

TECHNICAL REPORT

08

Updated noise and vibration assessment— construction and other operations

(Part 5 of 5)

NARROMINE TO NARRABRI PROJECT



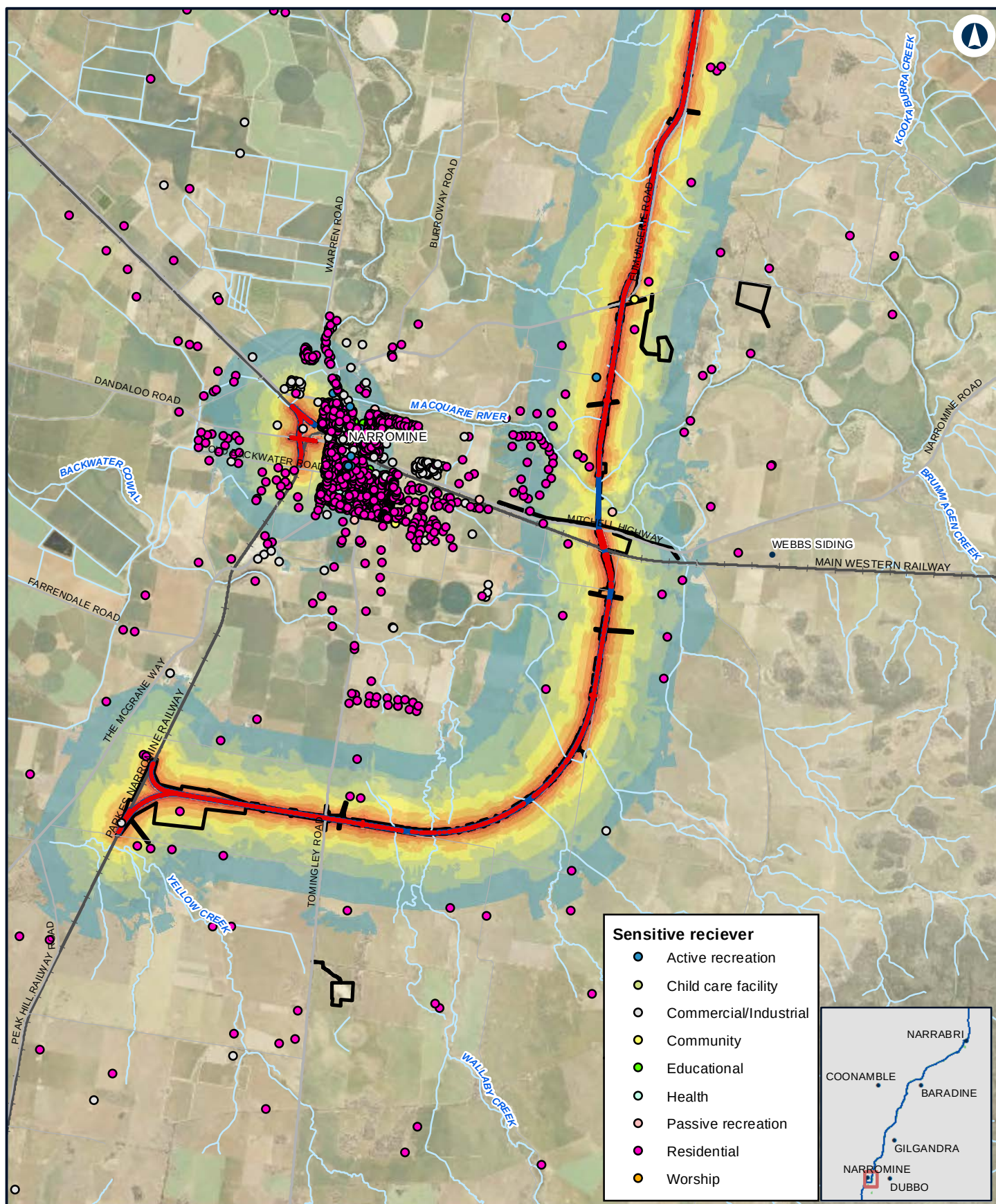
TECHNICAL REPORT 08

Updated noise and vibration assessment—
construction and other operations

Appendix I Construction noise, 'no exceedance' extents— RAIL04—main earthworks

NARROMINE TO NARRABRI PROJECT





NARROMINE TO NARRABRI

Construction noise, 'No Exceedance' extents - RAIL04 - Main Earthworks

Appendix I - Page 1 of 13

0 1.5 3 Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:110,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

LEGEND

Alignment

Construction footprint

Rail earthworks red zone

Noise level (dBA L_{Aeq} 15 minute)

35 - 40

40 - 45

45 - 50

50 - 55

55 - 60

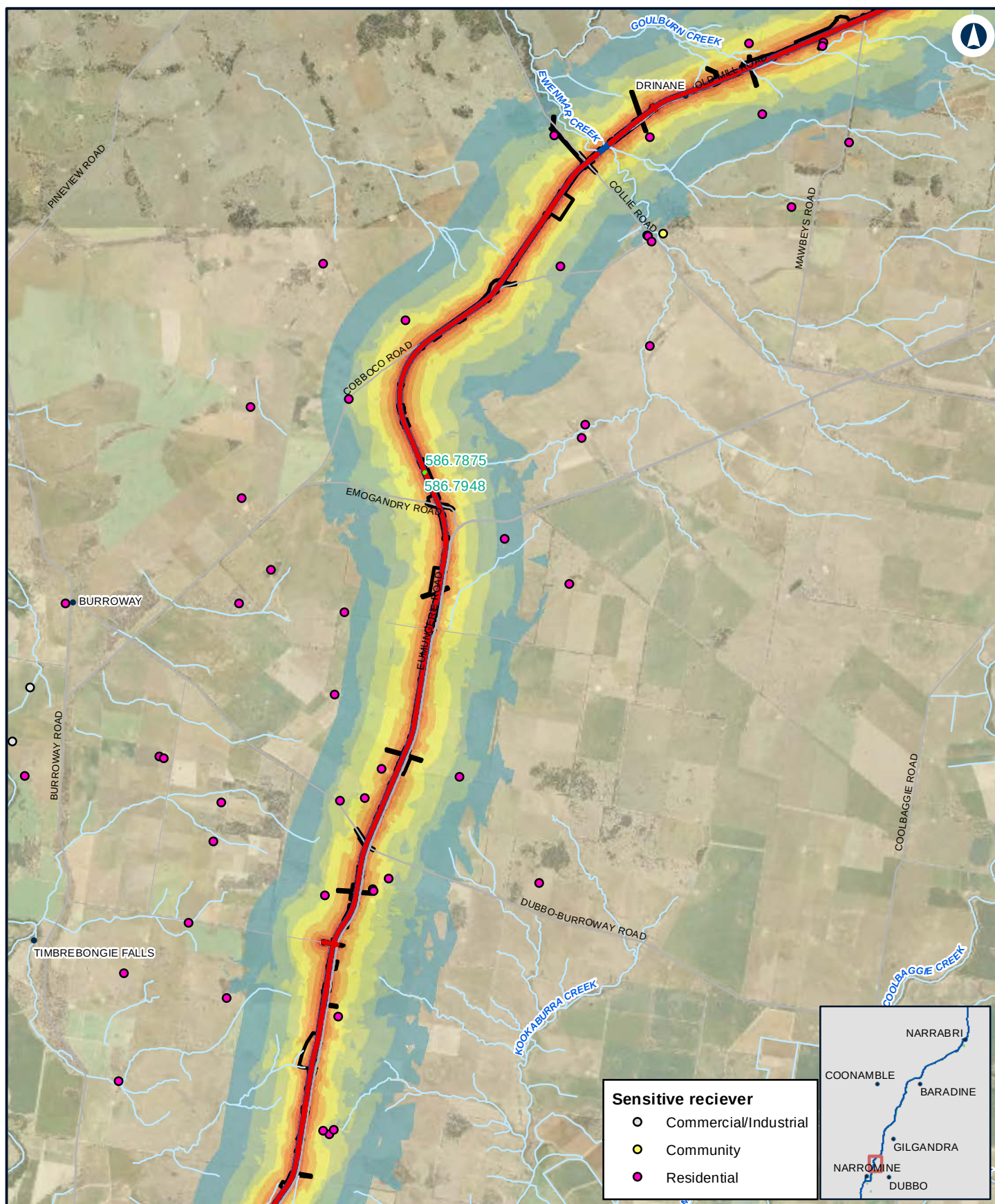
60 - 65

65 - 70

70 - 75

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



Sensitive receiver

- Commercial/Industrial
- Community
- Residential



NARROMINE TO NARRABRI

Construction noise, 'No Exceedance' extents - RAIL04 - Main Earthworks

Appendix I - Page 2 of 13



Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

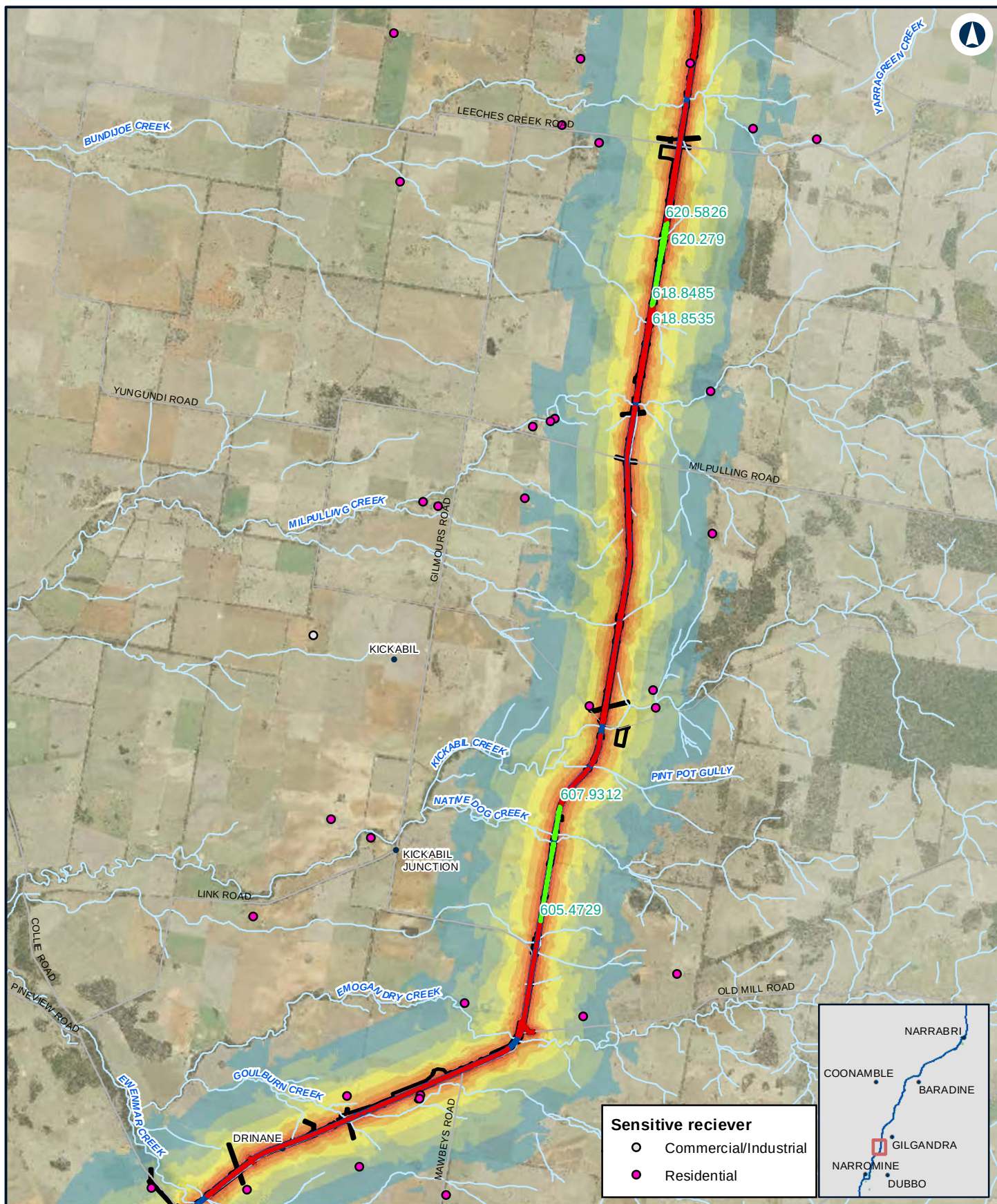
- Alignment
- Construction footprint
- Rail earthworks green zone
- Rail earthworks red zone

Noise level (dBA L_{Aeq} 15 minute)

- 35 - 40
- 40 - 45
- 45 - 50
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- 70 - 75

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NARROMINE TO NARRABRI

Construction noise, 'No Exceedance' extents - RAIL04 - Main Earthworks

Appendix I - Page 3 of 13

0 1.5 3
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Alignment

Construction footprint

Rail earthworks green zone

Rail earthworks red zone

Noise level (dBA L_{Aeq} 15 minute)

35 - 40

40 - 45

45 - 50

50 - 55

55 - 60

60 - 65

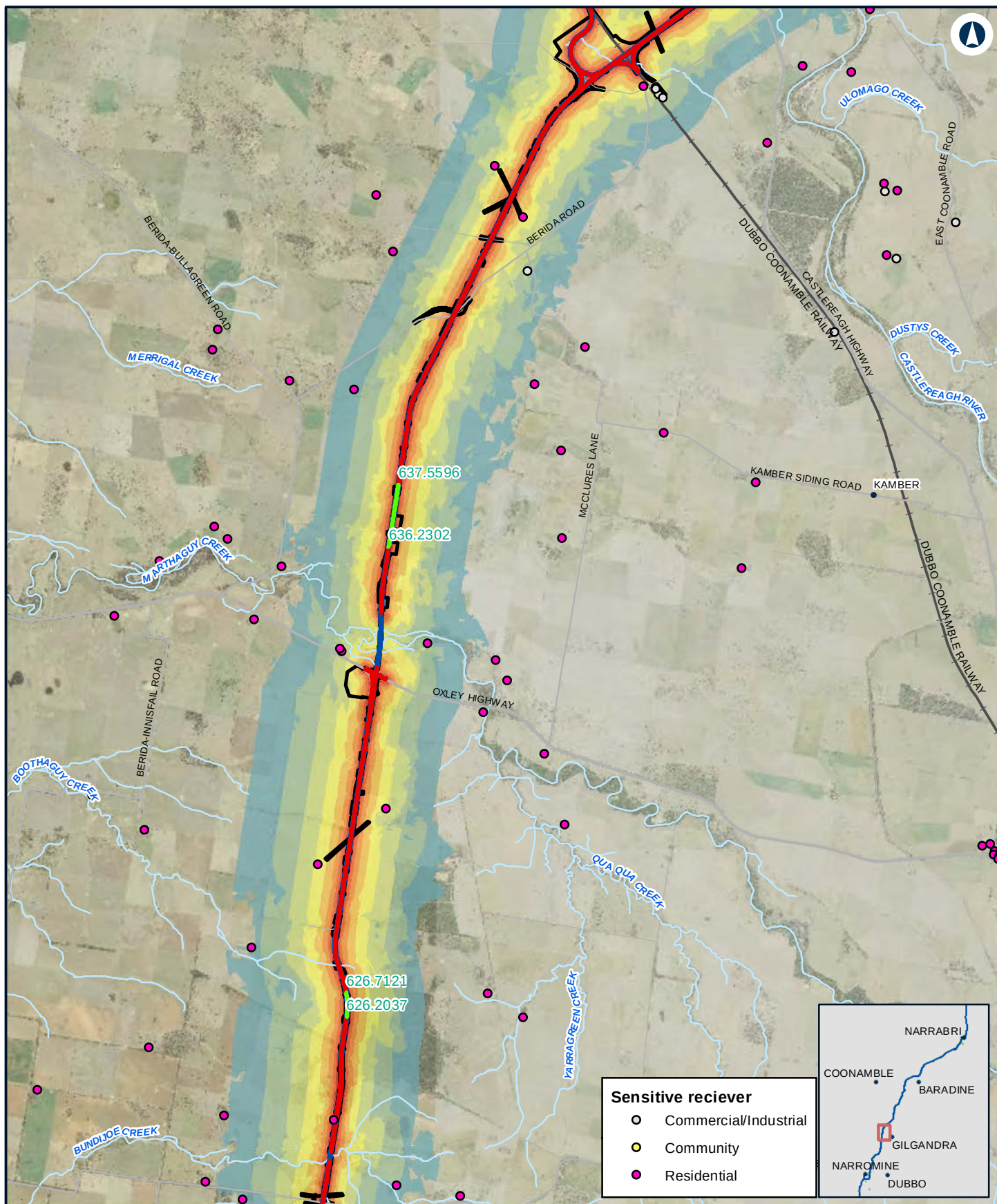
65 - 70

70 - 75

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RAIL

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Sensitive receiver

- Commercial/Industrial
- Community
- Residential



0 1.5 3 Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

- Alignment
- Construction footprint
- Rail earthworks green zone
- Rail earthworks red zone

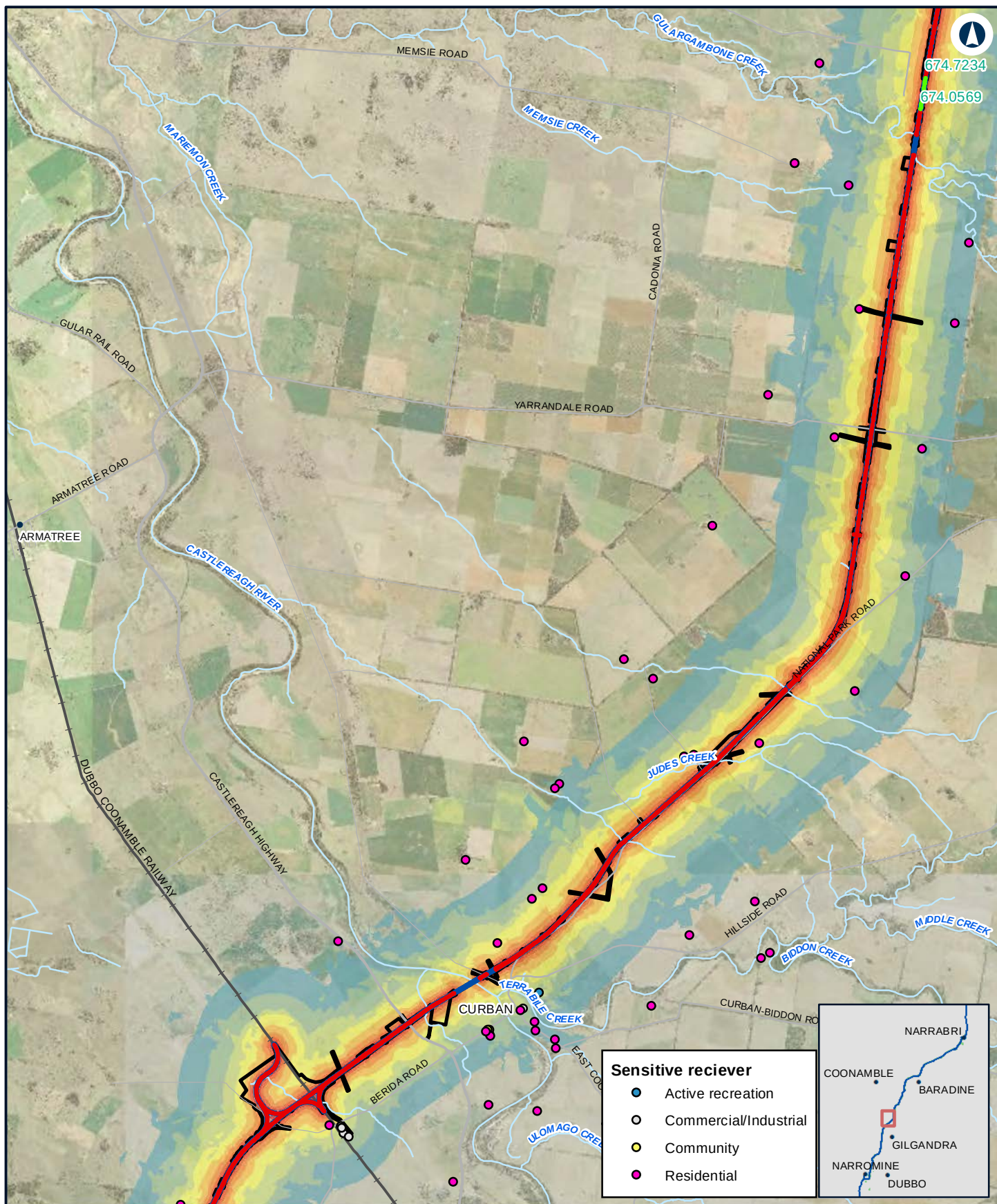
Noise level (dBA L_{Aeq} 15 minute)

- 35 - 40
- 40 - 45
- 45 - 50
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- 70 - 75

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NARROMINE TO NARRABRI

Construction noise, 'No Exceedance' extents - RAIL04 - Main Earthworks

Appendix I - Page 5 of 13

0 1.5 3
Km

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LEGEND

- Alignment
- Construction footprint
- Rail earthworks green zone
- Rail earthworks red zone

Noise level (dBA L_{Aeq} 15 minute)

35 - 40

40 - 45

45 - 50

50 - 55

55 - 60

60 - 65

65 - 70

70 - 75

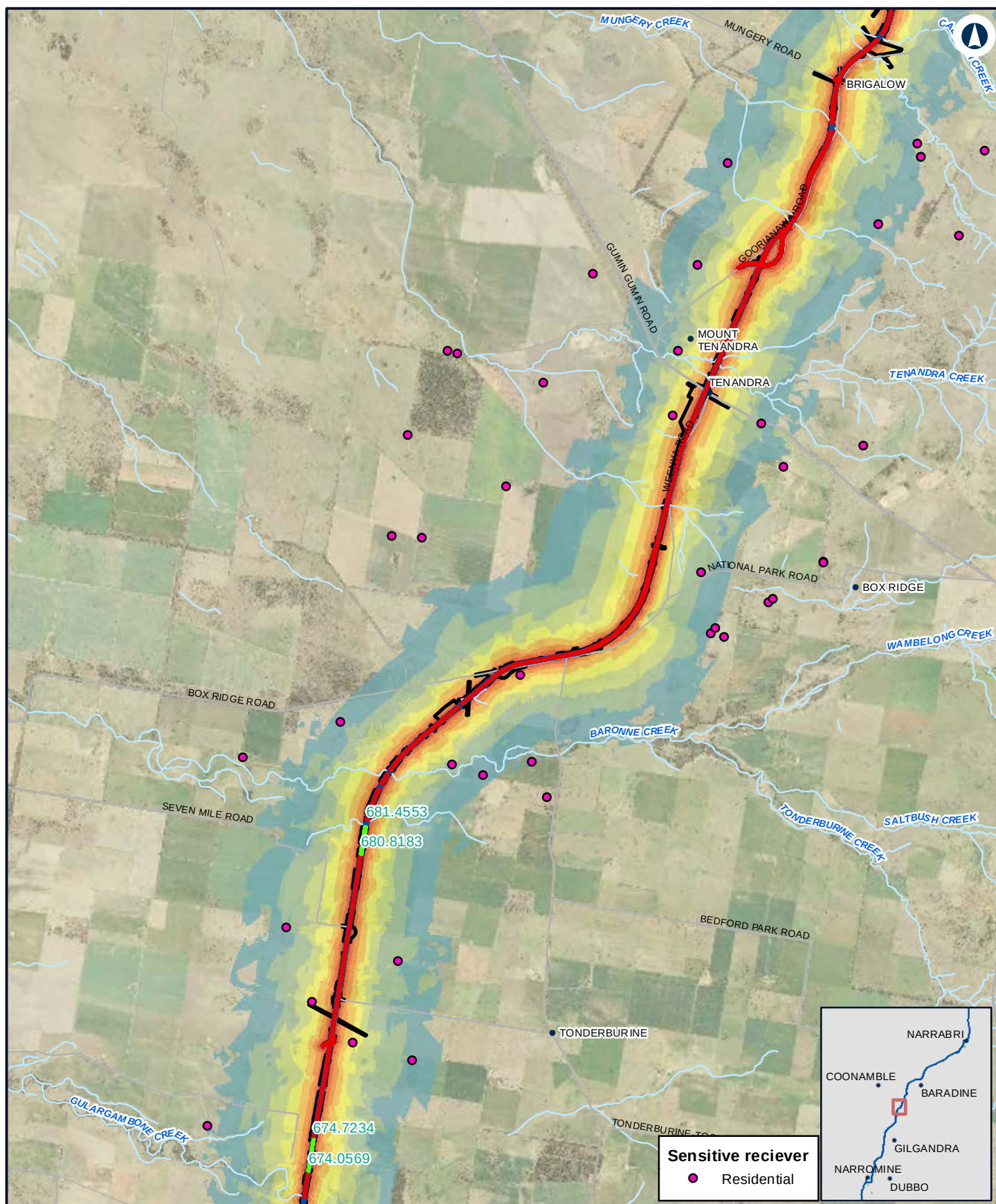
Sensitive receiver

- Active recreation
- Commercial/Industrial
- Community
- Residential



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NARROMINE TO NARRABRI

Construction noise, 'No Exceedance' extents - RAIL04 - Main Earthworks

Appendix I - Page 6 of 13

0 1.5 3 Km

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LEGEND

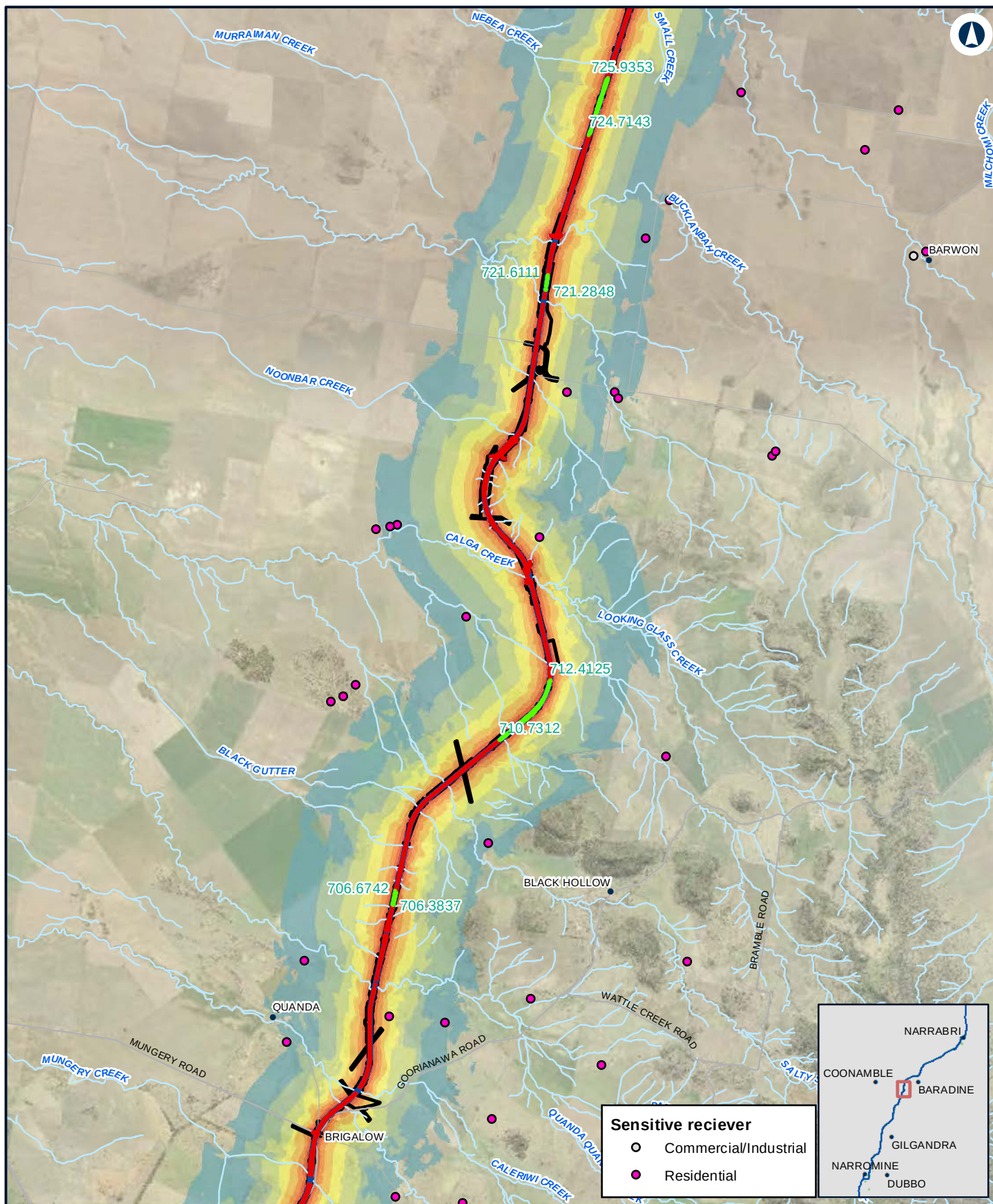
- Alignment
- Construction footprint
- Rail earthworks green zone
- Rail earthworks red zone

Noise level (dBA L_{Aeq} 15 minute)

- 35 - 40
- 40 - 45
- 45 - 50
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- 70 - 75

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NARROMINE TO NARRABRI

Construction noise, 'No Exceedance' extents - RAIL04 - Main Earthworks

Appendix I - Page 7 of 13

0 1.5 3 Km

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LEGEND

— Alignment

□ Construction footprint

□ Rail earthworks green zone

□ Rail earthworks red zone

Noise level (dBA L_{Aeq} 15 minute)

35 - 40

40 - 45

45 - 50

50 - 55

55 - 60

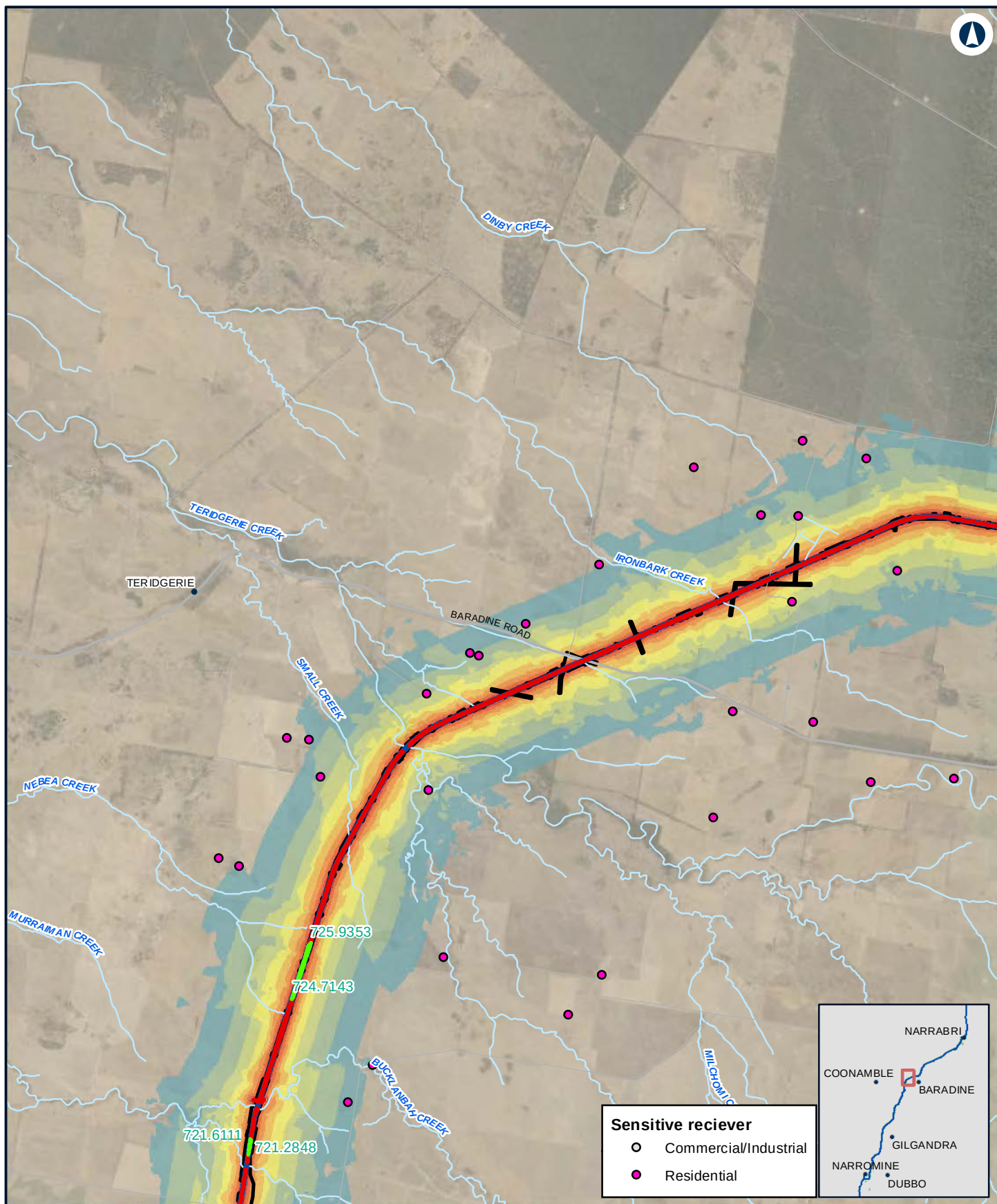
60 - 65

65 - 70

70 - 75

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NARROMINE TO NARRABRI

Construction noise, 'No Exceedance' extents - RAIL04 - Main Earthworks

Appendix I - Page 8 of 13

0 1.5 3
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Alignment

Construction footprint

Rail earthworks green zone

Rail earthworks red zone

Noise level (dBA L_{Aeq} 15 minute)

35 - 40

40 - 45

45 - 50

50 - 55

55 - 60

60 - 65

65 - 70

70 - 75

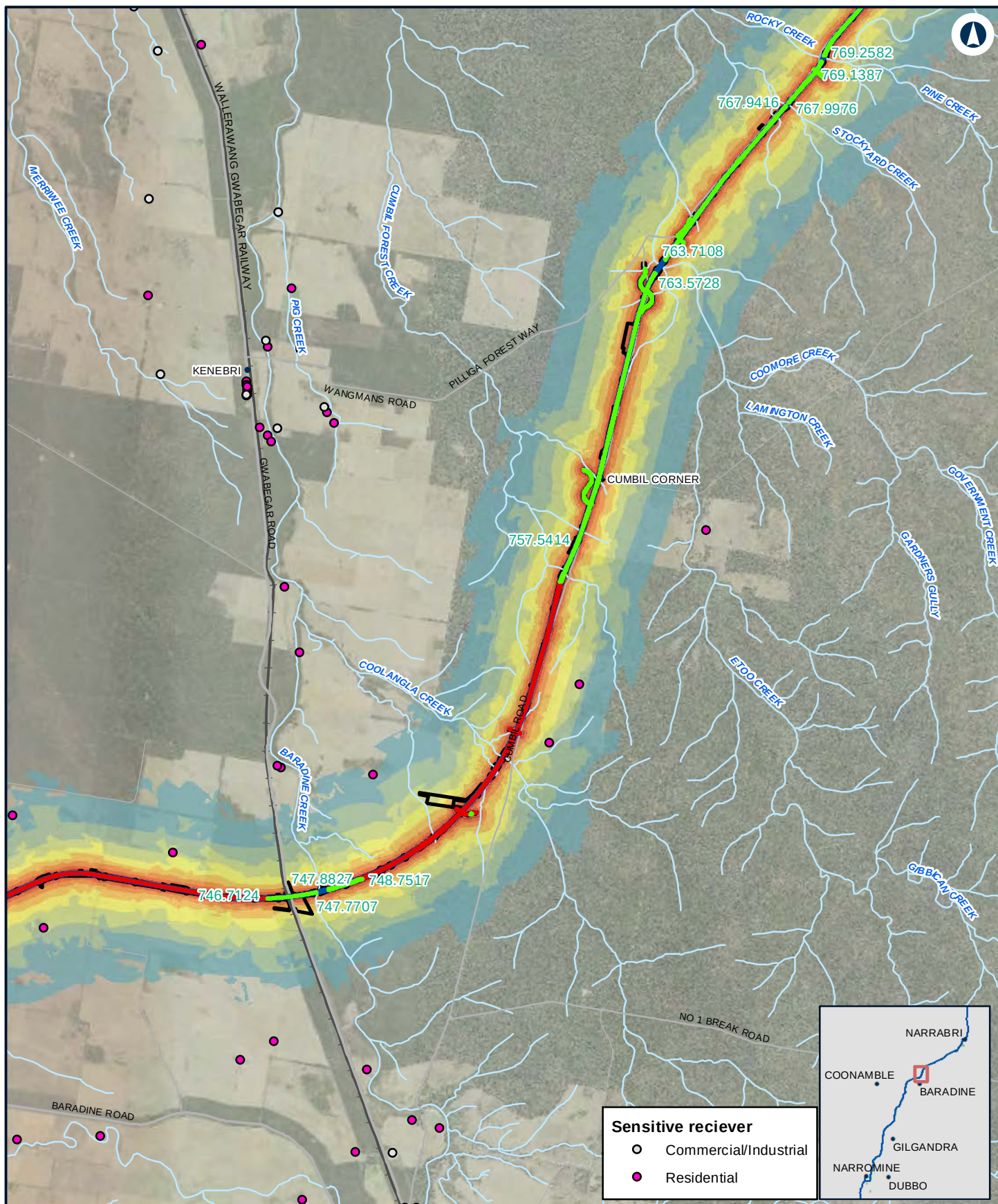
Sensitive receiver

Commercial/Industrial

Residential

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Sensitive receiver

- Commercial/Industrial
- Residential



0 1.5 3
Km

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LEGEND

- Alignment
- ▭ Construction footprint
- ▭ Rail earthworks green zone
- ▭ Rail earthworks red zone

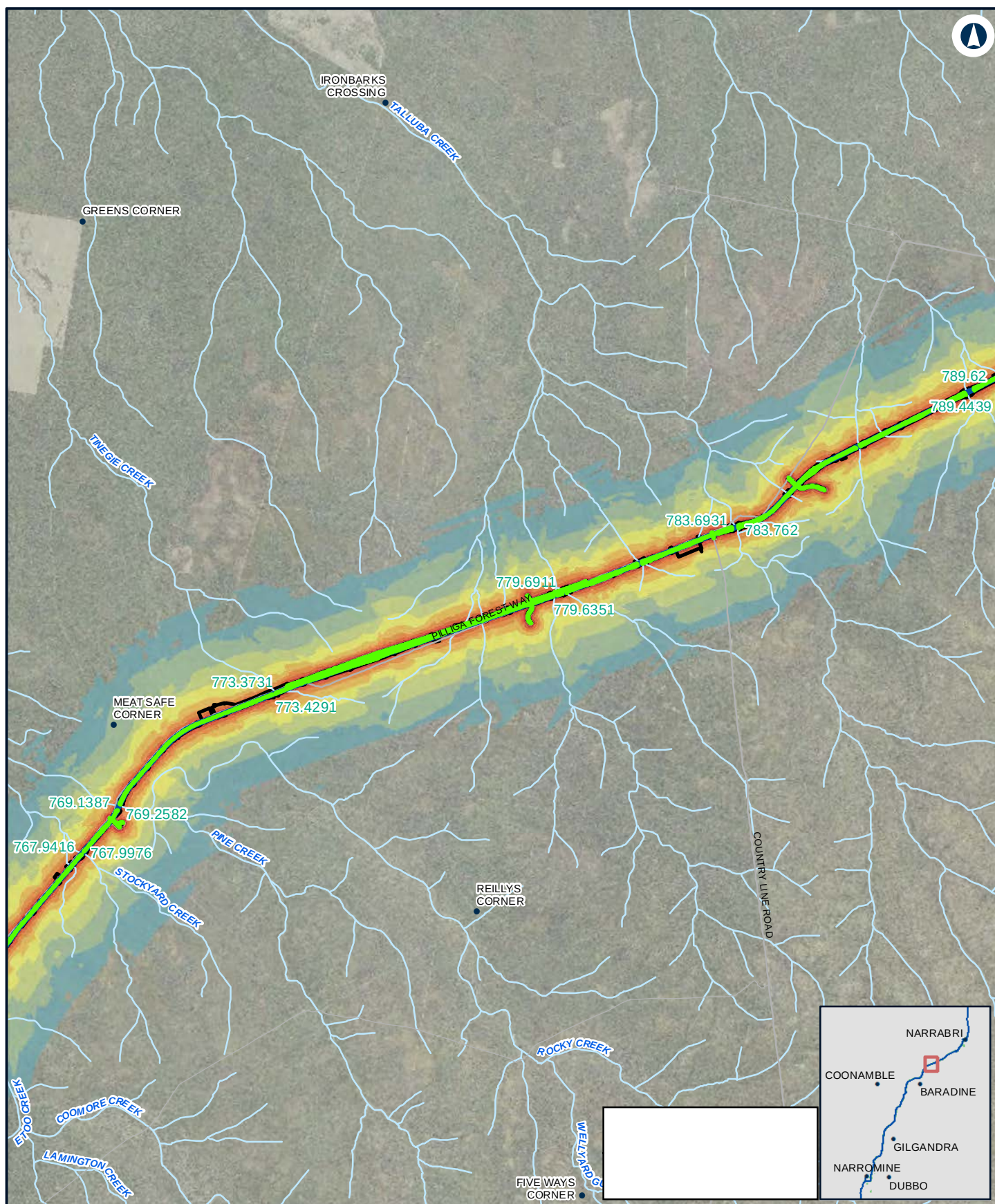
Noise level (dBA L_{Aeq} 15 minute)

- 35 - 40
- 40 - 45
- 45 - 50
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NARROMINE TO NARRABRI

Construction noise, 'No Exceedance' extents - RAIL04 - Main Earthworks

Appendix I - Page 10 of 13

0 1.5 3
Km

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35 - 40

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45 - 50

50 - 55

55 - 60

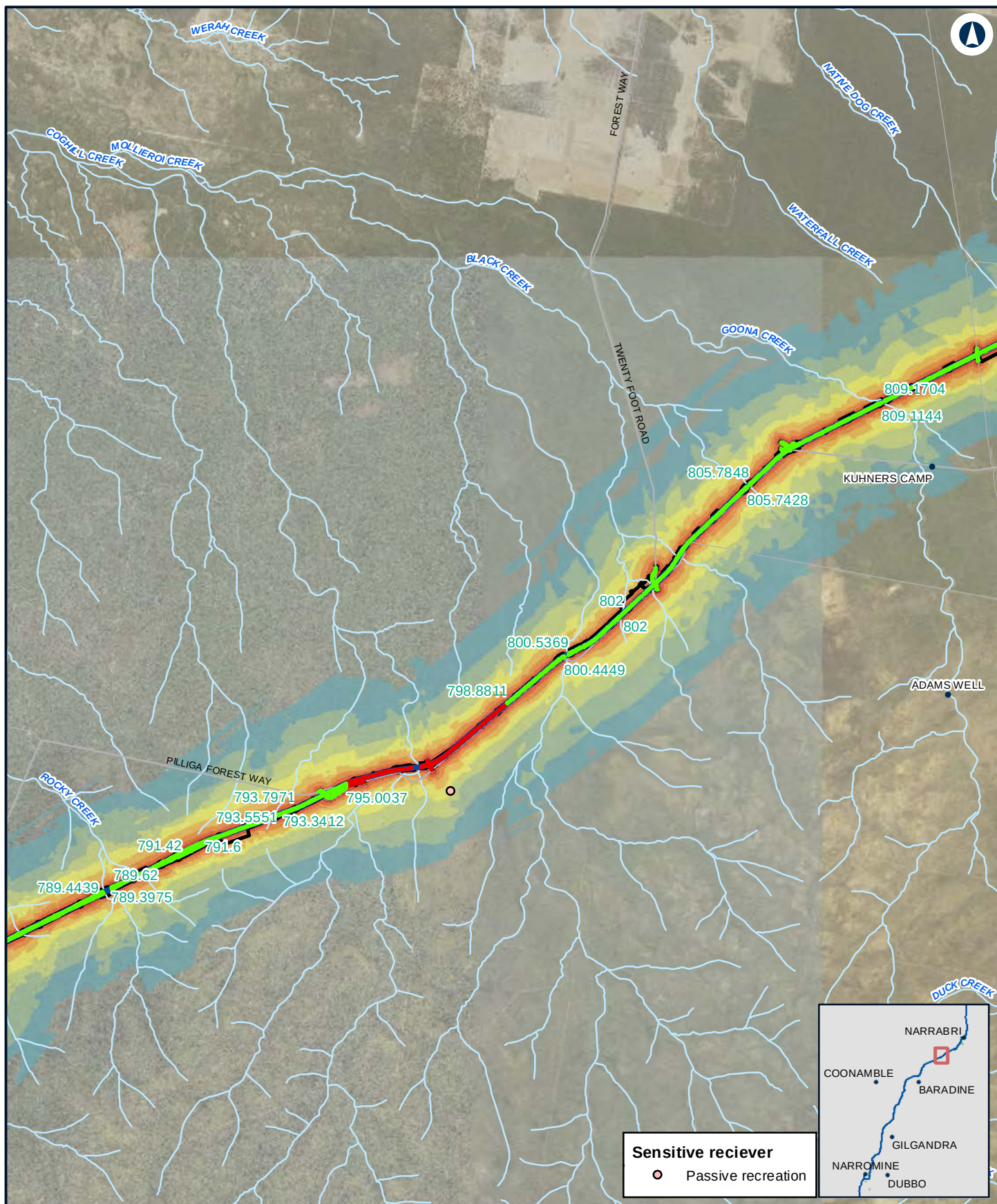
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NARROMINE TO NARRABRI

Construction noise, 'No Exceedance' extents - RAIL04 - Main Earthworks

Appendix I - Page 11 of 13

0 1.5 3 Km

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Alignment

Construction footprint

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Rail earthworks red zone

Noise level (dBA L_{Aeq} 15 minute)

35 - 40

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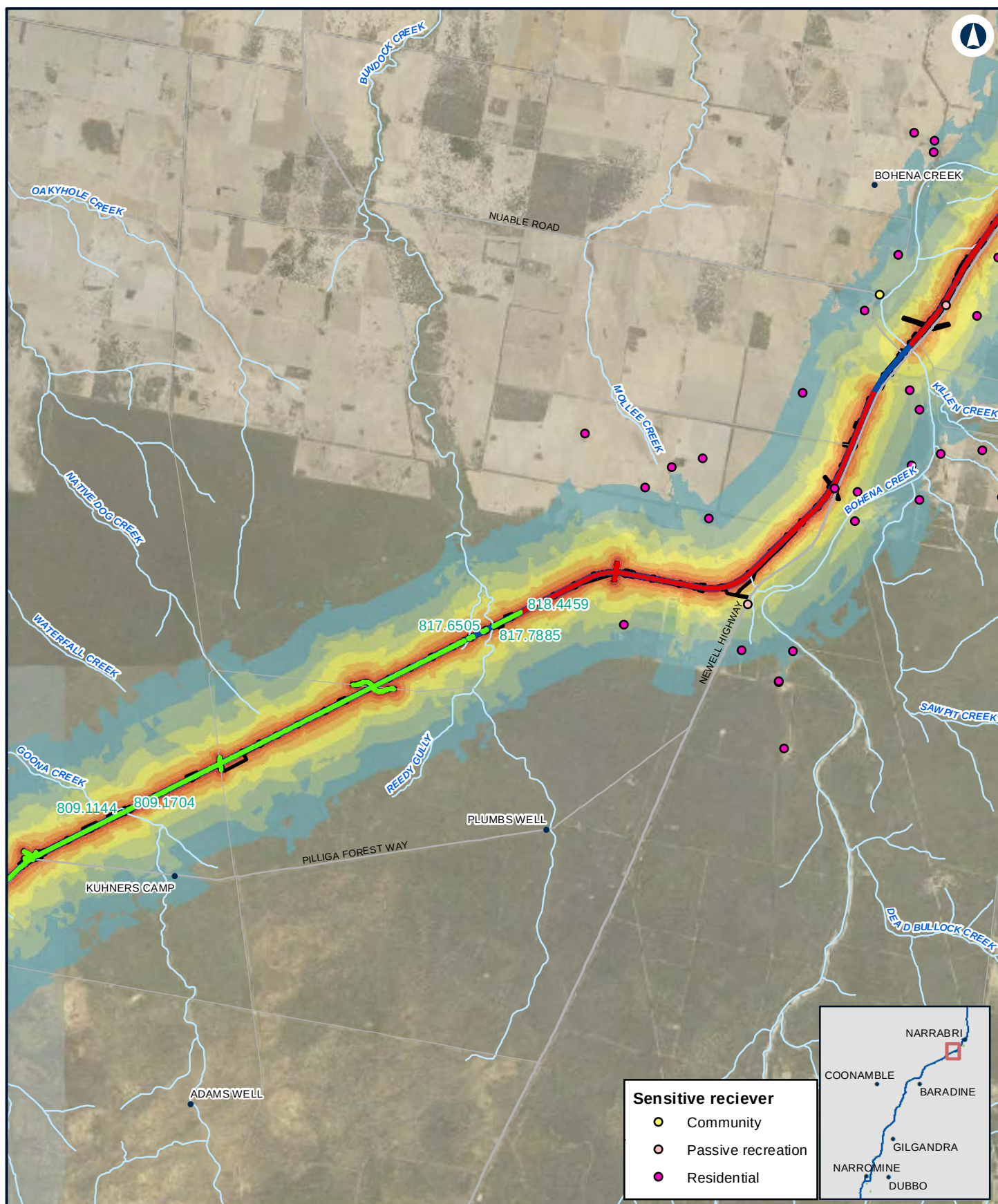
60 - 65

65 - 70

70 - 75

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NARROMINE TO NARRABRI

Construction noise, 'No Exceedance' extents - RAIL04 - Main Earthworks

Appendix I - Page 12 of 13

0 1.5 3 Km

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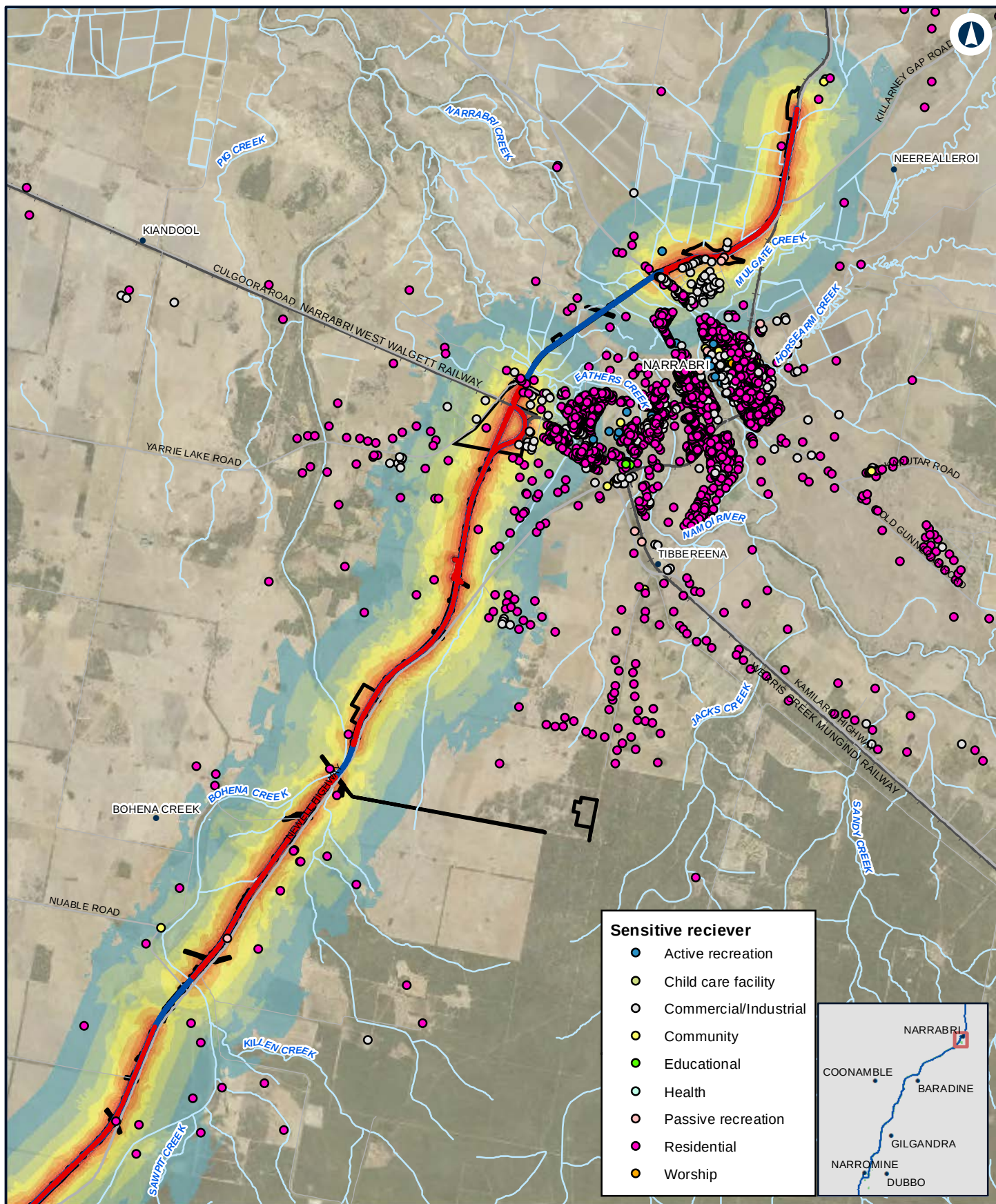
- Alignment
- Construction footprint
- Rail earthworks green zone
- Rail earthworks red zone

Noise level (dBA L_{Aeq} 15 minute)

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- 70 - 75

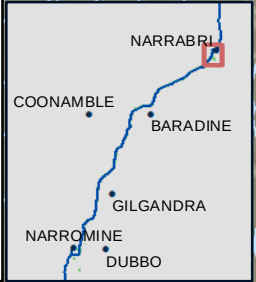
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Sensitive receiver

- Active recreation
- Child care facility
- Commercial/Industrial
- Community
- Educational
- Health
- Passive recreation
- Residential
- Worship



0 1.5 3 Km

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LEGEND

- Alignment
- Construction footprint
- Rail earthworks red zone

Noise level (dBA L_{Aeq} 15 minute)

- 35 - 40
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TECHNICAL REPORT 08

Updated noise and vibration assessment—
construction and other operations

Appendix J Construction noise, road noise policy sleep awakening impacts

NARROMINE TO NARRABRI PROJECT



Exceedance of RNP Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_246693	769711.8	6647434.1	Y		Y	Y							Y		Y	Y
R_246673	768928.8	6646453.6	Y		Y	Y	Y			Y	Y	Y	Y	Y	Y	Y
R_246593	765808.2	6644555.2						Y							Y	
R_246578	765770.7	6644362.9						Y							Y	
R_246569	765464.5	6644212.8						Y							Y	
R_246567	765573.2	6644194.1						Y							Y	
R_246536	766051.7	6643920.0	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246532	766126.0	6643869.3	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246517	766337.4	6643704.8	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246470	766452.2	6643528.0	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246464	766613.2	6643504.1		Y	Y	Y		Y					Y		Y	Y
R_246457	766623.1	6643489.8	Y	Y	Y			Y			Y		Y		Y	
R_246451	766643.2	6643477.8	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_246439	766665.2	6643453.4	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_246433	766693.9	6643440.3	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_246399	766751.1	6643387.8	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_246387	766770.3	6643364.2		Y	Y	Y		Y					Y		Y	Y
R_246369	766830.2	6643326.8						Y							Y	
R_246365	766849.5	6643308.1			Y			Y					Y		Y	
R_246320	764617.1	6643251.2		Y				Y							Y	
R_246333	766838.3	6643231.7						Y							Y	
R_246328	766855.0	6643218.1						Y							Y	
R_246314	766890.7	6643188.3						Y							Y	
R_246310	766906.3	6643167.7						Y							Y	
R_246301	767073.1	6643121.0													Y	
R_246271	764507.5	6643036.4	Y	Y	Y		Y	Y			Y		Y		Y	
R_246233	764420.4	6642972.5	Y		Y			Y			Y		Y		Y	
R_246259	766628.2	6642953.2						Y							Y	
R_246251	766374.2	6642948.5						Y							Y	
R_246249	766470.4	6642944.6						Y							Y	
R_246242	766414.4	6642935.8						Y							Y	
R_246238	766443.1	6642930.7						Y							Y	
R_246241	766608.8	6642930.4						Y							Y	
R_246235	766494.7	6642926.3						Y							Y	
R_246232	766524.8	6642920.3						Y							Y	
R_246228	766355.5	6642914.4						Y							Y	
R_246224	766586.8	6642898.2						Y							Y	
R_246222	766548.1	6642897.7						Y							Y	
R_246214	766356.5	6642887.9						Y							Y	
R_246212	766525.7	6642882.4						Y							Y	
R_246210	766414.5	6642880.7						Y							Y	
R_246207	766448.5	6642877.8													Y	
R_246206	766584.1	6642874.1						Y							Y	
XR00003	766384.9	6642869.4						Y							Y	
R_246200	766514.4	6642863.7						Y							Y	
R_246196	766565.5	6642855.1						Y							Y	
R_246187	765646.6	6642855.1	Y	Y	Y		Y	Y	Y		Y		Y		Y	
R_246188	766489.5	6642835.6						Y							Y	
R_246182	766420.1	6642832.8						Y							Y	
R_246175	766481.7	6642813.9						Y							Y	
R_246170	766245.6	6642811.0						Y							Y	
R_246169	766410.0	6642806.8						Y							Y	
R_246159	766464.2	6642788.8						Y							Y	
R_246149	766384.5	6642766.9						Y							Y	
R_246147	766440.6	6642760.4						Y							Y	
R_246131	766356.6	6642737.8						Y							Y	
R_246128	766427.1	6642733.4						Y							Y	
R_246129	766482.6	6642732.5													Y	
R_246115	766303.1	6642713.6						Y							Y	
R_246113	766331.1	6642711.9						Y							Y	
R_246109	766364.3	6642703.5						Y							Y	
R_246106	766417.7	6642694.7						Y							Y	
R_246054	765318.7	6642635.4	Y	Y	Y		Y	Y			Y		Y		Y	
R_246071	766417.4	6642627.7						Y							Y	
R_246051	766431.1	6642605.4						Y							Y	

Exceedance of RNP Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_246000	766461.7	6642534.5						Y							Y	
R_245954	766493.5	6642482.9													Y	
R_245639	765242.6	6642038.6						Y							Y	
R_245638	765805.0	6642024.8						Y							Y	
R_245617	765484.8	6641978.7						Y							Y	
R_245578	764861.7	6641796.5						Y							Y	
R_245560	765314.9	6641723.3						Y							Y	
R_245544	763131.0	6641717.2	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_245534	763432.2	6641553.7	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_245524	763416.5	6641528.2	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_245523	763701.8	6641519.7	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_245517	763446.2	6641505.2	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_245512	763542.5	6641447.1	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_245497	764364.2	6641287.3						Y							Y	
R_245459	763475.3	6641248.0	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y
R_245462	763920.6	6641239.2	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_245454	763603.0	6641238.8	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_245452	764370.4	6641216.5						Y							Y	
R_245438	764286.0	6641208.8						Y							Y	
R_245424	764346.3	6641195.9						Y							Y	
R_245395	764718.0	6641162.9													Y	
R_245374	764710.7	6641147.0													Y	
R_245358	764705.2	6641130.2													Y	
R_245339	764662.1	6641110.4													Y	
R_245310	764654.4	6641079.0													Y	
R_245264	764618.5	6641030.0													Y	
R_245241	764509.7	6641006.0													Y	
R_245234	764528.7	6640997.4													Y	
R_245218	764563.3	6640975.3													Y	
R_245210	764279.1	6640966.4			Y			Y					Y		Y	
R_245208	764602.5	6640957.0													Y	
R_245191	764511.6	6640930.3						Y							Y	
R_245182	764439.5	6640916.6						Y							Y	
R_245167	763848.3	6640912.2	Y	Y	Y			Y					Y	Y	Y	Y
R_245175	764542.3	6640904.3													Y	
R_245170	764422.0	6640901.1													Y	
R_245161	764339.1	6640897.5						Y							Y	
R_245156	764438.2	6640890.4													Y	
R_245135	764472.6	6640865.1													Y	
R_245114	764385.6	6640839.2						Y							Y	
R_245111	764581.4	6640829.4													Y	
R_245107	764429.1	6640823.6													Y	
R_245104	764398.0	6640815.5													Y	
R_245097	764469.5	6640801.1													Y	
R_245093	764425.5	6640792.5													Y	
R_245088	764442.0	6640778.6						Y							Y	
R_333318	764516.6	6640701.9													Y	
R_245053	763996.4	6640570.2	Y		Y	Y		Y			Y		Y		Y	Y
R_245048	764027.8	6640561.9	Y		Y	Y		Y					Y		Y	Y
R_245047	764062.0	6640543.3	Y		Y								Y		Y	Y
R_245046	764094.9	6640539.0	Y		Y			Y					Y		Y	
R_245044	764115.9	6640527.2	Y		Y			Y					Y		Y	Y
R_245042	764129.5	6640521.6	Y		Y								Y		Y	Y
R_332885	764178.9	6640500.2			Y								Y		Y	Y
R_332903	764103.2	6640490.3			Y	Y		Y					Y		Y	Y
R_333010	764099.7	6640471.1						Y							Y	Y
R_333034	764074.6	6640465.3	Y		Y			Y					Y		Y	Y
R_332941	764160.6	6640457.8													Y	
R_245009	761526.1	6640441.9			Y								Y		Y	
R_332884	764069.7	6640440.0			Y			Y					Y		Y	Y
R_333286	764149.8	6640438.7													Y	
R_332774	764142.7	6640427.8													Y	
R_333271	764058.5	6640412.8			Y			Y					Y		Y	Y
R_332881	764131.6	6640412.7													Y	Y
R_332945	764046.6	6640390.3			Y			Y					Y		Y	Y

Exceedance of RNP Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_332824	764038.3	6640375.2			Y			Y					Y		Y	Y
R_332636	764178.6	6640362.0													Y	
R_332773	764092.1	6640360.0			Y			Y					Y		Y	
R_332944	764111.6	6640346.0						Y							Y	
R_332946	764138.5	6640332.2													Y	
R_332985	764076.1	6640322.6													Y	
R_333263	763916.1	6640313.9	Y		Y			Y					Y		Y	Y
R_333120	764166.6	6640307.8						Y							Y	
R_332666	764186.1	6640297.6													Y	
R_333424	764108.9	6640278.5													Y	
R_332741	764044.2	6640272.3						Y							Y	Y
R_332942	763969.5	6640269.0			Y			Y					Y		Y	Y
R_244983	761638.5	6640248.4	Y	Y	Y								Y		Y	Y
R_332817	764025.9	6640239.5						Y							Y	Y
R_244974	761590.7	6640142.6	Y		Y								Y		Y	Y
R_333005	763265.5	6639886.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_332922	761906.9	6639817.7	Y	Y	Y								Y		Y	Y
R_332845	763393.5	6639813.8	Y	Y	Y			Y			Y		Y	Y	Y	Y
R_332818	763800.4	6639775.2	Y		Y								Y		Y	Y
R_332844	763493.9	6639724.9	Y	Y	Y	Y							Y	Y	Y	Y
R_333051	763418.8	6639467.0	Y		Y								Y		Y	Y
R_332733	763675.0	6639401.7			Y								Y		Y	
R_332924	761698.9	6639015.2													Y	
R_332835	762529.3	6638364.4	Y		Y	Y					Y		Y	Y	Y	Y
R_332615	761608.4	6637316.6	Y		Y	Y					Y		Y		Y	Y
R_331851	759790.8	6634042.0	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_332075	759399.0	6633328.4	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_331852	759553.2	6632770.6	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_331860	758657.7	6631601.4	Y		Y	Y	Y				Y		Y	Y	Y	Y
R_332255	758648.8	6631593.9	Y		Y	Y	Y				Y		Y	Y	Y	Y
R_331977	758780.4	6631367.3	Y		Y	Y					Y		Y		Y	Y
R_331819	758771.8	6631356.9	Y		Y	Y					Y		Y		Y	Y
R_331859	758352.0	6630750.0			Y	Y					Y		Y		Y	Y
R_332070	755526.9	6629632.7													Y	
R_332090	757896.3	6629511.8													Y	
R_332056	756485.3	6627950.1			Y			Y					Y		Y	
R_332076	756693.3	6627538.0						Y							Y	
R_332063	754903.5	6625893.4	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331855	755377.9	6625817.8			Y	Y					Y		Y		Y	Y
R_331942	699980.8	6585644.9													Y	
R_244494	679424.8	6579175.2													Y	
R_244465	679470.5	6577139.8						Y							Y	
R_331360	696274.3	6574862.2													Y	Y
R_330953	696746.0	6574733.4													Y	Y
R_331125	696801.4	6574724.9													Y	Y
R_331048	696904.8	6574704.4													Y	Y
R_330952	696863.8	6574633.6													Y	Y
R_331034	696552.3	6574416.4													Y	Y
G900033	696533.6	6574260.0													Y	Y
G900061	696588.4	6574203.1													Y	Y
G900088	696566.1	6574127.3													Y	Y
G900097	696560.0	6574108.4													Y	Y
G900098	696678.4	6574106.1													Y	Y
R_244419	676131.9	6567308.7	Y	Y	Y								Y			
R_331750	675546.5	6564246.2			Y	Y		Y			Y		Y		Y	Y
R_244309	672386.9	6554162.3	Y		Y	Y		Y			Y		Y		Y	Y
R_244173	667374.5	6544637.0	Y		Y	Y					Y		Y	Y	Y	Y
R_244141	664167.7	6539185.5	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_244057	659790.2	6532315.6	Y	Y	Y	Y					Y		Y		Y	Y
R_244053	660652.6	6531452.9	Y	Y	Y	Y					Y		Y		Y	Y
R_243996	658423.9	6524533.6		Y												
R_243977	657911.7	6521836.7		Y	Y								Y			
R_243927	656329.1	6515384.2	Y		Y	Y					Y		Y		Y	Y
R_243908	654947.7	6515144.6	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_243906	654739.9	6515111.5	Y		Y	Y					Y		Y		Y	Y

Exceedance of RNP Sleep Disturbance Criteria																
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R_243868	650801.3	6511171.7	Y		Y	Y		Y			Y		Y		Y	Y
R_243853	650572.5	6509307.6													Y	
R_243849	650644.0	6509262.4													Y	
R_243829	647262.6	6507339.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_243806	644129.1	6505669.6		Y	Y								Y		Y	
R_243791	644727.0	6504573.5	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_331786	642717.0	6495601.6						Y							Y	
R_243695	640876.3	6495486.6			Y			Y					Y		Y	
R_243690	640909.5	6495440.6	Y		Y			Y					Y		Y	
G900261	655984.3	6491841.7													Y	Y
G900266	656009.9	6491770.2													Y	Y
G900269	655973.4	6491720.0													Y	Y
G900272	656243.4	6491689.5													Y	Y
G900274	656221.7	6491600.0													Y	Y
G900275	655902.6	6491586.4													Y	Y
G900297	656208.0	6491466.6													Y	Y
G900304	656274.0	6491411.9													Y	Y
G900309	655971.9	6491396.0													Y	Y
G900349	655911.4	6491166.7													Y	Y
G900352	655973.9	6491163.8													Y	Y
G900363	655942.7	6491141.5													Y	Y
G900364	656207.5	6491138.5													Y	Y
G900370	655900.2	6491126.0													Y	Y
G900374	656027.7	6491123.4													Y	Y
G900375	655973.9	6491123.4													Y	Y
G900385	656232.8	6491103.8													Y	Y
G900393	655972.1	6491076.4													Y	Y
G900413	656274.9	6491049.7													Y	Y
G900433	656330.9	6491018.3													Y	Y
G900439	655967.1	6491014.0													Y	Y
G900440	656039.6	6491012.4													Y	Y
G900456	655935.8	6490993.5													Y	Y
G900462	656023.3	6490989.4													Y	Y
G900467	656256.4	6490981.3													Y	Y
G900469	655966.3	6490980.2													Y	Y
G900472	656324.6	6490977.1													Y	Y
G900481	656217.5	6490968.3													Y	Y
G900488	656264.6	6490960.2													Y	Y
G900487	656067.0	6490959.6													Y	Y
G900492	656140.0	6490956.8													Y	Y
G900496	656158.3	6490955.2													Y	Y
G900495	656342.1	6490954.6													Y	Y
R_331834	640416.7	6490952.6		Y	Y	Y							Y		Y	Y
G900503	656182.2	6490949.0													Y	Y
G900508	656022.8	6490942.5													Y	Y
G900512	656278.9	6490941.3													Y	Y
G900516	656356.7	6490939.5													Y	Y
G900517	655621.5	6490938.7													Y	Y
G900527	656068.6	6490932.2													Y	Y
G900540	656021.4	6490921.2													Y	Y
G900545	655834.2	6490919.3													Y	Y
G900549	656115.8	6490915.3													Y	Y
G900551	656067.7	6490913.9													Y	Y
G900561	656141.2	6490909.1													Y	Y
G900562	656161.1	6490909.0													Y	Y
G900580	656063.9	6490893.5													Y	Y
G900582	656318.6	6490892.4													Y	Y
G900583	656389.8	6490891.2													Y	Y
G900595	656331.9	6490879.1													Y	Y
G900597	655623.4	6490877.8													Y	Y
G900598	656021.5	6490877.8													Y	Y
G900613	655672.0	6490867.5													Y	Y
G900625	656017.0	6490856.9													Y	Y
G900638	656104.3	6490850.5													Y	Y
G900643	656123.2	6490845.5													Y	Y

Exceedance of RNP Sleep Disturbance Criteria																	
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decomissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	
G900646	656142.7	6490845.3													Y	Y	
G900651	655701.7	6490840.0													Y	Y	
G900672	656244.2	6490827.8													Y	Y	
G900676	655621.4	6490826.5													Y	Y	
G900682	656264.9	6490822.1													Y	Y	
G900689	656304.5	6490817.4													Y	Y	
G900690	655945.3	6490815.7													Y	Y	
G900692	656341.6	6490814.2													Y	Y	
G900701	655852.2	6490804.7													Y	Y	
G900705	655814.8	6490802.7													Y	Y	
G900704	655895.9	6490802.6													Y	Y	
G900723	656093.7	6490790.0													Y	Y	
G900750	655605.3	6490765.3													Y	Y	
R_331901	640743.2	6485555.4	Y		Y	Y		Y			Y		Y	Y	Y	Y	
R_332023	638619.3	6472016.3	Y	Y	Y	Y		Y			Y		Y		Y	Y	
R_332019	640026.5	6471982.4													Y		
R_243475	635066.6	6463812.8	Y	Y	Y	Y				Y	Y		Y	Y	Y	Y	
R_243473	633509.0	6463796.1	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y	
R_243471	635042.7	6463749.4	Y	Y	Y	Y				Y	Y		Y	Y	Y	Y	
R_243428	629401.2	6461859.1		Y				Y							Y		
R_243429	631418.4	6461834.7	Y	Y	Y								Y		Y		
R_243378	626274.6	6457969.0			Y								Y				
R_332047	625765.9	6448528.8	Y	Y	Y	Y	Y				Y		Y		Y	Y	
R_331710	625426.7	6447909.5	Y	Y	Y	Y	Y				Y		Y		Y	Y	
R_331764	625931.4	6446218.0			Y								Y				
R_331728	625580.8	6446000.0	Y	Y	Y	Y	Y				Y		Y		Y	Y	
R_332038	625601.9	6445956.0	Y	Y	Y	Y	Y				Y		Y		Y	Y	
R_331759	624577.9	6445854.9		Y	Y								Y		Y	Y	
R_331718	624858.9	6443304.4	Y	Y	Y	Y					Y		Y		Y	Y	
R_331774	624551.4	6440899.7	Y		Y	Y					Y		Y		Y	Y	
R_331924	624680.2	6440824.0			Y								Y		Y	Y	
R_324810	625766.2	6436669.3													Y	Y	
R_331735	623239.1	6436392.3	Y		Y	Y							Y	Y	Y	Y	
R_331749	622931.9	6435392.0	Y		Y	Y	Y				Y		Y		Y	Y	
R_242844	615815.4	6434053.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y	
R_242841	615832.6	6434044.0	Y	Y	Y	Y					Y		Y	Y	Y	Y	
R_331791	621496.3	6434031.1													Y		
R_242821	616374.8	6433862.8	Y		Y	Y					Y		Y		Y	Y	
R_242807	616455.2	6433825.6	Y		Y	Y					Y		Y		Y	Y	
R_242795	616451.0	6433806.5			Y								Y				
R_242787	616512.5	6433788.9			Y	Y							Y		Y	Y	
R_242786	616441.2	6433788.2	Y		Y	Y					Y		Y		Y	Y	
R_242768	616439.5	6433749.5	Y		Y								Y				
R_242750	616443.4	6433726.3	Y		Y								Y				
R_242742	616497.2	6433717.4	Y		Y	Y					Y		Y		Y	Y	
R_242736	616433.7	6433706.4	Y	Y	Y	Y					Y		Y		Y	Y	
R_242730	616492.9	6433696.1			Y								Y				
R_242720	616488.6	6433682.8	Y		Y	Y					Y		Y		Y	Y	
R_242717	616432.7	6433677.2	Y	Y	Y	Y					Y	Y	Y		Y	Y	
R_242710	616405.7	6433670.1	Y	Y	Y	Y					Y	Y	Y		Y	Y	
R_242703	616622.8	6433658.9			Y								Y				
R_242698	616489.0	6433653.2	Y		Y	Y					Y		Y		Y	Y	
R_242690	616561.3	6433639.1			Y	Y					Y		Y		Y	Y	
R_242685	616621.0	6433634.3			Y								Y				
R_242661	616416.8	6433611.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y	
R_242650	616481.3	6433597.0	Y		Y	Y					Y		Y		Y	Y	
R_242646	616417.5	6433594.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y	
R_242625	616475.7	6433578.6	Y	Y	Y						Y	Y	Y				
R_242621	616410.5	6433574.0	Y	Y	Y	Y					Y	Y	Y		Y	Y	
R_242600	616403.1	6433558.0	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y	
R_242599	616482.2	6433556.1	Y	Y	Y	Y					Y	Y	Y		Y	Y	
R_242596	616549.4	6433554.2			Y								Y				
R_242579	616405.9	6433540.3	Y	Y	Y	Y					Y	Y	Y		Y	Y	
R_242573	616475.2	6433536.3	Y		Y	Y					Y		Y		Y	Y	
R_242572	616545.6	6433535.4			Y								Y				

Exceedance of RNP Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_242548	616405.9	6433521.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242542	616543.1	6433517.9			Y								Y			
R_242519	616402.0	6433505.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242515	616458.1	6433501.8	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242513	616539.8	6433499.2	Y		Y								Y			
R_242507	616489.0	6433496.0	Y		Y	Y					Y	Y	Y		Y	Y
R_242504	616625.8	6433491.1	Y		Y						Y		Y			
R_242499	616531.8	6433483.6	Y		Y						Y	Y	Y			
R_242493	616602.4	6433474.4	Y	Y	Y	Y					Y		Y		Y	Y
R_242478	616730.4	6433453.9			Y								Y			
R_242472	616370.2	6433453.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242470	616393.7	6433452.6	Y	Y	Y	Y					Y		Y		Y	Y
R_242453	616451.2	6433438.1	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242447	616506.6	6433433.8	Y		Y								Y			
R_242443	616475.8	6433433.4	Y		Y	Y					Y		Y		Y	Y
R_242438	616532.5	6433428.7			Y								Y			
R_242428	616591.9	6433420.9			Y								Y			
R_242419	616605.0	6433416.1			Y								Y			
R_242417	616530.3	6433414.8			Y								Y			
R_242413	616385.2	6433413.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242402	616453.8	6433403.6	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242383	616378.8	6433393.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242386	616518.3	6433393.5			Y								Y			
R_242370	616450.7	6433384.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242355	616378.7	6433374.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242353	616516.0	6433372.0	Y		Y	Y					Y		Y		Y	Y
R_242338	616444.9	6433364.3	Y	Y	Y	Y					Y		Y		Y	Y
R_242329	616579.8	6433361.1			Y								Y			
R_242318	616513.6	6433353.2	Y		Y						Y		Y			
R_242305	616369.7	6433344.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242303	616442.5	6433343.1	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242300	616573.8	6433340.0			Y						Y		Y			
R_242287	616508.2	6433332.1	Y		Y						Y		Y			
R_242277	616431.3	6433324.2	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_242276	616573.1	6433322.1			Y						Y		Y			
R_242268	616500.9	6433316.6			Y	Y					Y		Y		Y	Y
R_242248	616443.6	6433302.0	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242240	616508.2	6433295.8			Y	Y							Y		Y	Y
R_242224	616565.0	6433283.1				Y									Y	Y
R_242208	616502.4	6433275.1				Y									Y	Y
R_242192	616489.7	6433259.1	Y		Y	Y					Y	Y	Y		Y	Y
R_242190	616705.3	6433256.2			Y								Y			
R_242177	616562.4	6433245.3			Y								Y			
R_242159	616693.4	6433229.9			Y								Y			
R_242112	616638.2	6433179.4			Y	Y							Y		Y	Y
R_241947	616526.2	6433030.3	Y		Y	Y							Y	Y	Y	Y
R_241905	616548.2	6433000.8	Y		Y	Y							Y		Y	Y
R_241899	616565.0	6432997.2			Y	Y							Y		Y	Y
R_241900	616674.0	6432996.2	Y		Y	Y							Y		Y	Y
R_241891	616583.7	6432988.0			Y	Y							Y		Y	Y
R_241883	616651.5	6432982.5			Y	Y							Y		Y	Y
R_241843	616510.8	6432942.7	Y		Y	Y							Y	Y	Y	Y
R_241834	616536.3	6432928.6			Y	Y							Y		Y	Y
R_241829	616562.3	6432924.8			Y								Y		Y	Y
R_241828	616587.9	6432924.5	Y		Y	Y							Y		Y	Y
R_332439	621124.3	6432911.9													Y	
R_241804	616638.4	6432899.7			Y	Y							Y		Y	Y
R_241797	616505.2	6432894.5	Y		Y	Y							Y	Y	Y	Y
R_241793	616575.2	6432890.6	Y		Y	Y							Y		Y	Y
R_241785	616501.9	6432876.5	Y		Y	Y							Y		Y	Y
R_241771	616501.8	6432857.5	Y		Y	Y							Y		Y	Y
R_241749	616498.9	6432833.9	Y		Y	Y							Y		Y	Y
R_241716	616483.7	6432801.6	Y		Y	Y							Y		Y	Y
R_241710	616508.5	6432798.8	Y		Y	Y							Y		Y	Y
R_332459	621741.8	6432771.5						Y							Y	

Exceedance of RNP Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_241670	616475.7	6432741.1	Y		Y	Y							Y		Y	Y
R_241671	616502.5	6432740.9	Y		Y	Y							Y		Y	Y
R_241665	616550.8	6432732.5			Y								Y			
R_241663	616526.6	6432731.8	Y		Y	Y							Y		Y	Y
R_332429	621219.2	6432718.2						Y							Y	
R_241652	616478.5	6432713.1	Y		Y	Y							Y		Y	Y
R_332471	621851.5	6432699.1	Y		Y	Y		Y			Y		Y		Y	Y
R_241638	616468.9	6432695.1	Y		Y	Y					Y		Y		Y	Y
R_241611	616464.8	6432674.1	Y		Y	Y					Y		Y		Y	Y
R_241597	616466.8	6432654.8	Y		Y	Y							Y		Y	Y
R_241585	616532.8	6432637.4			Y								Y			
R_241581	616462.4	6432635.4	Y		Y	Y					Y		Y		Y	Y
R_241555	616458.0	6432613.7	Y		Y	Y					Y		Y		Y	Y
R_241535	616455.3	6432595.8	Y		Y	Y					Y		Y		Y	Y
R_332465	621231.6	6432578.2						Y							Y	
R_241491	616448.1	6432543.4			Y	Y							Y		Y	Y
R_241467	616449.1	6432511.2			Y	Y							Y		Y	Y
R_332467	621985.3	6432500.1	Y		Y	Y	Y	Y			Y		Y	Y	Y	Y
R_241451	616443.2	6432493.1			Y	Y							Y		Y	Y
R_241433	615458.3	6432491.1			Y	Y							Y		Y	Y
R_241427	616442.2	6432474.4			Y	Y							Y		Y	Y
R_241350	615782.0	6432423.7	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241360	616427.7	6432421.2			Y	Y							Y		Y	Y
R_241295	615603.4	6432378.5	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_332437	621186.4	6432266.1													Y	
R_240998	615597.3	6432193.6	Y		Y	Y					Y		Y		Y	Y
R_332464	621077.9	6432154.7						Y							Y	
R_240863	615648.1	6432115.0	Y		Y	Y					Y		Y		Y	Y
R_332470	620412.6	6431955.4		Y												
R_332448	620610.6	6431888.8		Y												
R_332480	620698.6	6431838.5		Y												
R_332454	619870.8	6431611.4		Y												
R_332483	620744.0	6431581.4		Y												
R_332585	621016.9	6431305.0		Y												
R_332434	621550.0	6430892.2						Y							Y	Y
R_324822	623513.4	6429827.4													Y	
R_331822	621433.5	6429366.7						Y							Y	
R_239751	612615.4	6426442.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_239748	612670.5	6426409.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_324738	616960.3	6425578.3	Y	Y	Y	Y					Y		Y		Y	Y
R_324734	617176.4	6425540.7		Y	Y	Y							Y		Y	Y
R_239740	612488.8	6424538.9	Y	Y	Y	Y					Y		Y		Y	Y
R_239733	612761.0	6424473.5		Y	Y								Y		Y	Y
R_239732	613220.4	6424461.1			Y								Y		Y	Y
R_331622	615851.8	6421060.4													Y	Y

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Updated noise and vibration assessment—
construction and other operations

Appendix K Construction noise, NPI sleep disturbance impacts

NARROMINE TO NARRABRI PROJECT



Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_246745	769949.2	6647895.2	Y		Y	Y							Y		Y	Y
R_246693	769711.8	6647434.1	Y		Y	Y	Y			Y	Y	Y	Y	Y	Y	Y
R_246673	768928.8	6646453.6	Y		Y	Y	Y			Y	Y	Y	Y	Y	Y	Y
R_246629	770250.4	6645259.2			Y								Y		Y	
R_246593	765808.2	6644555.2	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246578	765770.7	6644362.9	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246569	765464.5	6644212.8	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246567	765573.2	6644194.1	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246536	766051.7	6643920.0	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246532	766126.0	6643869.3	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246517	766337.4	6643704.8	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246472	763748.3	6643595.5			Y			Y					Y		Y	
R_246470	766452.2	6643528.0	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246464	766613.2	6643504.1	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246457	766623.1	6643489.8	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246451	766643.2	6643477.8	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246439	766665.2	6643453.4	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246433	766693.9	6643440.3	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246399	766751.1	6643387.8	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246387	766770.3	6643364.2	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246369	766830.2	6643326.8	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_246365	766849.5	6643308.1	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_246320	764617.1	6643251.2	Y	Y	Y		Y	Y	Y		Y		Y	Y	Y	Y
R_246333	766838.3	6643231.7	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246328	766855.0	6643218.1	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246314	766890.7	6643188.3	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246310	766906.3	6643167.7	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246301	767073.1	6643121.0	Y		Y	Y		Y					Y		Y	Y
R_246302	768115.7	6643097.0	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_246271	764507.5	6643036.4	Y	Y	Y		Y	Y	Y		Y		Y	Y	Y	Y
R_246233	764420.4	6642972.5	Y	Y	Y		Y	Y	Y		Y		Y	Y	Y	Y
R_246259	766628.2	6642953.2	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246251	766374.2	6642948.5	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246249	766470.4	6642944.6	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246242	766414.4	6642935.8	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246238	766443.1	6642930.7	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246241	766608.8	6642930.4	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246235	766494.7	6642926.3	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246232	766524.8	6642920.3	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246228	766355.5	6642914.4	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246243	767799.6	6642902.4				Y		Y							Y	Y
R_246224	766586.8	6642898.2	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246222	766548.1	6642897.7	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246237	767907.9	6642894.0						Y							Y	
R_246214	766356.5	6642887.9	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246212	766525.7	6642882.4	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y
R_246210	766414.5	6642880.7	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y
R_246207	766448.5	6642877.8	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_246206	766584.1	6642874.1	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y
XR00003	766384.9	6642869.4	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246200	766514.4	6642863.7	Y	Y	Y	Y	Y	Y					Y		Y	Y
R_246196	766565.5	6642855.1	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246187	765646.6	6642855.1	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246211	767949.9	6642844.6				Y									Y	Y
R_246197	767328.6	6642836.5						Y							Y	
R_246188	766489.5	6642835.6			Y	Y	Y	Y					Y		Y	Y
R_246189	766556.8	6642834.0						Y							Y	Y
R_246182	766420.1	6642832.8	Y		Y	Y	Y	Y			Y		Y		Y	Y
R_246177	766536.1	6642815.0						Y							Y	
R_246175	766481.7	6642813.9	Y		Y	Y	Y	Y			Y		Y		Y	Y
R_246170	766245.6	6642811.0	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_246169	766410.0	6642806.8	Y		Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246162	766526.2	6642792.5						Y							Y	
R_246159	766464.2	6642788.8	Y		Y	Y	Y	Y			Y		Y		Y	Y
R_246166	767204.4	6642785.3	Y		Y	Y		Y					Y		Y	Y

