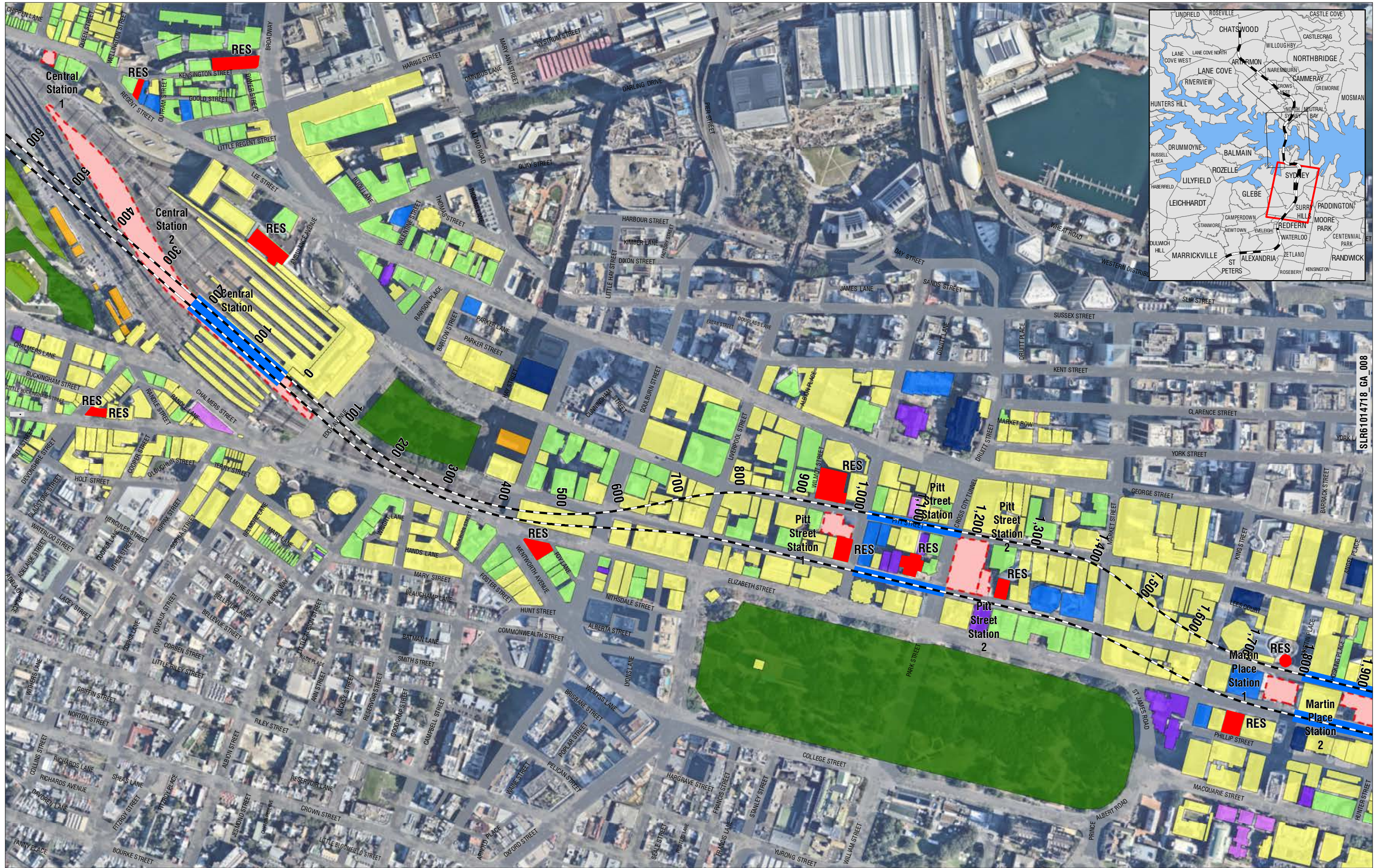


NOISE AND VIBRATION TECHNICAL INFORMATION

APPENDIX E



SITE PLAN AND SENSITIVE RECEIVERS CLASSIFICATION REVISION



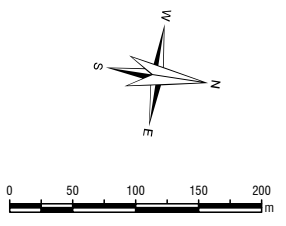
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SLR61014718_GA_008

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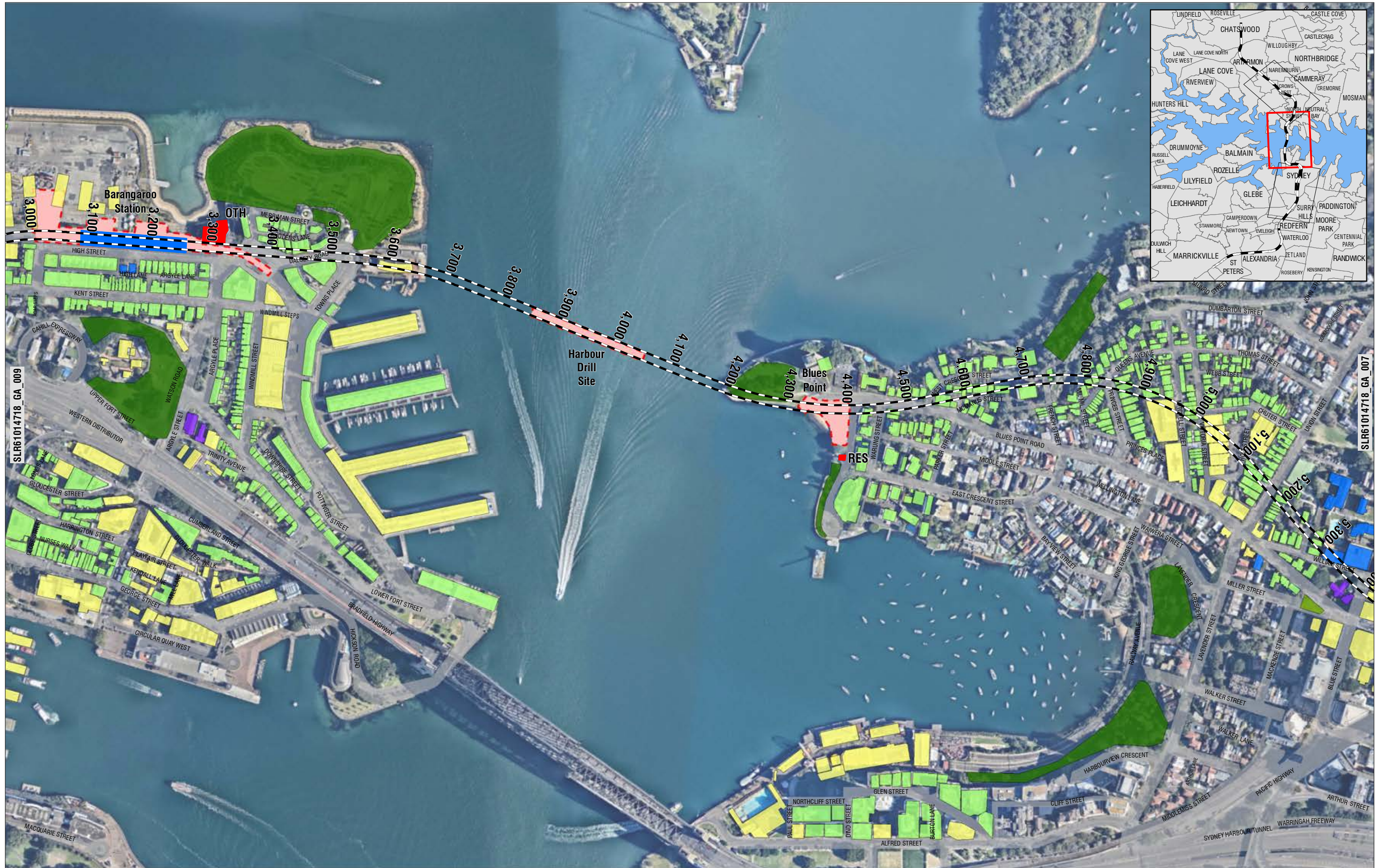
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Projection:	GDA 1994 MGA Zone 56



LEGEND

- Proposed Rail Alignment
- Revised Classification
- Portal Structure
- Stations
- Passive Recreation
- Active Recreation
- Residential
- Commercial
- Industrial
- Other (Medical)
- Other (Worship)
- Other (Child Care)
- Other (Education)
- Other (Theatre)

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Sensitive Receivers Classification Revision
 Page 1 of 3
 FIGURE : SLR61014718_GA_007

