

APPENDIX

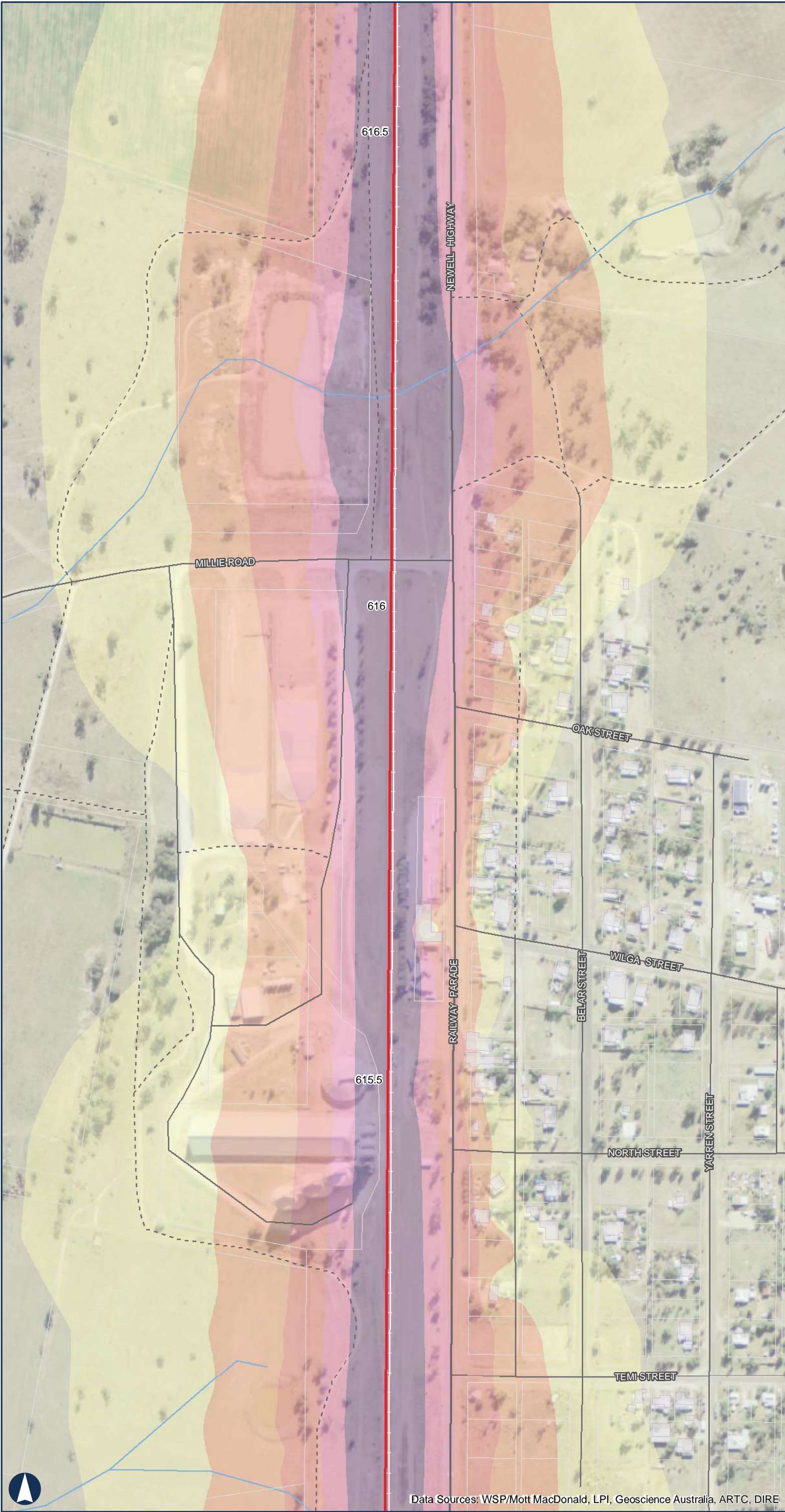
D

Operational Noise and Vibration Assessment

Attachment G Noise Barrier Noise Contours

NARRABRI TO NORTH STAR SUBMISSIONS PREFERRED INFRASTRUCTURE REPORT





NARRABRI TO NORTH STAR

Appendix G

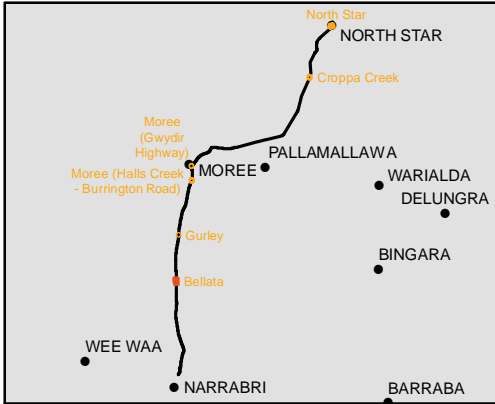
Rail Noise Modelling Contours: 2025 Noise Model Results - LAeq without mitigation

Sheet 1 of 6

LEGEND

- Townships
- Highway
- Local Road
- - - Track
- Existing Rail Network
- Watercourse
- Phase 3 Track Alignment
- Cadastre
- Building Footprint
- Rail Speeds (km/h)
 - 145
- Noise Contours (dB(A))
 - 55
 - 57.5
 - 60
 - 62.5
 - 65

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Coordinate System: GDA 1994 MGA Zone 55

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Date: 18/08/2019
Author: IRDJV
Scale: 1:4,000

Data Sources: WSP/Mott MacDonald, LPI, Geoscience Australia, ARTC, DIRE



NARRABRI TO NORTH STAR

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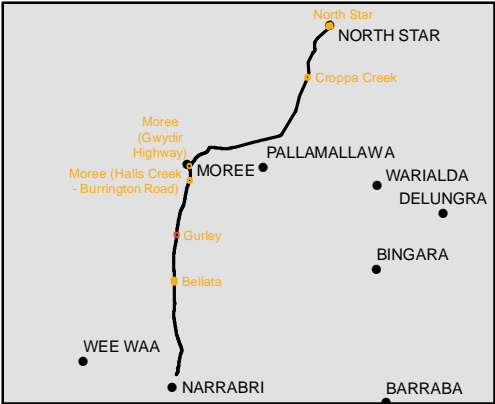
Rail Noise Modelling Contours: 2025 Noise Model Results - LAeq without mitigation

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- Townships
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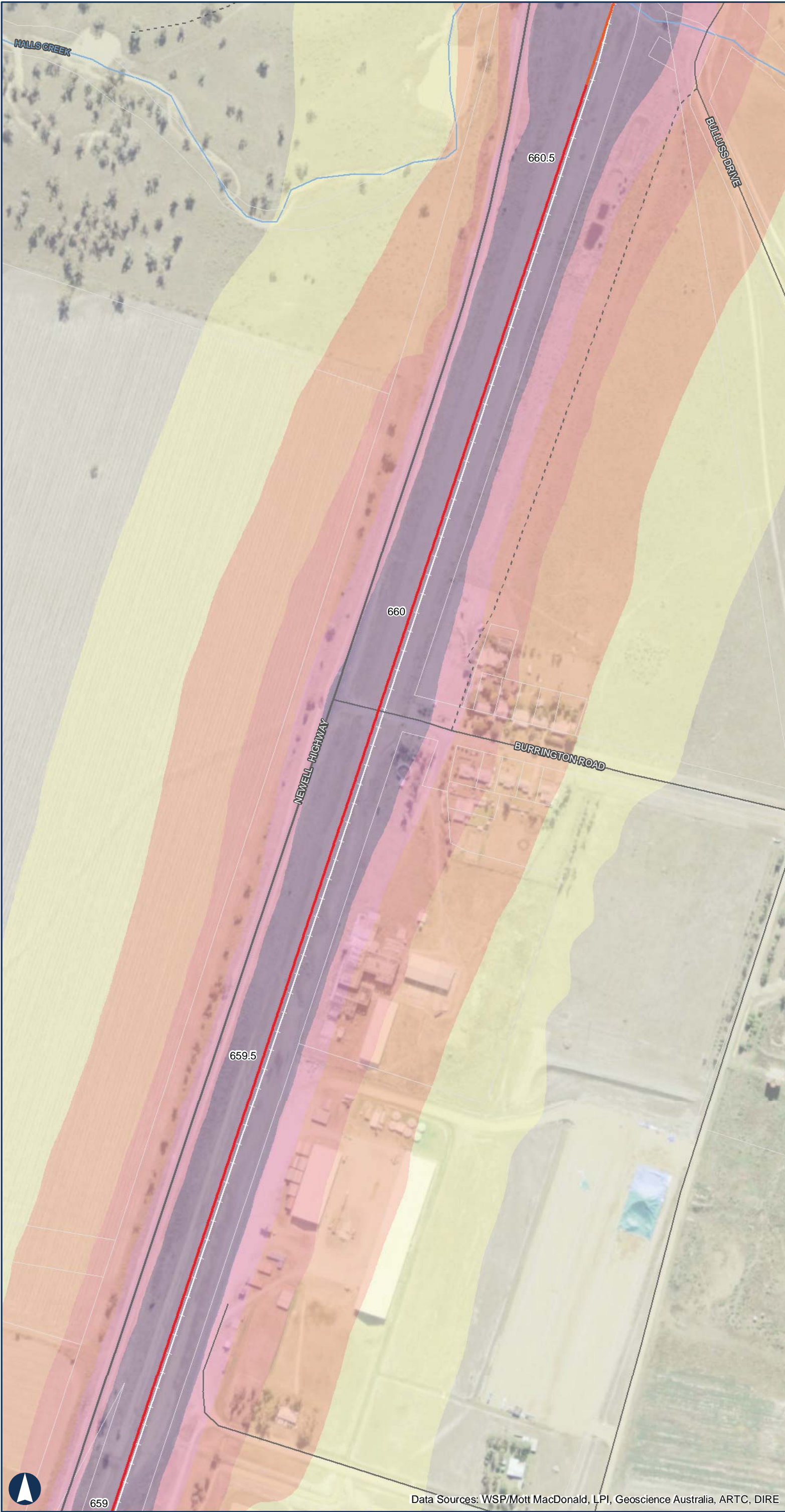


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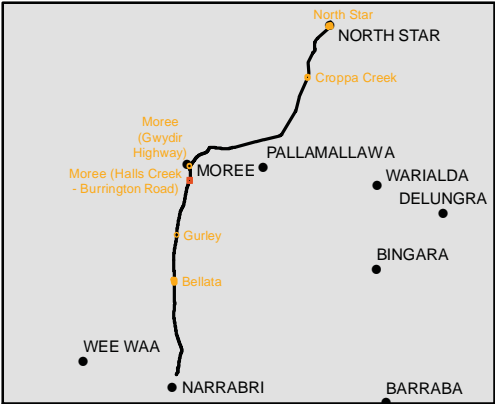
Rail Noise Modelling Contours: 2025 Noise Model Results - LAeq without mitigation

Sheet 3 of 6

LEGEND

- Townships
- Highway
- Local Road
- Track
- Existing Rail Network
- Watercourse
- Phase 3 Track Alignment
- Cadastre
- Rail Speeds (km/h)
 - 125
 - 145
- Noise Contours (dB(A))
 - 55
 - 57.5
 - 60
 - 62.5
 - 65

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300 m

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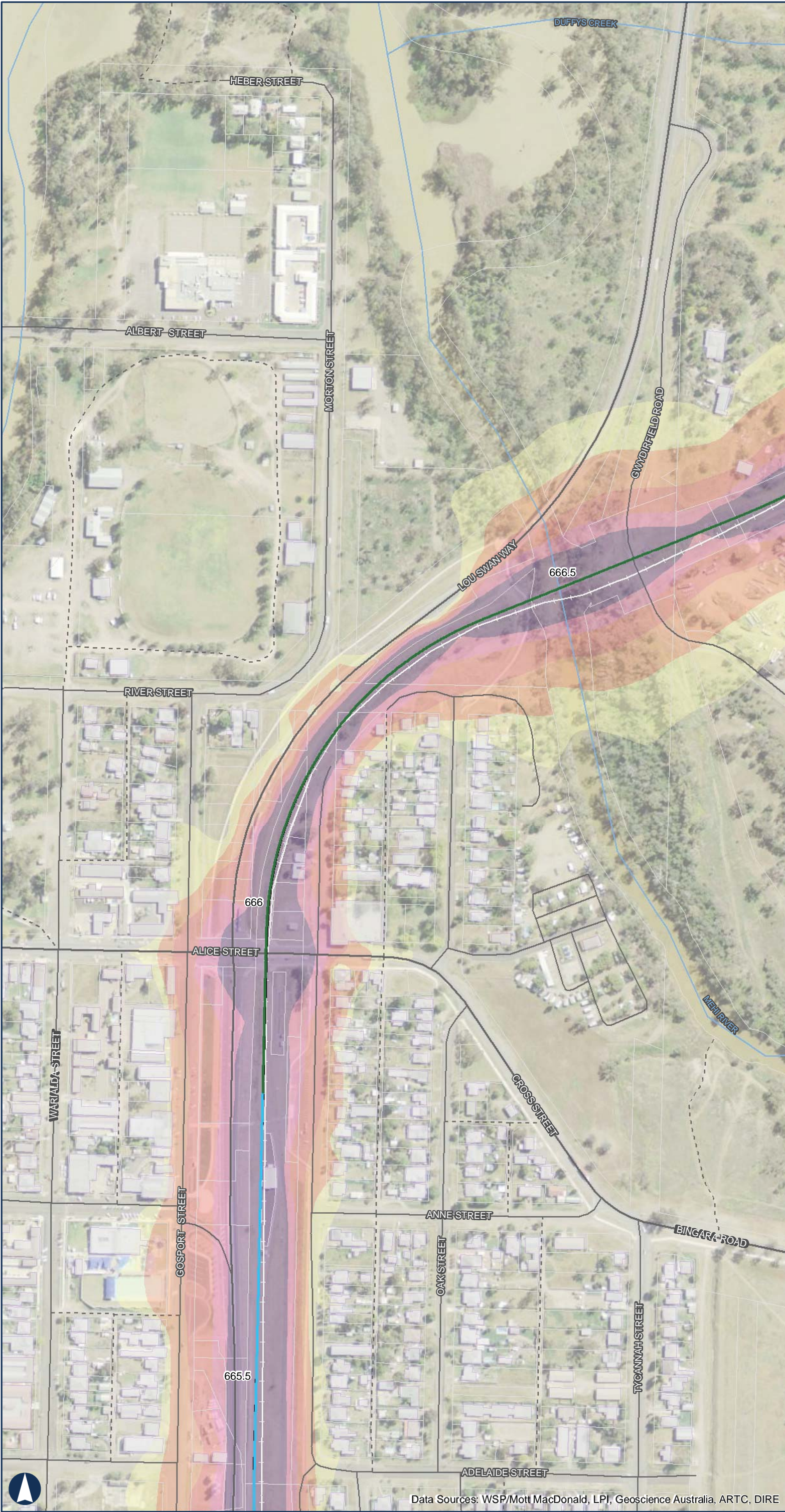
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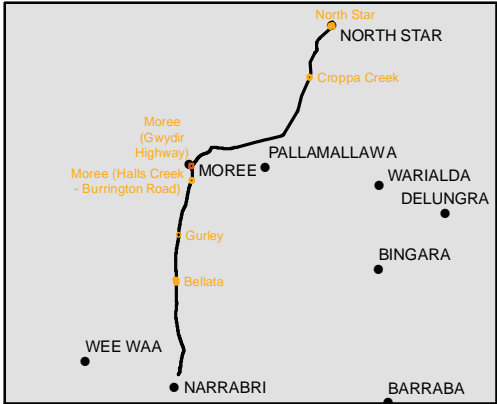
Rail Noise Modelling Contours: 2025 Noise Model Results - LAeq without mitigation

