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H1 – Operational Ground-borne Noise (Residential)

H2 – Operational Ground-borne Noise (Commercial)

Appendix H1

Report 610.14718R1
Operational Ground-borne Noise Predictions
Residential

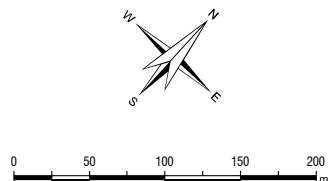


Note:
 Noise levels on this map refers to maximum ground-borne noise levels from underground rail operation on the lowest residential habitable floor. Ground-borne noise levels will be reduced for higher floor levels.



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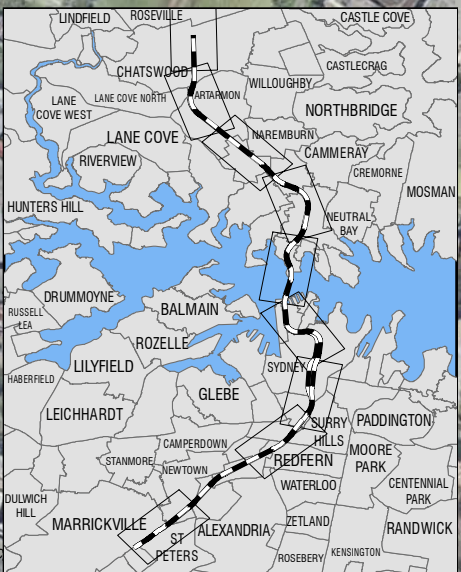


LEGEND		Ground-borne Noise Level (dBA)	
	Standard Attenuation Rail		21 - 25
	High Attenuation Rail		26 - 30
	Very High Attenuation Rail		31 - 35
	Stations		36 - 40
	Portal Structure		41 - 45
			46 - 50
			51 - 55
			56 - 60
			≤ 15
			16 - 20

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 FIGURE: SLR61014718_GBN_011

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LR6101718_GBN

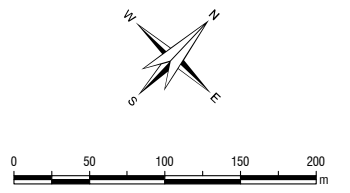


Note:
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LEGEND

Standard Attenuation Rail	Ground-borne Noise Level (dBA)	21 - 25	41 - 45
High Attenuation Rail	≤15	26 - 30	46 - 50
Very High Attenuation Rail	16 - 20	31 - 35	51 - 55
Stations		36 - 40	56 - 60
Portal Structure			

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 FIGURE: SLR61014718_GBN_012

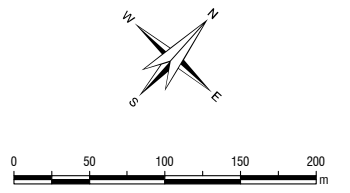


Note:
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LEGEND		Ground-borne Noise Level (dBA)	
—	Standard Attenuation Rail	■	21 - 25
—	High Attenuation Rail	■	26 - 30
—	Very High Attenuation Rail	■	31 - 35
■	Stations	■	36 - 40
■	Portal Structure	■	41 - 45
		■	46 - 50
		■	51 - 55
		■	56 - 60
		■	≤15
		■	16 - 20

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 FIGURE: SLR61014718_GBN_013



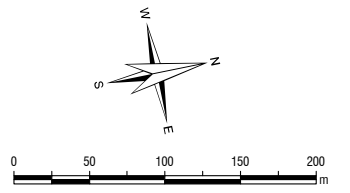
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LEGEND

	Standard Attenuation Rail	Ground-borne Noise Level (dBA)		21 - 25		41 - 45
	High Attenuation Rail			26 - 30		46 - 50
	Very High Attenuation Rail			31 - 35		51 - 55
	Stations		≤ 15			56 - 60
	Portal Structure		16 - 20			