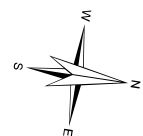


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LEGEND

- Proposed Rail Alignment
- Revised Classification
- Portal Structure
- Stations
- Passive Recreation
- Active Recreation
- Residential
- Commercial
- Industrial
- Other (Medical)
- Other (Worship)
- Other (Child Care)
- Other (Education)
- Other (Theatre)

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**Sensitive Receivers
Classification Revision
Page 2 of 3**

FIGURE : SLR61014718_GA_008



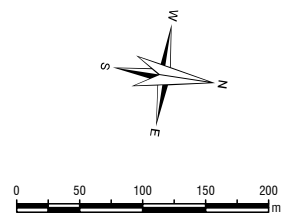
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LEGEND

- Proposed Rail Alignment
- Revised Classification
- Portal Structure
- Stations
- Passive Recreation
- Active Recreation
- Residential
- Commercial
- Industrial
- Other (Medical)
- Other (Worship)
- Other (Child Care)
- Other (Education)
- Other (Theatre)

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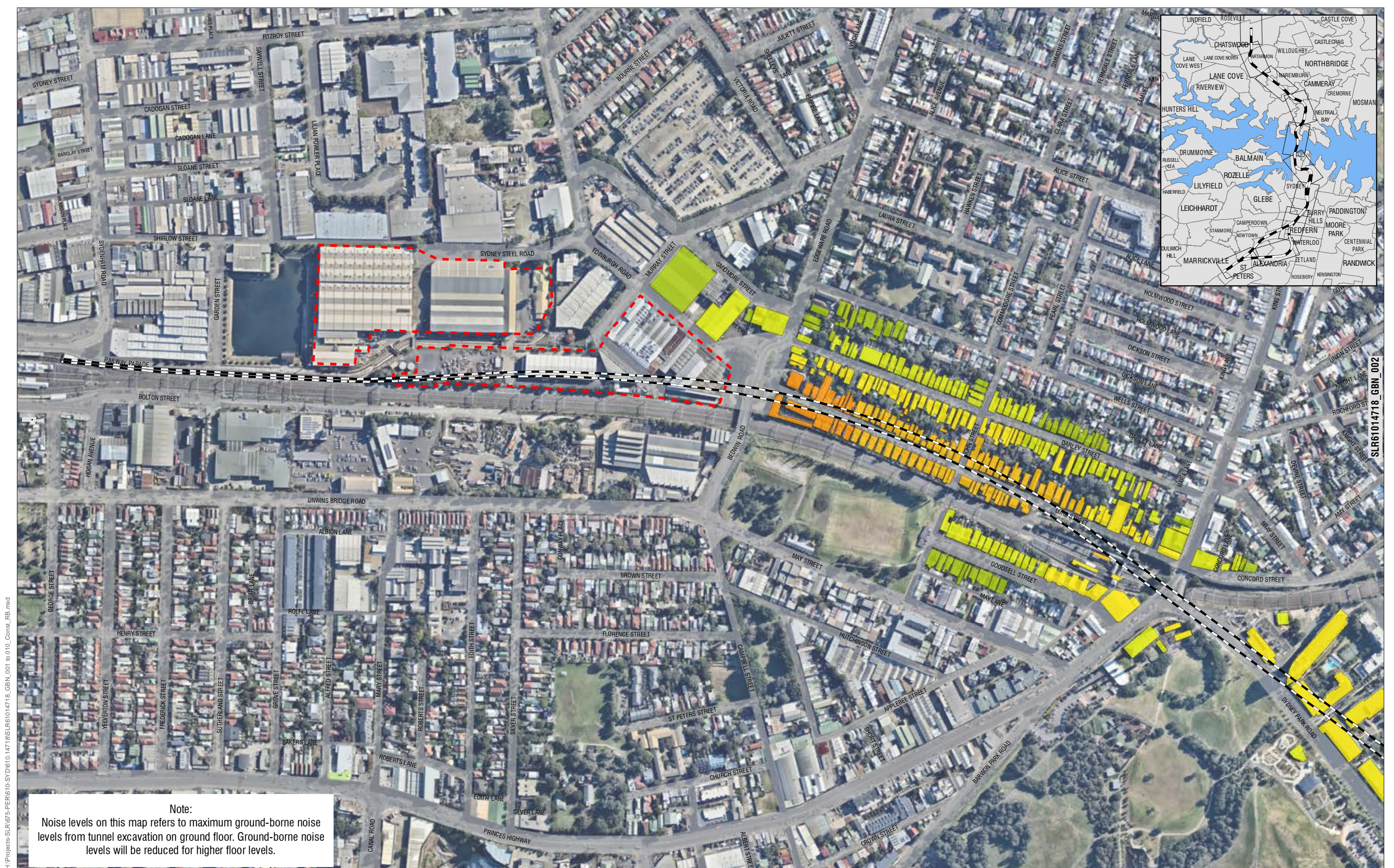
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**Sensitive Receivers
Classification Revision**

Page 3 of 3

FIGURE : SLR61014718_GA_009

CONSTRUCTION TUNNELLING GROUND-BORNE NOISE PREDICTIONS



SLR61014718_GBN_002

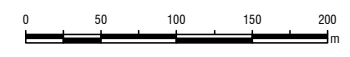
Note:
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LEGEND

-  Proposed Rail Alignment
-  Construction Sites

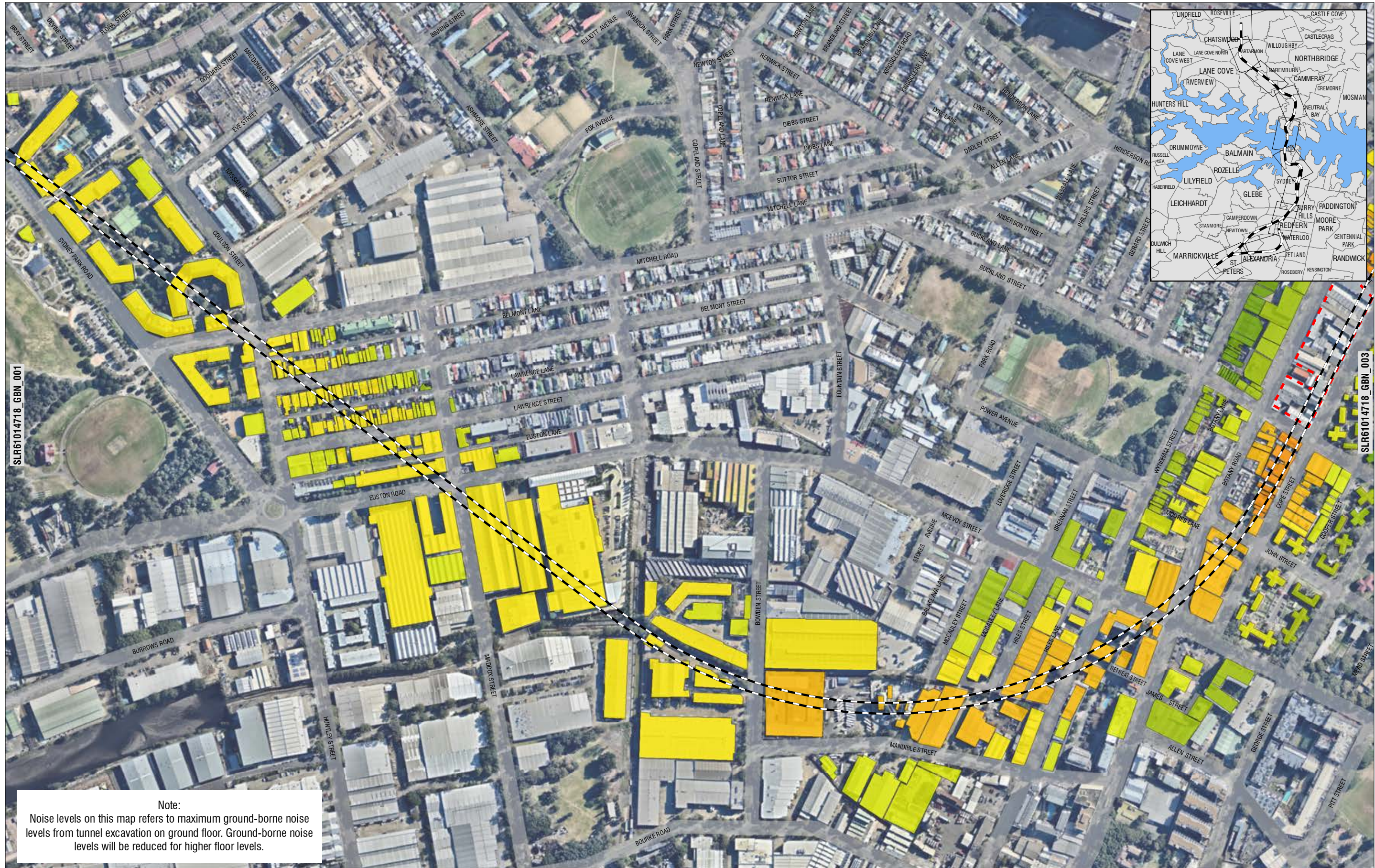
Ground-borne Noise Level (dBA)	
	≤15
	16 - 20
	21 - 25
	26 - 30
	31 - 35
	36 - 40
	40 - 45
	46 - 50
	51 - 55
	56 - 60

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Construction Phase
Ground Borne Noise Levels
 Page 1 of 10

FIGURE: SLR61014718_GBN_001



SLR61014718_GBN_001

SLR61014718_GBN_003

Note:
 Noise levels on this map refers to maximum ground-borne noise levels from tunnel excavation on ground floor. Ground-borne noise levels will be reduced for higher floor levels.

