd (First floor) Rock breaking Rock breaking Not required 69 Complies with PNC Significant short-term disturbance. No health risk Not required 69 Complies with PNC Significant short-term disturbance. No health risk Not required 69 Complies with PNC Significant short-term disturbance. No health risk Not required 69 Complies with PNC Significant short-term disturbance. No health risk Not required 69 Complies with PNC Possible short-term disturbance. No health risk NA 7 O'Donnell Ave 7 O'Donnell Ave 82 Sheet piling, Rock breaking 1-1.5 Site acoustic barrier 73 Significant short-term disturbance. No health risk Reith Hay Park Reith Hay Park 18 Gregory Place (first floor) 79 Piling, excavators Management through CNMP. Not required 69 Complies with PNC Significant short-term disturbance. No health risk NA 71 Significant short-term disturbance. No health risk. Significant short-term disturbance. No health risk. Significant short-term disturbance. No health risk.	Yes	disturbance. No health	80	e		>2-2.5		80	12-28 Morningstar Place	
Rock breaking 96 Haverstock Rd 98 – 102 Haverstock Rd (First floor) Walmsley Park 734 Sandringham Rd Ext (First floor) Rock breaking Sheet piling, rock breaking Not required Not required Not required Rock breaking Rock breaking Not required Rock breaking Not required Rock breaking Rock Brea	-	Complies with PNC	55		Not required	J		55		
96 Haverstock Rd 98 – 102 Haverstock Rd (First floor) Walmsley Park 734 Sandringham Rd Ext (First floor) 76 Sheet piling, Rock breaking NA 71 Sheet piling, Rock breaking NA 725 Sandringham Rd Ext 70 Donnell Ave 82 Sheet piling, Rock breaking 1-1.5 Site acoustic barrier NA 76 Site acoustic barrier 70 Complies with PNC Significant short-term disturbance. No health risk NA 71 Sheet piling, Rock breaking NA 71 Sheet piling, Rock breaking 1-1.5 Site acoustic barrier 73 Significant short-term disturbance. No health risk Significant short-term disturbance. No health risk Significant short-term disturbance. No health risk Keith Hay Park NA 82 Sheet piling, Rock breaking NA 83 Sheet piling, Rock breaking NA 84 Site acoustic barrier 75 Significant short-term disturbance. No health risk. NA Significant short-term disturbance. No health risk.	-	Complies with PNC	69		Not required	<u> </u>		69	7 Camden Rd	Haverstock Rd
98 – 102 Haverstock Rd (First floor) 76 Rock breaking NA 76 Significant short-term disturbance. No health risk Walmsley Park 734 Sandringham Rd Ext (First floor) 725 Sandringham Rd Ext 71 Sheet piling, rock breaking 70 Donnell Ave 77 Sheet piling, Rock breaking NA 71 disturbance. No health risk Possible short-term disturbance. No health risk Possible short-term disturbance. No health risk Sheet piling, Rock breaking 1-1.5 Site acoustic barrier 73 Significant short-term disturbance. No health risk Significant short-term disturbance. No health risk Reith Hay Park 18 Gregory Place (first floor) 79 Piling, excavators Management through CNMP.	-	Complies with PNC	70		Site acoustic barrier	1-1 5	· ·	74	96 Haverstock Rd	