Appendix K - Construction noise, NPI Sleep disturbance impacts

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R_246168	767300.7	6642784.1			Y			Y			Y		Y		Y	
R_246163	767363.6	6642772.8						Y							Y	
R_246153	766511.1	6642770.6						Y							Y	
R_246149	766384.5	6642766.9	Y		Y		Y	Y			Y		Y		Y	
R_246157	767309.7	6642765.3						Y							Y	
R_246147	766440.6	6642760.4	Y		Y	Y	Y	Y			Y		Y		Y	Y
R_331682	767442.5	6642757.8						Y							Y	
R_246155	767373.3	6642751.7						Y							Y	
R_246143	766497.2	6642751.4						Y							Y	
R_246152	767231.7	6642749.8						Y							Y	
R_246151	767318.4	6642747.4						Y							Y	
R_246131	766356.6	6642737.8	Y		Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246128	766427.1	6642733.4	Y		Y		Y	Y			Y		Y		Y	
R_246129	766482.6	6642732.5						Y							Y	
R_246140	767236.4	6642730.4						Y							Y	
R_246142	767325.5	6642729.8						Y							Y	
R_246134	767393.7	6642716.9						Y							Y	
R_246130	767253.1	6642714.6						Y							Y	Y
R_246133	767521.8	6642713.7						Y							Y	
R_246115	766303.1	6642713.6	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_246113	766331.1	6642711.9	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y
R_246127	767331.6	6642709.7						Y							Y	
R_246114	766461.7	6642709.4			Y			Y					Y		Y	
R_246109	766364.3	6642703.5	Y		Y	Y	Y	Y			Y		Y		Y	Y
R_246126	767501.7	6642703.4						Y							Y	
R_246119	767249.4	6642696.5			Y			Y					Y		Y	
R_246123	767488.8	6642695.4						Y							Y	
R_246106	766417.7	6642694.7	Y		Y		Y	Y			Y		Y		Y	
R_246122	767400.6	6642694.6						Y							Y	
R_246104	766456.4	6642688.1			Y			Y					Y		Y	
R_246108	767265.7	6642677.6						Y							Y	
R_246110	767563.0	6642674.6													Y	
R_246103	767578.1	6642656.3													Y	
R_246100	767512.9	6642644.3													Y	
R_246095	767279.1	6642641.1						Y							Y	
R_246054	765318.7	6642635.4	Y	Y	Y		Y	Y	Y		Y		Y	Y	Y	
R_246096	767581.8	6642634.9													Y	
R_246093	767490.1	6642633.6													Y	
R_246092	767522.9	6642630.7													Y	
R_246071	766417.4	6642627.7	Y		Y		Y	Y			Y		Y		Y	
R_246083	767289.8	6642625.5						Y							Y	
R_246084	767340.6	6642624.7						Y							Y	
R_246086	767594.4	6642620.0													Y	
R_246077	767443.3	6642615.7						Y							Y	
R_246081	767679.8	6642615.0						Y							Y	
R_246074	767527.2	6642610.6													Y	
R_246090	768459.3	6642606.0													Y	
R_246051	766431.1	6642605.4	Y		Y		Y	Y			Y		Y		Y	
R_246069	767292.6	6642604.7						Y							Y	
R_246072	767607.7	6642602.9													Y	
R_246066	767537.0	6642594.1													Y	
R_246067	767680.5	6642592.2						Y							Y	
R_246061	767446.1	6642591.6													Y	
R_246059	767388.8	6642589.2													Y	
R_246073	768463.0	6642585.3													Y	
R_246055	767448.2	6642583.5													Y	
R_246057	767610.0	6642581.9													Y	
R_246030	766444.4	6642580.5	Y		Y			Y			Y		Y		Y	
R_246045	767243.2	6642579.0						Y							Y	
R_246047	767455.7	6642576.1													Y	
R_246052	767693.7	6642575.0													Y	
R_246048	767543.3	6642574.3													Y	
R_246041	767396.5	6642572.2													Y	
R_246038	767474.6	6642564.7													Y	
R_246035	767324.7	6642562.5						Y							Y	

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																	
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	
R_246037	767618.0	6642559.4													Y		
R_246017	766460.4	6642556.6	Y		Y			Y			Y		Y		Y		
R_246033	767557.3	6642556.3													Y		
R_246028	767622.0	6642548.8													Y		
R_331696	767475.0	6642546.3													Y		
R_246020	767319.0	6642543.3						Y							Y		
R_246022	767397.4	6642541.9													Y		
R_246025	767712.9	6642541.4													Y		
R_246024	767563.0	6642538.7													Y		
R_246021	767622.3	6642536.0													Y		
R_246000	766461.7	6642534.5	Y		Y		Y	Y			Y		Y		Y		
R_246015	767421.5	6642532.6													Y		
R_246012	767260.1	6642531.3						Y							Y		
R_246016	767495.0	6642531.2													Y		
R_245992	766478.4	6642520.5						Y							Y		
R_246004	767332.6	6642520.1						Y							Y		
R_246006	767422.6	6642518.3													Y		
R_246008	767572.1	6642517.7													Y		
R_246001	767270.0	6642515.3						Y							Y		
R_245998	767496.5	6642508.3													Y		
R_245974	766485.7	6642502.0			Y			Y					Y		Y		
R_245991	767281.1	6642499.6													Y		
R_245988	767274.6	6642496.4						Y							Y		
R_245993	767731.0	6642490.7													Y		
R_245979	767354.3	6642486.8						Y							Y		
R_245982	767499.0	6642486.7													Y		
R_245954	766493.5	6642482.9	Y		Y			Y			Y		Y		Y		
R_245977	767439.4	6642481.0													Y		
R_245972	767284.2	6642480.8						Y							Y		
R_245980	767811.2	6642477.6													Y		
R_245978	767743.2	6642475.4													Y		
R_245940	766506.0	6642468.2			Y			Y					Y		Y		
R_245959	767292.7	6642467.6						Y							Y		
R_245958	767363.1	6642465.8						Y							Y		
R_245948	767301.6	6642456.0						Y							Y		
R_245956	767748.5	6642454.6													Y		
R_245965	768056.2	6642454.5						Y							Y		
R_245924	766517.2	6642449.5			Y			Y			Y		Y		Y		
R_245951	767820.4	6642445.5													Y		
R_245939	767370.1	6642444.6						Y							Y		
R_245936	767305.7	6642441.9													Y		
R_245953	768040.6	6642441.1						Y							Y		
R_245945	768019.9	6642433.7						Y							Y		
R_245923	767381.0	6642428.1						Y							Y		
R_245898	766516.7	6642425.7			Y			Y					Y		Y		
R_245934	768003.2	6642423.5						Y							Y		
R_245914	767304.0	6642419.8						Y							Y		
R_245885	766537.7	6642413.2						Y							Y		
R_245921	767965.8	6642412.5						Y							Y		
R_245916	767920.5	6642407.5													Y		
R_245910	767951.3	6642400.1						Y							Y		
R_245865	766540.4	6642394.8						Y							Y		
R_245888	767385.8	6642394.4													Y		
R_245899	767934.4	6642391.6													Y		
R_245901	768076.1	6642391.3						Y							Y		
R_245887	767781.4	6642383.9													Y		
R_245848	766548.9	6642378.6			Y			Y					Y		Y		
R_245870	767876.5	6642365.3													Y		
R_245820	766556.6	6642357.4			Y			Y					Y		Y		
R_245795	766569.3	6642338.6						Y							Y		
R_245781	766585.5	6642325.9						Y							Y		
R_245757	766592.2	6642307.1			Y			Y					Y		Y		
R_245753	767375.2	6642285.4						Y							Y		
R_245728	766602.7	6642283.2			Y			Y					Y		Y		
R_245664	761829.8	6642204.2						Y							Y		

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_245666	766845.8	6642093.4						Y							Y	
R_245663	766685.7	6642084.8						Y							Y	
R_245625	761840.0	6642084.5						Y							Y	
R_245662	766820.2	6642081.1						Y							Y	
R_245660	766884.4	6642072.3						Y							Y	
R_245658	766783.4	6642071.7						Y							Y	
R_245650	766710.3	6642040.5						Y							Y	
R_245639	765242.6	6642038.6			Y		Y	Y			Y		Y		Y	
R_245651	766846.7	6642038.4						Y							Y	
R_245638	765805.0	6642024.8	Y	Y	Y		Y	Y	Y		Y		Y		Y	
R_245646	766811.7	6642024.7						Y							Y	
R_245643	766734.2	6642023.3						Y							Y	
R_245644	766855.7	6642020.7						Y							Y	
R_245645	766926.5	6642020.5						Y							Y	
R_245641	766820.8	6642004.8						Y							Y	
R_245635	766742.1	6641998.3						Y							Y	
R_245631	766754.5	6641981.1						Y							Y	
R_245617	765484.8	6641978.7			Y		Y	Y					Y		Y	
R_245629	766835.6	6641972.4						Y							Y	
R_245619	766766.0	6641954.6						Y							Y	
R_245612	766856.4	6641928.9						Y							Y	
R_245611	766778.0	6641926.9						Y							Y	
R_245608	766863.7	6641910.5						Y							Y	
R_245606	766788.8	6641903.7						Y							Y	
R_245605	766876.4	6641894.0						Y							Y	
R_245604	766804.5	6641885.4						Y							Y	
R_245570	760746.9	6641870.1						Y							Y	
R_245600	766819.6	6641867.9						Y							Y	
R_245599	766888.1	6641852.3						Y							Y	
R_245598	766807.9	6641844.6						Y							Y	
R_245593	766238.1	6641840.1						Y							Y	
R_245591	766834.6	6641821.4						Y							Y	
R_245588	766848.5	6641799.2						Y							Y	
R_245578	764861.7	6641796.5	Y		Y		Y	Y			Y		Y	Y	Y	Y
R_332870	766808.4	6641776.2						Y							Y	
R_245579	765927.6	6641771.5			Y			Y					Y		Y	
R_245580	766009.5	6641770.4						Y							Y	
R_328404	767077.4	6641770.0						Y							Y	
R_332825	766785.1	6641766.3						Y							Y	
R_328403	767091.1	6641750.0						Y							Y	
R_332762	766940.0	6641747.2						Y							Y	
R_332727	766880.8	6641746.4						Y							Y	
R_333045	766964.7	6641737.0						Y							Y	
R_333075	766864.5	6641736.8						Y							Y	
R_332826	766847.3	6641726.6						Y							Y	
R_245560	765314.9	6641723.3	Y		Y		Y	Y			Y		Y		Y	
R_327356	767107.4	6641720.9						Y							Y	
R_245544	763131.0	6641717.2	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y
R_333072	766828.5	6641715.0						Y							Y	
R_332726	766808.0	6641708.7						Y							Y	
R_332987	766892.1	6641701.0						Y							Y	
R_333073	766974.2	6641695.2													Y	
R_327698	767125.4	6641691.6						Y							Y	
R_332788	766772.7	6641691.0						Y							Y	
R_327377	766991.6	6641681.4						Y							Y	
R_332787	766756.5	6641680.1						Y							Y	
R_332913	766899.2	6641679.4						Y							Y	
R_333179	766738.6	6641676.0						Y							Y	
R_245553	765837.1	6641675.7						Y							Y	
R_332894	766843.3	6641675.7						Y							Y	
R_327697	767137.2	6641668.2						Y							Y	
R_333201	766720.3	6641665.7						Y							Y	
R_327112	766995.8	6641662.6						Y							Y	
R_332758	766904.1	6641660.7						Y							Y	
R_332986	766847.4	6641654.2						Y							Y	

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Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_327696	767148.2	6641647.8						Y							Y	
R_332908	766784.3	6641647.0						Y							Y	
R_245543	766104.9	6641641.5						Y							Y	
R_327111	767000.7	6641641.3						Y							Y	
R_245542	765791.5	6641637.6						Y							Y	
R_332960	766743.4	6641626.3						Y							Y	
R_332728	766863.9	6641618.9						Y							Y	
R_333211	766752.8	6641607.6						Y							Y	
R_328506	766876.6	6641600.0						Y							Y	
R_332962	766818.6	6641596.0						Y							Y	
R_332809	766762.4	6641590.5						Y							Y	
R_327358	767206.7	6641573.7						Y							Y	
R_332961	766770.2	6641570.8						Y							Y	
R_327357	767196.9	6641567.6													Y	
R_328903	766886.6	6641555.5						Y							Y	
R_245534	763432.2	6641553.7	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y
R_333184	766778.1	6641552.2						Y							Y	
R_327729	767236.1	6641551.7						Y							Y	
R_328505	766865.8	6641546.8						Y							Y	
R_245524	763416.5	6641528.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R_327857	766819.1	6641519.9						Y							Y	
R_245523	763701.8	6641519.7	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y
R_327813	766804.9	6641513.7						Y							Y	
R_245517	763446.2	6641505.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R_327814	766794.9	6641504.1						Y							Y	
R_327809	766912.6	6641503.3						Y							Y	
R_333421	766492.6	6641461.5						Y							Y	
R_327176	766845.6	6641460.5						Y							Y	
R_328583	766823.8	6641457.4						Y							Y	
R_245520	766045.8	6641456.9						Y							Y	
R_245512	763542.5	6641447.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R_332822	766293.7	6641413.9						Y							Y	
R_327800	766890.6	6641411.7						Y							Y	
R_327738	766785.6	6641410.4						Y							Y	
R_332860	766321.8	6641386.7						Y							Y	
R_333470	766261.6	6641352.2						Y							Y	
R_333471	766208.2	6641324.4						Y							Y	
R_333403	766408.1	6641314.7						Y							Y	
R_333384	766415.8	6641292.4						Y							Y	
R_245497	764364.2	6641287.3	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y
R_332821	766336.2	6641285.1						Y							Y	
R_245496	764982.8	6641271.6			Y			Y			Y		Y		Y	
R_245502	765229.7	6641269.8						Y							Y	
R_332789	766312.5	6641268.0						Y							Y	
R_333623	766274.5	6641267.0						Y							Y	
R_245494	764952.4	6641265.5			Y			Y					Y		Y	
R_333396	766281.3	6641264.8						Y							Y	
R_245491	765017.0	6641258.7			Y			Y			Y		Y		Y	
R_245490	764999.3	6641255.4						Y							Y	
R_245489	765044.2	6641253.4			Y			Y			Y		Y		Y	
R_245488	765070.5	6641250.9			Y			Y					Y		Y	
R_245459	763475.3	6641248.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R_245485	765086.1	6641245.9						Y							Y	
R_245484	765105.5	6641245.2			Y			Y					Y		Y	
R_333472	766352.1	6641244.3						Y							Y	
R_245481	765160.9	6641242.7			Y			Y					Y		Y	
R_245480	765124.3	6641241.6			Y			Y					Y		Y	
R_245477	764944.1	6641240.1			Y			Y					Y		Y	
R_245462	763920.6	6641239.2	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y
R_245454	763603.0	6641238.8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R_245478	765141.2	6641237.7			Y			Y					Y		Y	
R_245476	765176.3	6641234.1			Y			Y					Y		Y	
R_245475	765194.5	6641231.0			Y			Y					Y		Y	
R_245474	765215.9	6641230.0			Y			Y					Y		Y	
R_333258	766341.3	6641227.7						Y							Y	

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_245471	765236.7	6641225.9			Y			Y					Y		Y	
R_332766	766264.0	6641222.0						Y							Y	
R_245470	765255.3	6641218.2						Y							Y	
R_332710	766287.6	6641216.9													Y	
R_245452	764370.4	6641216.5	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_245469	765275.4	6641214.4						Y							Y	
R_332837	765998.6	6641213.3						Y							Y	
R_245456	764951.1	6641210.6			Y			Y			Y		Y		Y	
R_245466	765296.2	6641210.4						Y							Y	
R_245438	764286.0	6641208.8	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_245455	764995.6	6641208.2						Y							Y	
R_245463	765315.8	6641206.5						Y							Y	
R_333317	766332.1	6641205.0													Y	
R_245453	764973.1	6641204.8						Y							Y	
R_245451	765014.2	6641200.5						Y							Y	
R_245443	764798.4	6641198.4	Y		Y			Y			Y		Y		Y	
R_245442	764781.9	6641198.4			Y			Y					Y		Y	
R_245449	765033.1	6641197.4						Y							Y	
R_245424	764346.3	6641195.9	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y
R_245447	765097.9	6641194.7						Y							Y	
R_245434	764814.0	6641193.4			Y			Y			Y		Y		Y	
R_245450	765358.8	6641191.8						Y							Y	
R_245446	765115.6	6641191.5						Y							Y	
R_245441	765054.4	6641191.4						Y							Y	
R_245445	765133.8	6641190.8						Y							Y	
R_245439	765076.2	6641189.7						Y							Y	
R_245429	764844.1	6641186.7			Y			Y			Y		Y		Y	
R_332980	766147.9	6641185.8						Y							Y	
R_245423	764881.2	6641182.4			Y			Y					Y		Y	
R_245430	765151.8	6641181.8						Y							Y	
R_245431	765173.1	6641181.5						Y							Y	
R_245440	764916.1	6641179.1			Y			Y			Y		Y		Y	
R_245416	764896.1	6641176.5						Y							Y	
R_332705	766202.7	6641176.1						Y							Y	
R_245418	765204.3	6641171.7						Y							Y	
R_245419	765248.6	6641170.7						Y							Y	
R_245412	764940.5	6641170.2						Y							Y	
R_245422	765356.4	6641170.1						Y							Y	
R_332691	766141.8	6641169.4						Y							Y	
R_245415	765268.4	6641167.1						Y							Y	
R_328095	766457.0	6641163.9						Y							Y	
R_245411	765223.6	6641163.2						Y							Y	
R_245403	764991.7	6641163.2						Y							Y	
R_245401	764973.3	6641163.2			Y			Y					Y		Y	
R_245395	764718.0	6641162.9	Y		Y			Y			Y		Y		Y	Y
R_333021	766247.7	6641161.6						Y							Y	
R_245400	765008.6	6641160.4						Y							Y	
R_332711	766272.3	6641159.7						Y							Y	
R_245396	765043.7	6641156.4						Y							Y	
R_245404	765289.5	6641156.2						Y							Y	
R_332629	766198.0	6641155.2						Y							Y	
R_332873	766310.3	6641154.9						Y							Y	
R_245381	764742.2	6641153.9	Y		Y			Y			Y		Y		Y	
R_245393	765022.4	6641153.6						Y							Y	
R_245399	765307.8	6641153.1						Y							Y	
R_245377	764777.6	6641150.8			Y			Y			Y		Y		Y	
R_245387	765058.0	6641149.0						Y							Y	
R_245374	764710.7	6641147.0	Y		Y	Y		Y			Y		Y		Y	Y
R_333473	766138.0	6641146.7						Y							Y	
R_245382	765075.8	6641146.0						Y							Y	
R_245391	765347.2	6641145.3						Y							Y	
R_245378	765094.2	6641143.2						Y							Y	
R_245376	765110.7	6641140.2						Y							Y	
R_245367	764844.5	6641137.9			Y			Y			Y		Y		Y	
R_333022	766247.4	6641135.6						Y							Y	

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_245372	765130.1	6641134.0													Y	
R_329377	766445.8	6641133.8						Y							Y	
R_245371	765148.9	6641132.7						Y							Y	
R_245361	764880.6	6641131.9			Y			Y					Y		Y	
R_245358	764705.2	6641130.2	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_332752	766137.3	6641127.4						Y							Y	
R_245368	765344.7	6641126.1						Y							Y	
R_245366	765249.8	6641125.7						Y							Y	
R_245356	764837.3	6641124.9						Y							Y	
R_245362	765175.5	6641124.8													Y	
R_245357	764904.1	6641124.4			Y			Y					Y		Y	
R_245365	765233.4	6641123.8						Y							Y	
R_245352	764770.0	6641123.1			Y			Y					Y		Y	
R_245353	764926.8	6641119.8			Y			Y					Y		Y	
R_245360	765215.0	6641119.6													Y	
R_333266	766242.4	6641118.0						Y							Y	
R_245351	764944.0	6641117.8						Y							Y	
R_245359	765300.8	6641116.5						Y							Y	
R_245344	764697.3	6641113.5	Y	Y	Y			Y			Y		Y		Y	
R_245355	765279.2	6641113.1						Y							Y	
R_245349	764963.7	6641112.7						Y							Y	
R_245341	764755.3	6641110.9			Y			Y					Y		Y	
R_245339	764662.1	6641110.4	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_245354	765340.7	6641109.9						Y							Y	
R_245346	765005.8	6641107.9						Y							Y	
R_245345	764981.5	6641107.5						Y							Y	
R_245340	764866.3	6641107.1			Y			Y					Y		Y	
R_332753	766134.6	6641107.1						Y							Y	
R_328096	766426.8	6641103.4						Y							Y	
R_245334	764681.8	6641103.0	Y		Y			Y			Y		Y		Y	Y
R_245337	765023.7	6641099.9						Y							Y	
R_245330	764881.7	6641096.9						Y							Y	
R_245324	764748.4	6641094.8						Y							Y	
R_245336	765344.0	6641091.5						Y							Y	
R_245328	765095.6	6641090.4						Y							Y	
R_333458	765578.7	6641088.1						Y							Y	
R_333162	766133.3	6641087.7						Y							Y	
R_245325	765117.0	6641086.1						Y							Y	
R_245321	764901.9	6641085.9						Y							Y	
R_332977	765670.8	6641080.6						Y							Y	
R_245313	764735.2	6641079.9						Y							Y	
R_245310	764654.4	6641079.0	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_245319	765154.0	6641078.8													Y	
R_245314	764918.1	6641076.8						Y							Y	
R_245311	764805.5	6641076.5						Y							Y	
R_245316	765008.6	6641075.4						Y							Y	
R_245317	765184.9	6641073.7													Y	
R_245309	764935.8	6641071.6						Y							Y	
R_245312	765081.6	6641069.8													Y	
R_333023	766128.8	6641068.9						Y							Y	
R_245294	764677.4	6641064.6			Y			Y					Y		Y	
R_245296	764727.7	6641063.4			Y			Y					Y		Y	
R_245299	764951.0	6641061.9						Y							Y	
R_245300	764997.2	6641061.1						Y							Y	
R_245295	764827.7	6641061.0						Y							Y	
R_245290	764689.2	6641058.7			Y			Y			Y		Y		Y	
R_333398	765536.4	6641058.2						Y							Y	
R_245298	765071.9	6641055.9													Y	
R_333024	766230.5	6641052.1													Y	
R_245283	764793.1	6641050.4						Y							Y	
R_245286	764840.9	6641050.1			Y			Y					Y		Y	
R_333399	765574.6	6641047.4						Y							Y	
R_245289	765170.7	6641046.9													Y	
R_245285	764990.1	6641046.2						Y							Y	
R_245279	764855.8	6641041.0						Y							Y	

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_245276	764712.9	6641040.8		Y	Y			Y			Y		Y		Y	
R_332790	766011.1	6641040.1						Y							Y	
R_245280	765067.7	6641038.7													Y	
R_333071	765739.6	6641036.4						Y							Y	
R_333149	766073.7	6641034.0						Y							Y	
R_332842	766050.7	6641033.8						Y							Y	
R_245274	764981.6	6641031.3						Y							Y	
R_245268	764782.9	6641030.5						Y							Y	
R_333207	766092.1	6641030.1						Y							Y	
R_245264	764618.5	6641030.0	Y		Y			Y			Y		Y		Y	
R_245275	765146.9	6641028.2													Y	
R_245265	764870.7	6641026.4						Y							Y	
R_245269	765122.0	6641024.9													Y	
R_245266	765058.5	6641022.3													Y	
R_332834	766149.9	6641019.2						Y							Y	
R_245262	764886.9	6641019.0						Y							Y	
R_333395	766170.9	6641016.2													Y	
R_245259	764775.0	6641014.9						Y							Y	
R_245251	764494.8	6641014.8	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_333167	766109.9	6641014.5						Y							Y	
R_333127	766128.3	6641013.9						Y							Y	
R_245255	764798.8	6641010.9						Y							Y	
R_245260	765044.6	6641010.6													Y	
R_245258	764900.6	6641009.9			Y			Y					Y		Y	
R_245241	764509.7	6641006.0	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_245252	764916.9	6641005.2						Y							Y	
R_245246	764763.1	6641003.1						Y							Y	
R_245248	765033.8	6640998.3													Y	
R_245234	764528.7	6640997.4	Y		Y	Y		Y			Y		Y		Y	Y
R_245240	764950.0	6640995.2						Y							Y	
R_328446	766258.7	6640994.0						Y							Y	
R_245237	764784.5	6640993.7						Y							Y	
R_245235	764846.9	6640990.6						Y							Y	
R_327270	766323.9	6640990.6													Y	
R_245233	764804.9	6640987.5						Y							Y	
R_245232	764685.7	6640986.3				Y		Y							Y	Y
R_332792	765999.7	6640986.1						Y							Y	
R_332867	765125.7	6640985.2													Y	
R_245224	764543.4	6640983.3			Y	Y		Y					Y		Y	Y
R_332716	766023.3	6640981.1						Y							Y	
R_245225	764819.0	6640978.4						Y							Y	
R_245228	764945.7	6640976.3						Y							Y	
R_245218	764563.3	6640975.3	Y		Y	Y		Y					Y		Y	Y
R_245219	764834.8	6640969.6						Y							Y	
R_245216	764671.4	6640969.4	Y		Y			Y					Y		Y	
R_245214	764583.6	6640968.0			Y			Y					Y		Y	Y
R_245210	764279.1	6640966.4	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y
R_332868	765118.3	6640965.7													Y	
R_245209	764459.2	6640961.8	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_245215	764936.8	6640961.2													Y	
R_245213	764849.0	6640960.4						Y							Y	
R_245211	764733.4	6640957.9			Y			Y					Y		Y	
R_245208	764602.5	6640957.0	Y		Y	Y		Y			Y		Y		Y	Y
R_245212	765004.6	6640954.4						Y							Y	
R_327147	766177.1	6640954.1						Y							Y	
R_245205	764476.4	6640952.7	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_333077	765109.8	6640950.8													Y	
R_245206	764927.3	6640944.5													Y	
R_328444	766217.1	6640944.0													Y	
R_245203	764754.7	6640943.2						Y							Y	
R_245199	764495.3	6640940.6	Y	Y	Y			Y			Y		Y		Y	Y
R_245201	764614.2	6640938.6		Y	Y	Y		Y					Y		Y	Y
R_332724	765030.0	6640938.6													Y	
R_245197	764721.3	6640934.5						Y							Y	
R_245198	764770.7	6640933.8						Y							Y	

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Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_245200	764915.2	6640931.3						Y							Y	
R_245194	764631.8	6640930.7						Y							Y	
R_245191	764511.6	6640930.3	Y	Y	Y		Y	Y			Y		Y		Y	Y
R_332673	764998.9	6640926.9													Y	
R_245189	764646.9	6640924.8	Y		Y			Y					Y		Y	
R_245190	764783.4	6640923.0						Y							Y	
R_245186	764527.8	6640920.2	Y		Y			Y					Y		Y	Y
R_333323	765062.1	6640919.7						Y							Y	
R_245182	764439.5	6640916.6	Y	Y	Y	Y	Y	Y	Y		Y		Y		Y	Y
R_245184	764709.1	6640914.6						Y							Y	
R_245185	764799.6	6640913.4						Y							Y	
R_245188	764908.2	6640912.9						Y							Y	
R_245167	763848.3	6640912.2	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y
R_332859	765088.5	6640905.9						Y							Y	
R_245181	764818.2	6640905.6						Y							Y	
R_245175	764542.3	6640904.3			Y			Y					Y		Y	Y
R_245170	764422.0	6640901.1	Y	Y	Y	Y		Y					Y		Y	Y
R_245172	764563.4	6640898.4	Y		Y			Y			Y		Y		Y	Y
R_245161	764339.1	6640897.5	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_332902	764960.9	6640894.7						Y							Y	
R_245162	764582.4	6640891.9			Y			Y			Y		Y		Y	Y
R_245171	764829.8	6640891.4						Y							Y	
R_332665	765077.0	6640891.0													Y	
R_245156	764438.2	6640890.4	Y	Y	Y	Y		Y					Y	Y	Y	Y
R_245164	764695.5	6640890.3	Y		Y			Y					Y		Y	
R_245155	764595.5	6640885.0	Y		Y			Y					Y		Y	Y
R_333451	764972.3	6640882.1													Y	
R_245159	764842.6	6640881.9						Y							Y	
R_333248	765068.2	6640878.3													Y	
R_245144	764454.1	6640877.3	Y		Y	Y		Y					Y		Y	Y
R_245150	764715.1	6640877.0			Y			Y					Y		Y	
R_245146	764601.1	6640875.1						Y							Y	Y
R_332630	764882.9	6640874.2						Y							Y	
R_332975	764986.1	6640871.2						Y							Y	
R_245139	764615.4	6640870.0			Y			Y					Y		Y	Y
R_245142	764731.8	6640869.7						Y							Y	
R_332640	764999.5	6640866.7						Y							Y	
R_245135	764472.6	6640865.1	Y		Y	Y		Y					Y		Y	Y
R_245138	764747.6	6640863.0						Y							Y	
R_333197	765058.8	6640861.6													Y	
R_245132	764762.9	6640855.5						Y							Y	
R_332678	764870.7	6640854.6						Y							Y	
R_245128	764491.1	6640853.8	Y		Y	Y		Y					Y		Y	Y
R_332674	765046.9	6640851.1													Y	
R_245120	764505.1	6640845.2			Y	Y		Y					Y		Y	Y
R_245126	764777.8	6640844.5						Y							Y	
R_333415	764862.8	6640842.1						Y							Y	
R_245114	764385.6	6640839.2	Y	Y	Y	Y	Y	Y	Y				Y		Y	Y
R_332865	764932.2	6640838.2						Y							Y	
R_245118	764796.8	6640837.0						Y							Y	
R_245113	764521.6	6640833.0			Y	Y		Y					Y		Y	Y
R_245115	764655.4	6640832.8			Y			Y					Y		Y	
R_333416	765040.9	6640832.4													Y	
R_245111	764581.4	6640829.4	Y		Y			Y					Y		Y	Y
R_245112	764672.4	6640828.3						Y							Y	
R_332696	764807.9	6640827.7						Y							Y	
R_332677	764852.5	6640823.8													Y	
R_245107	764429.1	6640823.6	Y		Y	Y		Y			Y		Y		Y	Y
R_245106	764539.0	6640820.9			Y	Y		Y					Y		Y	Y
R_332794	764919.2	6640819.6													Y	
R_333032	764960.8	6640818.5													Y	
R_245104	764398.0	6640815.5	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_245105	764687.7	6640814.3						Y							Y	
R_245103	764445.6	6640814.1			Y	Y		Y					Y		Y	Y
R_332676	764821.0	6640810.2						Y							Y	

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Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_245101	764703.5	6640806.9						Y							Y	
R_245097	764469.5	6640801.1	Y		Y			Y			Y		Y		Y	Y
R_245096	764567.0	6640798.0	Y		Y	Y		Y					Y		Y	Y
R_333412	764838.7	6640797.2						Y							Y	
R_332938	764726.6	6640796.8			Y			Y					Y		Y	
R_332976	764947.8	6640796.4													Y	
R_245093	764425.5	6640792.5	Y		Y	Y		Y					Y		Y	Y
R_333076	765016.0	6640791.3						Y							Y	
R_332973	764740.9	6640789.2			Y			Y					Y		Y	
R_327950	766334.5	6640787.2													Y	
R_245091	764497.0	6640782.8	Y		Y			Y					Y		Y	Y
R_245090	764618.7	6640778.9			Y			Y					Y		Y	Y
R_332937	765000.7	6640778.6													Y	
R_245088	764442.0	6640778.6	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y
R_332974	764759.0	6640776.8						Y							Y	
R_332796	764888.1	6640776.7													Y	
R_245084	764510.2	6640773.4			Y			Y					Y		Y	Y
R_245083	764635.2	6640768.4						Y							Y	
R_332719	764774.0	6640767.6						Y							Y	
R_245081	764524.4	6640764.0			Y			Y					Y		Y	Y
R_332971	764994.2	6640762.3						Y							Y	
R_332722	764899.4	6640760.1						Y							Y	
R_245078	764480.4	6640758.2	Y		Y	Y		Y					Y		Y	Y
R_333119	764653.2	6640756.0						Y							Y	
R_332797	764912.9	6640755.8						Y							Y	
R_332720	764801.6	6640753.0						Y							Y	
R_245077	764542.7	6640753.0						Y							Y	
R_332972	764986.8	6640744.4						Y							Y	
R_332652	764670.5	6640743.7						Y							Y	
R_332723	764928.5	6640743.2						Y							Y	
R_332668	764685.9	6640739.0						Y							Y	
R_245073	764479.5	6640738.0	Y		Y	Y		Y					Y		Y	Y
R_333062	764792.3	6640734.9						Y							Y	
R_333188	764942.9	6640734.1													Y	
R_332936	764976.8	6640733.6													Y	
R_332951	764707.9	6640727.9						Y							Y	
R_332982	764587.5	6640727.1			Y			Y					Y		Y	Y
R_332898	764857.0	6640722.2						Y							Y	
R_245066	764498.3	6640719.2			Y	Y		Y					Y		Y	Y
R_332916	764965.8	6640716.6						Y							Y	
R_332634	764604.5	6640713.8			Y			Y					Y		Y	Y
R_332953	764719.4	6640711.6						Y							Y	
R_333318	764516.6	6640701.9		Y	Y	Y		Y					Y		Y	Y
R_333333	764578.1	6640701.5			Y			Y					Y		Y	Y
R_332698	764892.8	6640701.1						Y							Y	
R_333301	764738.2	6640701.0						Y							Y	
R_332914	764848.4	6640694.6													Y	
R_333008	764640.0	6640692.1						Y							Y	
R_332784	764906.4	6640690.7													Y	
R_332996	764560.5	6640687.4			Y			Y					Y		Y	Y
R_332897	764616.3	6640685.7						Y							Y	
R_333009	764663.9	6640682.5						Y							Y	
R_333406	764831.2	6640679.4													Y	
R_333359	764556.0	6640677.9			Y			Y					Y		Y	Y
R_332700	764936.6	6640674.7													Y	
R_333191	764673.9	6640672.3						Y							Y	
R_328553	766238.6	6640663.8						Y							Y	
R_333192	764688.0	6640662.7						Y							Y	
R_333058	764926.8	6640658.4													Y	
R_333338	764565.6	6640652.1			Y			Y					Y		Y	Y
R_332799	764707.2	6640651.9						Y							Y	
R_332847	764809.6	6640651.6						Y							Y	
R_333159	764724.9	6640648.2						Y							Y	
R_333465	764819.0	6640646.0						Y							Y	
R_332641	764579.1	6640643.7			Y			Y					Y		Y	Y

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_332699	764929.4	6640641.1													Y	
R_332969	764590.3	6640638.2			Y			Y					Y		Y	Y
R_332917	764741.8	6640632.9						Y							Y	
R_333355	764847.9	6640632.8													Y	
R_332970	764603.1	6640631.8			Y			Y					Y		Y	Y
R_332957	764897.7	6640629.6													Y	
R_333185	764868.0	6640626.5													Y	
R_332979	764512.9	6640625.2			Y			Y					Y		Y	Y
R_332918	764616.6	6640620.2			Y			Y					Y		Y	Y
R_329082	766291.5	6640618.9						Y							Y	
R_332697	764916.4	6640616.0													Y	
R_332988	764725.4	6640614.2						Y							Y	
R_332683	764786.8	6640606.4						Y							Y	
R_332800	764634.5	6640602.8						Y							Y	
R_332811	764887.5	6640602.7													Y	
R_332915	764919.9	6640597.9													Y	
R_333202	764506.9	6640596.2			Y			Y					Y		Y	Y
R_333392	764646.6	6640595.6						Y							Y	
R_332801	764658.9	6640592.1						Y							Y	
R_333329	764713.2	6640589.3													Y	
R_327278	766270.0	6640588.6						Y							Y	
R_332810	764910.6	6640588.0						Y							Y	
R_333417	764818.5	6640587.6													Y	
R_332684	764799.4	6640586.9													Y	
R_333304	764563.9	6640585.2			Y			Y					Y		Y	Y
R_332682	764772.3	6640583.8													Y	
R_332802	764669.5	6640583.7						Y							Y	
R_332803	764684.5	6640579.7						Y							Y	
R_333367	764574.5	6640576.4			Y			Y					Y		Y	Y
R_333152	764506.4	6640574.2			Y			Y					Y		Y	Y
R_327252	766252.8	6640573.0						Y							Y	
R_333433	764833.0	6640570.3													Y	
R_245053	763996.4	6640570.2	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y
R_332804	764701.8	6640569.8													Y	
R_332919	764587.6	6640569.2			Y			Y					Y		Y	Y
R_245048	764027.8	6640561.9	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y
R_332909	764596.5	6640560.0			Y			Y					Y		Y	Y
R_332948	764850.1	6640559.3													Y	
R_333218	764553.8	6640559.3			Y			Y					Y		Y	Y
R_333002	764754.0	6640559.2													Y	
R_331692	764503.6	6640555.4			Y			Y					Y		Y	Y
R_332775	764606.1	6640555.2						Y							Y	Y
R_332947	764872.0	6640554.0						Y							Y	
R_333368	764616.0	6640553.5						Y							Y	
R_332864	764628.2	6640545.6						Y							Y	
R_245034	761224.6	6640544.2	Y		Y			Y					Y		Y	Y
R_245047	764062.0	6640543.3	Y		Y	Y		Y			Y	Y	Y	Y	Y	Y
R_333001	764742.3	6640541.0													Y	
R_245046	764094.9	6640539.0	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_332949	764903.8	6640534.0													Y	
R_332681	764752.4	6640533.9													Y	
R_332981	764649.5	6640528.8						Y							Y	
R_245044	764115.9	6640527.2	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y
R_332743	764763.6	6640523.3													Y	
R_332713	764559.0	6640522.5			Y	Y		Y					Y		Y	Y
R_245042	764129.5	6640521.6	Y		Y	Y		Y			Y	Y	Y	Y	Y	Y
R_332744	764777.9	6640519.4													Y	
R_329352	765766.3	6640518.5						Y							Y	
R_332745	764792.6	6640516.2													Y	
R_333063	764900.7	6640507.9													Y	
R_332742	764816.8	6640505.3													Y	
R_332746	764799.6	6640502.5													Y	
R_332849	764549.9	6640501.4	Y		Y			Y					Y		Y	Y
R_332885	764178.9	6640500.2	Y		Y	Y		Y			Y	Y	Y	Y	Y	Y
R_332850	764655.1	6640498.1						Y							Y	

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																	
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	
R_332651	764840.2	6640496.5						Y							Y		
R_333105	764708.2	6640491.3						Y							Y		
R_332903	764103.2	6640490.3	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	
R_333029	764855.4	6640488.2													Y		
R_332760	764205.4	6640486.7	Y		Y	Y		Y			Y		Y		Y	Y	
R_332887	764577.8	6640481.1			Y			Y					Y		Y	Y	
R_333157	764747.1	6640477.3						Y							Y		
R_332940	764167.7	6640476.5	Y		Y	Y		Y			Y		Y		Y	Y	
R_332888	764632.1	6640476.3						Y							Y		
R_332999	764596.7	6640475.2	Y		Y			Y					Y		Y	Y	
R_333014	764727.4	6640474.6													Y		
R_327943	765738.1	6640472.9													Y		
R_333010	764099.7	6640471.1	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y	
R_327448	766103.0	6640466.3						Y							Y		
R_333111	764753.2	6640466.1													Y		
R_333034	764074.6	6640465.3	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	
R_332812	764861.1	6640463.9													Y		
R_333454	764241.3	6640463.6	Y		Y	Y		Y			Y		Y	Y	Y	Y	
R_333436	764903.7	6640458.1													Y		
R_332941	764160.6	6640457.8	Y		Y	Y		Y			Y		Y	Y	Y	Y	
R_333057	764214.7	6640453.7	Y		Y	Y		Y			Y		Y		Y	Y	
R_332638	764252.6	6640453.3	Y		Y	Y		Y			Y		Y		Y	Y	
R_332813	764878.9	6640452.8													Y		
R_333013	764762.4	6640451.2													Y		
R_332889	764615.4	6640450.3			Y			Y					Y		Y		
R_329441	766131.5	6640449.1						Y							Y		
R_327944	765756.0	6640449.1						Y							Y		
R_333316	764779.9	6640445.2													Y		
R_327450	766137.6	6640442.7						Y							Y		
R_245009	761526.1	6640441.9	Y	Y	Y			Y					Y	Y	Y	Y	
R_332637	764274.4	6640440.1	Y		Y	Y		Y					Y		Y	Y	
R_332884	764069.7	6640440.0	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	
R_333286	764149.8	6640438.7	Y		Y	Y		Y			Y	Y	Y	Y	Y	Y	
R_333012	764800.5	6640437.1						Y							Y		
R_328996	766051.8	6640435.1						Y							Y		
R_332774	764142.7	6640427.8	Y		Y	Y		Y			Y	Y	Y	Y	Y	Y	
R_333011	764811.2	6640423.2													Y		
R_332622	764305.4	6640422.0	Y		Y	Y		Y			Y		Y		Y	Y	
R_245004	760935.9	6640416.8	Y		Y			Y					Y		Y	Y	
R_333271	764058.5	6640412.8	Y		Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	
R_332881	764131.6	6640412.7	Y	Y	Y	Y		Y			Y	Y	Y	Y	Y	Y	
R_333036	764828.9	6640411.8						Y							Y		
R_327276	765790.7	6640407.9						Y							Y		
R_332829	764344.6	6640398.1	Y		Y	Y		Y					Y		Y	Y	
R_333261	764131.1	6640394.3	Y		Y	Y		Y			Y	Y	Y	Y	Y	Y	
R_332945	764046.6	6640390.3	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	
R_332714	764364.7	6640388.4	Y		Y	Y		Y					Y	Y	Y	Y	
R_332639	764726.2	6640387.1	Y		Y			Y					Y		Y		
R_332712	764379.4	6640380.9	Y		Y			Y					Y		Y	Y	
R_332883	764154.4	6640379.2	Y		Y	Y		Y			Y		Y		Y	Y	
R_332824	764038.3	6640375.2	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	
R_332900	764758.9	6640373.5													Y		
R_327272	765836.7	6640371.7						Y							Y		
R_332672	764397.5	6640369.0	Y		Y	Y		Y					Y	Y	Y	Y	
R_333180	764913.9	6640363.4													Y		
R_332636	764178.6	6640362.0	Y		Y	Y		Y			Y		Y		Y	Y	
R_332773	764092.1	6640360.0	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	
R_332899	764770.2	6640359.9	Y		Y			Y					Y		Y		
R_332635	764194.5	6640355.3	Y		Y	Y		Y			Y		Y		Y	Y	
R_332791	764208.4	6640347.3	Y		Y	Y		Y			Y		Y		Y	Y	
R_332944	764111.6	6640346.0	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y	
R_332858	764806.8	6640340.0													Y		
R_332628	764225.7	6640339.9	Y		Y	Y		Y					Y		Y	Y	
R_332946	764138.5	6640332.2	Y		Y	Y		Y					Y	Y	Y	Y	
R_333181	764833.5	6640329.4													Y		

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_332669	764244.7	6640326.3	Y		Y	Y		Y					Y		Y	Y
R_333155	764902.3	6640326.1													Y	
R_332985	764076.1	6640322.6	Y	Y	Y	Y		Y			Y	Y	Y	Y	Y	Y
R_332954	764262.5	6640320.3	Y		Y	Y		Y					Y		Y	Y
R_332955	764277.2	6640314.8			Y			Y					Y		Y	Y
R_333263	763916.1	6640313.9	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y
R_332740	764295.6	6640310.4	Y		Y			Y					Y		Y	Y
R_333120	764166.6	6640307.8	Y		Y	Y	Y	Y			Y		Y	Y	Y	Y
R_333068	764415.8	6640306.9	Y		Y			Y					Y		Y	Y
R_328500	765949.5	6640304.2													Y	
R_332666	764186.1	6640297.6	Y		Y	Y		Y					Y		Y	Y
R_332731	764887.2	6640294.8													Y	
R_244987	760724.2	6640291.6													Y	
R_333348	764301.1	6640288.9	Y		Y	Y		Y					Y		Y	Y
R_333232	764381.3	6640287.2	Y		Y			Y					Y		Y	Y
R_332798	764409.1	6640286.2	Y		Y			Y					Y		Y	Y
R_332993	764318.4	6640285.3						Y							Y	Y
R_333016	764903.4	6640284.7													Y	
R_333276	764216.0	6640279.4	Y		Y	Y		Y					Y		Y	Y
R_333424	764108.9	6640278.5	Y		Y	Y		Y			Y		Y	Y	Y	Y
R_332741	764044.2	6640272.3	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_332833	764332.5	6640271.7			Y	Y		Y					Y		Y	Y
R_332625	764229.4	6640270.9	Y		Y	Y		Y					Y		Y	Y
R_332942	763969.5	6640269.0	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y
R_332886	764389.4	6640267.0			Y			Y					Y		Y	Y
R_332759	764350.1	6640263.3	Y		Y	Y		Y					Y		Y	Y
R_332626	764246.4	6640260.6	Y		Y	Y		Y					Y		Y	Y
R_244983	761638.5	6640248.4	Y	Y	Y	Y		Y			Y		Y	Y	Y	Y
R_332627	764258.4	6640246.0	Y		Y	Y		Y					Y		Y	Y
R_244979	760199.8	6640239.9													Y	
R_332817	764025.9	6640239.5	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y
R_332734	764378.2	6640238.6			Y			Y					Y		Y	Y
R_333204	764298.8	6640231.4	Y		Y	Y		Y					Y		Y	Y
R_332763	764306.7	6640216.6	Y		Y	Y		Y					Y		Y	Y
R_332735	764429.6	6640208.2			Y			Y					Y		Y	Y
R_333216	764323.3	6640205.8			Y			Y					Y		Y	Y
R_332861	764339.0	6640204.1	Y		Y			Y					Y		Y	Y
R_333240	764360.9	6640195.3	Y		Y			Y					Y		Y	Y
R_332830	764382.3	6640171.6	Y		Y			Y					Y		Y	Y
R_332662	764284.0	6640159.2	Y		Y	Y		Y			Y		Y		Y	Y
R_332862	764328.6	6640145.9	Y		Y	Y		Y			Y		Y		Y	Y
R_244974	761590.7	6640142.6	Y	Y	Y	Y		Y			Y		Y	Y	Y	Y
R_333041	764240.4	6640117.6	Y		Y	Y		Y			Y		Y	Y	Y	Y
R_332992	765088.4	6640100.5						Y							Y	
R_332880	764763.5	6640094.5													Y	
R_333006	764299.7	6640089.2	Y		Y	Y		Y					Y		Y	Y
R_333326	764609.3	6640087.9						Y							Y	
R_332667	764801.8	6640071.3													Y	
R_332648	764820.8	6640060.3													Y	
R_331678	764349.0	6640040.0	Y		Y			Y			Y		Y		Y	Y
R_333474	764975.2	6640026.9			Y			Y					Y		Y	
R_332707	764718.9	6640026.5						Y							Y	
R_333052	764635.3	6640017.7						Y							Y	
R_332807	765004.8	6640015.2													Y	
R_333298	764708.5	6640006.6						Y							Y	
R_333328	764417.6	6640004.5													Y	Y
R_332706	764689.5	6639994.9						Y							Y	
R_332932	764610.0	6639987.4						Y							Y	
R_332618	764692.2	6639975.8						Y							Y	
R_332688	764597.5	6639971.7						Y							Y	
R_332841	764668.7	6639967.8						Y							Y	
R_332664	764589.6	6639957.5						Y							Y	
R_332921	764990.2	6639954.8													Y	
R_332840	764693.0	6639951.5						Y							Y	
R_332839	764664.1	6639948.2													Y	

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_332663	764579.0	6639938.8			Y			Y					Y		Y	Y
R_333444	765010.9	6639935.8													Y	
R_332781	764652.0	6639934.1													Y	
R_333128	764527.6	6639930.2	Y		Y								Y		Y	Y
R_327312	760411.7	6639926.5													Y	
R_332911	765028.4	6639925.4													Y	
R_333255	764635.4	6639922.5													Y	
R_333079	764574.1	6639920.5			Y								Y		Y	Y
R_332931	764560.7	6639908.1													Y	
R_332655	764626.9	6639896.0													Y	
R_333005	763265.5	6639886.6	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y
R_332689	764615.2	6639877.1													Y	
R_332843	764644.2	6639865.0													Y	
R_332653	764660.4	6639851.5			Y								Y		Y	Y
R_332764	764690.7	6639832.7													Y	
R_332670	764748.4	6639832.5													Y	
R_332749	764706.4	6639821.4													Y	
R_332922	761906.9	6639817.7	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
R_332845	763393.5	6639813.8	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y
R_332671	764753.8	6639793.7													Y	
R_332818	763800.4	6639775.2	Y	Y	Y	Y		Y			Y		Y	Y	Y	Y
R_332844	763493.9	6639724.9	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y
R_333423	764943.1	6639676.9													Y	
R_333400	761417.6	6639646.8	Y		Y	Y		Y			Y		Y		Y	Y
R_332756	764024.7	6639546.5	Y	Y	Y								Y		Y	Y
R_333051	763418.8	6639467.0	Y	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y
R_333004	764377.0	6639411.2						Y							Y	
R_332733	763675.0	6639401.7	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_332657	764363.9	6639218.5	Y		Y								Y		Y	Y
R_333146	764211.8	6639157.3													Y	
R_332805	763545.5	6639128.3	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y
R_332806	763808.5	6639123.6	Y		Y	Y							Y		Y	Y
R_332786	763560.2	6639115.5	Y		Y	Y		Y			Y		Y		Y	Y
R_328813	760889.6	6639041.7													Y	Y
R_332659	763756.1	6639036.3	Y		Y	Y							Y		Y	Y
R_332771	761615.0	6639023.3	Y		Y	Y		Y			Y		Y	Y	Y	Y
R_332924	761698.9	6639015.2	Y		Y	Y		Y			Y		Y	Y	Y	Y
R_332642	764635.9	6638865.0													Y	
R_332739	763291.8	6638763.1	Y		Y	Y		Y			Y		Y		Y	Y
R_332965	763519.3	6638749.9													Y	
R_332964	763489.8	6638712.9													Y	
R_332959	763418.4	6638602.6													Y	
R_333431	763953.8	6638507.7													Y	
R_333020	763843.3	6638445.3													Y	
R_332835	762529.3	6638364.4	Y		Y	Y	Y			Y	Y		Y	Y	Y	Y
R_333038	763195.8	6638302.6	Y		Y	Y					Y		Y		Y	Y
R_332694	762975.4	6638010.2	Y		Y	Y					Y		Y		Y	Y
R_332616	762895.3	6637932.7	Y		Y	Y	Y				Y		Y		Y	Y
R_332615	761608.4	6637316.6	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_332905	761236.4	6636999.1	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_333280	763167.8	6636988.9	Y		Y	Y					Y		Y		Y	Y
R_333018	762893.0	6636986.7	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_333443	763297.0	6636891.8	Y		Y	Y					Y		Y		Y	Y
R_333030	763136.4	6636817.5	Y		Y	Y					Y		Y		Y	Y
R_332893	763226.2	6636737.1	Y		Y	Y							Y		Y	Y
R_333043	763117.1	6636690.4	Y		Y	Y					Y		Y		Y	Y
R_332754	762857.4	6636642.3	Y		Y	Y					Y		Y		Y	Y
R_332780	762761.1	6636510.1	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_332910	763396.7	6636269.6			Y								Y			
R_331669	764354.4	6634408.9													Y	Y
R_331656	764536.9	6634321.6													Y	Y
R_331653	764149.4	6634214.3													Y	Y
R_331671	764318.9	6634206.2													Y	Y
R_331650	764805.4	6634095.0													Y	Y
R_331649	764942.5	6634054.3													Y	Y

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_331851	759790.8	6634042.0	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_331646	765764.6	6633995.7													Y	Y
R_331644	765567.1	6633867.9													Y	Y
R_331645	765859.2	6633729.2													Y	Y
R_331641	765459.9	6633718.2													Y	Y
R_325073	762972.3	6633433.0			Y								Y		Y	Y
R_331638	765428.1	6633430.5													Y	Y
R_332075	759399.0	6633328.4	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_325202	757010.0	6633213.9						Y							Y	
R_331869	756978.4	6632958.6						Y							Y	
R_331852	759553.2	6632770.6	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y
R_331860	758657.7	6631601.4	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y
R_332255	758648.8	6631593.9	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_331839	759348.1	6631474.3	Y		Y	Y	Y	Y			Y		Y		Y	Y
R_331977	758780.4	6631367.3	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331819	758771.8	6631356.9	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331823	756241.6	6630810.4			Y	Y		Y			Y		Y		Y	Y
R_331859	758352.0	6630750.0	Y		Y	Y	Y				Y		Y	Y	Y	Y
R_332070	755526.9	6629632.7	Y		Y	Y		Y			Y		Y		Y	Y
R_332090	757896.3	6629511.8	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_332056	756485.3	6627950.1	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_331845	754226.8	6627900.6			Y			Y					Y		Y	
R_332076	756693.3	6627538.0	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y
R_325053	758020.4	6626683.0						Y							Y	
R_331814	757128.0	6626603.9						Y							Y	
R_331806	756513.4	6626378.3						Y							Y	
R_332063	754903.5	6625893.4	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331855	755377.9	6625817.8	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331847	756680.3	6625645.2													Y	
R_331844	755333.0	6625201.4	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331798	750473.2	6623009.6				Y									Y	Y
R_332054	752948.1	6622477.6	Y		Y								Y		Y	Y
R_331766	700614.6	6586881.9	Y		Y	Y		Y			Y		Y		Y	Y
R_331942	699980.8	6585644.9	Y		Y	Y	Y	Y		Y	Y		Y	Y	Y	Y
R_331843	696270.6	6584980.1	Y		Y								Y		Y	
R_244568	688698.7	6584124.4			Y								Y		Y	Y
R_244562	692054.1	6583343.5	Y		Y	Y	Y				Y		Y	Y	Y	Y
R_244557	686482.8	6582937.8			Y	Y							Y		Y	Y
R_244554	687252.0	6582903.5	Y	Y	Y	Y	Y				Y		Y		Y	Y
R_244531	689350.7	6581762.0	Y		Y	Y	Y				Y		Y		Y	Y
R_244514	687126.7	6581108.9	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_244510	681515.6	6580646.2	Y		Y	Y					Y		Y		Y	Y
R_244502	680347.6	6580030.1	Y	Y	Y	Y	Y				Y		Y		Y	Y
R_244498	680524.5	6579975.1	Y	Y	Y	Y	Y				Y		Y		Y	Y
R_244494	679424.8	6579175.2	Y		Y	Y	Y	Y		Y	Y		Y	Y	Y	Y
R_244492	676961.9	6578204.8						Y							Y	
R_244483	677195.1	6577408.1	Y		Y	Y		Y			Y		Y		Y	Y
R_244465	679470.5	6577139.8	Y		Y	Y	Y	Y			Y		Y		Y	Y
R_331100	695733.3	6575423.0													Y	Y
R_331099	695887.9	6575323.2													Y	Y
R_331330	696900.4	6575305.1													Y	Y
R_331253	696842.1	6575209.4													Y	Y
G900004	695373.9	6575154.0													Y	Y
R_331501	696514.5	6575081.8													Y	Y
R_330984	696973.2	6575048.3													Y	Y
R_331095	696223.0	6575044.8													Y	Y
R_331344	697083.0	6575042.1													Y	Y
R_331343	696952.7	6575003.8													Y	Y
R_331098	696430.4	6574983.4													Y	Y
R_331097	696690.3	6574951.0													Y	Y
R_331053	696867.0	6574928.2													Y	Y
R_331127	696890.1	6574927.6													Y	Y
R_331052	696802.3	6574918.1													Y	Y
G900010	696937.1	6574898.0													Y	Y
R_331057	697185.6	6574868.5													Y	Y

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_331360	696274.3	6574862.2													Y	Y
G900013	695657.2	6574847.0													Y	Y
R_331336	697267.0	6574807.8													Y	Y
R_331157	697116.6	6574807.0													Y	Y
R_331154	697141.7	6574802.5													Y	Y
R_331030	697171.0	6574799.5													Y	Y
R_331031	697029.2	6574783.2													Y	Y
R_331168	697262.9	6574775.9													Y	Y
R_331032	697088.0	6574754.1													Y	Y
R_331153	697143.9	6574738.5													Y	Y
R_330953	696746.0	6574733.4													Y	Y
R_331125	696801.4	6574724.9													Y	Y
R_331048	696904.8	6574704.4													Y	Y
R_331045	697022.8	6574689.1													Y	Y
R_331086	697086.1	6574677.8													Y	Y
R_331171	697126.0	6574663.3													Y	Y
R_331135	697164.9	6574661.0													Y	Y
R_331083	697205.0	6574653.4													Y	Y
R_331008	697245.5	6574643.5													Y	Y
R_331047	696938.0	6574633.8													Y	Y
R_330952	696863.8	6574633.6													Y	Y
R_331085	697059.8	6574619.7													Y	Y
R_331136	696990.7	6574606.9													Y	Y
R_331169	697120.4	6574606.3													Y	Y
R_331170	697163.2	6574605.5													Y	Y
R_331121	697198.2	6574596.6													Y	Y
R_330982	697054.5	6574588.7													Y	Y
R_331066	697227.7	6574567.0													Y	Y
R_331148	697062.8	6574537.4													Y	Y
R_331239	697516.2	6574532.3													Y	Y
R_331084	697105.0	6574530.7													Y	Y
R_331133	697162.3	6574522.9													Y	Y
R_331082	697144.3	6574521.6													Y	Y
R_330983	696979.4	6574509.5													Y	Y
R_331079	697451.4	6574493.7													Y	Y
R_331284	697073.2	6574482.8													Y	Y
R_331279	697097.5	6574478.0													Y	Y
R_331210	697113.6	6574474.8													Y	Y
R_330989	696973.9	6574472.6													Y	Y
R_331209	697137.6	6574468.1													Y	Y
R_331067	697153.2	6574467.4													Y	Y
R_331345	697054.7	6574466.6													Y	Y
R_331073	697194.2	6574460.8													Y	Y
R_331005	697213.1	6574457.3													Y	Y
R_331280	697024.4	6574438.4													Y	Y
R_330990	697045.6	6574432.2													Y	Y
R_331034	696552.3	6574416.4													Y	Y
R_331281	697061.4	6574400.6													Y	Y
R_331027	697502.4	6574399.9													Y	Y
R_331205	697087.0	6574396.6													Y	Y
R_331206	697120.3	6574383.0													Y	Y
R_331207	697143.0	6574383.0													Y	Y
R_331202	697162.7	6574380.2													Y	Y
R_331204	697180.0	6574379.3													Y	Y
R_331074	697199.4	6574377.9													Y	Y
G900016	695390.6	6574370.0													Y	Y
R_331160	697355.7	6574352.4													Y	Y
R_331156	697056.2	6574347.7													Y	Y
R_331015	697419.9	6574343.8													Y	Y
R_331267	697111.5	6574336.8													Y	Y
R_331270	697036.6	6574333.6													Y	Y
G900017	695417.6	6574333.2													Y	Y
R_331233	697133.8	6574331.5													Y	Y
R_331069	697154.6	6574329.1													Y	Y
R_331269	697005.5	6574321.7													Y	Y

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
G900019	697540.5	6574317.7													Y	Y
R_331070	697170.3	6574317.4													Y	Y
G900021	697296.0	6574301.3													Y	Y
G900023	697341.8	6574292.8													Y	Y
G900026	697381.1	6574279.5													Y	Y
G900027	697417.9	6574277.4													Y	Y
G900029	697293.3	6574271.4													Y	Y
G900031	697009.1	6574263.5													Y	Y
G900033	696533.6	6574260.0													Y	Y
G900035	697098.2	6574258.4													Y	Y
G900039	697060.5	6574255.4													Y	Y
G900038	697131.8	6574254.6													Y	Y
G900040	697080.5	6574254.3													Y	Y
G900046	697179.7	6574242.7													Y	Y
G900052	697271.0	6574226.2													Y	Y
#REF!	#REF!	#REF!													Y	Y
G900056	697326.5	6574212.2													Y	Y
G900057	696989.8	6574209.9													Y	Y
G900058	697032.2	6574208.6													Y	Y
G900059	697342.5	6574207.3													Y	Y
G900061	696588.4	6574203.1													Y	Y
G900062	697364.4	6574202.5													Y	Y
G900065	697066.5	6574195.5													Y	Y
G900066	697089.2	6574194.4													Y	Y
G900069	697121.0	6574187.9													Y	Y
G900077	697245.1	6574171.3													Y	Y
G900078	697160.3	6574171.1													Y	Y
G900086	697402.9	6574143.5													Y	Y
G900087	697473.2	6574134.4													Y	Y
G900088	696566.1	6574127.3													Y	Y
G900097	696560.0	6574108.4													Y	Y
G900098	696678.4	6574106.1													Y	Y
G900100	696855.9	6574096.4													Y	Y
G900104	696909.0	6574085.4													Y	Y
G900110	696829.3	6574044.9													Y	Y
G900113	696873.5	6574041.1													Y	Y
G900116	696899.0	6574039.2													Y	Y
G900122	696888.7	6574016.0													Y	Y
G900123	696823.0	6574014.3													Y	Y
G900126	697428.6	6573999.1													Y	Y
G900127	697126.5	6573998.4													Y	Y
G900128	696739.6	6573988.9													Y	Y
G900130	697501.9	6573981.4													Y	Y
G900134	697422.4	6573976.1													Y	Y
G900135	696817.6	6573972.7													Y	Y
G900138	696887.0	6573968.7													Y	Y
G900139	697127.8	6573965.9													Y	Y
G900141	696874.7	6573958.1													Y	Y
G900142	697416.0	6573952.0													Y	Y
G900144	697105.5	6573945.7													Y	Y
G900143	697130.3	6573945.6													Y	Y
G900150	696805.3	6573936.2													Y	Y
G900152	697413.6	6573931.4													Y	Y
G900153	697451.6	6573931.4													Y	Y
G900157	696878.0	6573922.9													Y	Y
G900170	697106.7	6573881.0													Y	Y
G900177	696685.3	6573852.4													Y	Y
G900186	695990.2	6573806.0													Y	Y
G900201	696781.0	6573708.6													Y	Y
G900205	696248.9	6573625.2													Y	Y
G900218	696124.5	6573435.4													Y	Y
R_244437	677780.3	6570552.4						Y							Y	
R_244419	676131.9	6567308.7	Y	Y	Y	Y	Y			Y			Y	Y	Y	Y
R_244422	677134.0	6567305.3	Y		Y								Y			
R_331699	677217.4	6567182.1			Y								Y			

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_244387	672410.7	6564476.3						Y							Y	
R_244383	672105.2	6564416.4													Y	
R_331750	675546.5	6564246.2	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_244376	674015.5	6562576.0			Y	Y		Y					Y		Y	Y
R_331700	674472.0	6557799.0						Y							Y	
R_244329	670592.3	6555337.0						Y							Y	
R_244309	672386.9	6554162.3	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y
R_331999	673554.3	6554027.6						Y							Y	
R_244284	670230.2	6553620.8						Y							Y	
R_244255	672584.7	6550088.4						Y							Y	
R_244228	671697.0	6548658.0						Y							Y	
R_244225	667900.9	6547800.7	Y		Y	Y					Y		Y		Y	Y
R_244201	667482.4	6546006.2	Y	Y	Y	Y	Y				Y		Y		Y	Y
R_244173	667374.5	6544637.0	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_325492	669231.2	6544475.8	Y	Y	Y	Y							Y		Y	Y
R_324720	667978.1	6541349.4			Y	Y							Y		Y	Y
R_244141	664167.7	6539185.5	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_244137	660396.4	6538195.0						Y							Y	
R_244118	662736.0	6537306.2	Y		Y	Y	Y	Y			Y		Y	Y	Y	Y
R_244093	659256.1	6533879.1	Y		Y	Y					Y		Y		Y	Y
R_244075	661602.7	6533163.8	Y		Y	Y					Y		Y		Y	Y
R_244057	659790.2	6532315.6	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_244053	660652.6	6531452.9	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_244018	658210.5	6527151.6	Y		Y	Y		Y			Y		Y		Y	Y
R_243996	658423.9	6524533.6	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_243987	660436.7	6524239.6		Y	Y	Y							Y		Y	Y
R_243977	657911.7	6521836.7	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_243964	659756.5	6521599.2	Y		Y	Y							Y		Y	Y
R_243951	659399.7	6518906.2			Y	Y							Y		Y	Y
R_243937	658332.1	6516495.5	Y		Y	Y		Y			Y		Y		Y	Y
R_243927	656329.1	6515384.2	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_243908	654947.7	6515144.6	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_243906	654739.9	6515111.5	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_324867	650133.6	6512927.9													Y	
R_243884	651765.3	6512338.0	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_243882	651536.6	6512109.1	Y	Y	Y	Y				Y	Y		Y	Y	Y	Y
R_243868	650801.3	6511171.7	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y
R_243864	651295.3	6509752.1	Y		Y	Y		Y			Y		Y		Y	Y
R_243860	651585.1	6509525.0	Y		Y	Y		Y					Y		Y	Y
R_243859	651607.2	6509335.6			Y			Y					Y		Y	
R_243853	650572.5	6509307.6	Y		Y	Y		Y			Y		Y		Y	Y
R_243849	650644.0	6509262.4	Y		Y	Y		Y			Y		Y		Y	Y
R_243844	650659.6	6509211.7	Y		Y	Y		Y			Y		Y		Y	Y
R_243840	652020.2	6509149.5						Y							Y	
R_324880	652033.2	6508960.7						Y							Y	
R_324962	650621.1	6507761.7													Y	
R_243829	647262.6	6507339.5	Y	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y
R_243806	644129.1	6505669.6	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_243791	644727.0	6504573.5	Y	Y	Y	Y	Y	Y			Y		Y	Y	Y	Y
R_243754	641176.9	6500952.8				Y									Y	Y
R_331786	642717.0	6495601.6	Y		Y	Y	Y	Y			Y		Y		Y	Y
R_243695	640876.3	6495486.6	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y
R_243690	640909.5	6495440.6	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y
R_325010	644161.7	6495250.4													Y	
G900241	655979.7	6492429.8													Y	Y
G900243	656151.4	6492274.0													Y	Y
G900244	656603.7	6492233.7													Y	Y
R_331830	641838.0	6492111.6	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
G900248	656487.2	6492074.8													Y	Y
G900257	655976.5	6491923.1													Y	Y
G900260	656316.4	6491879.9													Y	Y
G900261	655984.3	6491841.7													Y	Y
G900263	656300.1	6491816.4													Y	Y
G900266	656009.9	6491770.2													Y	Y
G900269	655973.4	6491720.0													Y	Y

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
G900272	656243.4	6491689.5													Y	Y
G900274	656221.7	6491600.0													Y	Y
G900275	655902.6	6491586.4													Y	Y
G900297	656208.0	6491466.6													Y	Y
G900304	656274.0	6491411.9													Y	Y
G900309	655971.9	6491396.0													Y	Y
G900349	655911.4	6491166.7													Y	Y
G900352	655973.9	6491163.8													Y	Y
G900355	655166.1	6491158.9													Y	Y
G900362	655078.6	6491144.4													Y	Y
G900363	655942.7	6491141.5													Y	Y
G900364	656207.5	6491138.5													Y	Y
G900367	656801.6	6491129.5													Y	Y
G900369	655201.0	6491127.0													Y	Y
G900370	655900.2	6491126.0													Y	Y
G900371	655045.6	6491125.1													Y	Y
G900372	655142.2	6491124.6													Y	Y
G900374	656027.7	6491123.4													Y	Y
G900375	655973.9	6491123.4													Y	Y
G900376	655091.8	6491120.3													Y	Y
G900379	655247.4	6491114.3													Y	Y
G900377	656878.5	6491114.2													Y	Y
G900384	656823.2	6491103.9													Y	Y
G900385	656232.8	6491103.8													Y	Y
G900391	656802.4	6491086.4													Y	Y
G900393	655972.1	6491076.4													Y	Y
G900395	656788.5	6491071.6													Y	Y
G900396	655260.4	6491070.8													Y	Y
G900398	656867.1	6491070.0													Y	Y
G900408	656873.6	6491055.1													Y	Y
G900412	655178.4	6491050.9													Y	Y
G900413	656274.9	6491049.7													Y	Y
G900415	655039.8	6491048.2													Y	Y
G900414	657248.4	6491047.5													Y	Y
G900420	657274.5	6491040.4													Y	Y
G900421	655084.6	6491040.0													Y	Y
G900426	655129.6	6491038.2													Y	Y
G900425	656878.8	6491037.6													Y	Y
G900433	656330.9	6491018.3													Y	Y
G900436	656788.3	6491015.7													Y	Y
G900439	655967.1	6491014.0													Y	Y
G900440	656039.6	6491012.4													Y	Y
G900441	655273.6	6491011.6													Y	Y
G900445	656856.9	6491003.9													Y	Y
G900456	655935.8	6490993.5													Y	Y
G900462	656023.3	6490989.4													Y	Y
G900465	655196.1	6490984.9													Y	Y
G900467	656256.4	6490981.3													Y	Y
G900469	655966.3	6490980.2													Y	Y
G900472	656324.6	6490977.1													Y	Y
G900473	656850.5	6490976.1													Y	Y
G900474	655111.0	6490975.5													Y	Y
G900478	655286.1	6490972.1													Y	Y
G900481	656217.5	6490968.3													Y	Y
G900484	656848.3	6490963.5													Y	Y
G900488	656264.6	6490960.2													Y	Y
G900487	656067.0	6490959.6													Y	Y
G900492	656140.0	6490956.8													Y	Y
G900496	656158.3	6490955.2													Y	Y
G900495	656342.1	6490954.6													Y	Y
R_331834	640416.7	6490952.6	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
G900500	656796.6	6490950.0													Y	Y
G900502	656851.2	6490949.3													Y	Y
G900503	656182.2	6490949.0													Y	Y
G900508	656022.8	6490942.5													Y	Y

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
G900512	656278.9	6490941.3													Y	Y
G900516	656356.7	6490939.5													Y	Y
G900517	655621.5	6490938.7													Y	Y
G900527	656068.6	6490932.2													Y	Y
G900528	656793.8	6490929.6													Y	Y
G900534	655303.3	6490923.7													Y	Y
G900536	656847.5	6490922.9													Y	Y
G900540	656021.4	6490921.2													Y	Y
G900545	655834.2	6490919.3													Y	Y
G900546	655101.8	6490918.9													Y	Y
G900549	656115.8	6490915.3													Y	Y
G900552	656306.2	6490913.9													Y	Y
G900551	656067.7	6490913.9													Y	Y
G900557	656383.5	6490911.4													Y	Y
G900559	655183.6	6490909.9													Y	Y
G900561	656141.2	6490909.1													Y	Y
G900562	656161.1	6490909.0													Y	Y
G900567	656839.5	6490903.4													Y	Y
G900568	656191.1	6490903.4													Y	Y
G900569	656798.9	6490902.5													Y	Y
G900575	657133.7	6490895.0													Y	Y
G900580	656063.9	6490893.5													Y	Y
G900582	656318.6	6490892.4													Y	Y
G900583	656389.8	6490891.2													Y	Y
G900587	656207.3	6490886.8													Y	Y
G900589	655231.9	6490884.9													Y	Y
G900590	656843.2	6490882.2													Y	Y
G900594	655330.8	6490879.9													Y	Y
G900595	656331.9	6490879.1													Y	Y
G900597	655623.4	6490877.8													Y	Y
G900598	656021.5	6490877.8													Y	Y
G900596	656790.1	6490877.8													Y	Y
G900608	656402.4	6490872.2													Y	Y
G900609	656065.5	6490872.0													Y	Y
G900613	655672.0	6490867.5													Y	Y
G900618	656343.8	6490862.9													Y	Y
G900621	656834.1	6490858.4													Y	Y
G900624	656785.3	6490857.2													Y	Y
G900625	656017.0	6490856.9													Y	Y
G900632	656414.8	6490853.0													Y	Y
G900634	656060.0	6490852.3													Y	Y
G900633	657042.9	6490852.2													Y	Y
G900638	656104.3	6490850.5													Y	Y
G900642	656438.7	6490845.8													Y	Y
G900643	656123.2	6490845.5													Y	Y
G900644	655132.7	6490845.5													Y	Y
G900646	656142.7	6490845.3													Y	Y
G900650	656163.0	6490840.5													Y	Y
G900651	655701.7	6490840.0													Y	Y
G900654	656183.5	6490838.5													Y	Y
G900656	656676.5	6490837.1													Y	Y
G900657	656202.9	6490836.5													Y	Y
G900660	655241.2	6490834.5													Y	Y
G900662	655166.6	6490834.0													Y	Y
G900663	656823.1	6490832.9													Y	Y
G900666	656779.8	6490830.7													Y	Y
G900669	656217.2	6490830.1													Y	Y
G900672	656244.2	6490827.8													Y	Y
G900673	655187.7	6490827.8													Y	Y
G900676	655621.4	6490826.5													Y	Y
G900679	656856.7	6490824.1													Y	Y
G900682	656264.9	6490822.1													Y	Y
G900683	656436.5	6490820.7													Y	Y
G900689	656304.5	6490817.4													Y	Y
G900690	655945.3	6490815.7													Y	Y

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
G900693	656323.5	6490814.3													Y	Y
G900692	656341.6	6490814.2													Y	Y
G900699	656363.0	6490806.5													Y	Y
G900701	655852.2	6490804.7													Y	Y
G900702	656389.6	6490804.3													Y	Y
G900705	655814.8	6490802.7													Y	Y
G900704	655895.9	6490802.6													Y	Y
G900713	656115.5	6490796.9													Y	Y
G900717	656775.7	6490793.6													Y	Y
G900721	656133.5	6490790.6													Y	Y
G900723	656093.7	6490790.0													Y	Y
G900724	656173.2	6490787.7													Y	Y
G900727	656196.2	6490786.9													Y	Y
G900732	656216.3	6490782.9													Y	Y
G900733	656820.5	6490782.5													Y	Y
G900736	656234.1	6490779.1													Y	Y
G900738	656251.5	6490777.0													Y	Y
G900743	656772.9	6490772.4													Y	Y
G900747	656031.1	6490766.6													Y	Y
G900749	656295.5	6490766.2													Y	Y
G900750	655605.3	6490765.3													Y	Y
G900756	656817.1	6490762.3													Y	Y
G900758	656313.9	6490761.1													Y	Y
G900760	656333.5	6490757.9													Y	Y
G900763	656374.7	6490757.3													Y	Y
G900768	656354.5	6490755.3													Y	Y
G900767	656087.6	6490755.1													Y	Y
G900771	656689.4	6490751.9													Y	Y
G900774	656769.3	6490751.1													Y	Y
G900777	656410.4	6490748.1													Y	Y
G900781	656809.4	6490747.1													Y	Y
G900782	656723.6	6490745.2													Y	Y
G900798	656928.9	6490739.7													Y	Y
G900806	656767.1	6490731.6													Y	Y
G900808	656022.4	6490730.3													Y	Y
G900815	656103.8	6490725.0													Y	Y
G900816	656083.9	6490724.6													Y	Y
G900823	656124.9	6490722.1													Y	Y
G900826	656207.5	6490718.8													Y	Y
G900829	656248.0	6490718.3													Y	Y
G900834	656163.8	6490714.1													Y	Y
G900844	656180.8	6490707.8													Y	Y
G900847	656222.8	6490706.2													Y	Y
G900855	656241.1	6490699.8													Y	Y
G900867	656281.5	6490693.0													Y	Y
G900866	656341.5	6490692.6													Y	Y
G900873	655805.1	6490689.0													Y	Y
G900876	656303.1	6490688.1													Y	Y
G900874	656021.4	6490687.6													Y	Y
G900888	656376.8	6490681.7													Y	Y
G900893	655883.1	6490678.7													Y	Y
G900894	656401.0	6490676.4													Y	Y
G900901	656757.6	6490672.4													Y	Y
G900902	656421.0	6490672.0													Y	Y
G900905	656092.3	6490669.8													Y	Y
G900906	656440.0	6490668.6													Y	Y
G900909	656114.4	6490667.6													Y	Y
G900916	655679.8	6490664.1													Y	Y
G900915	656135.1	6490663.7													Y	Y
G900917	656175.9	6490662.1													Y	Y
G900919	656155.5	6490658.2													Y	Y
G900930	656197.2	6490651.4													Y	Y
G900931	656493.0	6490649.3													Y	Y
G900935	656216.9	6490647.1													Y	Y
G900953	656295.4	6490646.8													Y	Y

Exceedance of NPI Sleep Disturbance Criteria																	
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	
G900937	656231.8	6490646.5													Y	Y	
G900941	656274.1	6490645.2													Y	Y	
G900943	656010.5	6490644.5													Y	Y	
G900952	656334.4	6490633.9													Y	Y	
G900955	656065.6	6490631.6													Y	Y	
G900956	656354.0	6490628.7													Y	Y	
G900958	656392.9	6490627.5													Y	Y	
G900962	656371.9	6490625.0													Y	Y	
G900964	656104.5	6490624.5													Y	Y	
G900972	656415.9	6490619.3													Y	Y	
G900977	656433.2	6490613.9													Y	Y	
G900979	656453.2	6490612.7													Y	Y	
G900981	655991.2	6490611.8													Y	Y	
G900983	656489.0	6490609.1													Y	Y	
G900985	656064.3	6490605.9													Y	Y	
G900988	656325.0	6490603.7													Y	Y	
G900996	656083.8	6490602.4													Y	Y	
G900997	656102.7	6490600.9													Y	Y	
G901003	655366.4	6490598.1													Y	Y	
G901010	656121.1	6490593.7													Y	Y	
G901013	655238.1	6490592.1													Y	Y	
G901017	656162.5	6490589.1													Y	Y	
G901020	656139.0	6490586.0													Y	Y	
G901026	656181.2	6490582.2													Y	Y	
G901034	655457.6	6490576.6													Y	Y	
G901036	656223.4	6490575.4													Y	Y	
G901040	656658.3	6490570.7													Y	Y	
G901041	656263.8	6490569.6													Y	Y	
G901050	655674.8	6490563.2													Y	Y	
G901048	656300.5	6490563.0													Y	Y	
G901053	656321.7	6490558.5													Y	Y	
G901059	656380.6	6490553.6													Y	Y	
G901060	656340.8	6490553.4													Y	Y	
G901061	656360.3	6490553.3													Y	Y	
G901062	655724.9	6490552.5													Y	Y	
G901069	655312.6	6490550.6													Y	Y	
G901068	655762.6	6490550.5													Y	Y	
G901073	656399.3	6490546.5													Y	Y	
G901075	655805.0	6490542.5													Y	Y	
G901133	656171.6	6490493.8													Y	Y	
G901189	655396.8	6490430.6													Y	Y	
G901258	655985.1	6490291.0													Y	Y	
R_243629	638437.4	6485646.9						Y							Y		
R_331901	640743.2	6485555.4	Y		Y	Y	Y	Y			Y		Y	Y	Y	Y	
R_243613	638037.9	6484256.0						Y							Y		
R_331849	642075.2	6484188.0						Y							Y		
R_243609	638834.6	6483881.9						Y							Y		
R_331635	641176.1	6478651.2													Y		
R_243589	637893.9	6478067.7						Y							Y		
R_331960	639964.1	6472354.1	Y	Y	Y	Y		Y					Y		Y	Y	
R_332023	638619.3	6472016.3	Y	Y	Y	Y	Y	Y	Y		Y		Y	Y	Y	Y	
R_332019	640026.5	6471982.4	Y	Y	Y	Y		Y			Y		Y	Y	Y	Y	
R_243487	636002.6	6465759.9	Y		Y	Y		Y			Y		Y		Y	Y	
R_331746	638486.4	6465479.0	Y		Y	Y		Y			Y		Y		Y	Y	
R_243475	635066.6	6463812.8	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y	
R_243473	633509.0	6463796.1	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y	
R_243471	635042.7	6463749.4	Y	Y	Y	Y				Y	Y		Y	Y	Y	Y	
R_243438	633781.6	6462309.1	Y	Y	Y	Y	Y				Y		Y		Y	Y	
R_243428	629401.2	6461859.1	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y	
R_243429	631418.4	6461834.7	Y	Y	Y	Y		Y		Y	Y		Y	Y	Y	Y	
R_243401	631372.1	6459761.2						Y							Y		
R_324772	631455.1	6459635.0													Y		
R_243390	629538.6	6459108.6	Y		Y	Y							Y		Y	Y	
R_243378	626274.6	6457969.0	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y	
R_243368	625088.5	6456310.4	Y		Y	Y	Y				Y		Y		Y	Y	

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_332047	625765.9	6448528.8	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331932	627419.7	6448361.5			Y	Y							Y		Y	Y
R_331710	625426.7	6447909.5	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_331910	624894.2	6447859.6	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331764	625931.4	6446218.0	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331728	625580.8	6446000.0	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_332038	625601.9	6445956.0	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331759	624577.9	6445854.9	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331718	624858.9	6443304.4	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331763	624772.3	6440932.6	Y		Y	Y	Y				Y		Y	Y	Y	Y
R_331774	624551.4	6440899.7	Y		Y	Y	Y			Y	Y		Y	Y	Y	Y
R_331924	624680.2	6440824.0	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_331717	624130.1	6438492.2	Y		Y	Y	Y				Y		Y	Y	Y	Y
R_331788	624739.8	6437014.3													Y	Y
R_324810	625766.2	6436669.3													Y	Y
R_331735	623239.1	6436392.3	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y
R_331749	622931.9	6435392.0	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y
R_331995	621407.3	6435053.2						Y							Y	Y
R_243024	616465.7	6434971.1			Y	Y							Y		Y	Y
R_243013	616510.6	6434884.1			Y	Y							Y		Y	Y
R_324816	625386.2	6434879.9		Y											Y	Y
R_243006	616253.9	6434854.8	Y		Y	Y							Y		Y	Y
R_243000	616006.5	6434838.5	Y		Y								Y			
R_242994	616545.6	6434810.6			Y	Y					Y		Y		Y	Y
R_242981	616025.5	6434764.3	Y		Y	Y					Y		Y		Y	Y
R_242975	616129.9	6434747.1	Y		Y						Y		Y			
R_242974	616181.9	6434737.9	Y		Y	Y					Y		Y		Y	Y
R_242970	616521.8	6434712.8	Y		Y	Y					Y		Y		Y	Y
R_242966	616555.8	6434656.1	Y		Y	Y					Y		Y		Y	Y
R_324678	624554.9	6434558.6													Y	Y
R_331740	624373.9	6434420.6													Y	Y
R_242940	616585.4	6434366.4	Y	Y	Y	Y					Y		Y		Y	Y
R_242938	616591.7	6434349.8	Y		Y	Y					Y		Y		Y	Y
R_242936	616615.7	6434324.5	Y	Y	Y	Y					Y		Y		Y	Y
R_242924	616633.8	6434289.5	Y		Y	Y					Y		Y		Y	Y
R_242914	616669.6	6434256.9	Y	Y	Y	Y					Y		Y		Y	Y
R_242901	616681.4	6434213.7	Y		Y	Y					Y	Y	Y		Y	Y
R_242888	616698.3	6434175.0			Y	Y							Y		Y	Y
R_242879	616705.8	6434125.4	Y		Y	Y							Y		Y	Y
R_242866	616721.9	6434092.9			Y	Y							Y		Y	Y
R_242850	616774.7	6434054.4	Y		Y	Y					Y		Y		Y	Y
R_242844	615815.4	6434053.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242841	615832.6	6434044.0	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_331791	621496.3	6434031.1	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_242824	616851.2	6433870.4			Y	Y					Y		Y		Y	Y
R_242821	616374.8	6433862.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242819	616595.0	6433851.5	Y	Y	Y	Y					Y		Y		Y	Y
R_242816	616655.1	6433843.9	Y		Y	Y					Y		Y		Y	Y
R_242814	616680.1	6433840.3	Y		Y	Y					Y		Y		Y	Y
R_242812	616707.2	6433830.5	Y		Y	Y					Y		Y		Y	Y
R_242807	616455.2	6433825.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242808	616597.3	6433824.7	Y	Y	Y	Y					Y		Y		Y	Y
R_242803	616654.4	6433818.0	Y		Y	Y					Y		Y		Y	Y
R_242802	616513.6	6433816.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242799	616733.5	6433811.3	Y		Y	Y					Y		Y		Y	Y
R_242795	616451.0	6433806.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242796	616588.2	6433805.0	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242794	616704.4	6433802.5	Y		Y	Y					Y		Y		Y	Y
R_242790	616730.9	6433797.0	Y		Y	Y					Y		Y		Y	Y
R_242789	616650.3	6433796.1	Y	Y	Y	Y					Y		Y		Y	Y
R_242787	616512.5	6433788.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242786	616441.2	6433788.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242785	616591.4	6433786.3	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242783	616668.0	6433776.7	Y	Y	Y	Y					Y		Y		Y	Y
R_242781	616721.6	6433773.3	Y		Y	Y					Y		Y		Y	Y