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LEGEND

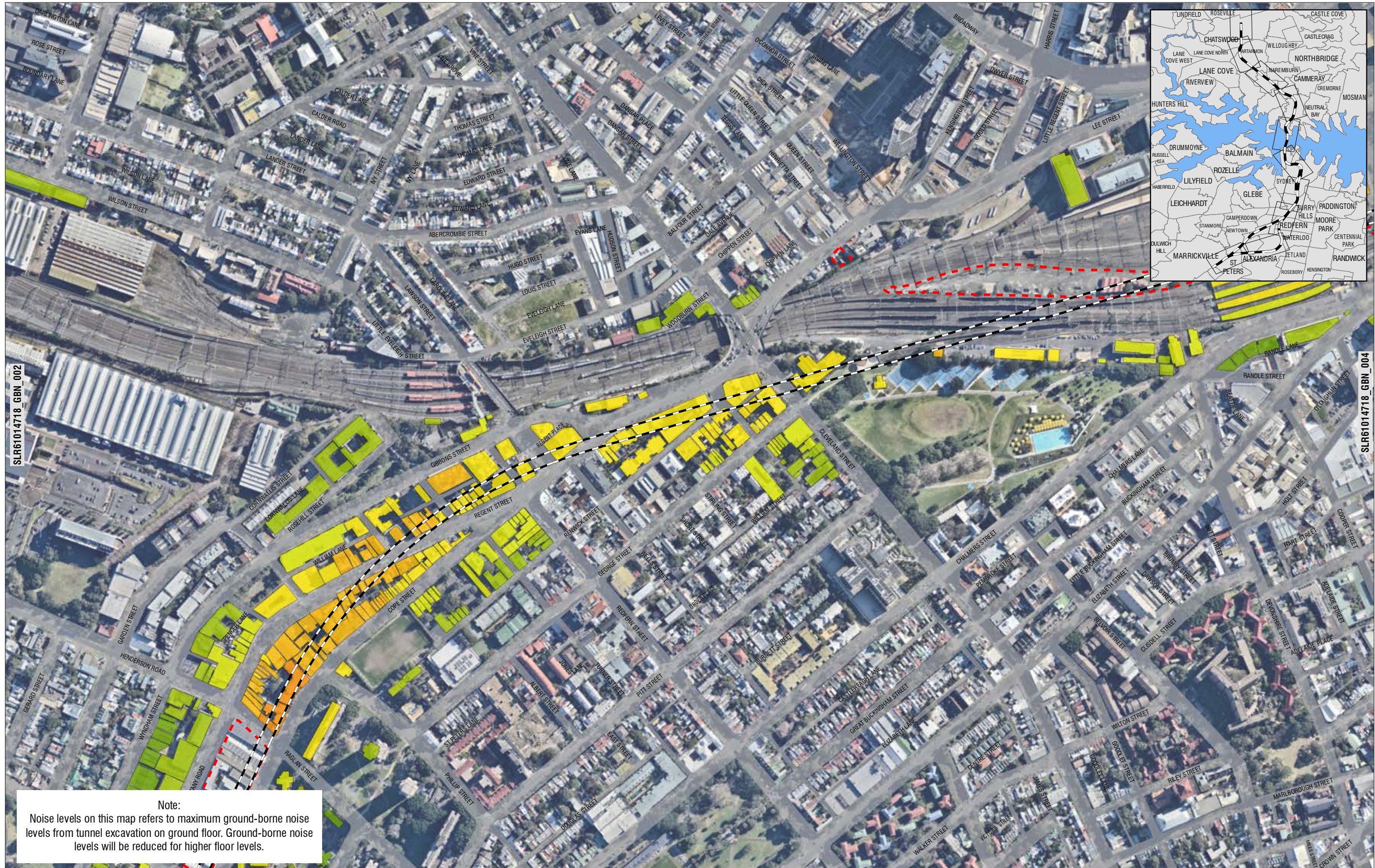
- Proposed Rail Alignment
- Construction Sites

Ground-borne Noise Level (dBA)	Color
≤15	Dark Green
16 - 20	Light Green
21 - 25	Yellow-Green
26 - 30	Yellow
31 - 35	Light Orange
36 - 40	Orange
40 - 45	Dark Orange
46 - 50	Red-Orange
51 - 55	Red
56 - 60	Dark Red

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 Sydney Metro Chatswood to Sydenham

**Construction Phase
 Ground Borne Noise Levels**
 Page 2 of 10

FIGURE: SLR61014718_GBN_002



SLR61014718_GBN_002

SLR61014718_GBN_004

Note:
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LEGEND

- Proposed Rail Alignment
- Construction Sites

Ground-borne Noise Level (dBA)	
	≤15
	16 - 20
	21 - 25
	26 - 30
	31 - 35
	36 - 40
	40 - 45
	46 - 50
	51 - 55
	56 - 60

Jacobs Group (Australia) Pty Limited
Sydney Metro Chatswood to Sydenham
Construction Phase
Ground Borne Noise Levels
 Page 3 of 10
 FIGURE: SLR61014718_GBN_003



SLR61014718_GBN_003

SLR61014718_GBN_005

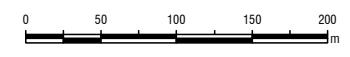
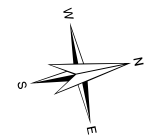
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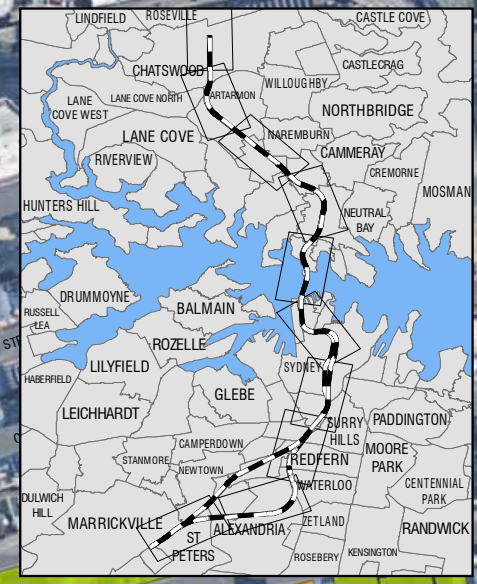
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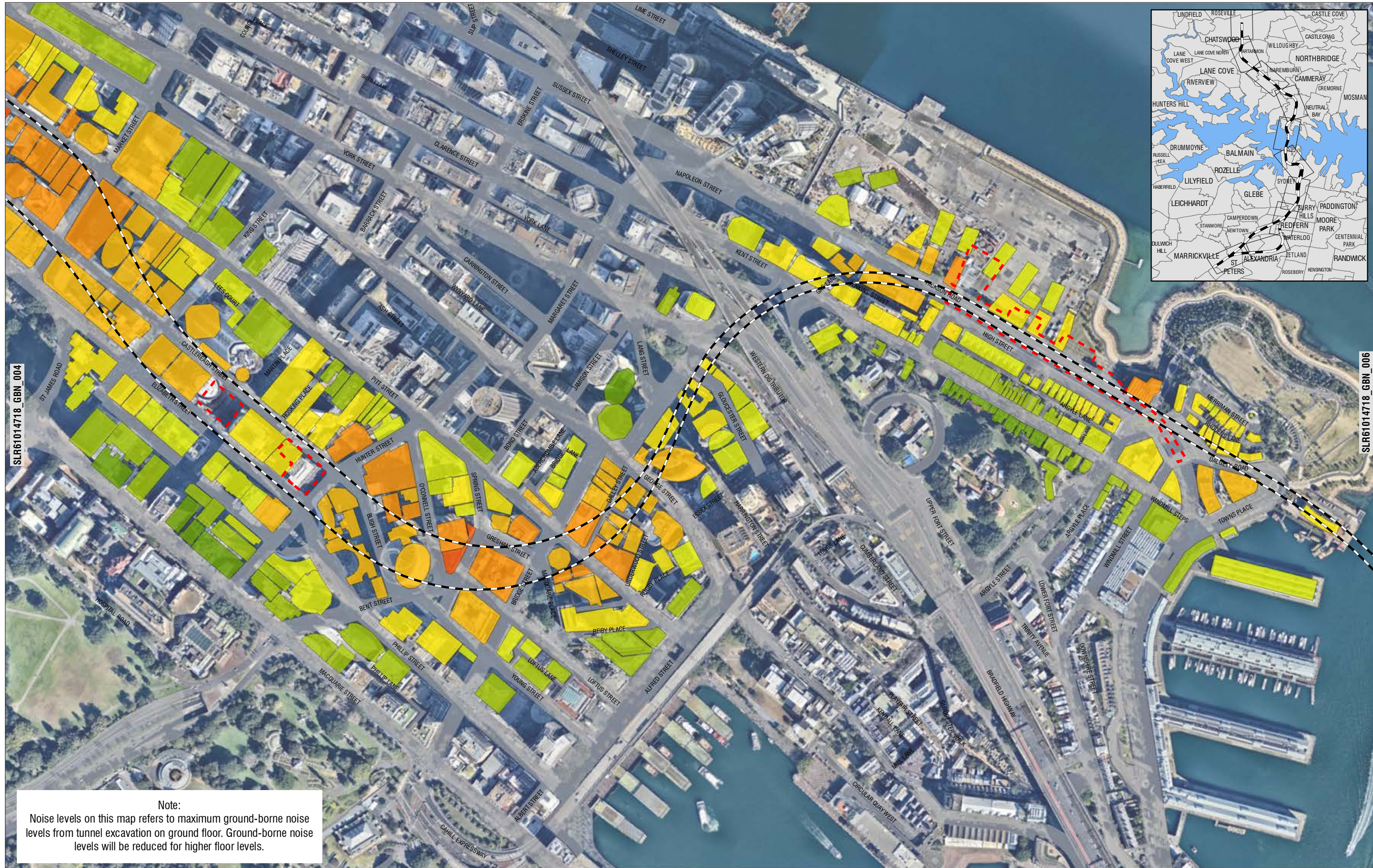