Sheet 4 of 6

LEGEND

- Townships
- Highway
- Local Road
- Track
- Existing Rail Network
- Watercourse
- Phase 3 Track Alignment
- Cadastrate
- Building Footprint
- Rail Speeds (km/h)
 - 60
 - 105
- Noise Contours (dB(A))
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 - 57.5
 - 60
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 - 65

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300 m

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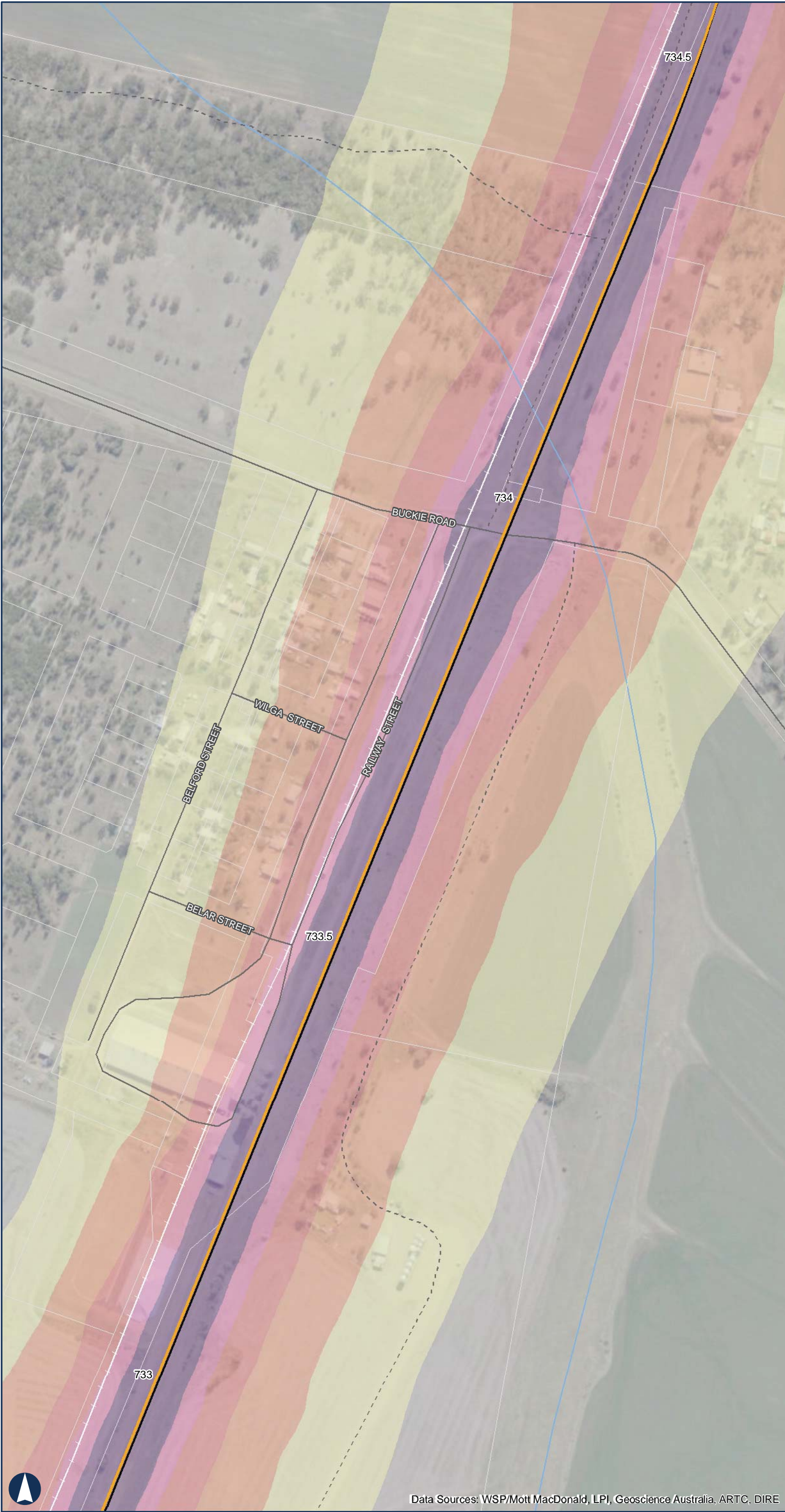
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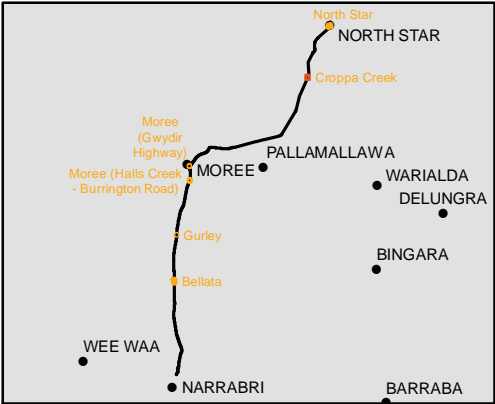
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Sheet 5 of 6

LEGEND

- Townships
- Highway
- Local Road
- Track
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- Watercourse
- Phase 3 Track Alignment
- Cadastre
- Rail Speeds (km/h)
 - 115
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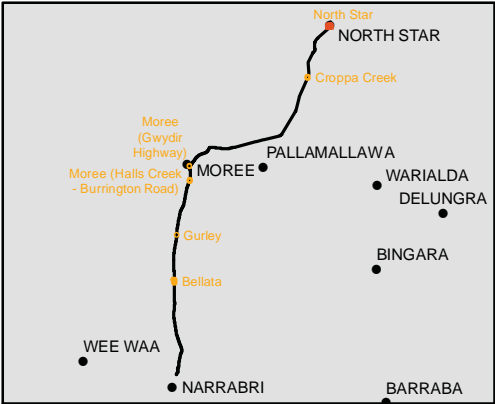
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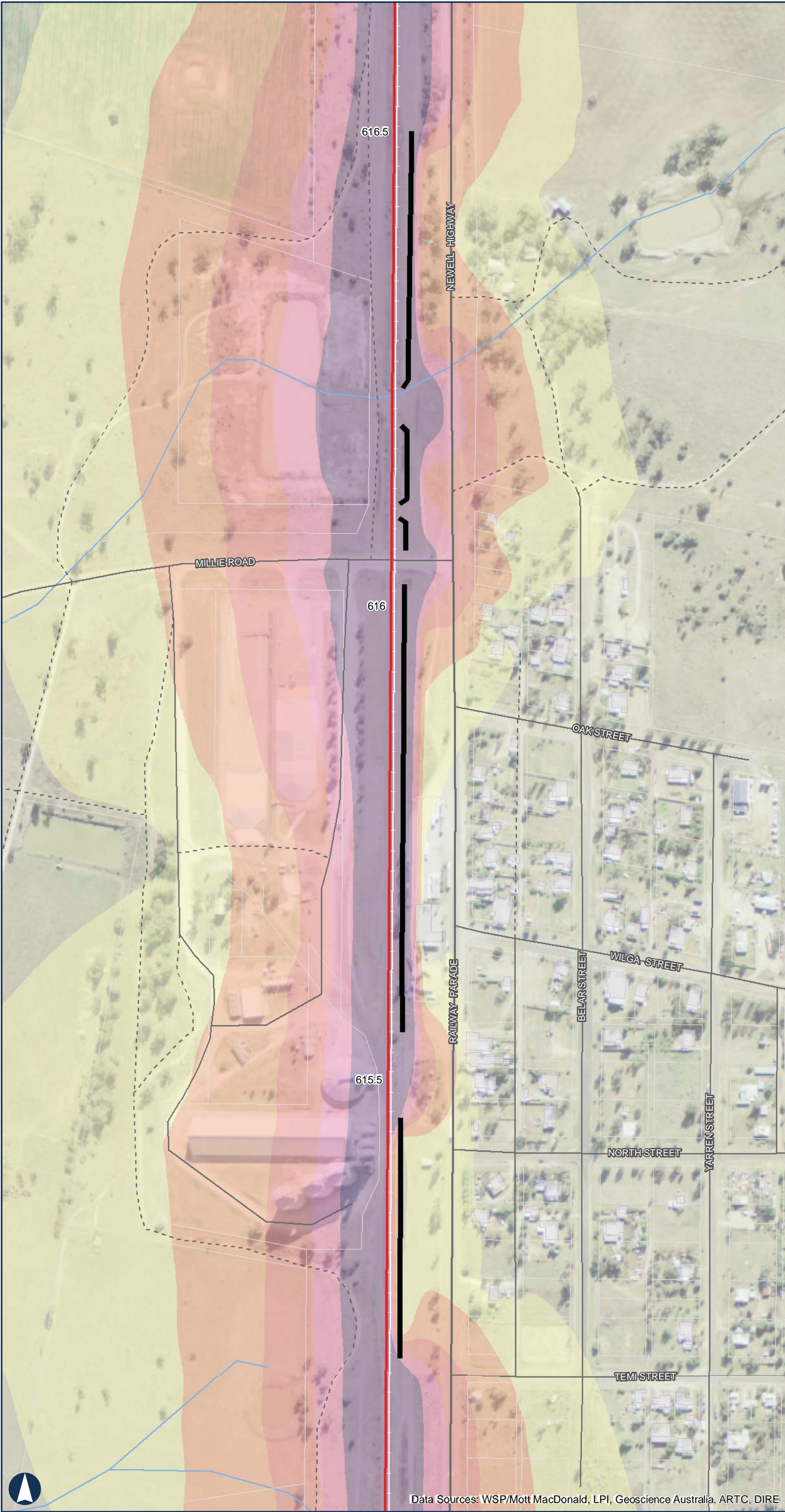


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Appendix G

Rail Noise Modelling Contours: 2025 Noise Model Results - LAeq with Noise Barriers

Sheet 1 of 6

LEGEND

- Townships
- Highway
- Local Road
- Track
- Existing Rail Network
- Watercourse
- Phase 3 Track Alignment
- Cadastre
- Building Footprint

Noise Barrier Height (m)

5

Rail Speeds (km/h)

145

Noise Contours (dB(A))

55

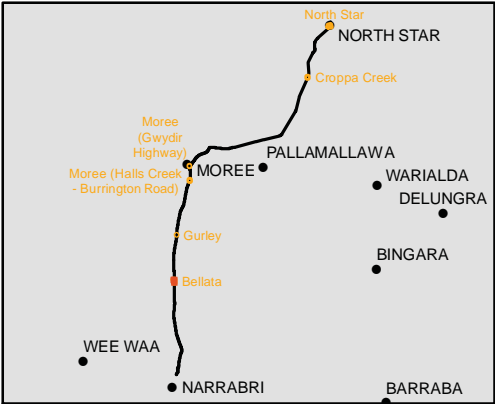
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60

62.5

65

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Appendix G

Rail Noise Modelling Contours: 2025 Noise Model Results - LAeq with Noise Barriers

Sheet 2 of 6

LEGEND

- Townships
- Highway
- Local Road
- Track
- Existing Rail Network
- Watercourse
- Phase 3 Track Alignment
- Cadastre

Noise Barrier Height (m)

5

Rail Speeds (km/h)

145

Noise Contours (dB(A))

55

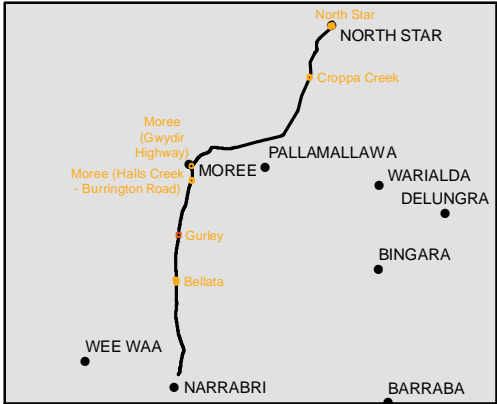
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60

62.5

65

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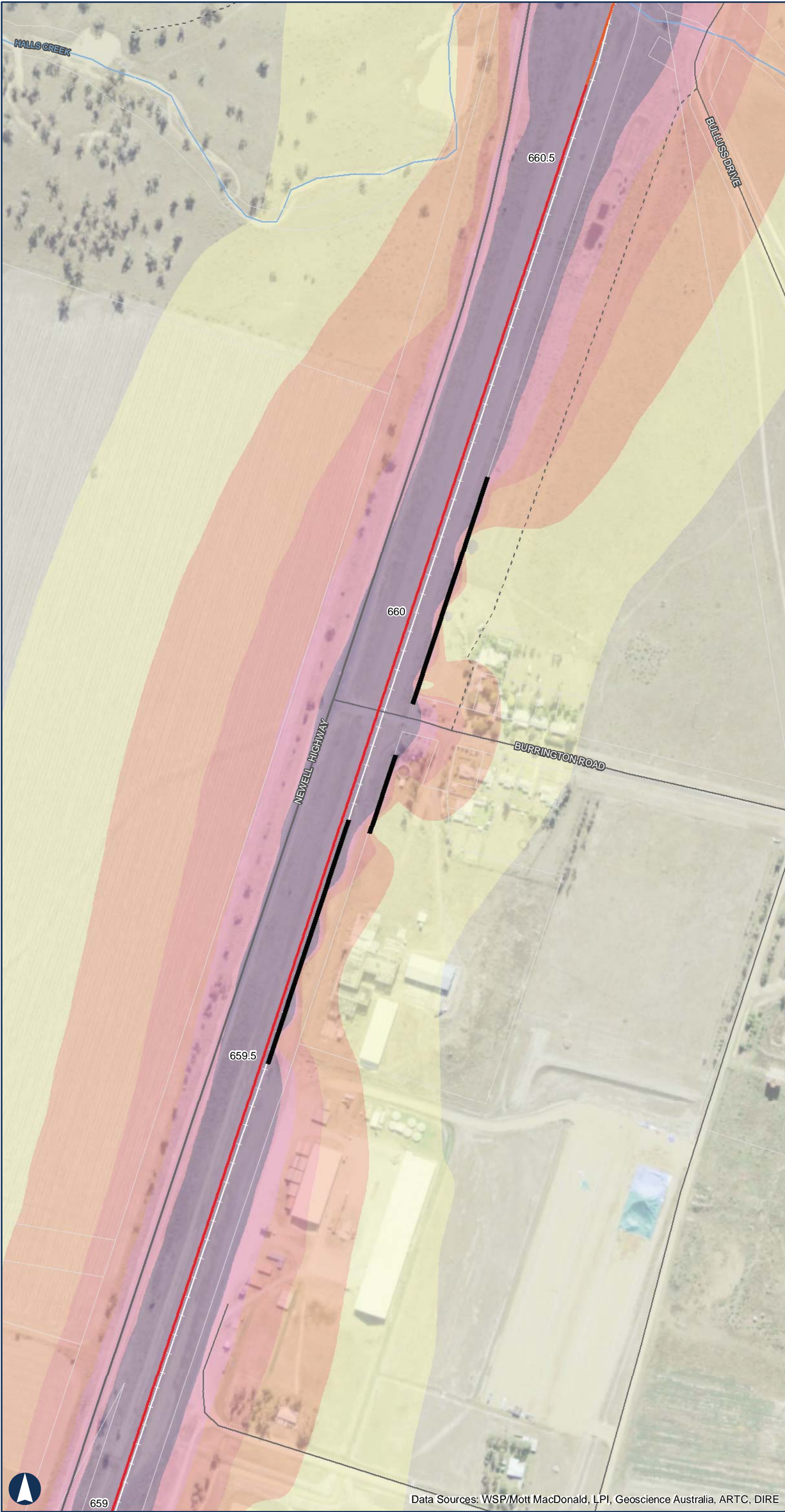
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Rail Noise Modelling Contours: 2025 Noise Model Results - LAeq with Noise Barriers

Sheet 3 of 6

LEGEND

■ Townships

— Highway

— Local Road

--- Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Noise Barrier Height (m)

5

Rail Speeds (km/h)

125

145

Noise Contours (dB(A))