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FIGURE: SLR61014718_GBN_014

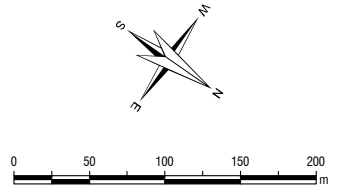


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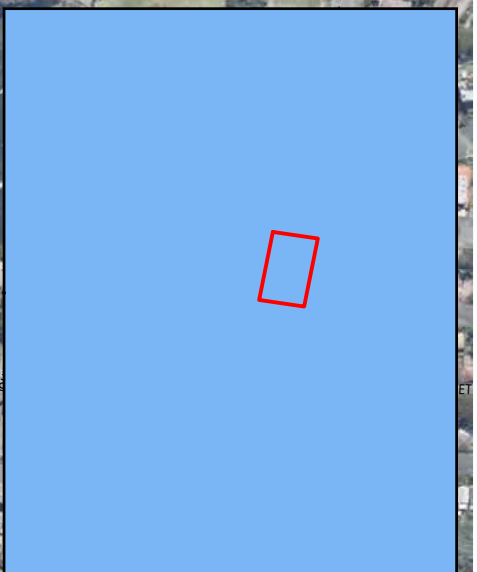
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LEGEND		Ground-borne Noise Level (dBA)	
—	Standard Attenuation Rail	■	21 - 25
—	High Attenuation Rail	■	26 - 30
—	Very High Attenuation Rail	■	31 - 35
■	Stations	■	36 - 40
■	Portal Structure	■	41 - 45
		■	46 - 50
		■	51 - 55
		■	56 - 60
		■	≤15
		■	16 - 20

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 FIGURE: SLR61014718_GBN_015

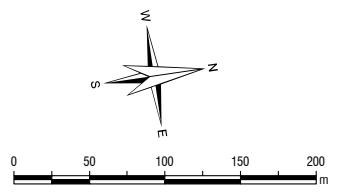


Note:
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LEGEND

Standard Attenuation Rail	Ground-borne Noise Level (dBA)	21 - 25	41 - 45
High Attenuation Rail	≤15	26 - 30	46 - 50
Very High Attenuation Rail	16 - 20	31 - 35	51 - 55
Stations		36 - 40	56 - 60
Portal Structure			

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 FIGURE: SLR61014718_GBN_016



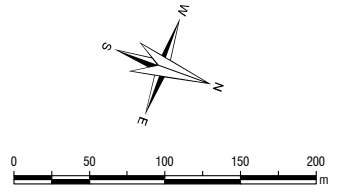
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LEGEND

	Standard Attenuation Rail	Ground-borne Noise Level (dBA)		21 - 25		41 - 45
	High Attenuation Rail			26 - 30		46 - 50
	Very High Attenuation Rail			31 - 35		51 - 55
	Stations		≤15			56 - 60
	Portal Structure		16 - 20			

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FIGURE: SLR61014718_GBN_017



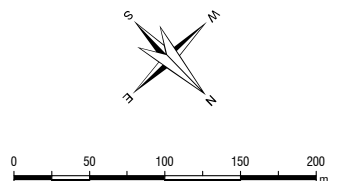
Note:
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LEGEND

	Standard Attenuation Rail	Ground-borne Noise Level (dBA)		21 - 25		41 - 45
	High Attenuation Rail			26 - 30		46 - 50
	Very High Attenuation Rail			31 - 35		51 - 55
	Stations		≤ 15			56 - 60
	Portal Structure		16 - 20			

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FIGURE: SLR61014718_GBN_018



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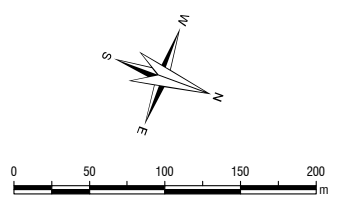
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LEGEND		Ground-borne Noise Level (dBA)	
—	Standard Attenuation Rail	■	21 - 25
—	High Attenuation Rail	■	26 - 30
—	Very High Attenuation Rail	■	31 - 35
■	Stations	■	36 - 40
■	Portal Structure	■	41 - 45
		■	46 - 50
		■	51 - 55
		■	56 - 60
		■	≤15
		■	16 - 20

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FIGURE: SLR61014718_GBN_019



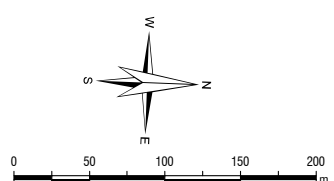
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LEGEND

	Standard Attenuation Rail	Ground-borne Noise Level (dBA)		21 - 25		41 - 45	
	High Attenuation Rail		26 - 30		46 - 50		
	Very High Attenuation Rail		≤15		31 - 35		51 - 55
	Stations		16 - 20		36 - 40		56 - 60
	Portal Structure						

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 FIGURE: SLR61014718_GBN_020



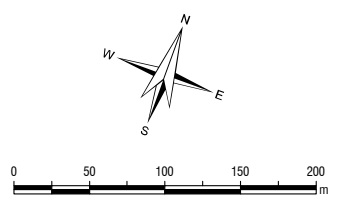
levels from underground rail operation on the lowest residential habitable floor. Ground-borne noise levels will be reduced for higher