LEGEND

- Proposed Rail Alignment
- Construction Sites

Ground-borne Noise Level (dBA)	
	≤15
	16 - 20
	21 - 25
	26 - 30
	31 - 35
	36 - 40
	40 - 45
	46 - 50
	51 - 55
	56 - 60





SLR61014718_GBN_004

SLR61014718_GBN_006

Note:
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LEGEND

- Proposed Rail Alignment
- Construction Sites

Ground-borne Noise Level (dBA)	
	≤15
	16 - 20
	21 - 25
	26 - 30
	31 - 35
	36 - 40
	40 - 45
	46 - 50
	51 - 55
	56 - 60

Jacobs Group (Australia) Pty Limited
Sydney Metro Chatswood to Sydenham
Construction Phase
Ground Borne Noise Levels
 Page 5 of 10
 FIGURE: SLR61014718_GBN_005



SLR61014718_GBN_005

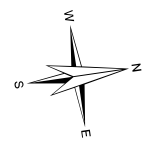
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LEGEND

- Proposed Rail Alignment
- Construction Sites

Ground-borne Noise Level (dBA)	
	≤15
	16 - 20
	21 - 25
	26 - 30
	31 - 35
	36 - 40
	41 - 45
	46 - 50
	51 - 55
	56 - 60

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Sydney Metro Chatswood to Sydenham

**Construction Phase
Ground Borne Noise Levels**
Page 6 of 10

FIGURE: SLR61014718_GBN_006

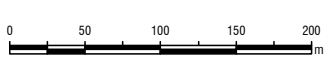
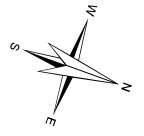


Note:
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LEGEND

- Proposed Rail Alignment
- Construction Sites

Ground-borne Noise Level (dBA)	
	≤15
	16 - 20
	21 - 25
	26 - 30
	31 - 35
	36 - 40
	40 - 45
	46 - 50
	51 - 55
	56 - 60

Jacobs Group (Australia) Pty Limited
 Sydney Metro Chatswood to Sydenham

**Construction Phase
 Ground Borne Noise Levels**
 Page 7 of 10

FIGURE: SLR61014718_GBN_007

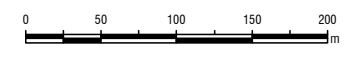


Note:
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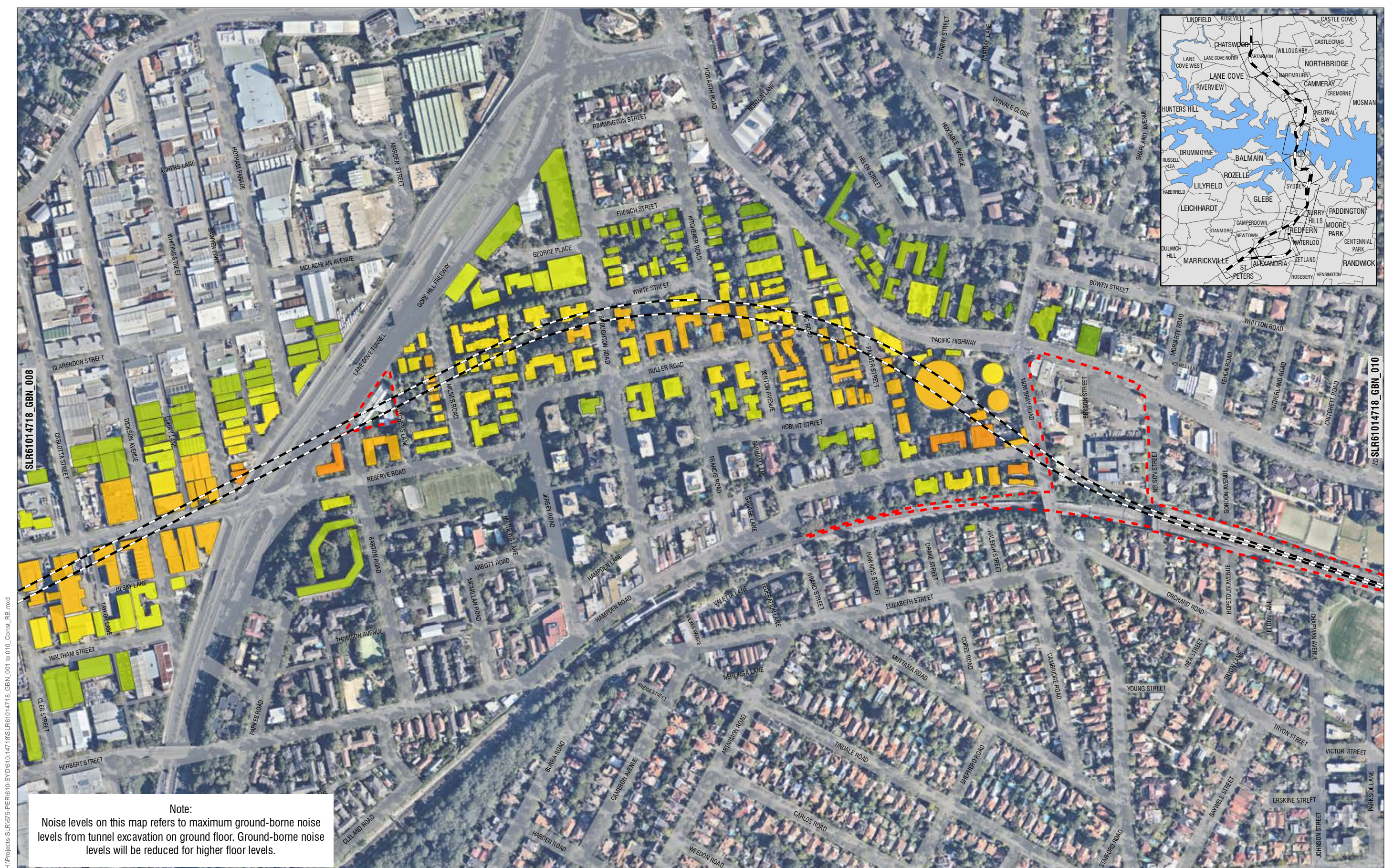


LEGEND

- Proposed Rail Alignment
- Construction Sites

Ground-borne Noise Level (dBA)	
	≤15
	16 - 20
	21 - 25
	26 - 30
	31 - 35
	36 - 40
	40 - 45
	46 - 50
	51 - 55
	56 - 60