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_242779	616841.1	6433770.9	Y		Y	Y					Y		Y		Y	Y
R_242777	616583.7	6433766.7	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242778	616802.3	6433766.7	Y		Y	Y					Y		Y		Y	Y
R_242775	616503.8	6433759.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242774	616641.7	6433757.8	Y	Y	Y	Y					Y		Y		Y	Y
R_242773	616716.7	6433754.0	Y		Y	Y					Y		Y		Y	Y
R_242768	616439.5	6433749.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242766	616582.4	6433746.0	Y		Y	Y					Y		Y		Y	Y
R_242764	616847.4	6433741.0			Y	Y							Y		Y	Y
R_242759	616502.0	6433737.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242761	616638.1	6433736.4	Y	Y	Y	Y					Y		Y		Y	Y
R_242760	616716.4	6433734.8	Y		Y	Y					Y		Y		Y	Y
R_242757	616776.1	6433731.2	Y		Y	Y					Y		Y		Y	Y
R_242755	616556.5	6433728.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242750	616443.4	6433726.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242744	616636.3	6433718.5	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242742	616497.2	6433717.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242743	616713.2	6433717.1	Y		Y	Y					Y		Y		Y	Y
R_242741	616775.5	6433712.4	Y		Y	Y					Y		Y		Y	Y
R_242738	616563.2	6433706.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242736	616433.7	6433706.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242734	616633.0	6433697.7	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242730	616492.9	6433696.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242732	616703.8	6433694.4	Y	Y	Y	Y					Y		Y		Y	Y
R_242726	616571.8	6433688.2	Y	Y	Y	Y					Y		Y		Y	Y
R_242727	616794.5	6433686.5	Y		Y	Y					Y		Y		Y	Y
R_242728	616974.8	6433684.9			Y	Y							Y		Y	Y
R_242720	616488.6	6433682.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242719	616627.7	6433678.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242717	616432.7	6433677.2	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_332468	620528.9	6433676.4						Y							Y	
R_242716	616700.3	6433672.7	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242710	616405.7	6433670.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242711	616564.7	6433668.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242712	616783.3	6433668.6	Y		Y	Y					Y		Y		Y	Y
R_242703	616622.8	6433658.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242701	616557.1	6433655.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242699	616511.5	6433655.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242702	616702.3	6433655.0	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242698	616489.0	6433653.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242696	616765.5	6433648.6	Y		Y	Y					Y		Y		Y	Y
R_242694	617006.6	6433644.4			Y								Y			
R_242690	616561.3	6433639.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242689	616694.1	6433636.8	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242685	616621.0	6433634.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_332535	621189.2	6433633.2	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_242680	616642.0	6433628.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242675	616677.7	6433622.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_332484	620890.1	6433622.4						Y							Y	
R_242673	616828.8	6433618.8	Y		Y	Y					Y		Y		Y	Y
R_242670	616702.1	6433617.1	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242672	616948.8	6433616.2			Y	Y							Y		Y	Y
R_242661	616416.8	6433611.4	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242664	616753.1	6433608.8	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242656	616802.6	6433601.9	Y	Y	Y	Y					Y		Y		Y	Y
R_242657	616977.0	6433599.9			Y	Y					Y		Y		Y	Y
R_242655	616894.2	6433599.7	Y		Y	Y					Y		Y		Y	Y
R_242654	616924.4	6433599.0	Y		Y	Y					Y		Y		Y	Y
R_242650	616481.3	6433597.0	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242652	616908.3	6433596.3	Y		Y	Y					Y		Y		Y	Y
R_242646	616417.5	6433594.3	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242639	616552.4	6433589.0	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242644	616990.7	6433587.1			Y	Y					Y		Y		Y	Y
R_242641	616957.7	6433586.7			Y	Y					Y		Y		Y	Y
R_242633	617001.1	6433580.7			Y	Y							Y		Y	Y

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Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_242629	616617.3	6433578.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242625	616475.7	6433578.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242621	616410.5	6433574.0	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242618	616551.7	6433570.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242613	616686.0	6433567.0	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242600	616403.1	6433558.0	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242604	616608.7	6433557.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242606	616745.6	6433556.2	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242599	616482.2	6433556.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242596	616549.4	6433554.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242593	616690.5	6433551.3	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242594	616768.8	6433551.1	Y	Y	Y	Y					Y		Y		Y	Y
R_242579	616405.9	6433540.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242581	616689.1	6433539.7	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242578	616615.6	6433537.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242573	616475.2	6433536.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242572	616545.6	6433535.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242576	616746.8	6433534.4	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242574	616893.2	6433532.2	Y		Y	Y					Y		Y		Y	Y
R_326555	620240.8	6433531.6						Y							Y	
R_242563	616933.1	6433526.0	Y		Y	Y					Y		Y		Y	Y
R_242558	616681.6	6433524.9	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242548	616405.9	6433521.9	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242555	616990.0	6433520.1			Y	Y					Y		Y		Y	Y
R_242542	616543.1	6433517.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242541	616603.4	6433516.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242544	616738.0	6433515.8	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242539	616888.0	6433509.9	Y		Y	Y					Y		Y		Y	Y
R_242540	616908.5	6433509.8	Y		Y	Y					Y		Y		Y	Y
R_242535	616801.3	6433508.4	Y		Y	Y					Y		Y		Y	Y
R_242527	616683.1	6433507.5	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242533	616961.3	6433505.9			Y	Y					Y		Y		Y	Y
R_242519	616402.0	6433505.9	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242526	616944.1	6433503.5	Y		Y	Y					Y		Y		Y	Y
R_242515	616458.1	6433501.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242520	616980.9	6433499.2			Y	Y					Y		Y		Y	Y
R_242513	616539.8	6433499.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242507	616489.0	6433496.0	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242508	616738.6	6433493.6	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242510	616882.2	6433493.2	Y		Y	Y					Y		Y		Y	Y
R_242504	616625.8	6433491.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242503	616808.2	6433486.6	Y	Y	Y	Y					Y		Y		Y	Y
R_242499	616531.8	6433483.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242500	616673.0	6433483.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242498	616978.2	6433477.1			Y	Y					Y		Y		Y	Y
R_242493	616602.4	6433474.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242497	616876.4	6433473.9	Y		Y	Y					Y		Y		Y	Y
R_242494	616735.7	6433473.3	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_331739	624114.7	6433468.5						Y							Y	
R_242489	616675.9	6433466.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242478	616730.4	6433453.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242472	616370.2	6433453.2	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242480	616981.7	6433452.9			Y	Y					Y		Y		Y	Y
R_242470	616393.7	6433452.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242453	616451.2	6433438.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242457	616915.2	6433435.9	Y		Y	Y					Y		Y		Y	Y
R_242447	616506.6	6433433.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242443	616475.8	6433433.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242452	616871.9	6433433.0	Y	Y	Y	Y					Y		Y		Y	Y
R_242438	616532.5	6433428.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242446	616948.4	6433428.1	Y		Y	Y					Y		Y		Y	Y
R_242436	616929.9	6433423.7	Y		Y	Y					Y		Y		Y	Y
R_242428	616591.9	6433420.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242434	616963.5	6433420.0	Y		Y	Y					Y		Y		Y	Y
R_242431	616975.2	6433417.3			Y	Y					Y		Y		Y	Y

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_242419	616605.0	6433416.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242418	616646.2	6433415.2	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_242417	616530.3	6433414.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242413	616385.2	6433413.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242407	616667.9	6433406.2	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242405	616582.6	6433404.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242402	616453.8	6433403.6	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242383	616378.8	6433393.8	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242388	616608.3	6433393.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242389	616666.7	6433393.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242386	616518.3	6433393.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242370	616450.7	6433384.5	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242368	616580.4	6433381.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242369	616718.6	6433380.6	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242366	616883.9	6433375.0	Y	Y	Y	Y					Y		Y		Y	Y
R_242355	616378.7	6433374.2	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242353	616516.0	6433372.0	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242360	616900.9	6433370.6			Y								Y			
R_242351	616653.8	6433370.0	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242356	616938.7	6433368.0	Y		Y								Y			
R_242338	616444.9	6433364.3	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242347	616966.6	6433364.1	Y		Y	Y					Y		Y		Y	Y
R_242329	616579.8	6433361.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242337	616715.8	6433360.9	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_332432	621224.9	6433359.3	Y		Y	Y		Y					Y		Y	Y
R_242326	617015.9	6433354.3			Y	Y					Y		Y		Y	Y
R_242318	616513.6	6433353.2	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242315	616650.3	6433350.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242323	617361.7	6433349.3			Y								Y			
R_242321	617046.3	6433348.7			Y								Y			
R_242317	616949.3	6433347.4			Y	Y					Y		Y		Y	Y
R_242313	616893.8	6433347.1	Y		Y	Y					Y		Y		Y	Y
R_242305	616369.7	6433344.9	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242303	616442.5	6433343.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242300	616573.8	6433340.0	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242297	616714.7	6433337.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242302	617014.2	6433335.8			Y	Y							Y		Y	Y
R_242298	616957.7	6433335.3			Y						Y		Y			
R_242296	617076.1	6433332.8			Y	Y							Y		Y	Y
R_242287	616508.2	6433332.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242294	617042.2	6433331.3			Y	Y							Y		Y	Y
R_242286	616650.4	6433330.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242284	616942.2	6433325.4			Y						Y		Y			
R_242277	616431.3	6433324.2	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242276	616573.1	6433322.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242280	617010.7	6433320.5			Y	Y							Y		Y	Y
R_242273	616709.8	6433317.9	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242268	616500.9	6433316.6	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242271	616952.7	6433313.7			Y						Y		Y		Y	Y
R_242267	617108.6	6433309.6			Y								Y			
R_242259	616656.4	6433309.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242260	617007.9	6433305.4			Y	Y							Y		Y	Y
R_242252	616566.9	6433303.5	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242248	616443.6	6433302.0	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242251	616949.6	6433298.7			Y						Y		Y		Y	Y
R_242240	616508.2	6433295.8	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242244	616652.5	6433295.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242242	617104.3	6433290.1			Y								Y			
R_242239	617010.4	6433289.9			Y	Y							Y		Y	Y
R_242231	616945.8	6433285.2	Y		Y	Y					Y		Y		Y	Y
R_242224	616565.0	6433283.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242223	616648.5	6433281.9	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242212	616700.2	6433275.4	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_242222	617104.1	6433275.3			Y								Y		Y	Y
R_242208	616502.4	6433275.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_242219	617002.9	6433273.4			Y	Y					Y		Y		Y	Y
R_242205	616941.6	6433266.8	Y		Y	Y					Y		Y		Y	Y
R_242201	616568.0	6433265.3	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242197	616637.6	6433259.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242192	616489.7	6433259.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242200	617098.6	6433258.6			Y	Y							Y		Y	Y
R_242199	617001.1	6433257.9			Y	Y							Y		Y	Y
R_242190	616705.3	6433256.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242185	616940.7	6433249.5			Y								Y			
R_242177	616562.4	6433245.3	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242182	616995.4	6433245.0			Y	Y					Y		Y		Y	Y
R_242170	616994.1	6433237.2			Y	Y							Y		Y	Y
R_242166	616934.3	6433232.7			Y								Y		Y	Y
R_242178	616898.0	6433232.3	Y		Y	Y							Y		Y	Y
R_242161	616636.1	6433231.8	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_242159	616693.4	6433229.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_242160	616992.0	6433226.9			Y	Y							Y		Y	Y
R_331724	623976.3	6433225.0						Y							Y	
R_242151	616929.0	6433215.2	Y		Y	Y							Y		Y	Y
R_242145	617092.8	6433208.2			Y	Y							Y		Y	Y
R_242126	616931.7	6433193.5	Y		Y	Y					Y		Y		Y	Y
R_242127	617091.3	6433192.5			Y	Y							Y		Y	Y
R_242112	616638.2	6433179.4	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_332430	620392.2	6433171.1													Y	
R_332477	620807.0	6433163.0						Y							Y	
R_242061	614551.3	6433158.5	Y		Y	Y							Y		Y	Y
R_332462	620670.5	6433157.3													Y	
R_332427	620582.2	6433155.8						Y							Y	
R_332435	620498.9	6433142.2													Y	
R_332431	620925.0	6433136.5			Y			Y					Y		Y	Y
R_242070	616890.9	6433136.1	Y		Y	Y					Y		Y		Y	Y
R_242067	616914.2	6433135.1	Y		Y	Y					Y		Y		Y	Y
R_242064	616929.4	6433133.2	Y		Y	Y					Y		Y		Y	Y
R_242049	616983.5	6433121.7	Y		Y	Y							Y		Y	Y
R_242008	616975.3	6433083.2	Y		Y	Y							Y		Y	Y
R_241966	614631.6	6433068.3	Y		Y	Y					Y		Y		Y	Y
R_332463	620984.7	6433067.1	Y		Y	Y		Y					Y		Y	Y
R_241947	616526.2	6433030.3	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241949	617083.2	6433024.5			Y	Y							Y		Y	Y
R_241905	616548.2	6433000.8	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241899	616565.0	6432997.2	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241900	616674.0	6432996.2	Y	Y	Y	Y				Y	Y		Y	Y	Y	Y
R_241891	616583.7	6432988.0	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241884	616597.6	6432984.0	Y	Y	Y	Y				Y	Y		Y	Y	Y	Y
R_241883	616651.5	6432982.5	Y	Y	Y	Y				Y	Y		Y	Y	Y	Y
R_241877	617017.2	6432969.3			Y	Y							Y		Y	Y
R_332478	621047.5	6432967.3	Y		Y	Y		Y					Y		Y	Y
R_241843	616510.8	6432942.7	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_332474	620364.3	6432931.8													Y	
R_241834	616536.3	6432928.6	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241829	616562.3	6432924.8	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_332438	620754.3	6432924.7						Y							Y	
R_241828	616587.9	6432924.5	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241830	616809.2	6432922.3	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_332439	621124.3	6432911.9	Y		Y	Y		Y					Y		Y	Y
R_241810	616664.3	6432904.6	Y		Y	Y					Y		Y		Y	Y
R_241804	616638.4	6432899.7	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241797	616505.2	6432894.5	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241793	616575.2	6432890.6	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241785	616501.9	6432876.5	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241782	616778.9	6432868.4	Y		Y	Y					Y		Y		Y	Y
R_241780	616577.5	6432868.4	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241779	616636.5	6432866.4	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_241778	616786.8	6432864.6	Y		Y	Y					Y		Y		Y	Y
R_241776	616794.8	6432861.7	Y		Y	Y					Y		Y		Y	Y

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_241771	616501.8	6432857.5	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241766	616567.0	6432850.6	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241762	616634.1	6432845.4	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_241749	616498.9	6432833.9	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241745	616570.6	6432826.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241739	616630.4	6432821.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_332428	621151.4	6432815.3	Y		Y	Y		Y					Y		Y	Y
R_241726	616568.6	6432810.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_331631	614635.9	6432807.0	Y		Y						Y		Y			
R_241716	616483.7	6432801.6	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241710	616508.5	6432798.8	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241713	616631.5	6432798.6	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_241711	616864.6	6432795.0	Y		Y	Y							Y		Y	Y
R_241712	616920.7	6432794.7	Y		Y	Y							Y		Y	Y
R_241705	616557.5	6432792.7	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241696	616862.8	6432777.8	Y		Y	Y							Y		Y	Y
R_241694	616627.0	6432777.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_332459	621741.8	6432771.5	Y		Y	Y	Y	Y			Y		Y	Y	Y	Y
R_241686	616668.7	6432766.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241672	614519.9	6432765.6			Y	Y							Y		Y	Y
R_241683	616690.9	6432763.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241682	616853.8	6432757.7	Y		Y	Y							Y		Y	Y
R_241670	616475.7	6432741.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241671	616502.5	6432740.9	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241673	616852.5	6432739.0	Y		Y	Y							Y		Y	Y
R_241665	616550.8	6432732.5	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_241663	616526.6	6432731.8	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241660	616616.9	6432722.6	Y	Y	Y	Y					Y		Y		Y	Y
R_241659	616661.8	6432720.6	Y	Y	Y	Y					Y		Y		Y	Y
R_332429	621219.2	6432718.2	Y		Y	Y	Y	Y			Y		Y		Y	Y
R_241657	616677.9	6432717.8	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_241654	616689.4	6432715.6	Y		Y	Y					Y		Y		Y	Y
R_241652	616478.5	6432713.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241653	616845.2	6432711.5	Y		Y	Y							Y		Y	Y
R_241646	616660.0	6432706.0	Y		Y	Y							Y		Y	Y
R_241647	616762.9	6432705.5	Y	Y	Y	Y					Y		Y		Y	Y
R_241642	616612.1	6432701.0	Y	Y	Y	Y				Y	Y		Y		Y	Y
R_241641	616549.9	6432700.5	Y		Y	Y					Y		Y		Y	Y
R_332471	621851.5	6432699.1	Y		Y	Y	Y	Y			Y		Y	Y	Y	Y
R_241638	616468.9	6432695.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241634	616656.6	6432691.7	Y		Y	Y					Y		Y		Y	Y
R_241636	616838.5	6432690.0	Y		Y	Y							Y		Y	Y
R_241630	616684.4	6432686.6	Y		Y	Y					Y		Y		Y	Y
R_241623	616541.7	6432683.7	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_241626	616768.0	6432681.6	Y		Y	Y							Y		Y	Y
R_241620	616606.2	6432680.8	Y	Y	Y	Y					Y		Y		Y	Y
R_241611	616464.8	6432674.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241614	616841.6	6432672.8	Y		Y	Y							Y		Y	Y
R_241605	616540.2	6432663.0	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241599	616607.7	6432658.2	Y		Y	Y					Y		Y		Y	Y
R_241604	616760.8	6432658.0	Y		Y	Y							Y		Y	Y
R_241600	616839.2	6432656.3	Y		Y	Y							Y		Y	Y
R_241597	616466.8	6432654.8	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241596	616667.0	6432650.6	Y		Y	Y					Y		Y		Y	Y
R_241586	616600.6	6432640.2	Y	Y	Y	Y					Y		Y		Y	Y
R_241587	616839.2	6432637.7	Y		Y	Y							Y		Y	Y
R_241585	616532.8	6432637.4	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241581	616462.4	6432635.4	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241584	617213.1	6432629.2			Y						Y		Y			
R_241573	616838.4	6432619.5	Y		Y	Y							Y		Y	Y
R_241566	616599.0	6432618.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241564	616742.4	6432615.2	Y		Y	Y							Y		Y	Y
R_241555	616458.0	6432613.7	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241557	616663.0	6432611.9	Y	Y	Y	Y					Y		Y		Y	Y
R_332475	620694.7	6432606.2													Y	

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R_241544	616834.8	6432601.2	Y		Y	Y							Y		Y	Y
R_241541	616531.7	6432600.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241538	616598.3	6432597.0	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_241535	616455.3	6432595.8	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241539	616742.7	6432595.6	Y		Y	Y							Y		Y	Y
R_241526	616834.9	6432585.1			Y	Y							Y		Y	Y
R_241519	616529.2	6432582.8	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241520	616734.7	6432580.5	Y		Y	Y					Y		Y		Y	Y
R_241501	614619.9	6432580.4	Y		Y	Y					Y		Y		Y	Y
R_332465	621231.6	6432578.2			Y	Y	Y	Y					Y		Y	Y
R_241512	616594.0	6432573.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241510	616613.0	6432570.8	Y		Y	Y					Y		Y		Y	Y
R_241505	616654.0	6432565.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241504	616738.4	6432564.0	Y		Y	Y					Y		Y		Y	Y
R_241499	616822.9	6432550.4			Y	Y							Y		Y	Y
R_241497	616736.6	6432548.9	Y	Y	Y	Y					Y		Y		Y	Y
R_241493	616788.0	6432546.2	Y	Y	Y	Y					Y		Y		Y	Y
R_241491	616448.1	6432543.4	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241485	616825.4	6432533.3	Y	Y	Y	Y					Y		Y		Y	Y
R_241475	616511.6	6432524.4	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241471	616580.3	6432516.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241467	616449.1	6432511.2	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241469	616603.1	6432509.8	Y	Y	Y	Y					Y		Y		Y	Y
R_241465	616715.5	6432504.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241462	616515.3	6432501.6	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_332467	621985.3	6432500.1	Y		Y	Y	Y	Y	Y		Y		Y	Y	Y	Y
R_241464	617044.7	6432499.3	Y		Y	Y					Y		Y		Y	Y
R_241459	616750.9	6432497.4	Y		Y	Y					Y		Y		Y	Y
R_241457	616578.8	6432495.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241451	616443.2	6432493.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241433	615458.3	6432491.1	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241445	616721.1	6432484.4	Y		Y	Y					Y		Y		Y	Y
R_241442	616628.4	6432482.4	Y		Y	Y					Y		Y		Y	Y
R_241437	616510.4	6432480.6	Y	Y	Y	Y				Y	Y		Y	Y	Y	Y
R_241441	616786.6	6432480.4			Y	Y							Y		Y	Y
R_241435	616578.0	6432479.2	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_241439	616878.5	6432478.3	Y		Y	Y							Y		Y	Y
R_241432	616815.6	6432474.9			Y	Y							Y		Y	Y
R_241427	616442.2	6432474.4	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241425	616715.3	6432468.5	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_241418	616507.0	6432462.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241422	616872.6	6432460.2			Y	Y							Y		Y	Y
R_241410	616633.7	6432455.6	Y		Y	Y					Y		Y		Y	Y
R_241408	616572.1	6432455.4	Y		Y	Y					Y		Y		Y	Y
R_241412	616811.6	6432454.5			Y	Y							Y		Y	Y
R_241404	616433.9	6432453.2	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241405	616715.5	6432450.8			Y	Y							Y		Y	Y
R_241401	616867.5	6432446.4			Y	Y							Y		Y	Y
R_241402	617033.6	6432445.0			Y								Y			
R_241396	616498.1	6432444.9	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_332461	621139.1	6432444.9	Y		Y	Y		Y			Y		Y		Y	Y
R_241393	616706.9	6432440.6			Y	Y							Y		Y	Y
R_241390	616808.9	6432437.3			Y	Y							Y		Y	Y
R_241386	616570.4	6432435.3	Y	Y	Y	Y					Y		Y		Y	Y
R_241382	616632.6	6432433.3	Y	Y	Y	Y					Y		Y		Y	Y
R_241377	616872.0	6432426.6			Y	Y							Y		Y	Y
R_241350	615782.0	6432423.7	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241363	616498.7	6432421.7	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_241360	616427.7	6432421.2	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241366	616807.5	6432420.6			Y	Y							Y		Y	Y
R_241361	616707.0	6432419.0			Y	Y							Y		Y	Y
R_241358	616447.0	6432418.9	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_241357	616628.4	6432416.3	Y		Y	Y					Y		Y		Y	Y
R_241354	616566.1	6432416.2	Y	Y	Y	Y					Y		Y		Y	Y
R_241351	616866.1	6432411.7			Y								Y		Y	Y

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_241335	616502.8	6432403.4	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_241339	616805.0	6432400.5			Y	Y							Y		Y	Y
R_241307	615117.9	6432394.5	Y		Y	Y					Y		Y		Y	Y
R_241322	616711.2	6432394.3			Y	Y							Y		Y	Y
R_241320	616566.6	6432394.0	Y	Y	Y	Y					Y		Y		Y	Y
R_241315	616622.5	6432388.3	Y		Y	Y					Y		Y		Y	Y
R_241313	616802.3	6432385.0			Y	Y							Y		Y	Y
R_241295	615603.4	6432378.5	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241302	616797.6	6432369.9			Y	Y							Y		Y	Y
R_241299	616704.4	6432368.7			Y	Y							Y		Y	Y
R_241285	616796.9	6432354.5			Y								Y			
R_326639	619561.2	6432354.4		Y												
R_241284	616696.2	6432353.6			Y	Y							Y		Y	Y
R_241266	616438.7	6432342.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241265	616460.6	6432341.7	Y	Y	Y	Y				Y	Y	Y	Y		Y	Y
R_241257	616504.4	6432335.7	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_241255	616483.6	6432334.3	Y		Y	Y				Y	Y	Y	Y		Y	Y
R_241245	616543.2	6432326.2	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_241248	616693.0	6432325.6	Y	Y	Y	Y					Y		Y		Y	Y
R_241243	616563.4	6432325.2	Y		Y	Y					Y	Y	Y		Y	Y
R_241246	616721.3	6432324.8	Y	Y	Y	Y					Y		Y		Y	Y
R_241237	616582.3	6432323.2	Y		Y	Y					Y	Y	Y		Y	Y
R_241230	616603.0	6432318.6	Y		Y	Y					Y	Y	Y		Y	Y
R_241231	616758.4	6432317.8	Y		Y								Y			
R_241223	616622.2	6432314.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_241220	616503.5	6432313.3	Y	Y	Y	Y					Y		Y		Y	Y
R_326538	619453.4	6432307.6		Y												
R_241190	616620.2	6432294.9			Y	Y					Y		Y		Y	Y
R_241177	616493.2	6432288.5	Y	Y	Y	Y				Y	Y	Y	Y		Y	Y
R_241154	616686.3	6432271.7			Y	Y							Y		Y	Y
R_241146	616489.6	6432266.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_332437	621186.4	6432266.1		Y	Y	Y		Y					Y		Y	Y
R_241138	616779.0	6432258.1			Y	Y					Y		Y		Y	Y
R_241130	616680.6	6432254.0			Y	Y							Y		Y	Y
R_241121	616837.3	6432247.5			Y	Y					Y		Y		Y	Y
R_241110	616486.3	6432244.8	Y		Y	Y					Y	Y	Y		Y	Y
R_332445	620561.4	6432237.0		Y				Y							Y	
R_241099	616902.4	6432234.6	Y		Y						Y		Y			
R_241059	615405.9	6432231.5	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241078	616680.5	6432228.2			Y	Y							Y		Y	Y
R_241065	616485.0	6432221.8	Y	Y	Y	Y					Y		Y		Y	Y
R_241063	616988.0	6432215.2			Y								Y			
R_241058	617009.3	6432213.0			Y								Y			
R_241038	616475.1	6432208.3	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241051	617085.0	6432208.3			Y								Y			
R_241022	616677.4	6432198.7			Y	Y							Y		Y	Y
R_240998	615597.3	6432193.6	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_241004	616466.4	6432188.9	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_240972	615188.6	6432183.1	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_240982	616675.4	6432173.5			Y	Y							Y		Y	Y
R_240957	616520.9	6432158.5	Y	Y	Y	Y					Y		Y		Y	Y
R_240958	616673.3	6432157.4			Y	Y							Y		Y	Y
R_332464	621077.9	6432154.7	Y	Y	Y	Y	Y	Y					Y		Y	Y
R_326560	619258.8	6432151.1		Y												
R_240937	616464.9	6432145.0	Y		Y	Y					Y		Y		Y	Y
R_240927	616582.4	6432139.9	Y		Y	Y					Y		Y		Y	Y
R_240918	616685.1	6432131.7	Y		Y	Y					Y		Y		Y	Y
R_240904	616514.9	6432124.3	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_240896	616466.9	6432121.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240892	616535.1	6432118.8	Y		Y	Y					Y		Y		Y	Y
R_240863	615648.1	6432115.0	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_240868	616582.1	6432106.3	Y		Y	Y					Y		Y		Y	Y
R_240858	616658.2	6432099.2	Y		Y	Y					Y		Y		Y	Y
R_240847	616680.2	6432092.9	Y		Y	Y					Y		Y		Y	Y
R_240843	616692.2	6432090.7			Y	Y							Y		Y	Y

Appendix K - Construction noise, NPI Sleep disturbance impacts

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_240837	616719.9	6432087.4			Y	Y					Y		Y		Y	Y
R_240814	615506.9	6432085.9	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_240816	616413.6	6432078.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240810	616433.9	6432073.1	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240799	616449.8	6432067.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240787	616469.0	6432061.2	Y		Y	Y					Y		Y		Y	Y
R_240783	616457.9	6432058.0	Y		Y	Y					Y		Y		Y	Y
R_240782	616518.6	6432056.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240779	616540.1	6432053.0	Y		Y	Y					Y		Y		Y	Y
R_240777	616361.2	6432051.8	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240778	616579.6	6432050.6			Y	Y							Y		Y	Y
R_240773	616409.1	6432050.4	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240781	616560.9	6432045.1	Y	Y	Y	Y							Y		Y	Y
R_240762	616468.6	6432044.3			Y	Y					Y		Y		Y	Y
R_240742	616410.5	6432035.0	Y	Y	Y	Y					Y		Y		Y	Y
R_240743	616519.5	6432034.3	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_240740	616357.7	6432033.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240733	616460.7	6432027.0	Y		Y	Y				Y	Y		Y		Y	Y
R_332455	620587.7	6432026.1		Y											Y	
R_240730	616567.7	6432024.2			Y	Y							Y		Y	Y
R_240719	616352.4	6432018.9	Y		Y	Y					Y		Y		Y	Y
R_240717	616407.4	6432018.0	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240713	616517.7	6432014.2	Y		Y	Y					Y		Y		Y	Y
R_240705	616464.2	6432009.0	Y		Y	Y					Y		Y		Y	Y
R_240702	616566.9	6432005.6	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_240695	616402.1	6432002.4	Y	Y	Y	Y					Y		Y		Y	Y
R_240690	616351.8	6432000.3	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240671	615102.2	6431999.6	Y	Y	Y	Y					Y		Y		Y	Y
R_240683	616458.0	6431993.2			Y	Y							Y		Y	Y
R_240678	616564.5	6431987.1			Y	Y							Y		Y	Y
R_240672	616399.2	6431985.5	Y	Y	Y	Y					Y		Y		Y	Y
R_240660	616456.2	6431977.4			Y	Y							Y		Y	Y
R_240658	616511.4	6431975.3			Y	Y							Y		Y	Y
R_240656	616558.9	6431971.7			Y								Y			
R_240649	616398.3	6431969.0	Y		Y	Y					Y		Y		Y	Y
R_332470	620412.6	6431955.4		Y											Y	
R_240633	616446.8	6431955.1			Y	Y							Y		Y	Y
R_240629	616399.0	6431952.5	Y		Y	Y					Y		Y		Y	Y
R_240631	616556.5	6431951.6			Y								Y			
R_240616	616504.4	6431941.3			Y	Y							Y		Y	Y
R_240614	616450.5	6431938.9			Y	Y							Y		Y	Y
R_240607	616393.8	6431934.6	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240600	616339.4	6431931.9	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240590	616441.3	6431922.3			Y	Y							Y		Y	Y
R_240591	616505.6	6431921.6			Y	Y							Y		Y	Y
R_240584	616389.0	6431918.7	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_240555	615488.0	6431913.9	Y	Y	Y	Y				Y	Y		Y	Y	Y	Y
R_240573	616335.8	6431913.2			Y	Y					Y		Y		Y	Y
R_240559	616499.8	6431905.1			Y								Y			
R_240556	616387.5	6431904.3	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_240553	616439.7	6431901.5			Y	Y							Y		Y	Y
R_332433	620955.2	6431901.2		Y				Y							Y	
R_240542	616337.1	6431896.6			Y	Y					Y		Y		Y	Y
R_332448	620610.6	6431888.8		Y											Y	
R_240523	616498.7	6431888.2			Y								Y			
R_240515	616385.0	6431885.9	Y	Y	Y	Y					Y		Y		Y	Y
R_240508	616437.1	6431883.1			Y	Y					Y		Y		Y	Y
R_240483	615854.4	6431877.9	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
R_240481	616316.0	6431872.4			Y	Y							Y		Y	Y
R_240485	616492.0	6431871.7			Y								Y			
R_240474	616332.4	6431870.8	Y		Y	Y					Y		Y		Y	Y
R_240459	616378.4	6431862.5			Y	Y							Y		Y	Y
R_240451	616398.7	6431857.1			Y	Y							Y		Y	Y
R_240450	616421.7	6431856.7			Y	Y							Y		Y	Y
R_240434	616439.8	6431849.4			Y								Y			

Exceedance of NPI Sleep Disturbance Criteria																
Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure
R_240401	615001.3	6431839.3				Y									Y	Y
R_332480	620698.6	6431838.5		Y				Y							Y	
R_240398	616308.1	6431822.6			Y	Y							Y		Y	Y
R_240400	616327.5	6431822.5			Y	Y							Y		Y	Y
R_240396	616346.8	6431819.4			Y	Y							Y		Y	Y
R_240389	616362.8	6431810.7			Y	Y							Y		Y	Y
R_240386	616399.3	6431808.9			Y								Y		Y	Y
R_240376	616380.0	6431805.5	Y	Y	Y	Y					Y	Y	Y		Y	Y
R_240263	616318.7	6431705.8			Y	Y							Y		Y	Y
R_324813	624542.4	6431672.2													Y	
R_326627	619500.9	6431670.2		Y												
R_326622	619583.1	6431643.5		Y												
R_240186	615872.8	6431640.6	Y		Y								Y			
R_326462	619678.2	6431636.9		Y												
R_332454	619870.8	6431611.4		Y												
R_332483	620744.0	6431581.4		Y	Y			Y					Y		Y	Y
R_240002	616237.7	6431476.5	Y		Y	Y					Y		Y		Y	Y
R_332585	621016.9	6431305.0		Y	Y			Y					Y		Y	Y
R_332434	621550.0	6430892.2	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y
R_324811	623944.1	6430123.5		Y				Y							Y	
R_324822	623513.4	6429827.4	Y	Y	Y	Y		Y			Y		Y		Y	Y
R_331816	619739.0	6429779.2						Y							Y	
R_331822	621433.5	6429366.7	Y	Y	Y	Y	Y	Y			Y		Y		Y	Y
R_324819	623633.3	6428918.8		Y	Y			Y					Y		Y	Y
R_324824	623563.4	6428048.8													Y	
R_331738	621078.5	6427833.4	Y		Y	Y	Y	Y			Y		Y		Y	Y
R_239764	614230.7	6426743.7	Y		Y	Y					Y		Y		Y	Y
R_239751	612615.4	6426442.2	Y	Y	Y	Y					Y	Y	Y	Y	Y	Y
R_239748	612670.5	6426409.9	Y	Y	Y	Y	Y				Y	Y	Y	Y	Y	Y
R_325145	617102.3	6426357.7	Y		Y								Y		Y	Y
R_324738	616960.3	6425578.3	Y	Y	Y	Y	Y			Y	Y		Y	Y	Y	Y
R_324734	617176.4	6425540.7	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y
R_239740	612488.8	6424538.9	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y
R_239733	612761.0	6424473.5	Y	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y
R_239732	613220.4	6424461.1	Y	Y	Y	Y					Y		Y	Y	Y	Y
R_324729	614293.7	6424325.6	Y		Y	Y					Y		Y	Y	Y	Y
R_331625	618753.0	6421206.9													Y	Y
R_331622	615851.8	6421060.4													Y	Y
R_331621	615796.7	6420473.1													Y	Y
R_331588	623684.3	6410031.4													Y	Y
R_331585	622157.2	6409040.9													Y	Y
R_331583	621789.8	6408814.0													Y	Y
R_331582	622028.9	6408651.1													Y	Y
R_331577	621381.6	6408071.5													Y	Y

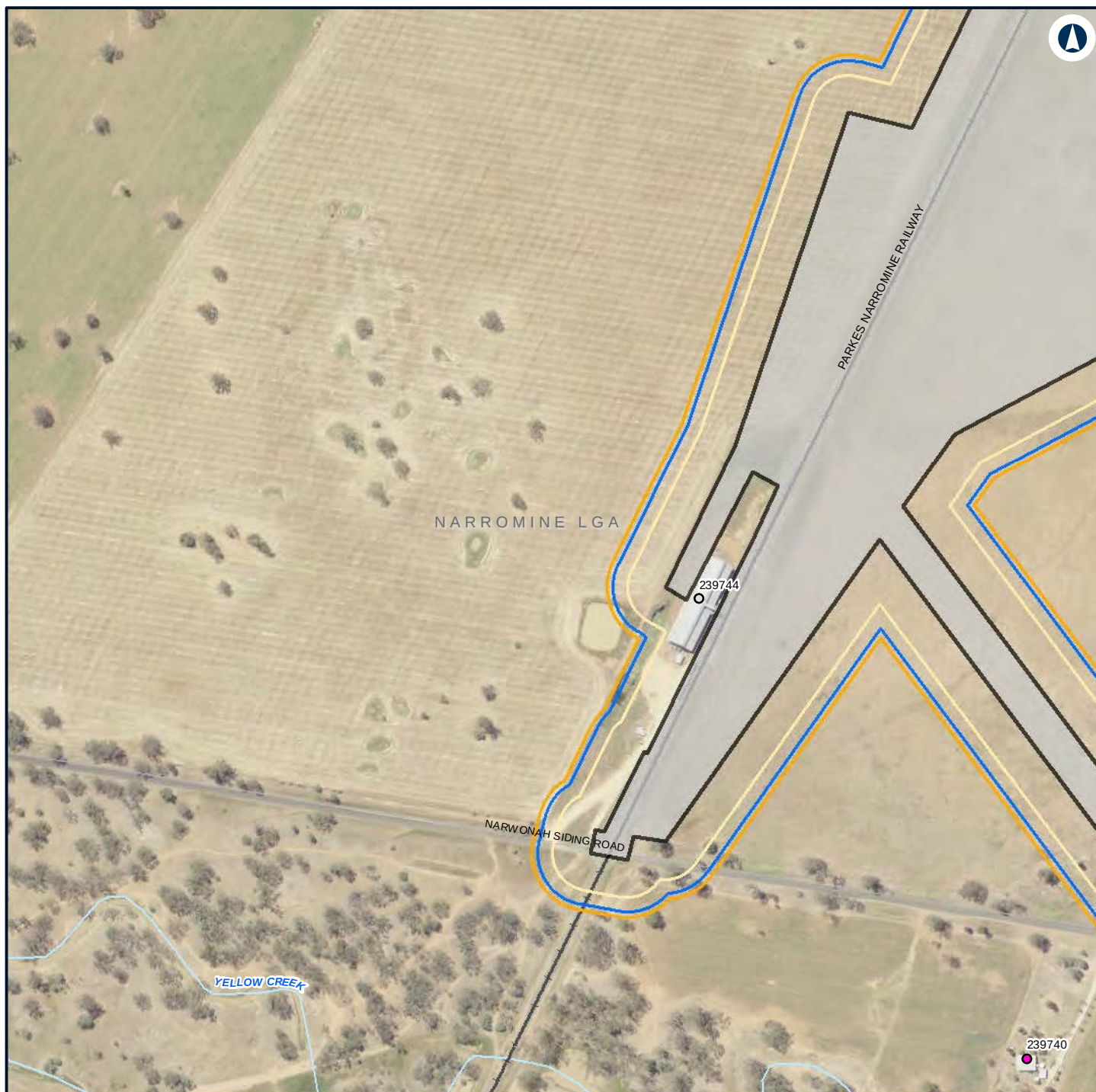
TECHNICAL REPORT 08

Updated noise and vibration assessment—
construction and other operations

Appendix L Construction vibration buffers, human comfort—clearing and stripping/road construction

NARROMINE TO NARRABRI PROJECT





LEGEND

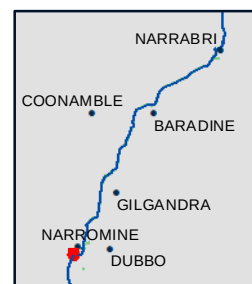
Construction footprint (propagation source) BS 5228-2:2009 (1 mm/s, 60m)

Structure type

- Commercial/Industrial
- Residential

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction

Appendix L - MAP 1 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

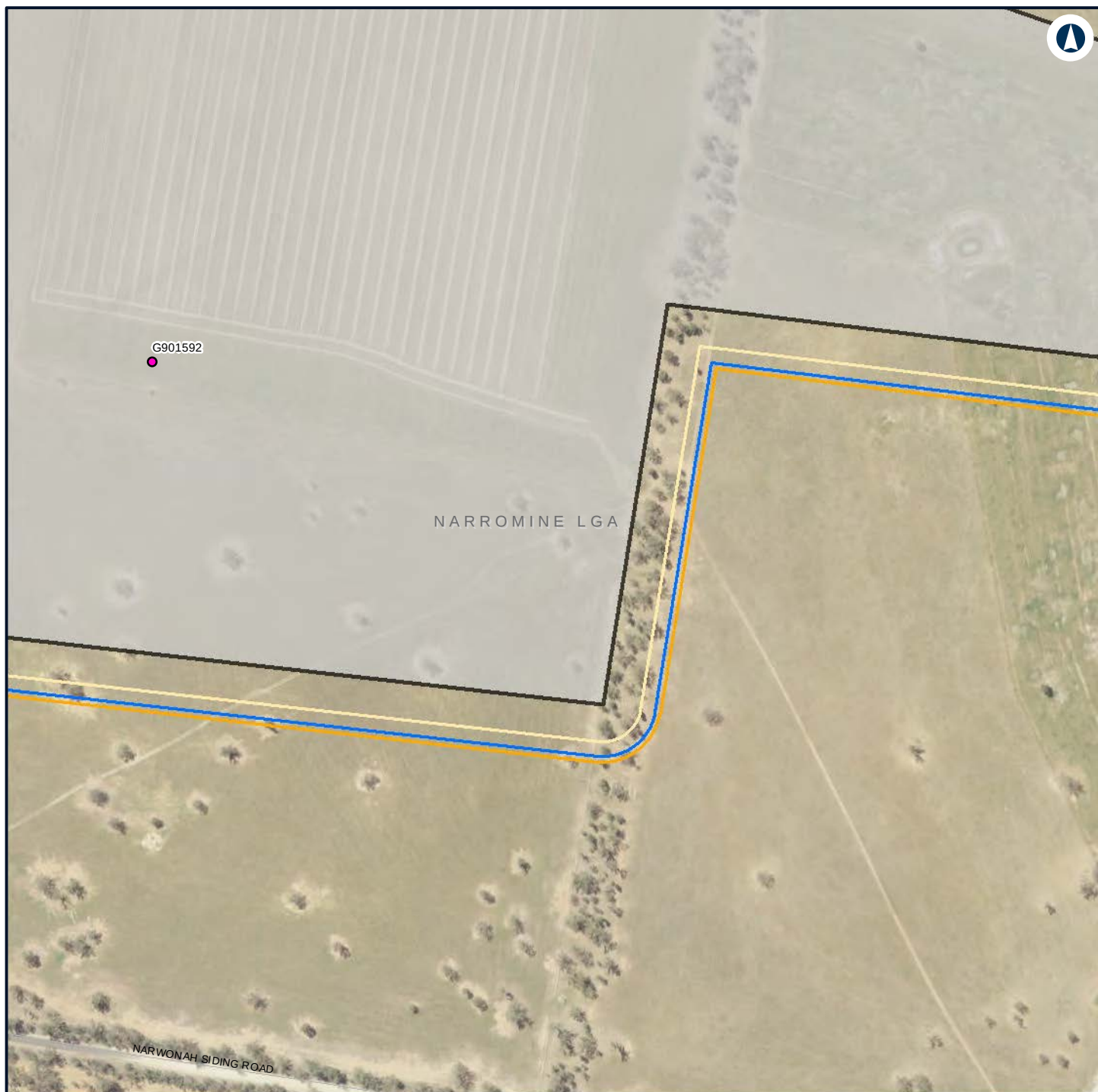
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint (propagation source)

Structure type

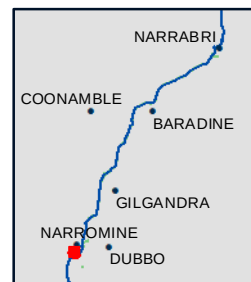
Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction

Appendix L - MAP 2 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

 Construction footprint (propagation source)

Structure type

 Residential

Vibration from clearing and stripping

 AVTG day max (0.4 m/s 1.75, 54 m)

 AVTG night max (0.26 m/s 1.75, 39 m)

 BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction

Appendix L - MAP 3 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

 Construction footprint (propagation source)

Structure type

 Residential

Vibration from clearing and stripping

 AVTG day max (0.4 m/s 1.75, 54 m)

 AVTG night max (0.26 m/s 1.75, 39 m)

 BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction

Appendix L - MAP 4 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

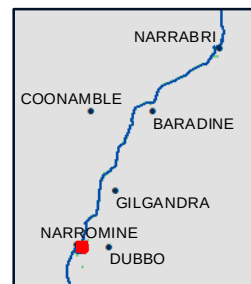
Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction

Appendix L - MAP 5 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint (propagation source)

Structure type

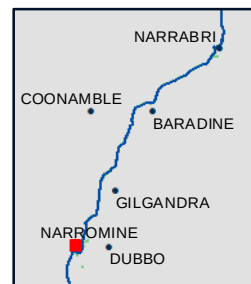
Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction

Appendix L - MAP 6 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

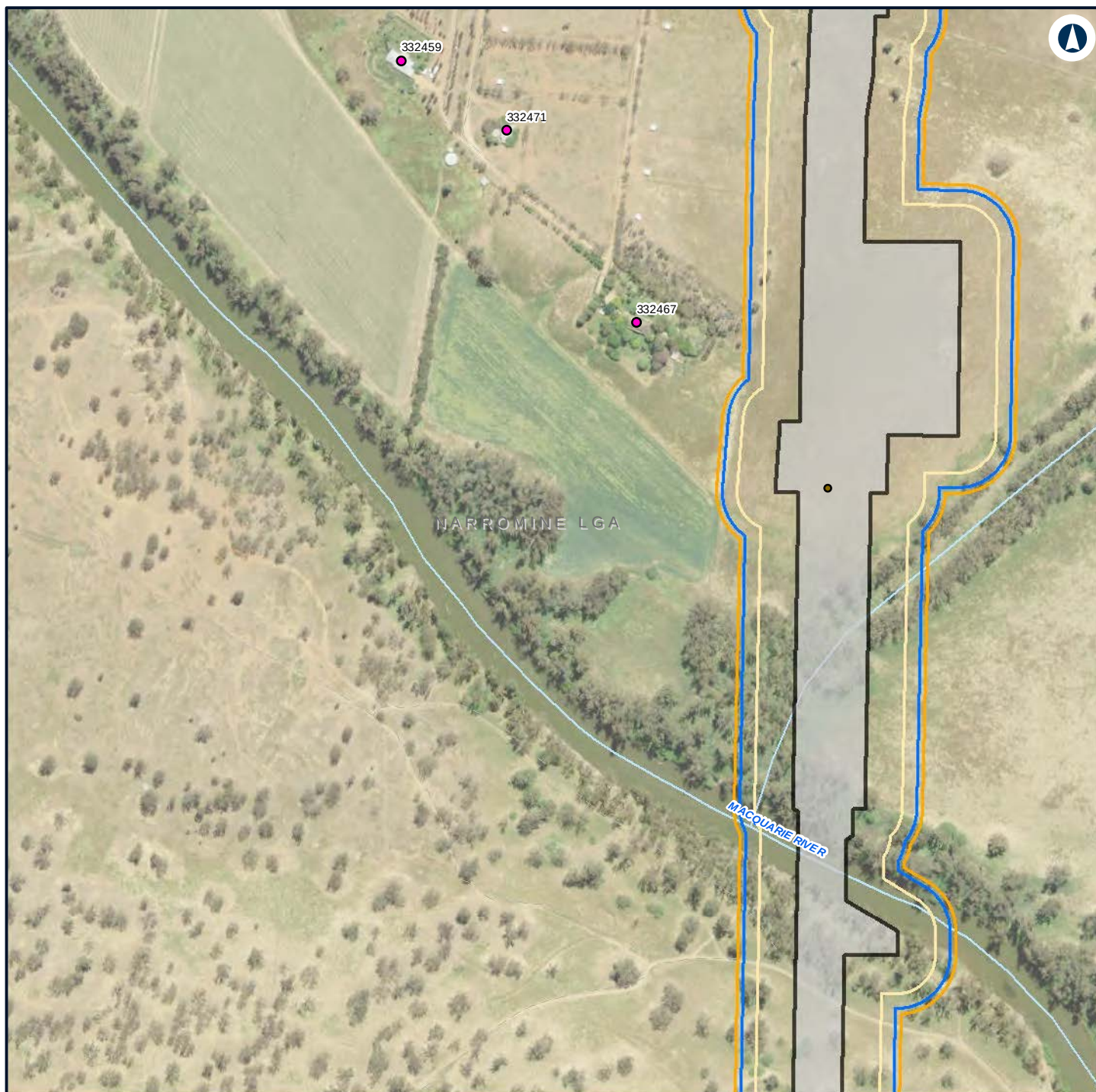
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction

Appendix L - MAP 7 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

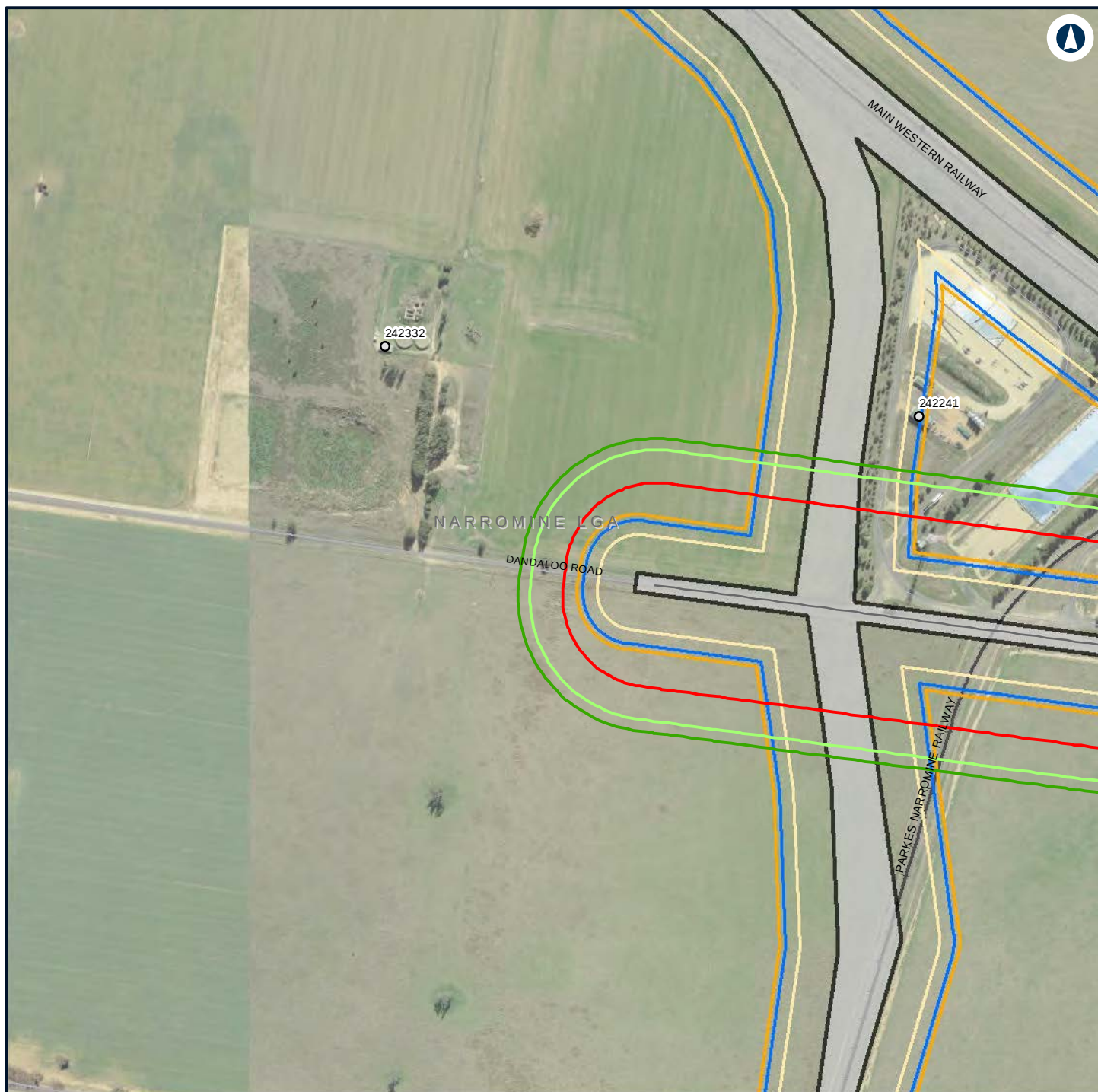
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

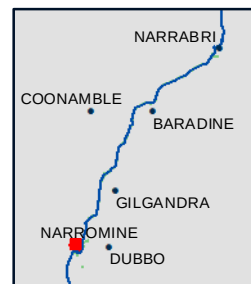
- Commercial/Industrial

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction

Appendix L - MAP 8 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

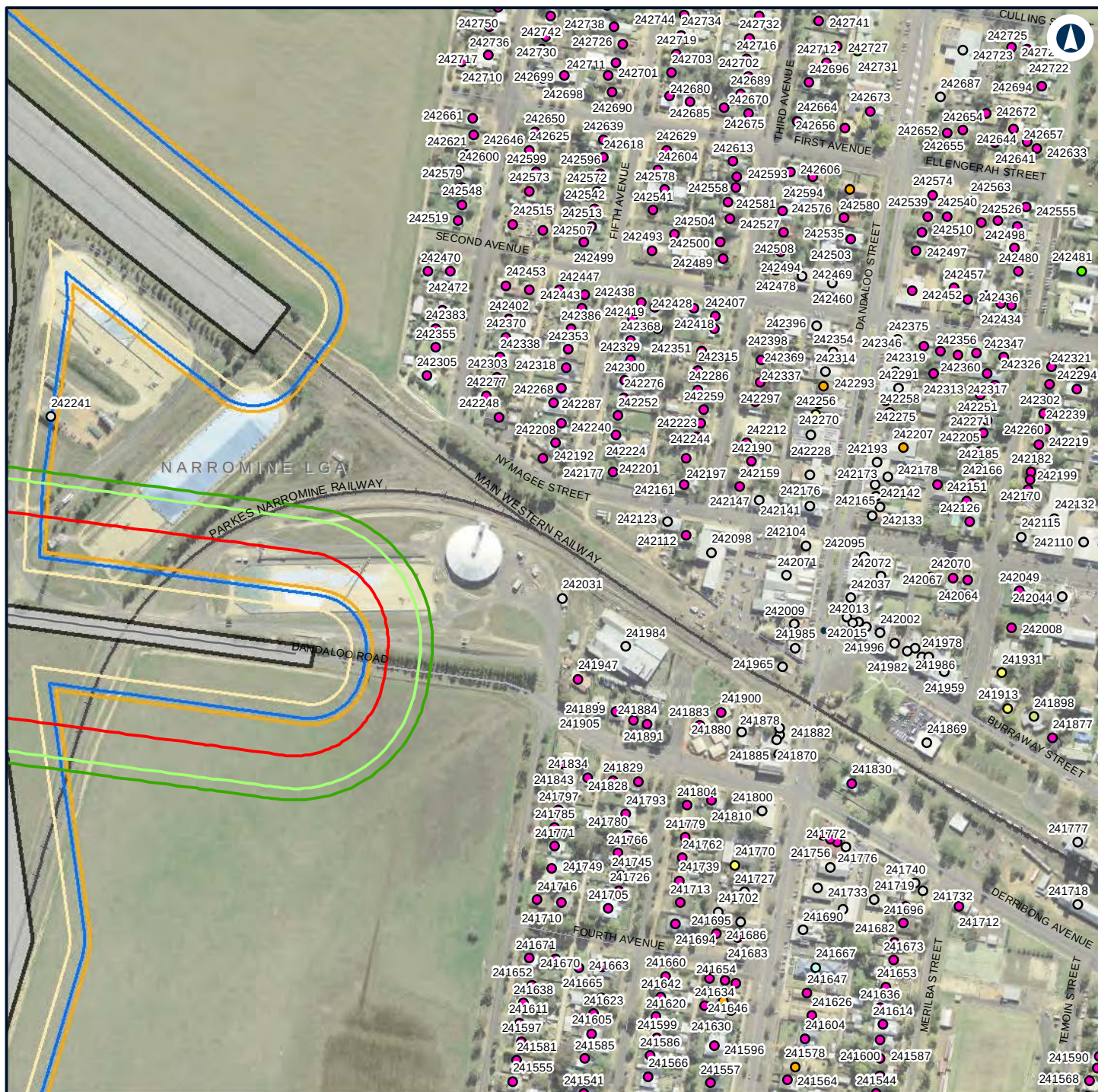
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

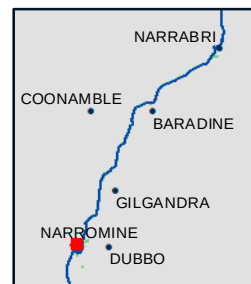
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LEGEND

- | | |
|--|--|
|  Construction footprint (propagation source) | Vibration from earthworks |
| Structure type |  AVTG day max (0.4 m/s 1.75, 130 m) |
|  Child care facility |  AVTG night max (0.26 m/s 1.75, 94 m) |
|  Commercial/Industrial |  BS 5228-2:2009 (1 mm/s, 140 m) |
|  Community | Vibration from clearing and stripping |
|  Educational |  AVTG day max (0.4 m/s 1.75, 54 m) |
|  Health |  AVTG night max (0.26 m/s 1.75, 39 m) |
|  Residential |  BS 5228-2:2009 (1 mm/s, 60m) |
|  Worship | |



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction

Appendix L - MAP 9 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

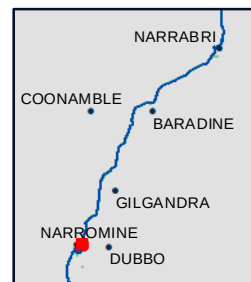
Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 10 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

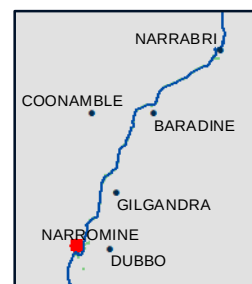
Construction footprint (propagation source) BS 5228-2:2009 (1 mm/s, 60m)

Structure type

- Commercial/Industrial
- Residential

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 11 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

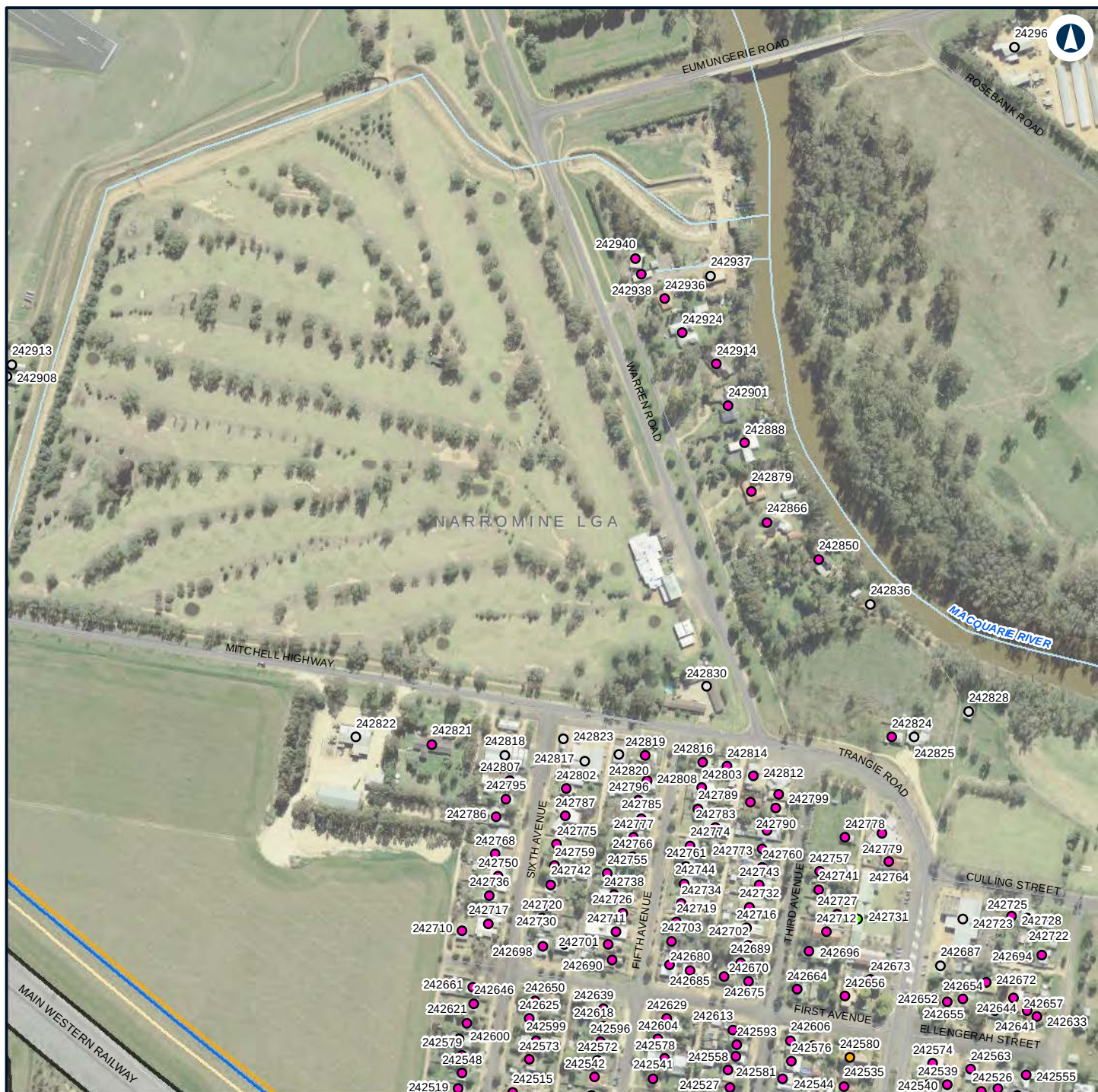
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

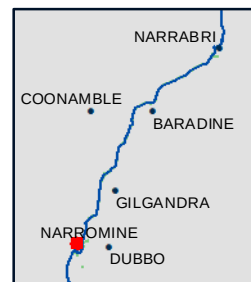
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LEGEND

- Construction footprint (propagation source)
- Structure type**
- Commercial/Industrial
 - Educational
 - Residential
 - Worship
- Vibration from clearing and stripping**
- AVTG day max (0.4 m/s 1.75, 54 m)
 - AVTG night max (0.26 m/s 1.75, 39 m)
 - BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 12 OF 76

0 0.1 0.2
Km

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Date: 22/12/2021

Paper: A4

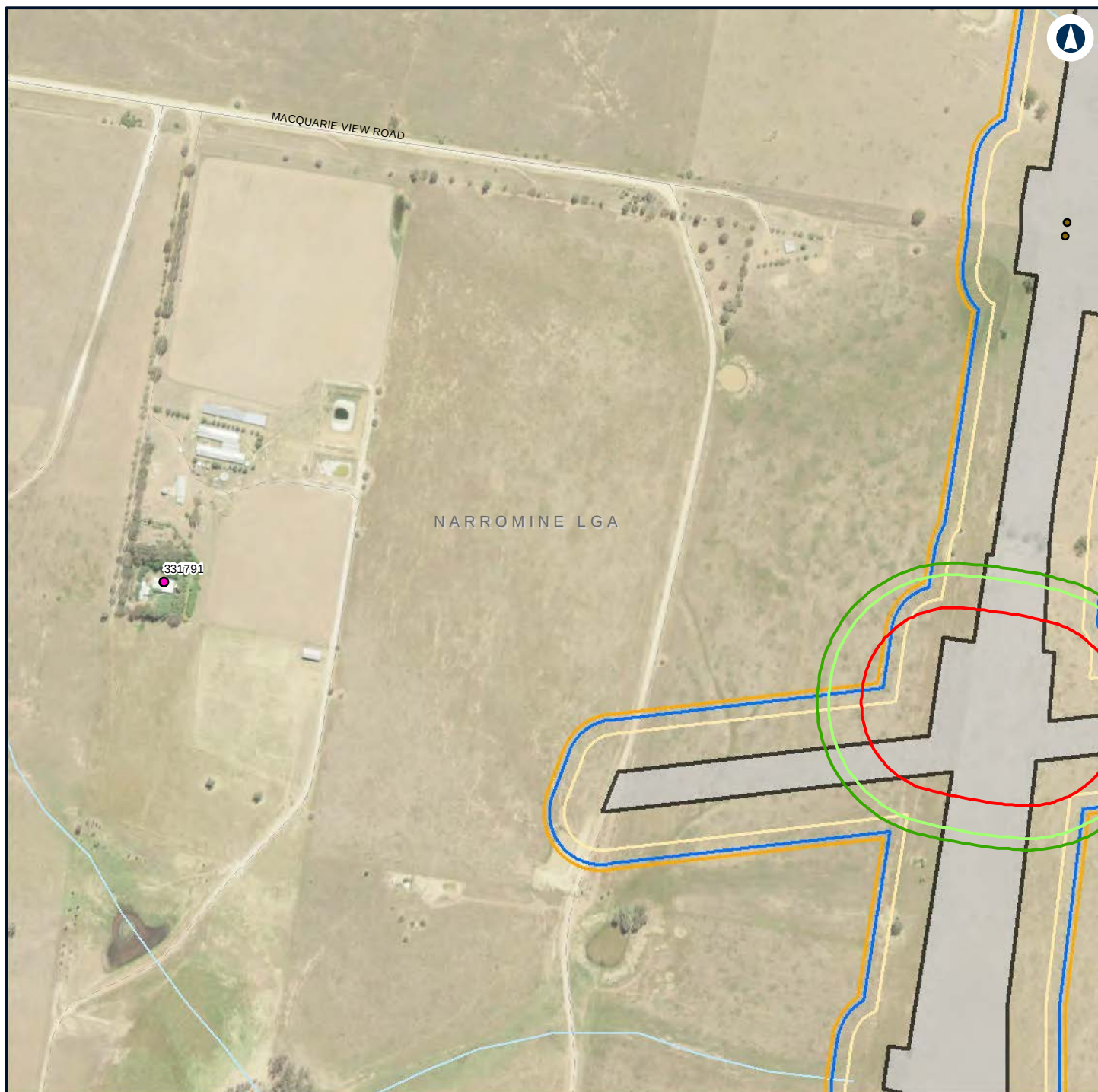
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

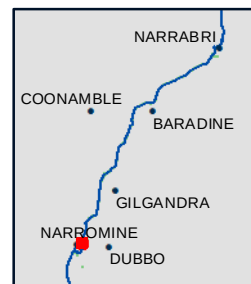
- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 13 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

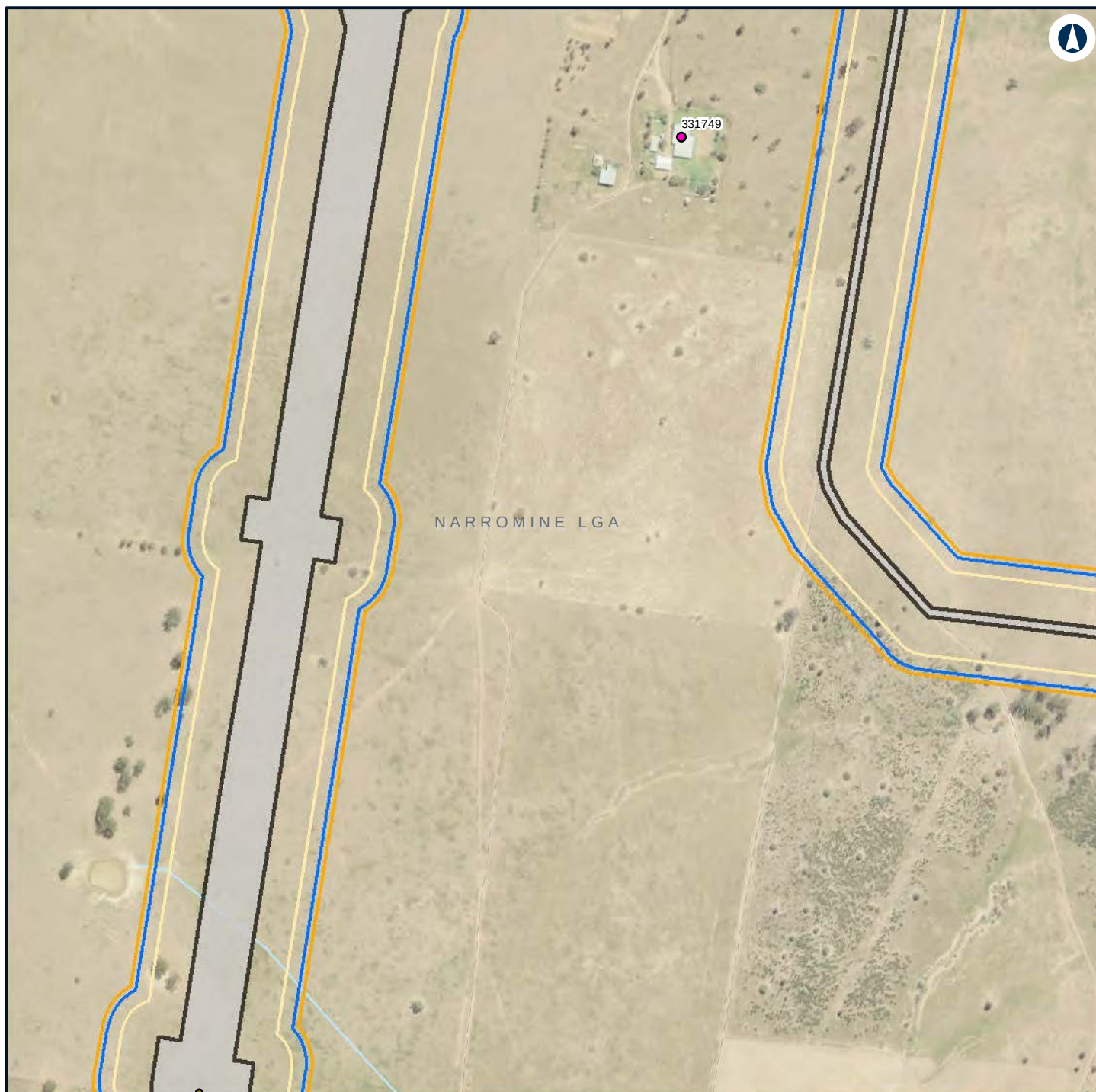
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 14 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

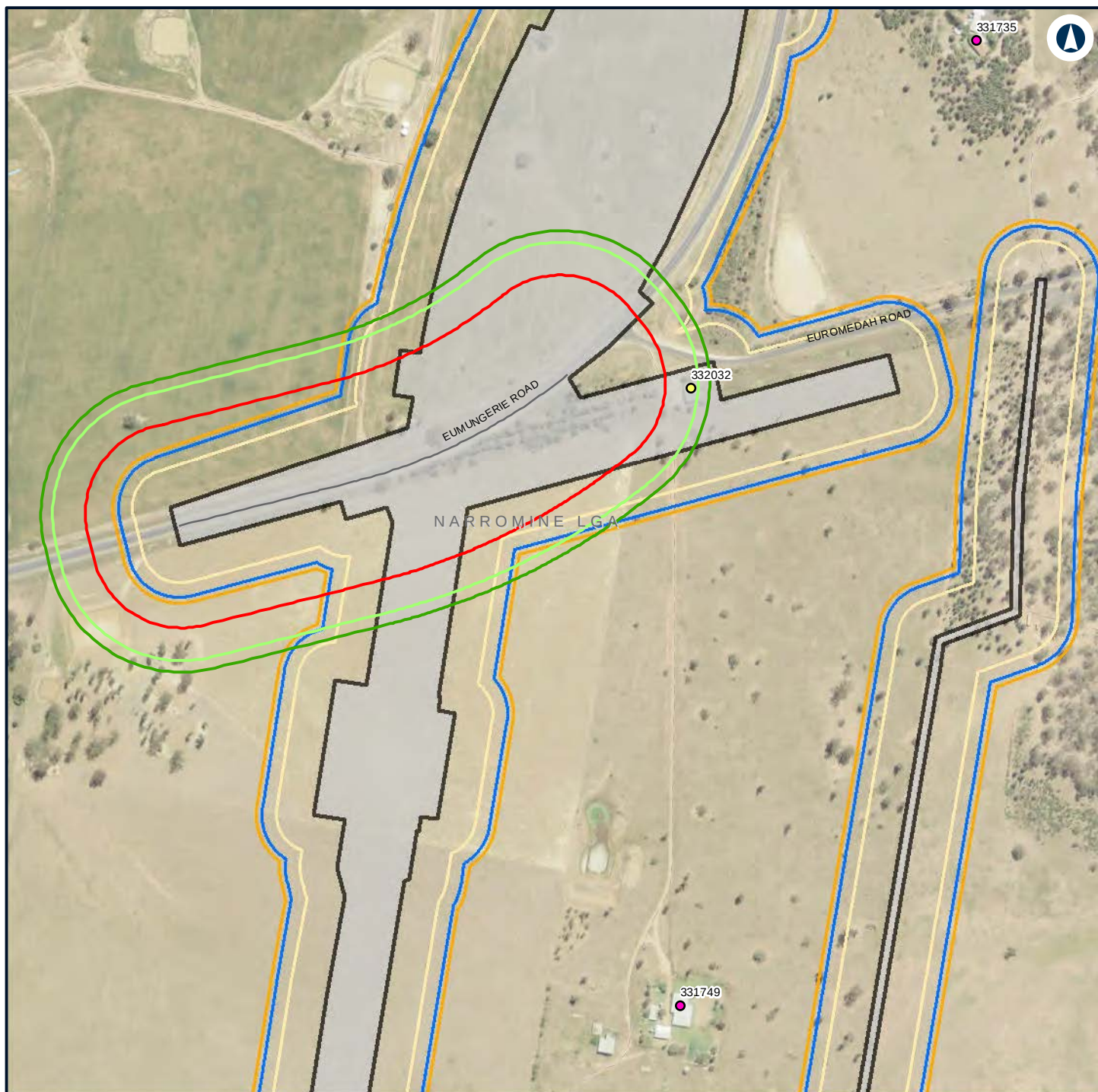
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Community
- Residential

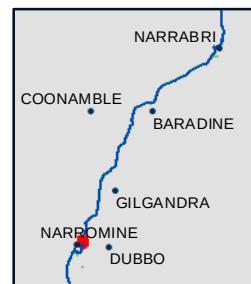
Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 15 OF 76

0 0.1 0.2 Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

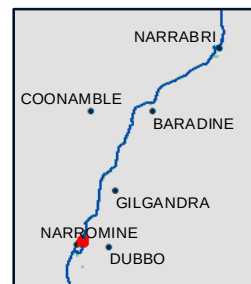
Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 16 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

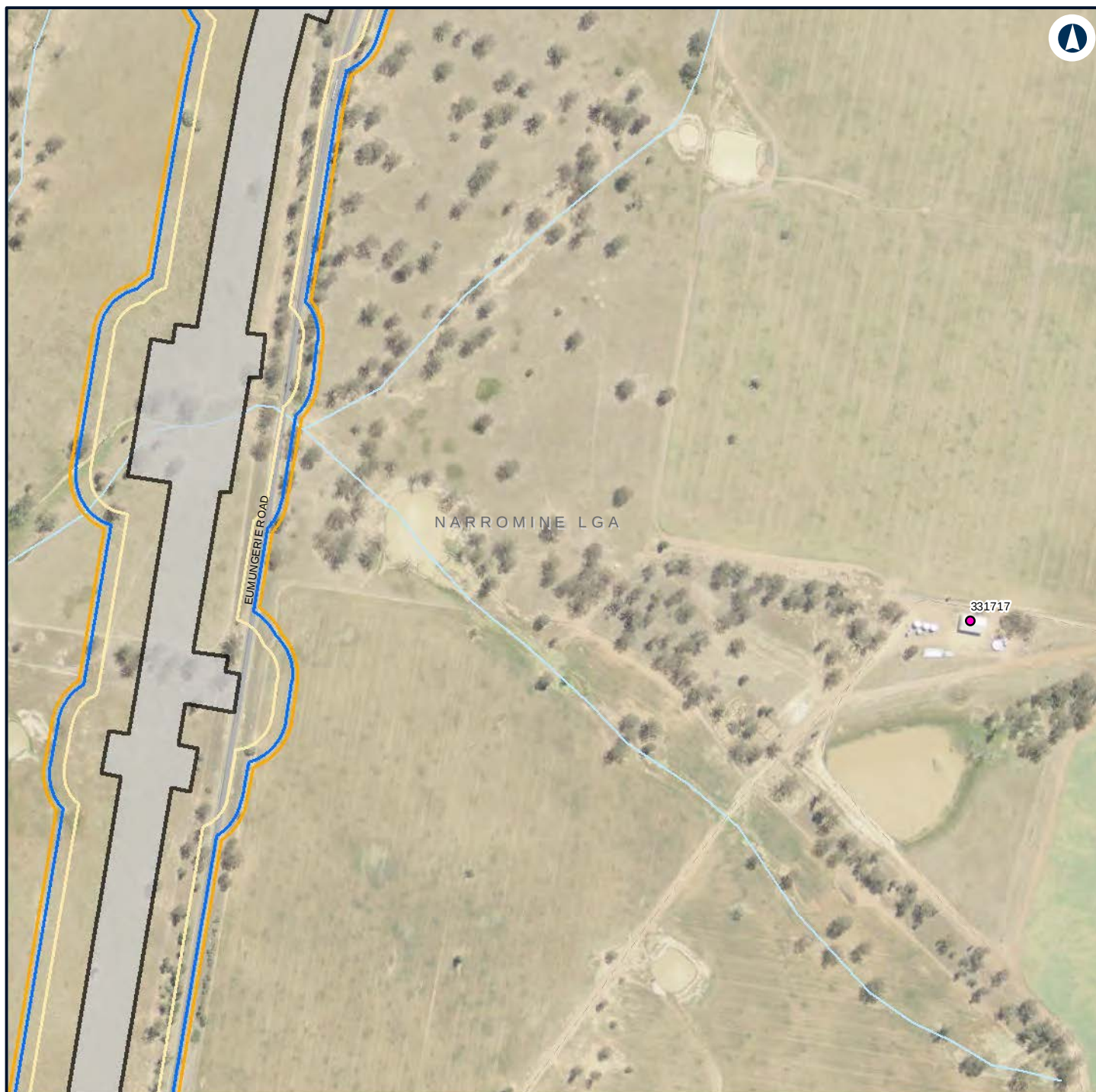
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

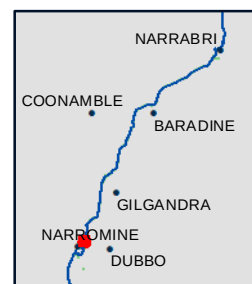
Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 17 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

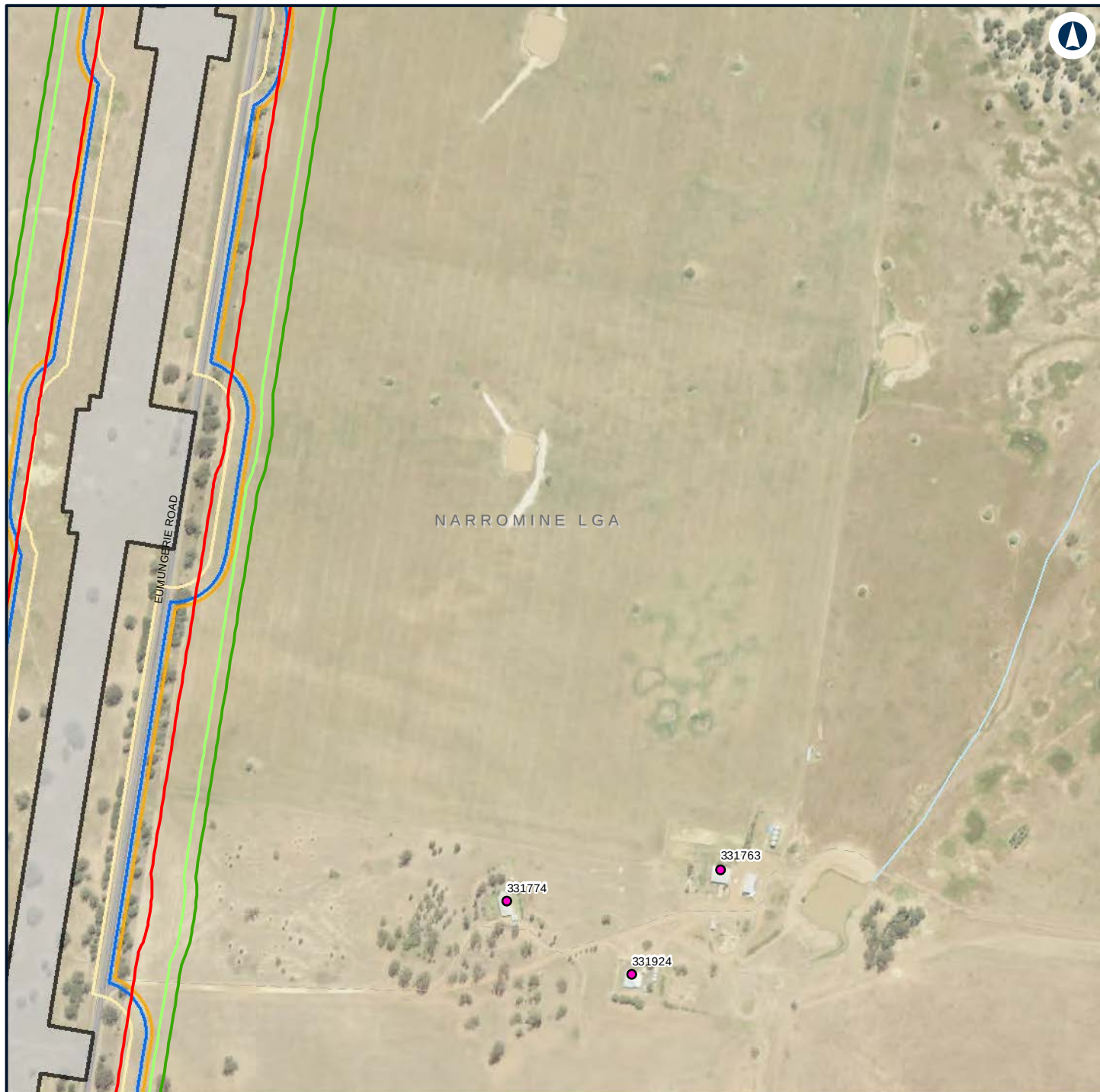
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

Construction footprint (propagation source)

Structure type

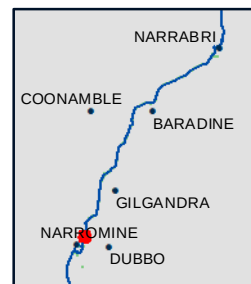
- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 18 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

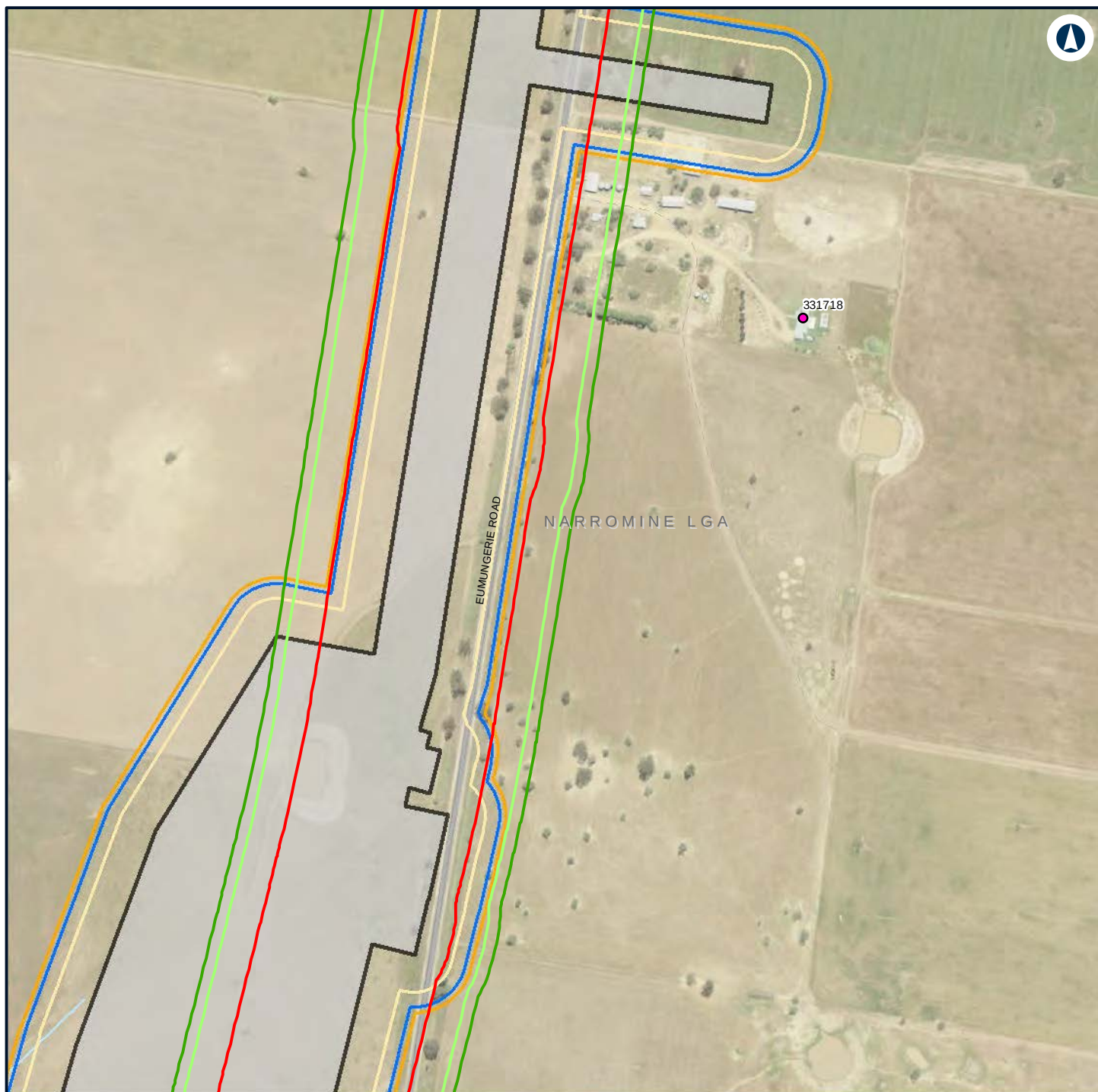
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