First floor) breaking Not required 69 Complex with PNC Sheet piling, rock breaking NA 71 Possible short-term disturbance. No health risk 7 O'Donnell Ave 77 Sheet piling, Rock breaking 1-1.5 Site acoustic barrier 73 disturbance. No health risk Significant short-term disturbance. No health risk Significant short-term disturbance. No health risk Significant short-term disturbance. No health risk. Keith Hay Park 18 Gregory Place (first floor) 79 Piling, excavators Management through CNMP. 79 Significant short-term disturbance. No health risk.	Yes	disturbance. No health	76		NA		Rock breaking	76		
725 Sandringham Rd Ext 71 breaking NA 71 disturbance. No health risk Possible short-term disturbance. No health risk Possible short-term disturbance. No health risk Sheet piling, Rock breaking Site acoustic barrier 73 Significant short-term disturbance. No health risk Significant short-term disturbance.	-	Complies with PNC	69		Not required			69		Walmsley Park
TO'Donnell Ave 77 Sheet piling, ROCK breaking 1-1.5 Site acoustic barrier 73 disturbance. No health risk Significant short-term disturbance. No health risk. Sheet piling, Rock breaking Site acoustic barrier 77 disturbance. No health risk. Keith Hay Park 18 Gregory Place (first floor) 79 Piling, excavators Management through CNMP. 79 Significant short-term disturbance. No health risk. Significant short-term disturbance. No health risk.	Yes	disturbance. No health	71		NA			71	725 Sandringham Rd Ext	
Site acoustic barrier 77 disturbance. No health risk. Keith Hay Park 18 Gregory Place (first floor) 79 Piling, excavators Management through CNMP. Management through CNMP. Significant short-term disturbance. No health risk. Significant short-term contains the problem of the problem o	Yes	disturbance. No health	73		Site acoustic barrier	1-1.5		77	7 O'Donnell Ave	
18 Gregory Place (first floor) 79 Management through 79 CNMP. 79 disturbance. No health risk.	Yes	disturbance. No health	77		Site acoustic barrier			82	3 O'Donnell Ave	
Significant short-term	Yes	disturbance. No health	79	h			Piling, excavators	79	18 Gregory Place (first floor)	Keith Hay Park
19 Gregory Place (first floor) 85 Piling, excavators 1-1.5 Management through 85 disturbance. No health risk.	Yes		85	h	Management through CNMP.	- 1-1.5	Piling, excavators	85	19 Gregory Place (first floor)	
Significant short-term 47 Arundel Street (first floor) 83 Piling, excavators Site acoustic barrier 80 disturbance. No health risk.	Yes	disturbance. No health	80		Site acoustic barrier		Piling, excavators	83	47 Arundel Street (first floor)	
Pump Station 23 33A Frederick Street (first floor) 33A Frederick Street (first floor) 76 Site establishment incl demolition. Piling and excavation 1-1.5 Management through CNMP. 76 Significant short-term disturbance. No health risk.	Yes	disturbance. No health	76	h		1-1 5	demolition. Piling and	76		Pump Station 23
6/41 Frederick Street (first Site establishment incl floor) Site establishment incl demolition. Piling and excavation Management through 78 disturbance. No health risk. Significant short-term CNMP. CNMP.	Yes	disturbance. No health	78	h		} · · · · · · · · · · · · · · · · · · ·	demolition. Piling and	78		
25 Frederick Street (first 71 Site establishment incl Management through 71 Possible short-term	Yes	Possible short-term	71	h	Management through		Site establishment incl	71	25 Frederick Street (first	

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		(dB L _{Aeq})				(dB L _{Aeq})		
	floor)		demolition		CNMP.		disturbance. No health risk.	