Jacobs Group (Australia) Pty Limited
Sydney Metro Chatswood to Sydenham
Construction Phase
Ground Borne Noise Levels
 Page 8 of 10
 FIGURE: SLR61014718_GBN_008

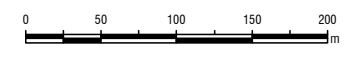
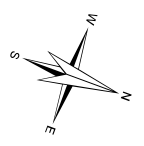


Note:
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LEGEND

Proposed Rail Alignment	Ground-borne Noise Level (dBA)	21 - 25	40 - 45
Construction Sites	≤15	26 - 30	46 - 50
	16 - 20	31 - 35	51 - 55
		36 - 40	56 - 60

Jacobs Group (Australia) Pty Limited
Sydney Metro Chatswood to Sydenham
Construction Phase
Ground Bourne Noise Levels
 Page 9 of 10
 FIGURE: SLR61014718_GBN_009



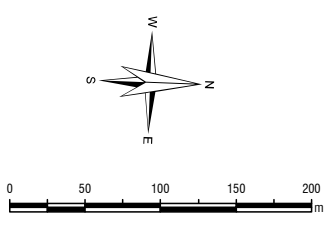
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LEGEND

- Proposed Rail Alignment
- Construction Sites

Ground-borne Noise Level (dBA)	
	≤15
	16 - 20
	21 - 25
	26 - 30
	31 - 35
	36 - 40
	40 - 45
	46 - 50
	51 - 55
	56 - 60

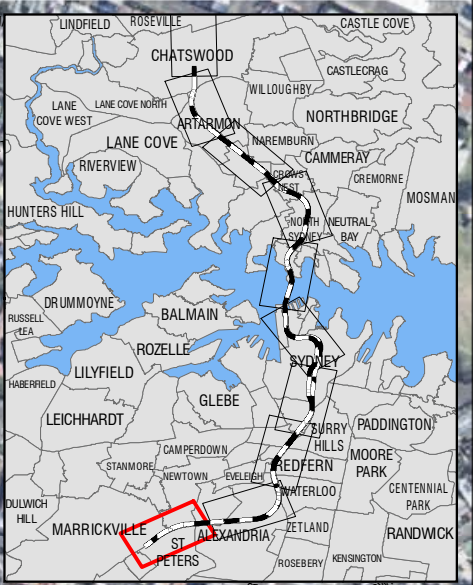
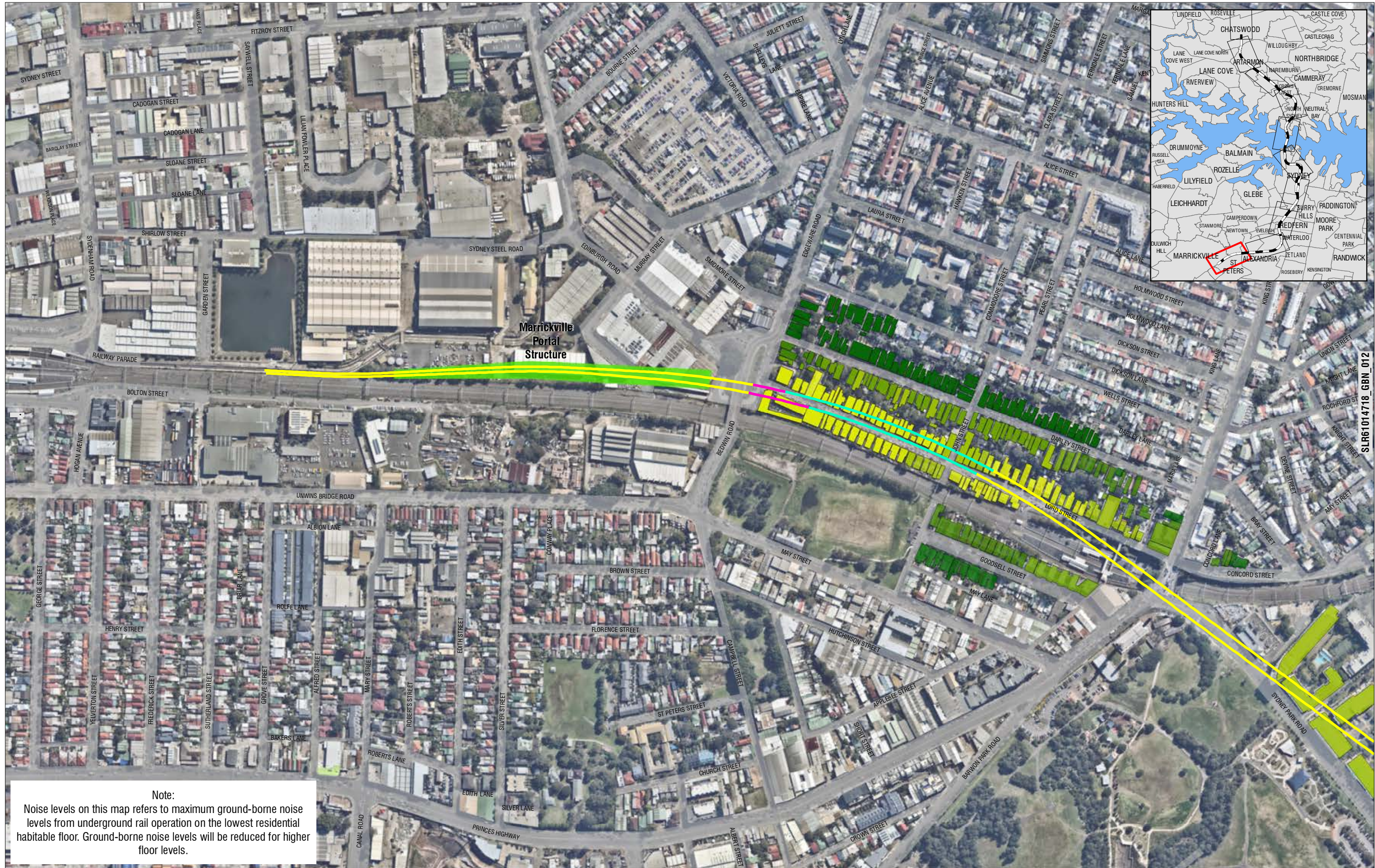
Jacobs Group (Australia) Pty Limited
Sydney Metro Chatswood to Sydenham
Construction Phase
Ground Borne Noise Levels
 Page 10 of 10
 FIGURE: SLR61014718_GBN_010

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OPERATIONAL GROUND-BORNE NOISE PREDICTIONS

INDEX

- 1 – Operational Ground-borne Noise (Residential)
- 2 – Operational Ground-borne Noise (Commercial)



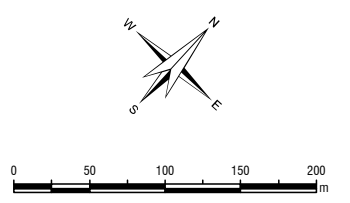
Note:
 Noise levels on this map refers to maximum ground-borne noise levels from underground rail operation on the lowest residential habitable floor. Ground-borne noise levels will be reduced for higher floor levels.