55

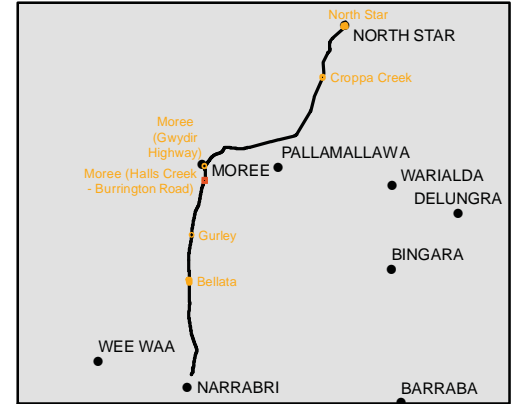
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62.5

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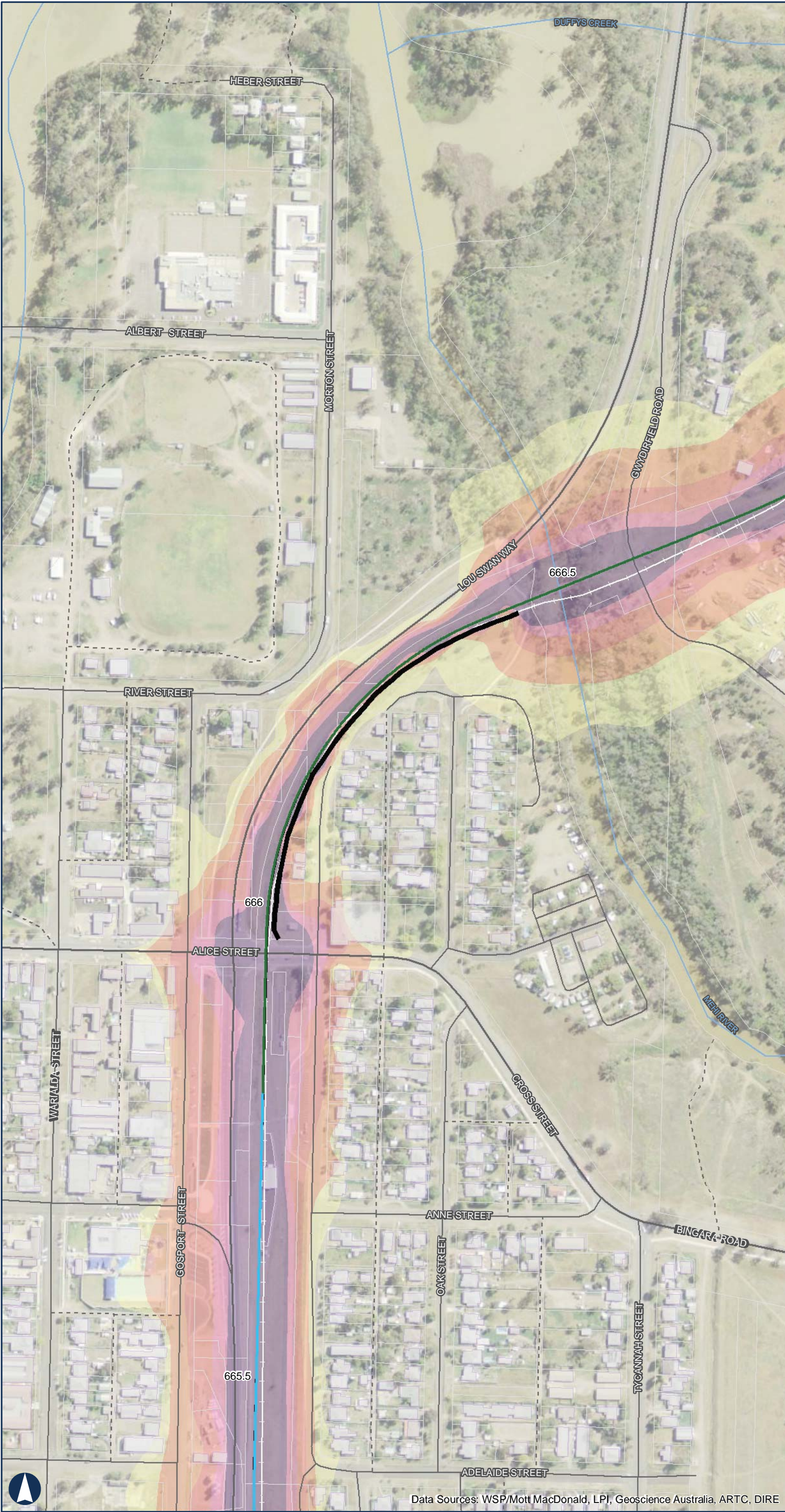
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Rail Noise Modelling Contours: 2025 Noise Model Results - LAeq with Noise Barriers

Sheet 4 of 6

LEGEND

■ Townships

— Highway

— Local Road

--- Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Building Footprint

Noise Barrier Height (m)

5

Rail Speeds (km/h)

60

105

Noise Contours (dB(A))

55

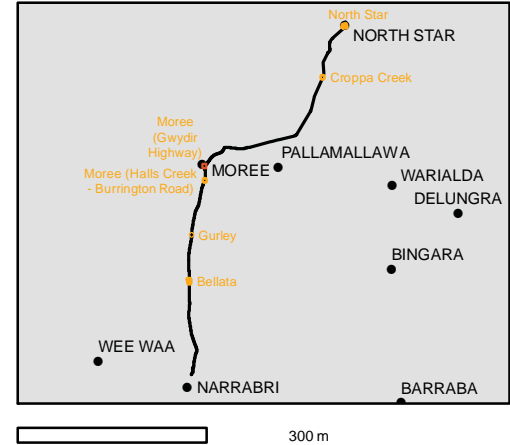
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62.5

65

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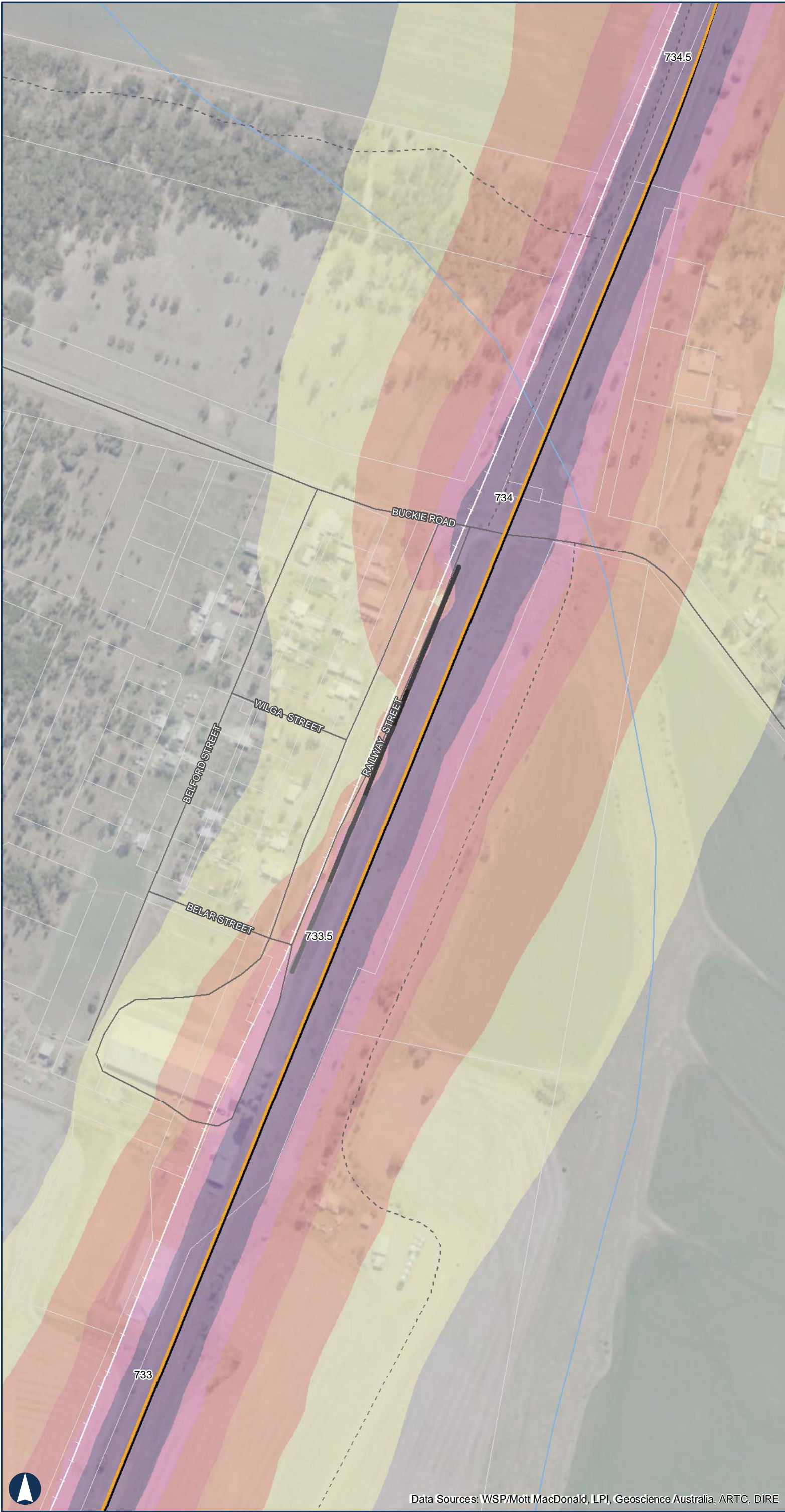
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NARRABRI TO NORTH STAR

Appendix G

Rail Noise Modelling Contours: 2025 Noise Model Results - LAeq with Noise Barriers

Sheet 5 of 6

LEGEND

■ Townships

— Highway

— Local Road

--- Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Noise Barrier Height (m)

2

2.5

3

4

Rail Speeds (km/h)

115

Noise Contours (dB(A))

55

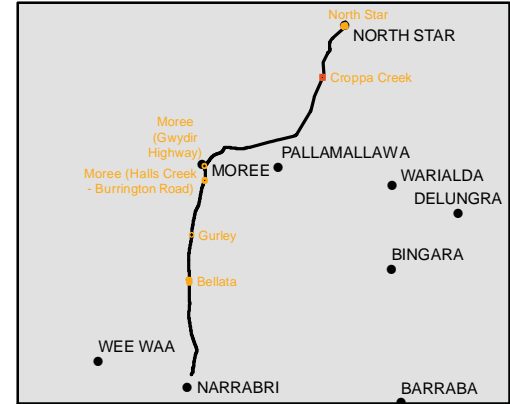
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60

62.5

65

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300 m

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Rail Noise Modelling Contours: 2025 Noise Model Results - LAeq with Noise Barriers

Sheet 6 of 6

LEGEND

■ Townships

— Highway

— Local Road

--- Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Building Footprint

Noise Barrier Height (m)

5

Rail Speeds (km/h)

115

Noise Contours (dB(A))

55

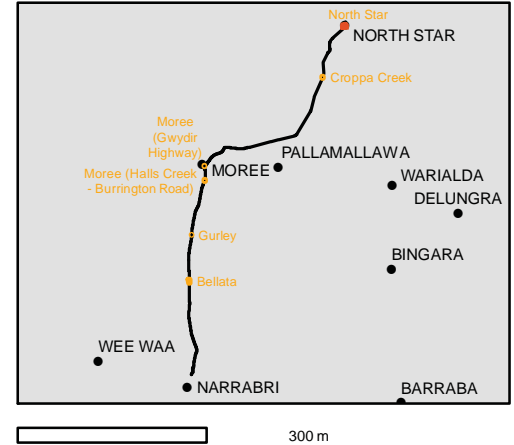
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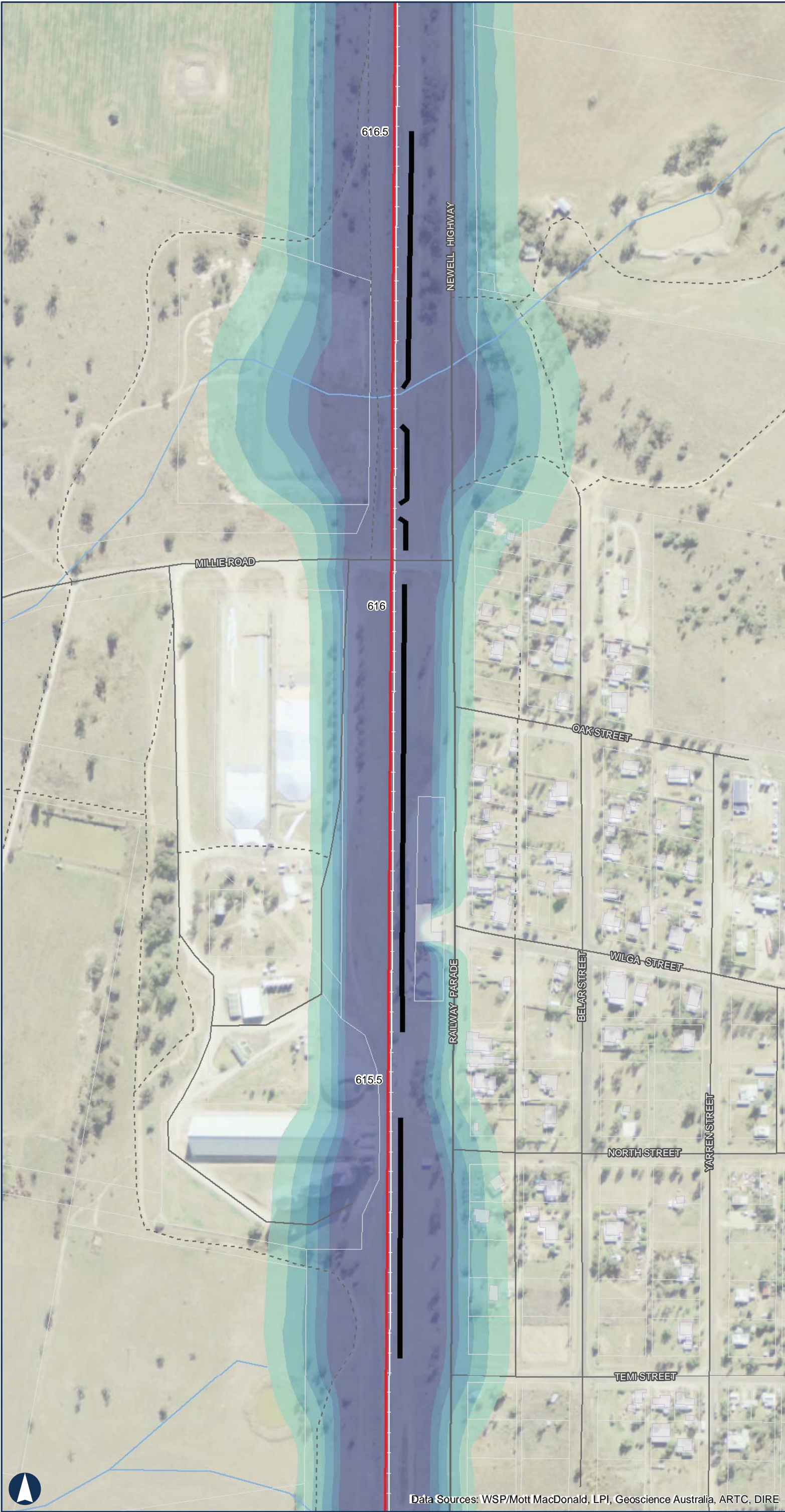
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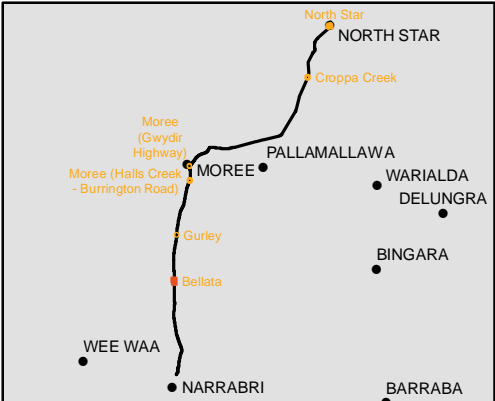
Appendix G