**INLAND
RAIL** **ARTC**

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LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 19 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 20 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 21 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

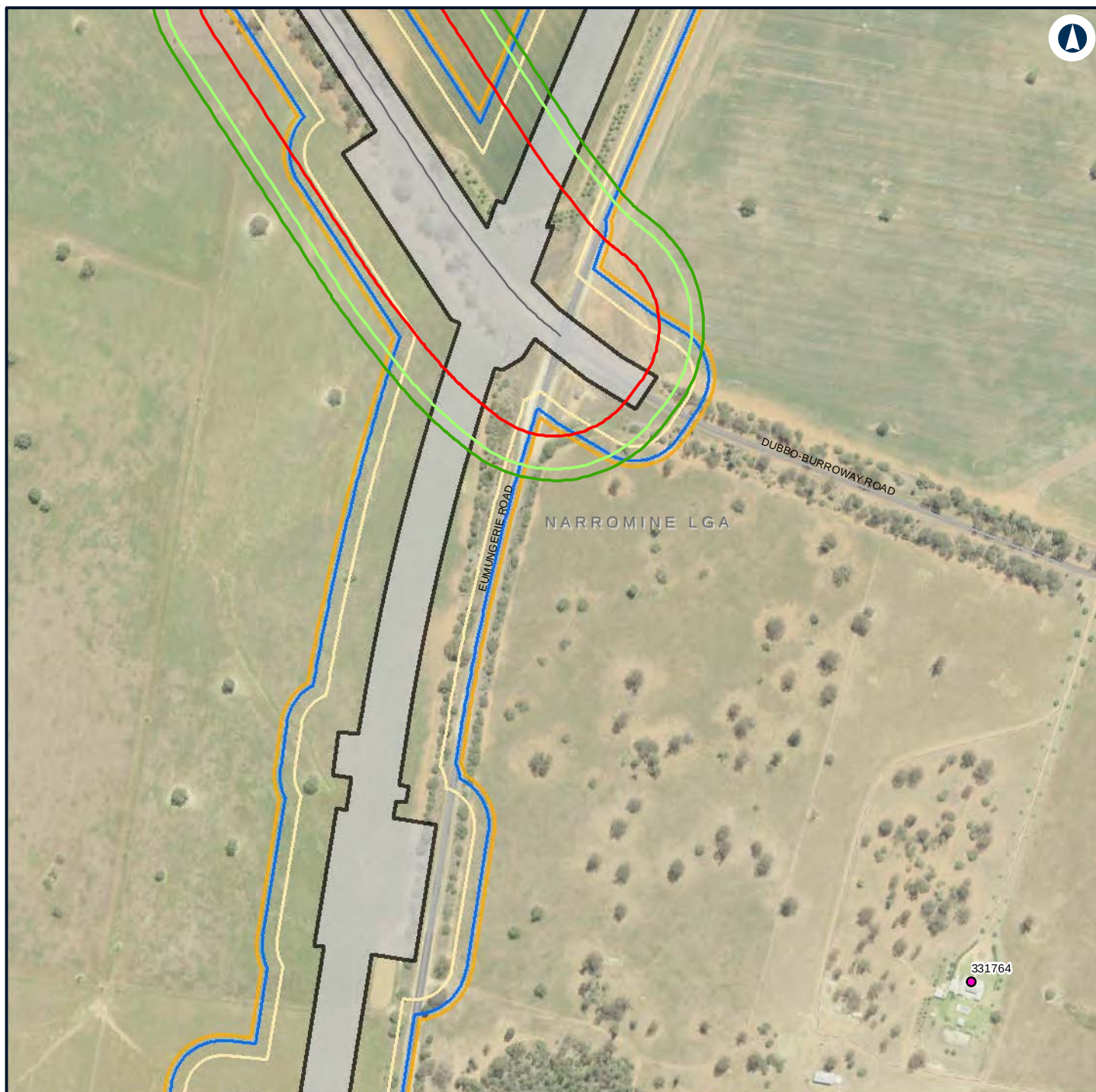
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 22 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

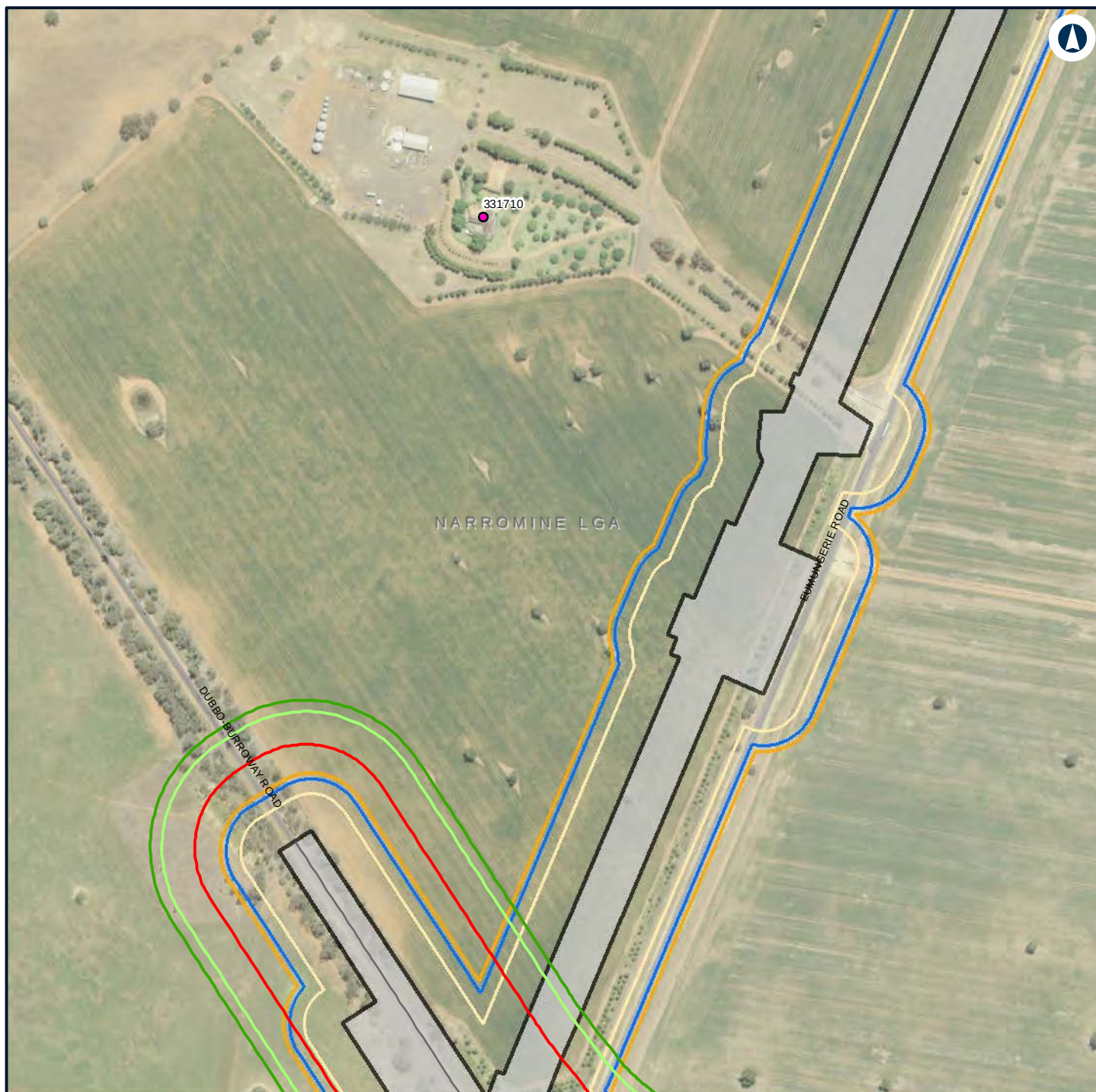
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 23 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 24 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 25 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

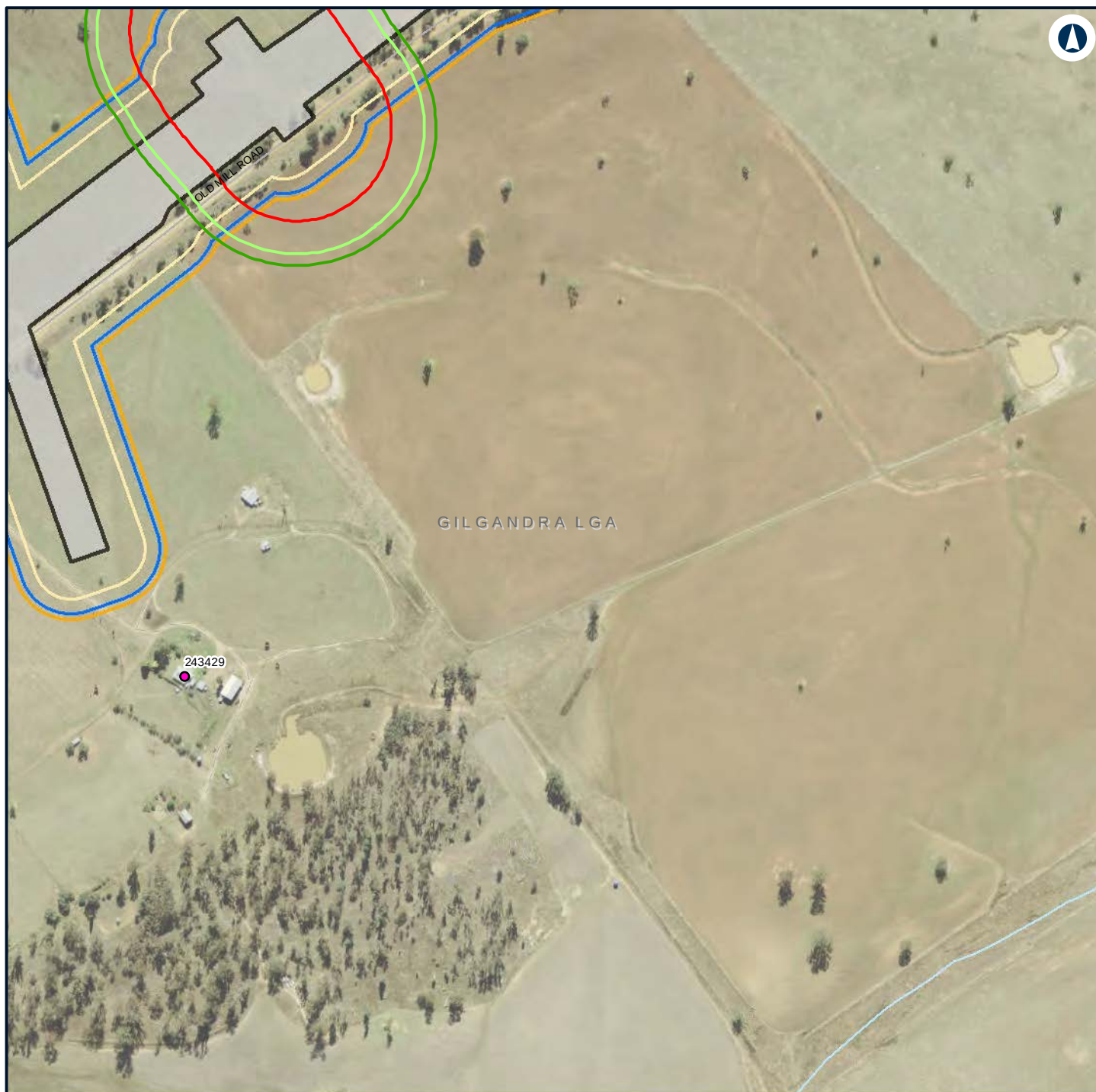
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

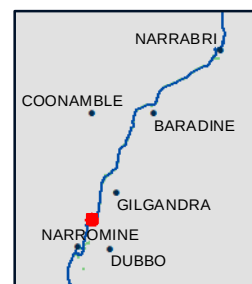
- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 26 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

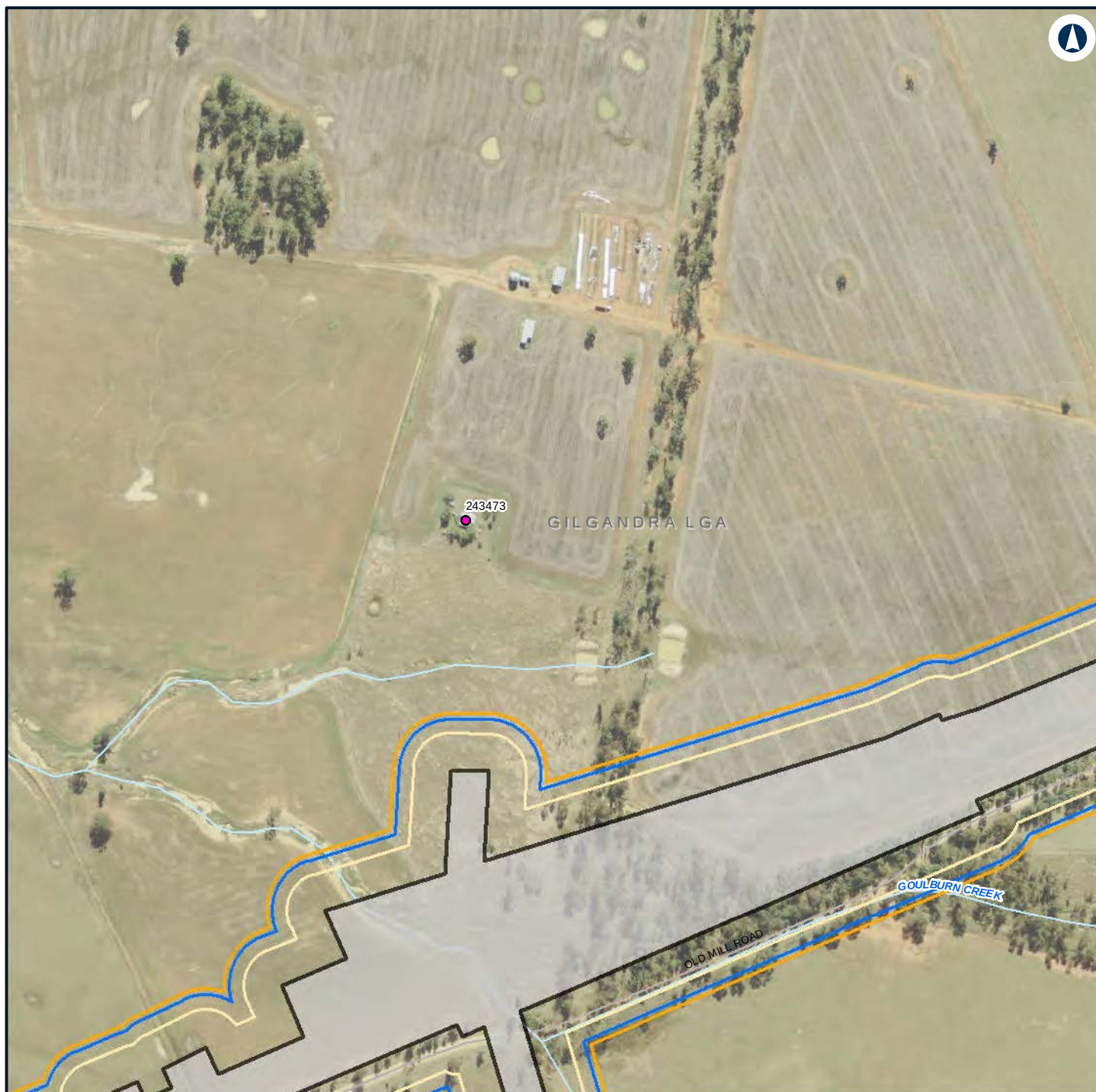
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 27 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 28 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

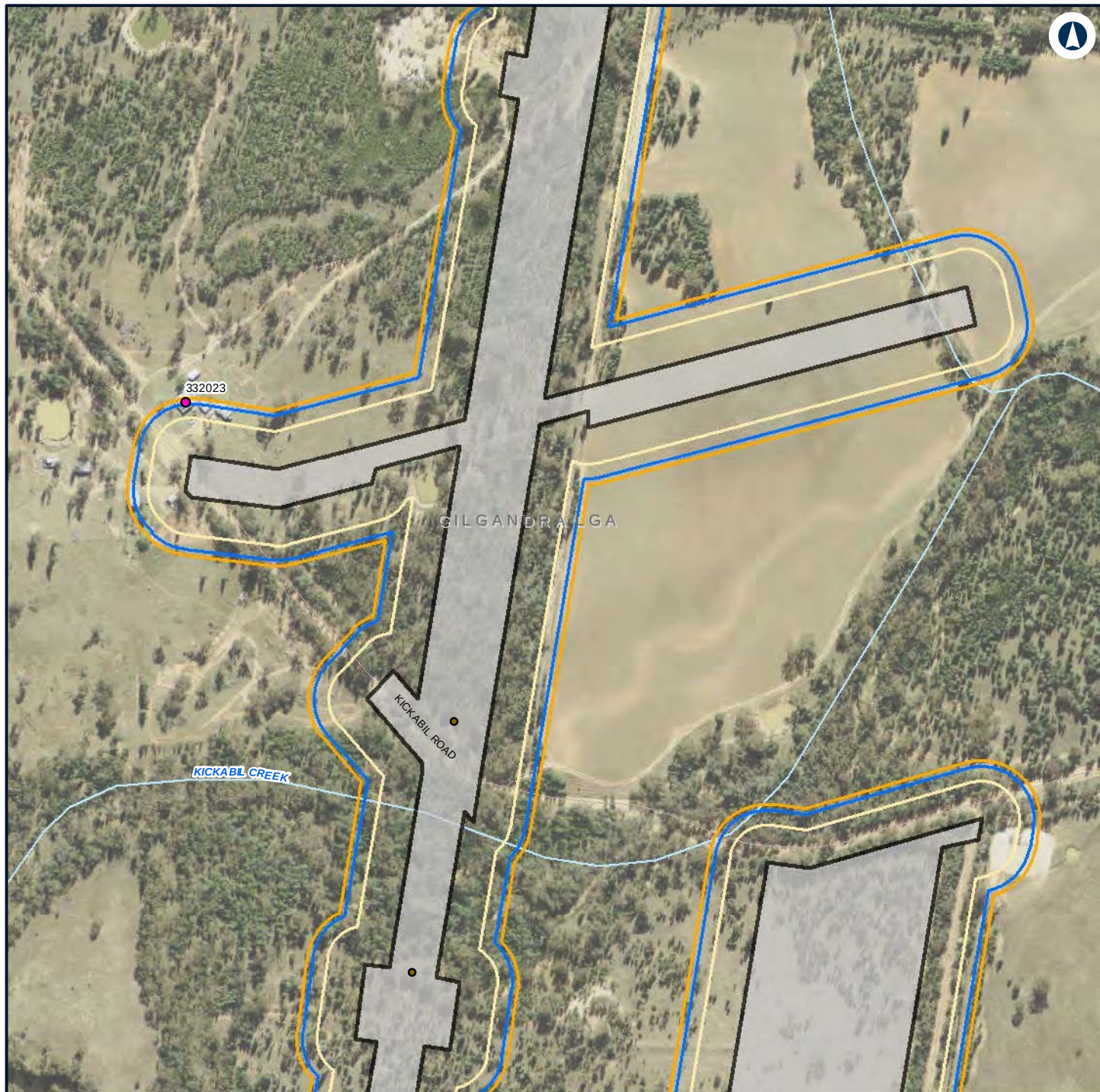
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 29 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

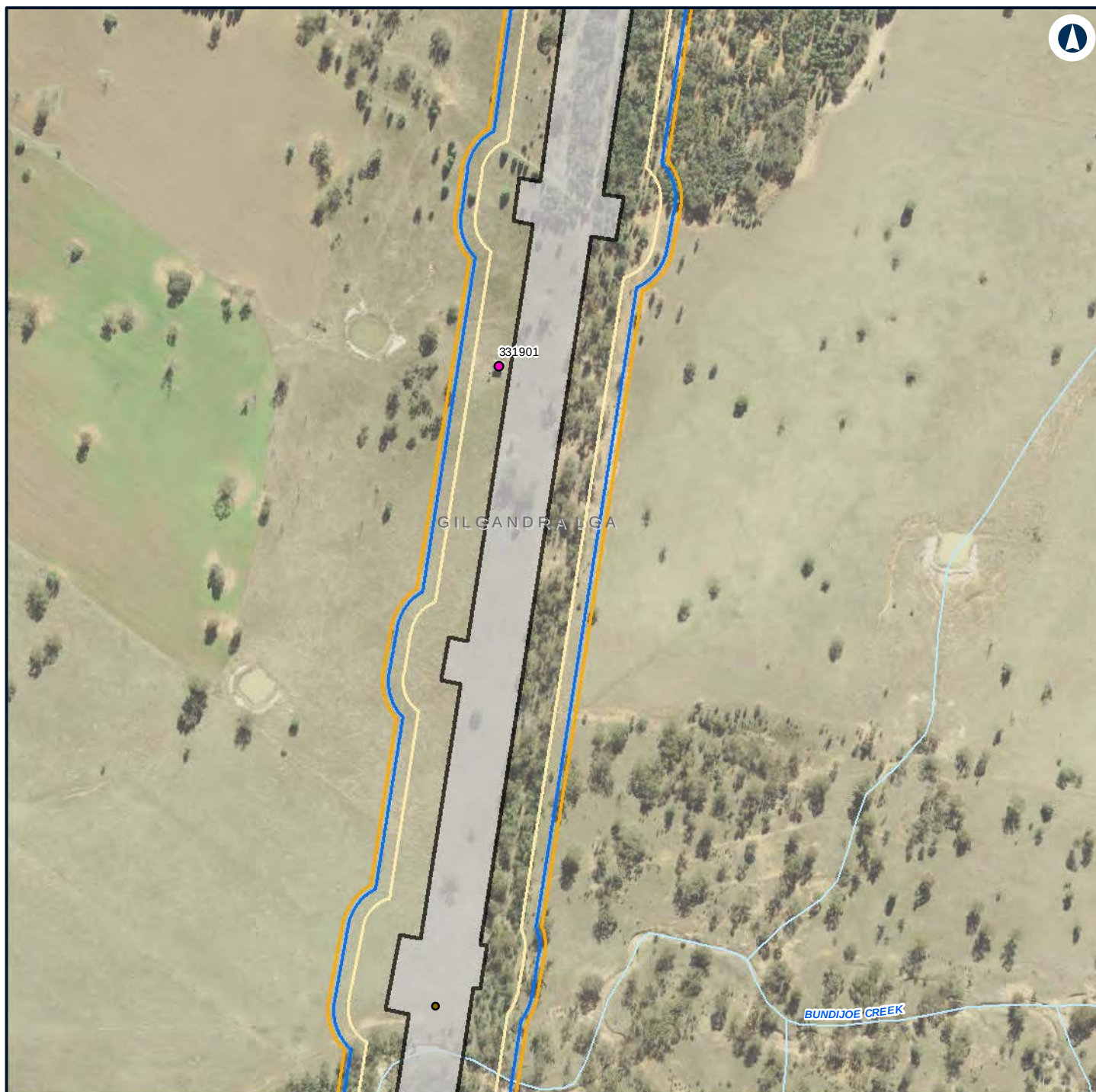
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 30 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

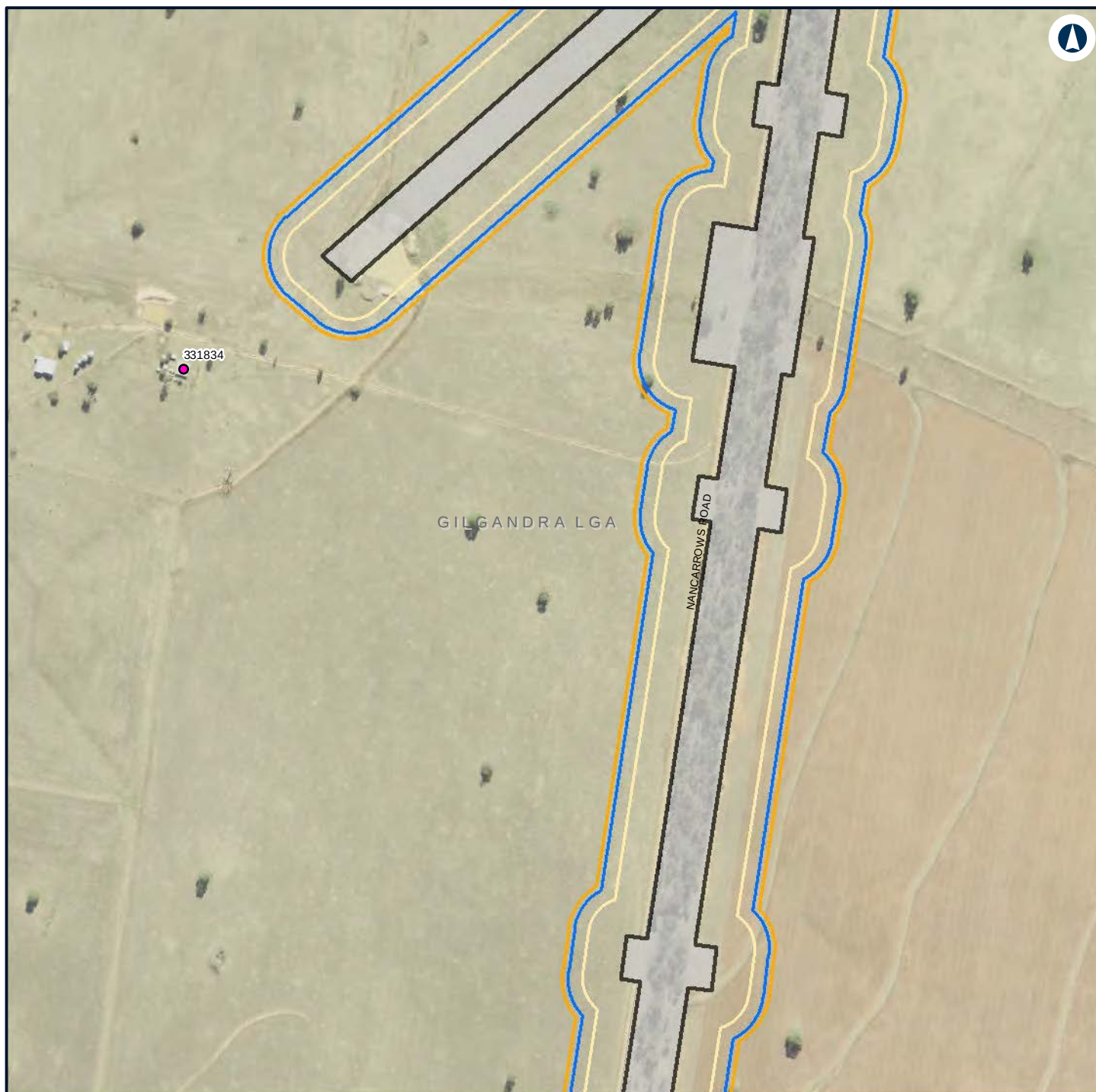
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 31 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint (propagation source)

Structure type

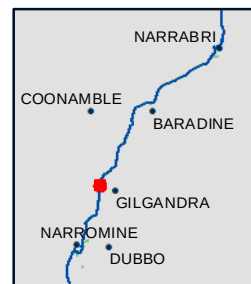
- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 32 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

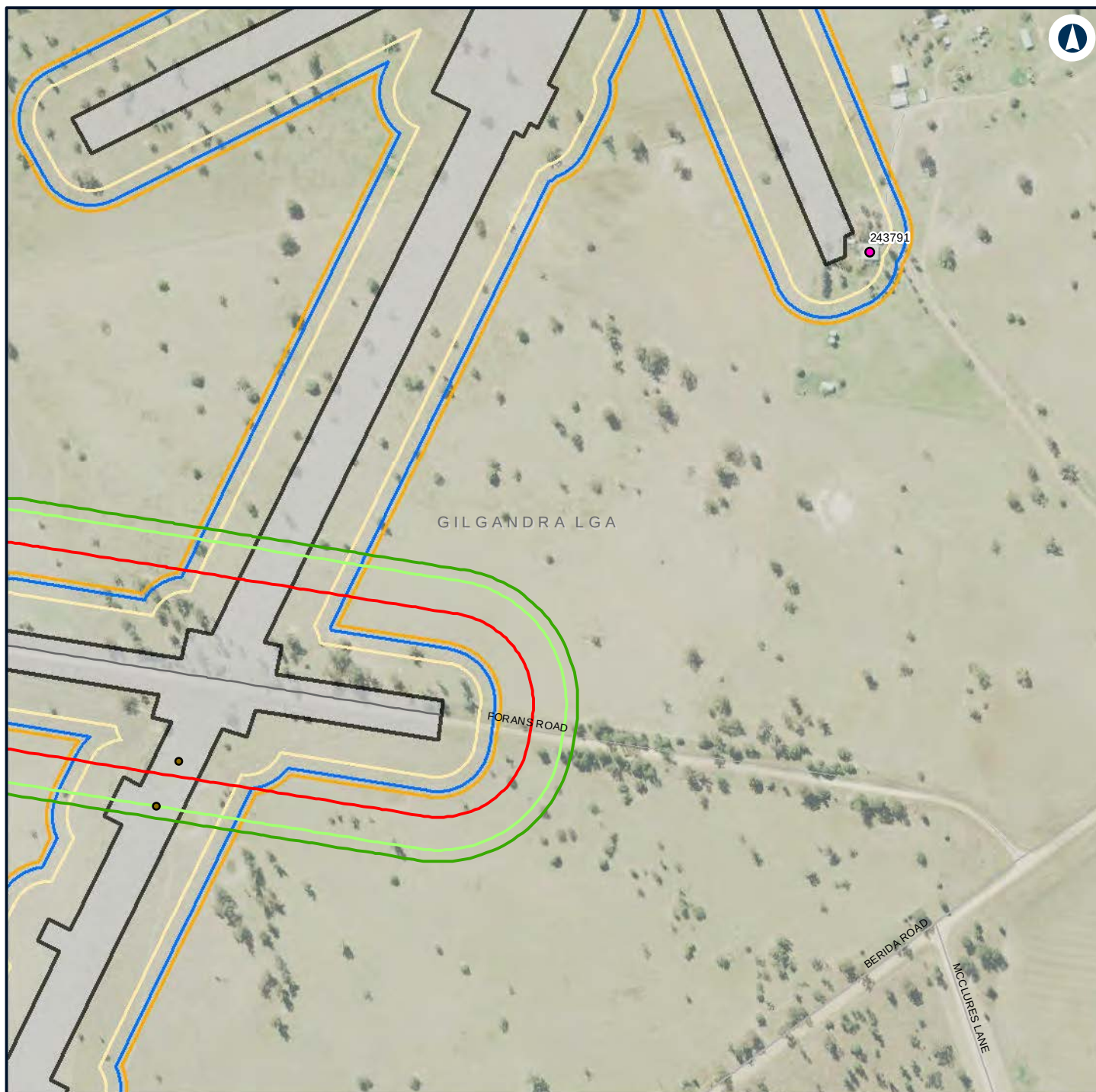
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 33 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

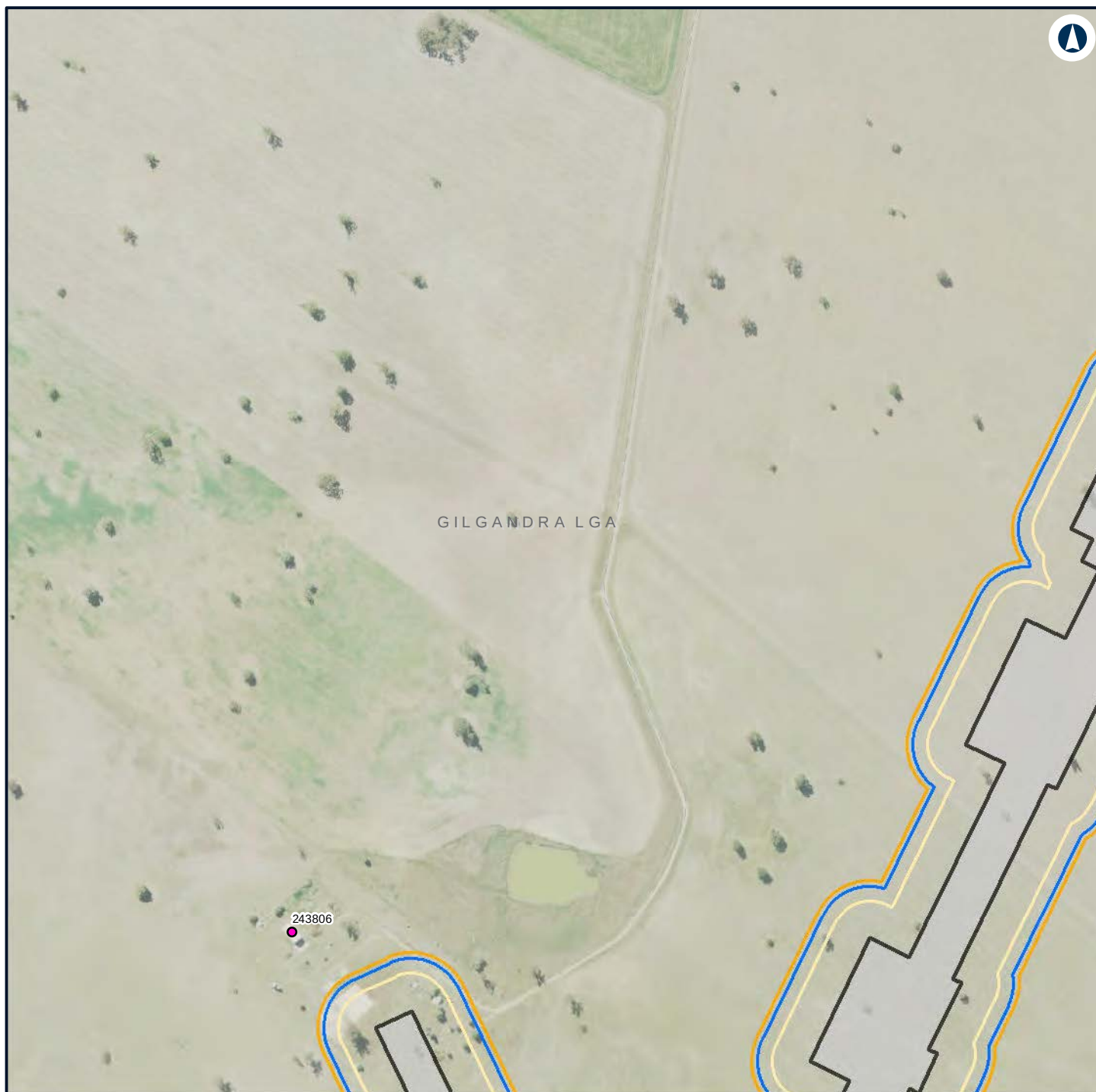
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 34 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

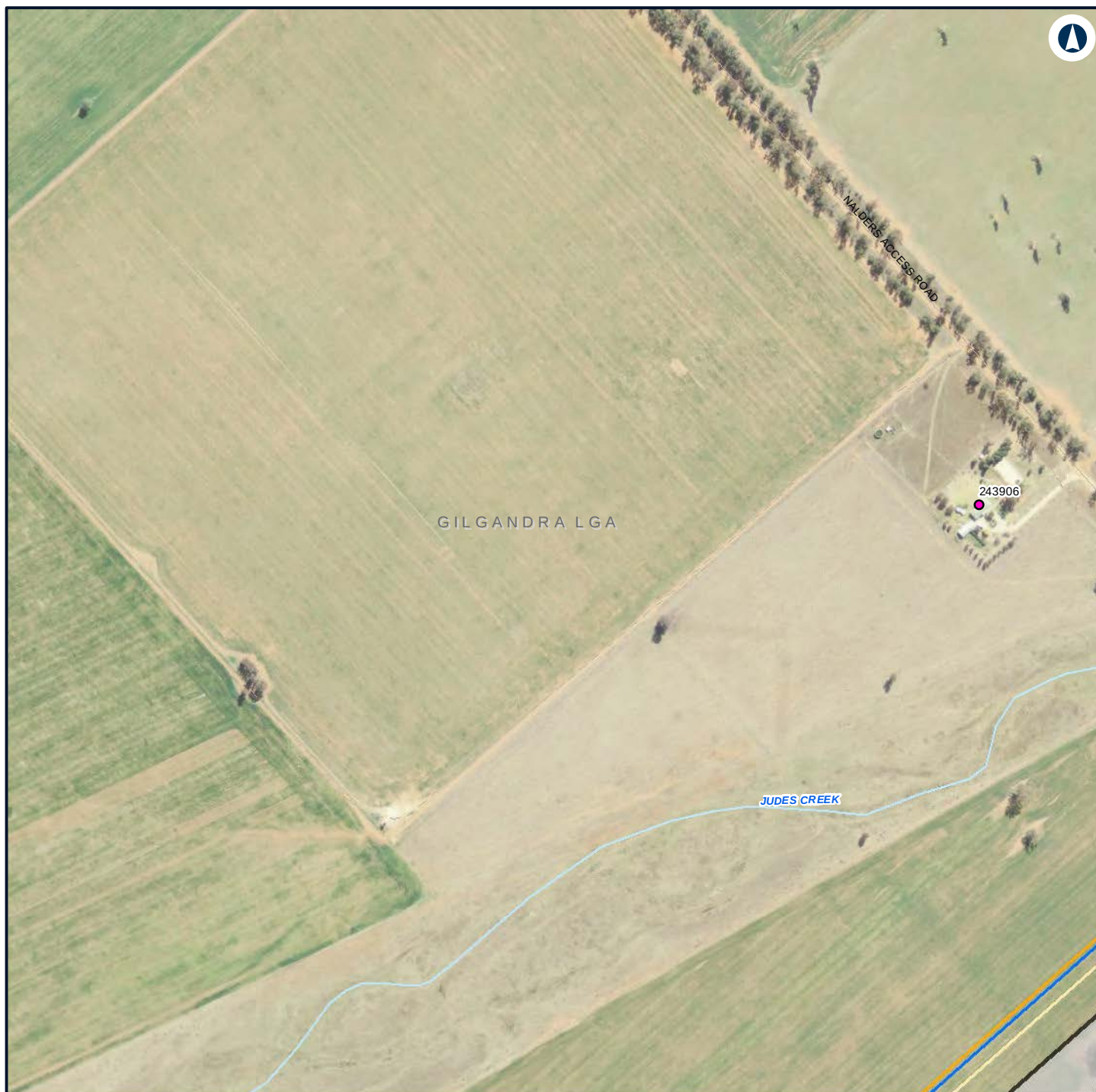
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 35 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

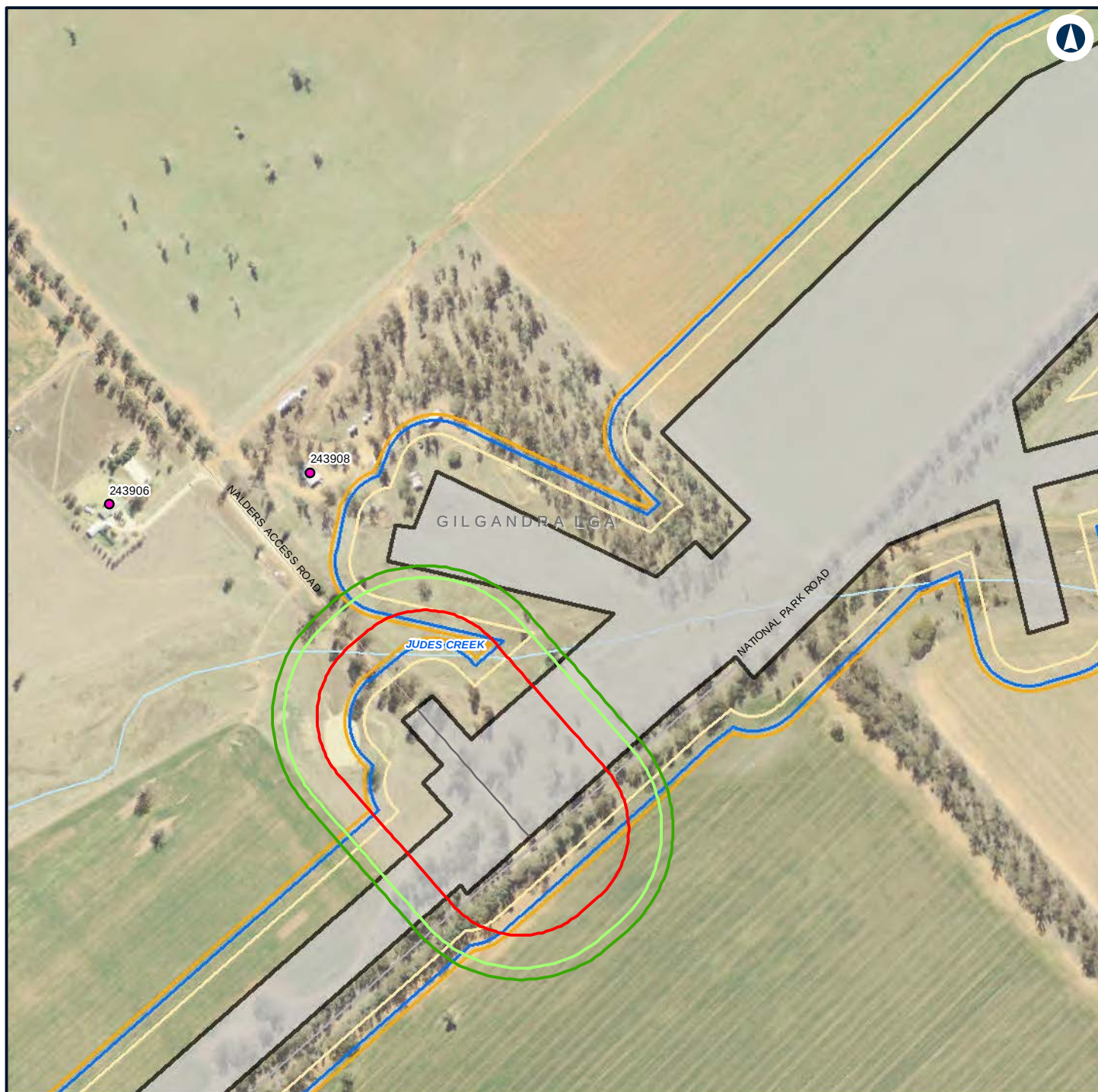
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 36 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 37 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 38 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

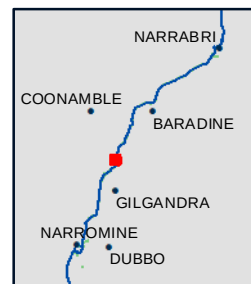
- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
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- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 39 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

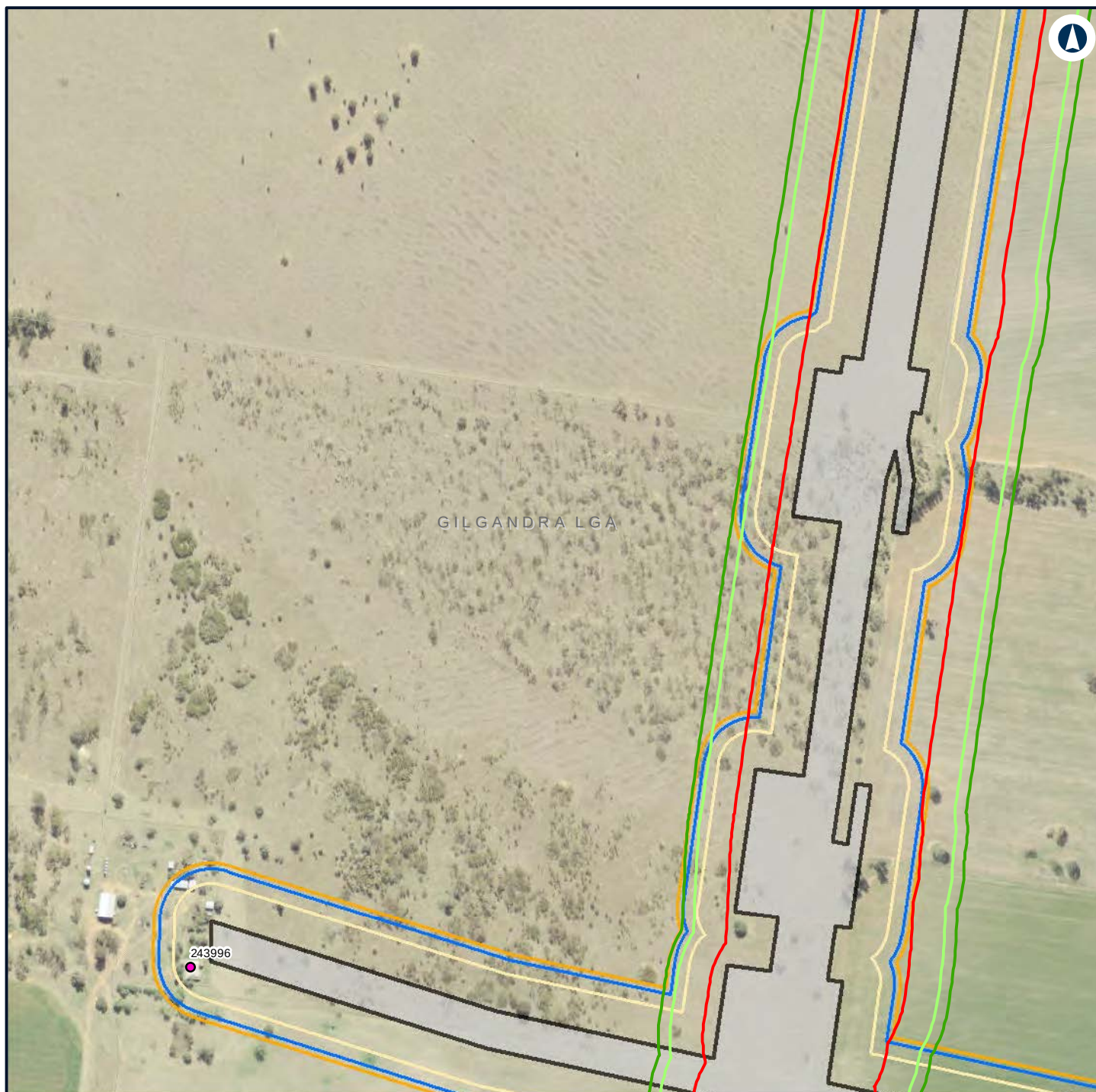
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

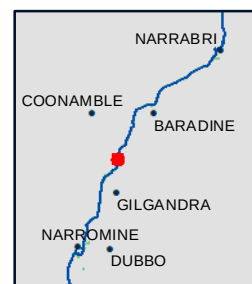
- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
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- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 40 OF 76

0 0.1 0.2
Km

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Date: 22/12/2021

Paper: A4

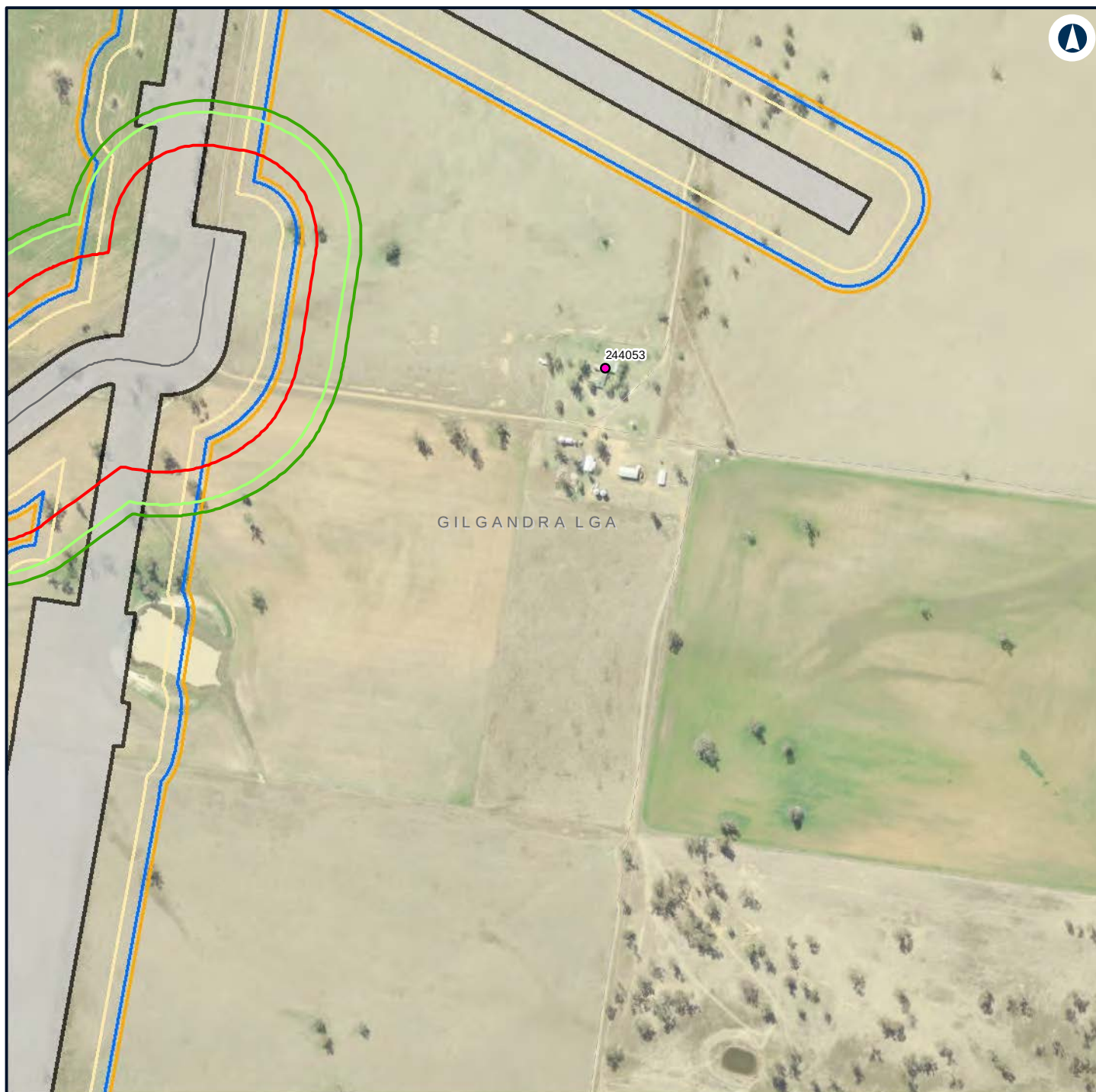
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

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- AVTG night max (0.26 m/s 1.75, 94 m)
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- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 41 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

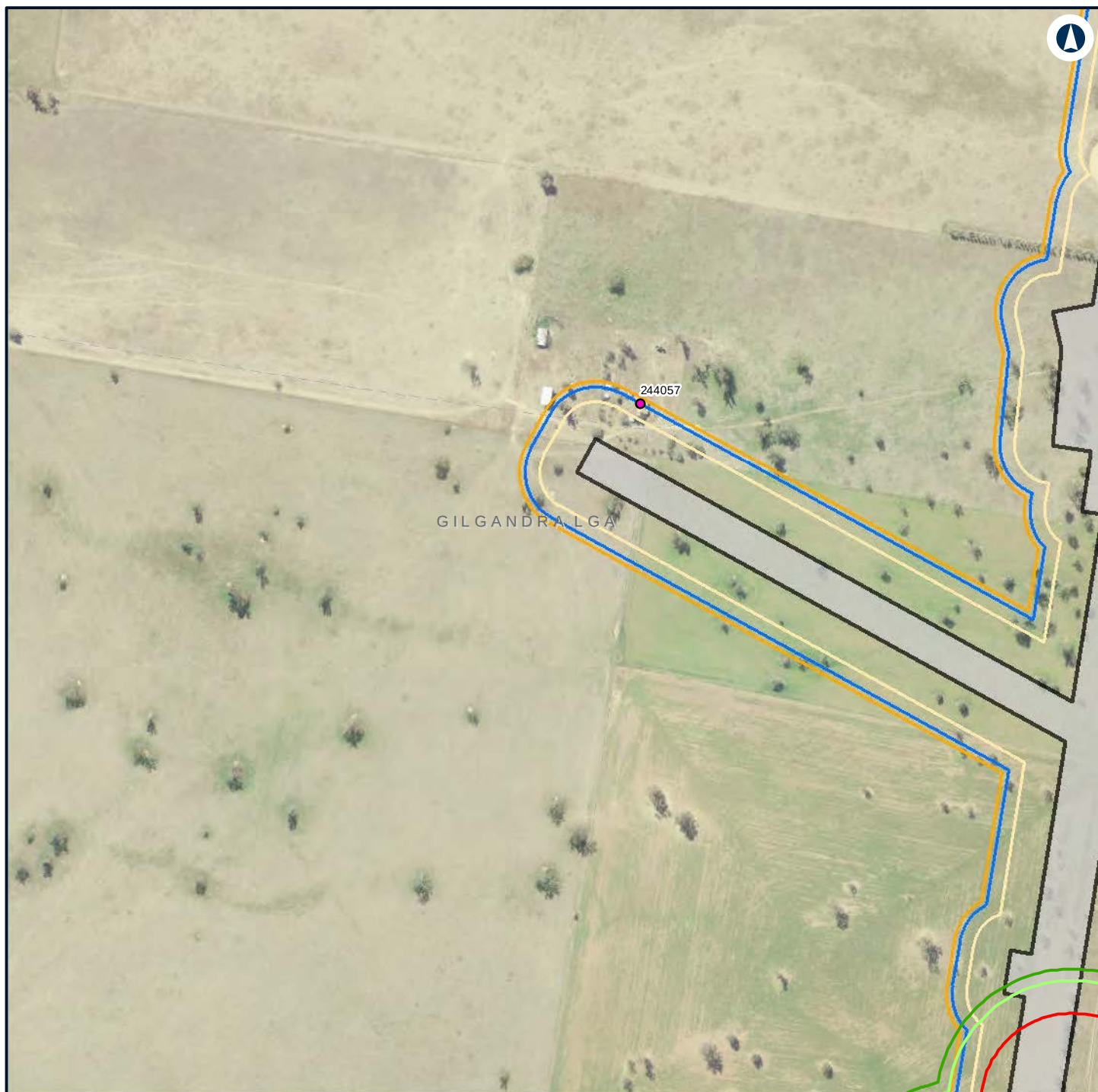
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

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- AVTG night max (0.26 m/s, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s, 54 m)
- AVTG night max (0.26 m/s, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 42 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 43 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

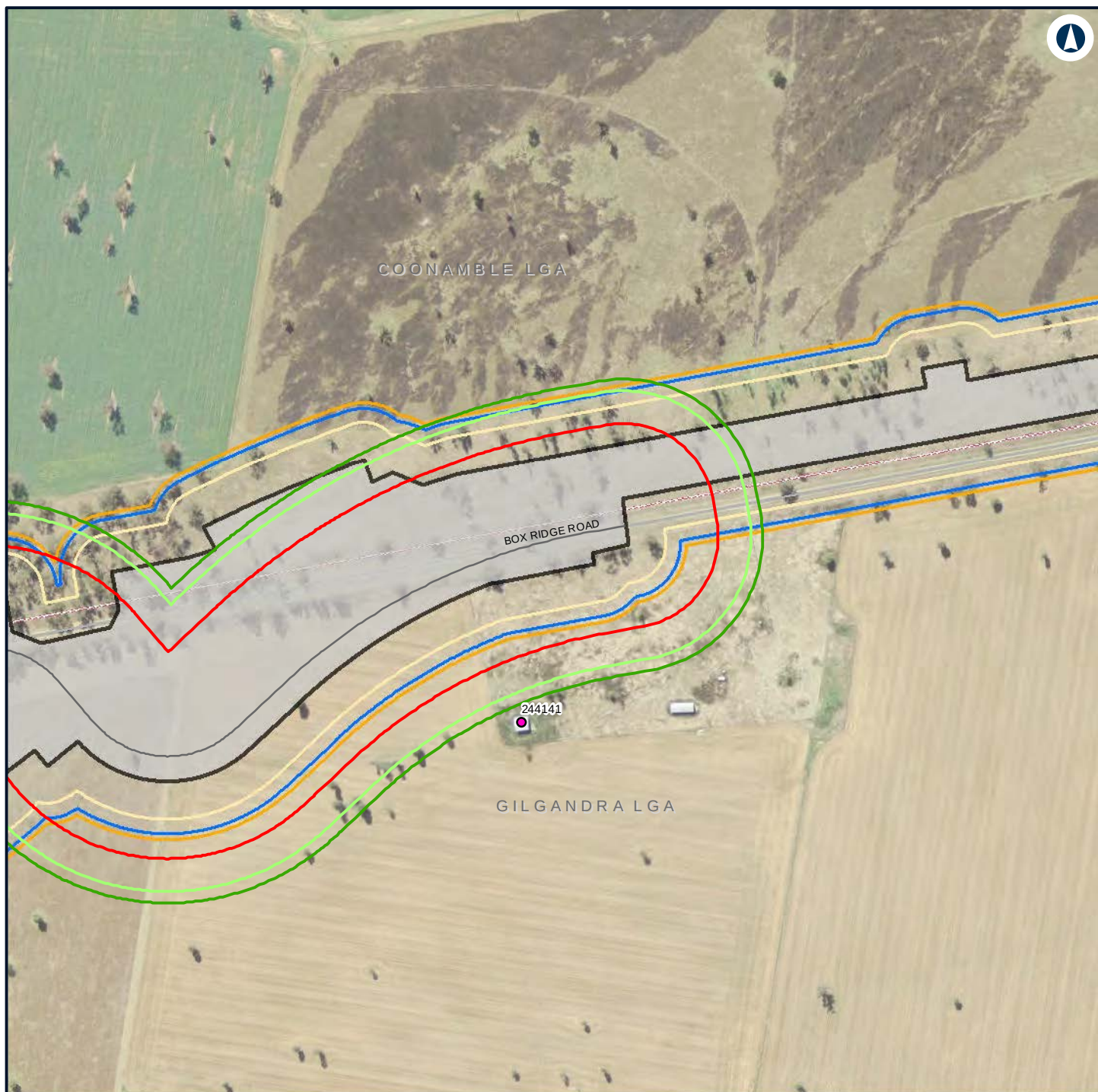
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

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- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 44 OF 76

0 0.1 0.2
Km

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Date: 22/12/2021

Paper: A4

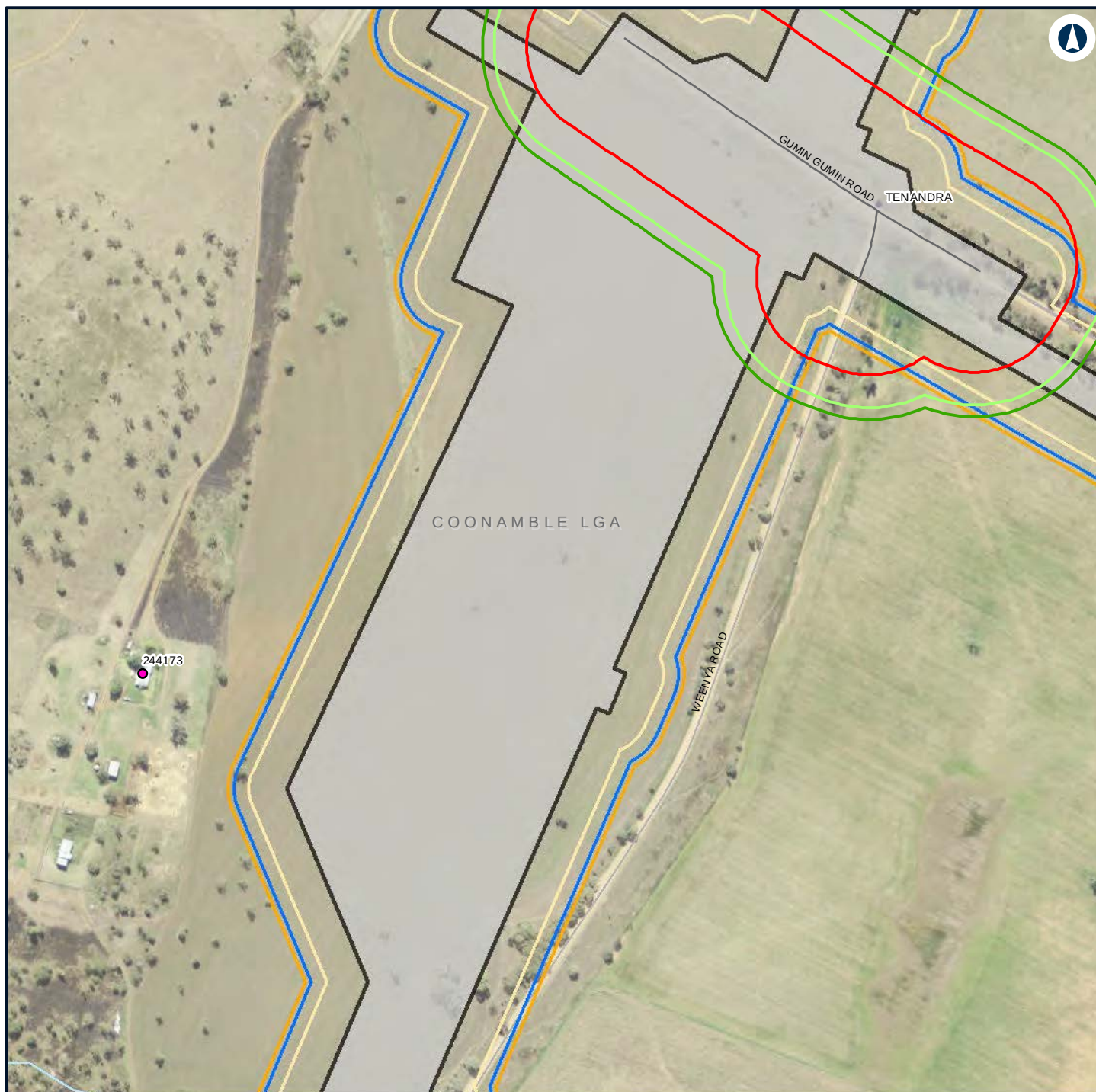
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

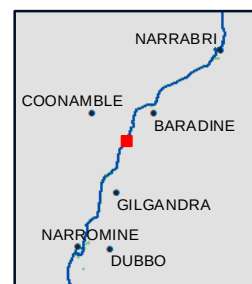
- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
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- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 45 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

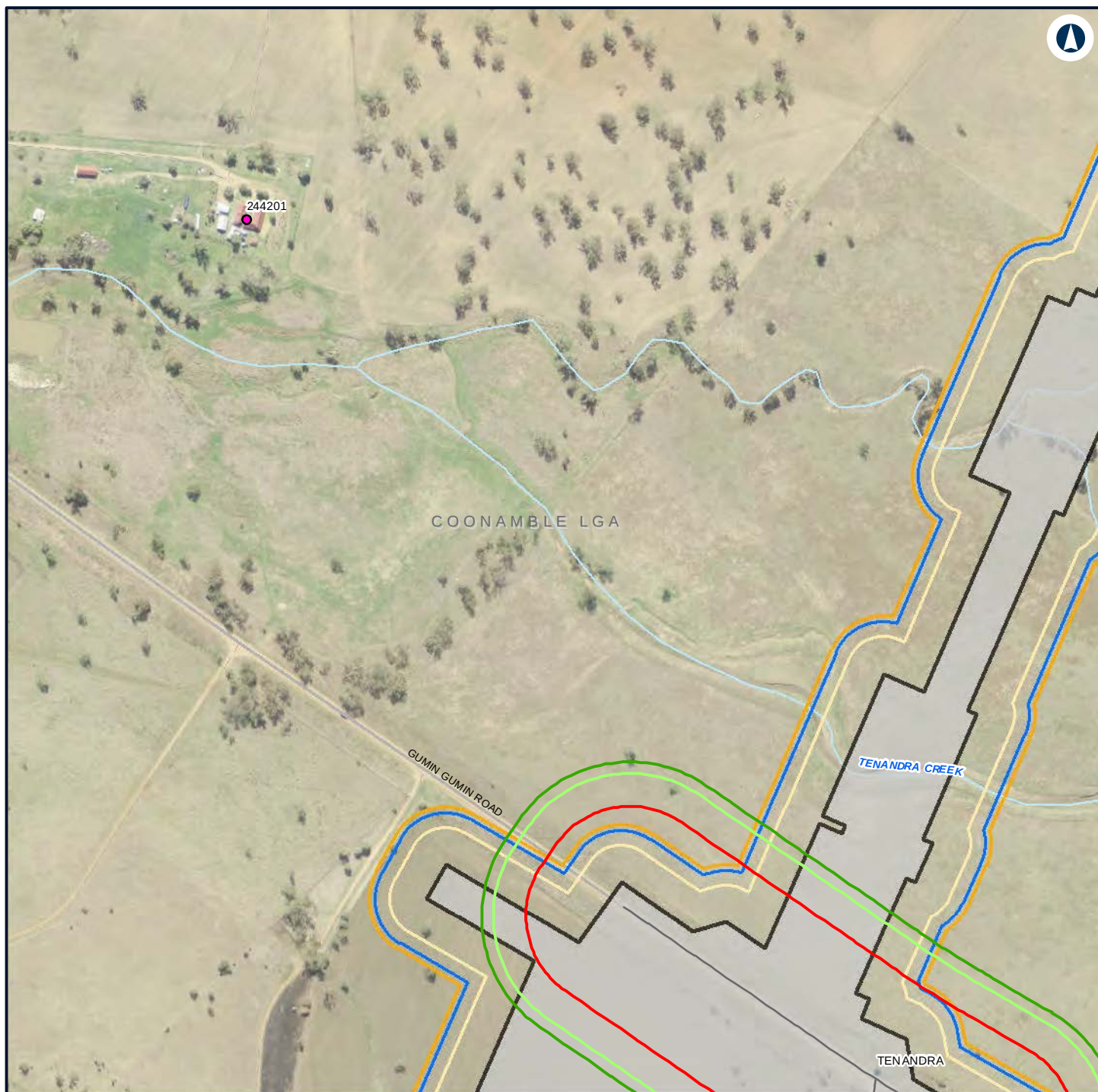
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

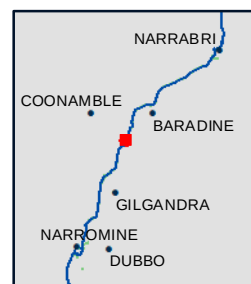
- Residential

Vibration from earthworks

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- AVTG night max (0.26 m/s 1.75, 94 m)
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NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 46 OF 76

0 0.1 0.2
Km

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Paper: A4

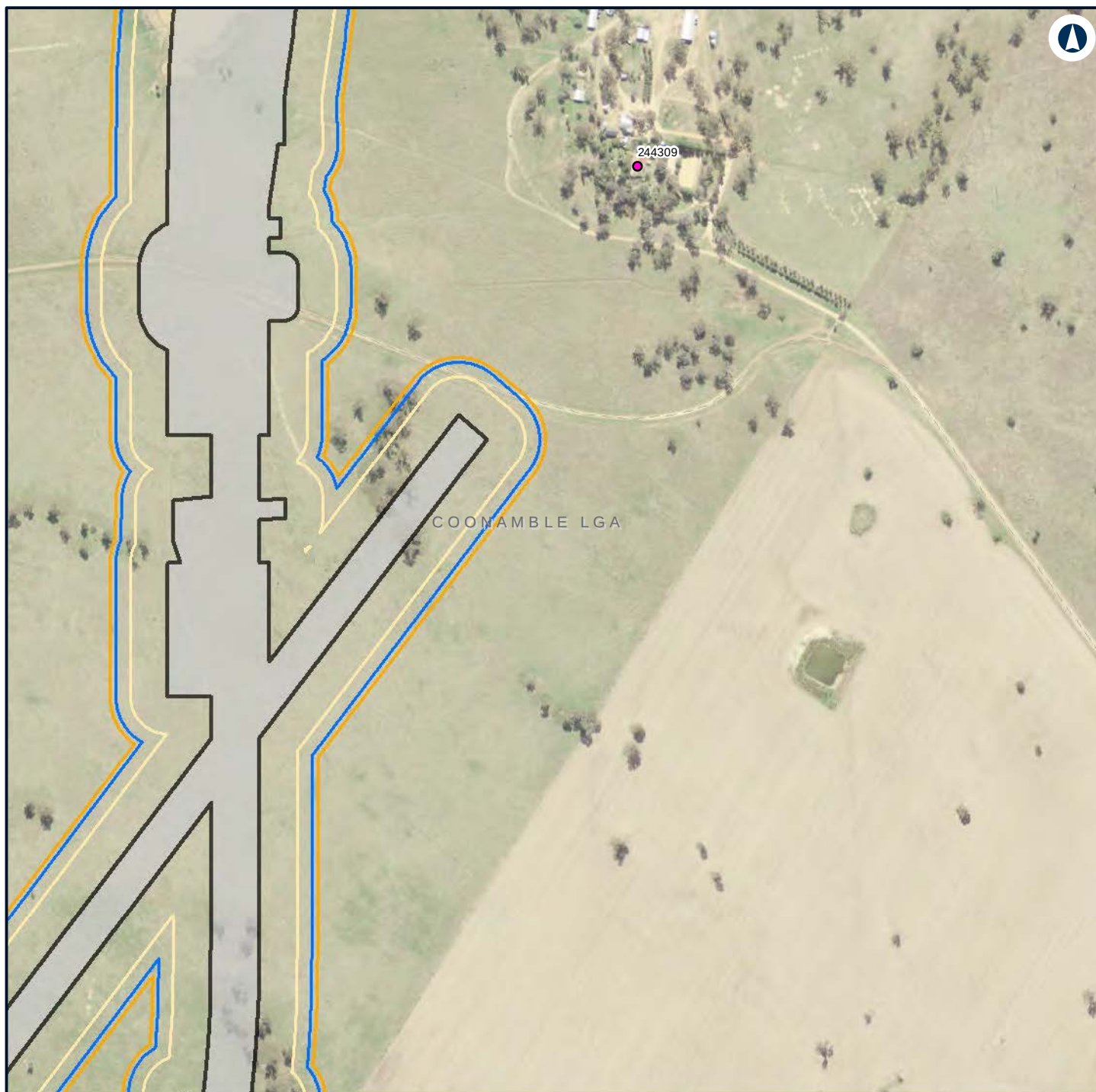
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 47 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

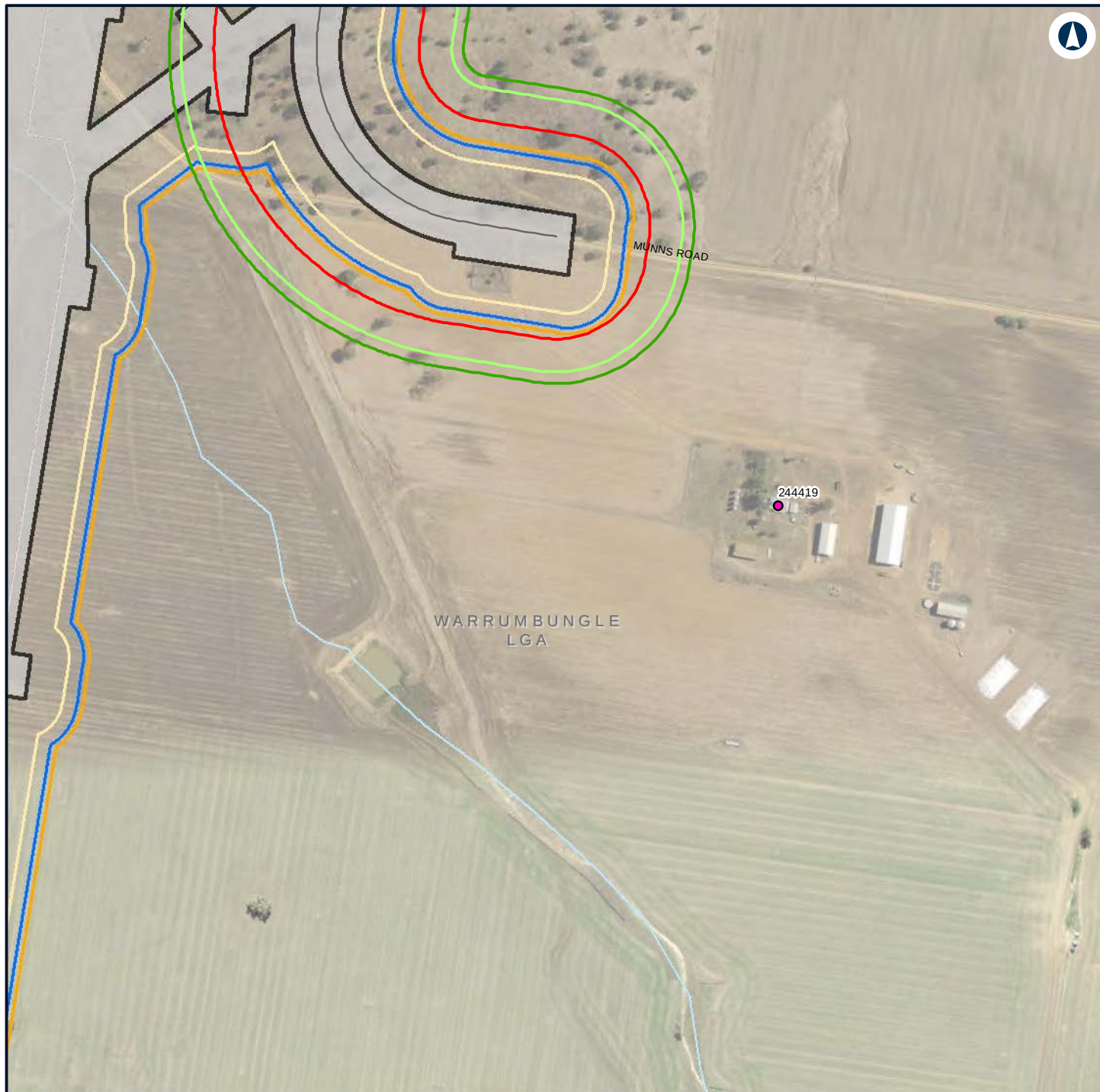
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

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Vibration from earthworks

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Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
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- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 48 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

Author: GHD

Scale: 1:5,960

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 49 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

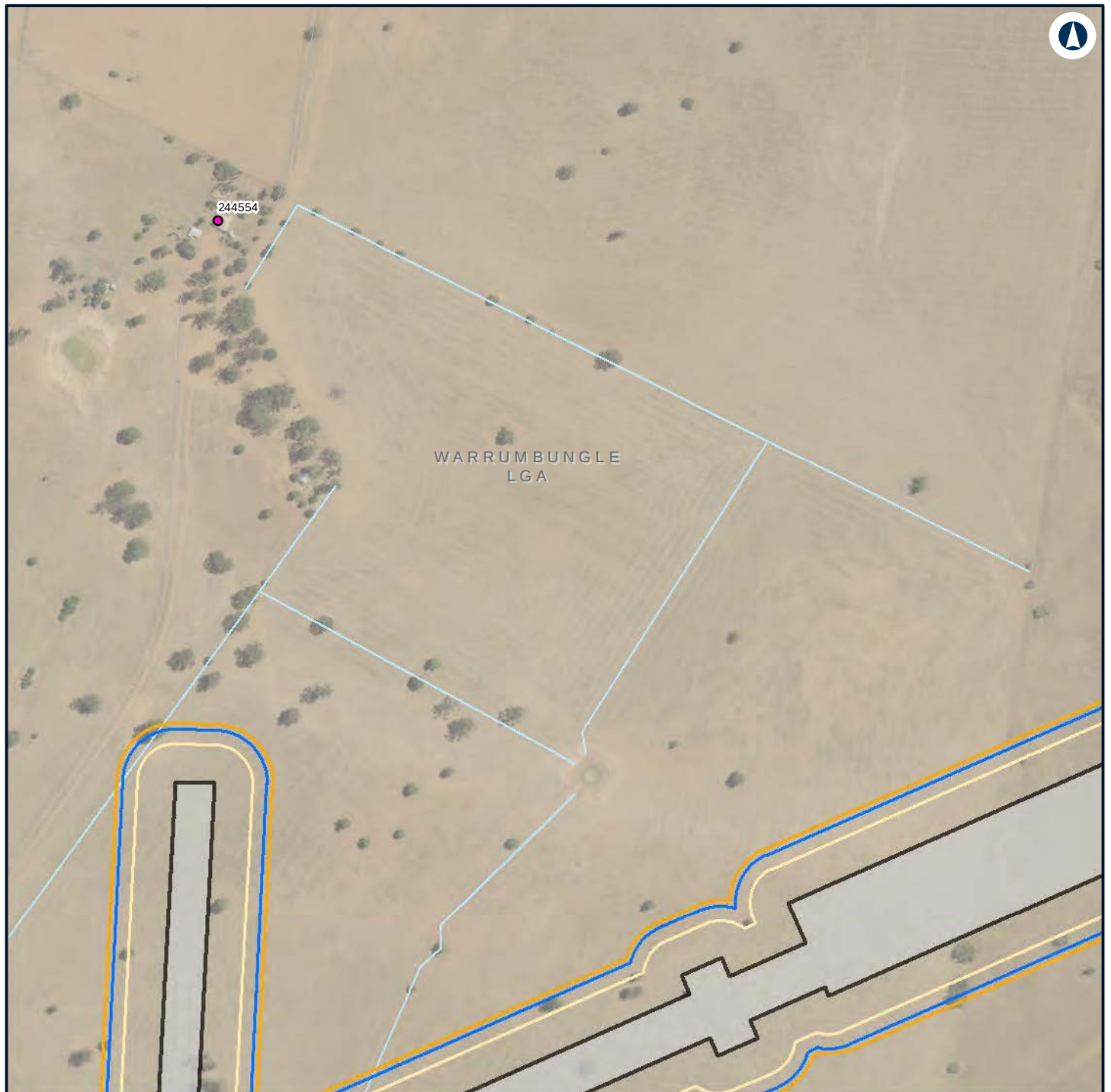
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

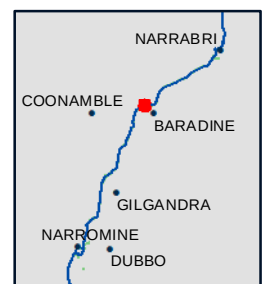
Residential

Vibration from clearing and stripping

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AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 50 OF 76

0 0.1 0.2
Km

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LEGEND

Construction footprint (propagation source)

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Vibration from clearing and stripping

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AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 51 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Structure type

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Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 52 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

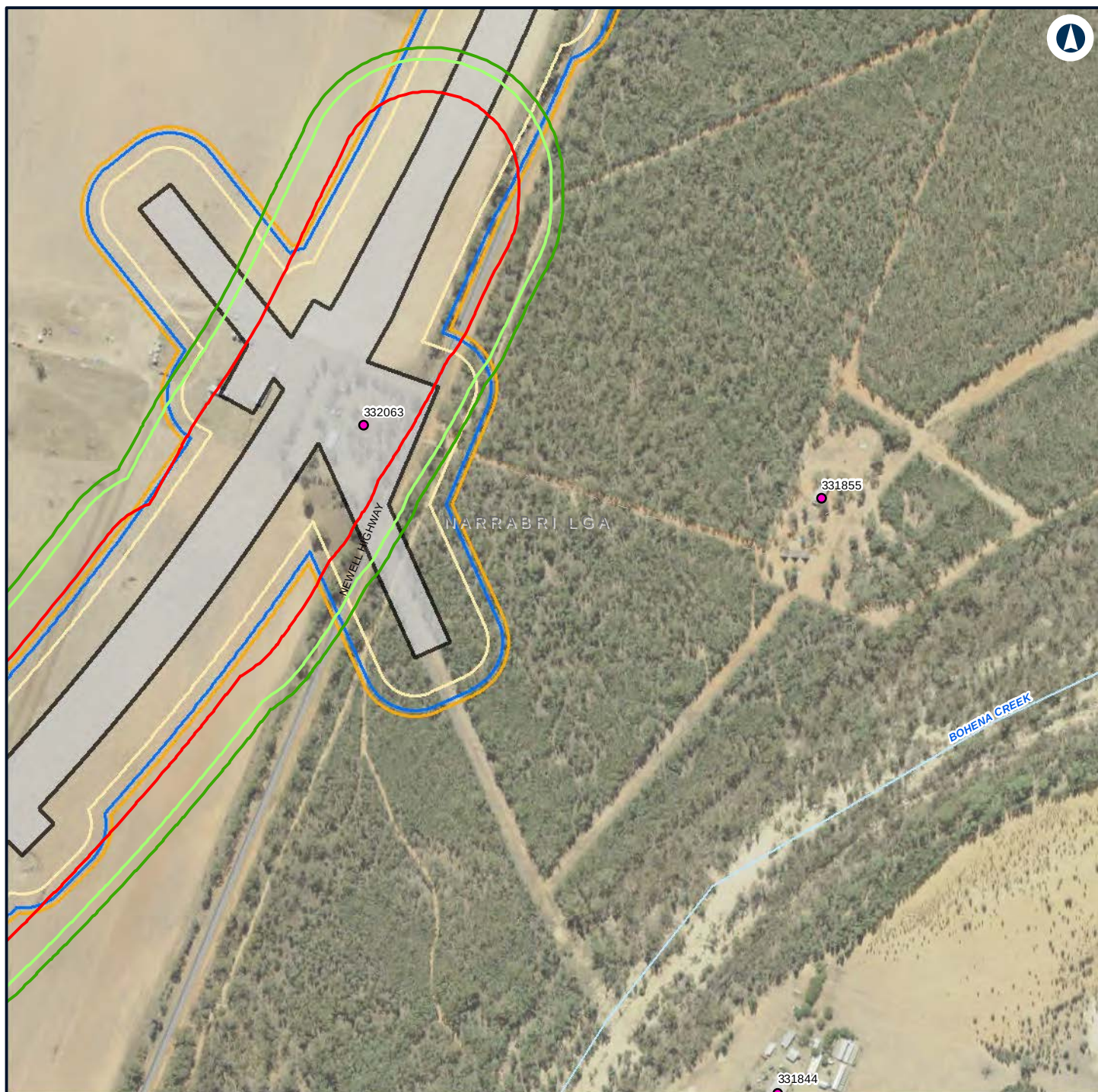
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

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Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
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- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 53 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

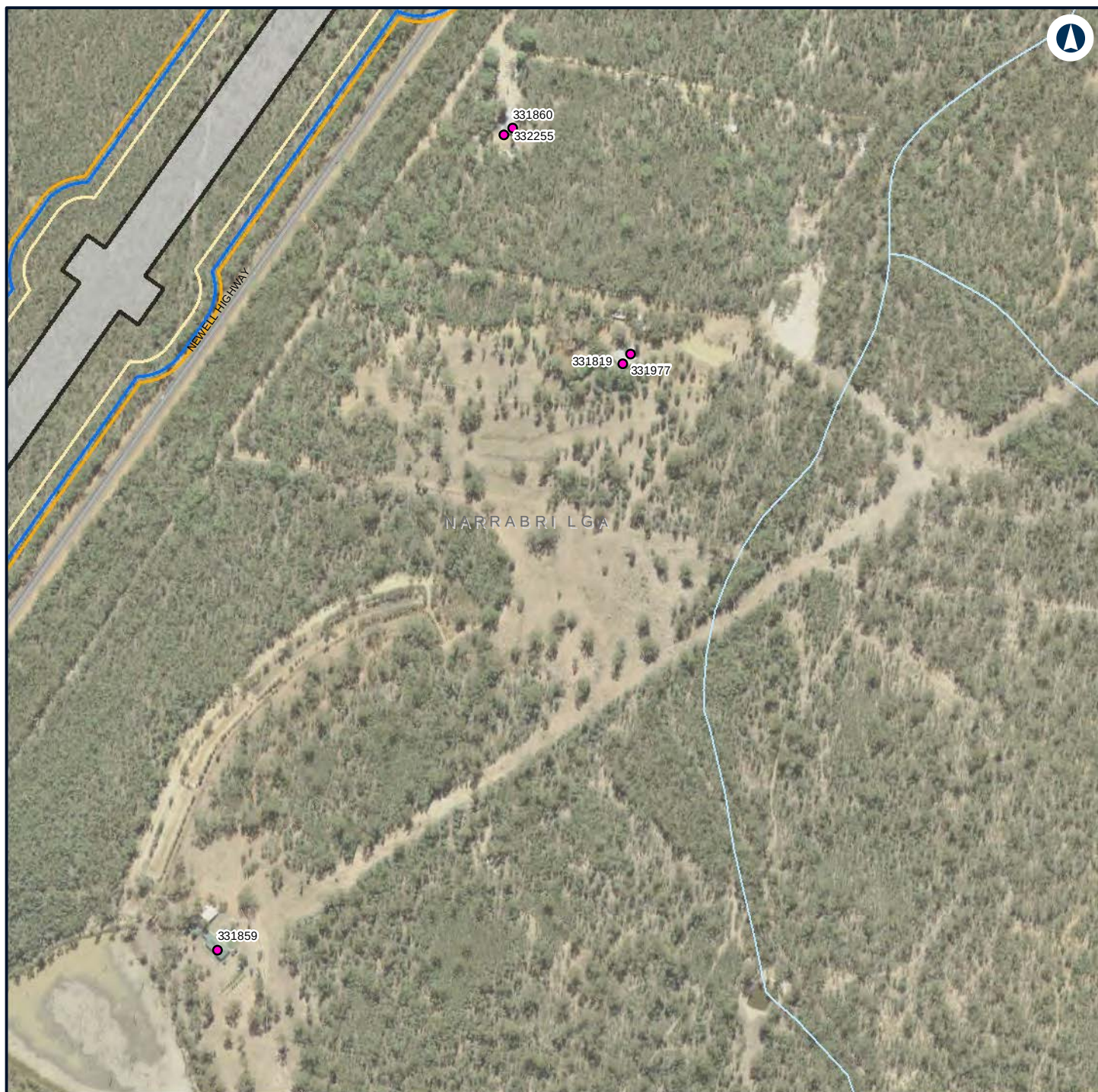
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 54 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