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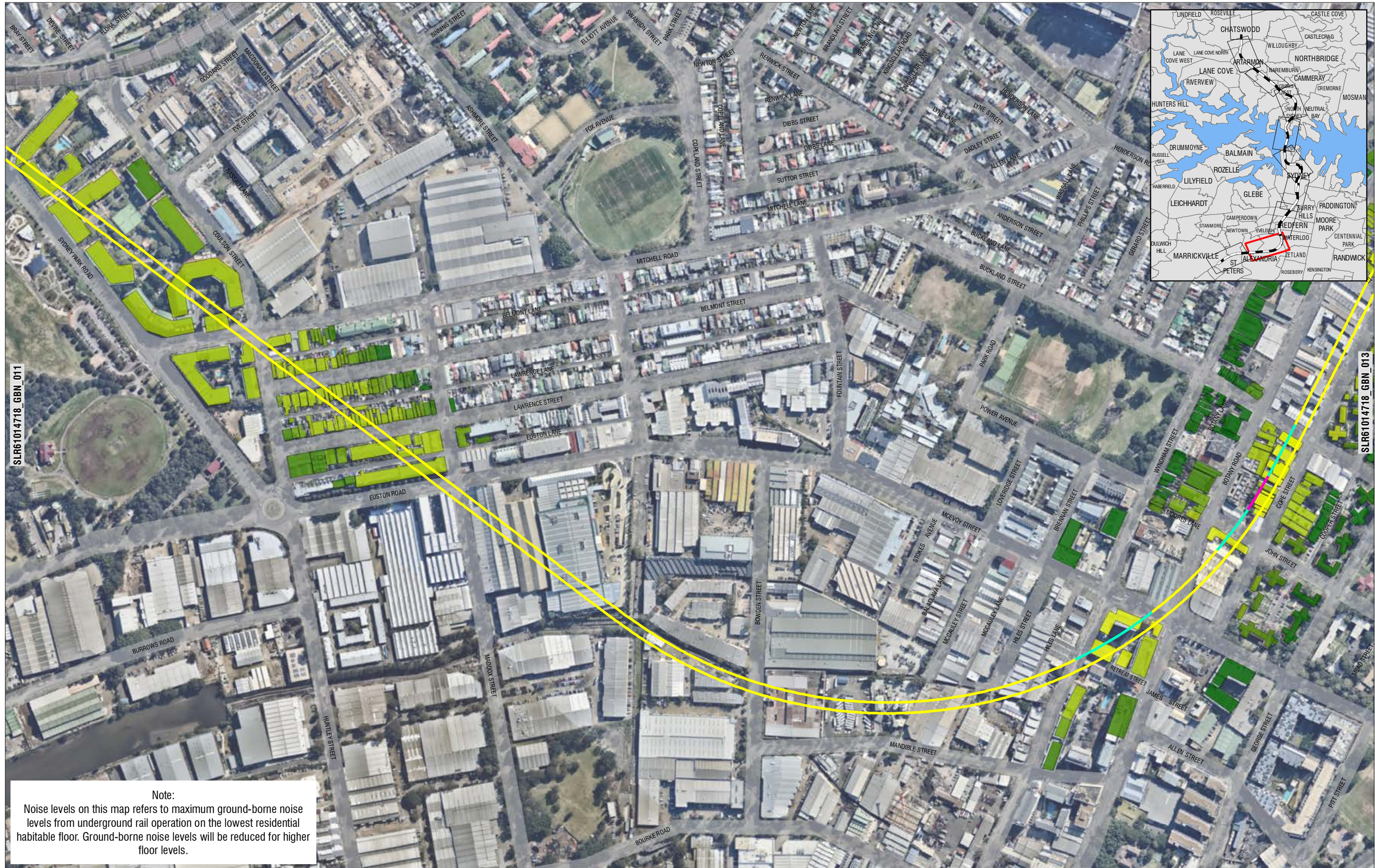
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LEGEND

	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		36 - 40		56 - 60		
	Portal Structure		16 - 20				

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Sydney Metro Chatswood to Sydenham
Operation
Residential Ground-borne Noise Levels
 Page 1 of 10
 FIGURE: SLR61014718_GBN_011



SLR61014718_GBN_011

SLR61014718_GBN_013

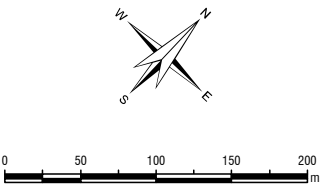
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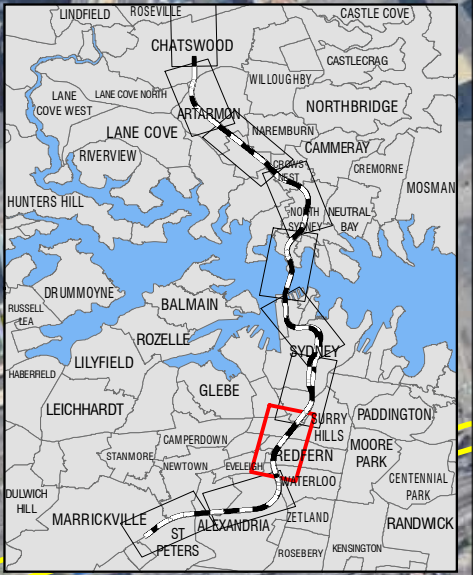
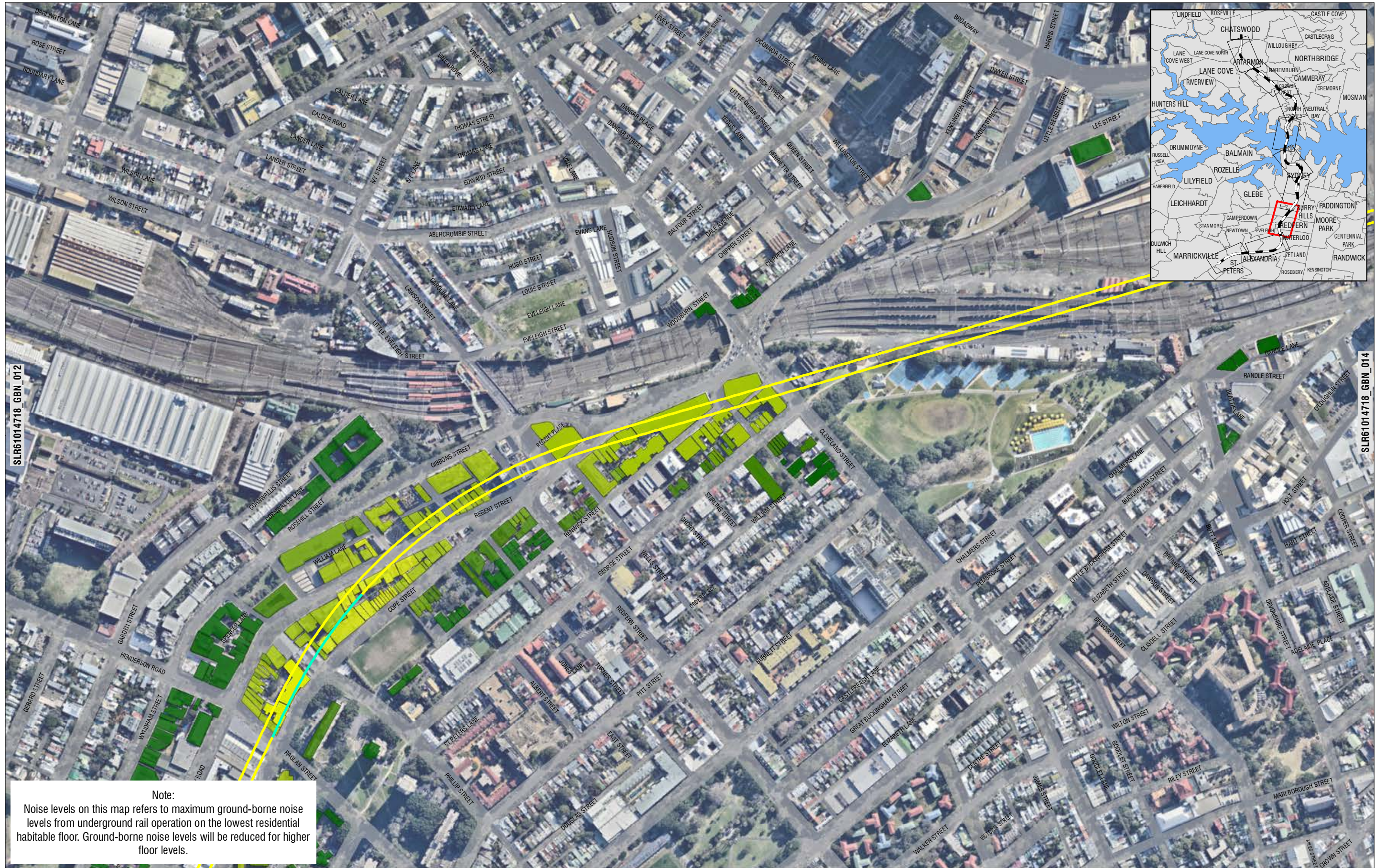
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LEGEND

	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		36 - 40		56 - 60	
	Portal Structure		≤15			
			16 - 20			

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Operation
Residential Ground-borne Noise Levels
 Page 2 of 10
 FIGURE: SLR61014718_GBN_012