Rail Noise Modelling Contours: 2025 Noise Model Results - LAmox without mitigation
Sheet 1 of 6

LEGEND

- Townships
- Highway
- Local Road
- Track
- Existing Rail Network
- Watercourse
- Phase 3 Track Alignment
- Cadastre
- Building Footprint
- Noise Barrier Height (m)
- 5
- Rail Speeds (km/h)
- 145
- Noise Contours (dB(A))
- 80
- 82.5
- 85
- 87.5
- 90

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300 m

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Rail Noise Modelling Contours: 2025 Noise Model Results - LAmix without mitigation
Sheet 2 of 6

LEGEND

- Townships
- Highway
- Local Road
- Track
- Existing Rail Network
- Watercourse
- Phase 3 Track Alignment
- Cadastre

Noise Barrier Height (m)

- 5

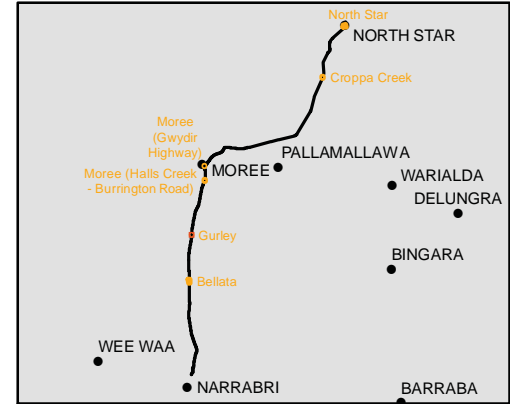
Rail Speeds (km/h)

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Noise Contours (dB(A))

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Rail Noise Modelling Contours: 2025 Noise Model Results - LAmix without mitigation

Sheet 3 of 6

LEGEND

Townships

Highway

Local Road

Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Noise Barrier Height (m)

5

Rail Speeds (km/h)

125

145

Noise Contours (dB(A))

80

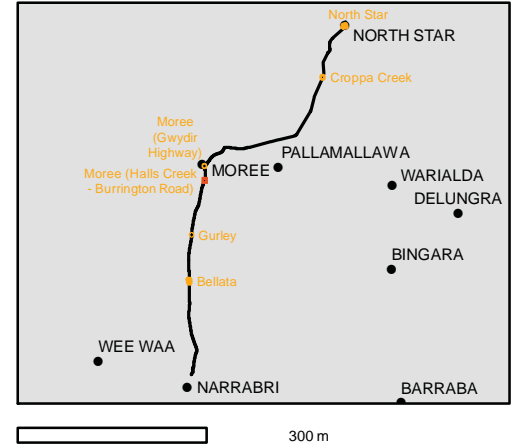
82.5

85

87.5

90

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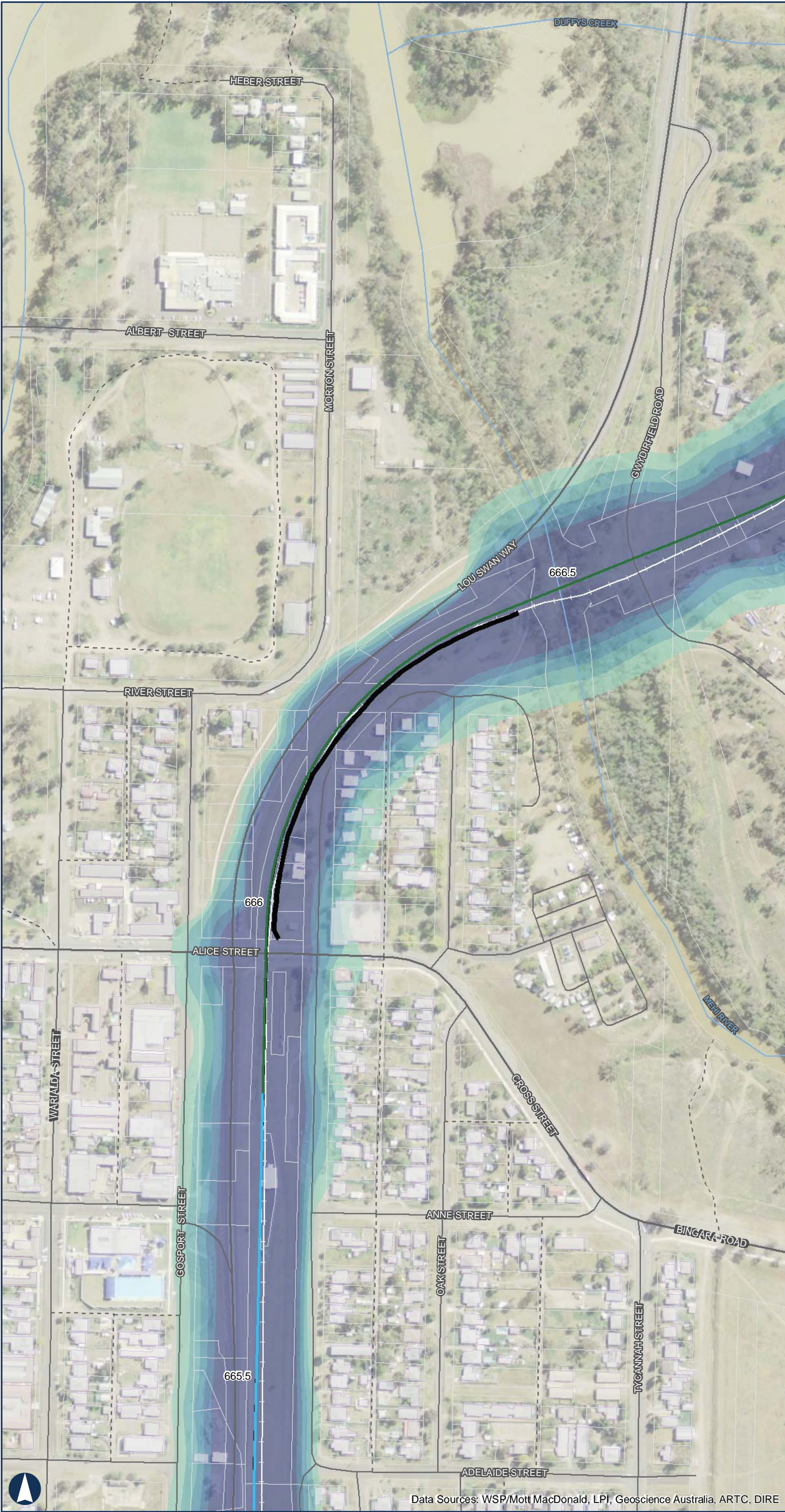
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Sheet 4 of 6

LEGEND

■

 Townships

—

 Highway

—

 Local Road

 Track

—

 Existing Rail Network

—

 Watercourse

—

 Phase 3 Track Alignment

□

 Cadastre

□

 Building Footprint

Noise Barrier Height (m)

■

 5

Rail Speeds (km/h)

—

 60

—

 105

Noise Contours (dB(A))

■

 80

■

 82.5

■

 85

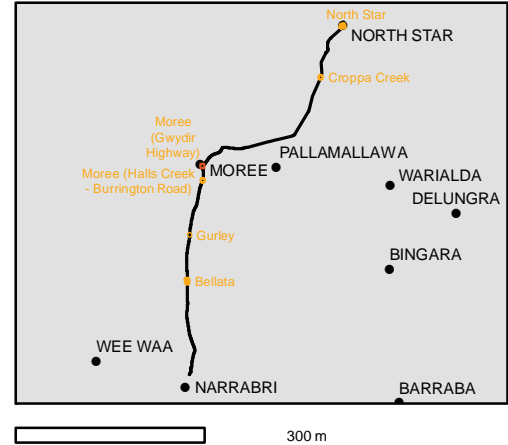
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■

 90

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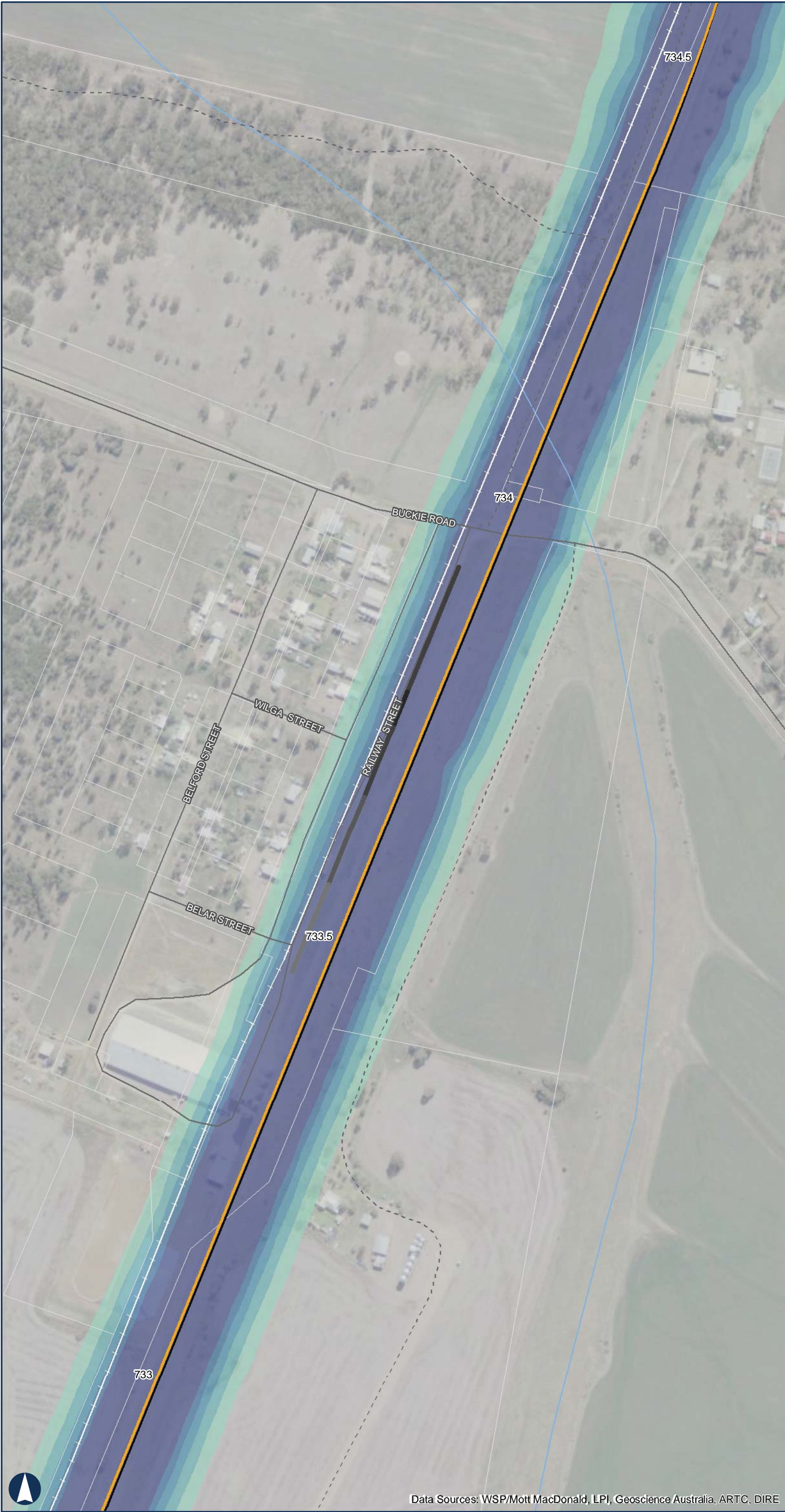


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Rail Noise Modelling Contours: 2025 Noise Model Results - LAmox without mitigation

Sheet 5 of 6

LEGEND

Townships

Highway

Local Road

Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Noise Barrier Height (m)

2

2.5

3

4

Rail Speeds (km/h)

115

Noise Contours (dB(A))

80

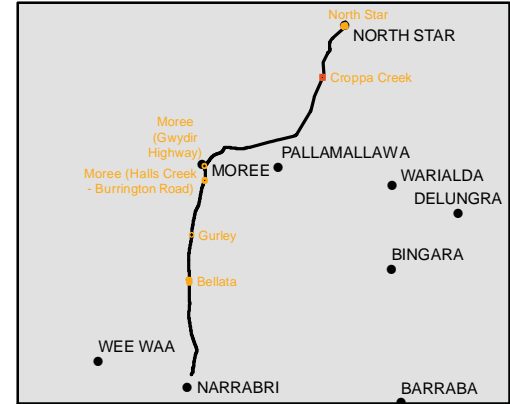
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Townships

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Local Road

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Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Building Footprint

Noise Barrier Height (m)

5

Rail Speeds (km/h)

115

Noise Contours (dB(A))

80

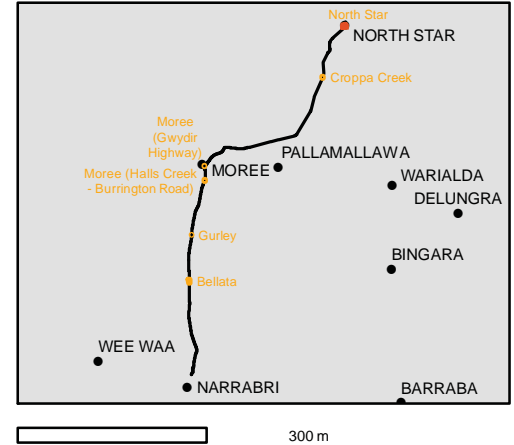
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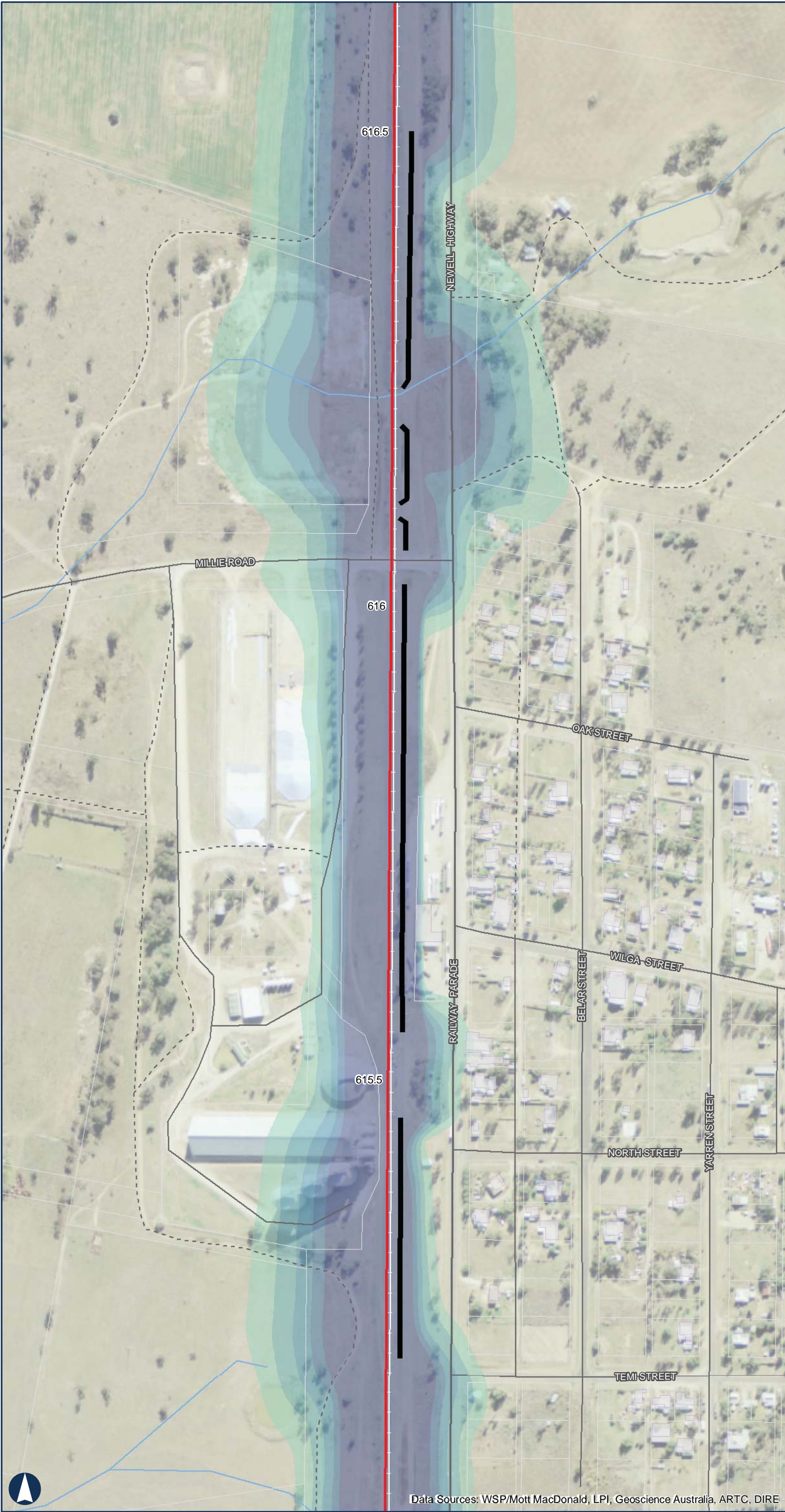
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Date: 18/08/2019