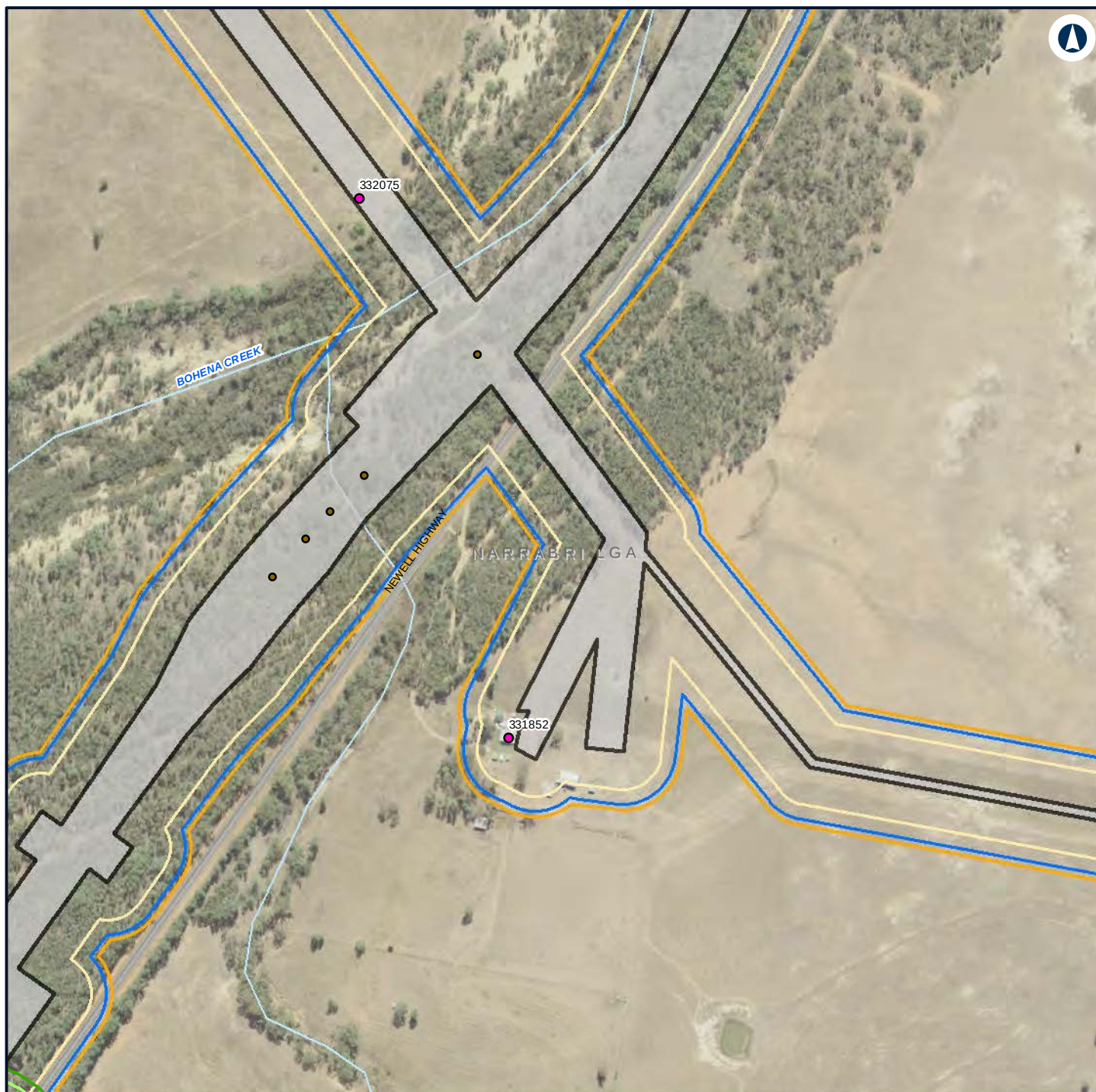
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 55 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

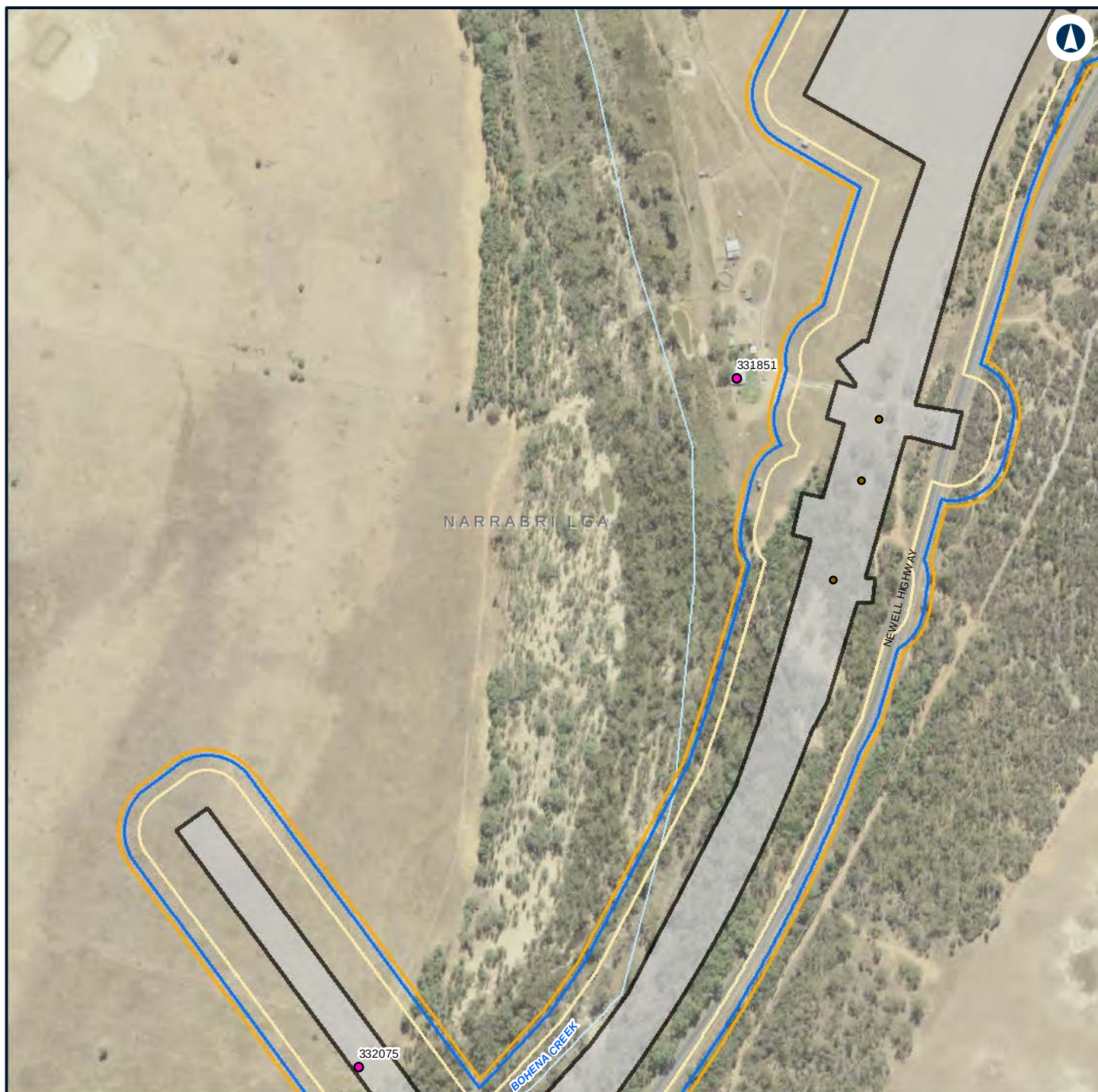
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARRABRI TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 56 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 57 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

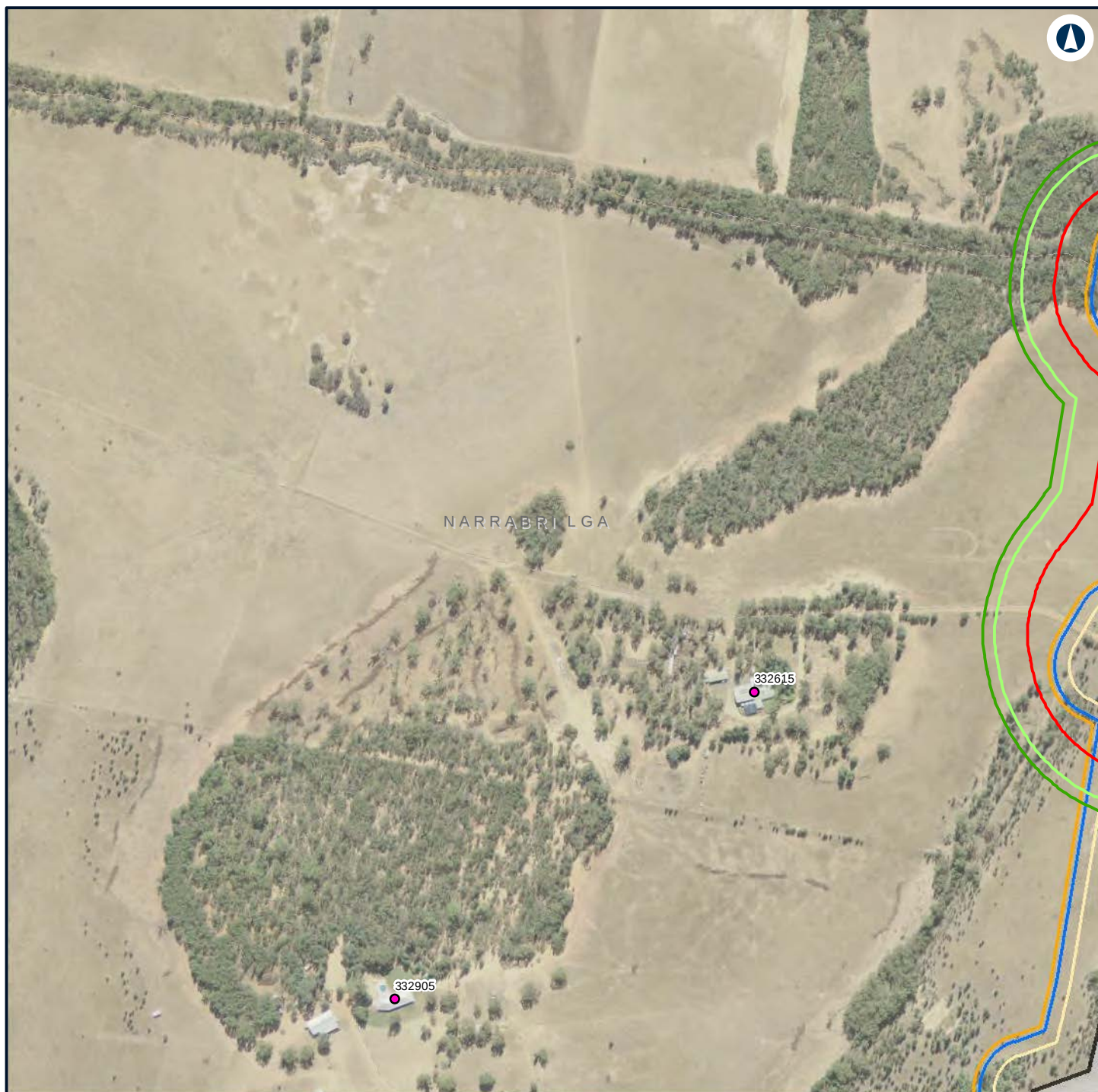
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 58 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

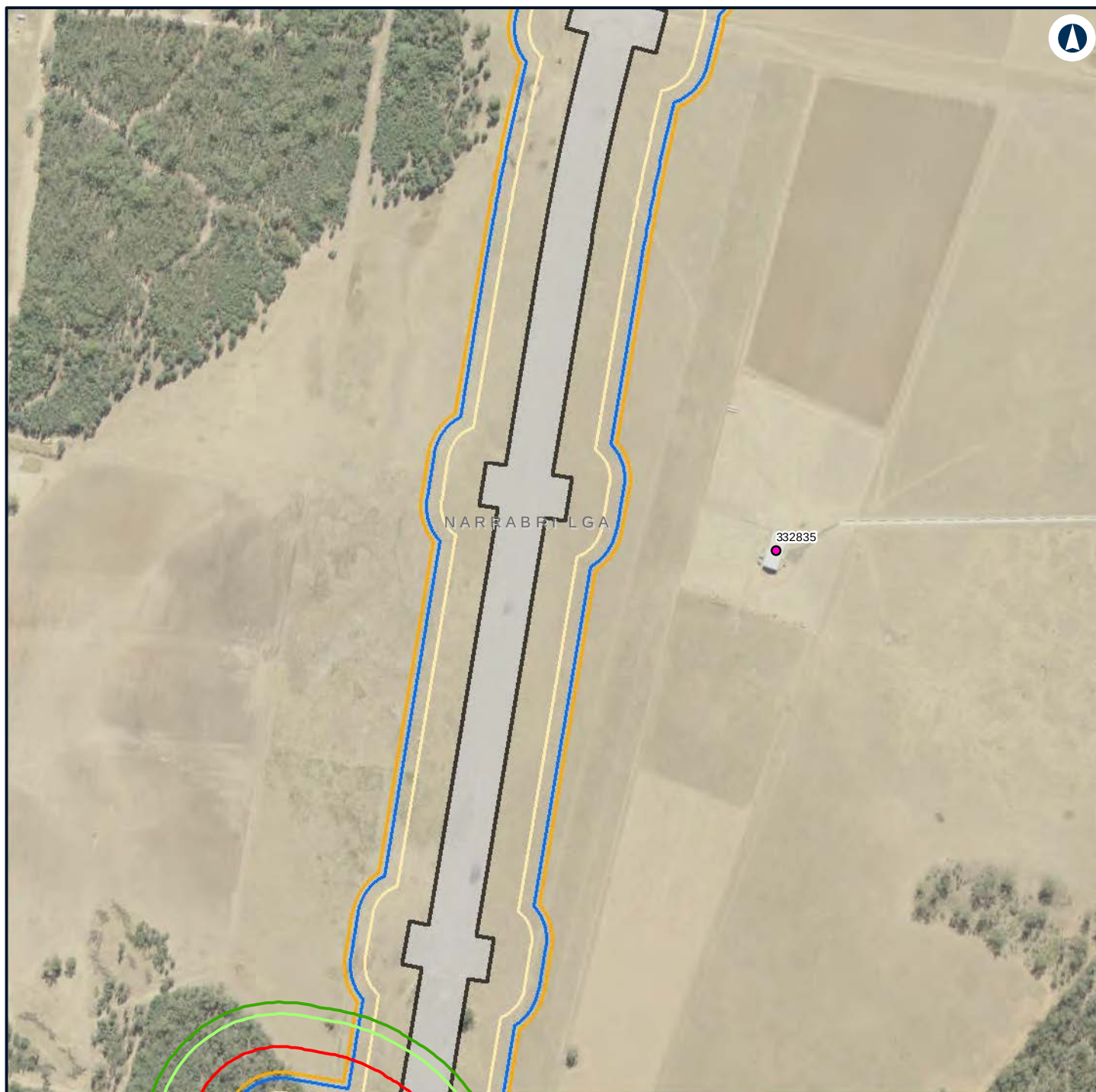
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 59 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

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LEGEND

 Construction footprint (propagation source)

Structure type

 Residential

Vibration from clearing and stripping

 AVTG day max (0.4 m/s 1.75, 54 m)

 AVTG night max (0.26 m/s 1.75, 39 m)

 BS 5228-2:2009 (1 mm/s, 60m)



NARRABRI TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 60 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

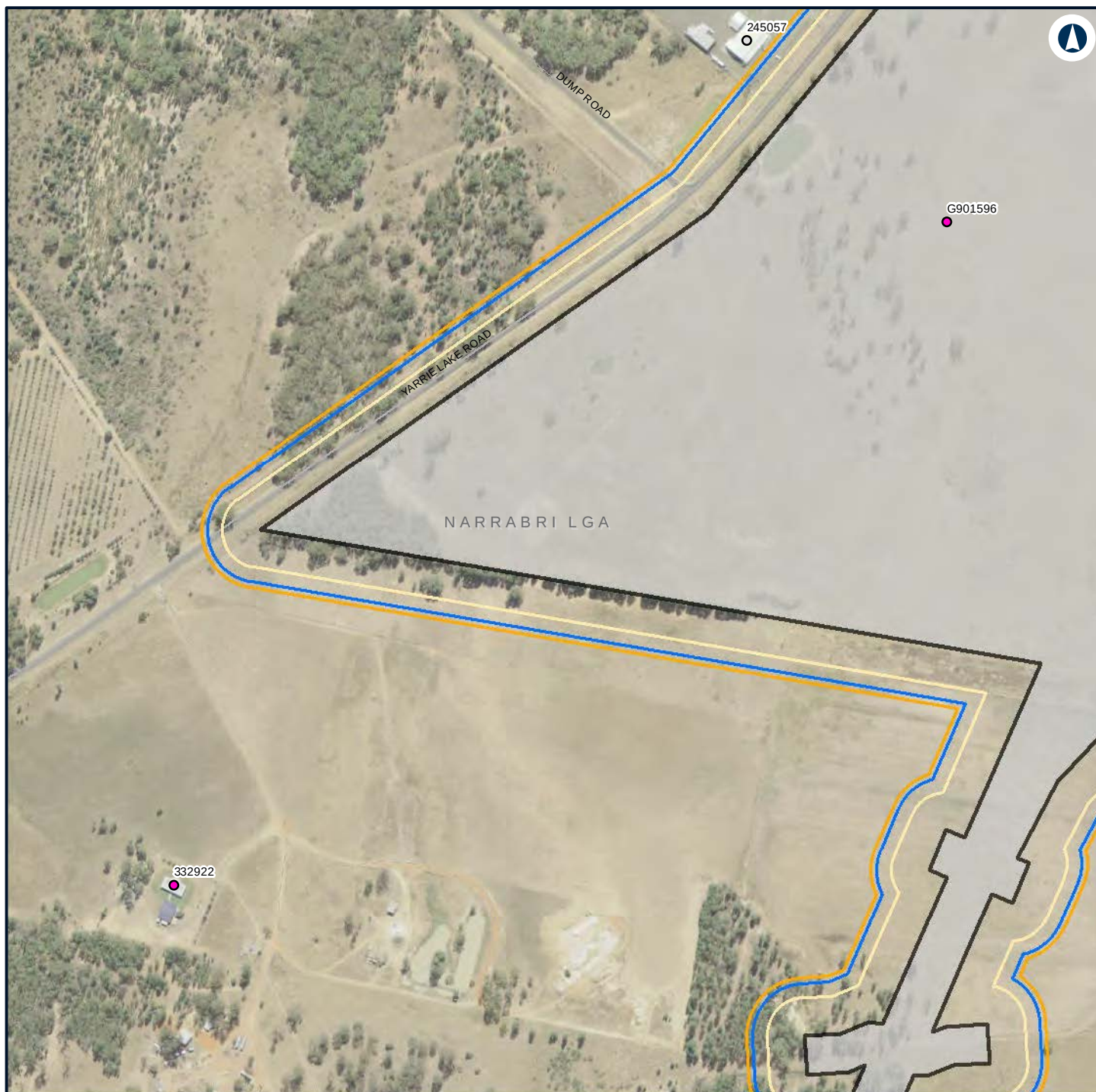
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source) BS 5228-2:2009 (1 mm/s, 60m)

Structure type

- Commercial/Industrial
- Residential

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 61 OF 76

0 0.1 0.2 Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD

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LEGEND

Construction footprint (propagation source) BS 5228-2:2009 (1 mm/s, 60m)

Structure type

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- Residential

Vibration from clearing and stripping

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- AVTG night max (0.26 m/s 1.75, 39 m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 62 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint (propagation source) BS 5228-2:2009 (1 mm/s, 60m)

Structure type

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- Residential

Vibration from clearing and stripping

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- AVTG night max (0.26 m/s 1.75, 39 m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 63 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

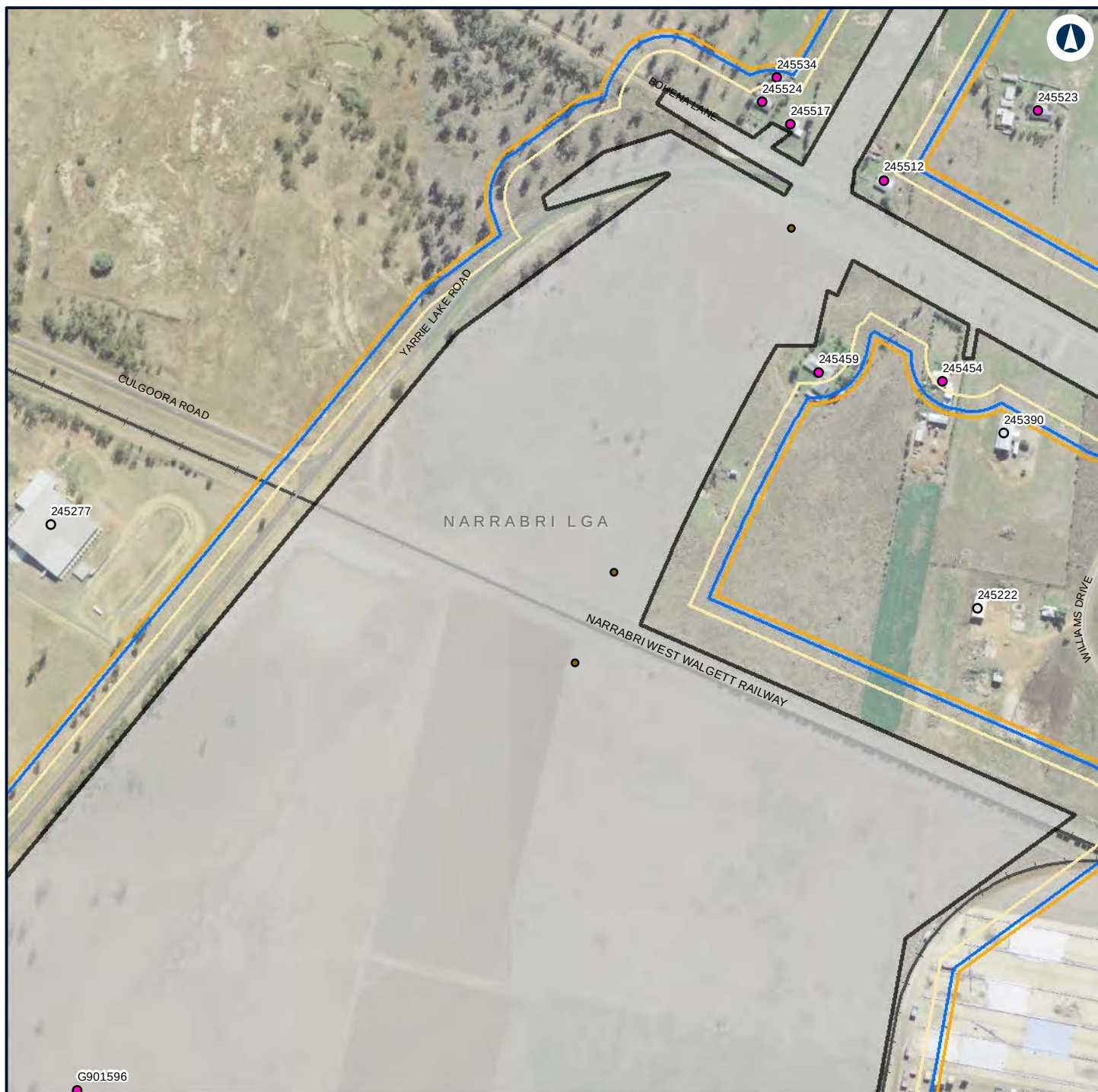
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source) BS 5228-2:2009 (1 mm/s, 60m)

Structure type

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- Residential

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 64 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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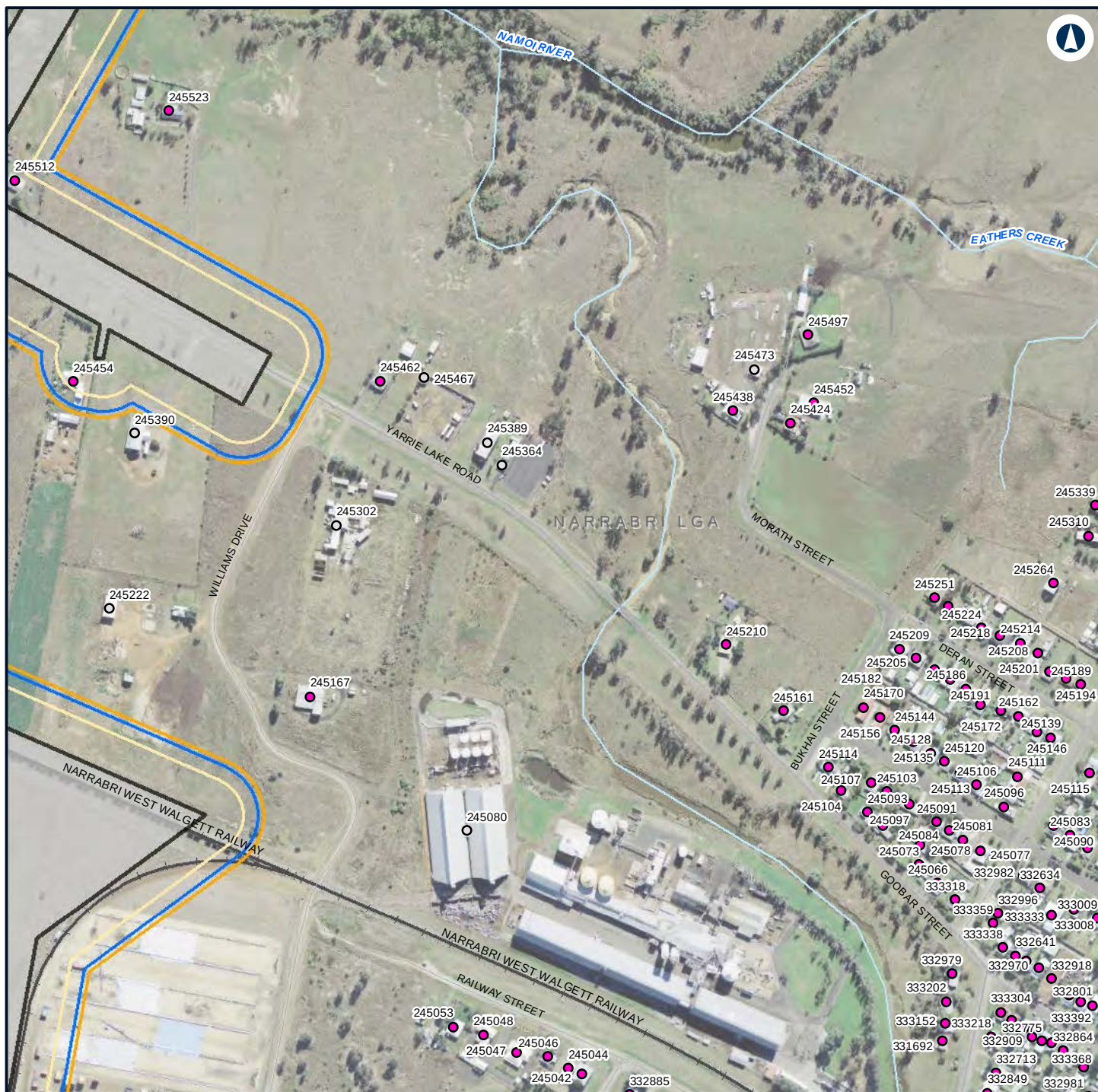
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source) BS 5228-2:2009 (1 mm/s, 60m)

Structure type

- Commercial/Industrial
- Residential

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)



NARRABRI TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 65 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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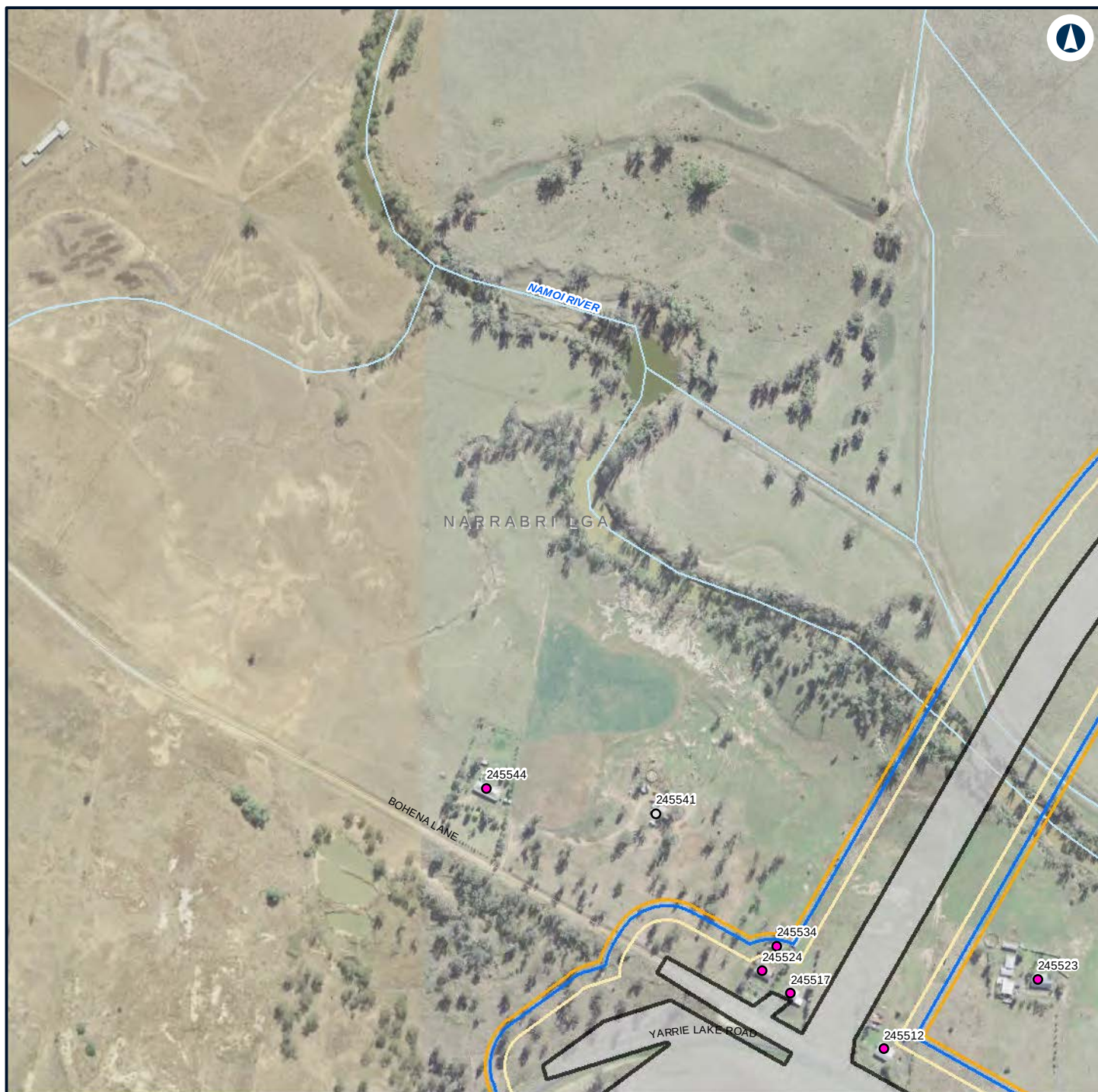
Author: GHD

Scale: 1:5,960

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LEGEND

Construction footprint (propagation source) BS 5228-2:2009 (1 mm/s, 60m)

Structure type

- Commercial/Industrial
- Residential

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 66 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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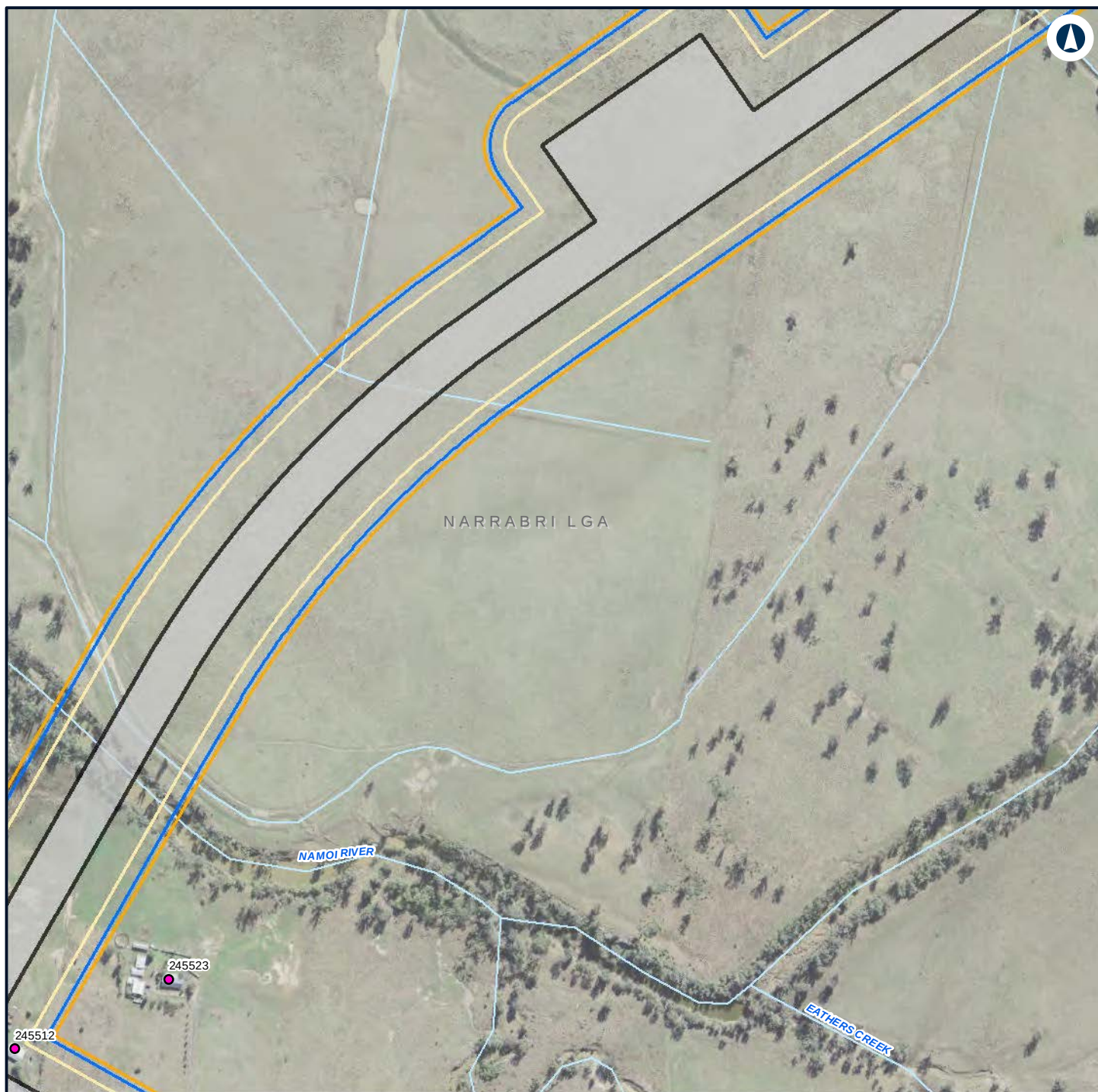
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 67 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

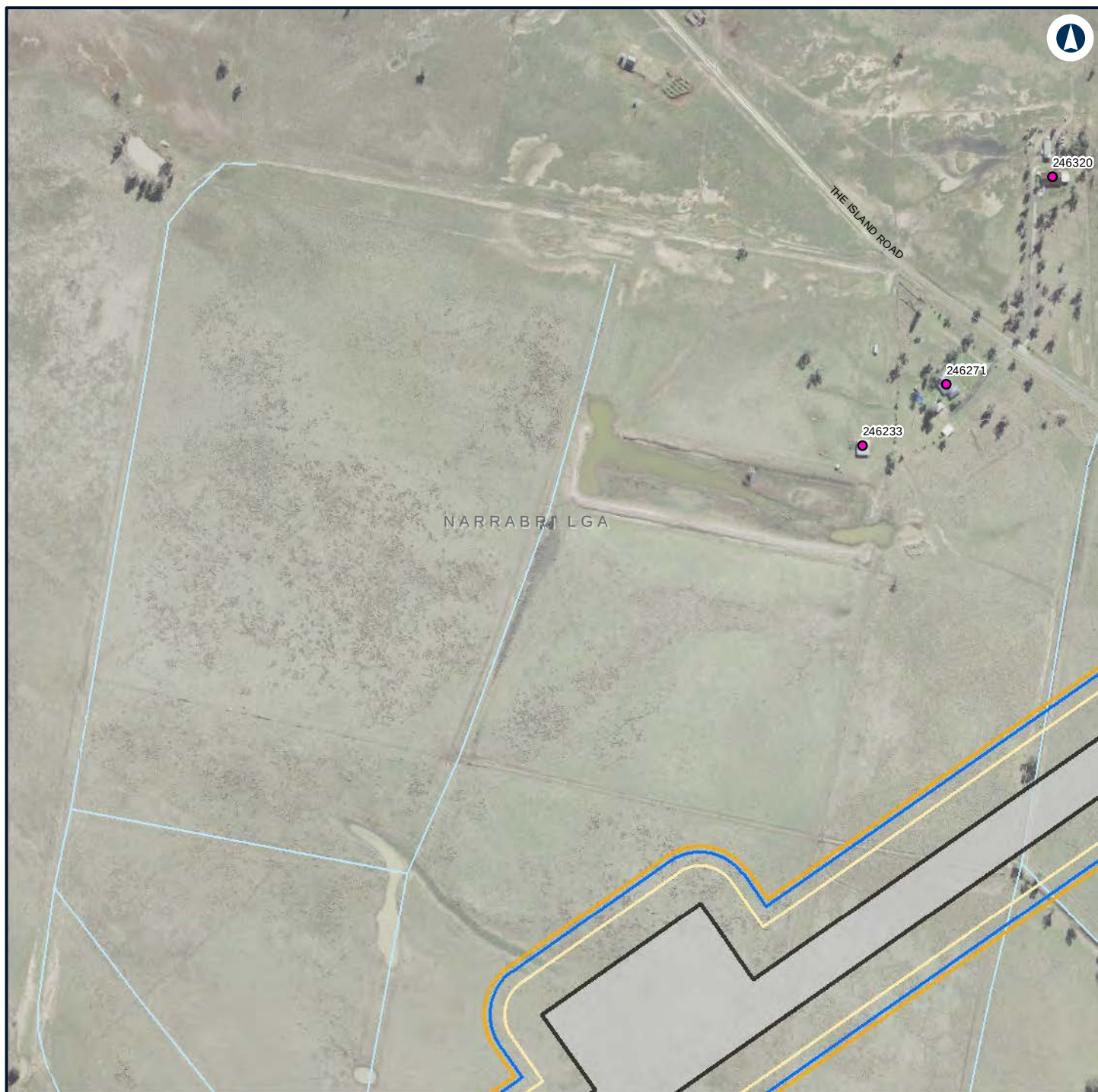
Author: GHD

Scale: 1:5,960

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LEGEND

Construction footprint (propagation source)

Structure type

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Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 68 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

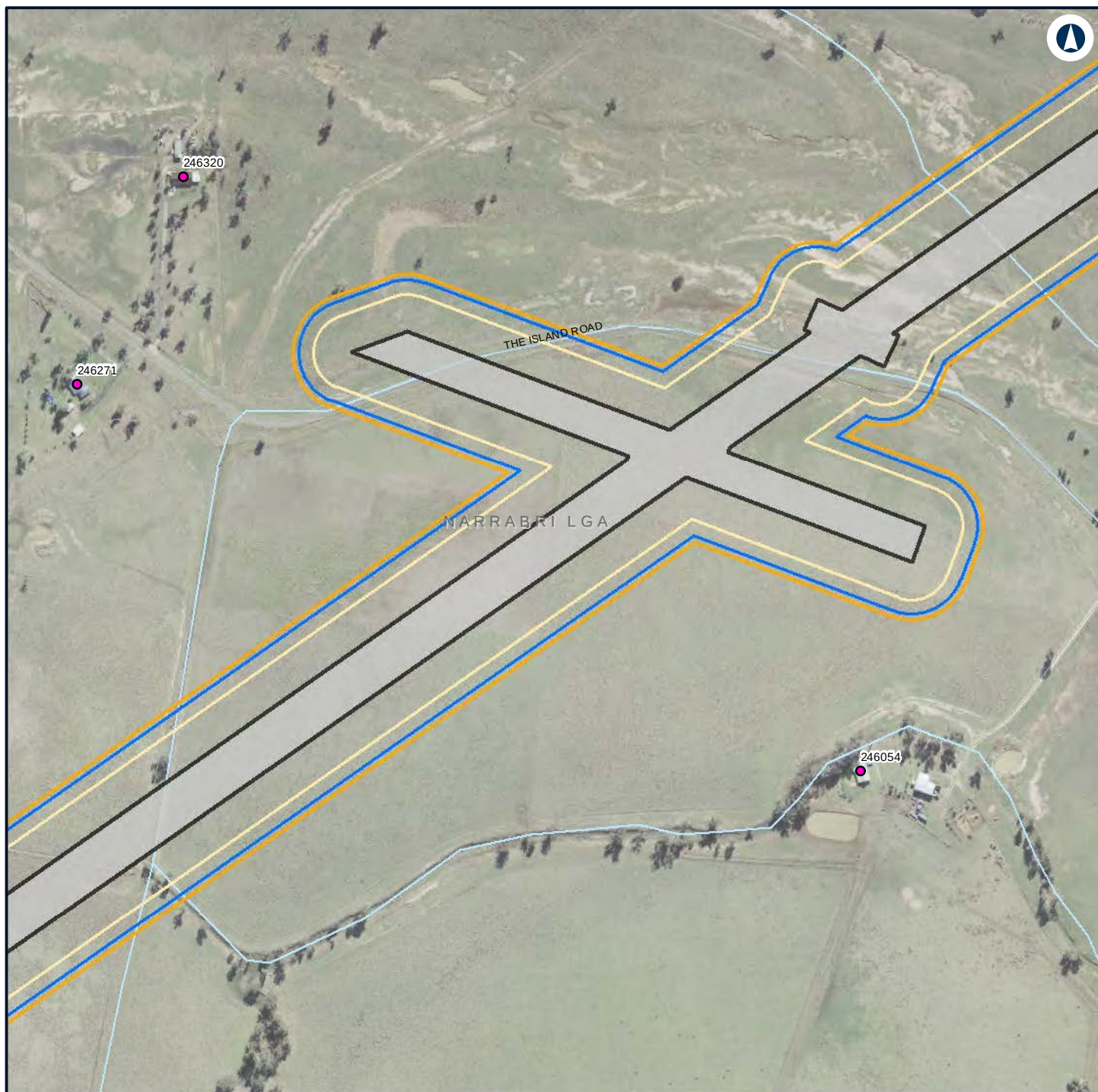
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

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Vibration from clearing and stripping

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AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 69 OF 76

0 0.1 0.2
Km

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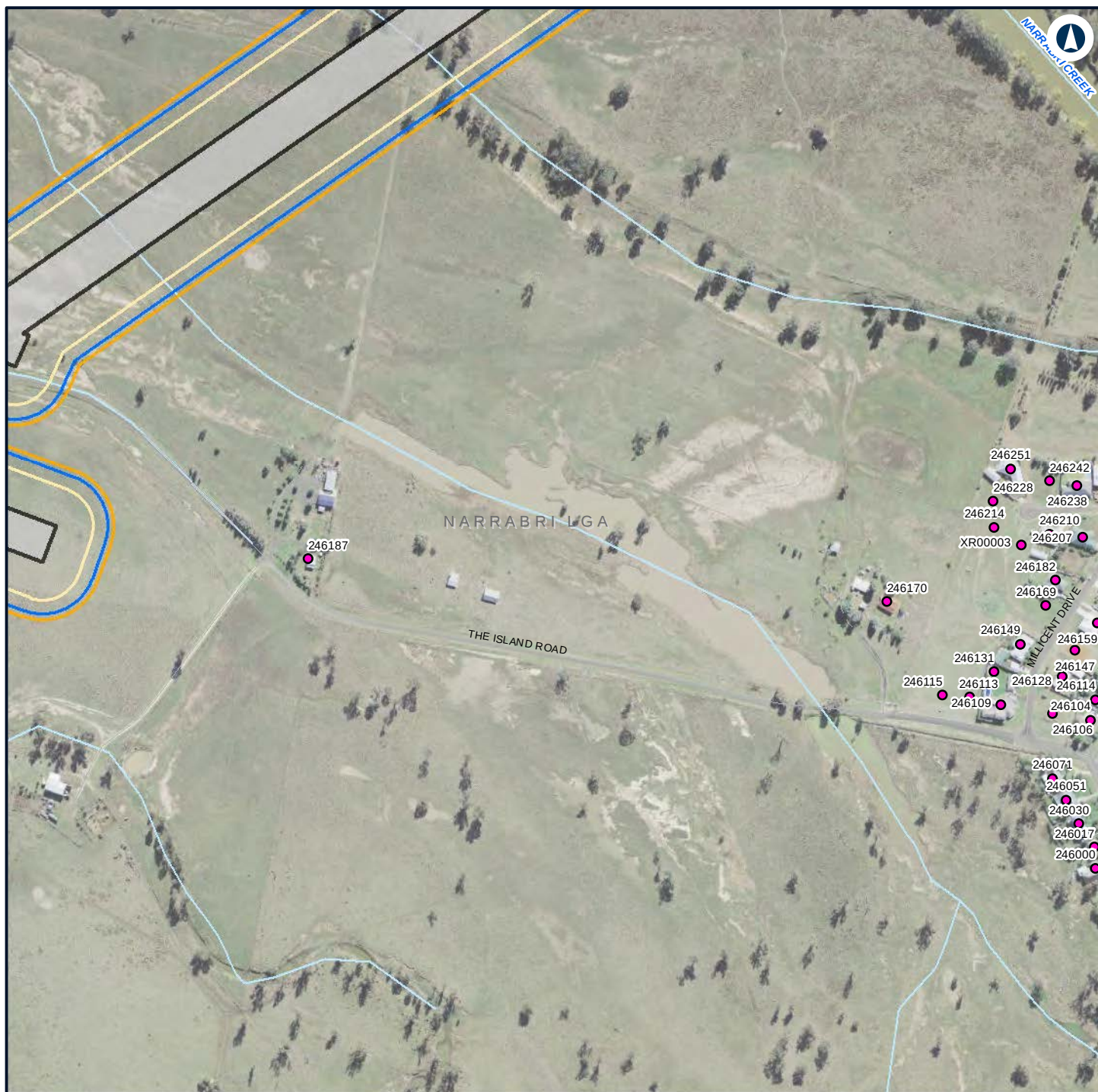
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LEGEND

Construction footprint (propagation source)

Structure type

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Vibration from clearing and stripping

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AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 70 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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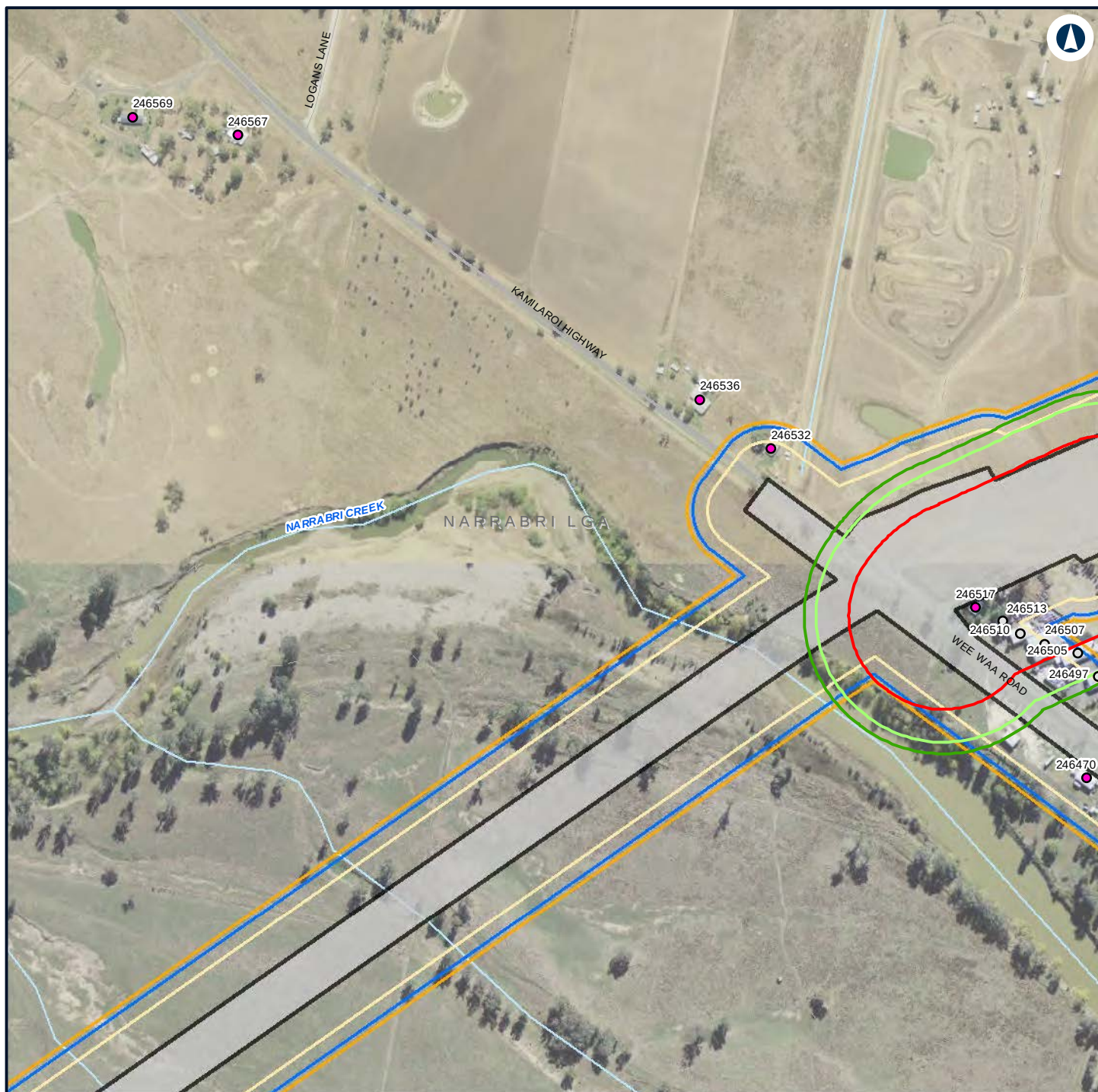
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Commercial/Industrial
- Residential

Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 71 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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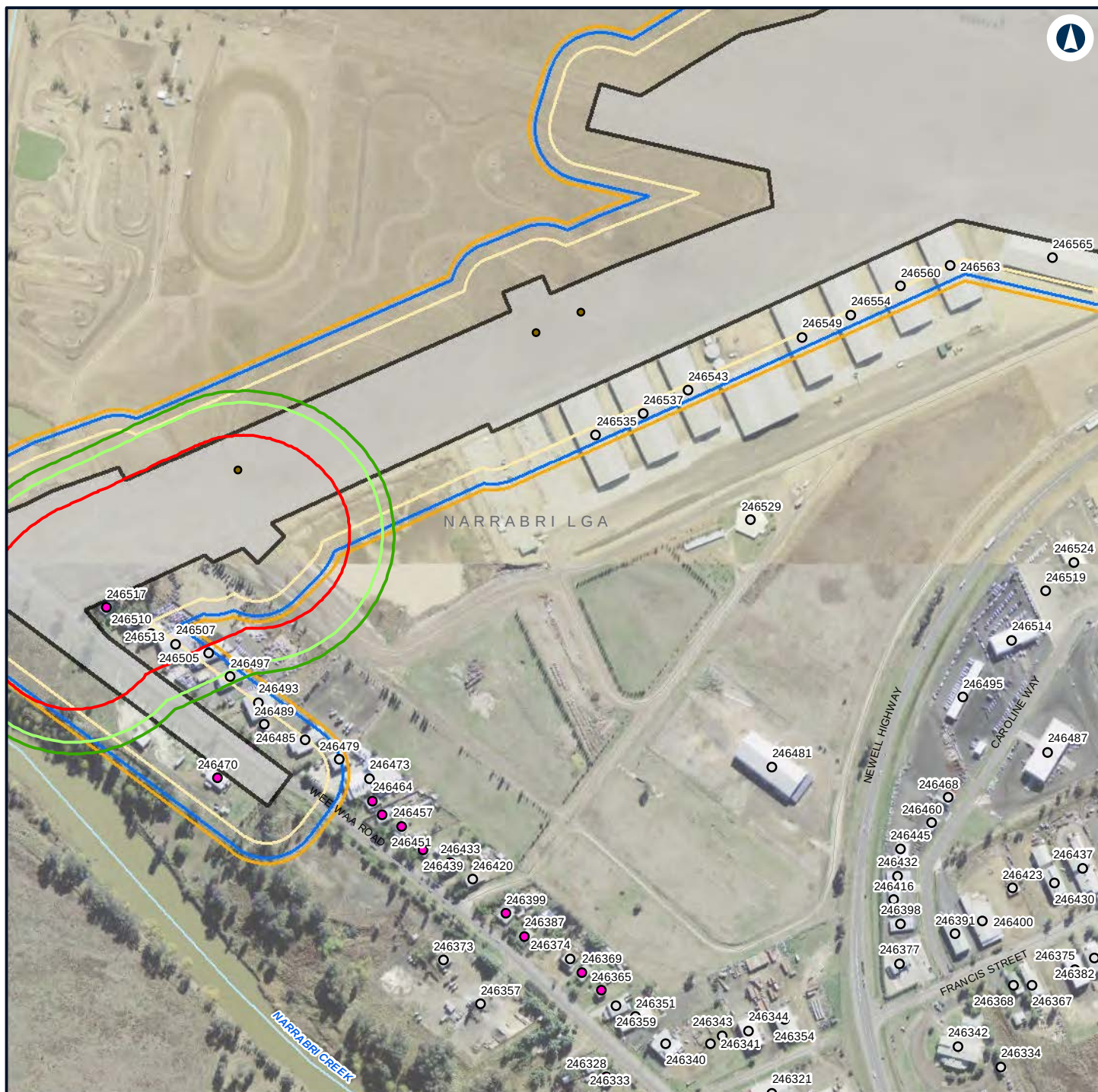
Author: GHD

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LEGEND

Construction footprint (propagation source)

Structure type

- Commercial/Industrial
- Residential

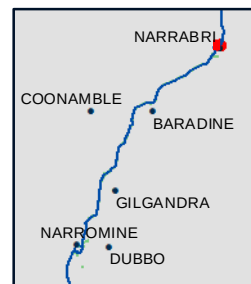
Vibration from earthworks

- AVTG day max (0.4 m/s 1.75, 130 m)
- AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)
- AVTG night max (0.26 m/s 1.75, 39 m)
- BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 72 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

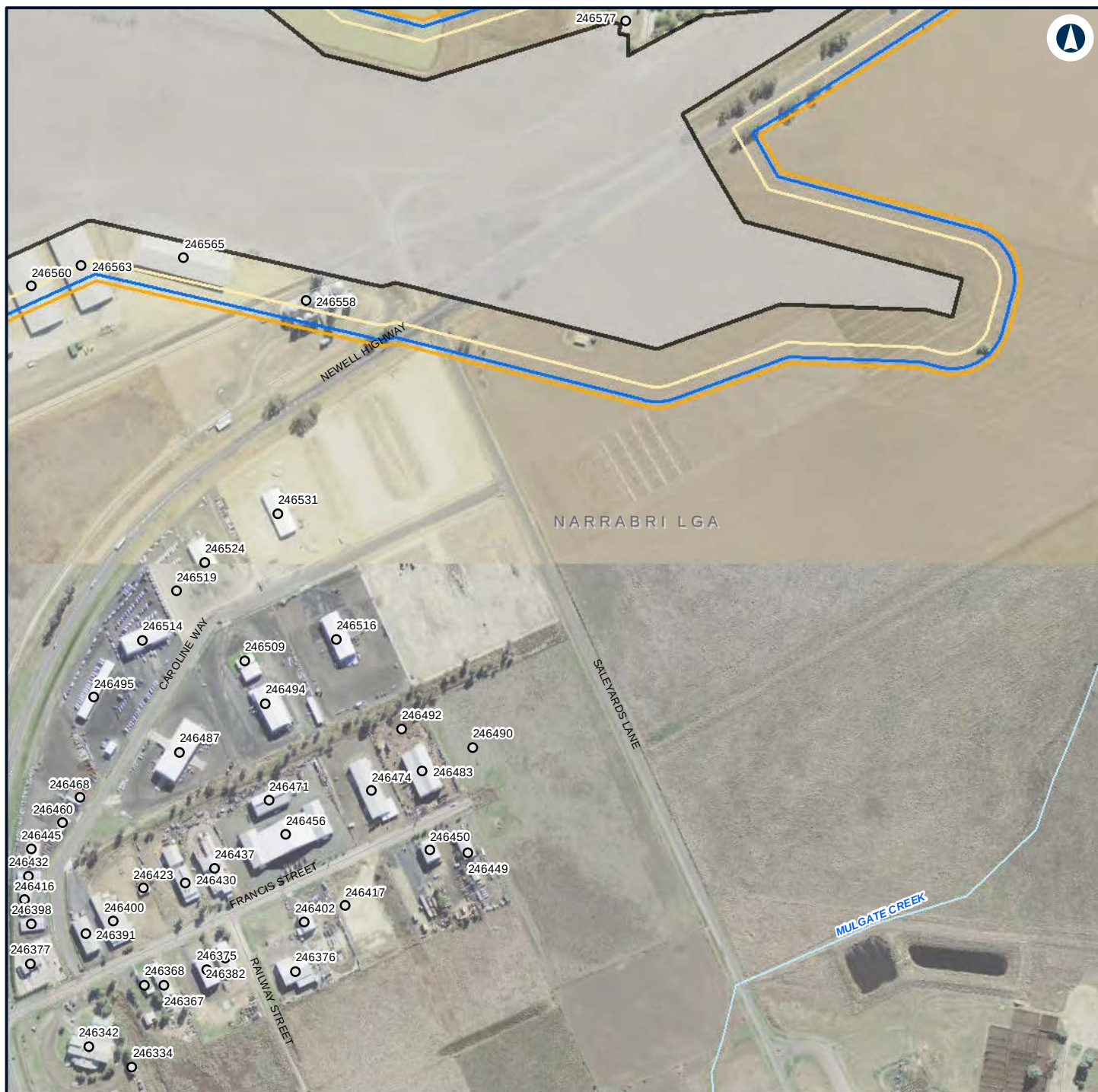
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint (propagation source)

Structure type

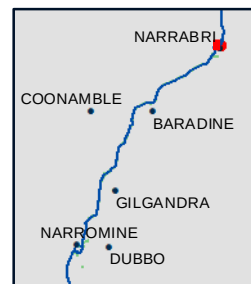
- Commercial/Industrial

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 73 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

 Construction footprint (propagation source)

Structure type

-  Commercial/Industrial

Vibration from clearing and stripping

-  AVTG day max (0.4 m/s 1.75, 54 m)
-  AVTG night max (0.26 m/s 1.75, 39 m)
-  BS 5228-2:2009 (1 mm/s, 60m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 74 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint (propagation source)

Structure type

Residential

Vibration from clearing and stripping

AVTG day max (0.4 m/s 1.75, 54 m)

AVTG night max (0.26 m/s 1.75, 39 m)

BS 5228-2:2009 (1 mm/s, 60m)



NARRABRI TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 75 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

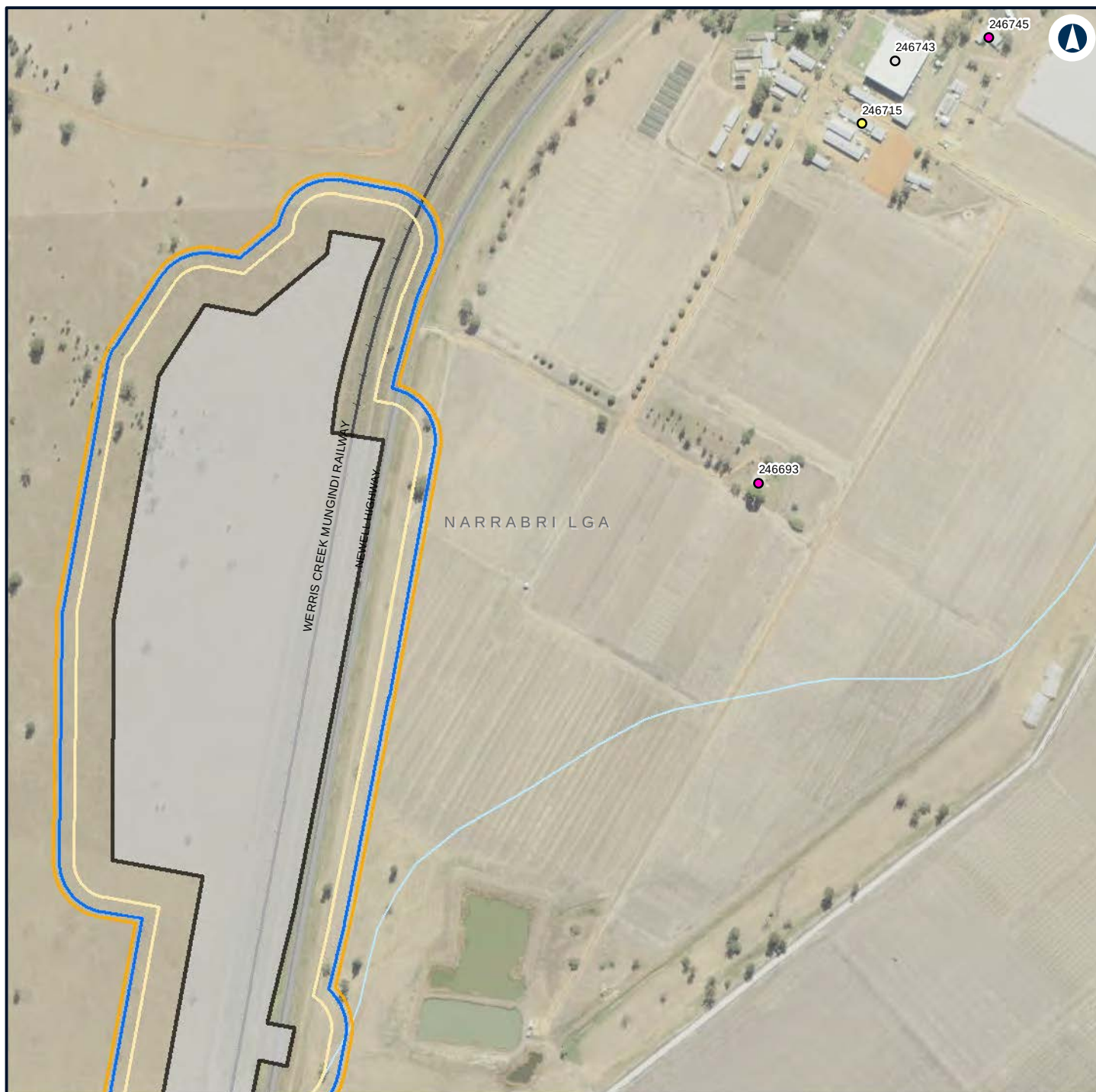
Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint (propagation source)
 AVTG night max (0.26 m/s 1.75, 39 m)
 BS 5228-2:2009 (1 mm/s, 60m)

Structure type

- Commercial/Industrial
- Community
- Residential

Vibration from clearing and stripping

- AVTG day max (0.4 m/s 1.75, 54 m)



NARROMINE TO NARRABRI

Construction vibration buffers, Human comfort - Clearing and stripping / Road construction Appendix L - MAP 76 OF 76

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,960

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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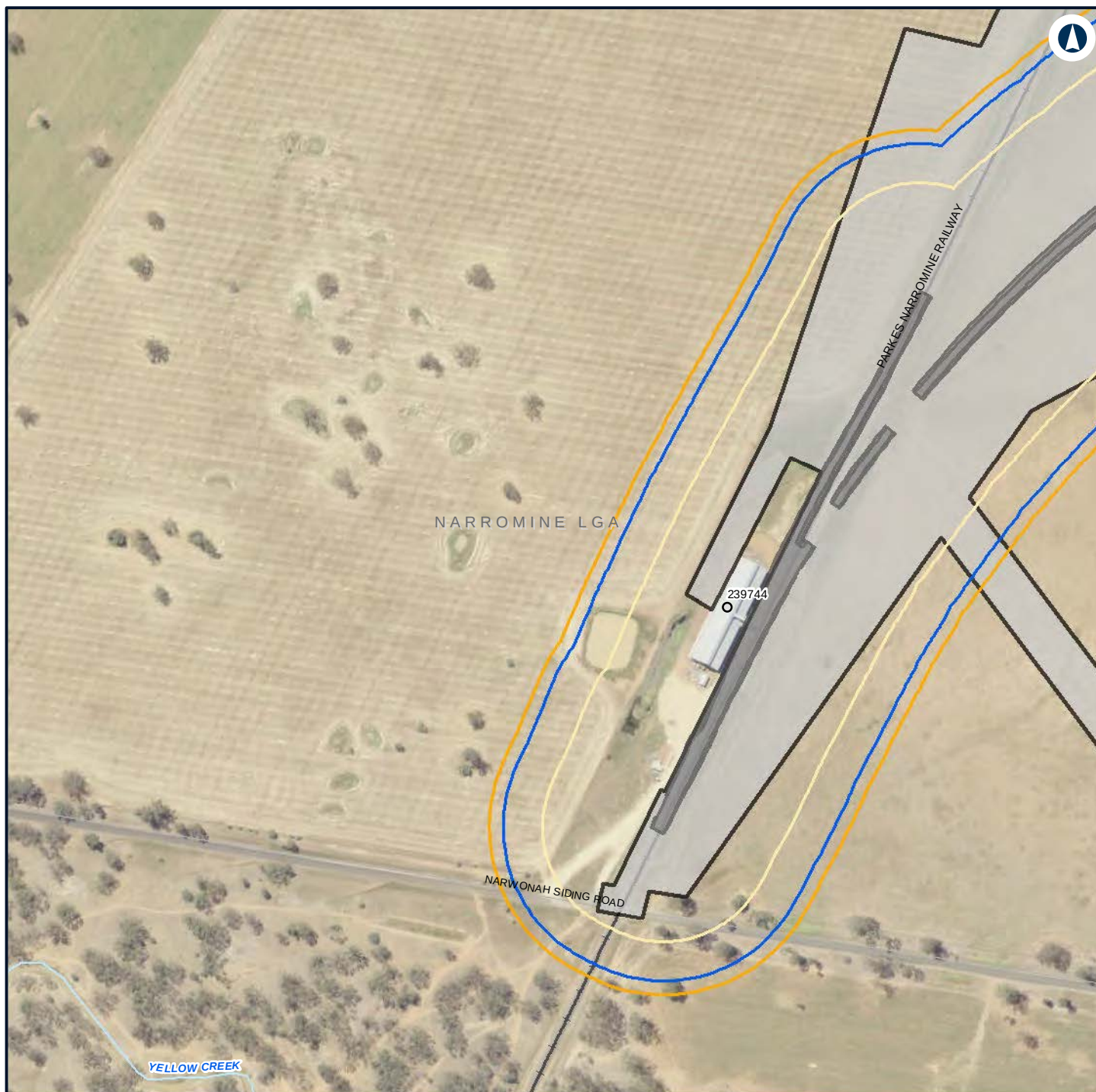
TECHNICAL REPORT 08

Updated noise and vibration assessment—
construction and other operations

Appendix M Construction vibration buffers, human comfort—rail earthworks/bridges (impact piling)

NARROMINE TO NARRABRI PROJECT





LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Commercial/Industrial

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 1 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

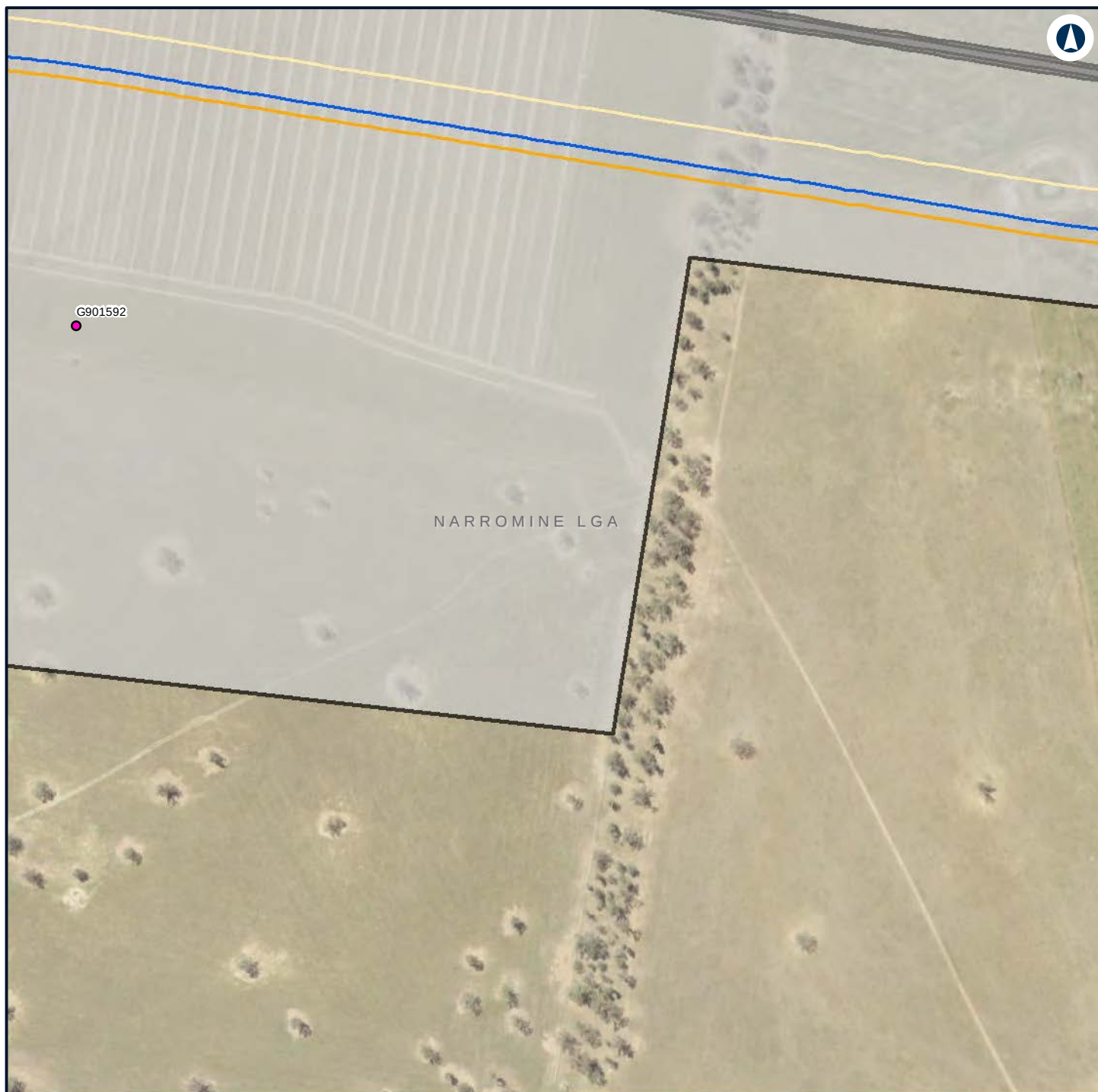
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 2 OF 94

0 0.1 0.2
Km

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Date: 22/12/2021

Paper: A4

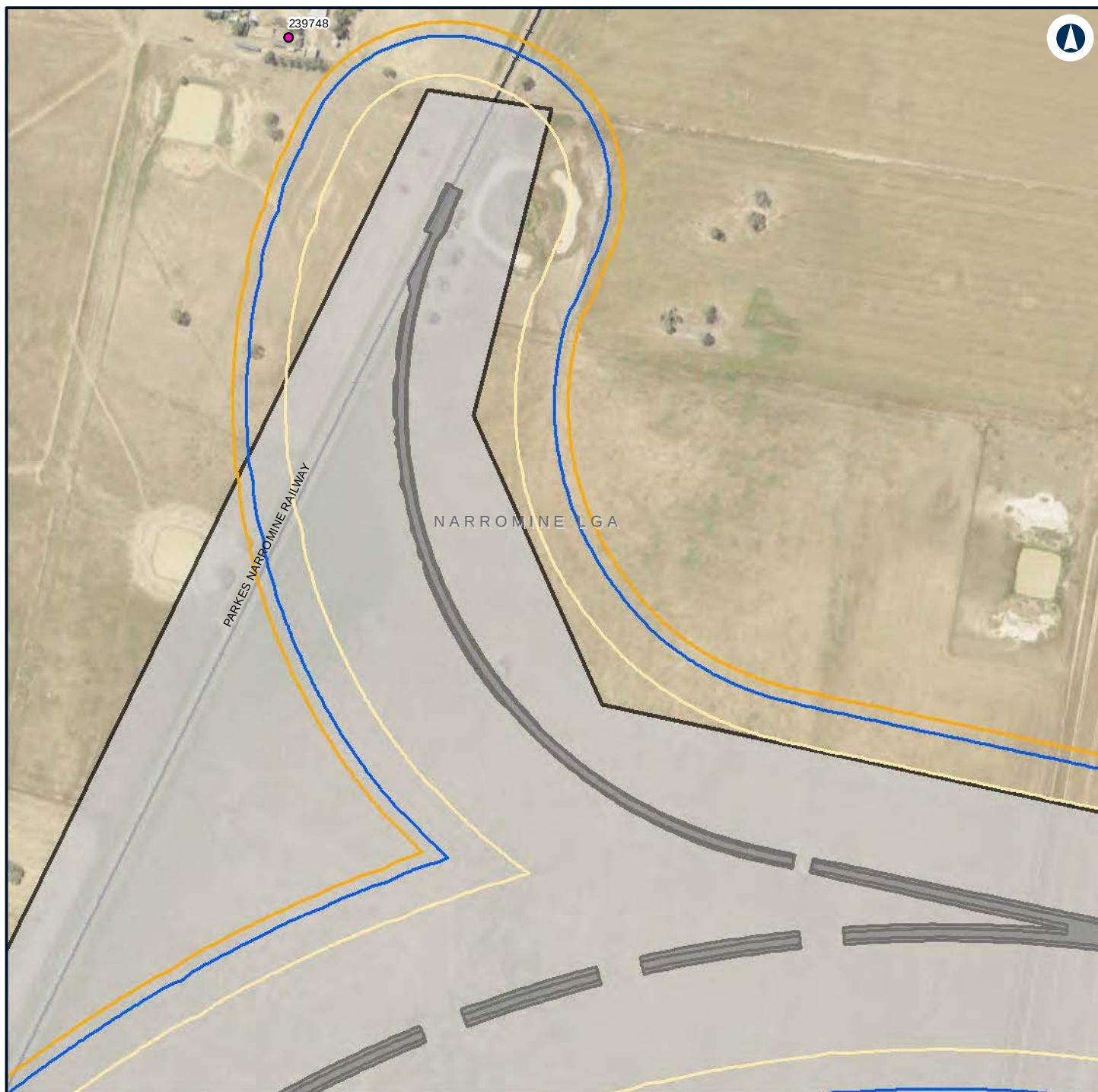
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 3 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Structure type

- Residential

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 4 OF 94

0 0.1 0.2
Km

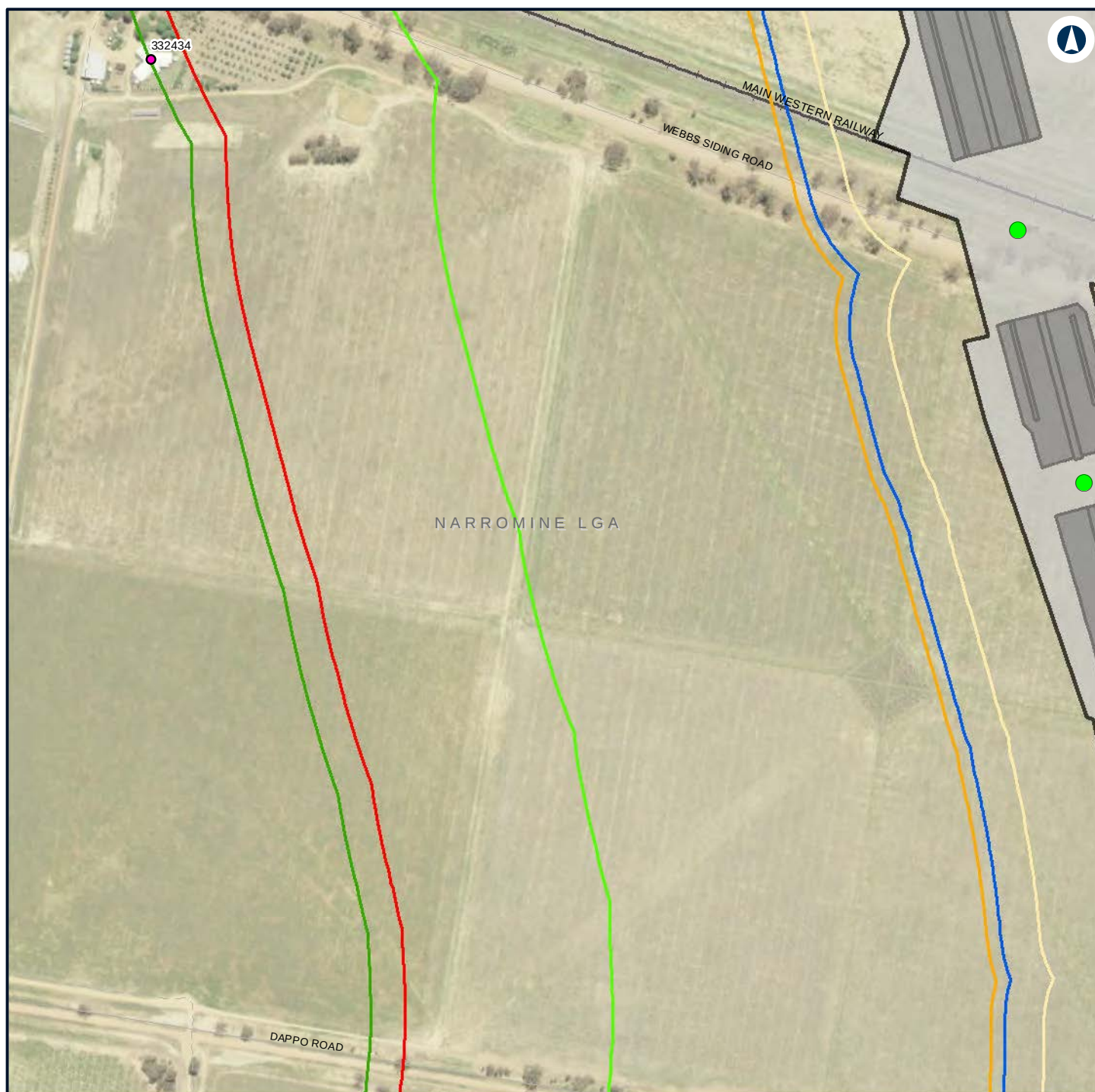
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Bridge centre (propagation source)
- Construction footprint
- Rail earthworks extent (propagation source)
- Residential
- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)
- Vibration from rail earthworks**
 - AVTG day max (0.4 m/s 1.75, 128 m)
 - AVTG night max (0.26 m/s 1.75, 94 m)
 - BS 5228-2:2009 (1 mm/s, 140 m)

Structure type

Vibration from bridge construction (piling)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 5 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 6 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

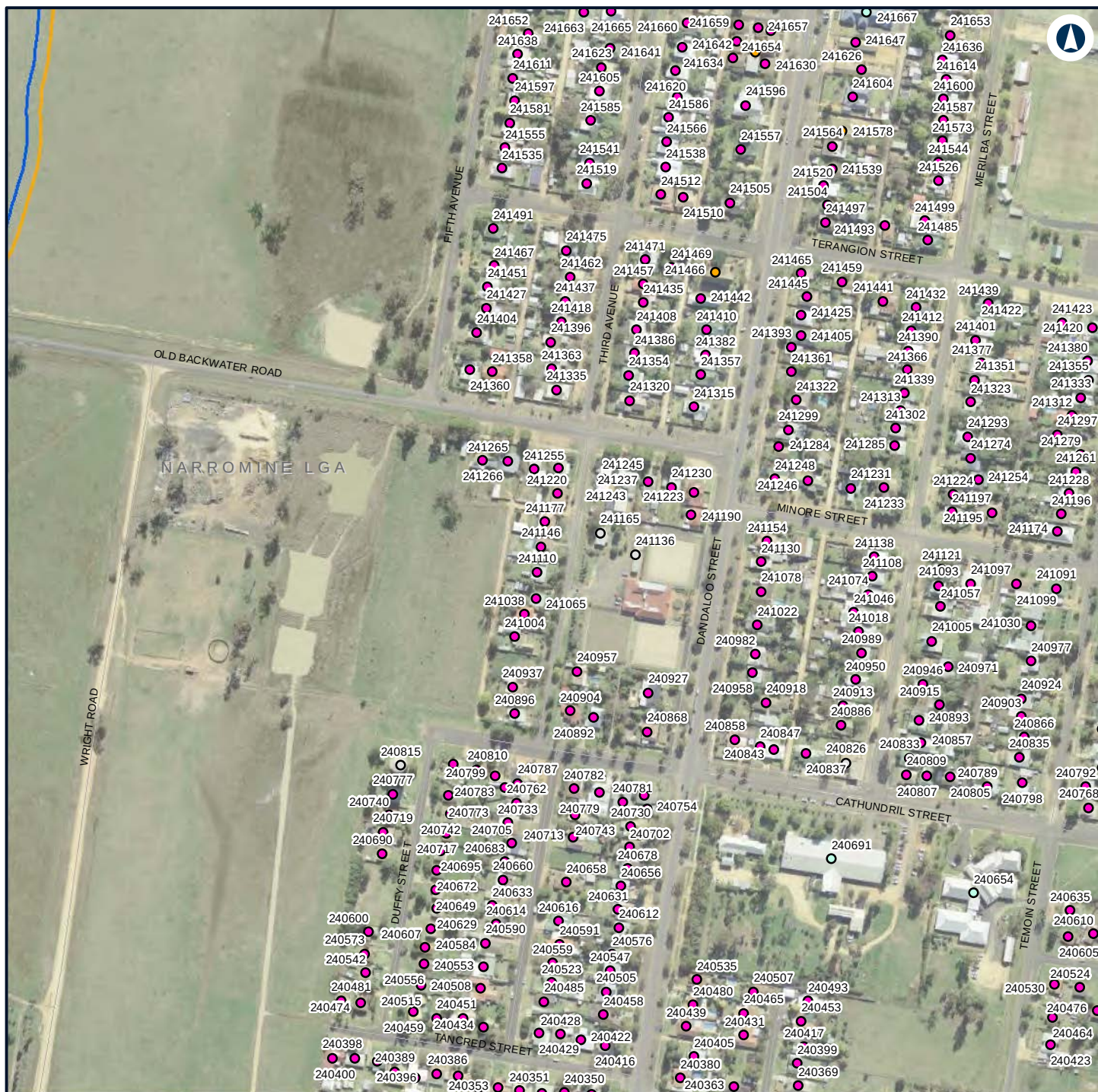
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Structure type

- Commercial/Industrial
- Health
- Residential
- Worship

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 7 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