SLR61014718_GBN_012

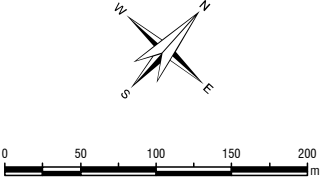
SLR61014718_GBN_014

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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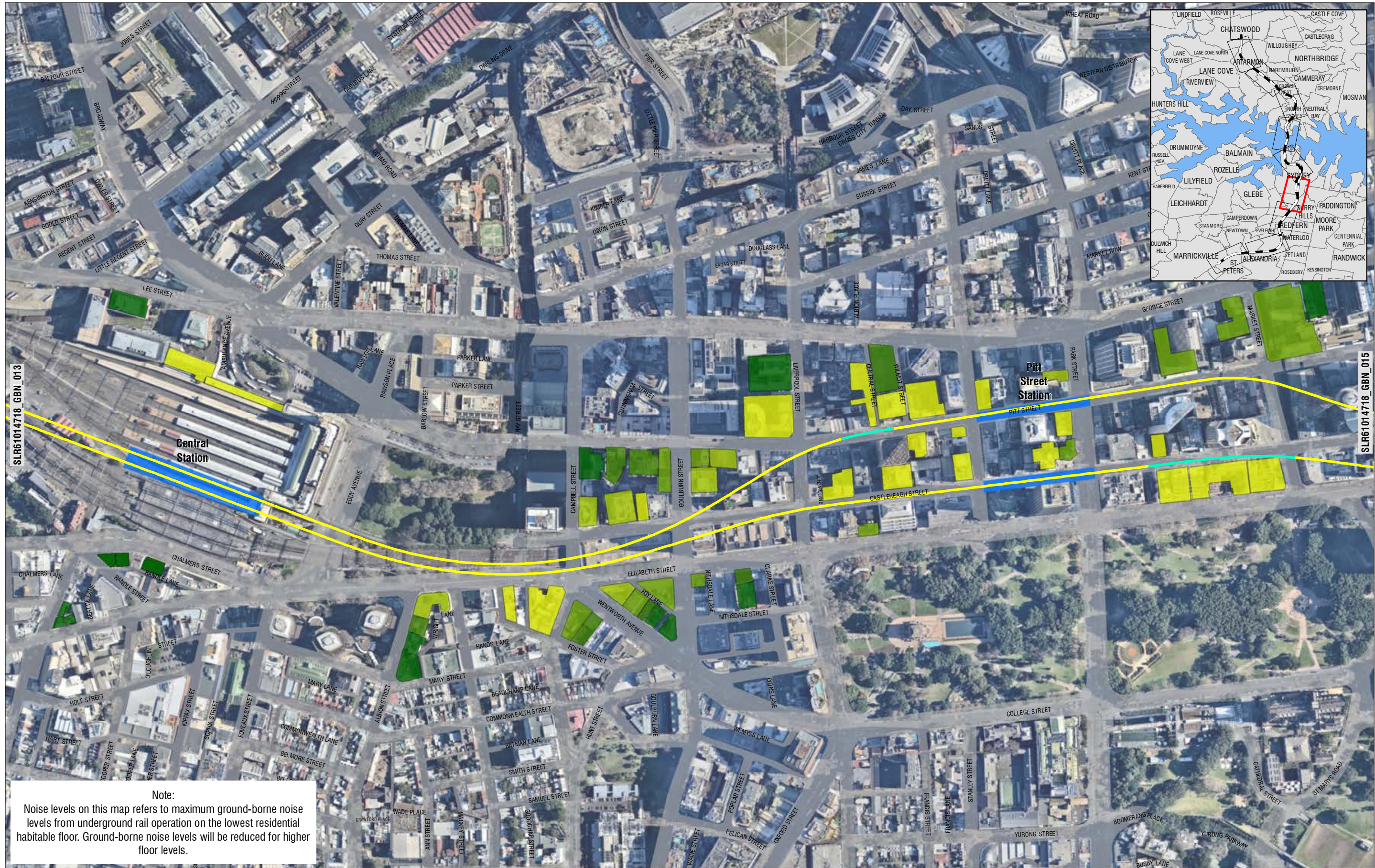
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Sheet Size:	A4
Projection:	GDA 1994 MGA Zone 56



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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Sydney Metro Chatswood to Sydenham
Operation
Residential Ground-borne Noise Levels
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 FIGURE: SLR61014718_GBN_013



SLR61014718_GBN_013

SLR61014718_GBN_015

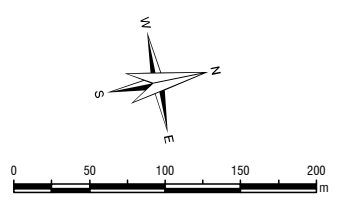
Note:
 Noise levels on this map refers to maximum ground-borne noise levels from underground rail operation on the lowest residential habitable floor. Ground-borne noise levels will be reduced for higher floor levels.

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LEGEND

	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			36 - 40		56 - 60
	Portal Structure			≤15		
				16 - 20		

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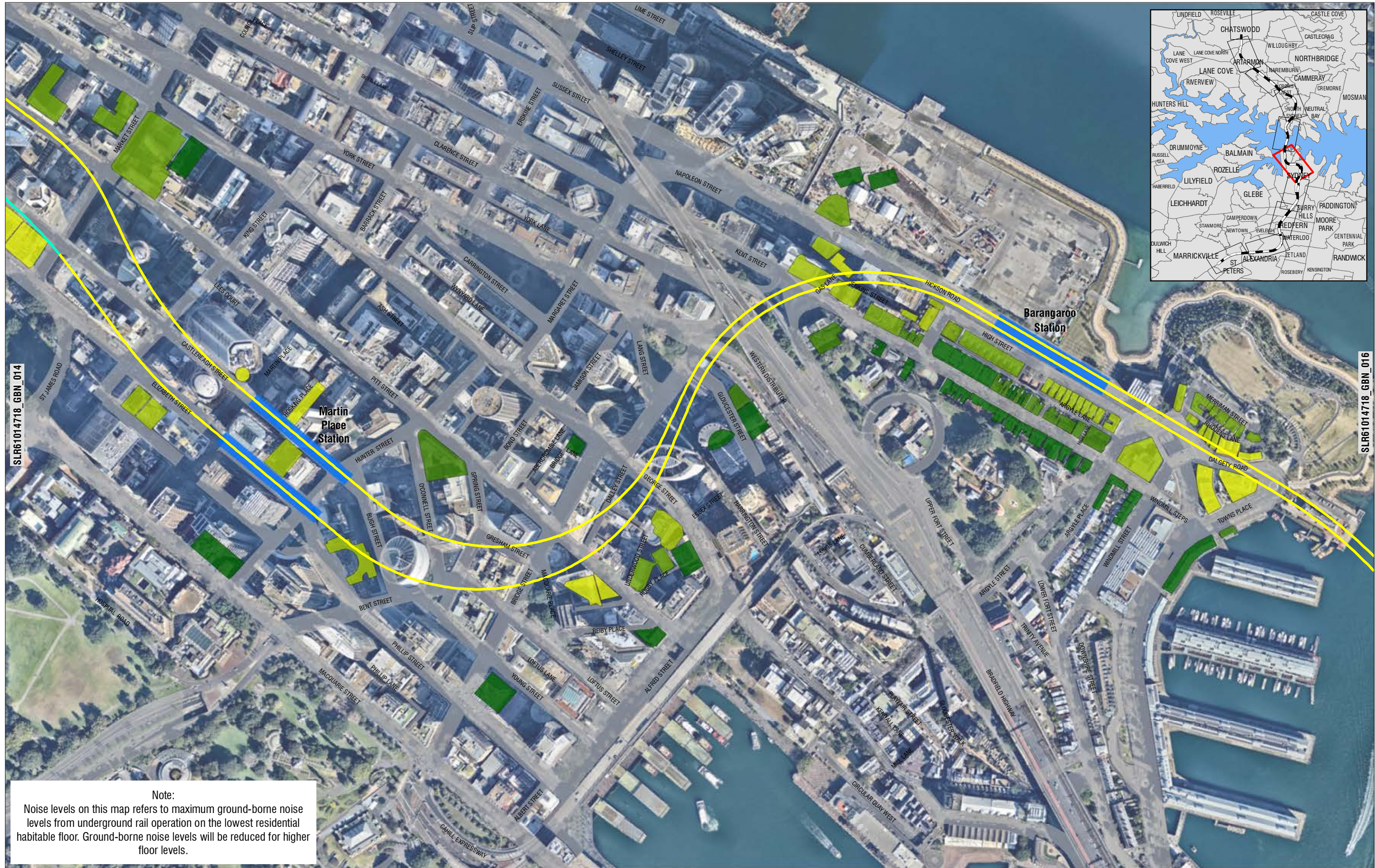
Sydney Metro Chatswood to Sydenham

Operation

Residential Ground-borne Noise Levels

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FIGURE: SLR61014718_GBN_014



SLR61014718_GBN_014

SLR61014718_GBN_016

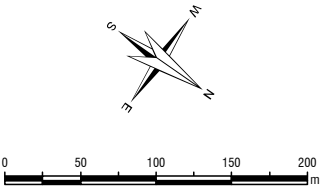
Note:
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LEGEND		Ground-borne Noise Level (dBA)	
	Standard Attenuation Rail		21 - 25
	High Attenuation Rail		26 - 30
	Very High Attenuation Rail		31 - 35
	Stations		36 - 40
	Portal Structure		41 - 45
			46 - 50
			46 - 50
			51 - 55
			51 - 55
			≤15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

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Sydney Metro Chatswood to Sydenham
Operation
Residential Ground-borne Noise Levels
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 FIGURE: SLR61014718_GBN_015



SLR61014718_GBN_015

SLR61014718_GBN_017

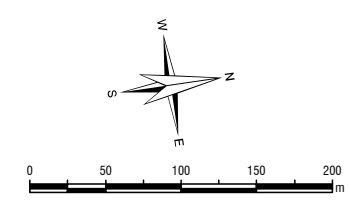
Note:
 Noise levels on this map refers to maximum ground-borne noise levels from underground rail operation on the lowest residential habitable floor. Ground-borne noise levels will be reduced for higher floor levels.