Author: IRDJV

Scale: 1:4,000



NARRABRI TO NORTH STAR

Appendix G

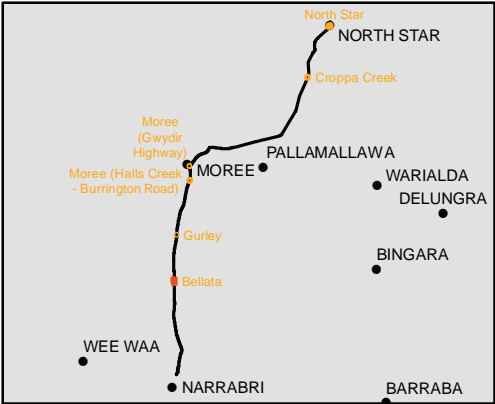
Rail Noise Modelling Contours: 2025 Noise Model Results - LAmix with Noise Barriers

Sheet 1 of 6

LEGEND

- Townships
- Highway
- Local Road
- Track
- Existing Rail Network
- Watercourse
- Phase 3 Track
- Cadastre
- Building Footprint
- Noise Barrier Height (m)
 - 5
- Rail Speeds (km/h)
 - 145

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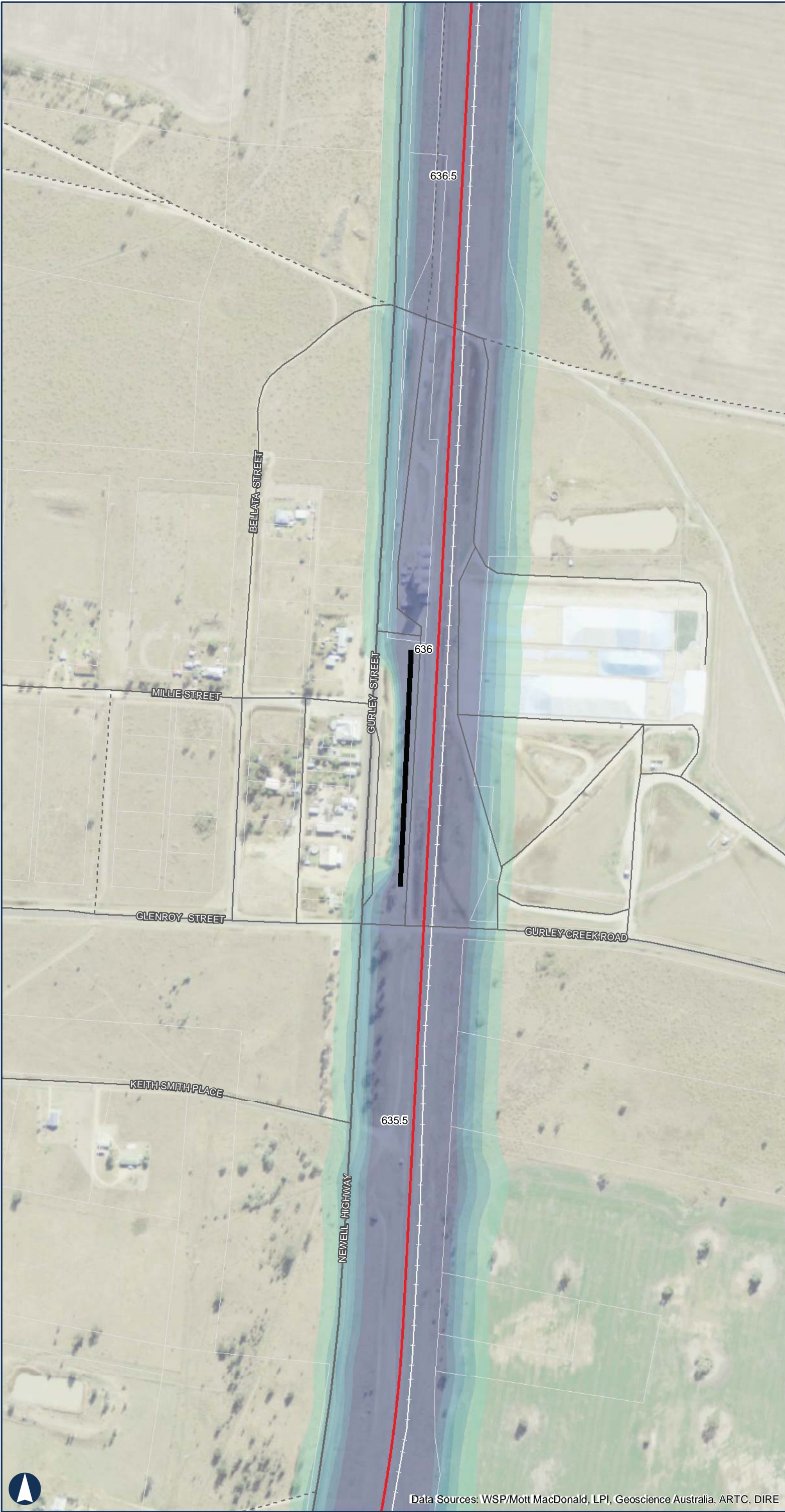


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Data Sources: WSP/Mott MacDonald, LPI, Geoscience Australia, ARTC, DIRE



NARRABRI TO NORTH STAR

Appendix G

Rail Noise Modelling Contours: 2025 Noise Model Results - LAmix with Noise Barriers

Sheet 2 of 6

- LEGEND
- Townships

Highway

Local Road

Track

Existing Rail Network

Watercourse

Phase 3 Track

Cadastre

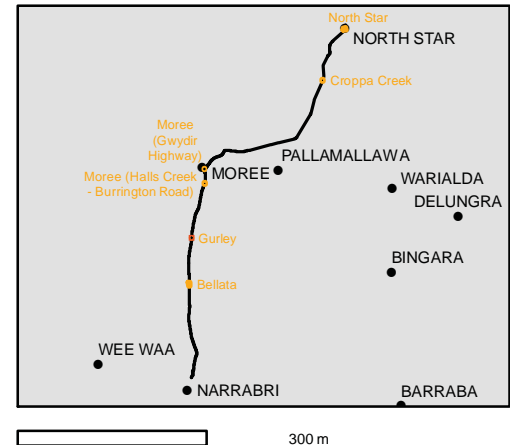
Noise Barrier Height (m)

5

Rail Speeds (km/h)

145

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Appendix G

Rail Noise Modelling Contours: 2025 Noise Model Results - LAmix with Noise Barriers

Sheet 3 of 6

- LEGEND
- Townships

— Highway

— Local Road

--- Track

Existing Rail Network

Watercourse

Phase 3 Track

Cadastre

Noise Barrier Height (m)

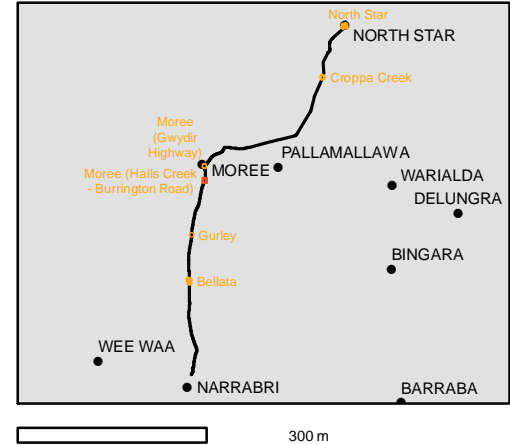
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Rail Speeds (km/h)

125

145

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Coordinate System: GDA 1994 MGA Zone 55

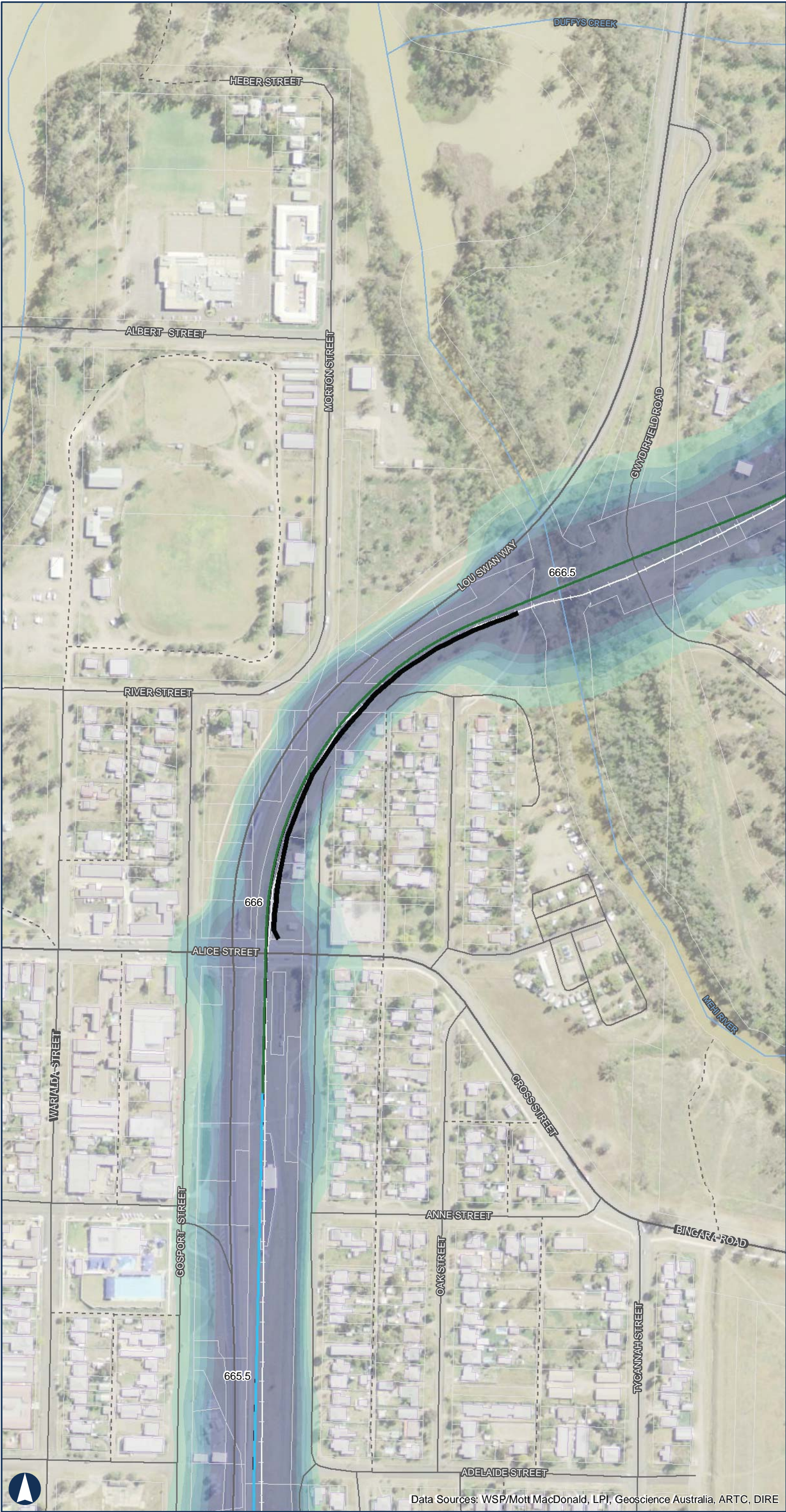
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Appendix G

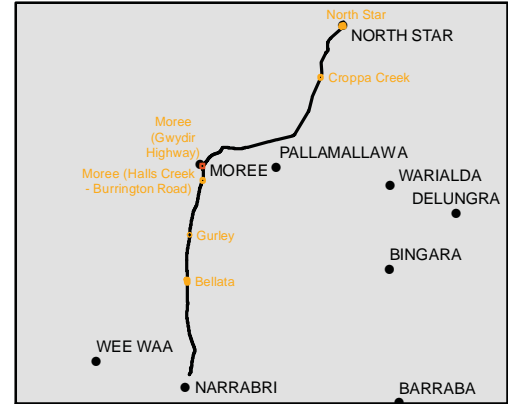
Rail Noise Modelling Contours: 2025 Noise Model Results - LAmix with Noise Barriers

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LEGEND

- Townships
- Highway
- Local Road
- - - Track
- Existing Rail Network
- Watercourse
- Phase 3 Track
- Cadastre
- Building Footprint
- Noise Barrier Height (m)
- 5
- Rail Speeds (km/h)
- 60
- 105