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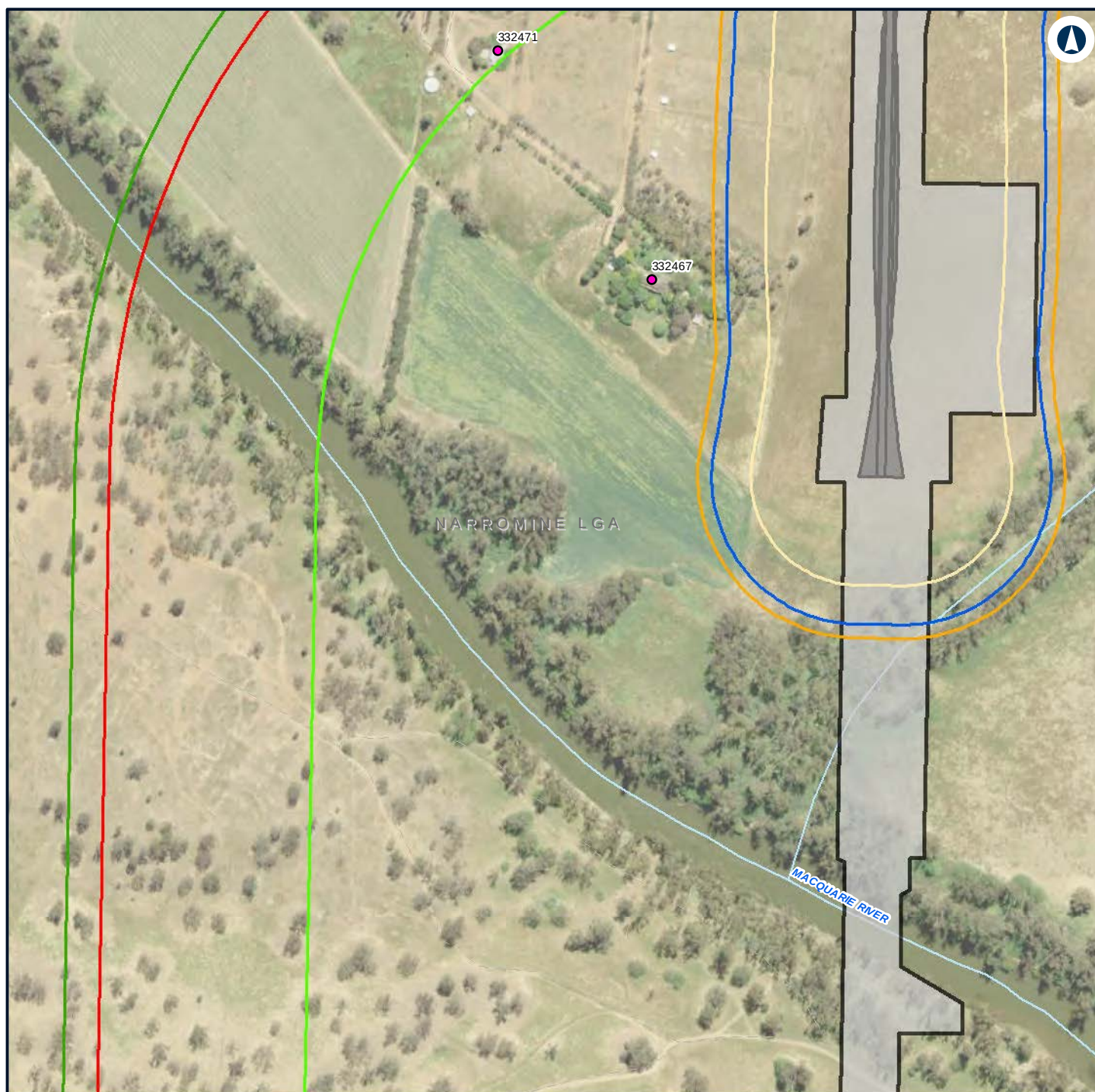
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 8 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

-  Construction footprint
-  BS 5228-2:2009 (1 mm/s, 140 m)
-  Rail earthworks extent (propagation source)

Structure type

-  Commercial/Industrial

Vibration from rail earthworks

-  AVTG day max (0.4 m/s 1.75, 128 m)
-  AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 9 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

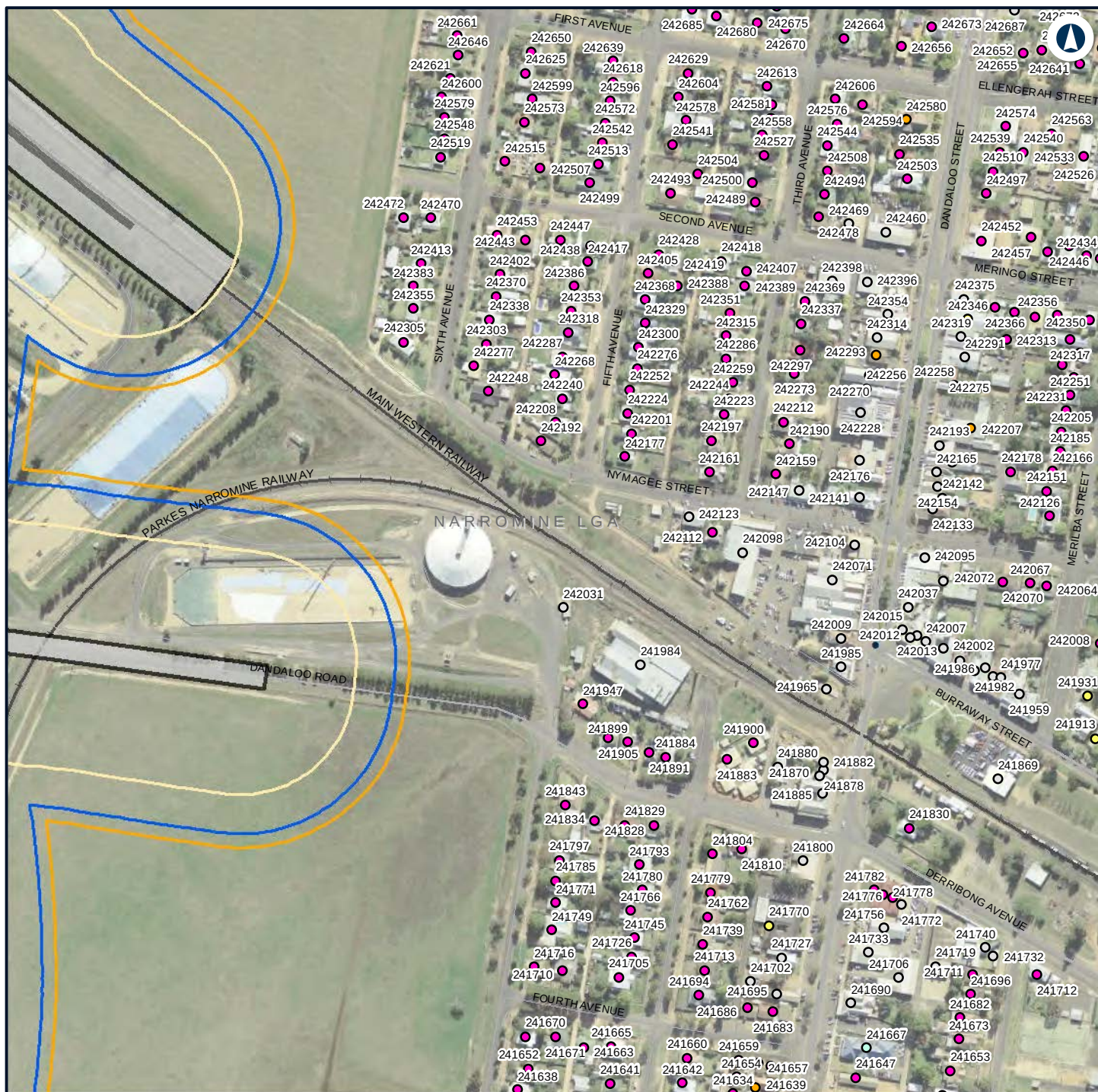
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Rail earthworks extent (propagation source)
- Structure type
 - Commercial/Industrial
 - Community
 - Health
 - Residential
- Worship
- Vibration from rail earthworks
 - AVTG day max (0.4 m/s 1.75, 128 m)
 - AVTG night max (0.26 m/s 1.75, 94 m)
 - BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 10 OF 94

0 0.1 0.2
Km

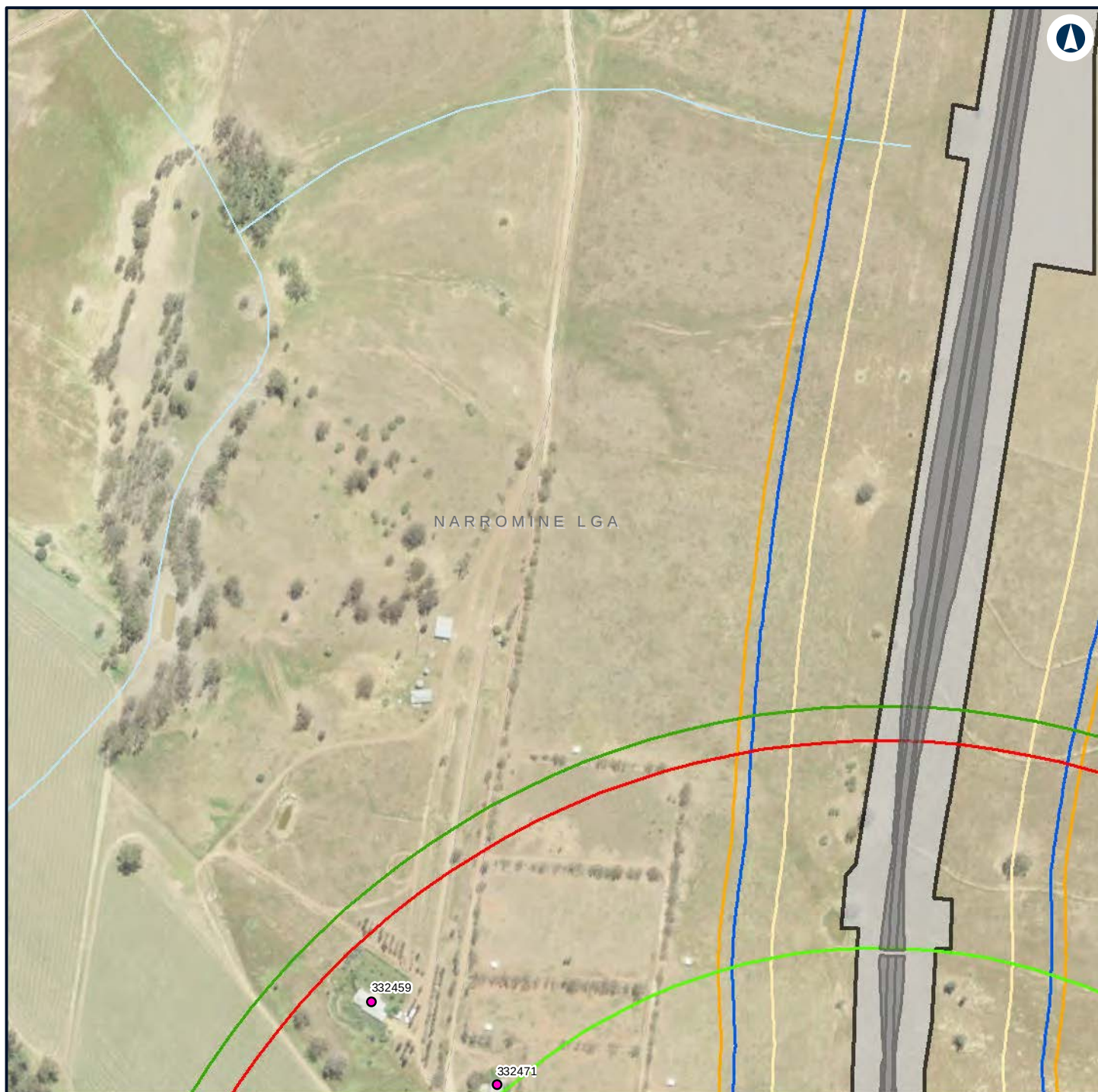
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 11 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- AVTG night max (0.26 m/s 1.75, 94 m)
- Rail earthworks extent (propagation source)
- BS 5228-2:2009 (1 mm/s, 140 m)

Structure type

- Commercial/Industrial
- Residential

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 12 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Structure type

- Commercial/Industrial
- Educational
- Residential

BS 5228-2:2009 (1 mm/s, 140 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 13 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

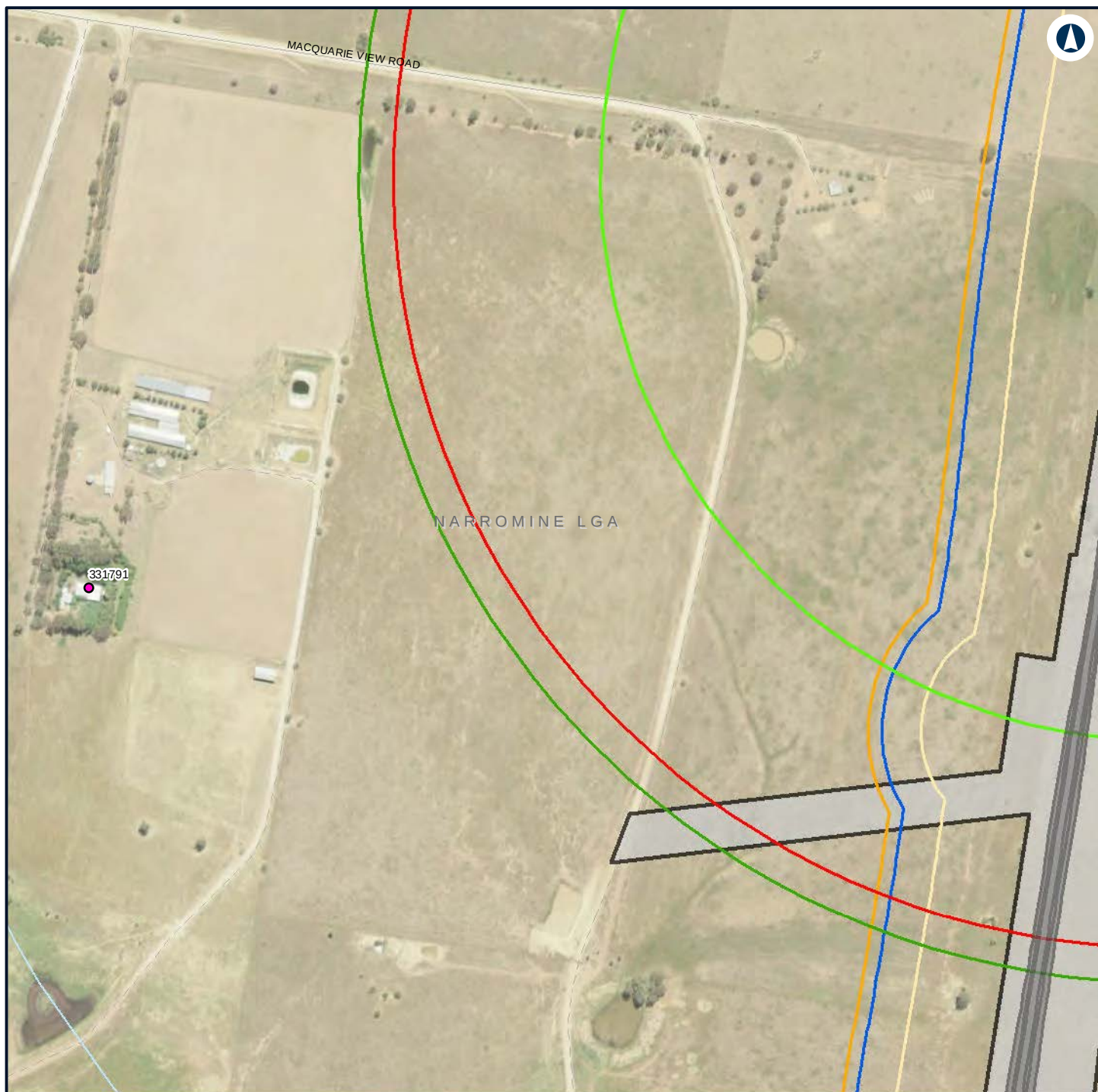
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 14 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

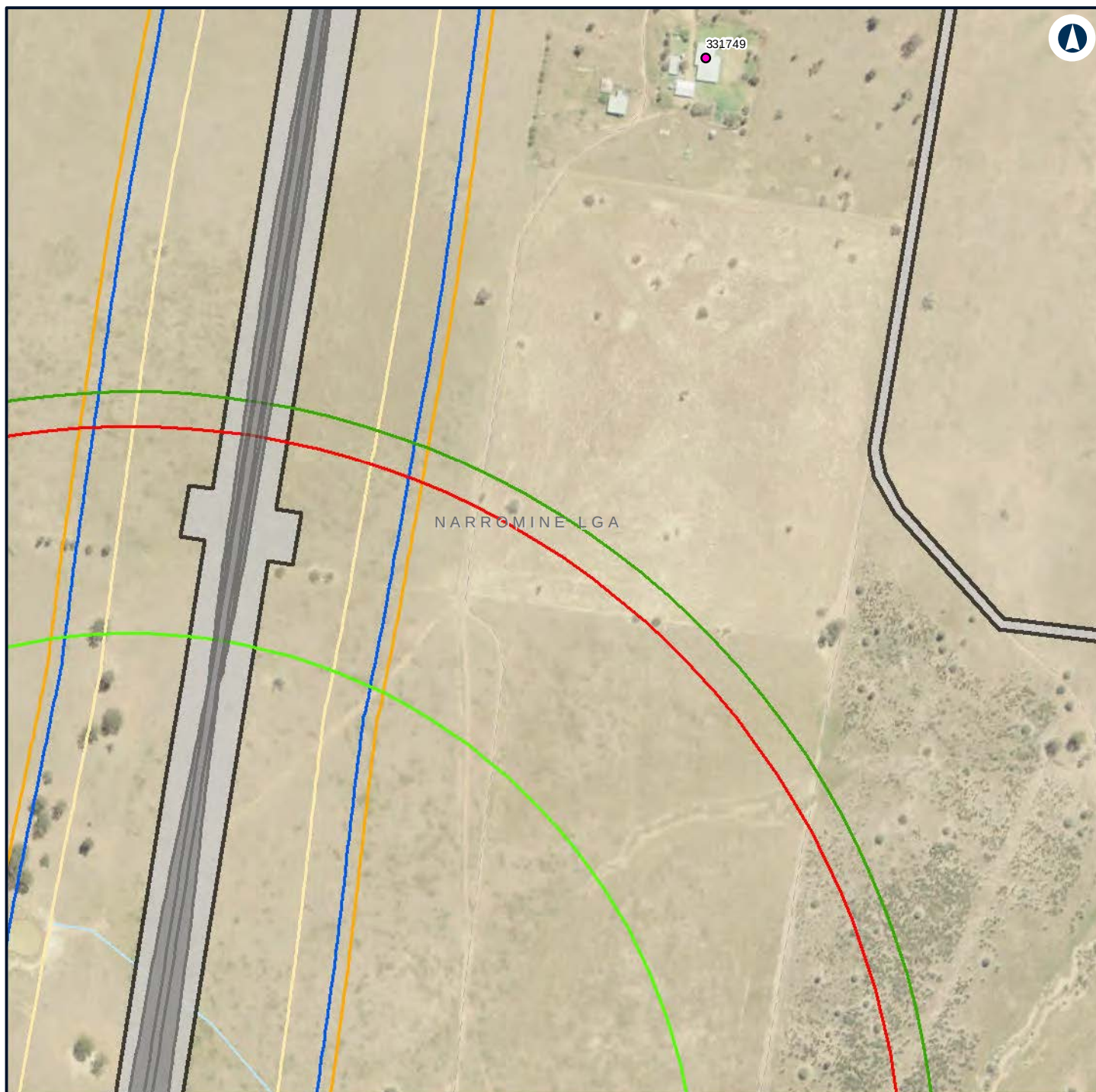
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 15 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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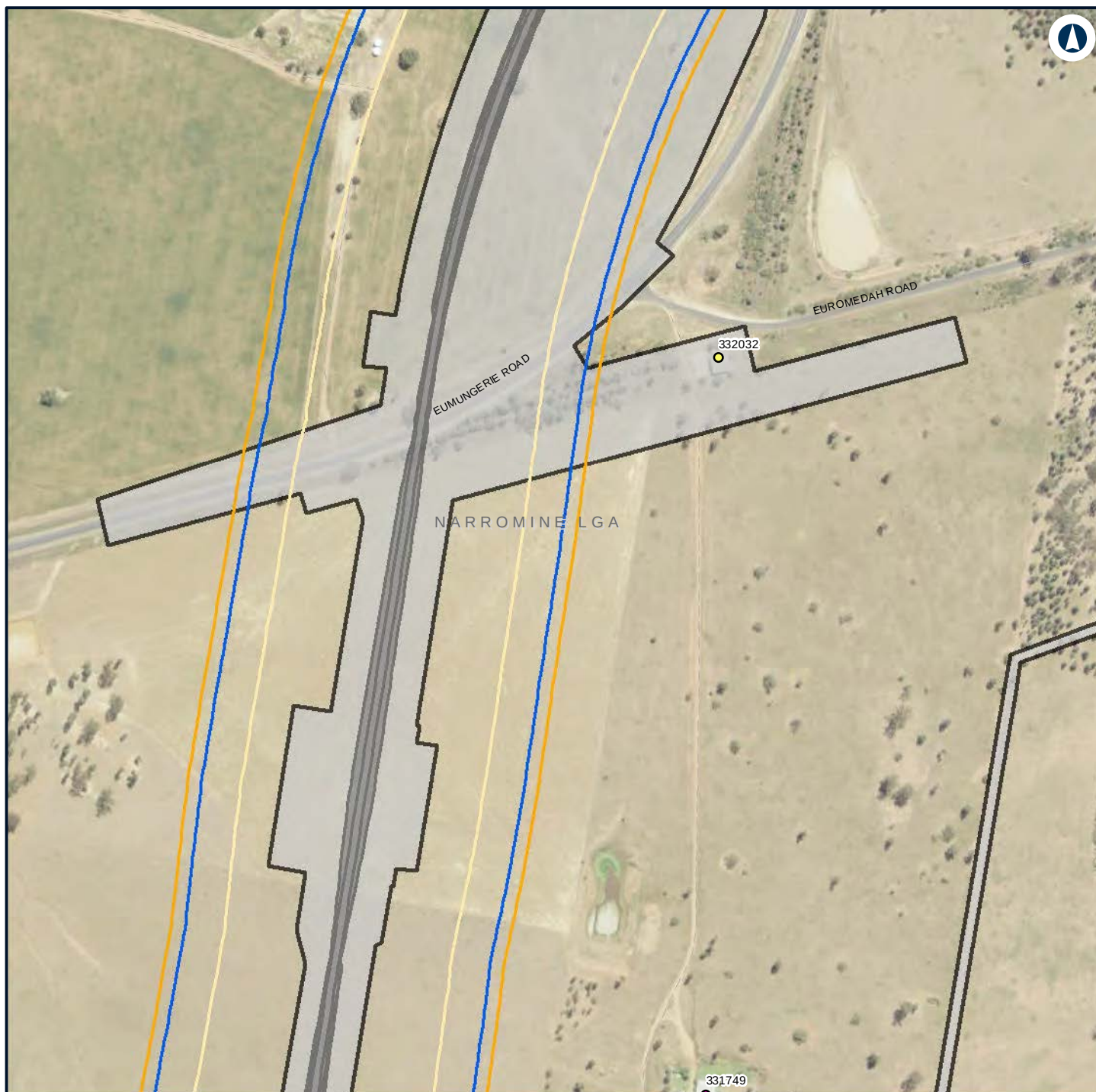
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- AVTG night max (0.26 m/s 1.75, 94 m)
- Rail earthworks extent (propagation source)
- BS 5228-2:2009 (1 mm/s, 140 m)

Structure type

- Community
- Residential

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 16 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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INLAND RAIL **ARTC**

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LEGEND

-  Construction footprint
-  BS 5228-2:2009 (1 mm/s, 140 m)
-  Rail earthworks extent (propagation source)

Structure type

-  Residential

Vibration from rail earthworks

-  AVTG day max (0.4 m/s 1.75, 128 m)
-  AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 17 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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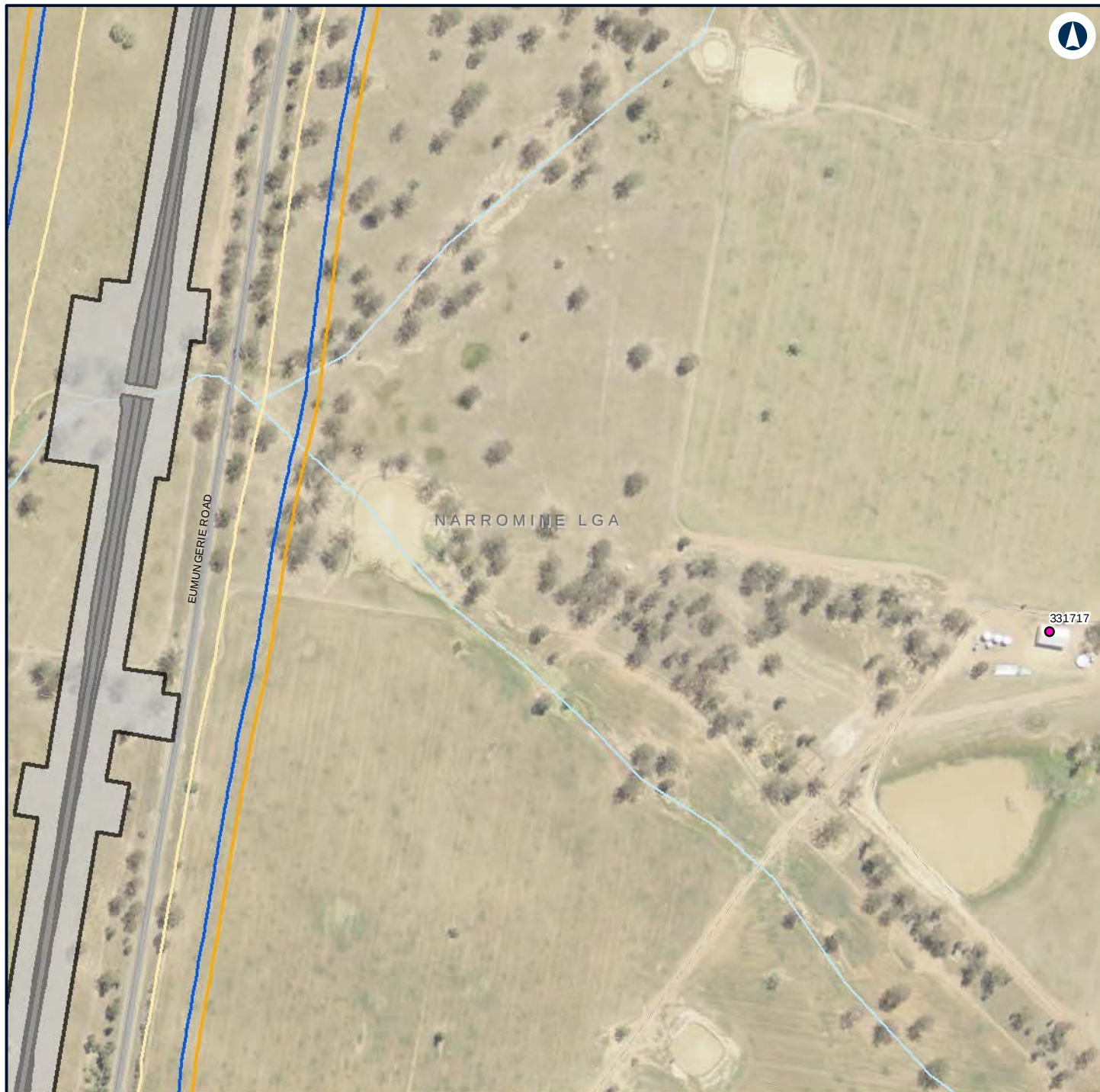
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Scale: 1:5,000

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LEGEND

-  Construction footprint
-  BS 5228-2:2009 (1 mm/s, 140 m)
-  Rail earthworks extent (propagation source)
- Structure type**
-  Residential
- Vibration from rail earthworks**
-  AVTG day max (0.4 m/s 1.75, 128 m)
-  AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 18 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 19 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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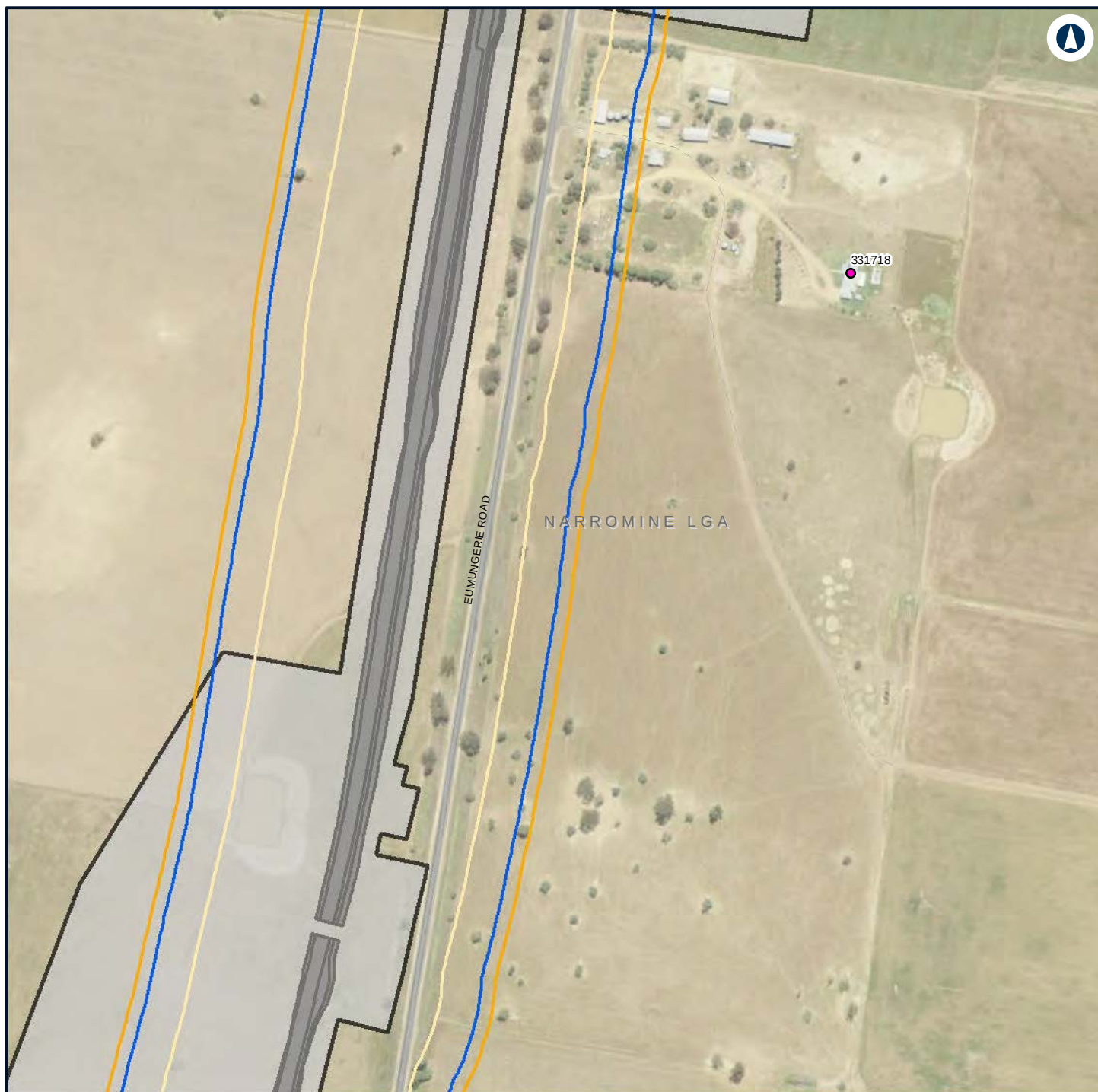
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 20 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 21 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- BS 5228-2:2009 (1 mm/s, 140 m)
- Rail earthworks extent (propagation source)

Structure type

- Residential

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 22 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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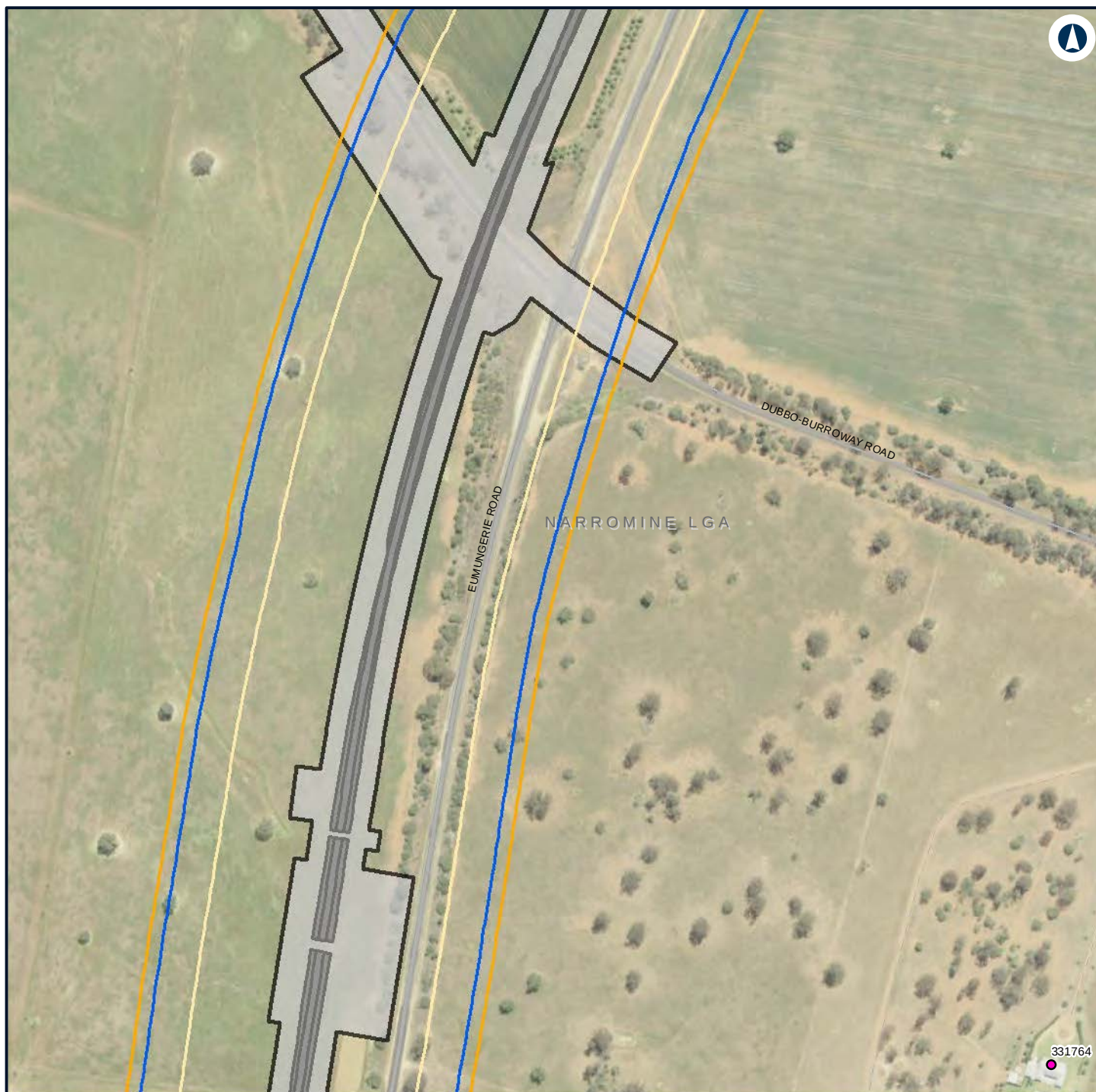
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Author: GHD

Paper: A4
Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

 Construction footprint  BS 5228-2:2009 (1 mm/s, 140 m)

 Rail earthworks extent (propagation source)

Structure type

 Residential

Vibration from rail earthworks

 AVTG day max (0.4 m/s 1.75, 128 m)

 AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 23 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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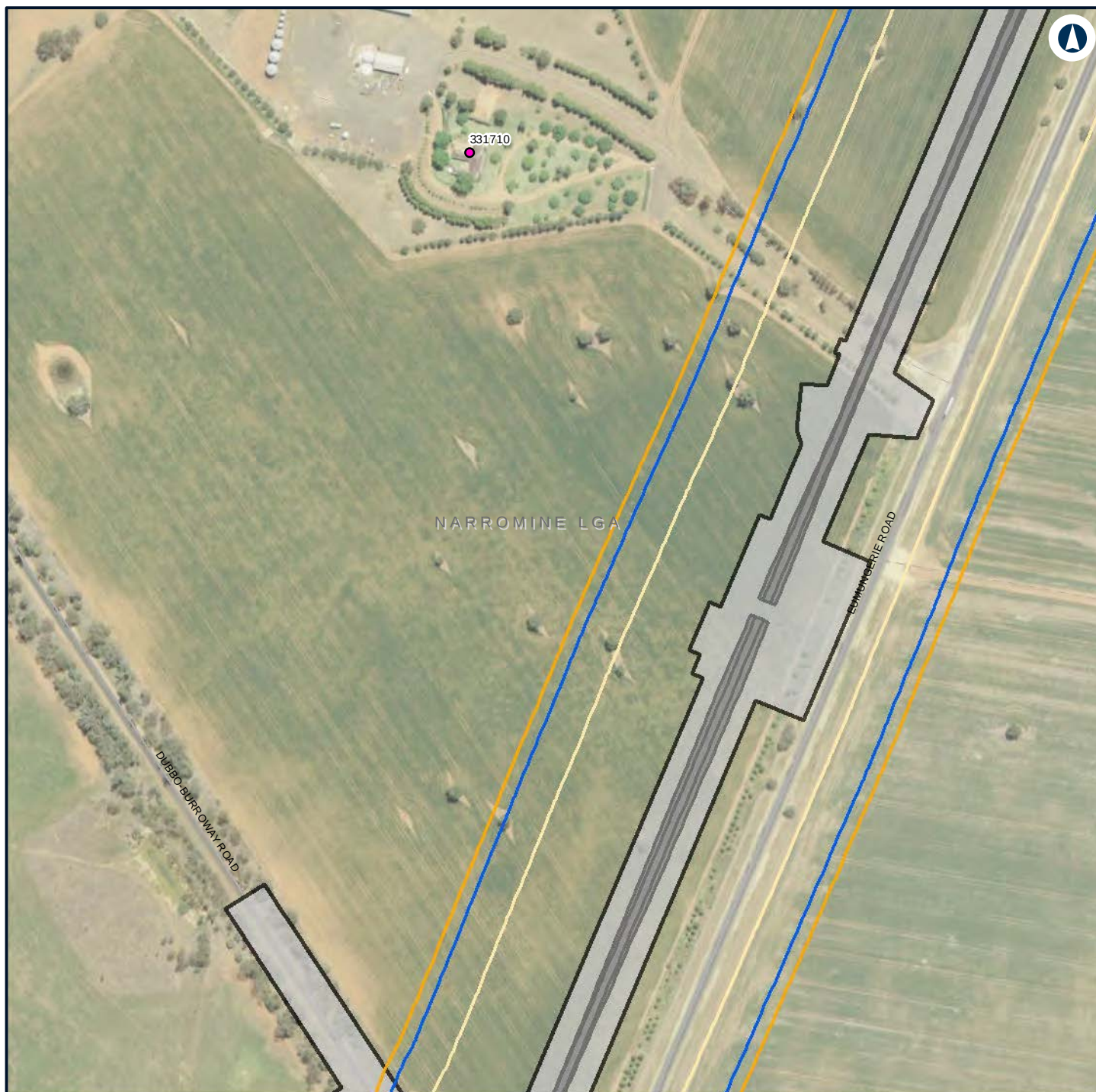
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 24 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

-  Construction footprint
-  BS 5228-2:2009 (1 mm/s, 140 m)
-  Rail earthworks extent (propagation source)

Structure type

-  Residential

Vibration from rail earthworks

-  AVTG day max (0.4 m/s 1.75, 128 m)
-  AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 25 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 26 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD

Scale: 1:5,000

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INLAND RAIL **ARTC**

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LEGEND

 Construction footprint

 Rail earthworks extent (propagation source)

Structure type

 Residential

Vibration from rail earthworks

 AVTG day max (0.4 m/s 1.75, 128 m)

 AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 27 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 28 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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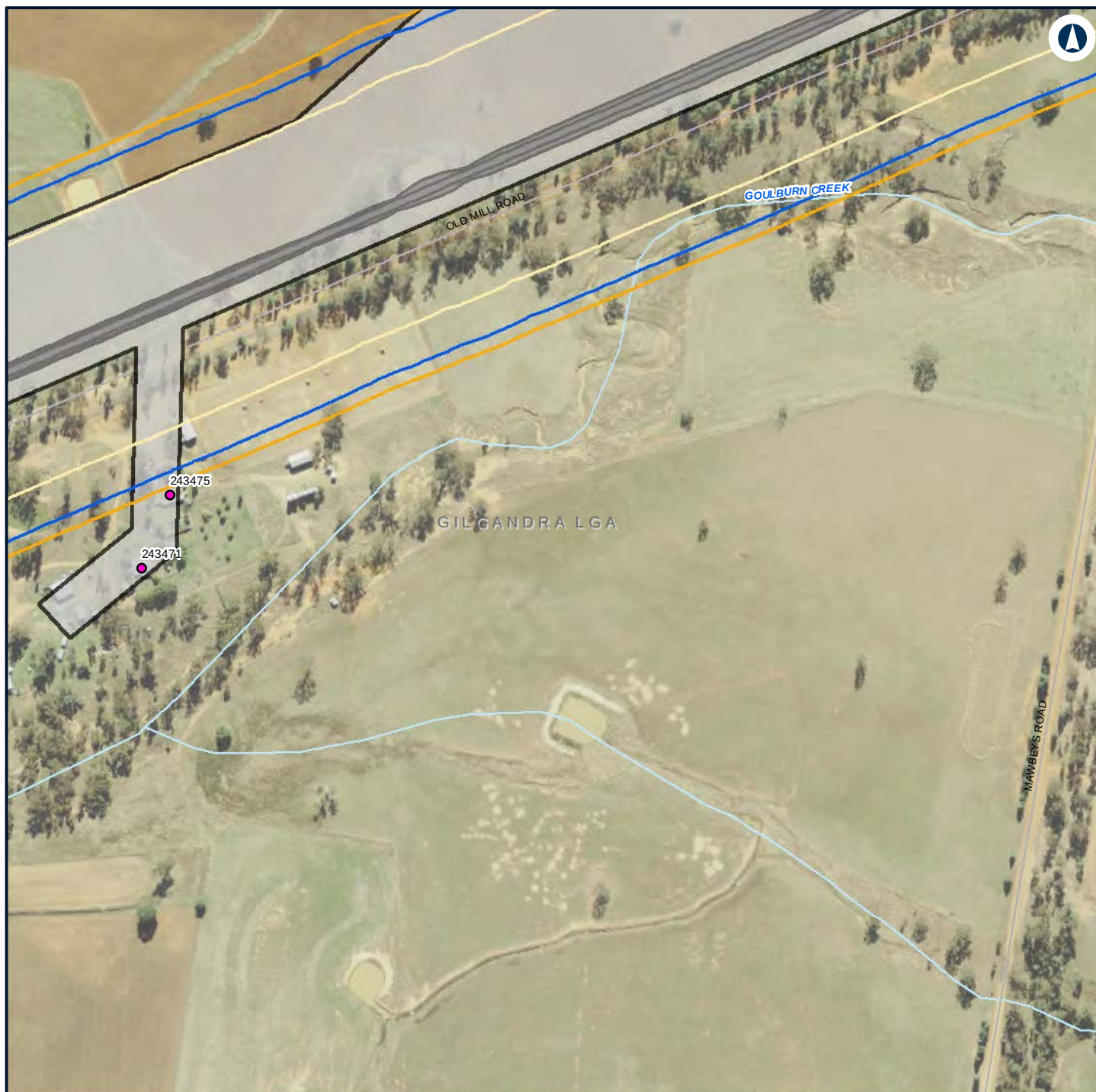
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 29 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 30 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s, 1.75, 670 m)

- BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 31 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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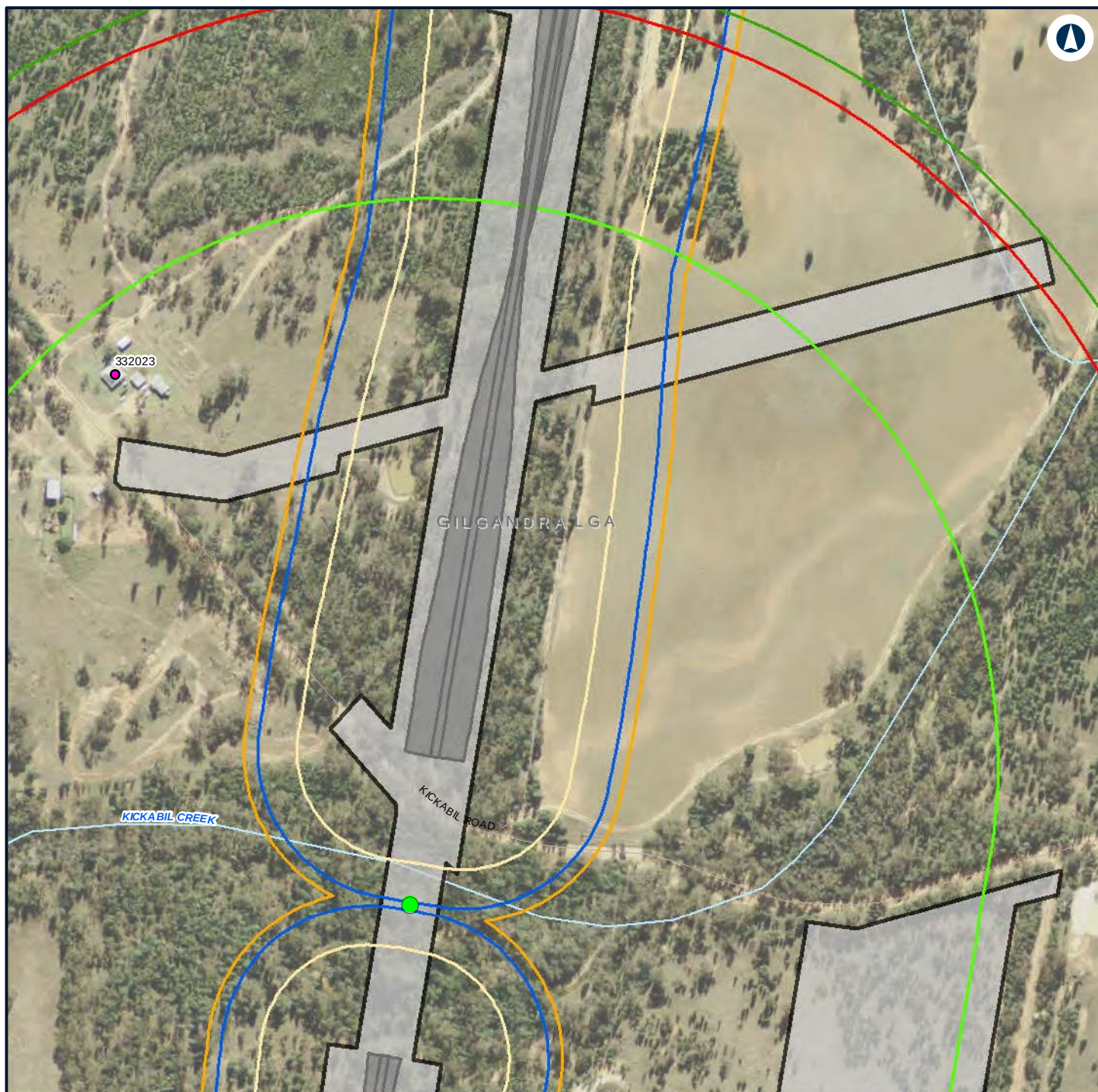
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Bridge centre (propagation source)
- Construction footprint
- Rail earthworks extent (propagation source)
- Residential
- Vibration from bridge construction (piling)**
AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)
- Vibration from rail earthworks**
AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 32 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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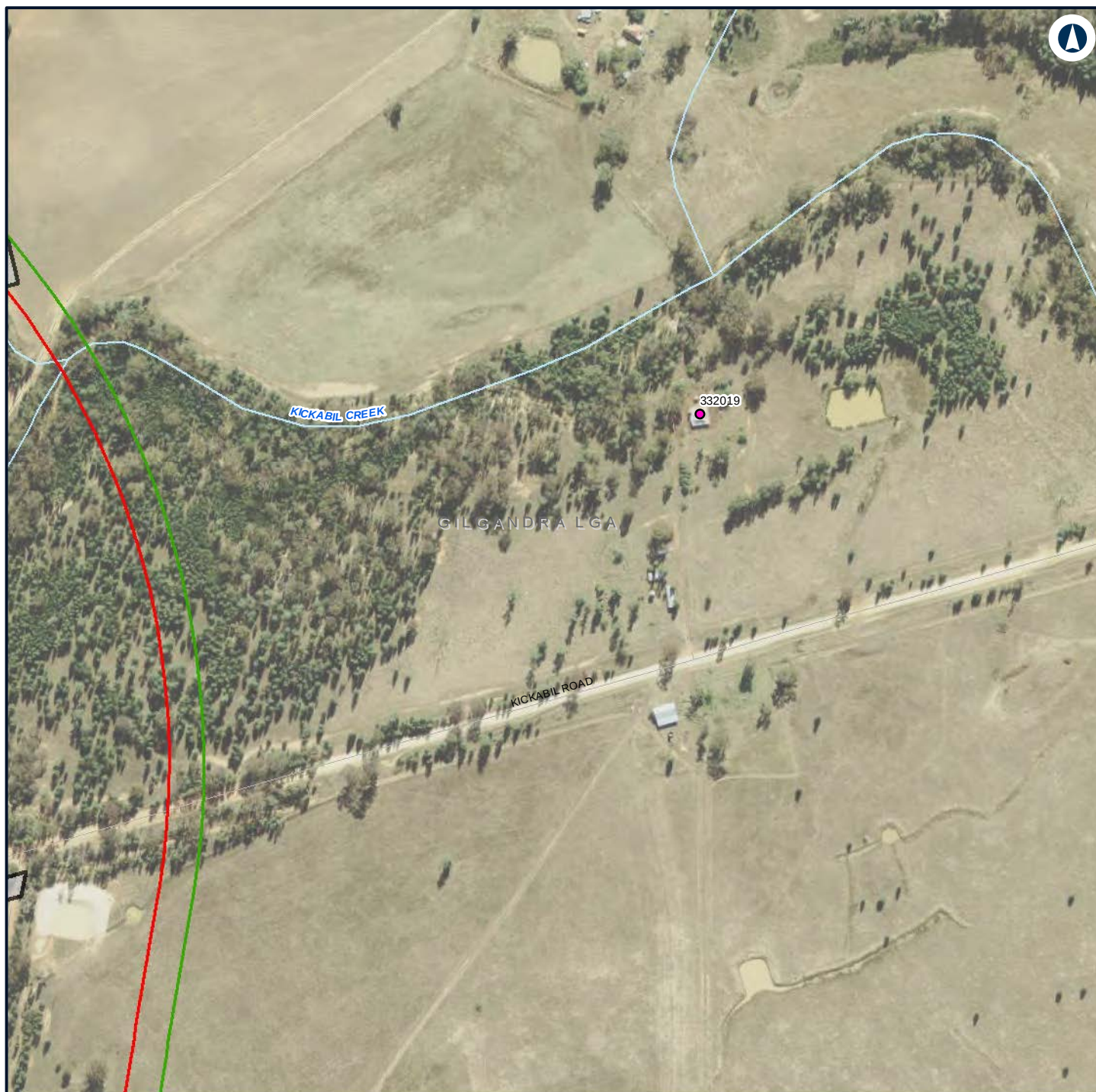
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LEGEND

Construction footprint

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 33 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)

- BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 34 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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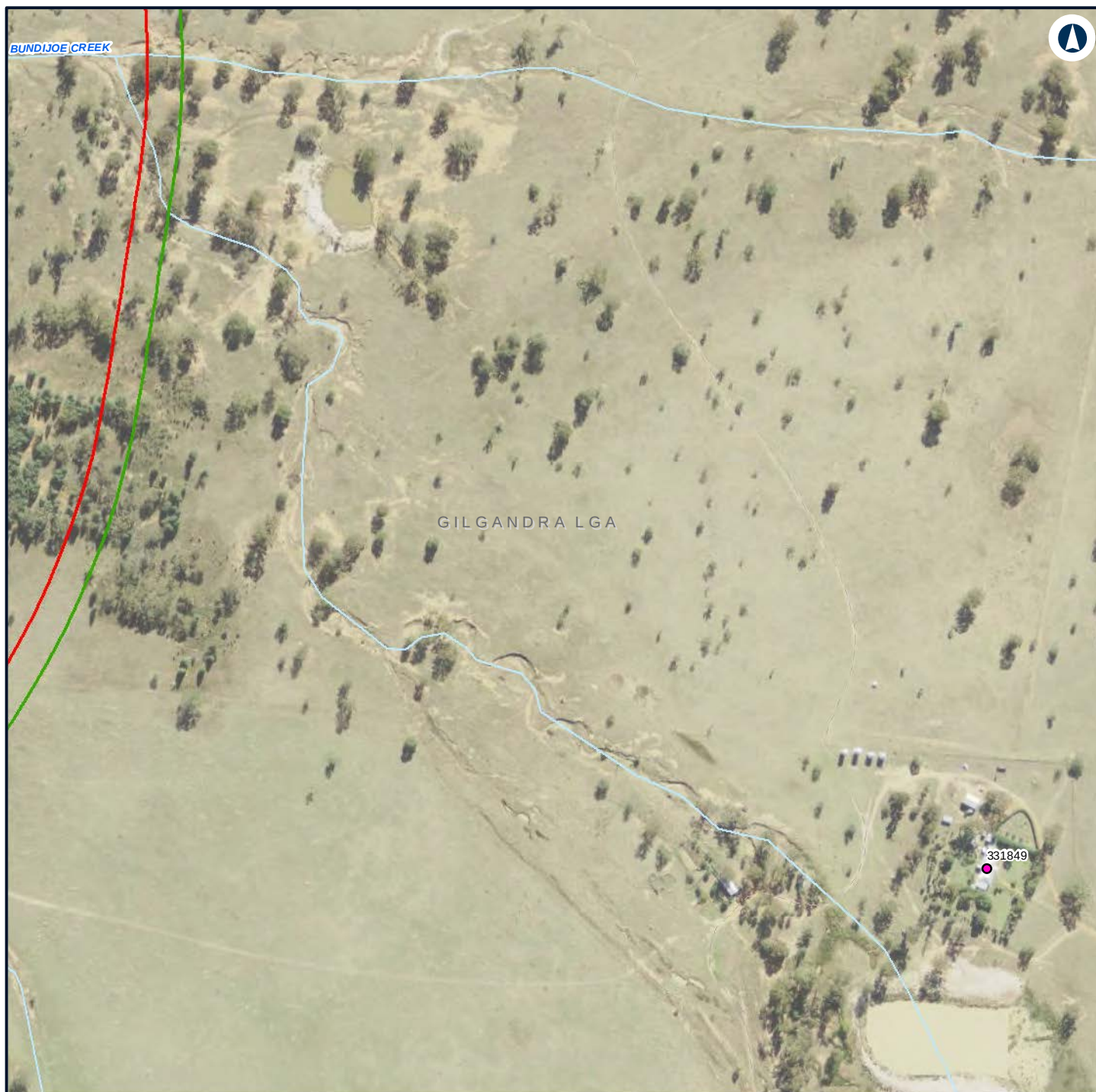
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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)

- BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 35 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

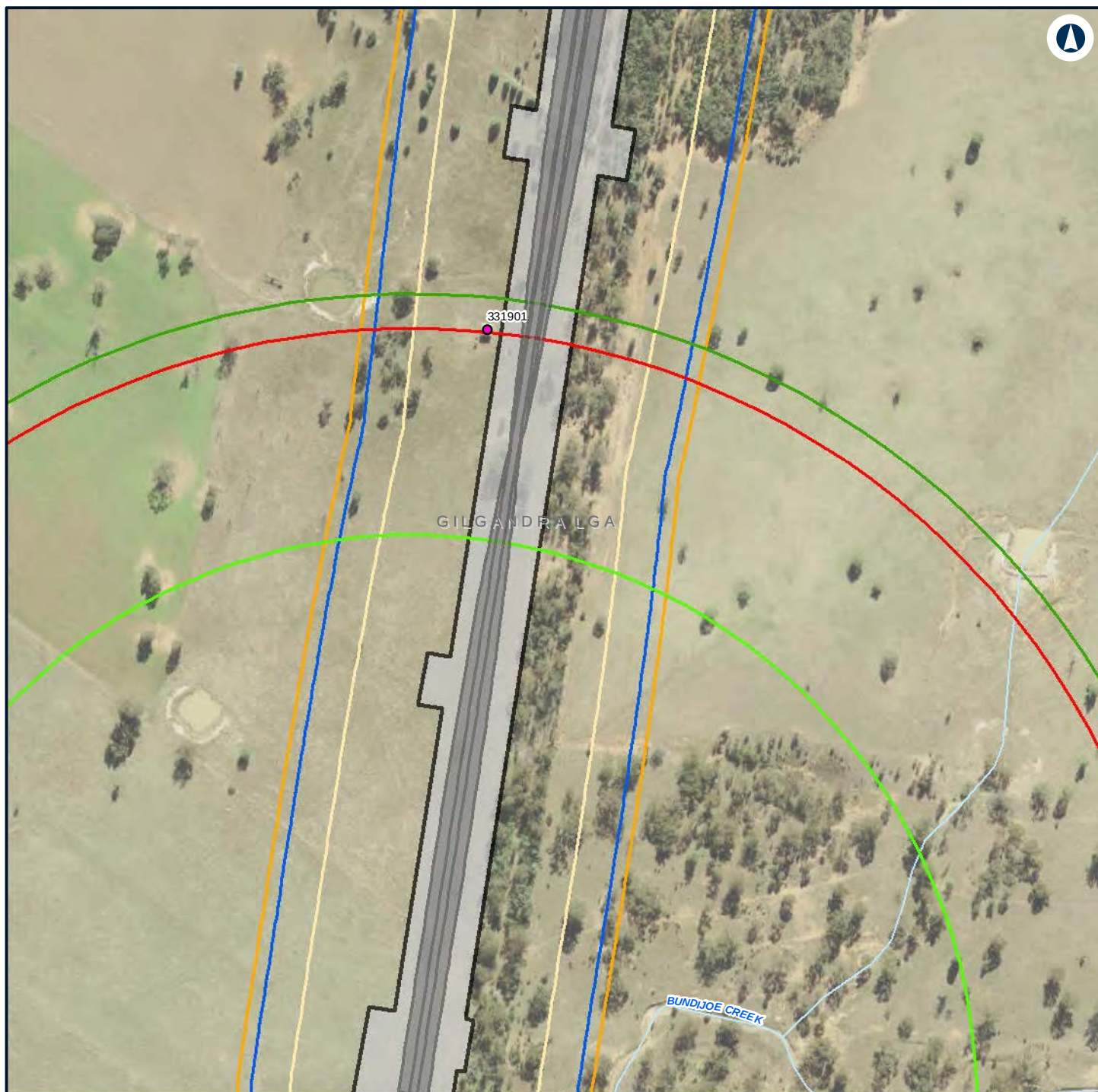
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 36 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

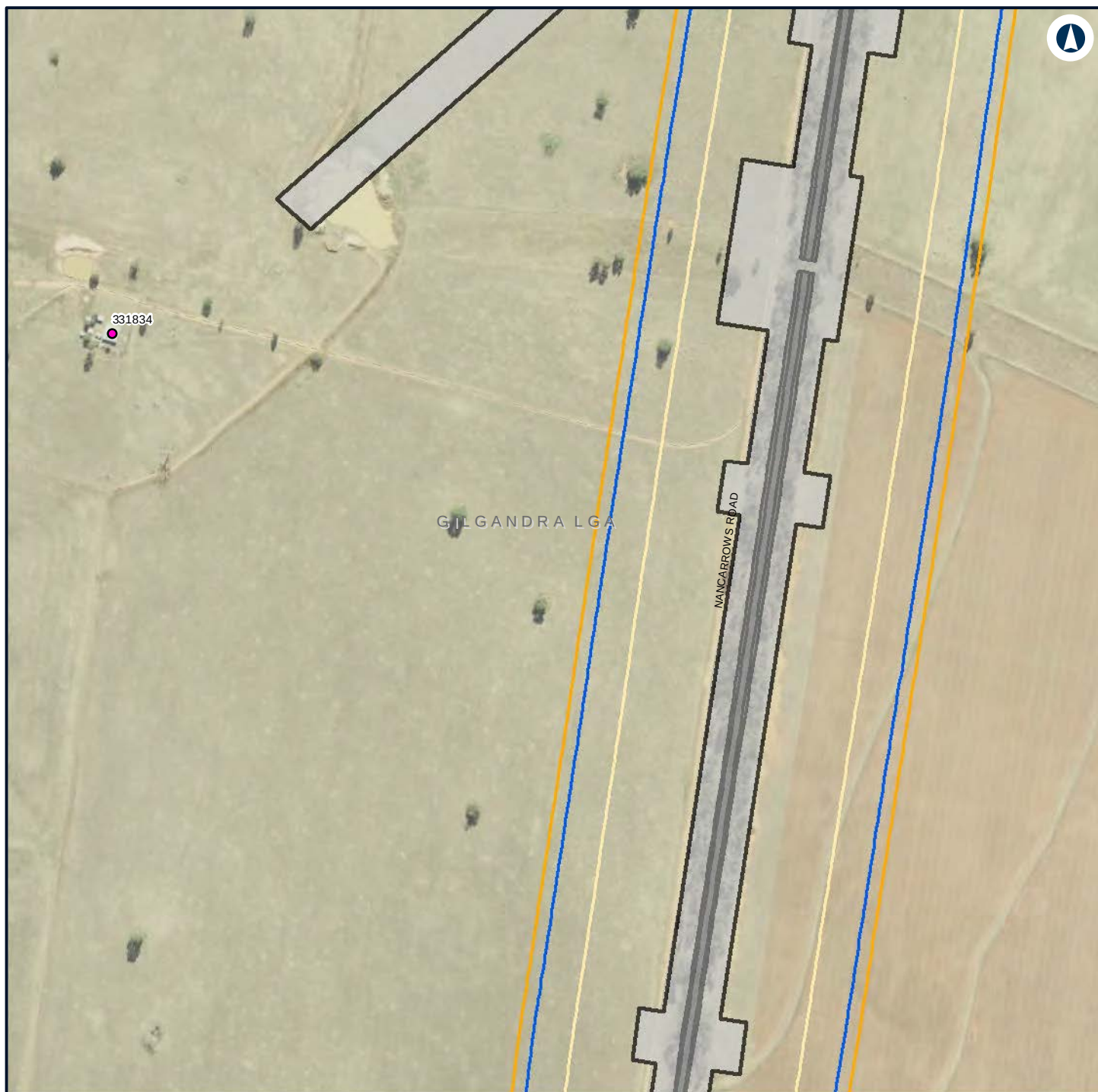
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- BS 5228-2:2009 (1 mm/s, 140 m)
- Rail earthworks extent (propagation source)

Structure type

- Residential

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 37 OF 94

0 0.1 0.2
Km

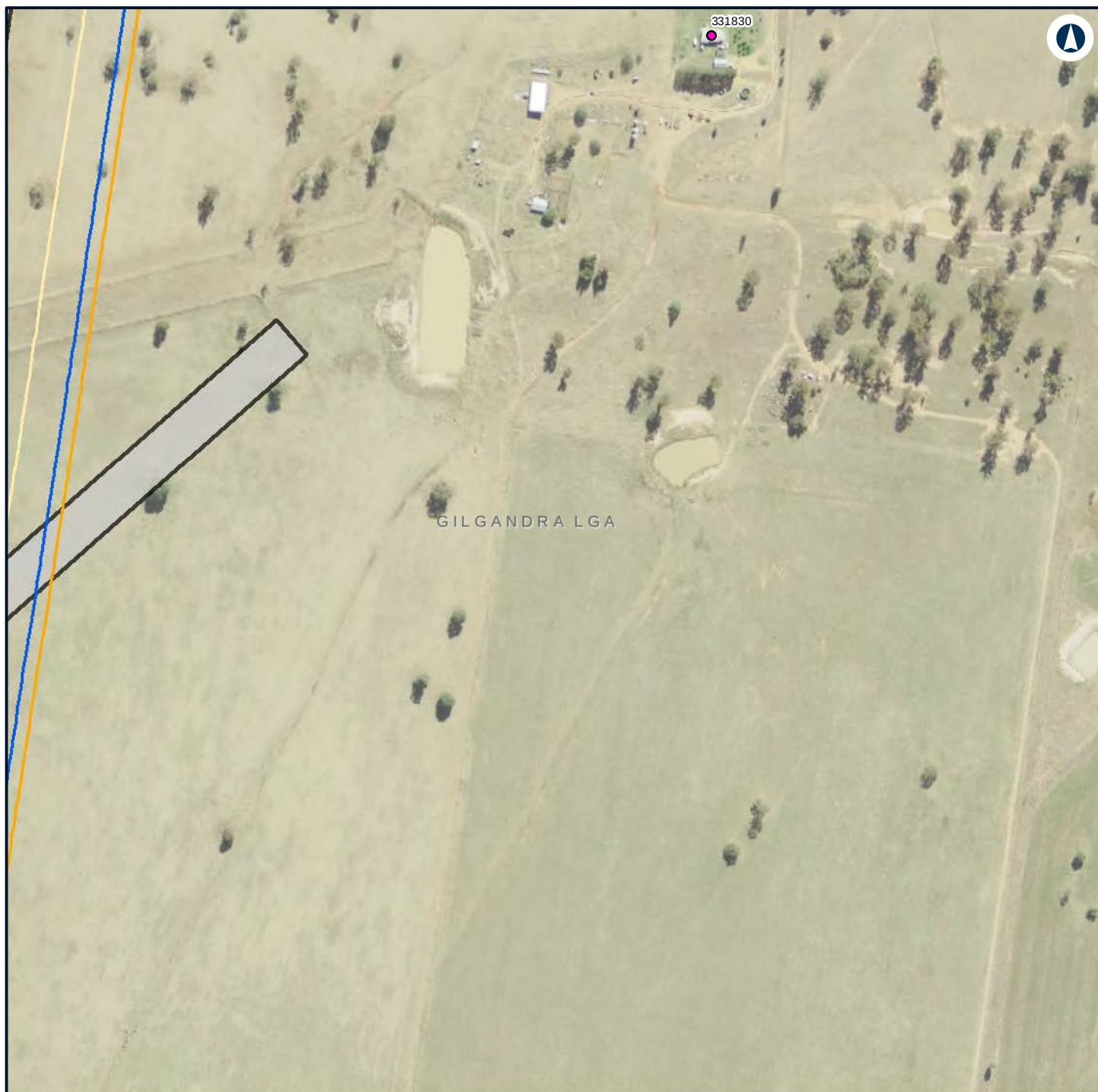
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 38 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD

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INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 39 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

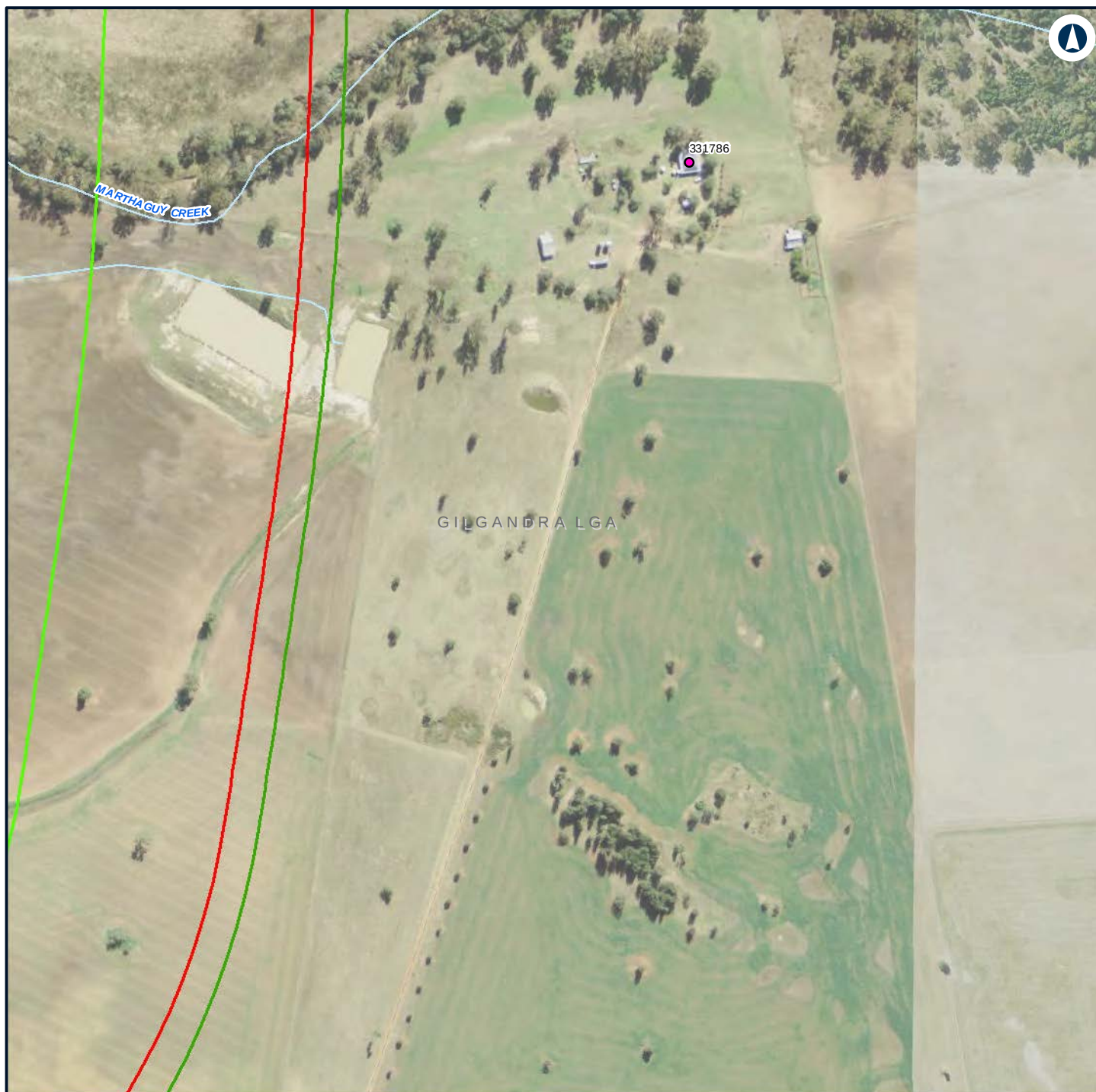
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 40 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre (propagation source)
- Construction footprint
- Rail earthworks extent (propagation source)
- Residential
- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)
- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Structure type

Vibration from bridge construction (piling)

Vibration from rail earthworks



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 41 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

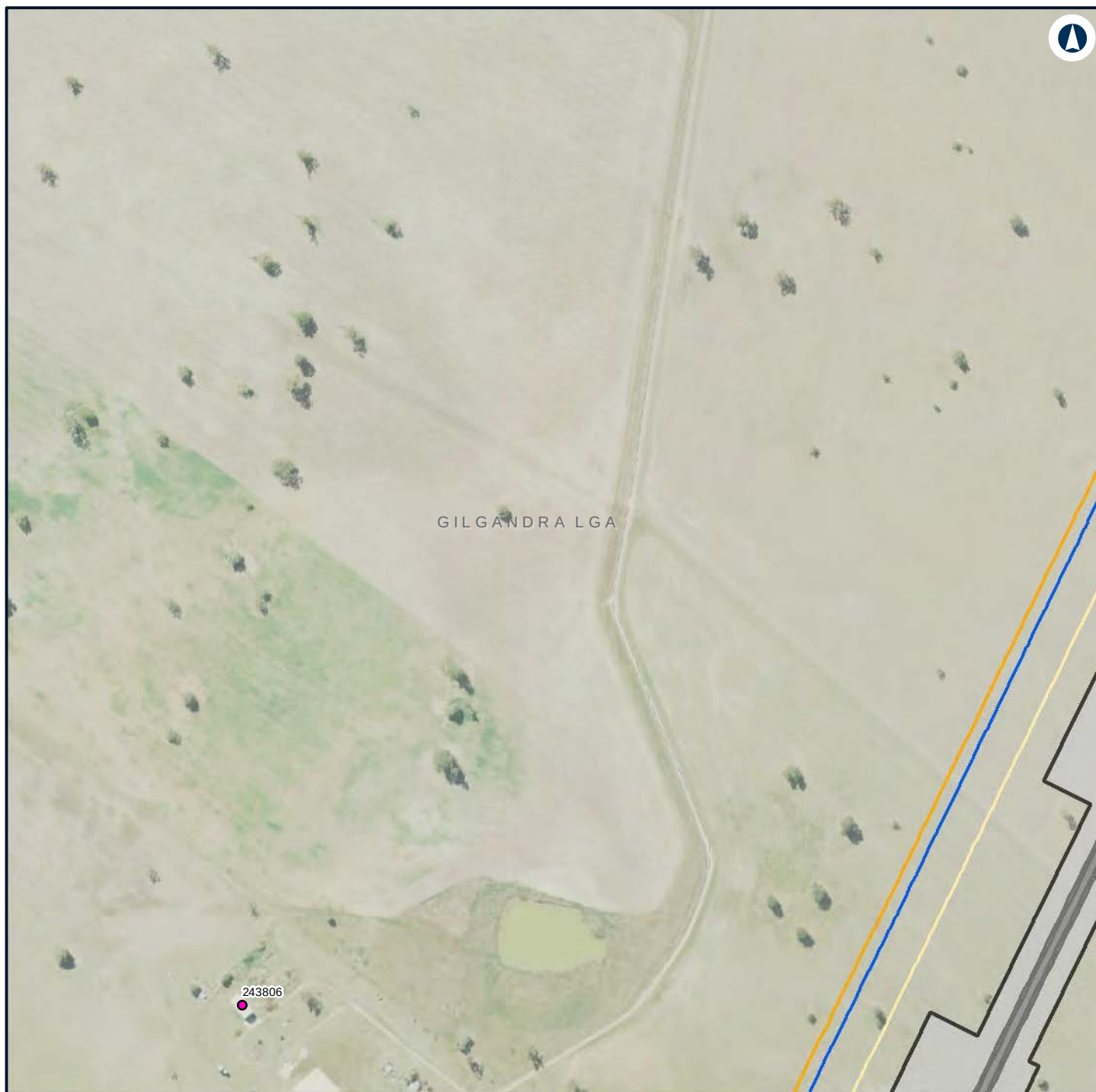
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

-  Construction footprint
-  Rail earthworks extent (propagation source)
-  BS 5228-2:2009 (1 mm/s, 140 m)

Structure type

-  Residential

Vibration from rail earthworks

-  AVTG day max (0.4 m/s 1.75, 128 m)
-  AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
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0 0.1 0.2
Km

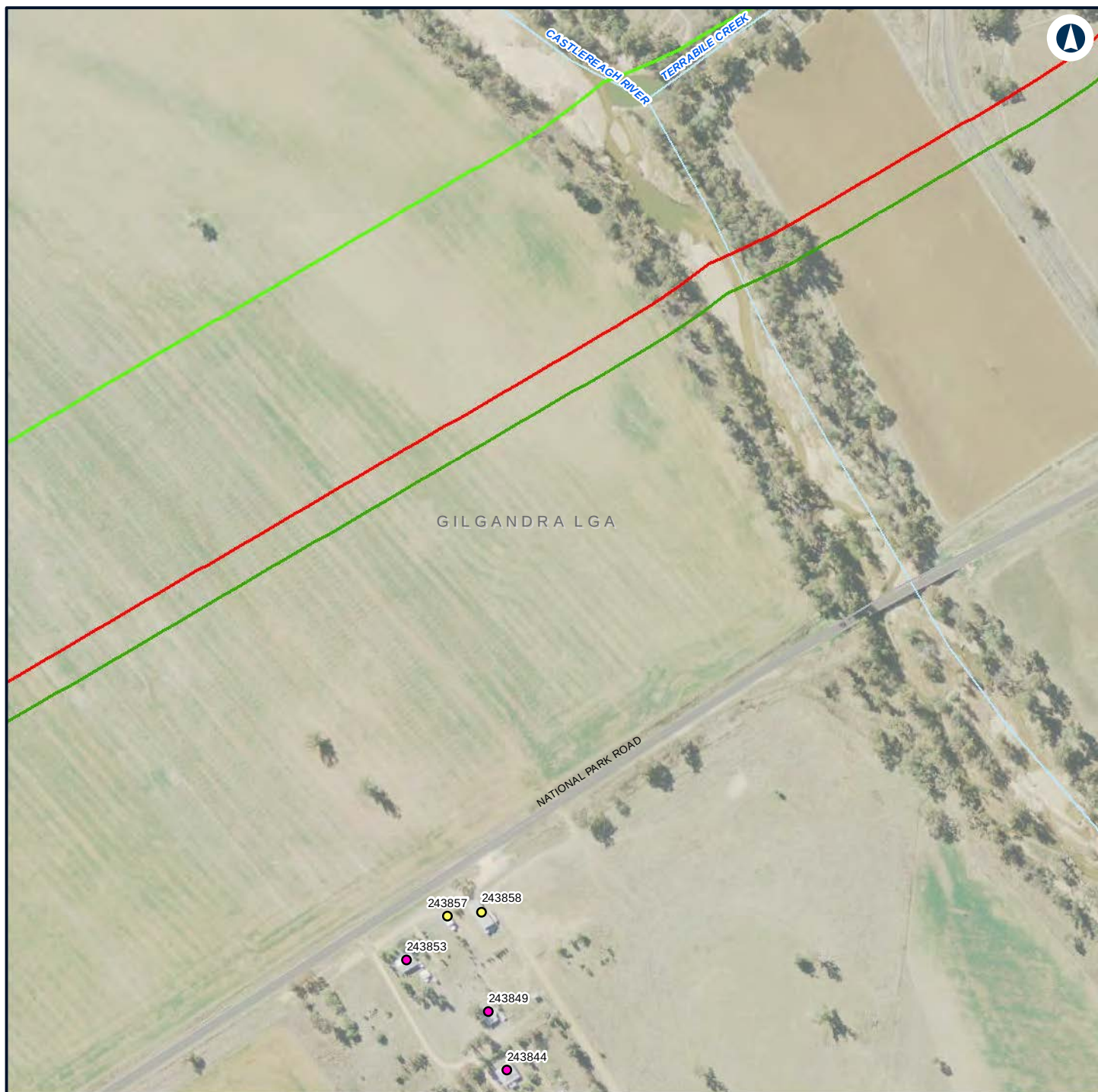
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Structure type

- Community
- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 43 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

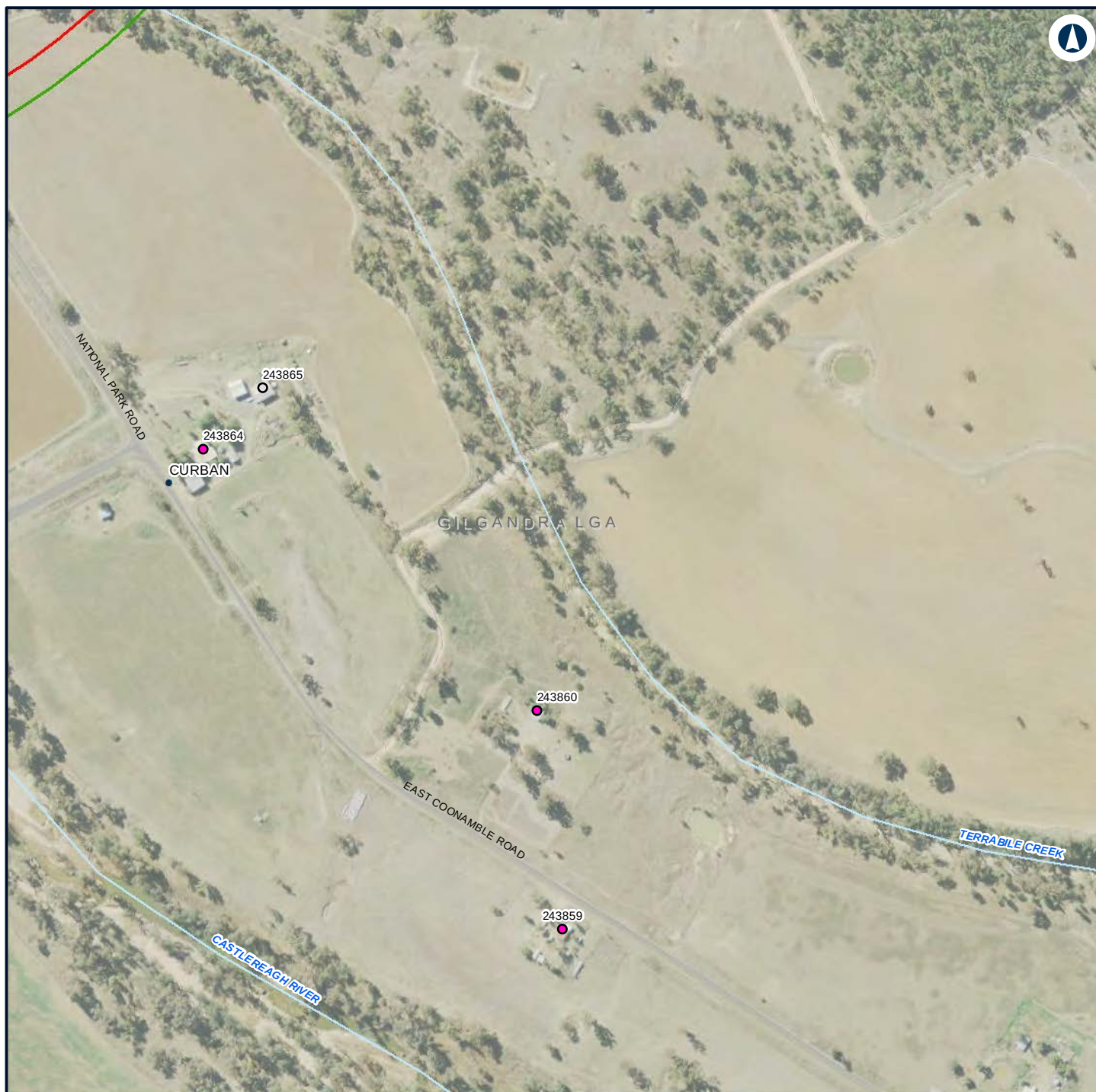
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Structure type

- Commercial/Industrial
- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 44 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

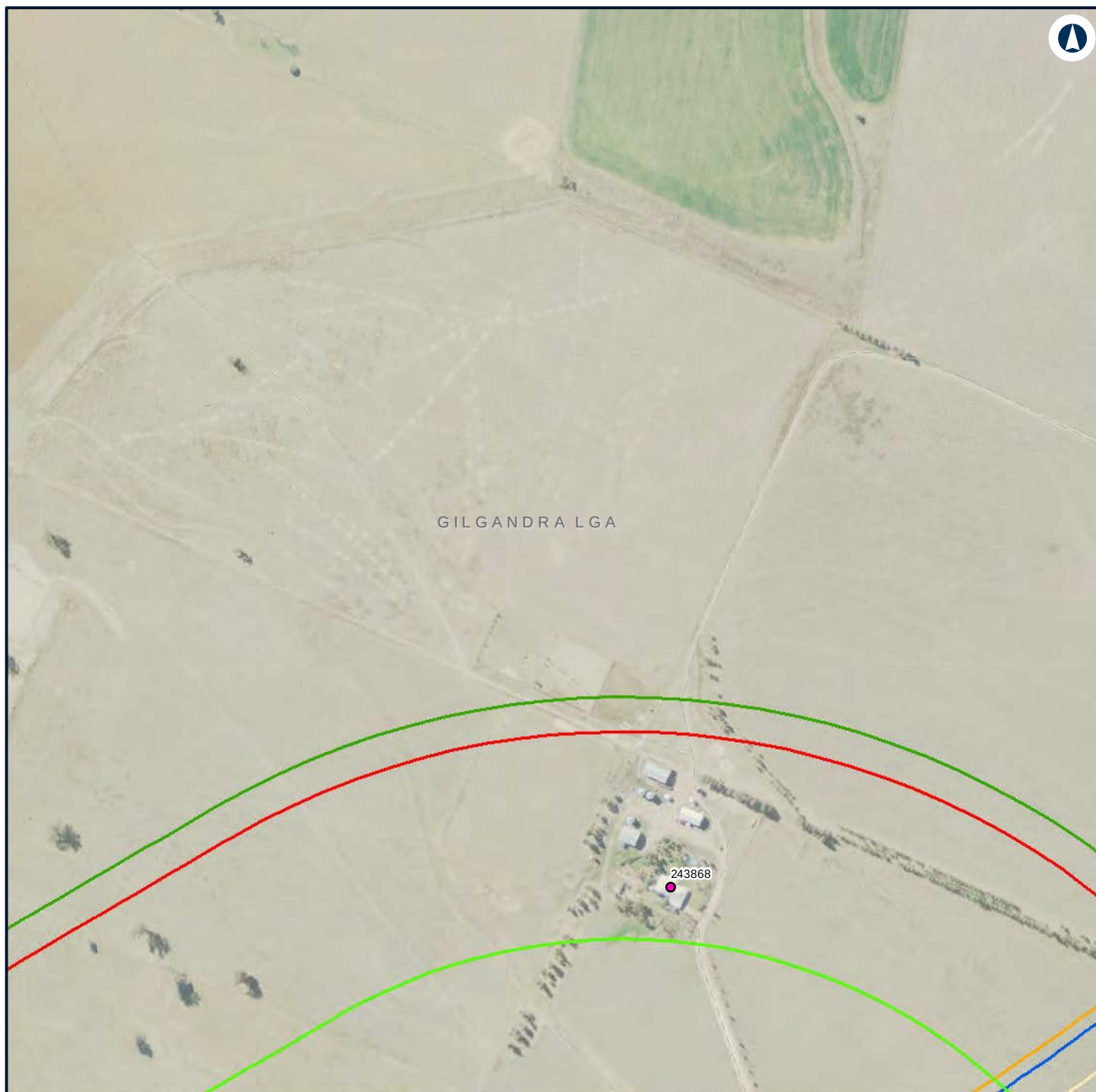
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 45 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