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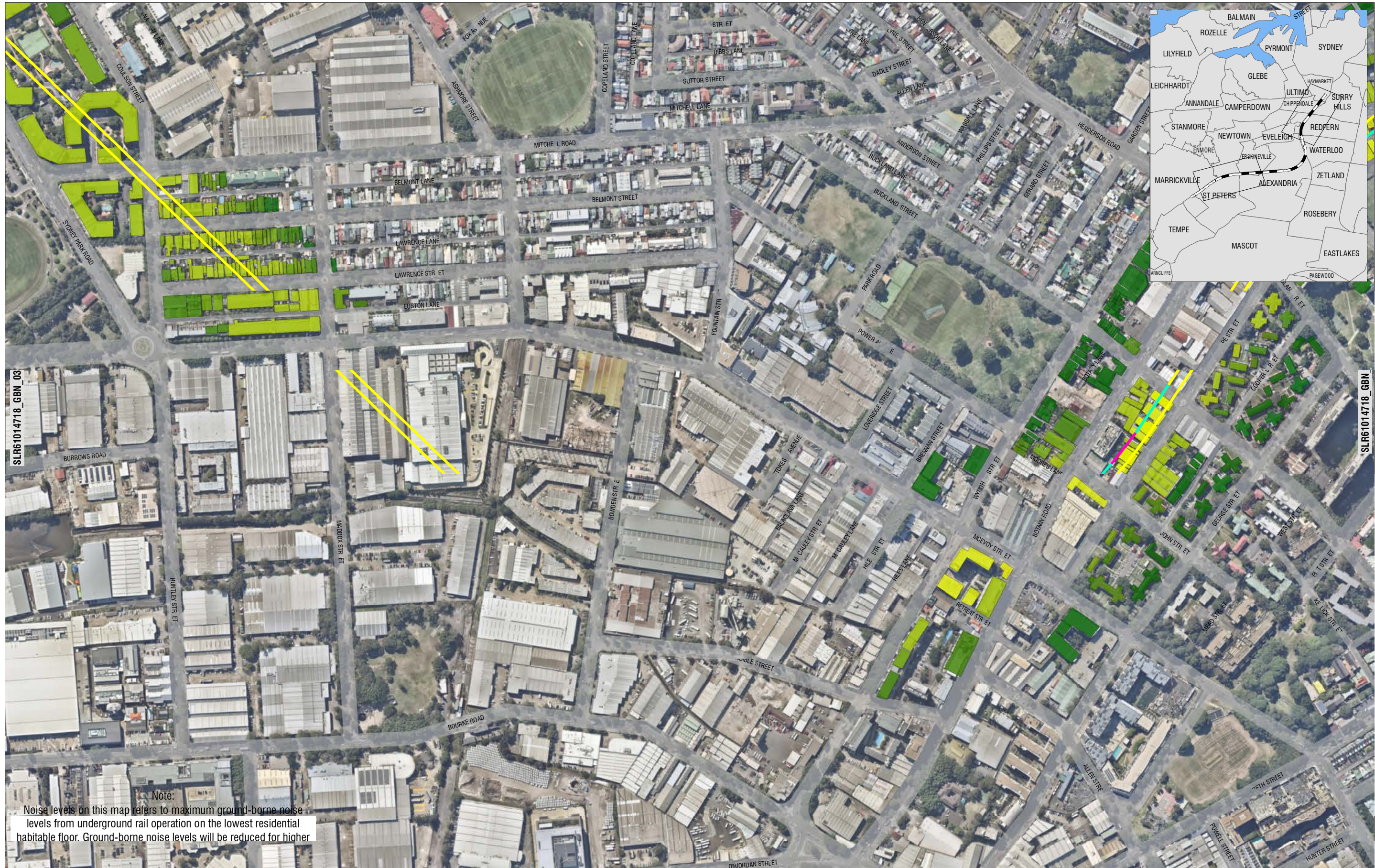


LEGEND

	Standard Attenuation Rail	Ground-borne Noise Level (dBA)		21 - 25		41 - 45	
	High Attenuation Rail		26 - 30		46 - 50		
	Very High Attenuation Rail		31 - 35		51 - 55		
	Stations		≤15		36 - 40		56 - 60
	Portal Structure		16 - 20				

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 FIGURE: SLR61014718_GBN_039

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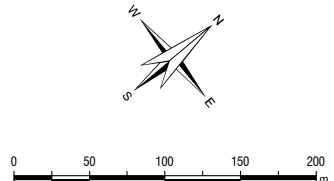