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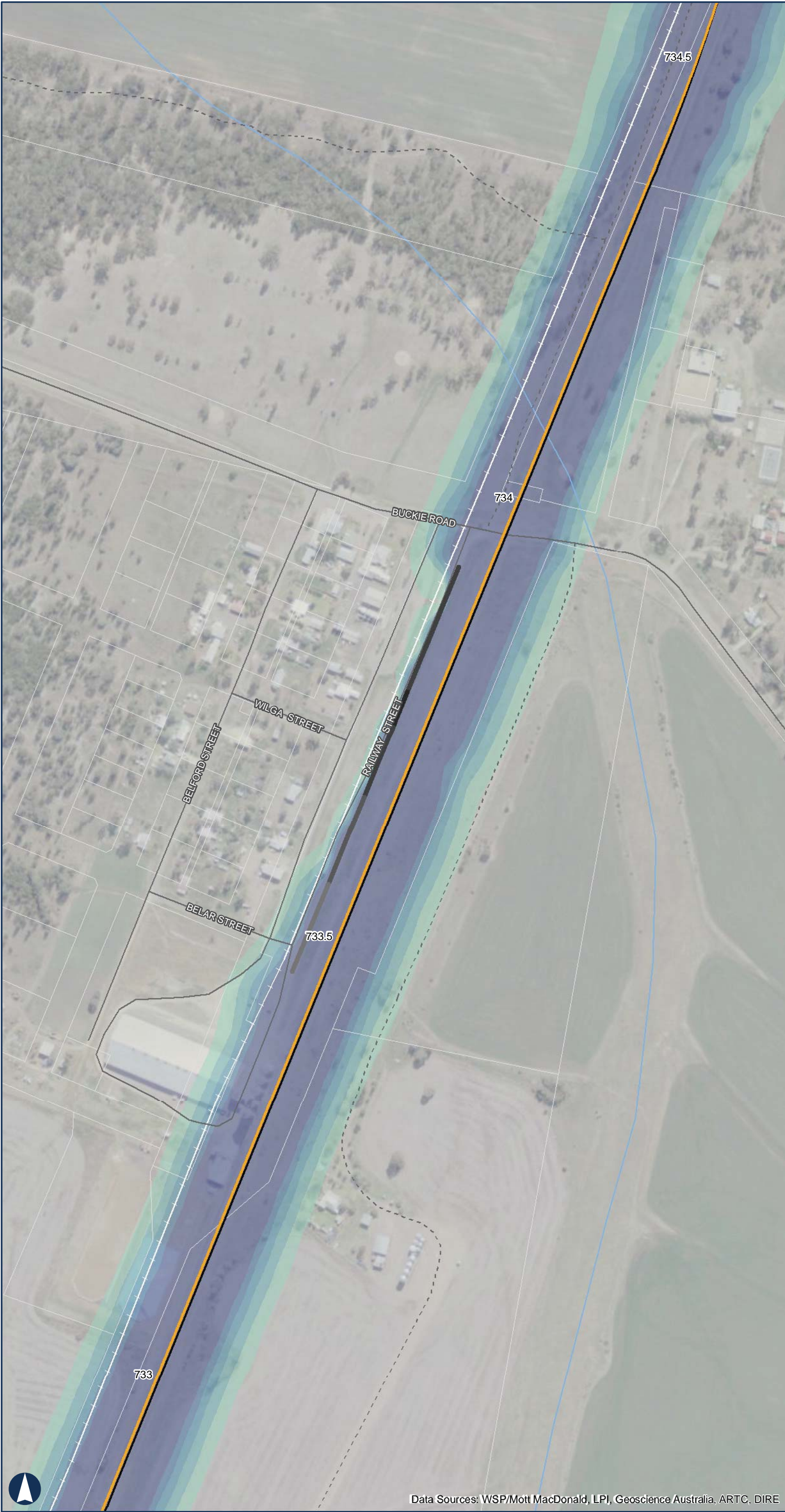
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Appendix G

Rail Noise Modelling Contours: 2025 Noise Model Results - LAmix with Noise Barriers

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LEGEND

■ Townships

— Highway

— Local Road

- - - Track

Existing Rail Network

Watercourse

Phase 3 Track

Cadastre

Noise Barrier Height (m)

2

2.5

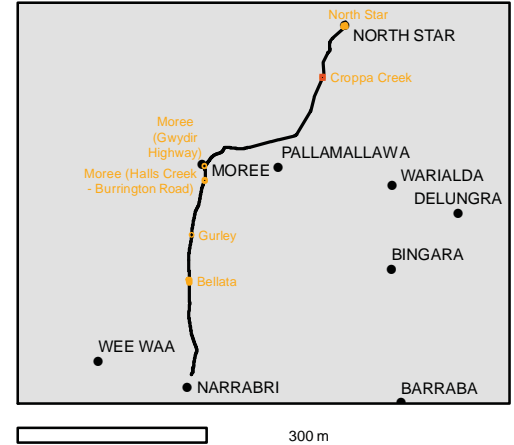
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4

Rail Speeds (km/h)

115

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Appendix G

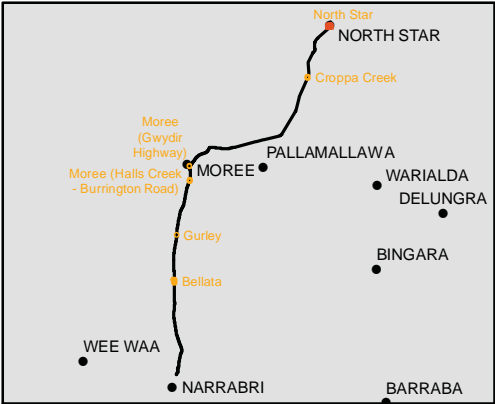
Rail Noise Modelling Contours: 2025 Noise Model Results - LAmix with Noise Barriers

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LEGEND

- Townships
- Highway
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- Cadastre
- Building Footprint
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- Rail Speeds (km/h)
- 115

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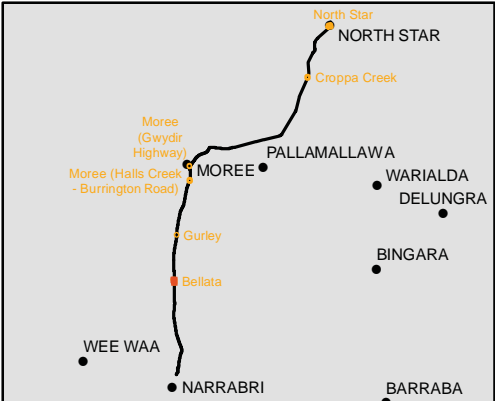
Appendix G

Rail Noise Modelling Contours: 2040 Noise Model Results - LAeq with Noise Barriers
Sheet 1 of 6

LEGEND

- Townships
- Highway
- Local Road
- Track
- Existing Rail Network
- Watercourse
- Phase 3 Track Alignment
- Cadastre
- Building Footprint
- Noise Barrier Height (m)
- 5
- Rail Speeds (km/h)
- 145
- Noise Contours (dB(A))
- 55
- 57.5
- 60
- 62.5
- 65

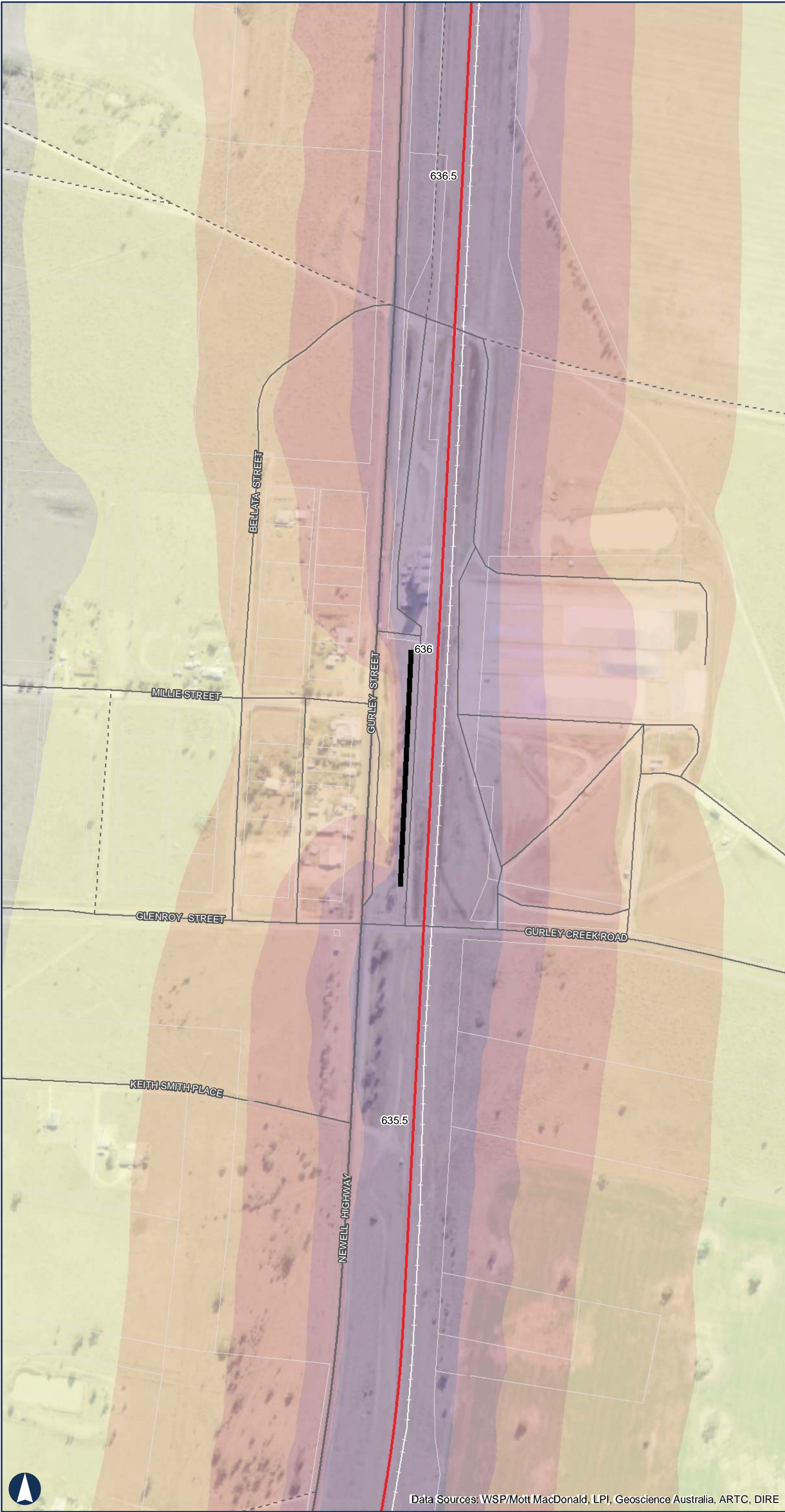
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Rail Noise Modelling Contours: 2040 Noise Model Results - LAeq with Noise Barriers

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LEGEND

Townships

Highway

Local Road

Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Noise Barrier Height (m)

5

Rail Speeds (km/h)

145

Noise Contours (dB(A))

55

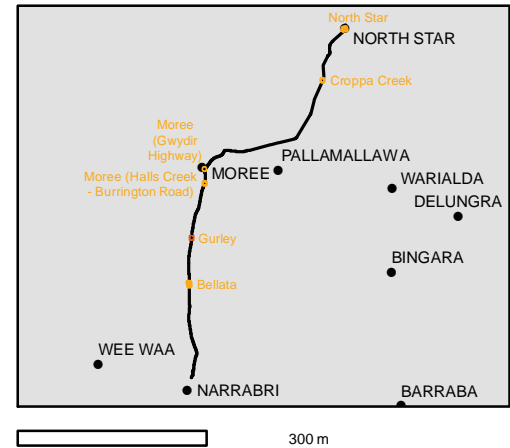
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60

62.5

65

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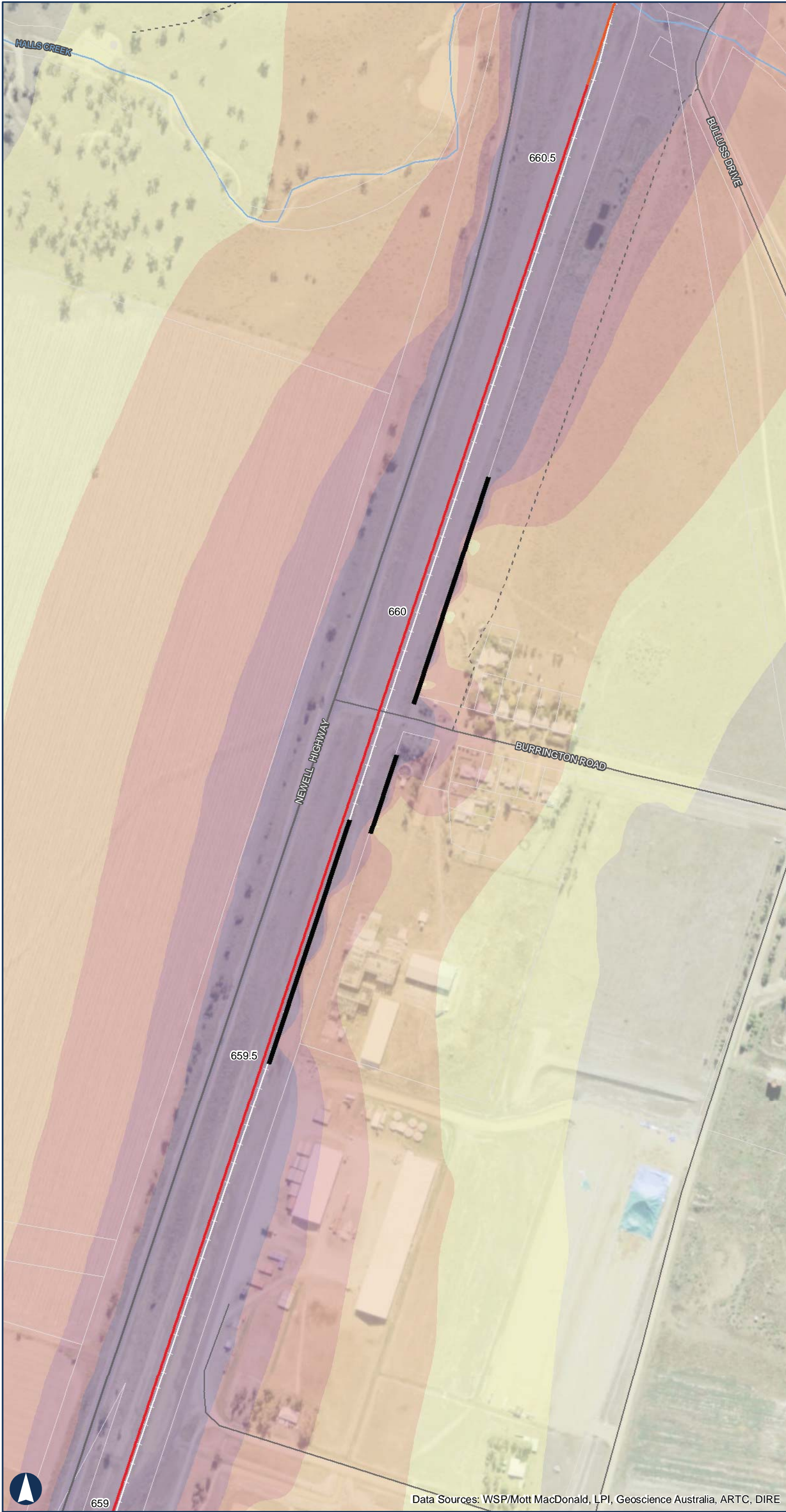
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Appendix G

Rail Noise Modelling Contours: 2040 Noise Model Results - LAeq with Noise Barriers

Sheet 3 of 6

LEGEND

■ Townships

— Highway

— Local Road

--- Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Noise Barrier Height (m)

5

Rail Speeds (km/h)

125

145

Noise Contours (dB(A))

55

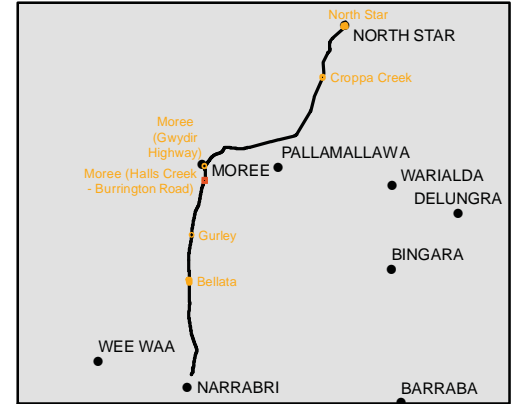
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60