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LEGEND

	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		46 - 50	56 - 60
	Portal Structure					

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Operation
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 FIGURE: SLR61014718_GBN_016



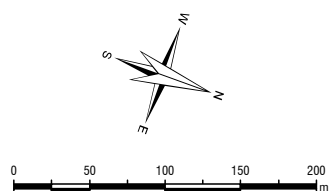
Note:
 Noise levels on this map refers to maximum ground-borne noise levels from underground rail operation on the lowest residential habitable floor. Ground-borne noise levels will be reduced for higher floor levels.

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LEGEND

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

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Sydney Metro Chatswood to Sydenham
Operation
Residential Ground-borne Noise Levels
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 FIGURE: SLR61014718_GBN_017



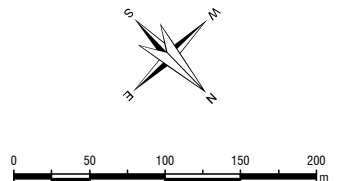
Note:
 Noise levels on this map refers to maximum ground-borne noise levels from underground rail operation on the lowest residential habitable floor. Ground-borne noise levels will be reduced for higher floor levels.

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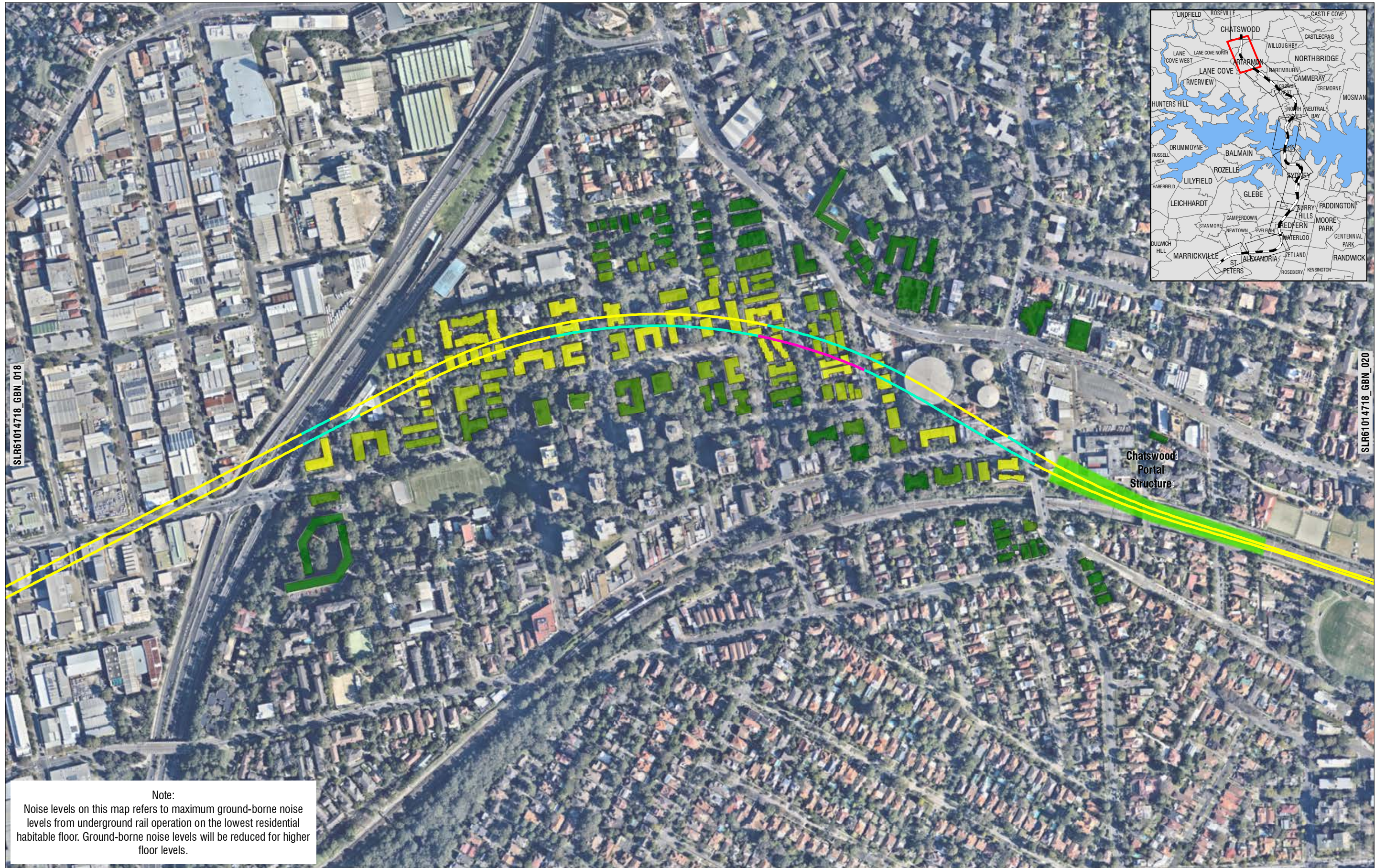
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LEGEND		Ground-borne Noise Level (dBA)	
	Standard Attenuation Rail		21 - 25
	High Attenuation Rail		26 - 30
	Very High Attenuation Rail		31 - 35
	Stations		36 - 40
	Portal Structure		41 - 45
			46 - 50
			51 - 55
			56 - 60
			≤15
			16 - 20

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Residential Ground-borne Noise Levels
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 FIGURE: SLR61014718_GBN_018



Note:
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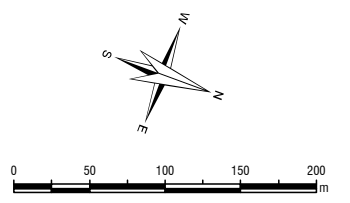
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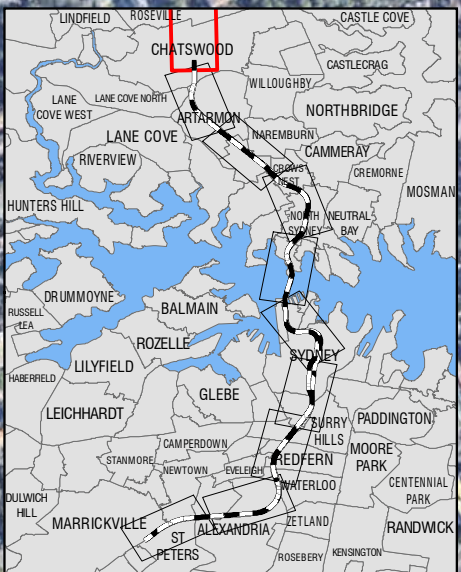


LEGEND

	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		36 - 40		56 - 60	
	Portal Structure		≤15			
			16 - 20			

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Sydney Metro Chatswood to Sydenham
Operation
Residential Ground-borne Noise Levels
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 FIGURE: SLR61014718_GBN_019

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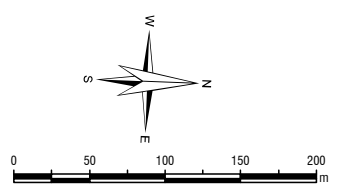


SLR61014718_GBN_019
Chatswood Portal Structure

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

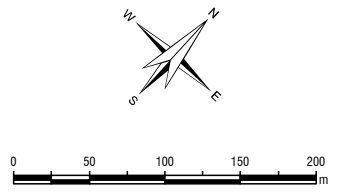
Standard Attenuation Rail	Ground-borne Noise Level (dBA)	21 - 25	41 - 45
High Attenuation Rail	≤15	26 - 30	46 - 50
Very High Attenuation Rail	16 - 20	31 - 35	51 - 55
Stations		36 - 40	56 - 60
Portal Structure			



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

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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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Commercial Ground-borne Noise Levels
 Page 1 of 10
 FIGURE: SLR61014718_GBN_011

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