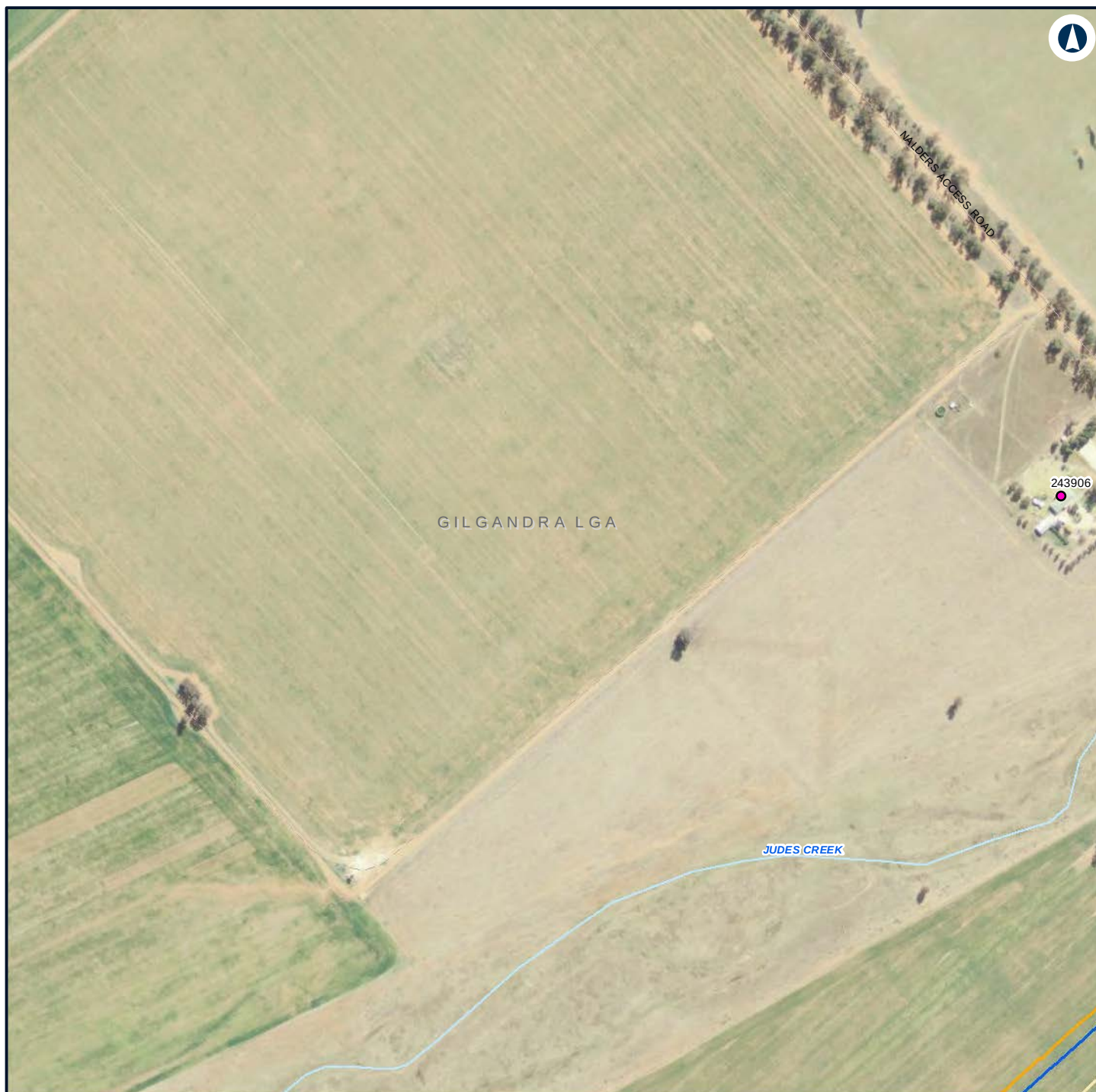
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Structure type

- Residential

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
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0 0.1 0.2
Km

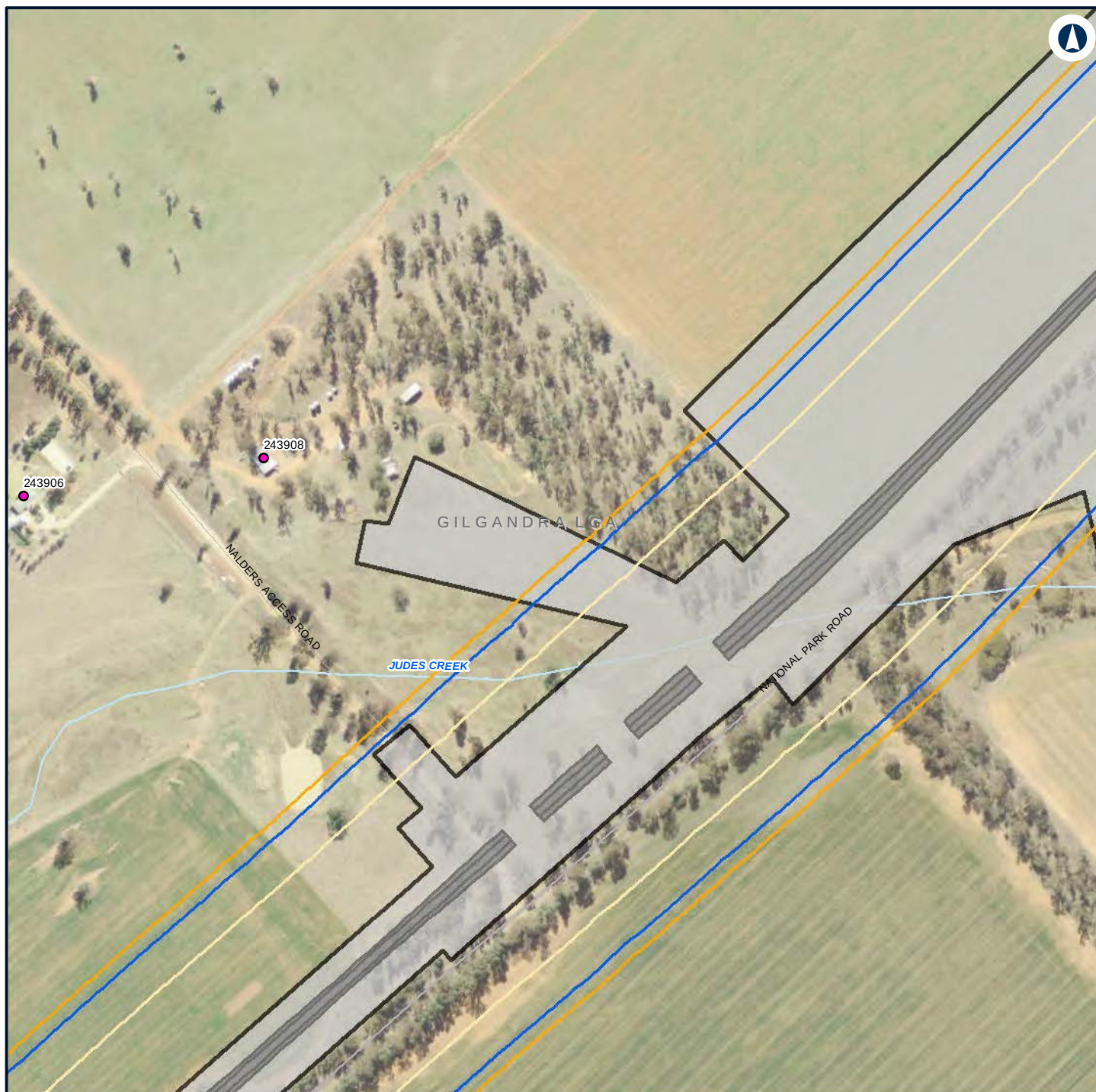
Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
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0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 48 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

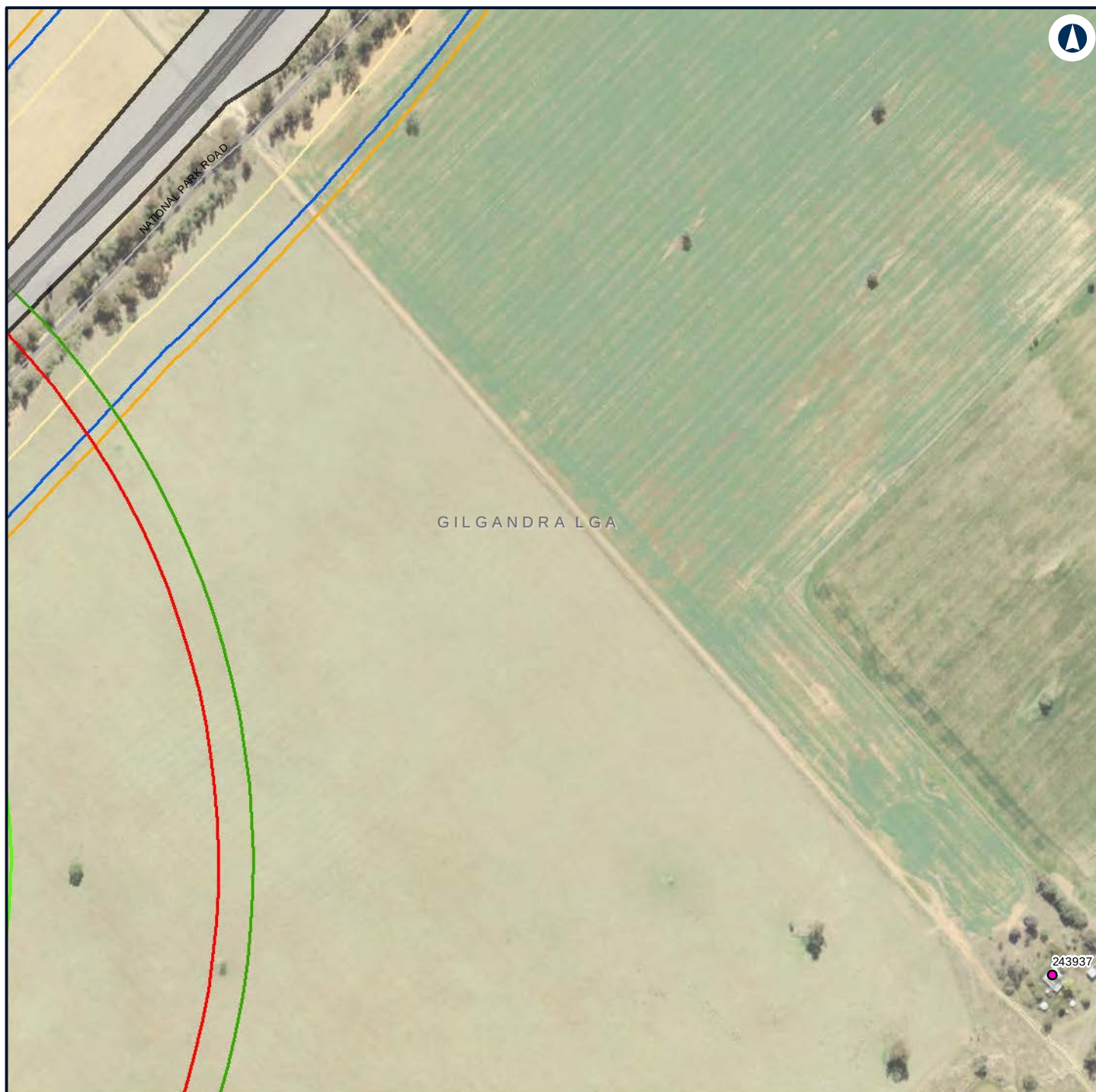
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
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0 0.1 0.2
Km

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LEGEND

- Construction footprint
- BS 5228-2:2009 (1 mm/s, 140 m)
- Rail earthworks extent (propagation source)
- Structure type**
- Residential
- Vibration from rail earthworks**
- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 50 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 51 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 52 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 53 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

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0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 55 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARRABRIE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 56 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 57 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

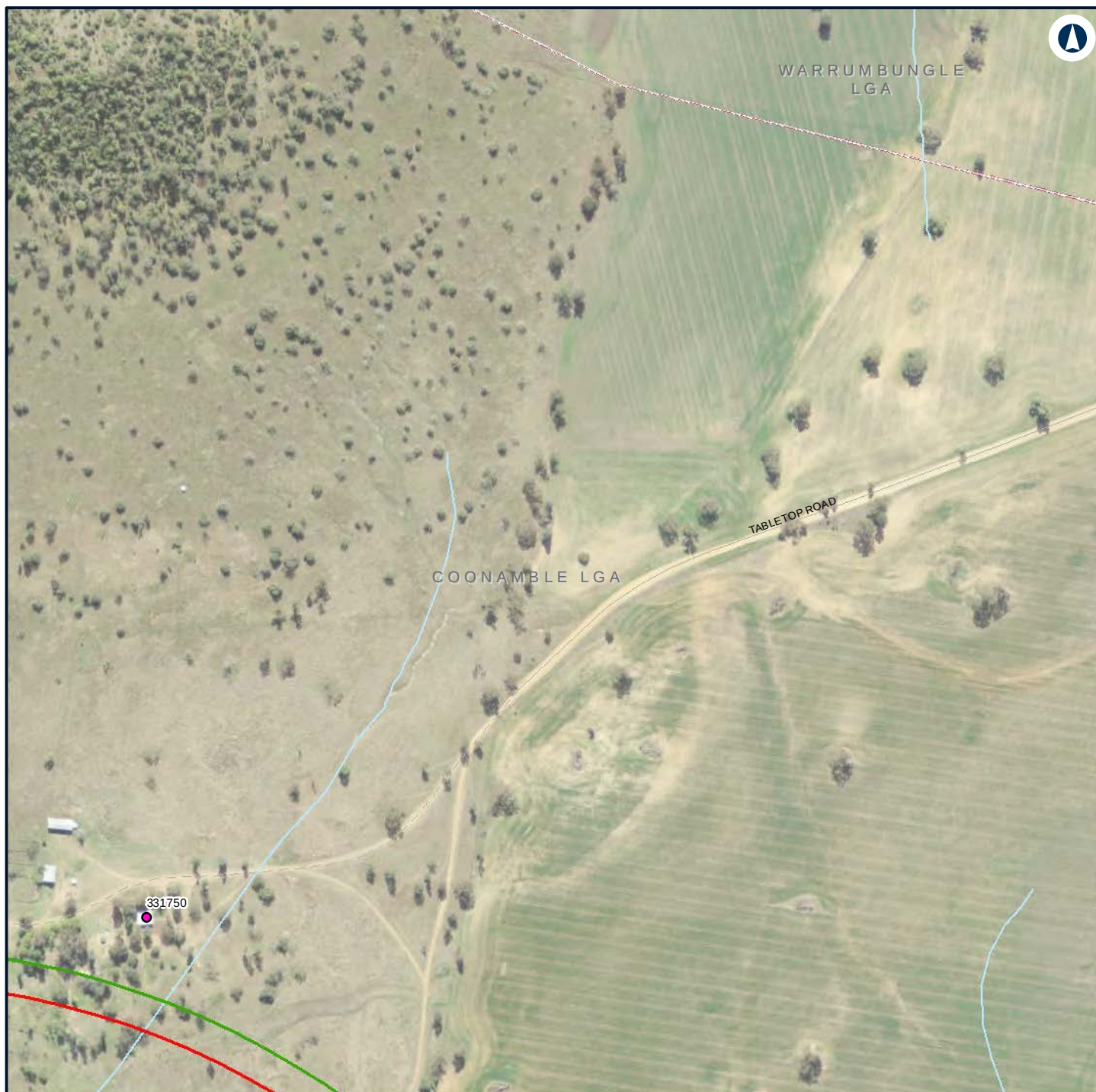
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s, 1.75, 670 m)

BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 58 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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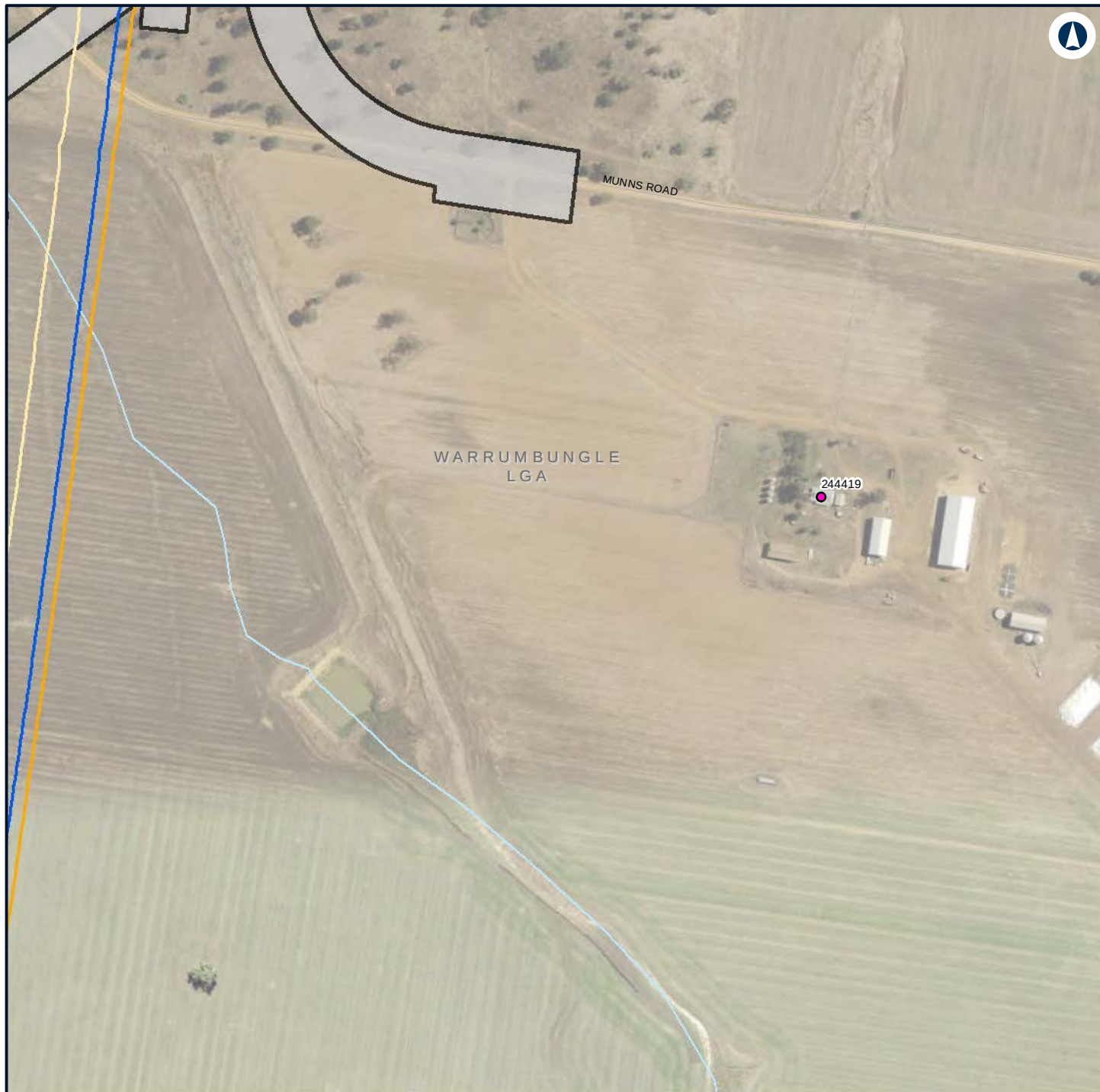
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 59 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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INLAND RAIL **ARTC**

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s, 1.75, 670 m)
- AVTG night max (0.26 m/s, 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 60 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

**INLAND
RAIL** **ARTC**

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 61 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

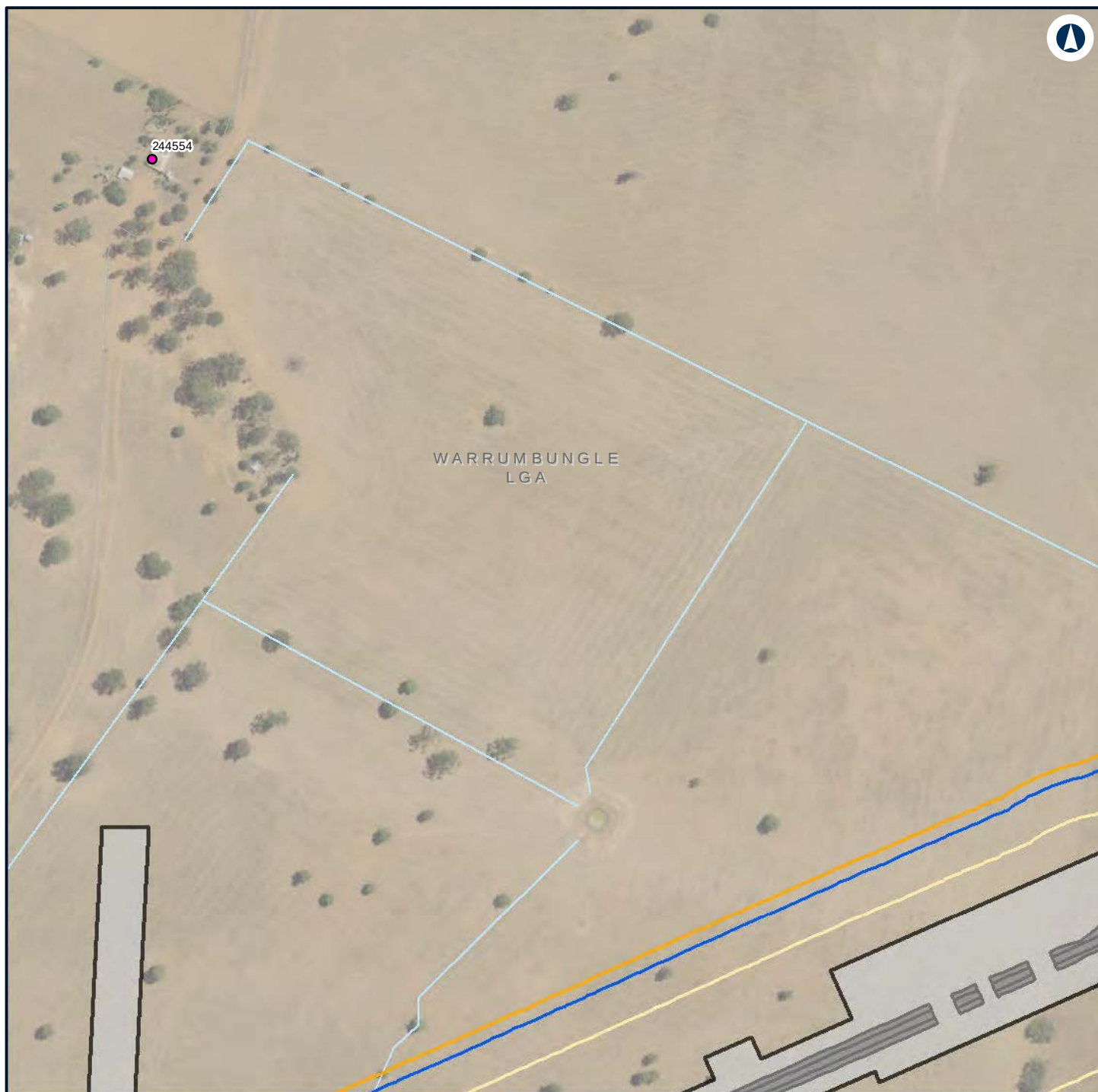
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 62 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

 Construction footprint

 Rail earthworks extent (propagation source)

Structure type

 Residential

Vibration from rail earthworks

 AVTG day max (0.4 m/s 1.75, 128 m)

 AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 63 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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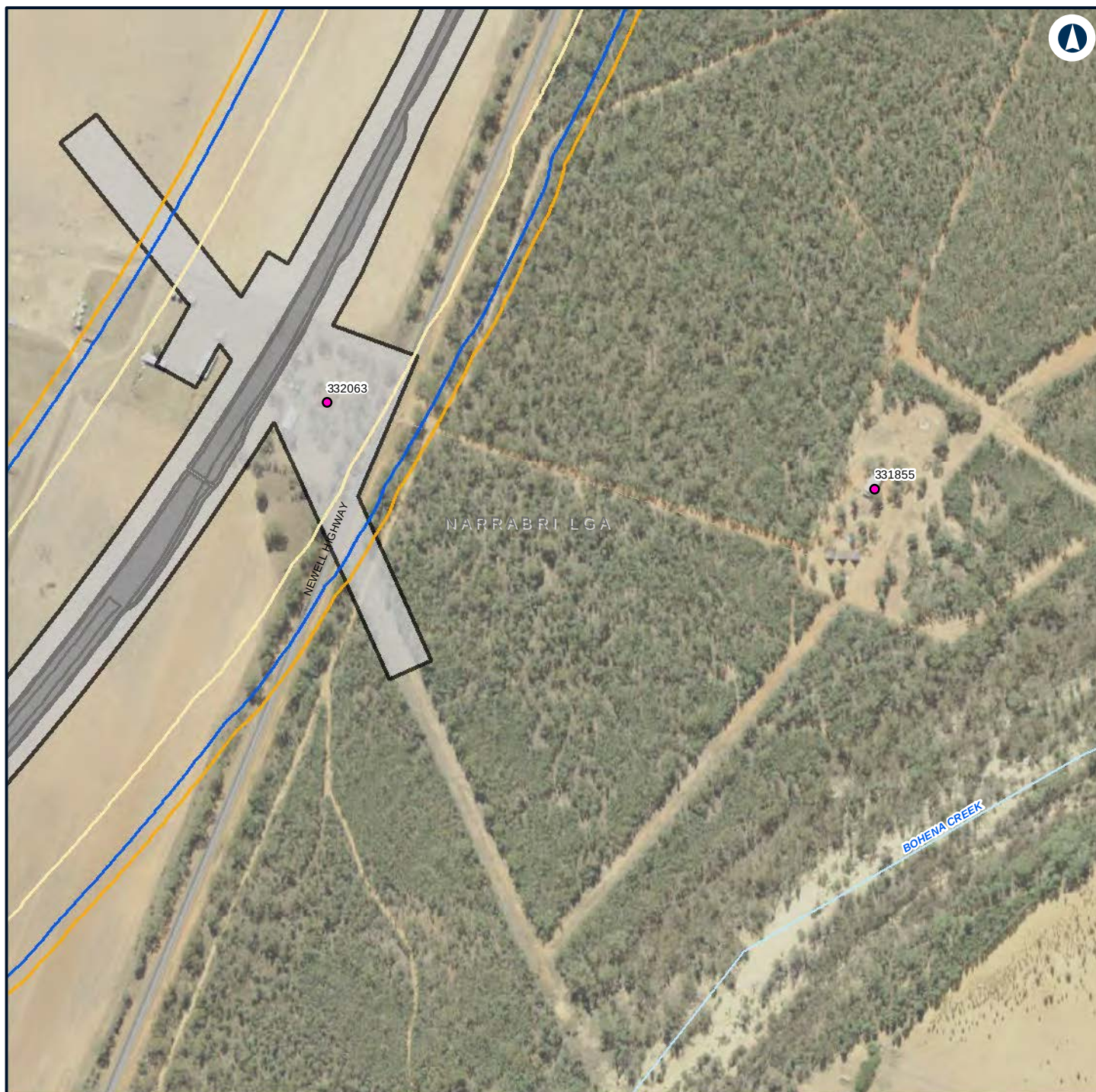
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 64 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)

- BS 5228-2:2009 (1 mm/s, 700 m)



NARRABRI TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 65 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Structure type

- Residential

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 66 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

 Construction footprint

 Rail earthworks extent (propagation source)

Structure type

 Residential

Vibration from rail earthworks

 AVTG day max (0.4 m/s 1.75, 128 m)

 AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 67 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

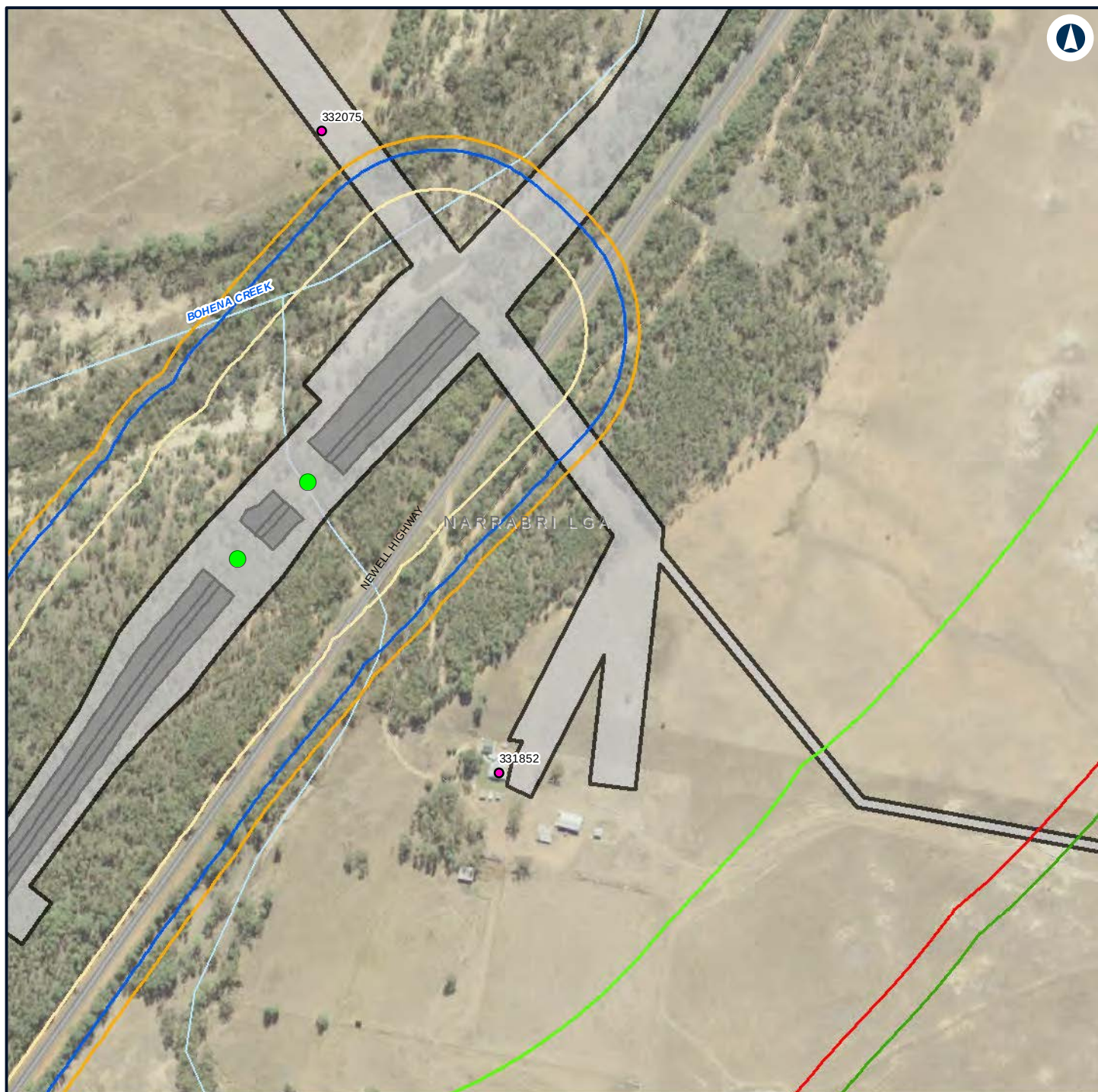
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre (propagation source)
- Construction footprint
- Rail earthworks extent (propagation source)
- Structure type**
- Residential
- Vibration from bridge construction (piling)**
- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)
- Vibration from rail earthworks**
- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 68 OF 94

0 0.1 0.2
Km

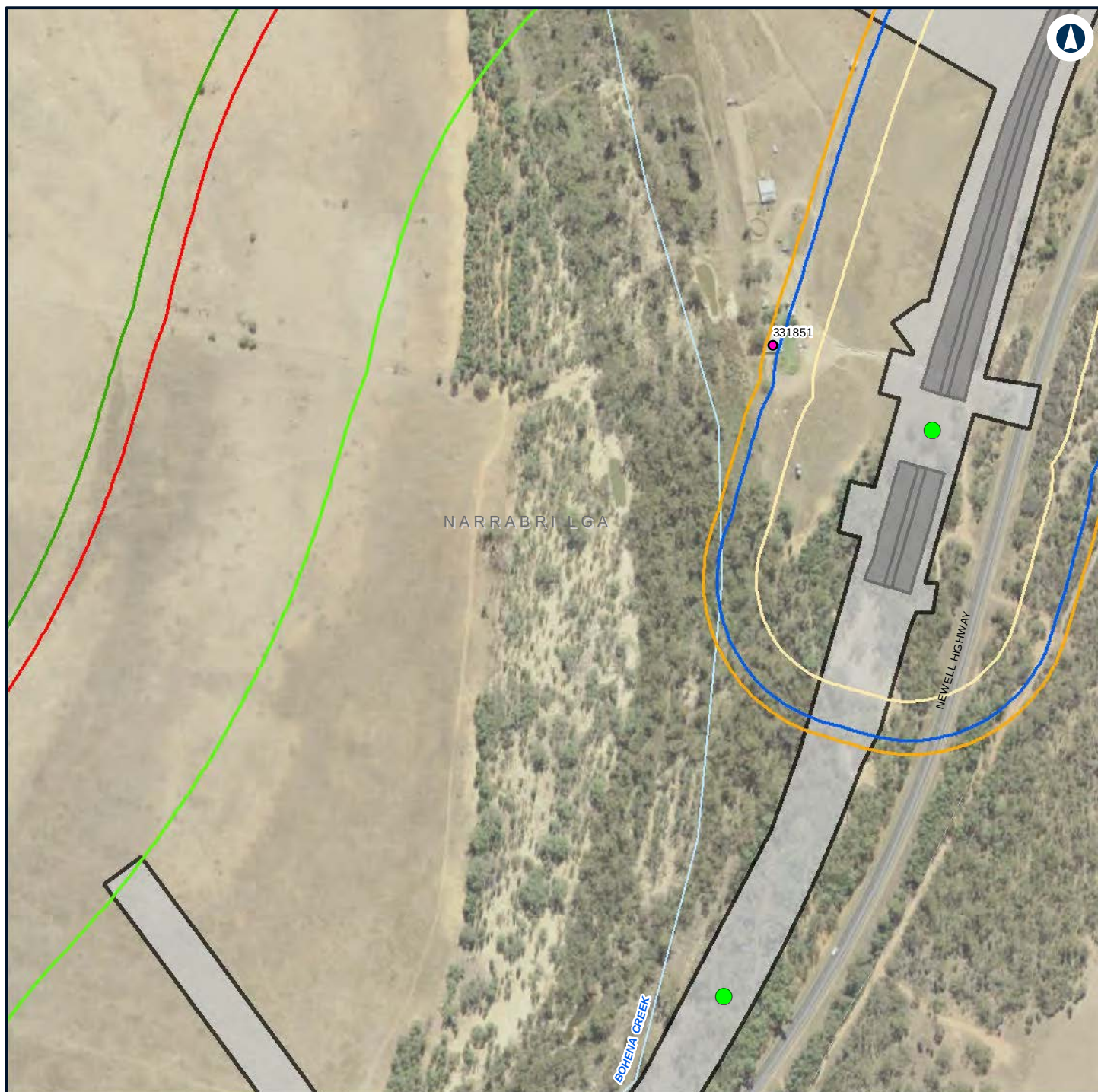
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LEGEND

- Bridge centre (propagation source)
- Construction footprint
- Rail earthworks extent (propagation source)
- Residential
- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)
- Vibration from rail earthworks**
 - AVTG day max (0.4 m/s 1.75, 128 m)
 - AVTG night max (0.26 m/s 1.75, 94 m)
 - BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 69 OF 94

0 0.1 0.2
Km

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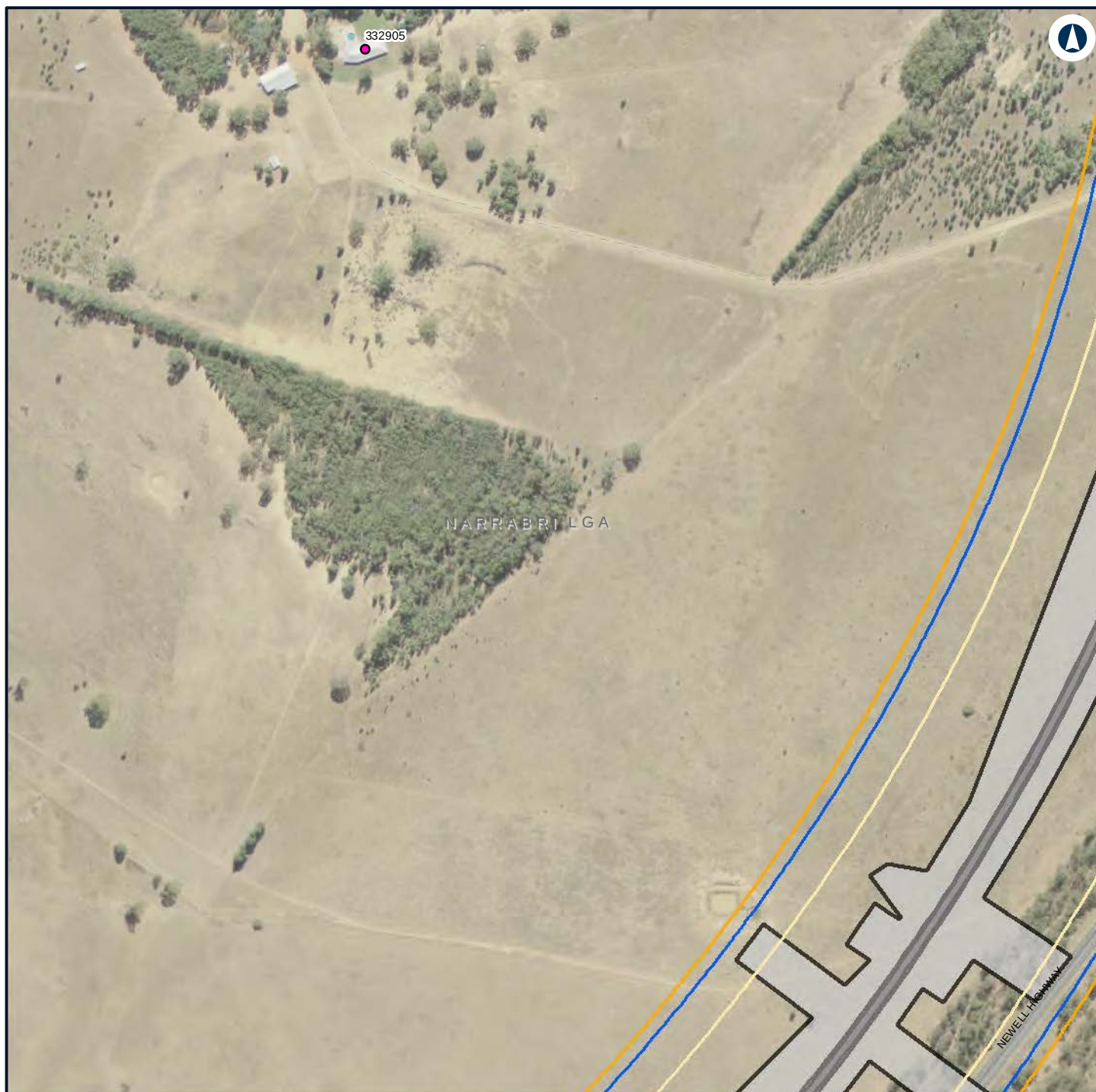
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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

 Construction footprint

 Rail earthworks extent (propagation source)

Structure type

 Residential

Vibration from rail earthworks

 AVTG day max (0.4 m/s 1.75, 128 m)

 AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 70 OF 94

0 0.1 0.2
Km

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 71 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

 Construction footprint

Structure type

 Residential

Vibration from rail earthworks

 AVTG day max (0.4 m/s 1.75, 128 m)

 AVTG night max (0.26 m/s 1.75, 94 m)

 BS 5228-2:2009 (1 mm/s, 140 m)



NARRABRI TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 72 OF 94

0 0.1 0.2
Km

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INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARRABRI TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 73 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent (propagation source)
- Structure type**
 - Commercial/Industrial
 - Residential
- Vibration from bridge construction (piling)**
 - AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)
- Vibration from rail earthworks**
 - AVTG day max (0.4 m/s 1.75, 128 m)
 - AVTG night max (0.26 m/s 1.75, 94 m)
 - BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 74 OF 94

0 0.1 0.2
Km

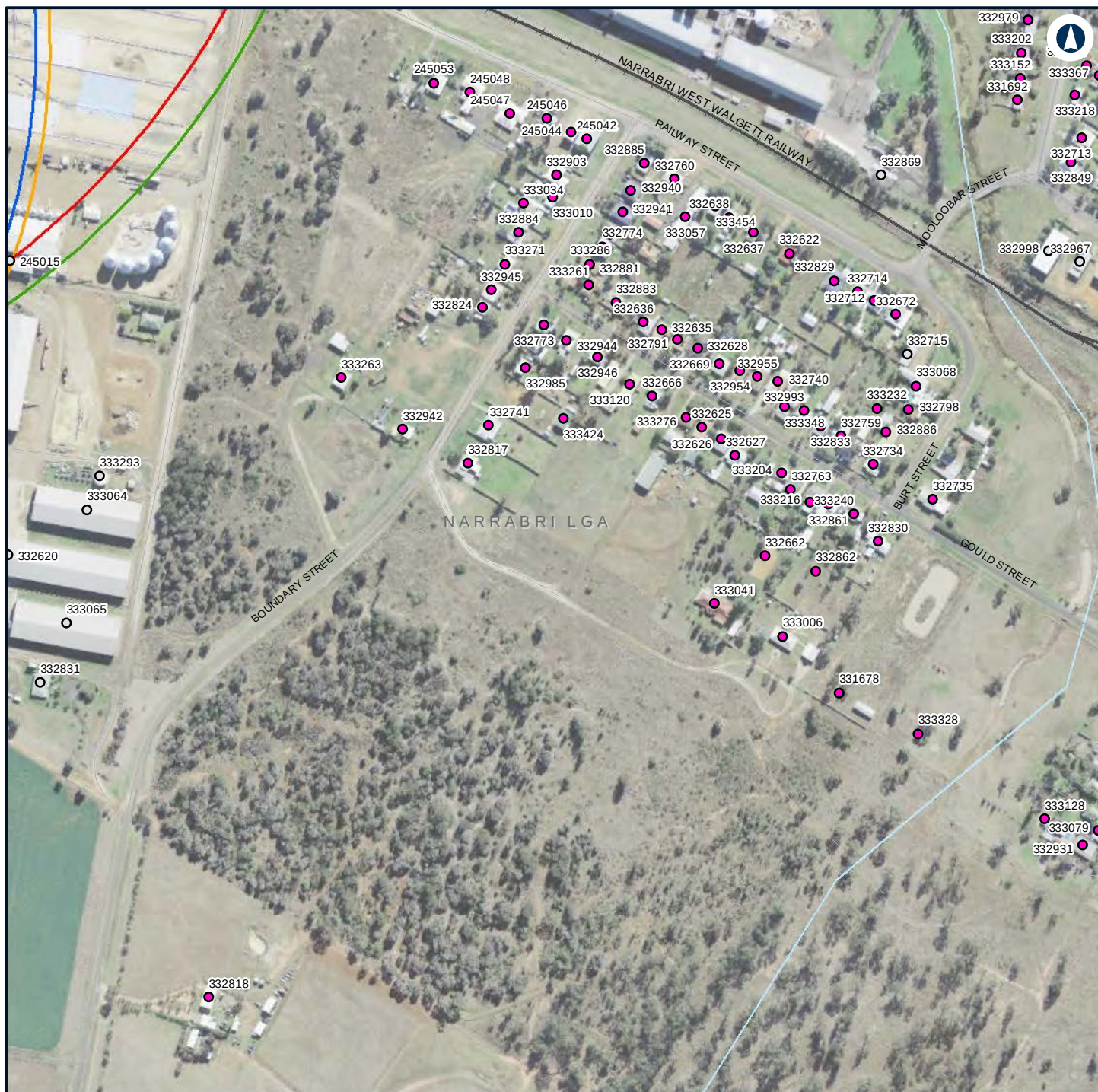
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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

Structure type

- Commercial/Industrial
- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARRABRI TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 75 OF 94

0 0.1 0.2
Km

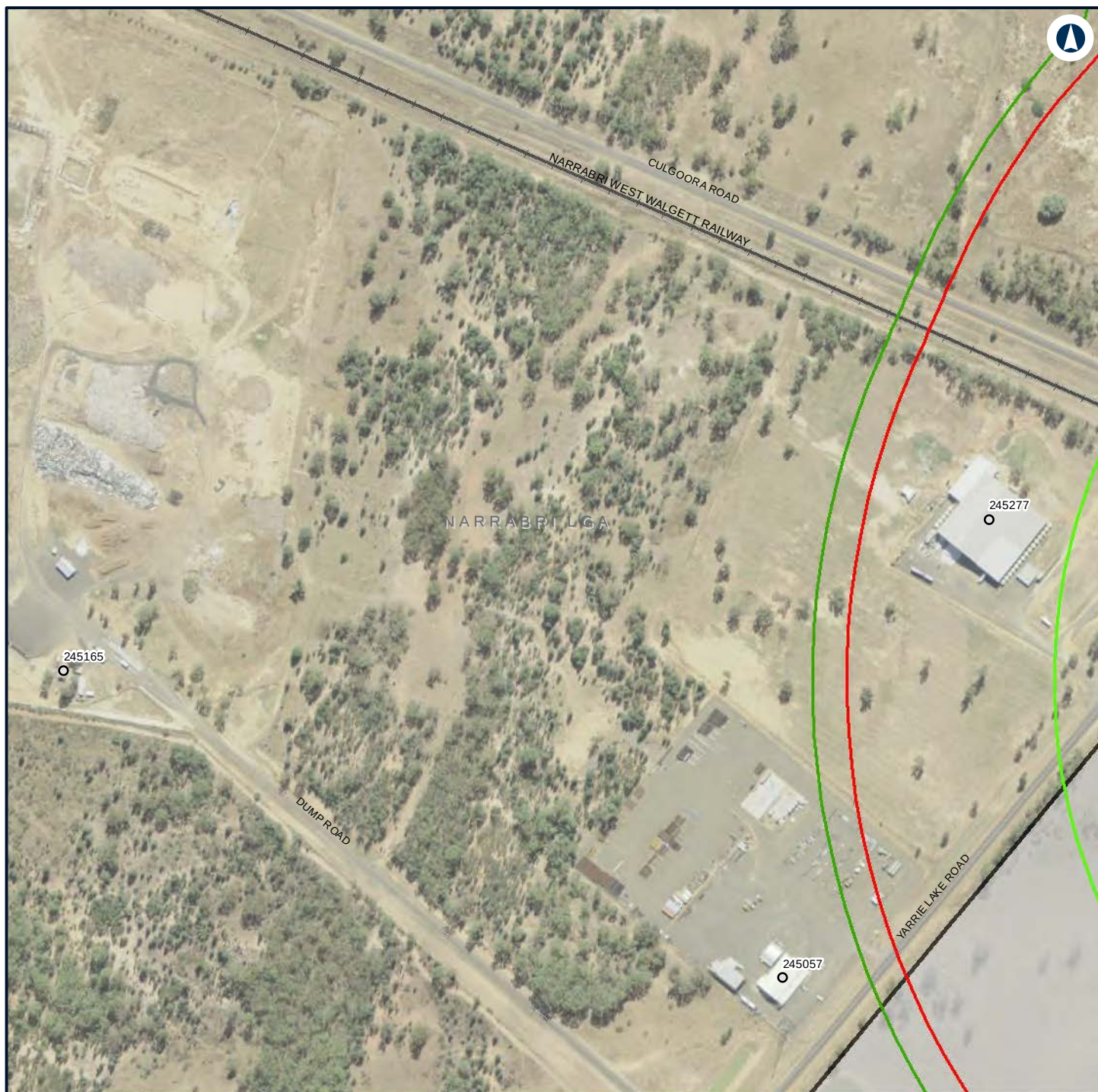
Coordinate System: GDA 1994 MGA Zone 55

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INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Structure type

Commercial/Industrial

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 76 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre (propagation source)
- Construction footprint
- Rail earthworks extent (propagation source)
- Structure type**
- Commercial/Industrial
- Residential

- Vibration from bridge construction (piling)**
- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)
- Vibration from rail earthworks**
- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)



NARRABRI TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 77 OF 94

0 0.1 0.2
Km

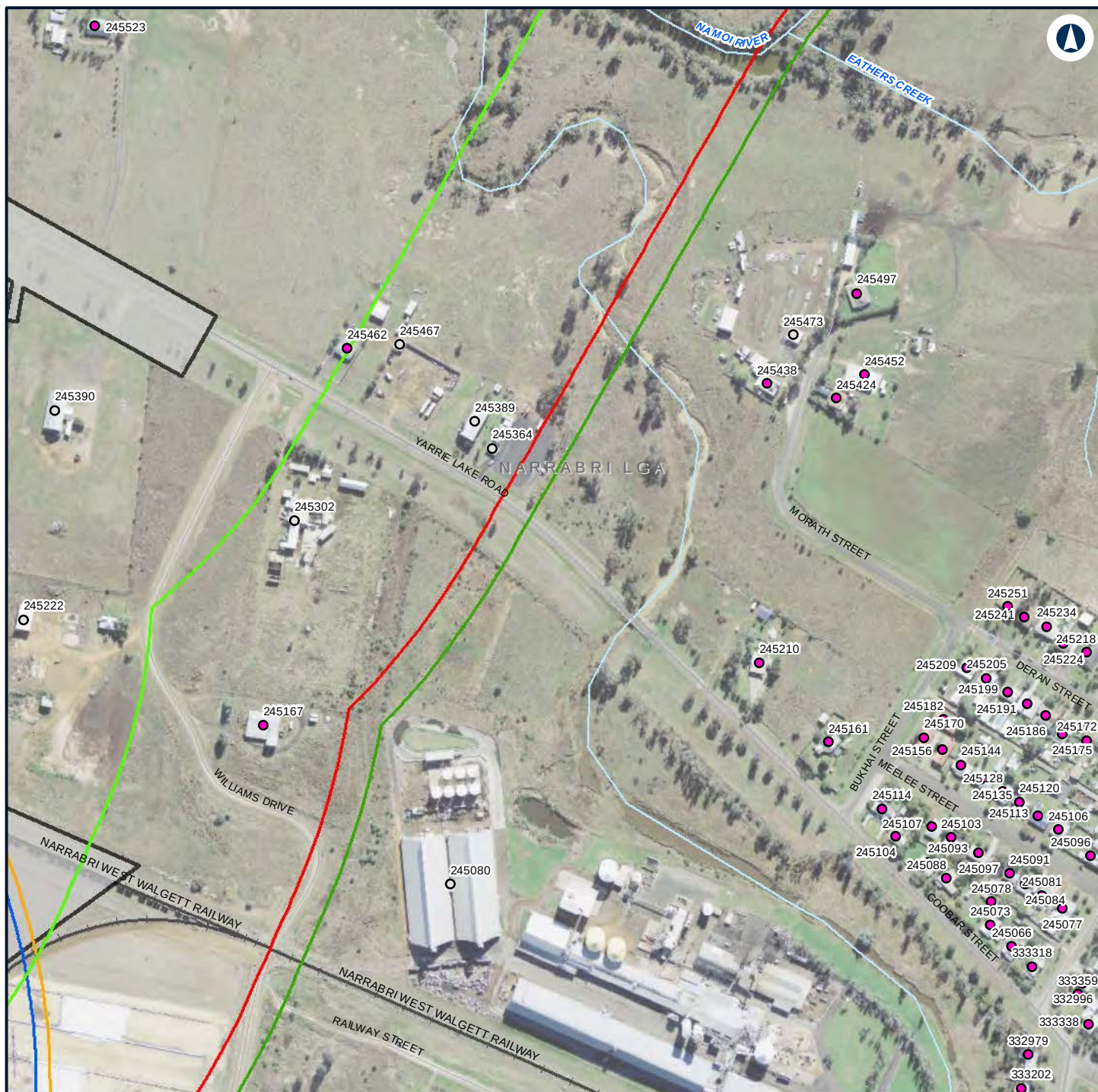
Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint

Structure type

- Commercial/Industrial
- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARRABRI TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 78 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Structure type

- Commercial/Industrial
- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 79 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

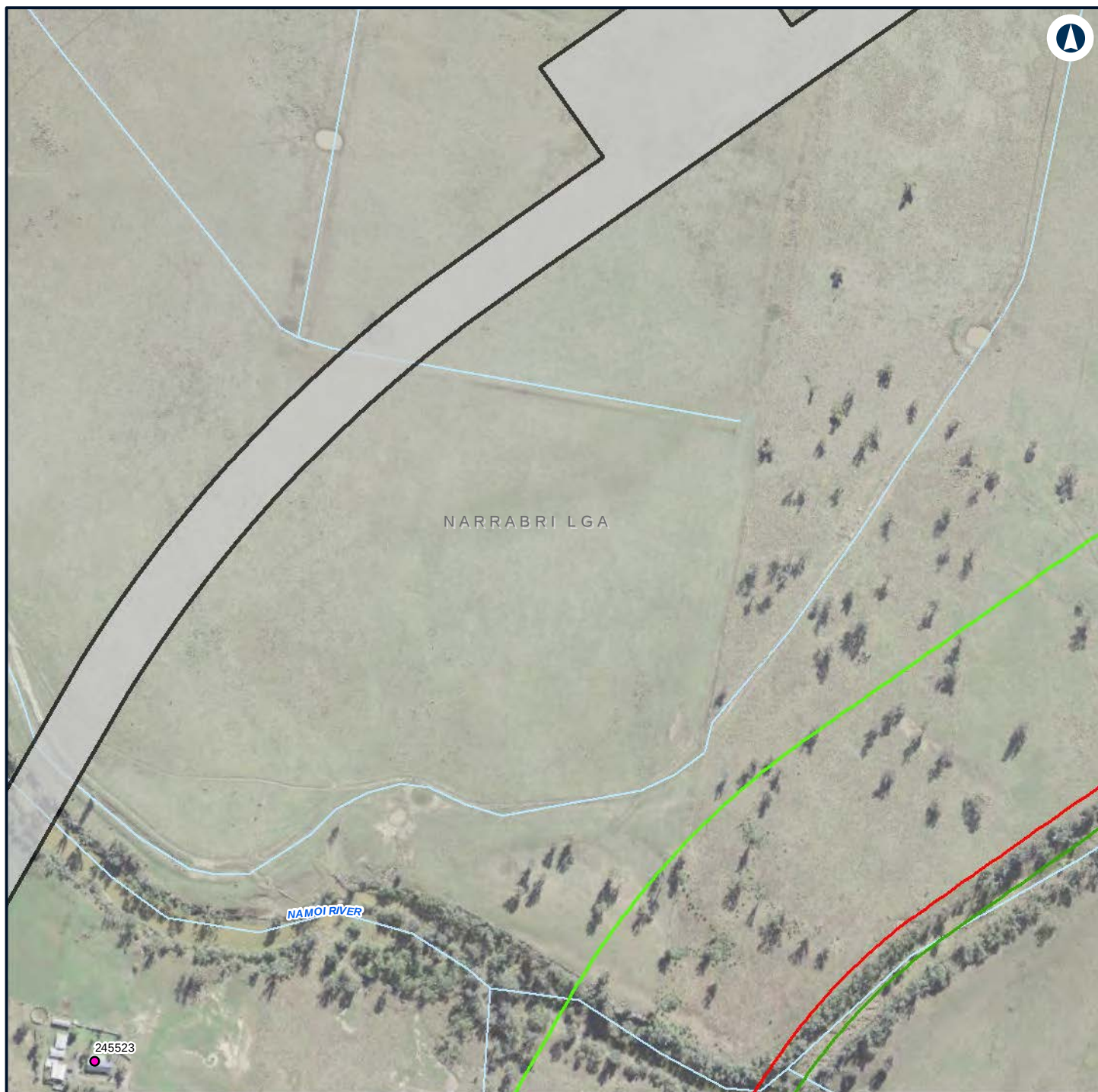
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 80 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

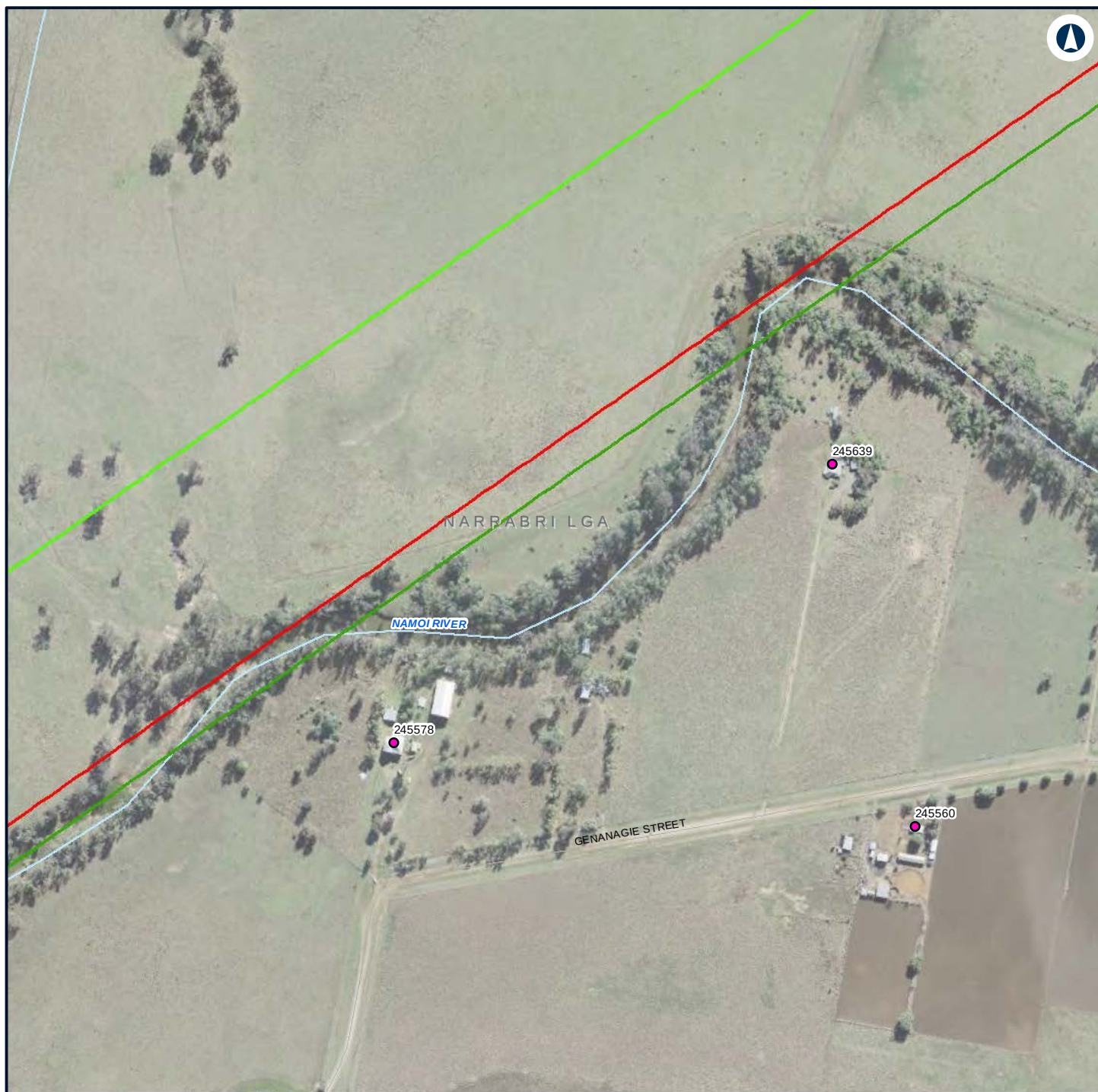
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 81 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 82 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 83 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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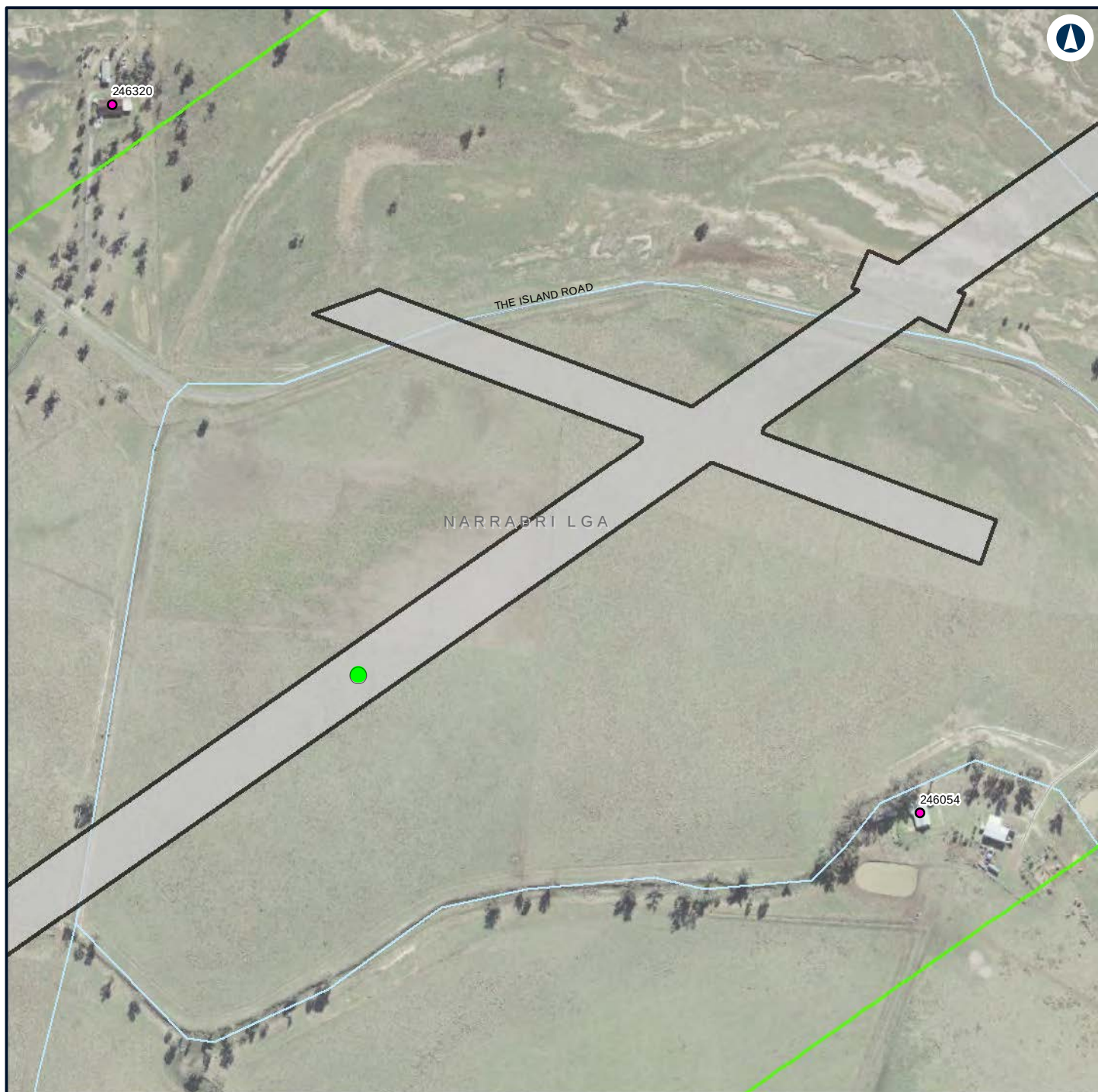
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre (propagation source)
- BS 5228-2:2009 (1 mm/s, 700 m)
- Construction footprint
- Structure type**
- Residential
- Vibration from bridge construction (piling)**
- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 84 OF 94

0 0.1 0.2
Km

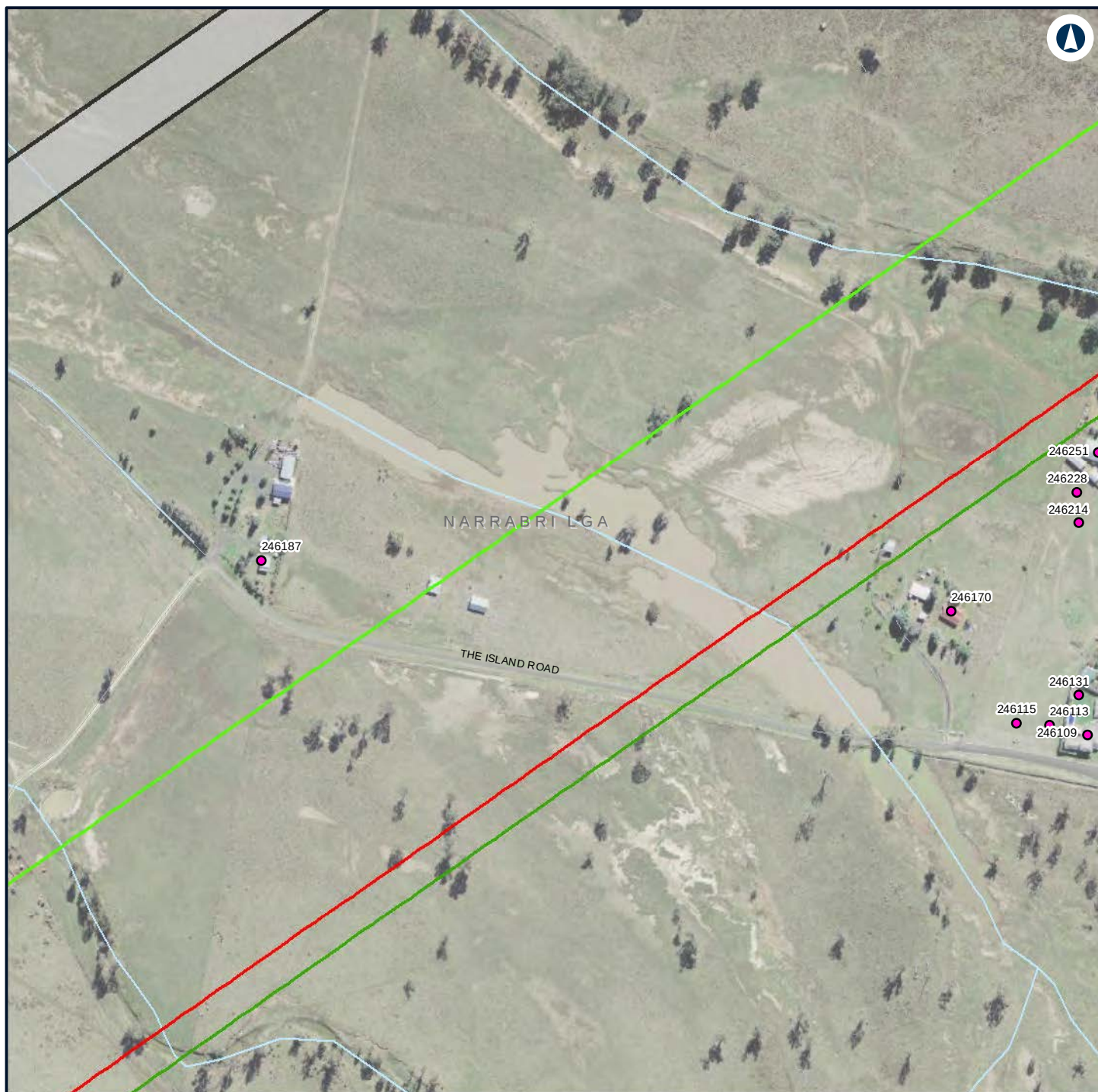
Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint

Structure type

Residential

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 85 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

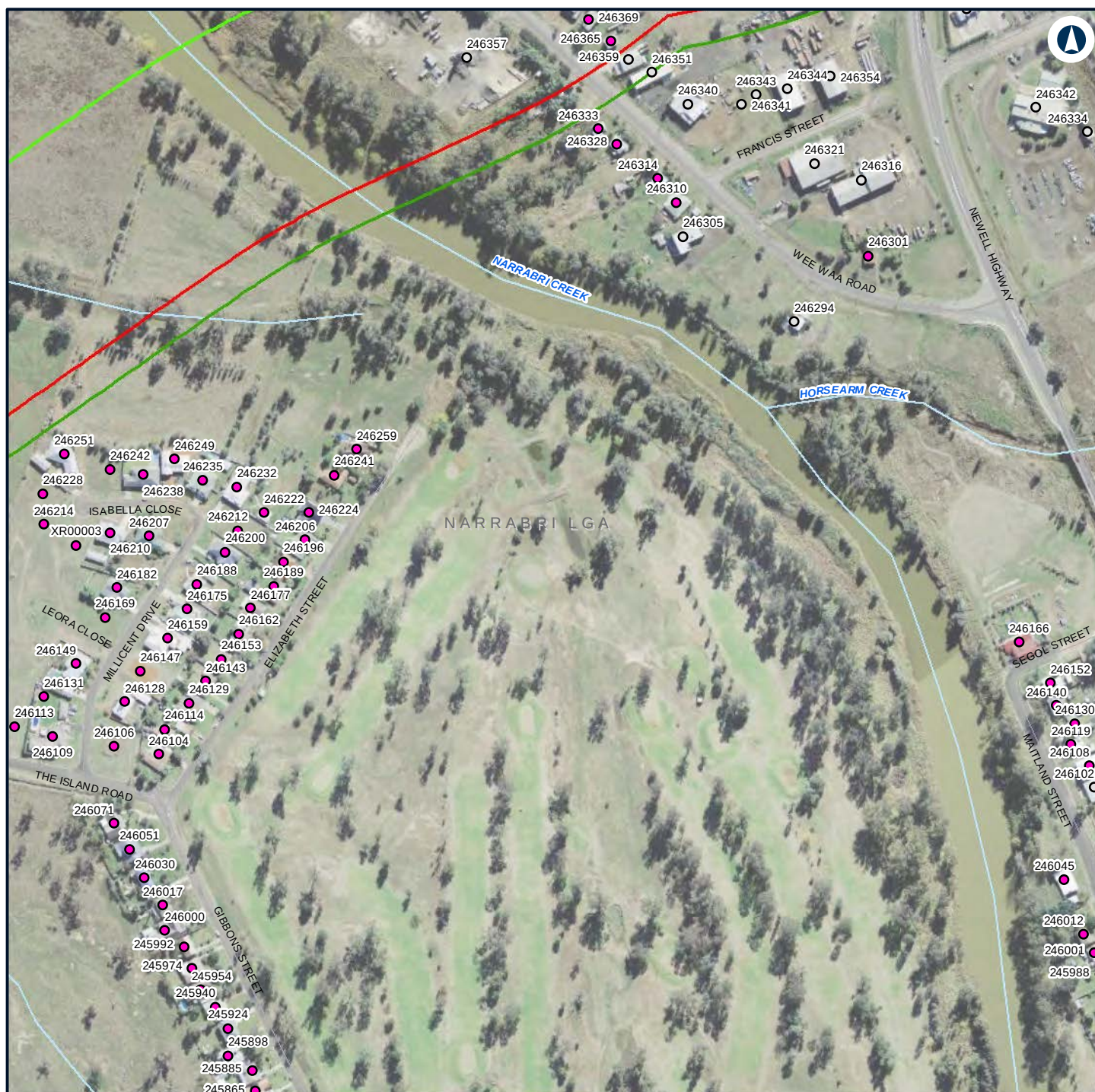
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Structure type

- Commercial/Industrial
- Residential

Vibration from bridge construction (piling)

- Red line: AVTG day max (0.4 m/s 1.75, 670 m)
- Green line: AVTG night max (0.26 m/s 1.75, 490 m)
- Blue line: BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 86 OF 94

0 0.1 0.2
Km

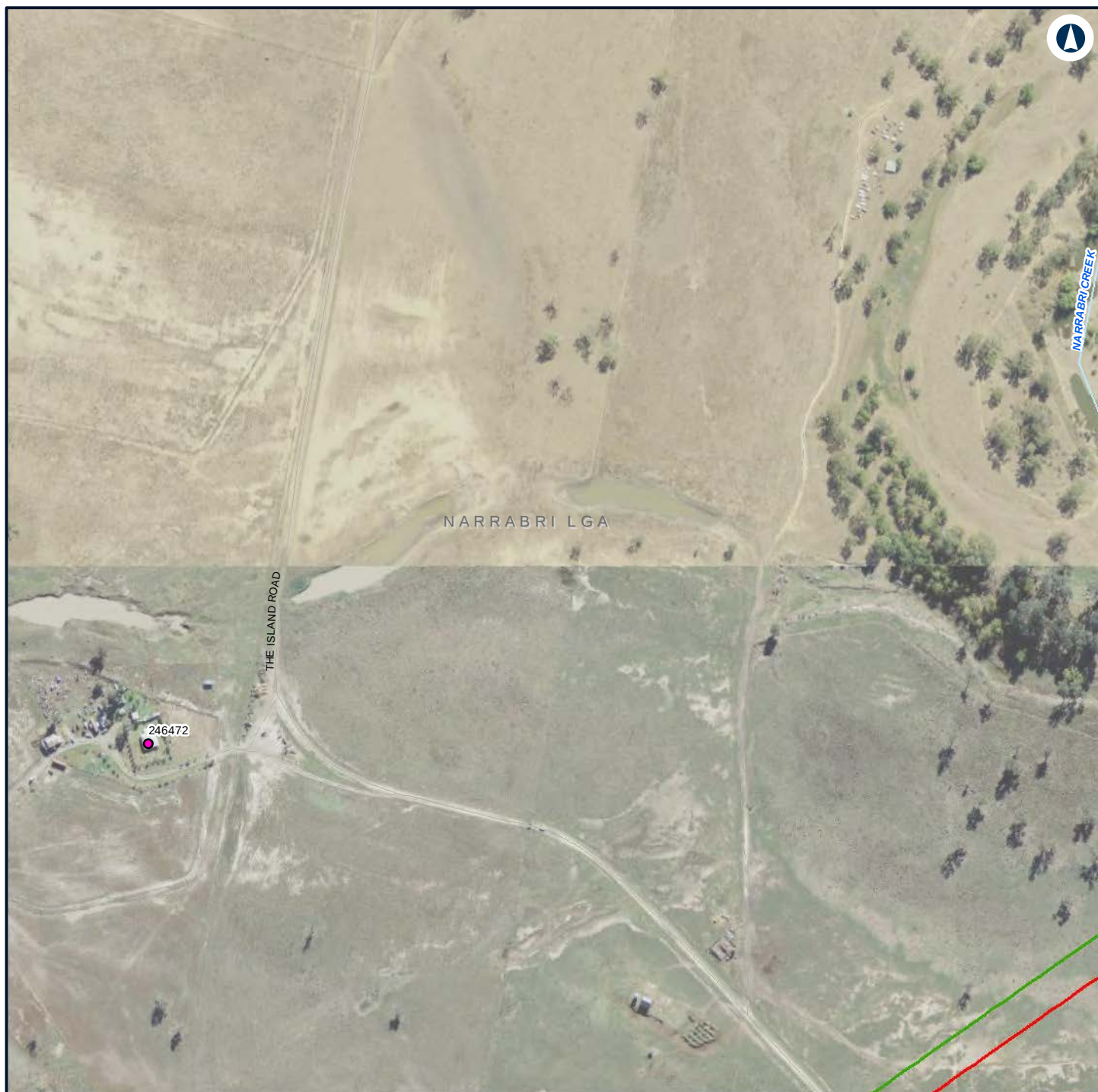
Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)

- BS 5228-2:2009 (1 mm/s, 700 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 87 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

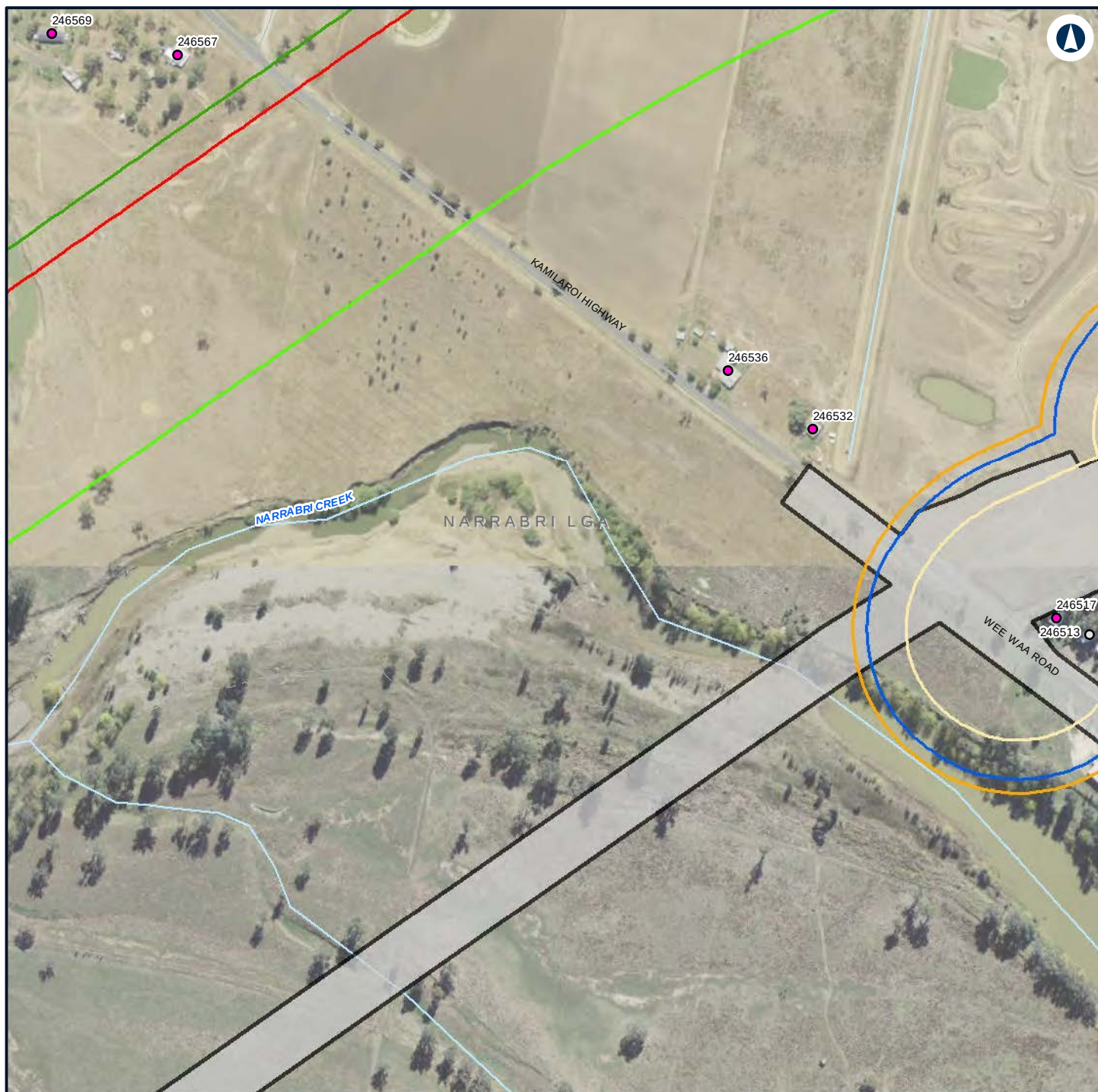
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint

Structure type

- Commercial/Industrial
- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 88 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

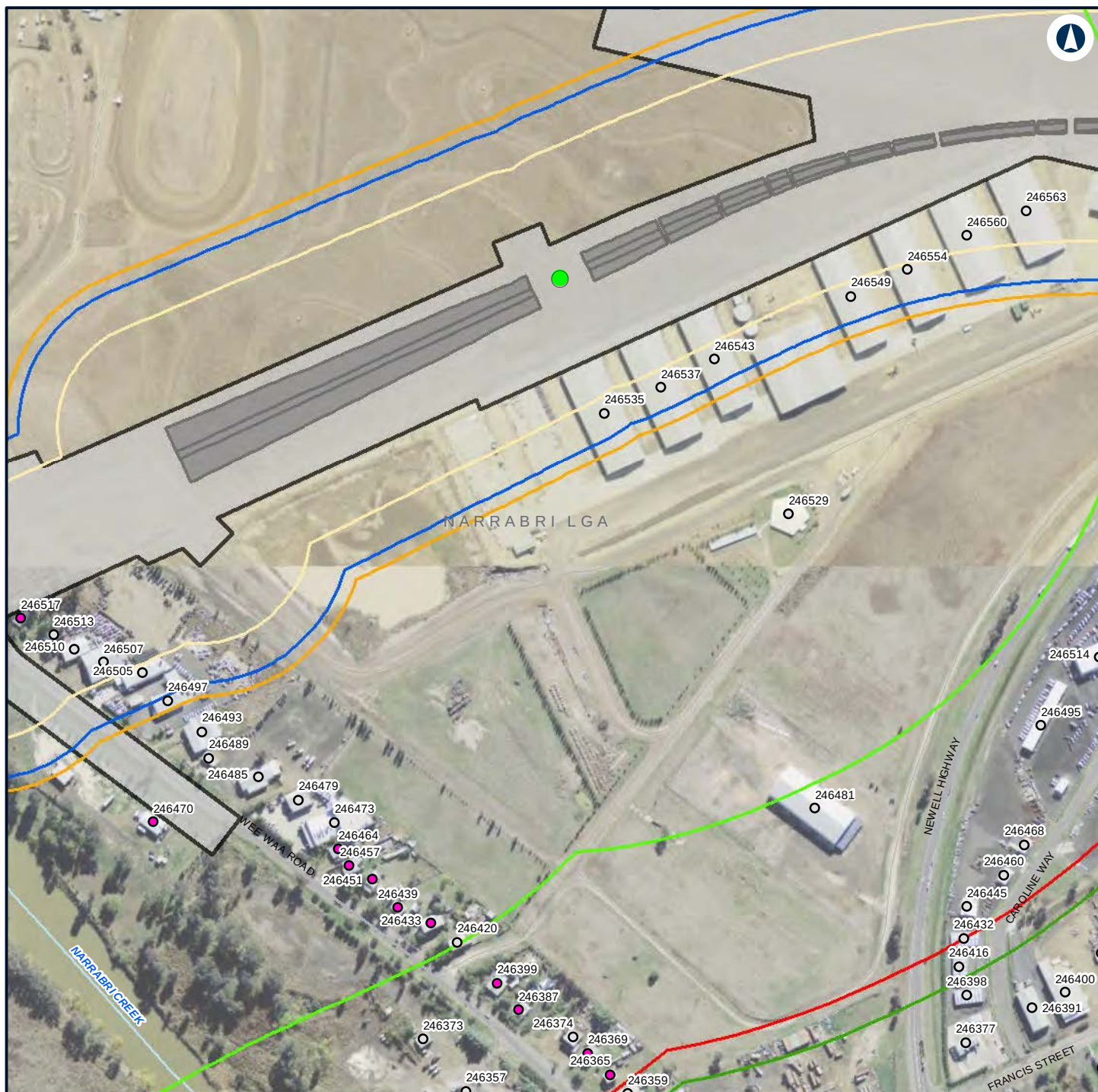
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre (propagation source)
- Construction footprint
- Rail earthworks extent (propagation source)
- Structure type**
 - Commercial/Industrial
 - Residential
- Vibration from bridge construction (piling)**
 - AVTG day max (0.4 m/s 1.75, 670 m)
 - AVTG night max (0.26 m/s 1.75, 490 m)
 - BS 5228-2:2009 (1 mm/s, 700 m)
- Vibration from rail earthworks**
 - AVTG day max (0.4 m/s 1.75, 128 m)
 - AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 89 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Commercial/Industrial

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 90 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

Structure type

- Residential

Vibration from bridge construction (piling)

- AVTG day max (0.4 m/s 1.75, 670 m)
- AVTG night max (0.26 m/s 1.75, 490 m)
- BS 5228-2:2009 (1 mm/s, 700 m)



NARRABRI TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 91 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