62.5

65

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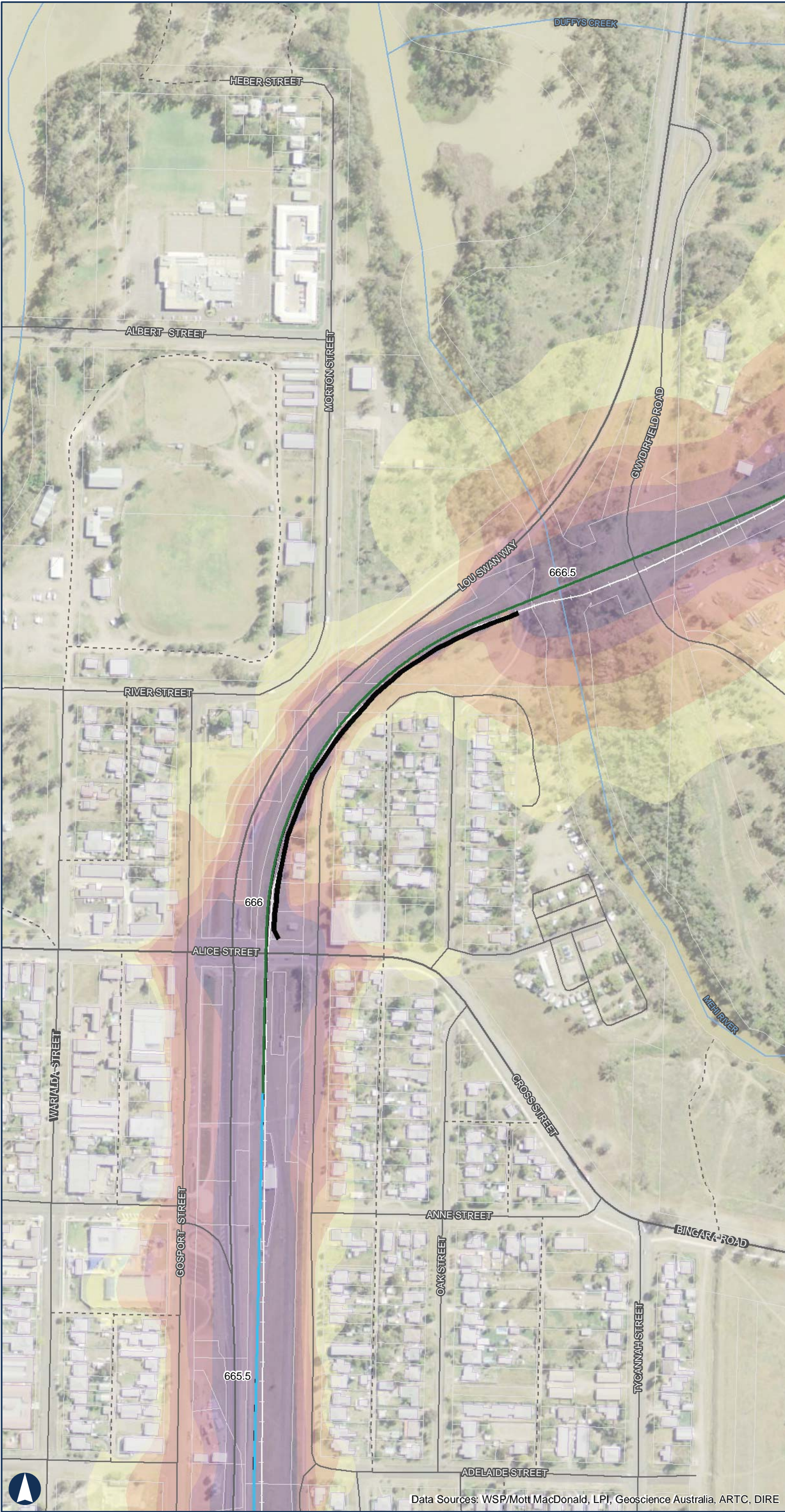


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Rail Noise Modelling Contours: 2040 Noise Model Results - LAeq with Noise Barriers

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LEGEND

■ Townships

— Highway

— Local Road

--- Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastrate

Building Footprint

Noise Barrier Height (m)

5

Rail Speeds (km/h)

60

105

Noise Contours (dB(A))

55

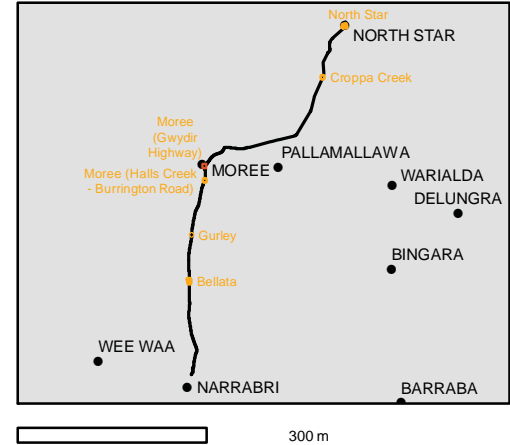
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60

62.5

65

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Rail Noise Modelling Contours: 2040 Noise Model Results - LAeq with Noise Barriers

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LEGEND

■ Townships

— Highway

— Local Road

--- Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Noise Barrier Height (m)

2

2.5

3

4

Rail Speeds (km/h)

115

Noise Contours (dB(A))

55

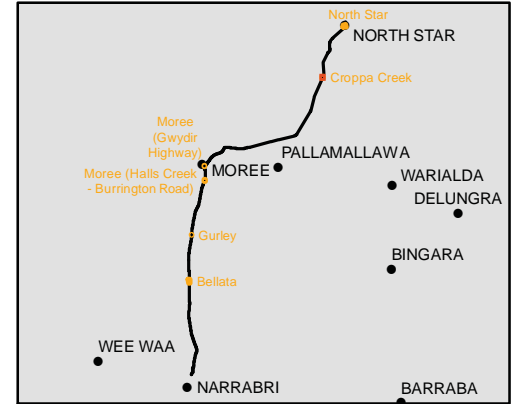
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62.5

65

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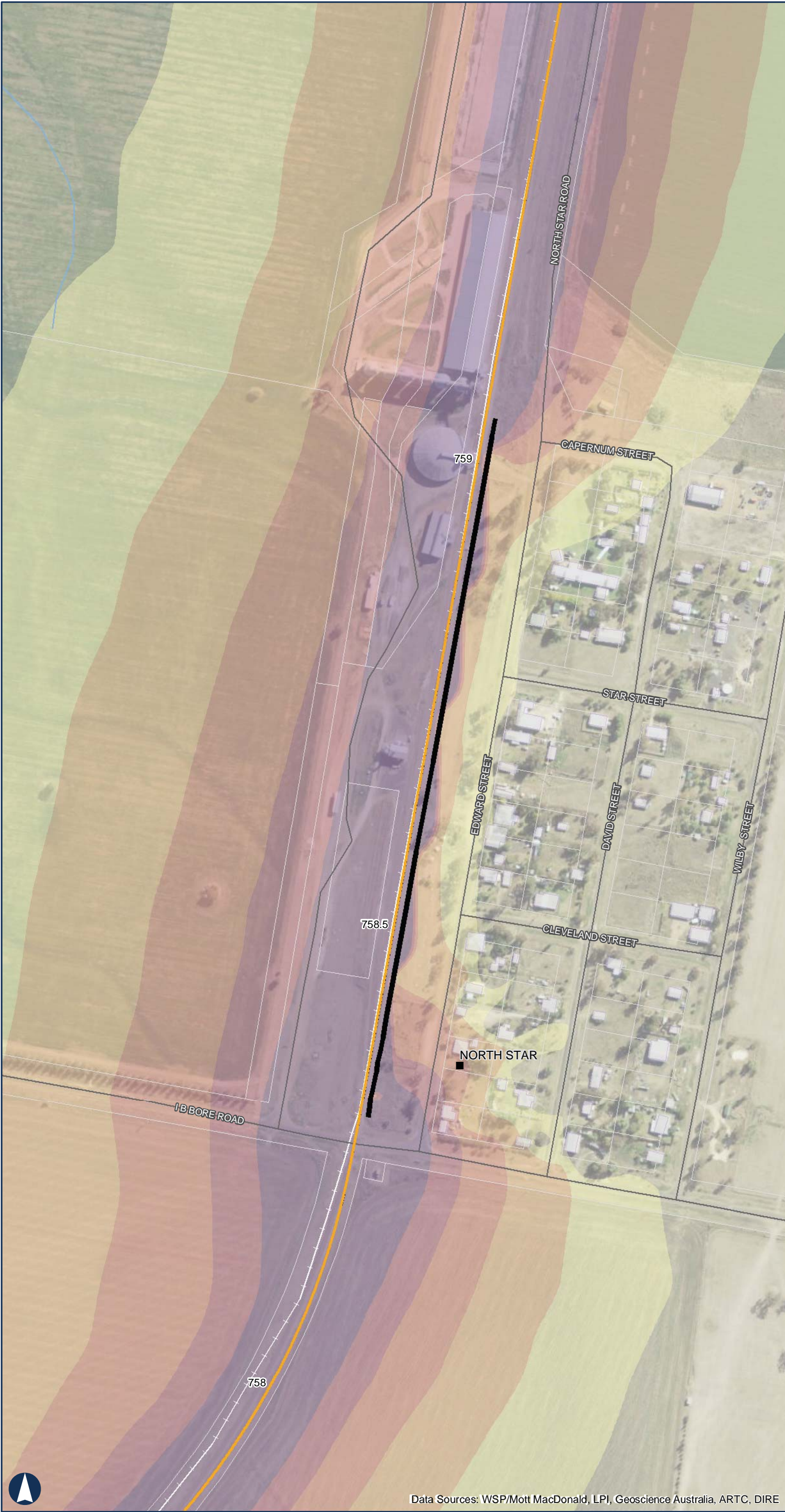
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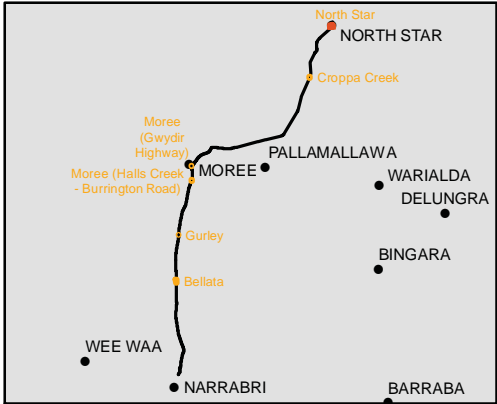
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Rail Noise Modelling Contours: 2040 Noise Model Results - LAeq with Noise Barriers
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LEGEND

- Townships
- Highway
- Local Road
- - - Track
- Existing Rail Network
- Watercourse
- Phase 3 Track Alignment
- Cadastre
- Building Footprint
- Noise Barrier Height (m)
 - 5
- Rail Speeds (km/h)
 - 115
- Noise Contours (dB(A))
 - 55
 - 57.5
 - 60
 - 62.5
 - 65

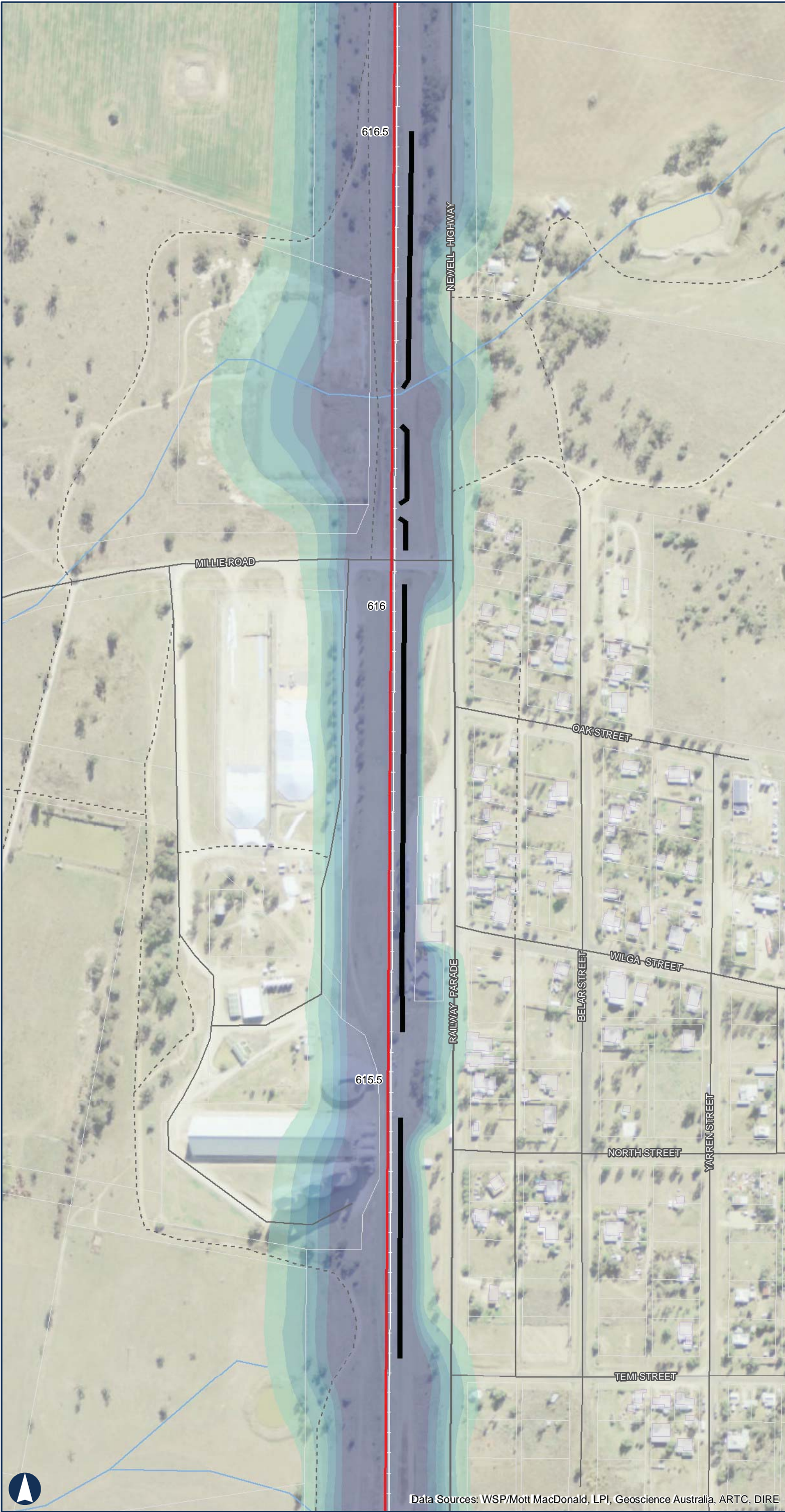
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Appendix G

Rail Noise Modelling Contours: 2040 Noise Model Results - LAmix with Noise Barriers

Sheet 1 of 6

LEGEND

■ Townships

— Highway

— Local Road

--- Track

Existing Rail Network

— Watercourse

— Phase 3 Track Alignment

Cadastre

Building Footprint

Noise Barrier Height (m)

5

Rail Speeds (km/h)

145

Noise Contours (dB(A))