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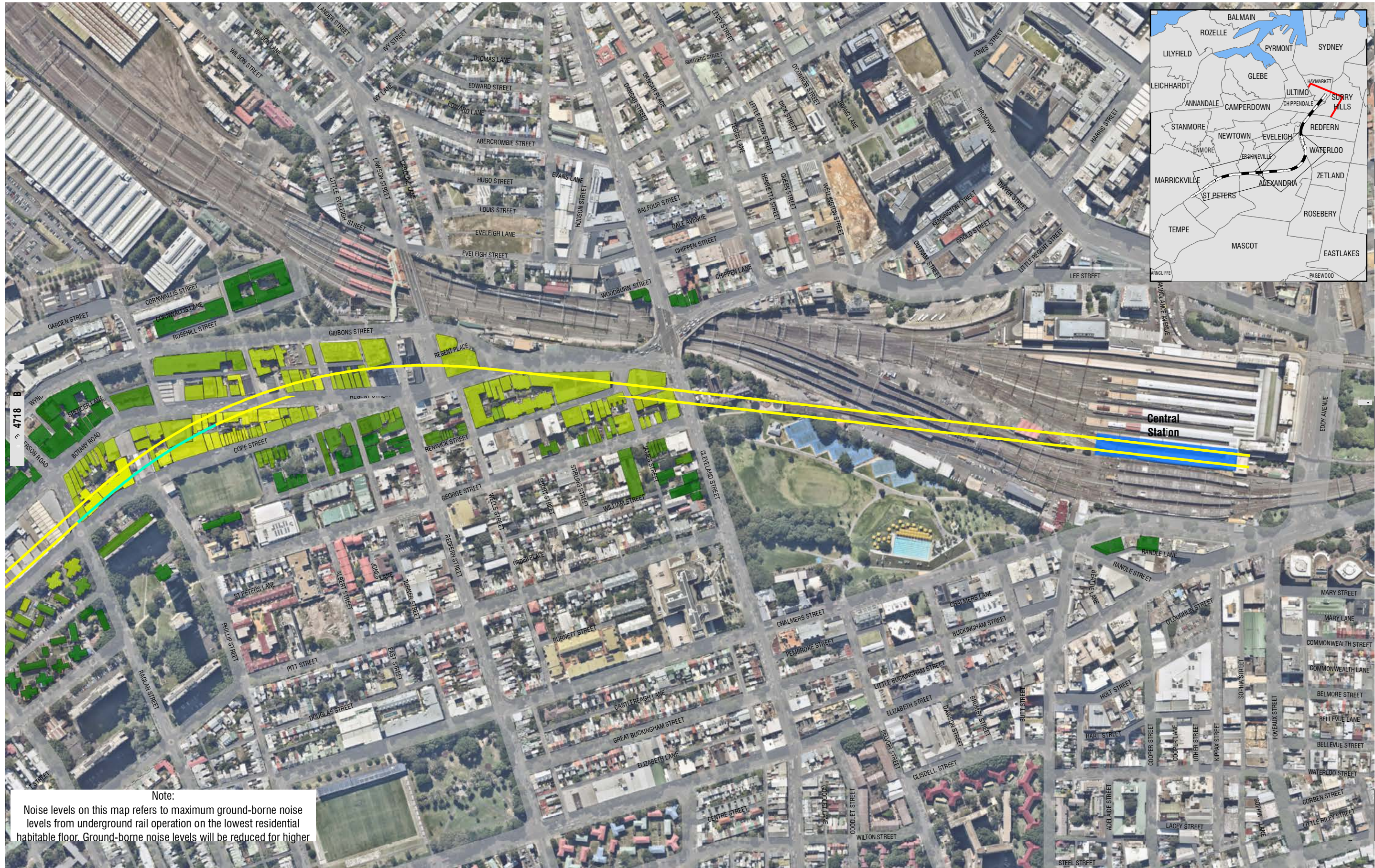
LEGEND

	Standard Attenuation Rail		21 - 25		41 - 45
	High Attenuation Rail		26 - 30		46 - 50
	Very High Attenuation Rail		31 - 35		51 - 55
	Stations		≤15		56 - 60
	Portal Structure		16 - 20		

Ground-borne Noise Level (dBA)

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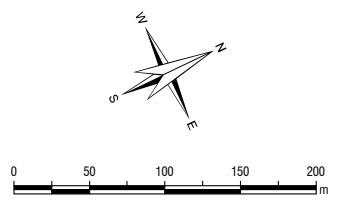


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LEGEND		Ground-borne Noise Level (dBA)	
—	Standard Attenuation Rail	■	21 - 25
—	High Attenuation Rail	■	26 - 30
—	Very High Attenuation Rail	■	31 - 35
■	Stations	■	36 - 40
■	Portal Structure	■	41 - 45
		■	46 - 50
		■	51 - 55
		■	56 - 60
		■	≤15
		■	16 - 20

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 FIGURE: SLR61014718_GBN_041