Kiwi Esplanade	87 Kiwi Esplanade	65	Sheet piling/Rock breaking	2-3.5	Not required	65	Complies with PNC	-
	85 Kiwi Esplanade (first floor)	66	Sheet piling/Rock breaking	2-3.3	Not required	66	Complies with PNC	-
	Yorkton Rise dwellings	67	Trenching	Non static <1 day	Not required	67	Mitigation disturbance. No health risk. Complies with PNC	-
Motions Rd	47A Premier Avenue	54	Rock breaking		Not required	54	disturbance. No health risk. Complies with PNC	-
	Auckland Zoo	70	Rock breaking	< 2	Not required	70	disturbance. No health risk. Complies with PNC	-
	99 Motions Road	67	Rock breaking	< 2	Not required	67	Complies with PNC	-
	Western Springs College	64	Rock breaking		Not required	64	Complies with PNC	-
Western Springs Depot	Old Mill Road East	51	Rock breaking		Not required	51	Complies with PNC	-
	Old Mill Road North	41	Rock breaking	< 2	Not required	41	Complies with PNC	-
	Westview Road	49	Rock breaking		Not required	49	Complies with PNC	-
Rawalpindi Ave	29 Rawalpindi Street	63	Piling and excavation		Not required	58	Complies with PNC	-
	11 Rawalpindi Street (first floor)	67	Trucks on access road, Piling and excavation	< 2	Not required	67	Complies with PNC	-
	46 Parkdale Rd	67	Piling and excavation		Not required	67	Complies with PNC	-
	19 Rawalpindi Street	76	Piling and excavation		Site acoustic barrier	69	disturbance. No health risk. Complies with PNC Complies with PNC	-
Norgrove Ave	16 Norgrove Ave	79	Piling and excavation	0.5-1.5	Site acoustic barrier	73	disturbance. No health risk. Complies with PNC Complies with PNC	Yes
	27 Verona Ave (first floor)	79	Piling and excavation, trucks	0.5-1.5 (ongoing for trucks)	NA	79	disturbance. No health	Yes
	23 Verona Ave	73	Piling and excavation	0.5-1.5	Site acoustic barrier	65	Complies with PNC	-
	20 Burnside Ave	69	Piling and excavation	0.5-1.5	Not required	69	Complies with PNC	-
Pump Station 25	16 Pitfire Place	67	Site establishment incl. demolition		Not required	67	Complies with PNC	-
	29 Temuka Gardens	69	Site establishment incl. demolition	< 2	Not required	69	Complies with PNC	-
	11/20 & 3/28 Taylor Close	71	Site establishment incl. demolition		NA	71	disturbance. No health	Yes
	32A Miranda St.	79	Trenching and demolition	Non static for trenching. <1 day	Mobile screening for trenching. Management through CNMP.	74	Complies with PNC Complies with PNC Complies with PNC Complies with PNC Possible short-term disturbance. No health risk. Possible short-term disturbance. No health risk.	Yes
Miranda Reserve	337 Blockhouse Bay Road	74	Piling and excavation		Site acoustic barrier.	67	Complies with PNC	-
	356 Blockhouse Bay Road	68	Piling and excavation	< 2	Not required	68	Complies with PNC	-
	3 Fran Andrews Drive	66	Piling and excavation		Not required	66	Complies with PNC	-
Whitney Street	115 Whitney St.	71	Piling and excavation	0.5-1.5	NA	71		Yes

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Site Location	Most Affected Dwellings	Predicted Sound Level Without Mitigation	Main Sound-generating Activities	Duration of works (months)	Potential Mitigation Options	Predicted Sound Level With Mitigation	Effects After Mitigation	Management mitigation required?
		(dB L_{Aeq})				(dB L _{Aeq})		
							risk.	
	124 & 130 Whitney St.	73	Piling and excavation	0.5-1.5	NA	73	Possible short-term disturbance. No health risk.	Yes
	56 Margate Rd	72	Piling and excavation, trenching	0.5-1.5 (trenching non static <1 day)	NA	72	Possible short-term disturbance. No health risk.	Yes
Dundale Ave	66C & D Dundale Ave	73	Piling and excavation	< 2	Site acoustic barrier	68	Complies with PNC	-
	73 Dundale Ave	65	Piling and excavation	< 2	Not required	65	Complies with PNC	-
Haycock Ave	1 & 3 Haycock Ave	73	Site establishment incl demolition	<2	Management through CNMP.	73	Significant short-term disturbance. No health risk.	Yes
	2 Haycock Ave	85	Demolition, crawler crane, piling		Site acoustic barrier. Management through CNMP.	75	Significant short-term disturbance. No health risk.	Yes
	6 Haycock Ave	84	Demolition, crawler crane, piling		Site acoustic barrier. Management through CNMP.	75	Significant short-term disturbance. No health risk.	Yes
	83B White Swan Road	73	Demolition, trenching		Management through CNMP.	73	Significant short-term disturbance. No health risk.	Yes

Note: PNC refers to Project Noise Controls of 70 dB L_{Aeq} Daytime, 65 dB L_{Aeq} Evening and 45 dB L_{Aeq} Night-time