80

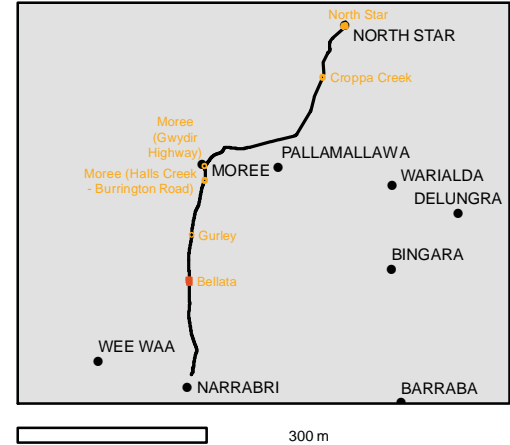
82.5

85

87.5

90

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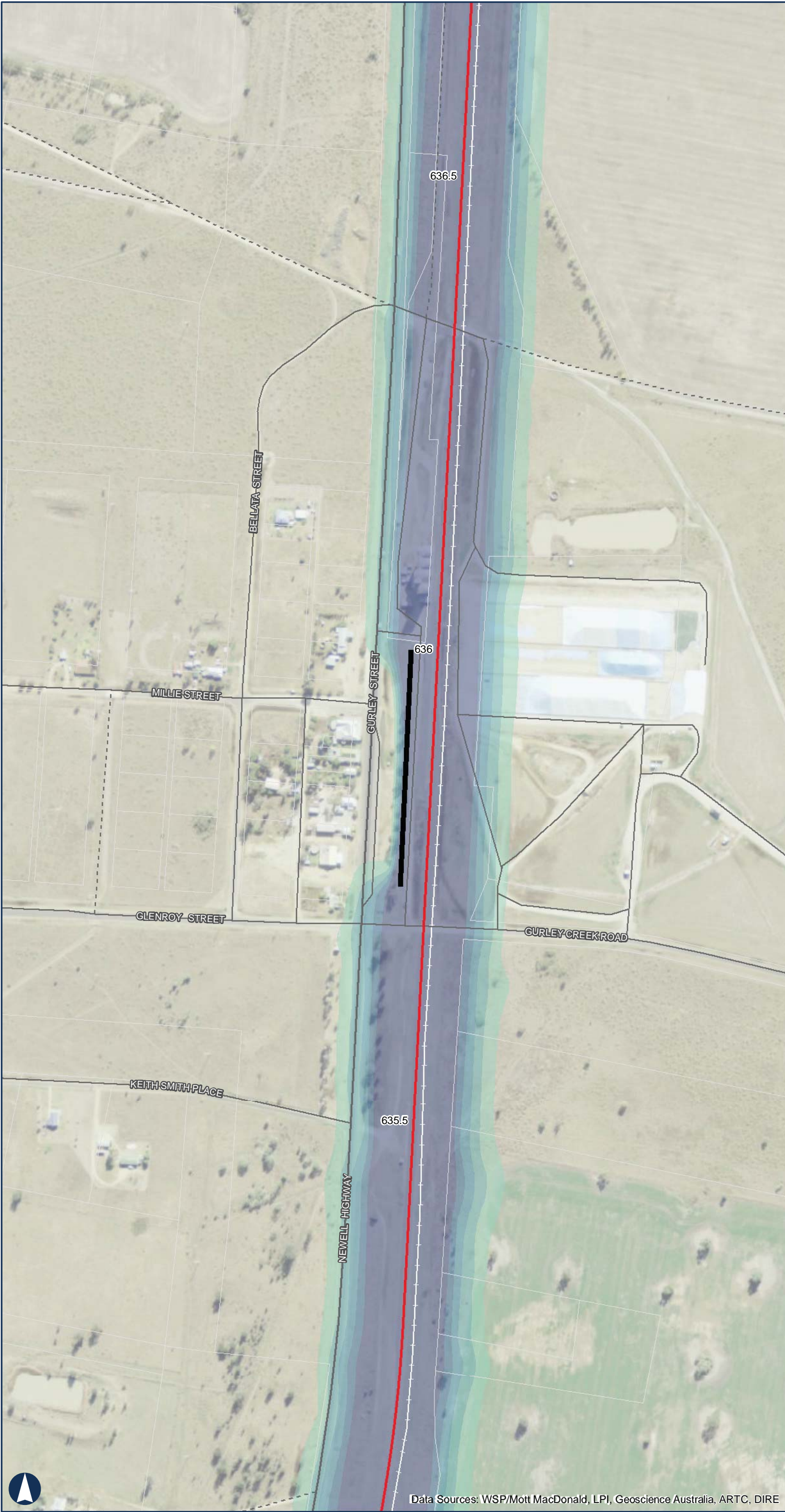
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Appendix G
Rail Noise Modelling Contours: 2040 Noise Model Results - LAmix with Noise Barriers
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LEGEND

- Townships
- Highway
- Local Road
- Track
- Existing Rail Network
- Watercourse
- Phase 3 Track Alignment
- Cadastre

Noise Barrier Height (m)

- 5

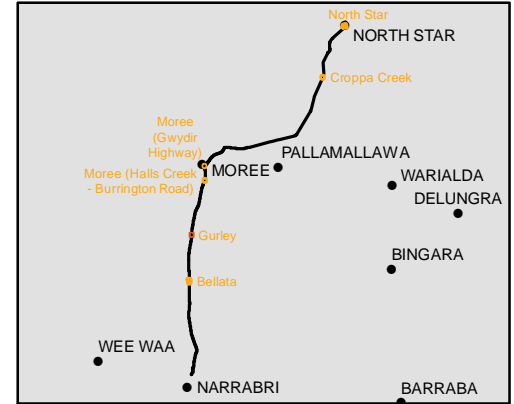
Rail Speeds (km/h)

- 145

Noise Contours (dB(A))

- 80
- 82.5
- 85
- 87.5
- 90

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Rail Noise Modelling Contours: 2040 Noise Model Results - LAmix with Noise Barriers

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LEGEND

■ Townships

— Highway

— Local Road

--- Track

Existing Rail Network

— Watercourse

— Phase 3 Track Alignment

□ Cadastre

Noise Barrier Height (m)

5

Rail Speeds (km/h)

125

145

Noise Contours (dB(A))

80

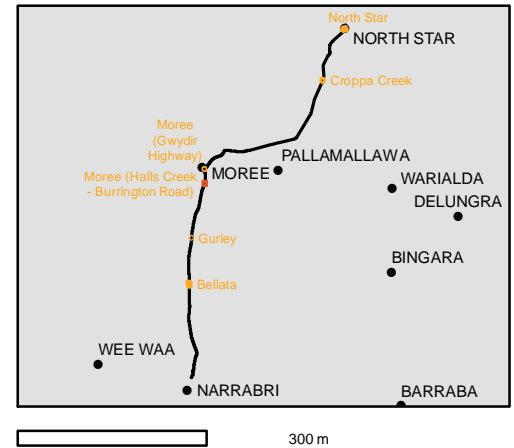
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87.5

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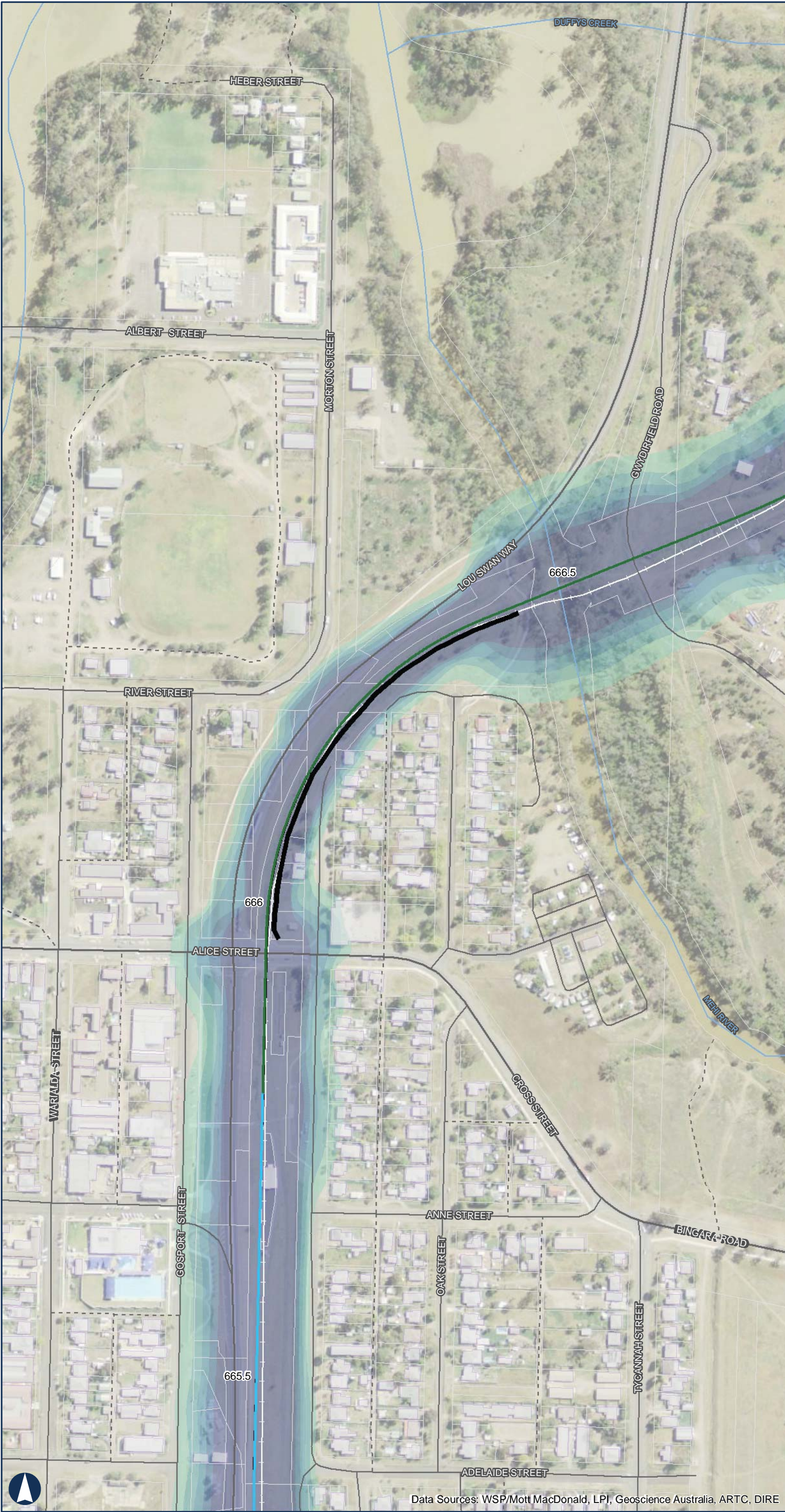
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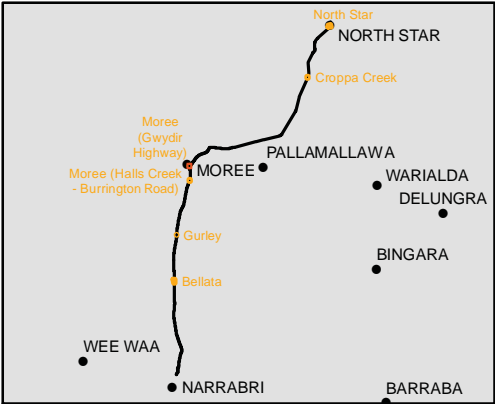
Rail Noise Modelling Contours: 2040 Noise Model Results - LAmix with Noise Barriers

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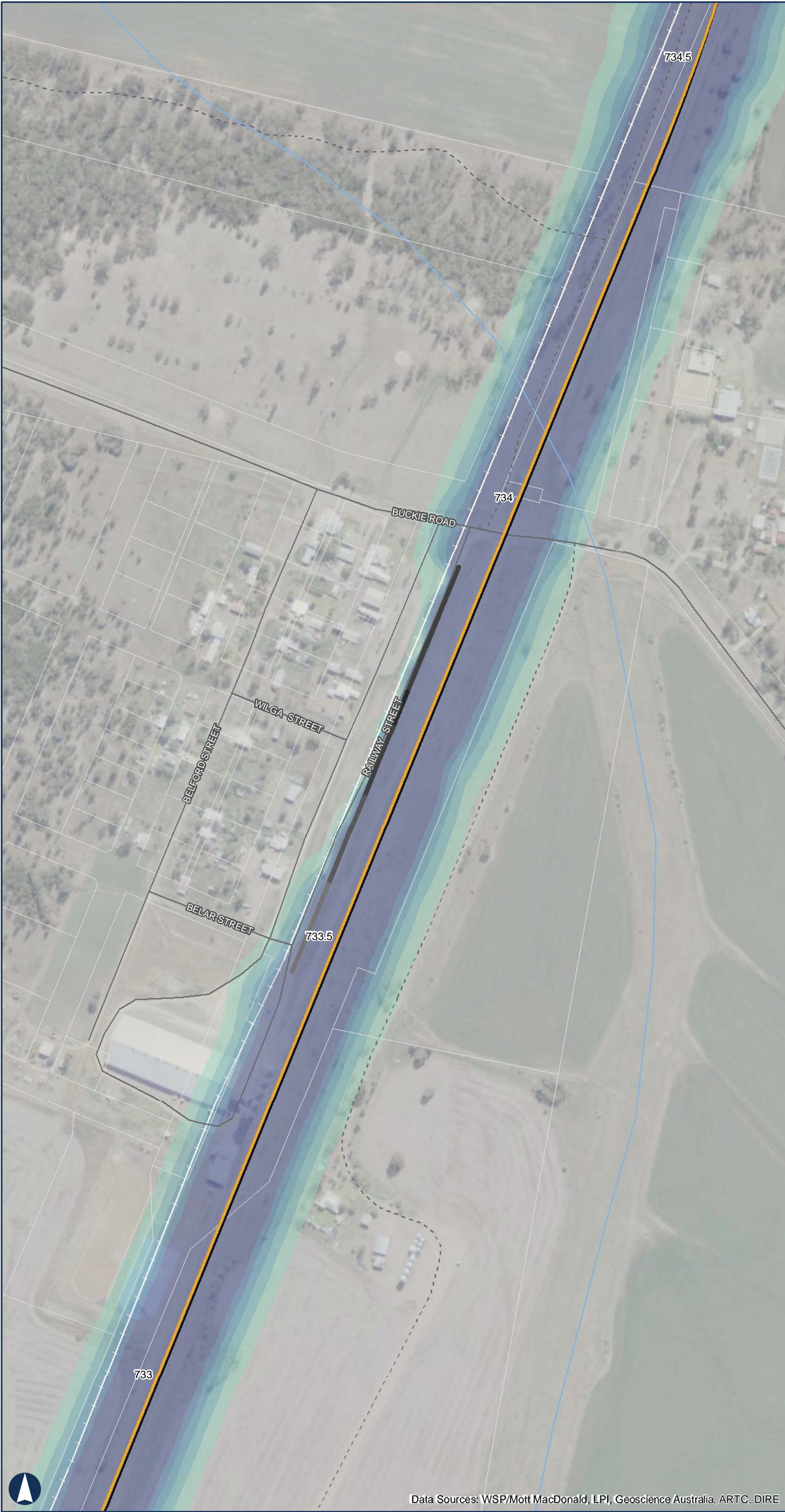
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Rail Noise Modelling Contours: 2040 Noise Model Results - LAmix with Noise Barriers

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LEGEND

Townships

Highway

Local Road

Track

Existing Rail Network

Watercourse

Phase 3 Track Alignment

Cadastre

Noise Barrier Height (m)

2

2.5

3

4

Rail Speeds (km/h)

115

Noise Contours (dB(A))

80

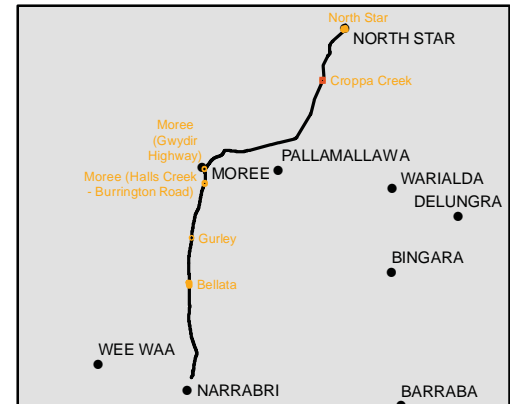
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85

87.5

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Rail Noise Modelling Contours: 2040 Noise Model Results - LAmix with Noise Barriers

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■ Townships

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— Local Road

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Watercourse

Phase 3 Track Alignment

Cadastre

Building Footprint

Noise Barrier Height (m)

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Rail Speeds (km/h)

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Noise Contours (dB(A))

80

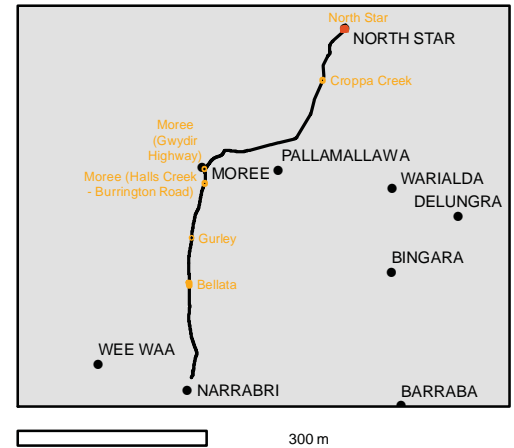
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Coordinate System: GDA 1994 MGA Zone 55

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Paper: A3

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Author: IRDJV

Scale: 1:4,000