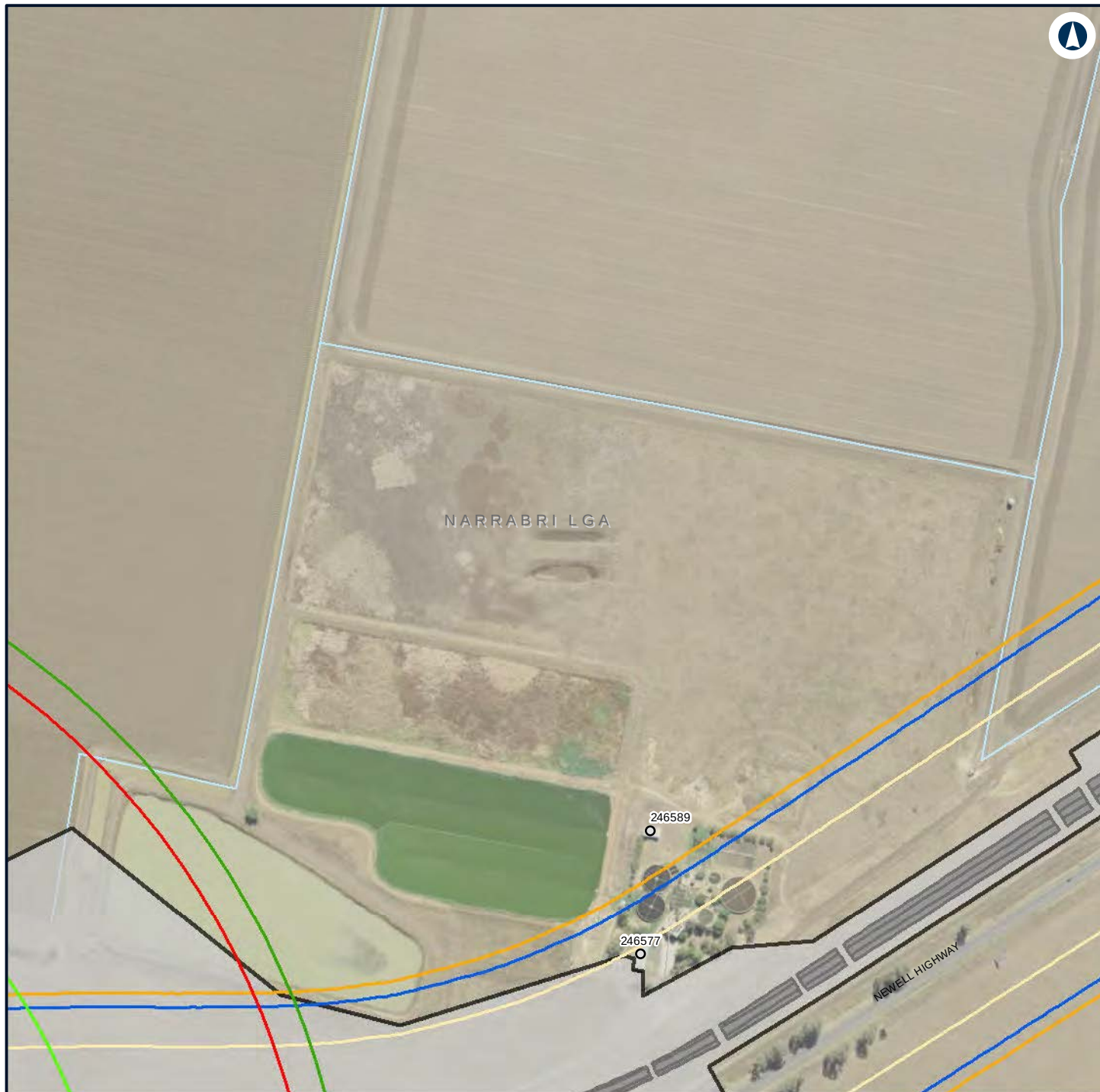
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

Construction footprint

Rail earthworks extent (propagation source)

Structure type

Commercial/Industrial

Vibration from bridge construction (piling)

AVTG day max (0.4 m/s 1.75, 670 m)

AVTG night max (0.26 m/s 1.75, 490 m)

BS 5228-2:2009 (1 mm/s, 700 m)

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)

BS 5228-2:2009 (1 mm/s, 140 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
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0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

Construction footprint BS 5228-2:2009 (1 mm/s, 140 m)

Rail earthworks extent (propagation source)

Structure type

Residential

Vibration from rail earthworks

AVTG day max (0.4 m/s 1.75, 128 m)

AVTG night max (0.26 m/s 1.75, 94 m)



NARROMINE TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 93 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

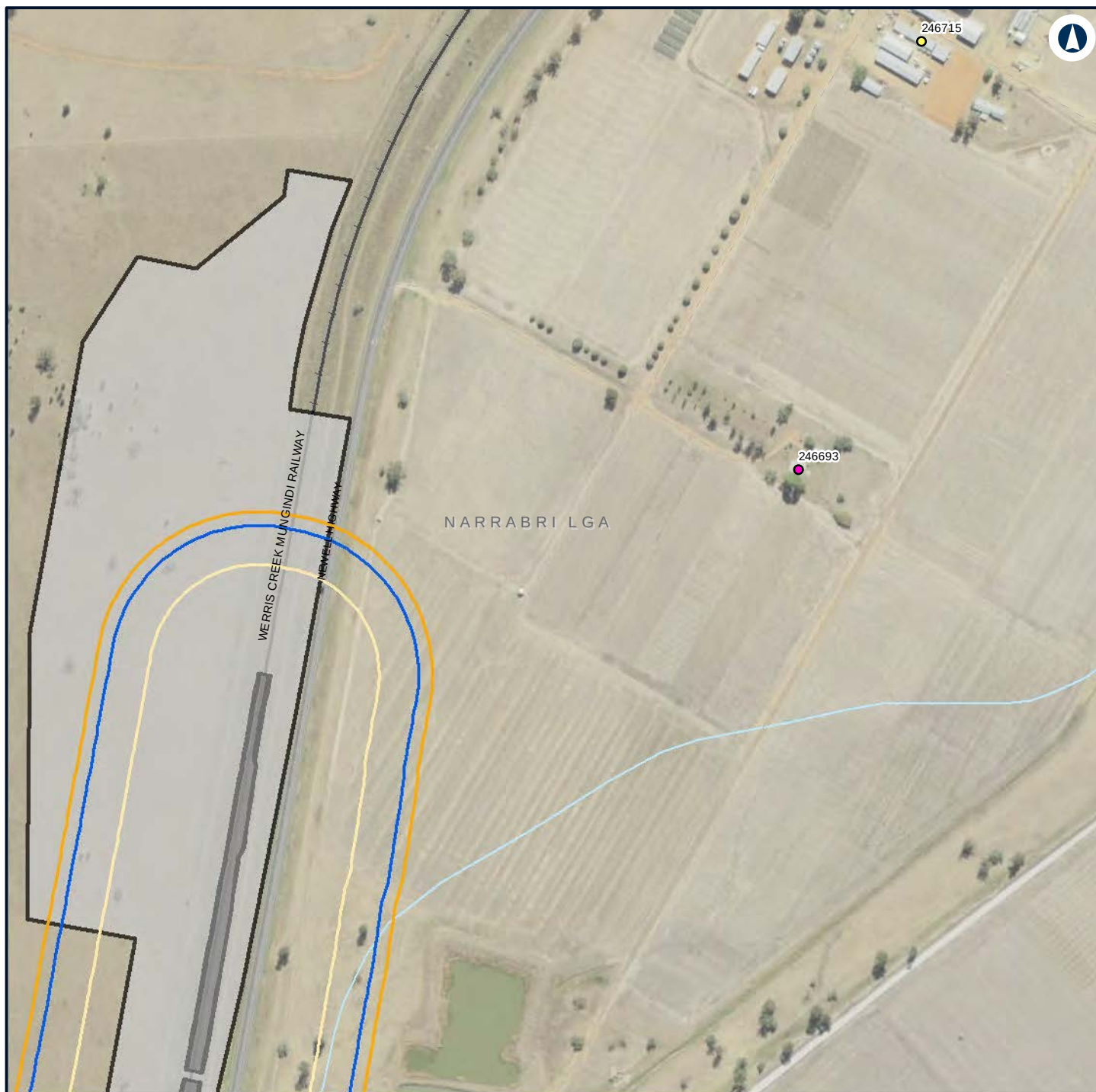
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent (propagation source)
- AVTG night max (0.26 m/s 1.75, 94 m)
- BS 5228-2:2009 (1 mm/s, 140 m)

Structure type

- Community
- Residential

Vibration from rail earthworks

- AVTG day max (0.4 m/s 1.75, 128 m)



NARRABRI TO NARRABRI Construction vibration buffers, Human comfort - Rail earthworks / Bridges (piling)/ Borrow pit finishing

Appendix M
MAP 94 OF 94

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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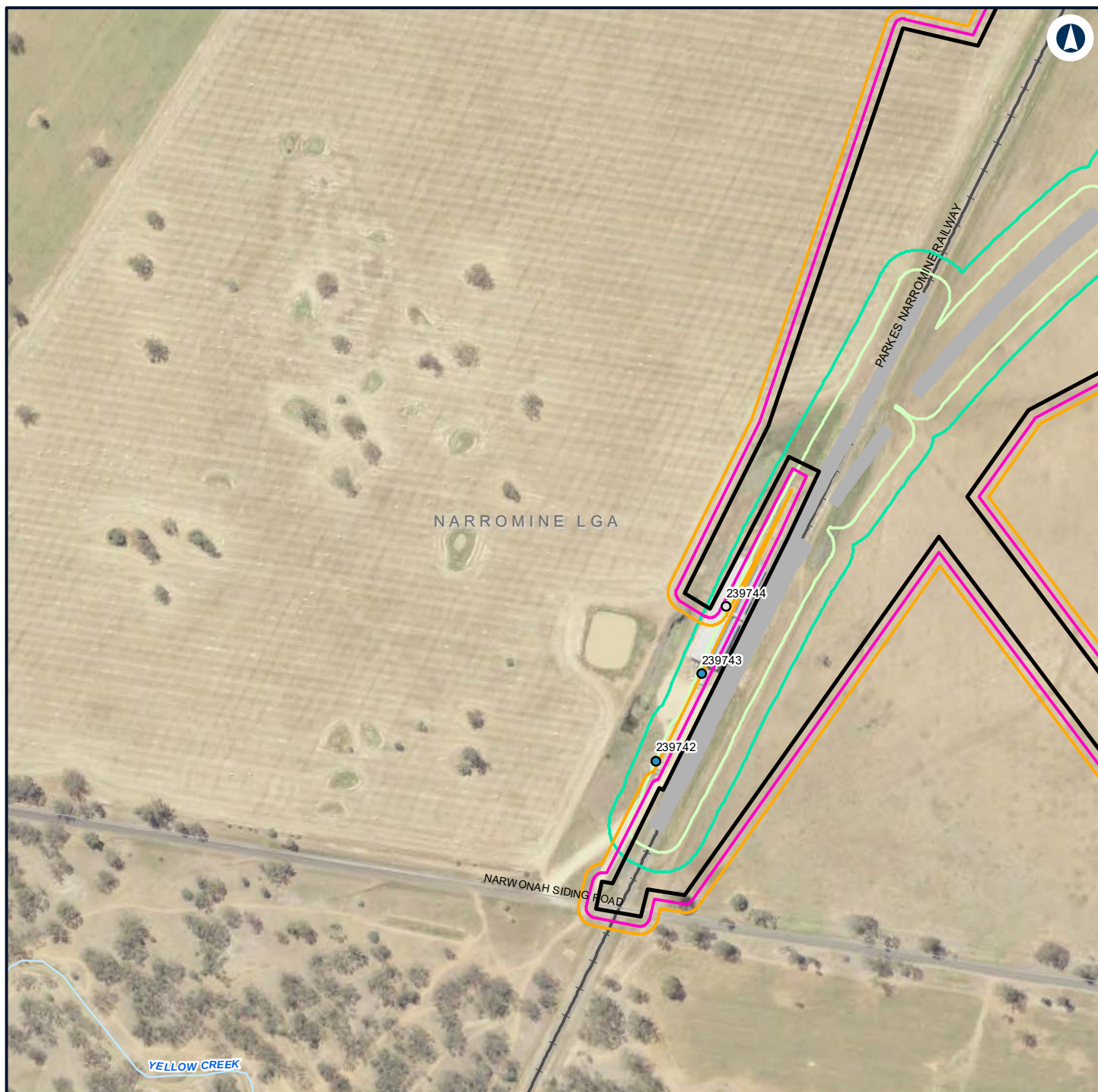
TECHNICAL REPORT 08

Updated noise and vibration assessment—
construction and other operations

Appendix N Construction vibration buffers, structural damage

NARROMINE TO NARRABRI PROJECT





LEGEND

- Construction footprint
- Rail earthworks extent
- Commercial/Industrial
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 1 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

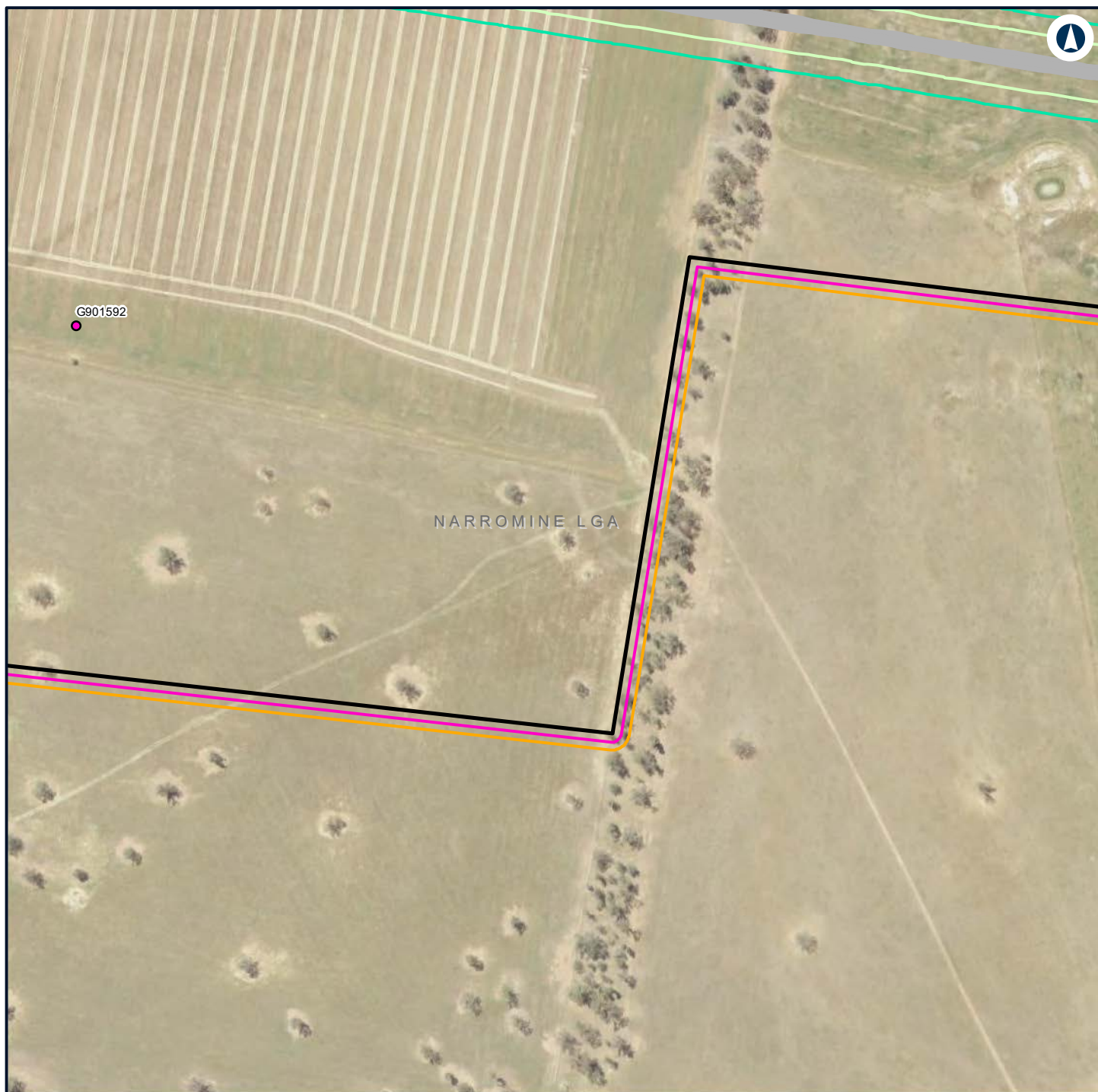
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 2 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

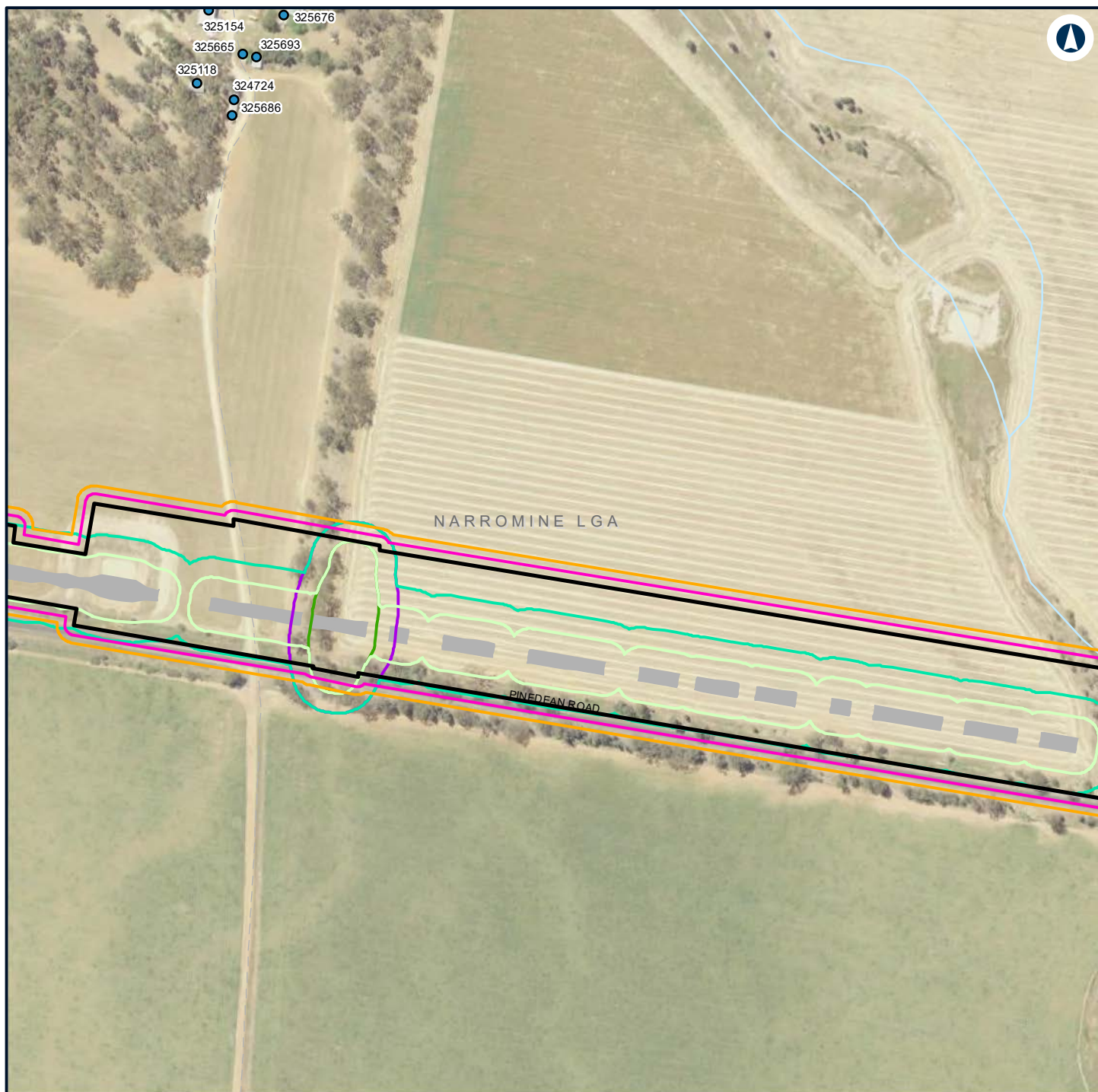
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 3 OF 113

0 0.1 0.2
Km

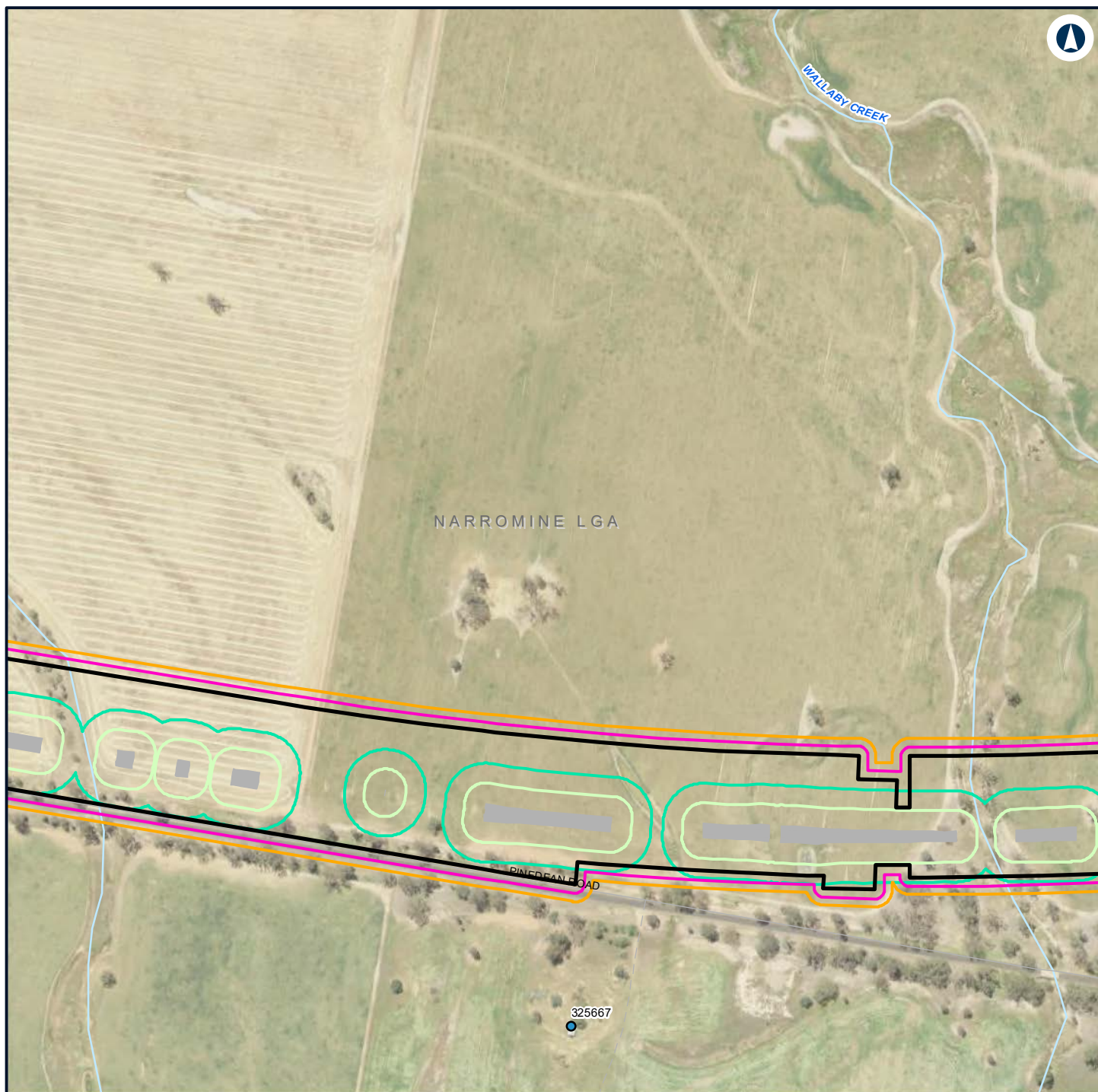
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

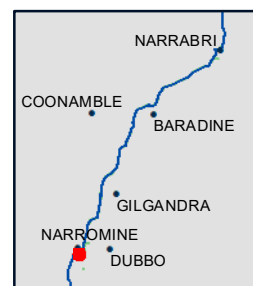
INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 4 OF 113

0 0.1 0.2
Km

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

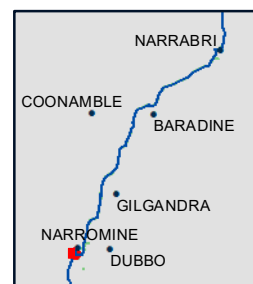
INLAND RAIL **ARTC**

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LEGEND

-  Construction footprint
-  Other
-  Clearing (Dozer) – Heritage structures: 3mm/s, 15m
-  Clearing (Dozer) – Standard buildings: 5mm/s, 8m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 5 OF 113

0 0.1 0.2
Km

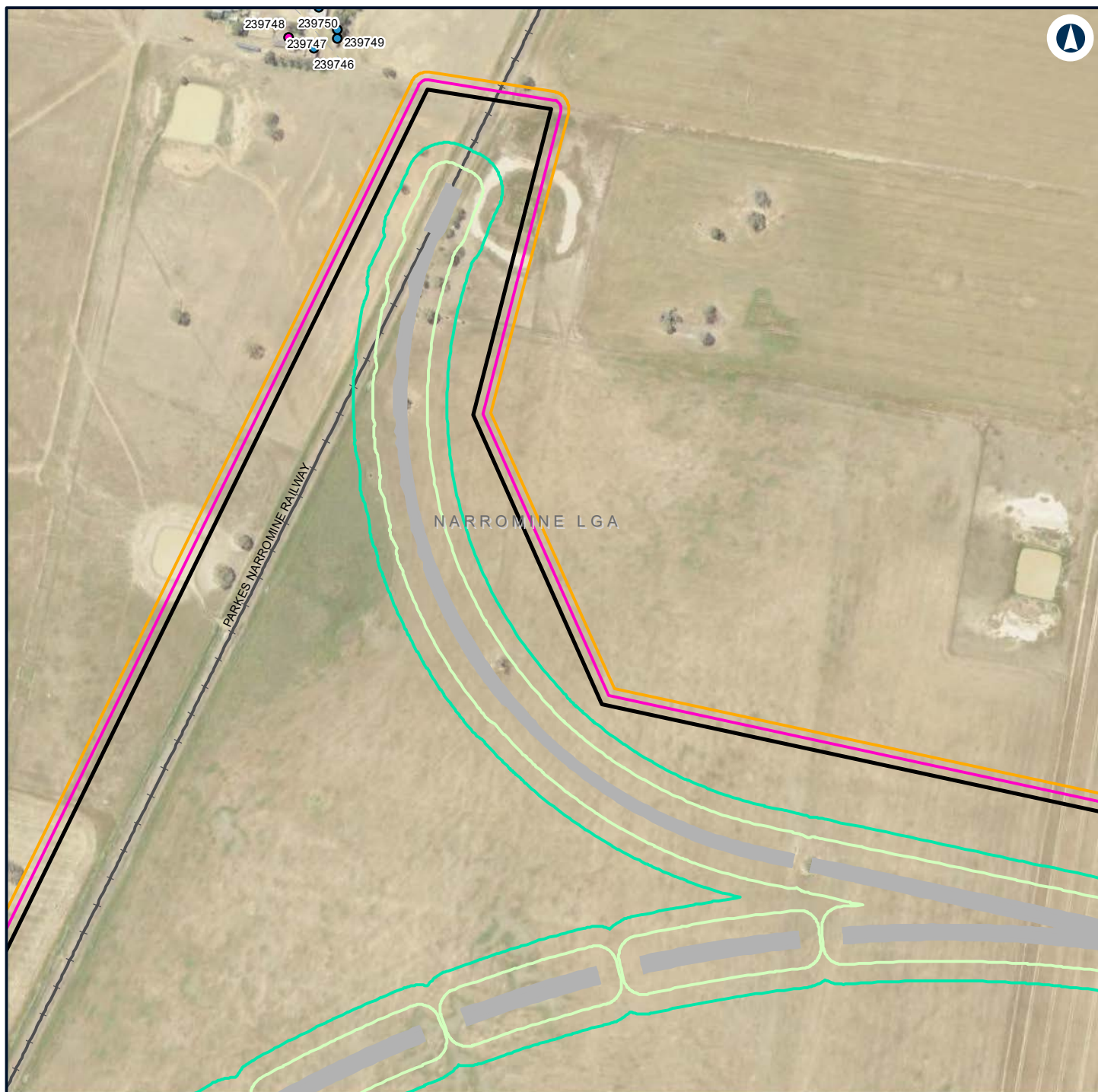
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 6 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

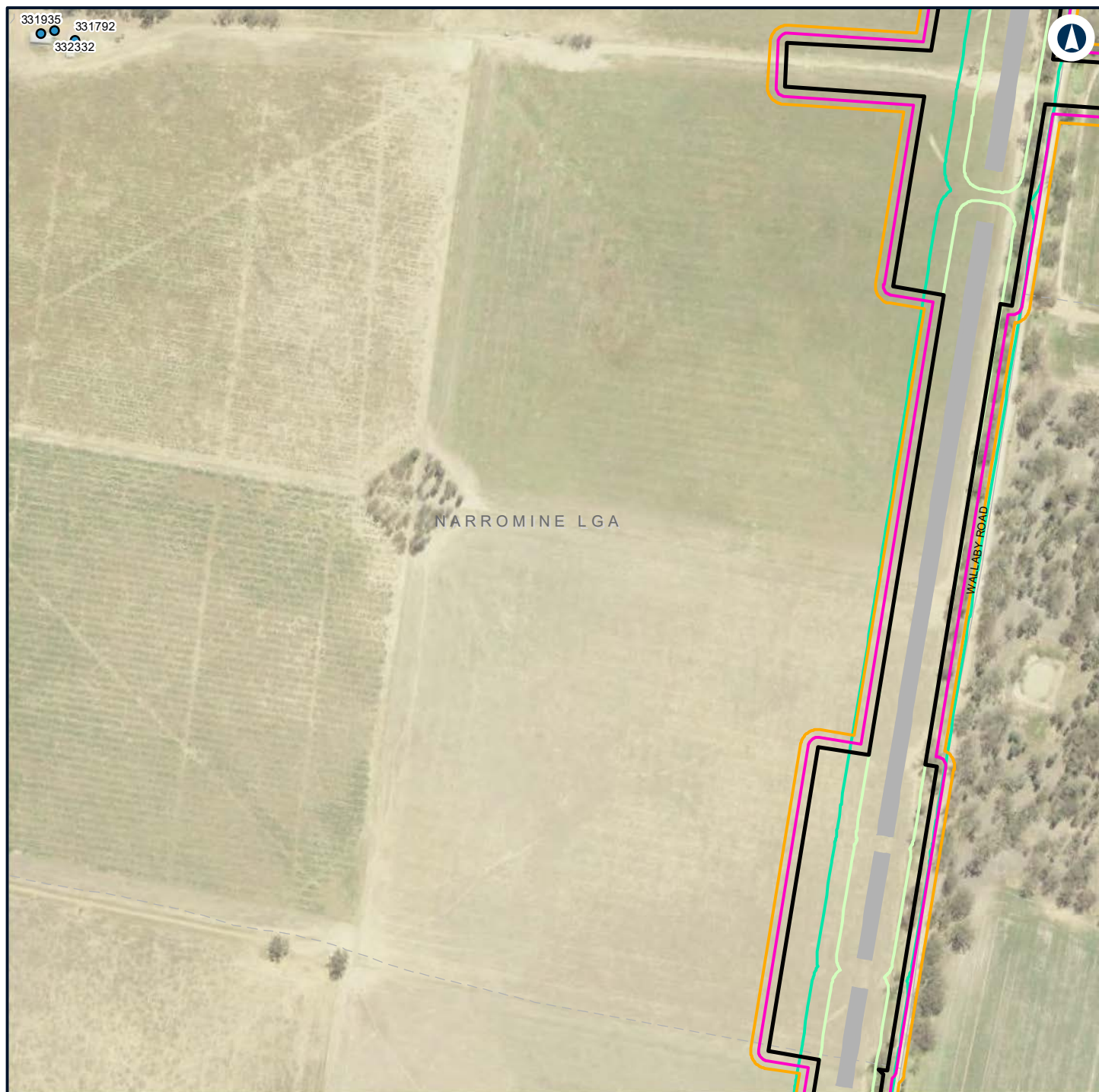
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 7 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

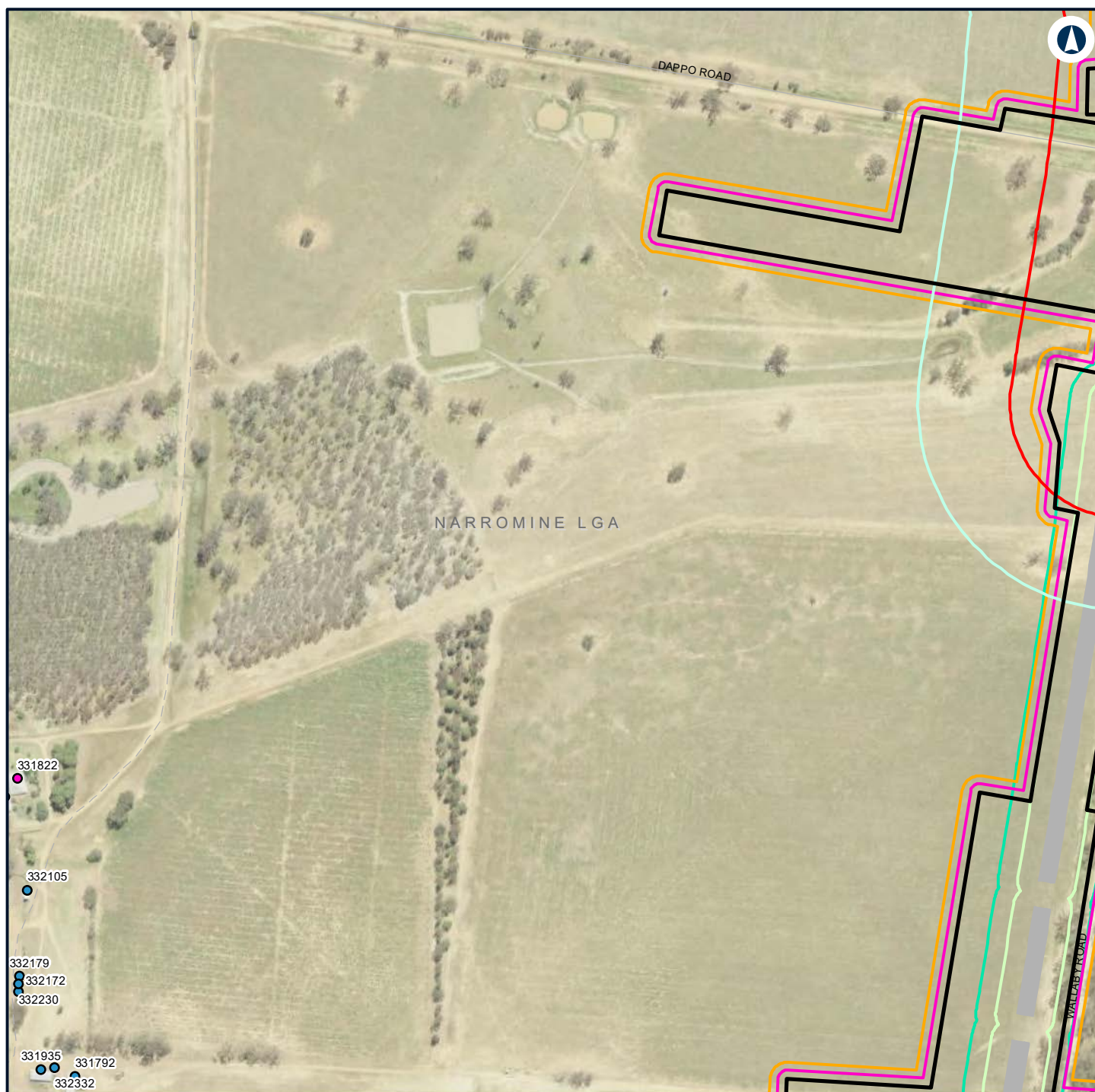
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 8 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

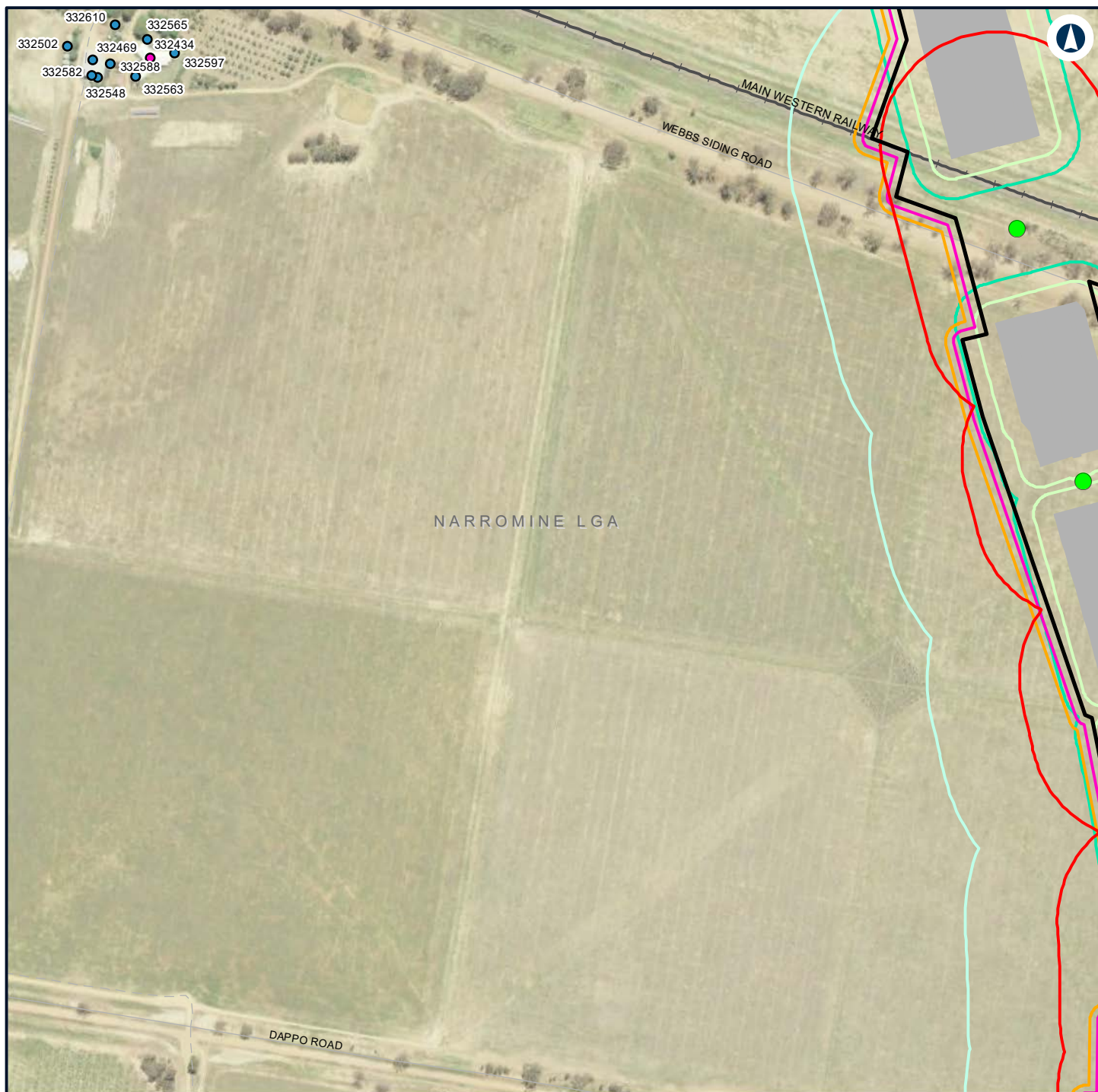
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Bridge centre
- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 9 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

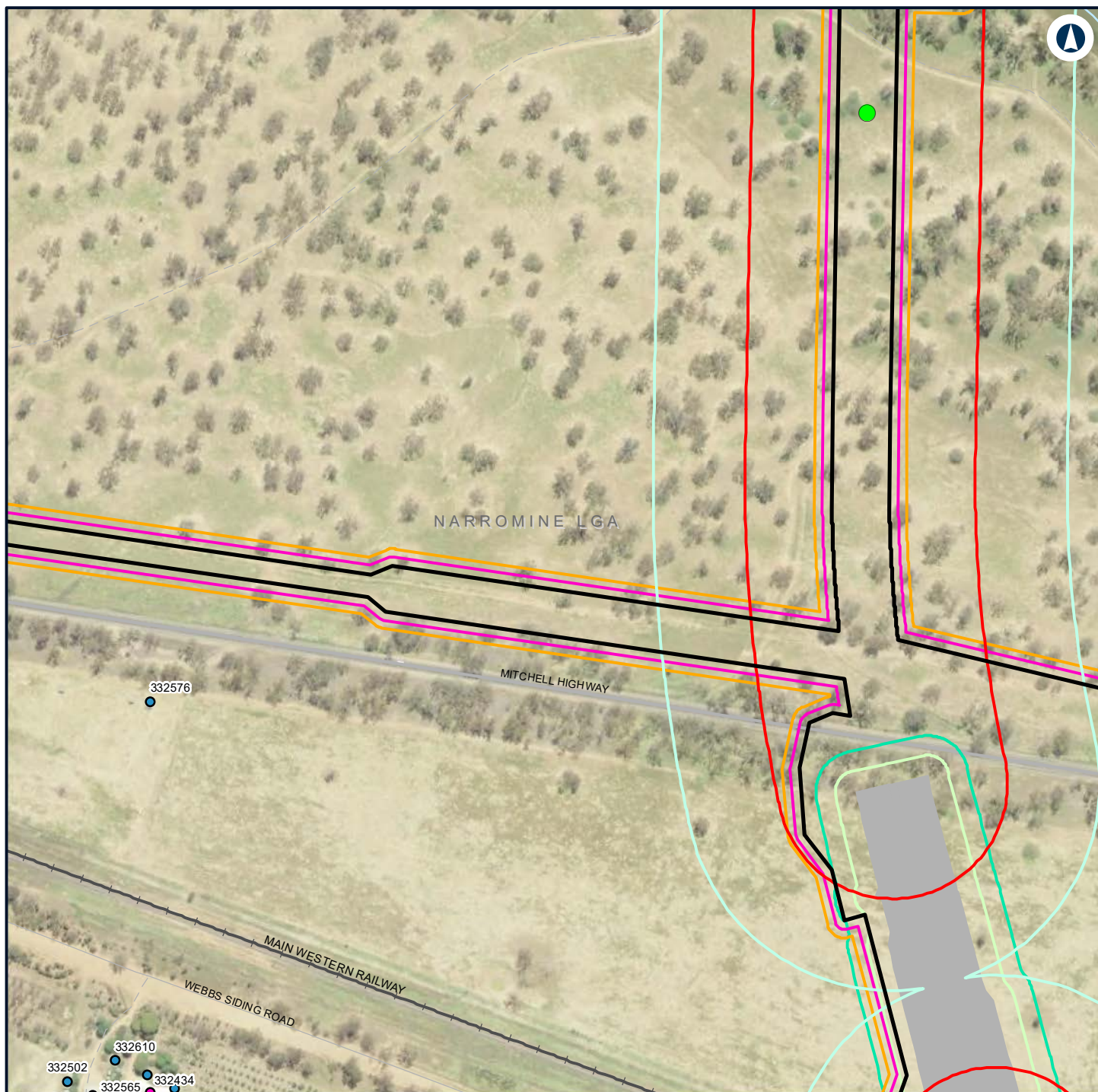
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre
- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 10 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

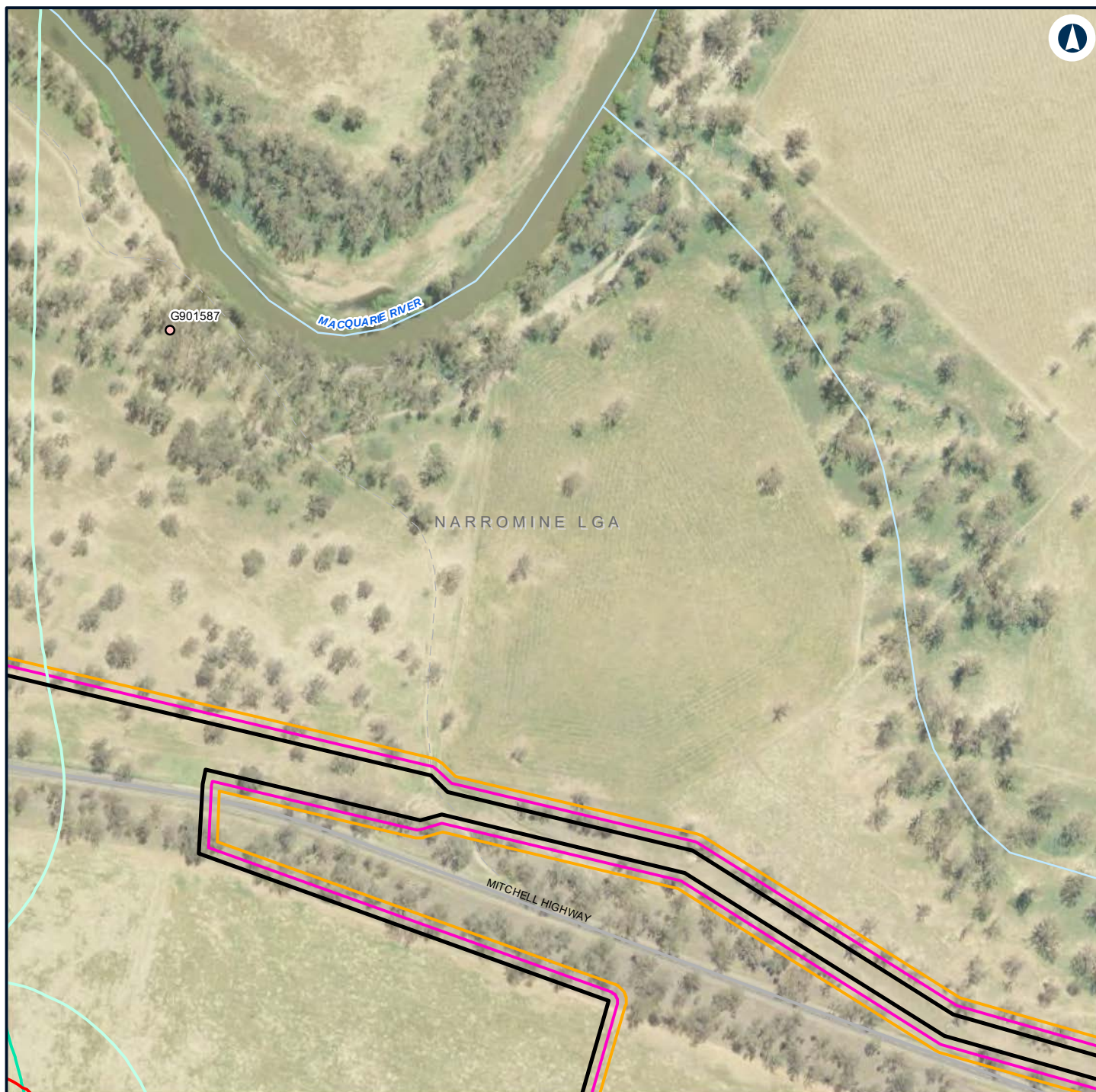
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

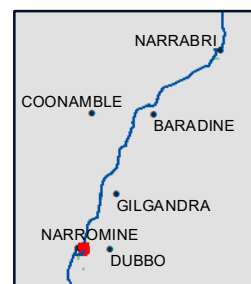
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LEGEND

- Construction footprint
- Passive recreation
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 11 OF 113

0 0.1 0.2
Km

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Paper: A4

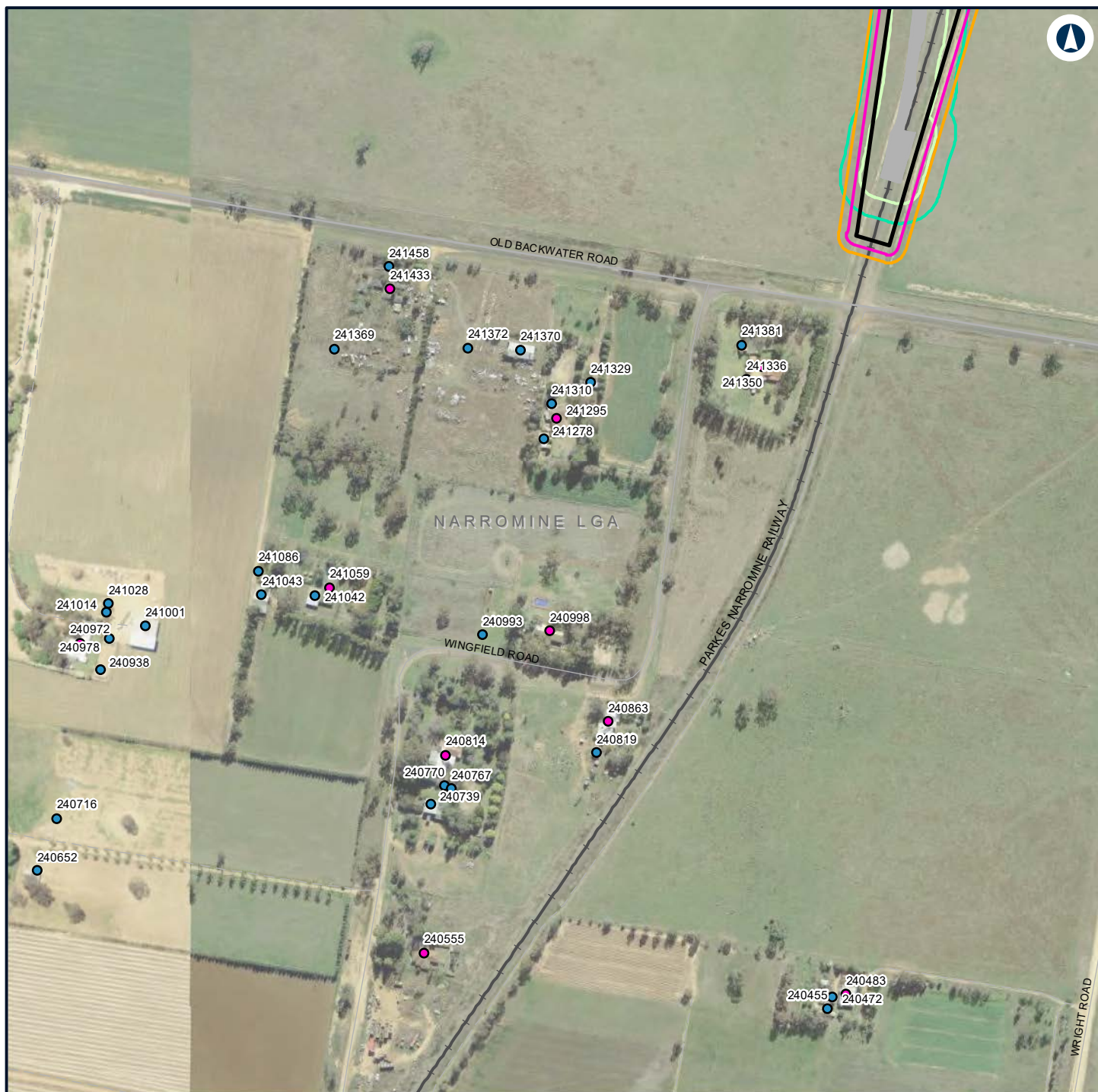
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

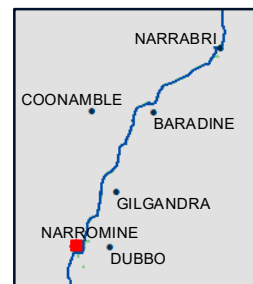
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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 12 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

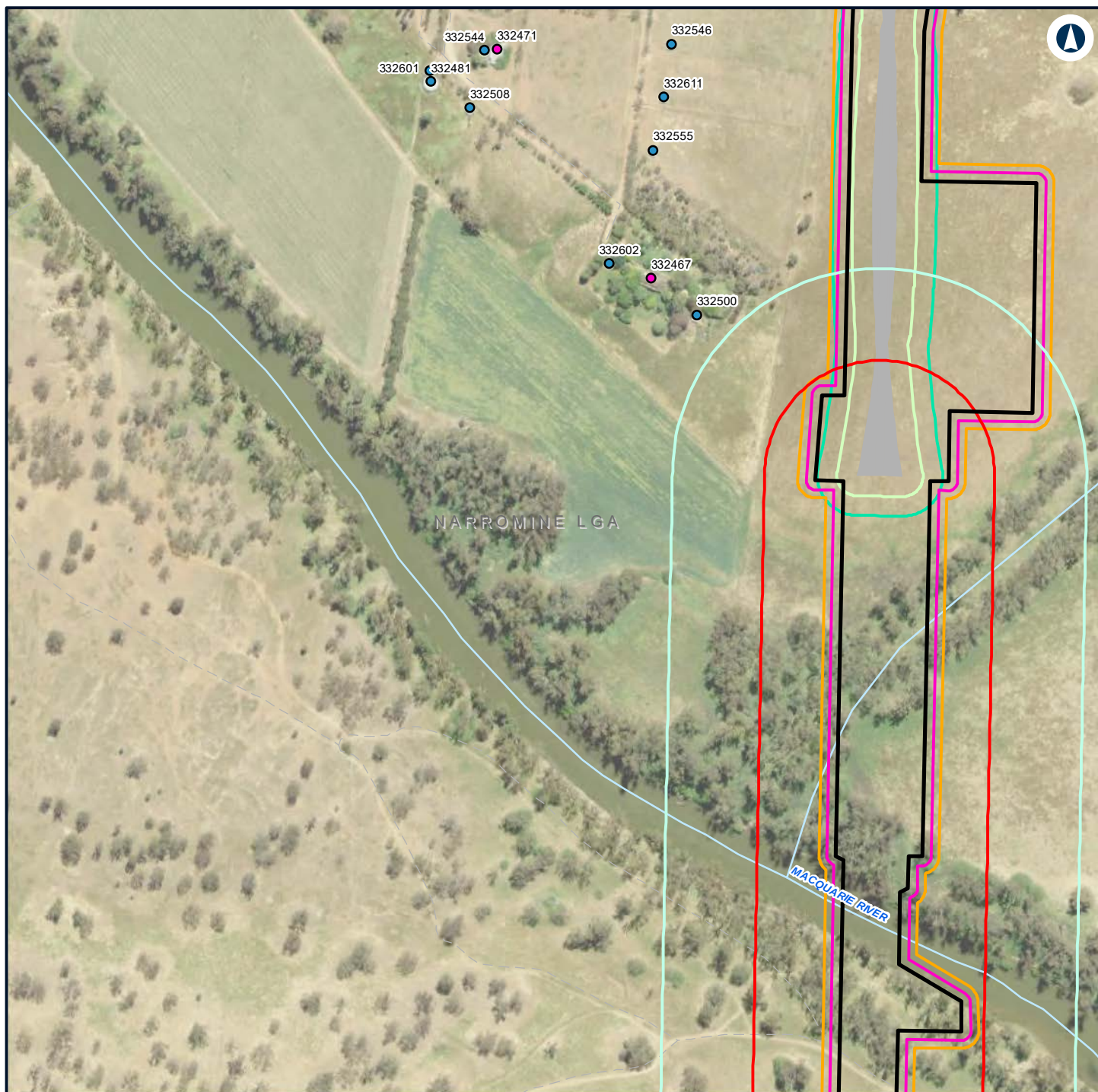
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

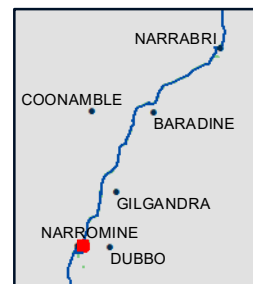
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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m

- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 13 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

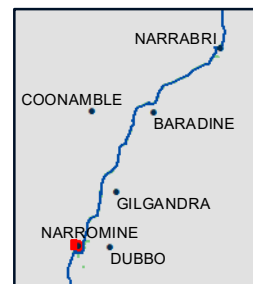
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LEGEND

- Road design
- ▬ Construction footprint
- ▬ Rail earthworks extent
- Commercial/Industrial
- Other
- ▬ Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- ▬ Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- ▬ Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- ▬ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 14 OF 113

0 0.1 0.2
Km

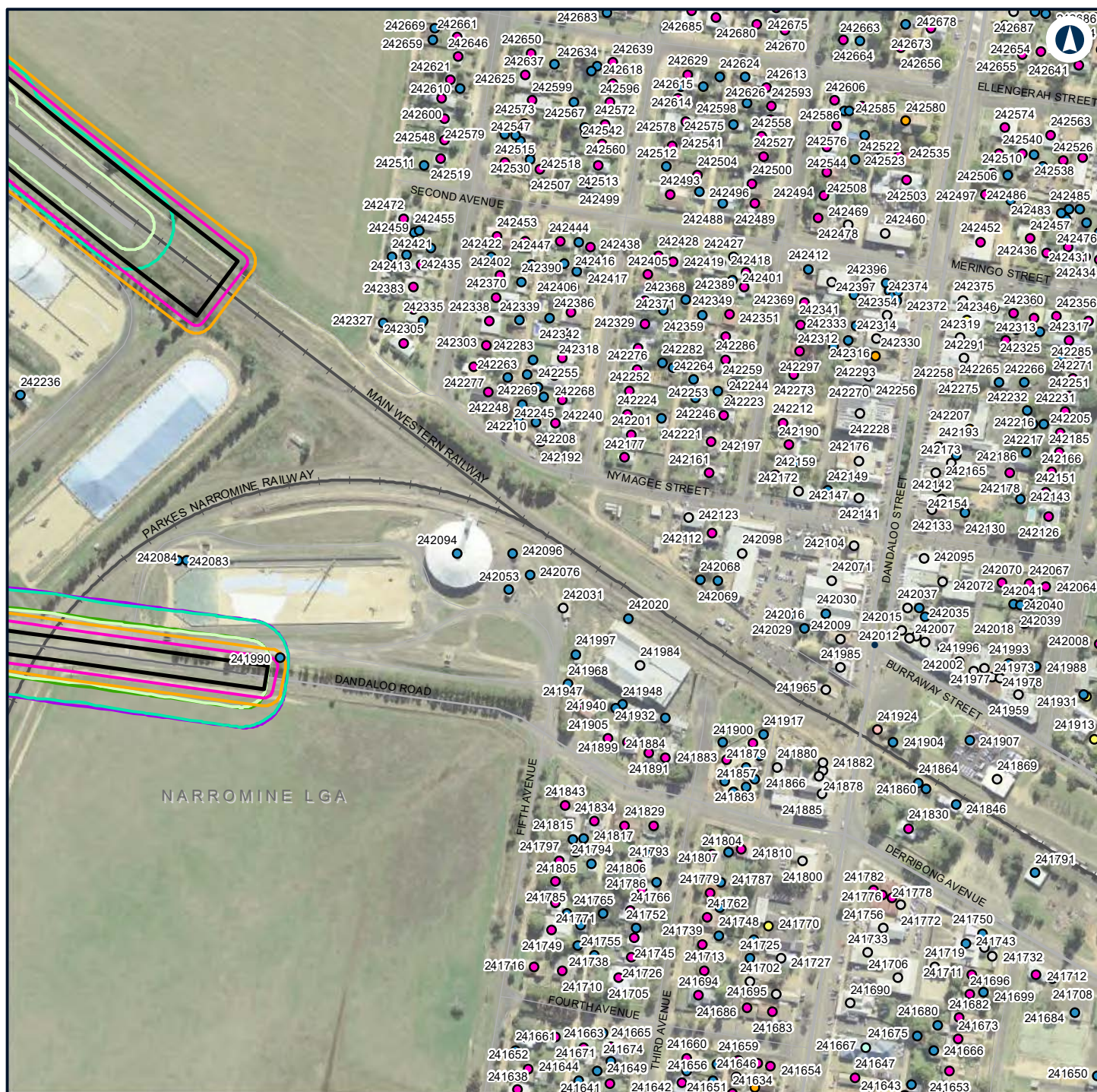
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

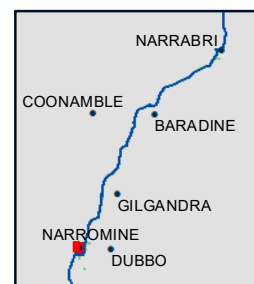
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LEGEND

- Road design
- Construction footprint
- Rail earthworks extent
- Commercial/Industrial
- Community
- Health
- Other
- Passive recreation
- Residential
- Worship
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 15 OF 113

0 0.1 0.2 Km

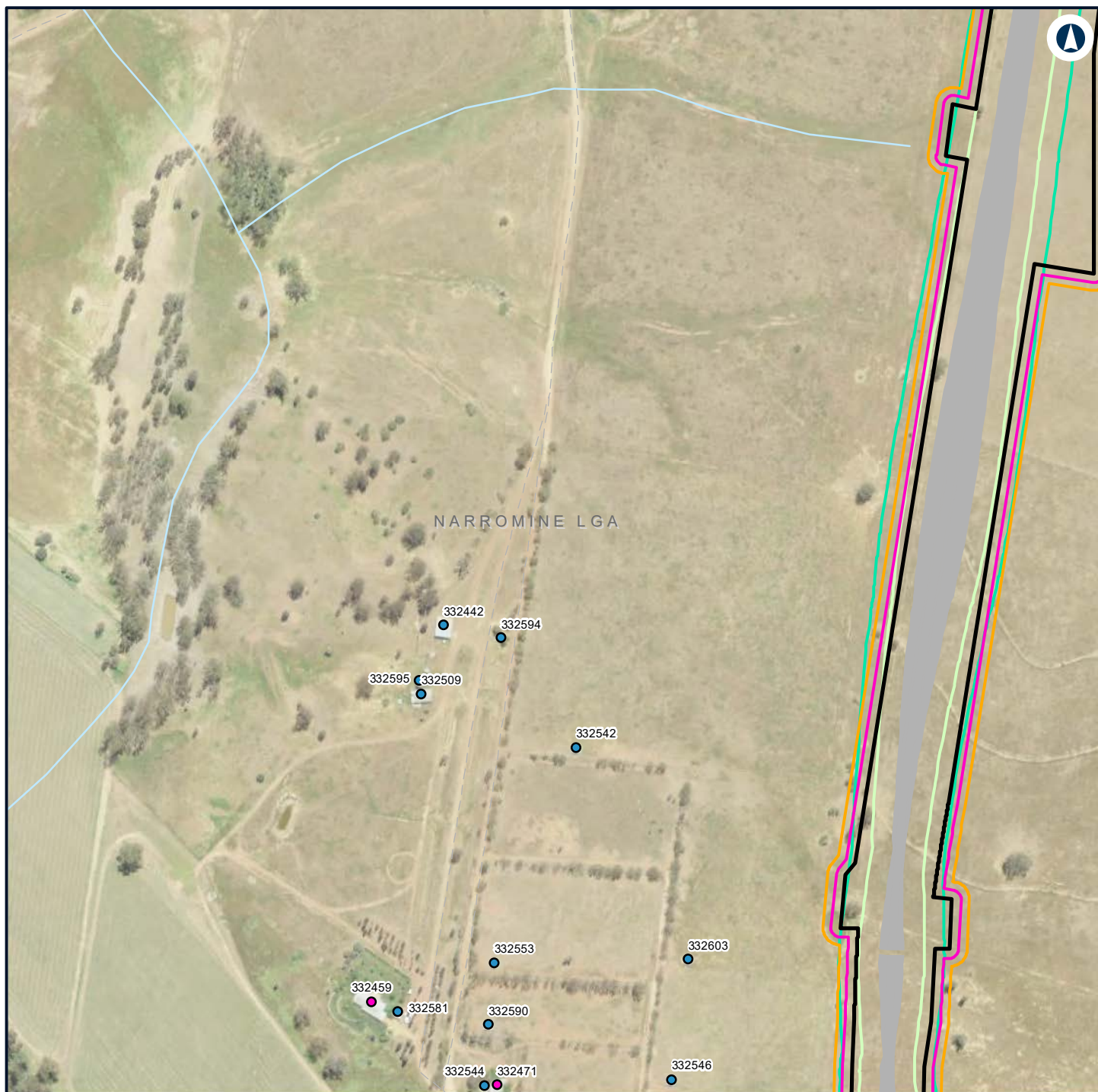
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 Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

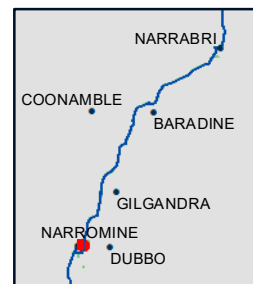
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 16 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

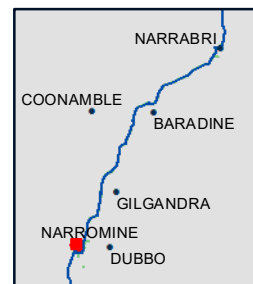
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Commercial/Industrial
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 17 OF 113

0 0.1 0.2
Km

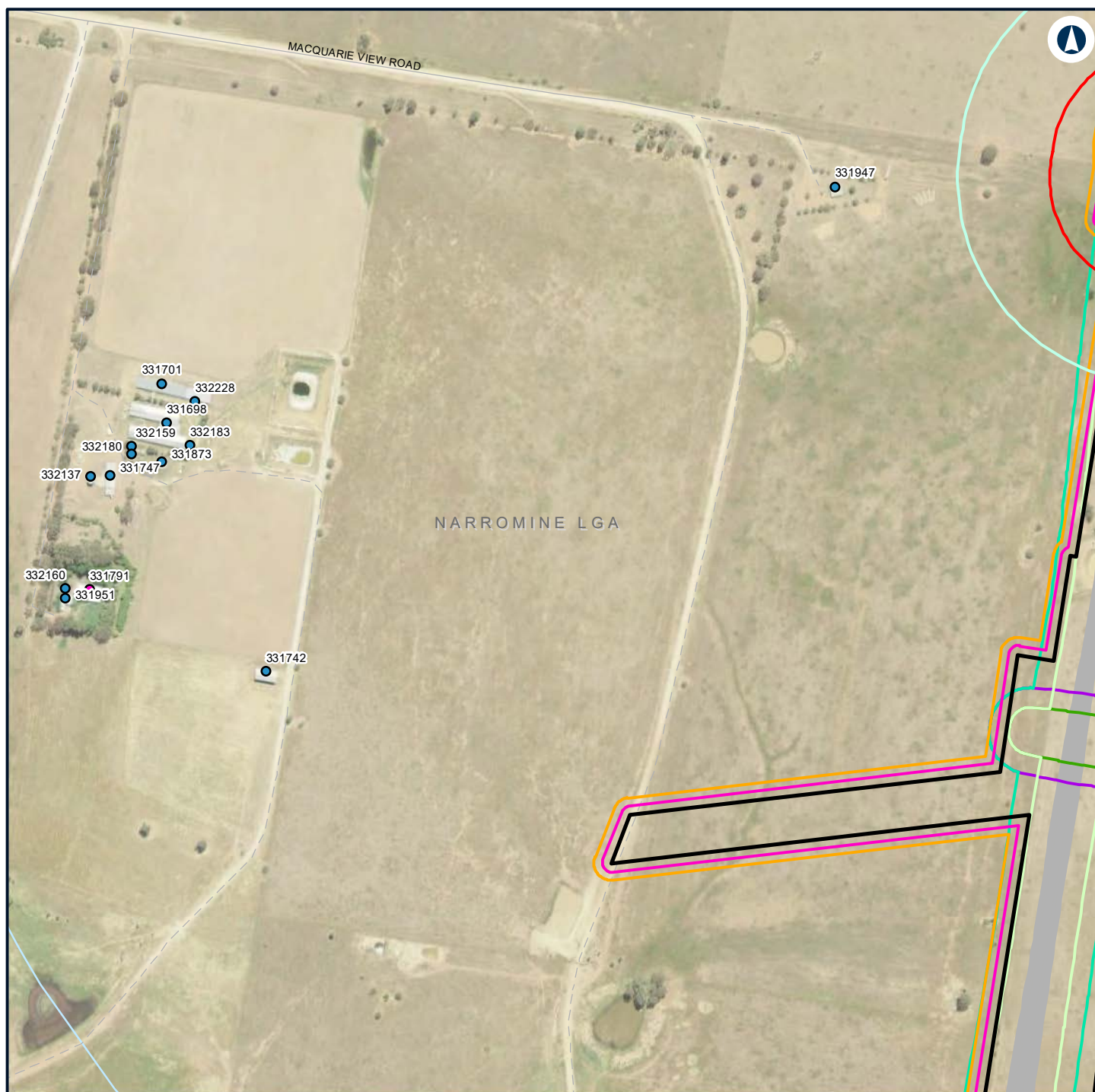
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- | | |
|--|--|
| Construction footprint | Clearing (Dozer) – Heritage structures: 3mm/s, 15m |
| Rail earthworks extent | Clearing (Dozer) – Standard buildings: 5mm/s, 8m |
| Active recreation | Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
| Other | Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Residential | Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Bridges (Impact piling) – Heritage structures: 3mm/s, 180m | Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
| Bridges (Impact piling) – Standard buildings: 5mm/s, 100m | |



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 18 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

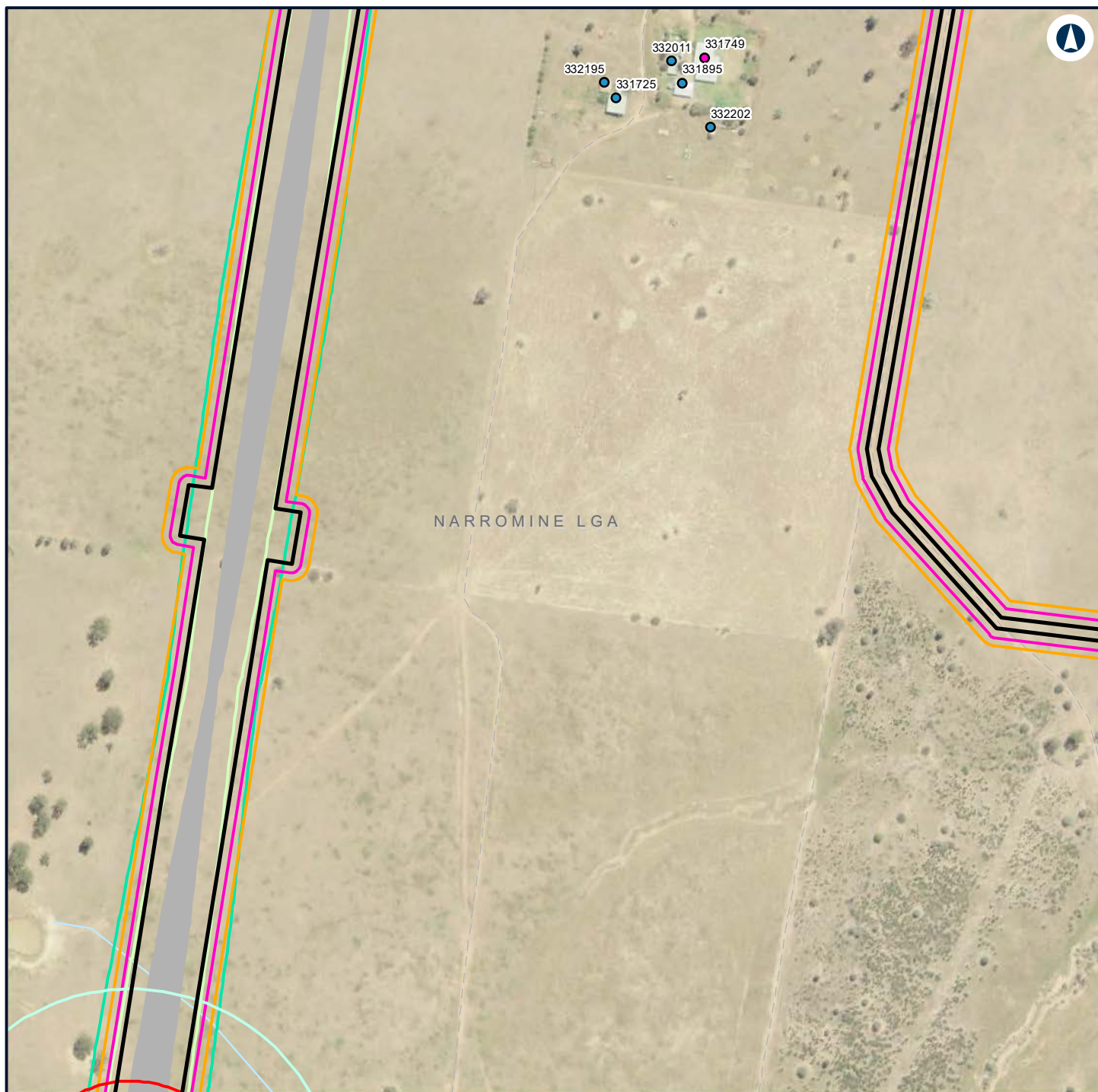
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

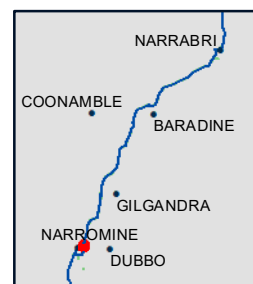
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 19 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

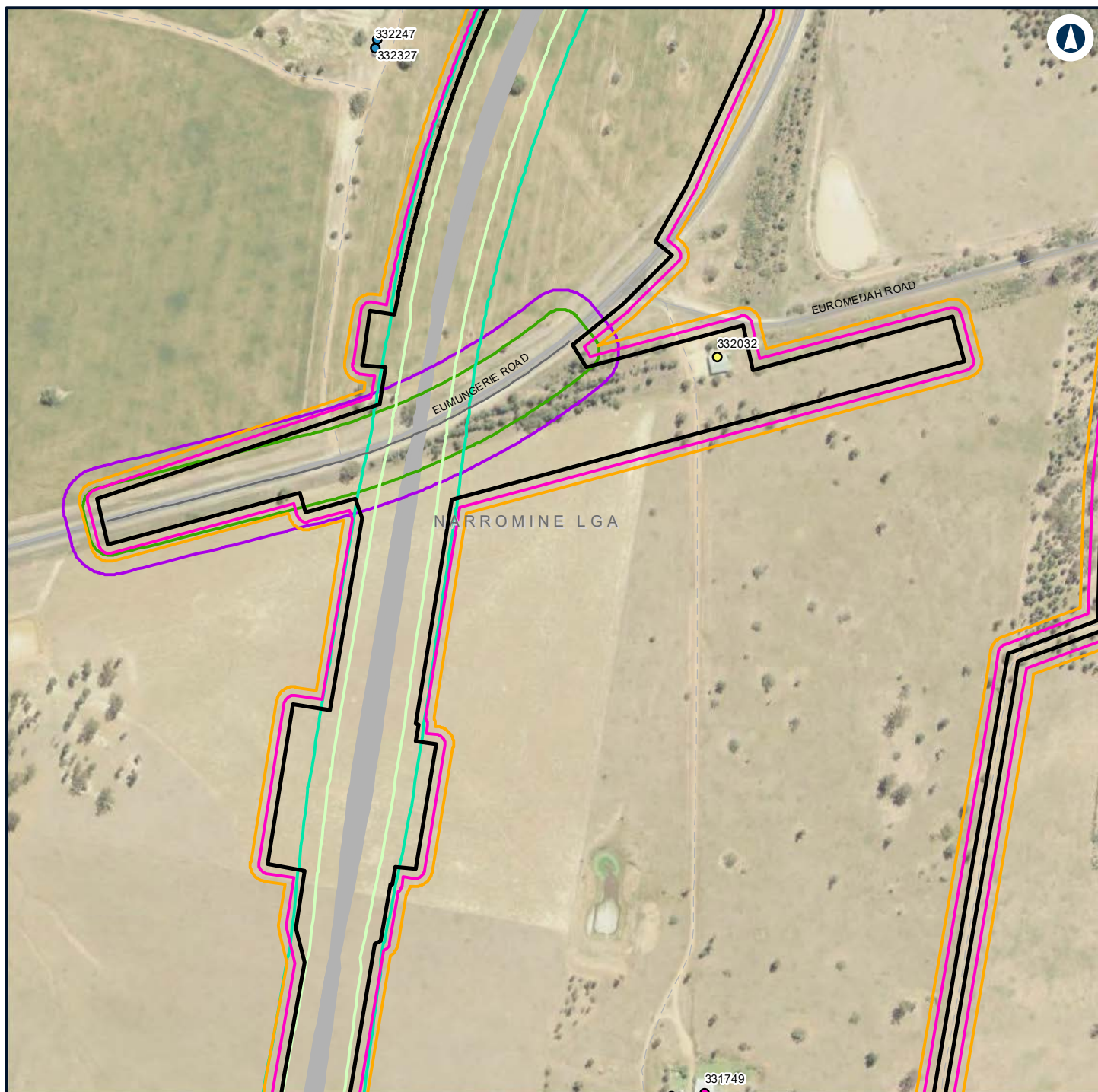
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

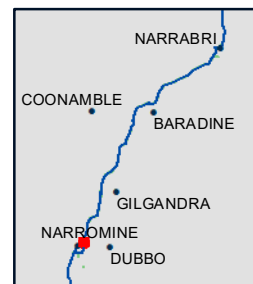
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Road design
- ▬ Construction footprint
- ▬ Rail earthworks extent
- Community
- Other
- Residential
- ▬ Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- ▬ Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- ▬ Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- ▬ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 20 OF 113

0 0.1 0.2
Km

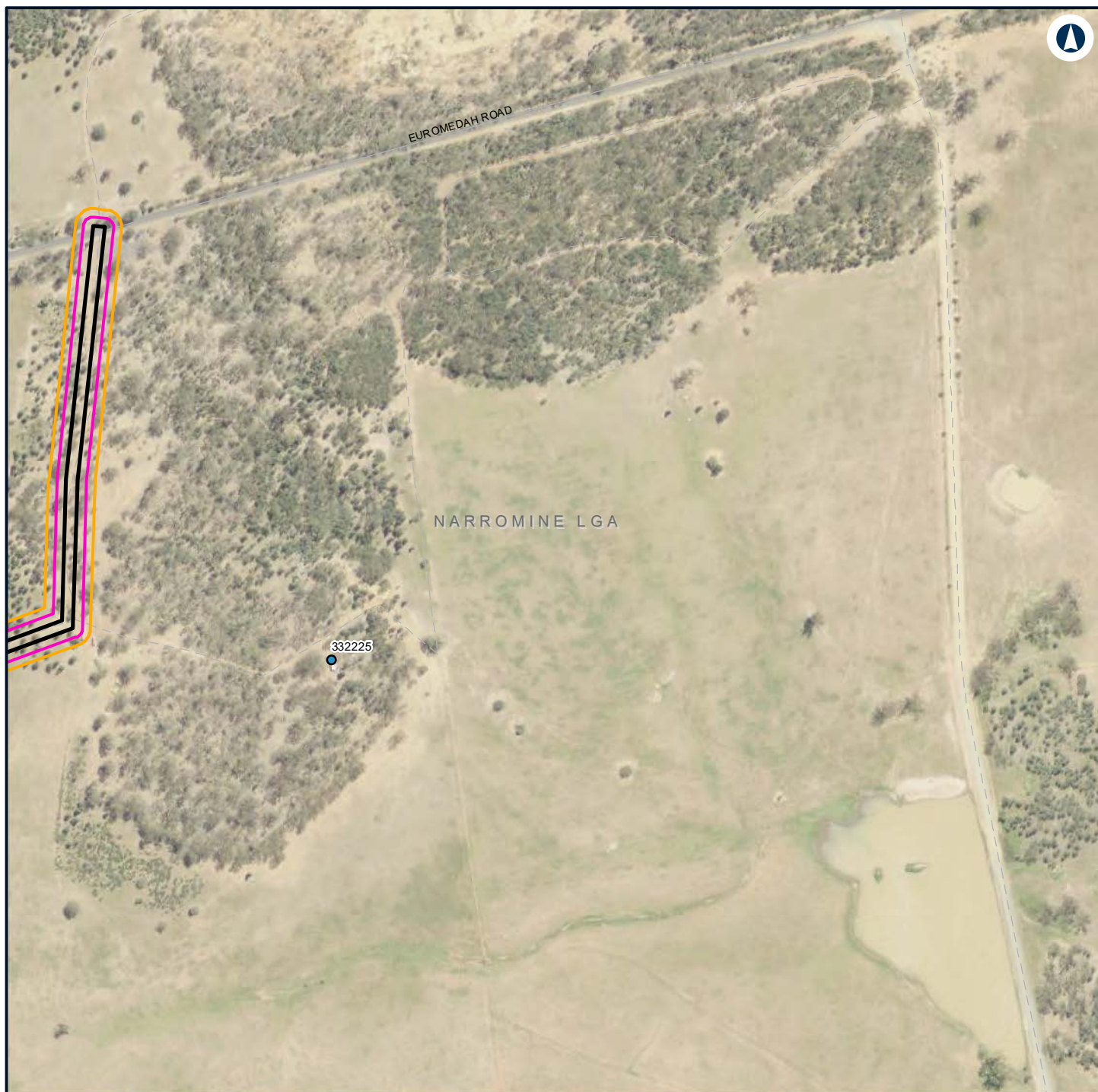
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

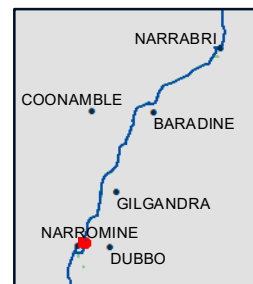
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 21 OF 113

0 0.1 0.2
Km

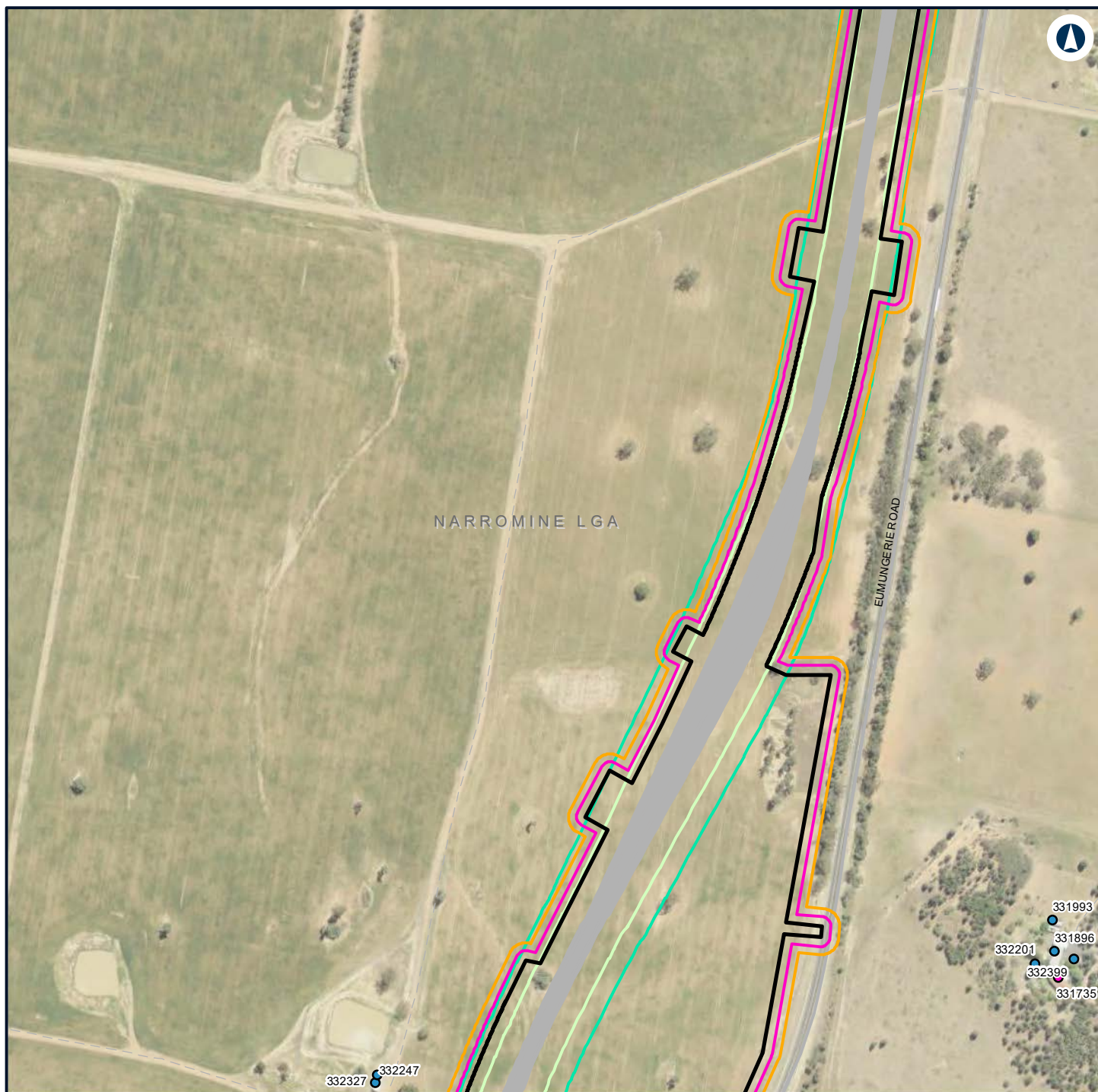
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

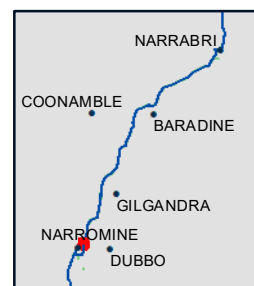
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 22 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

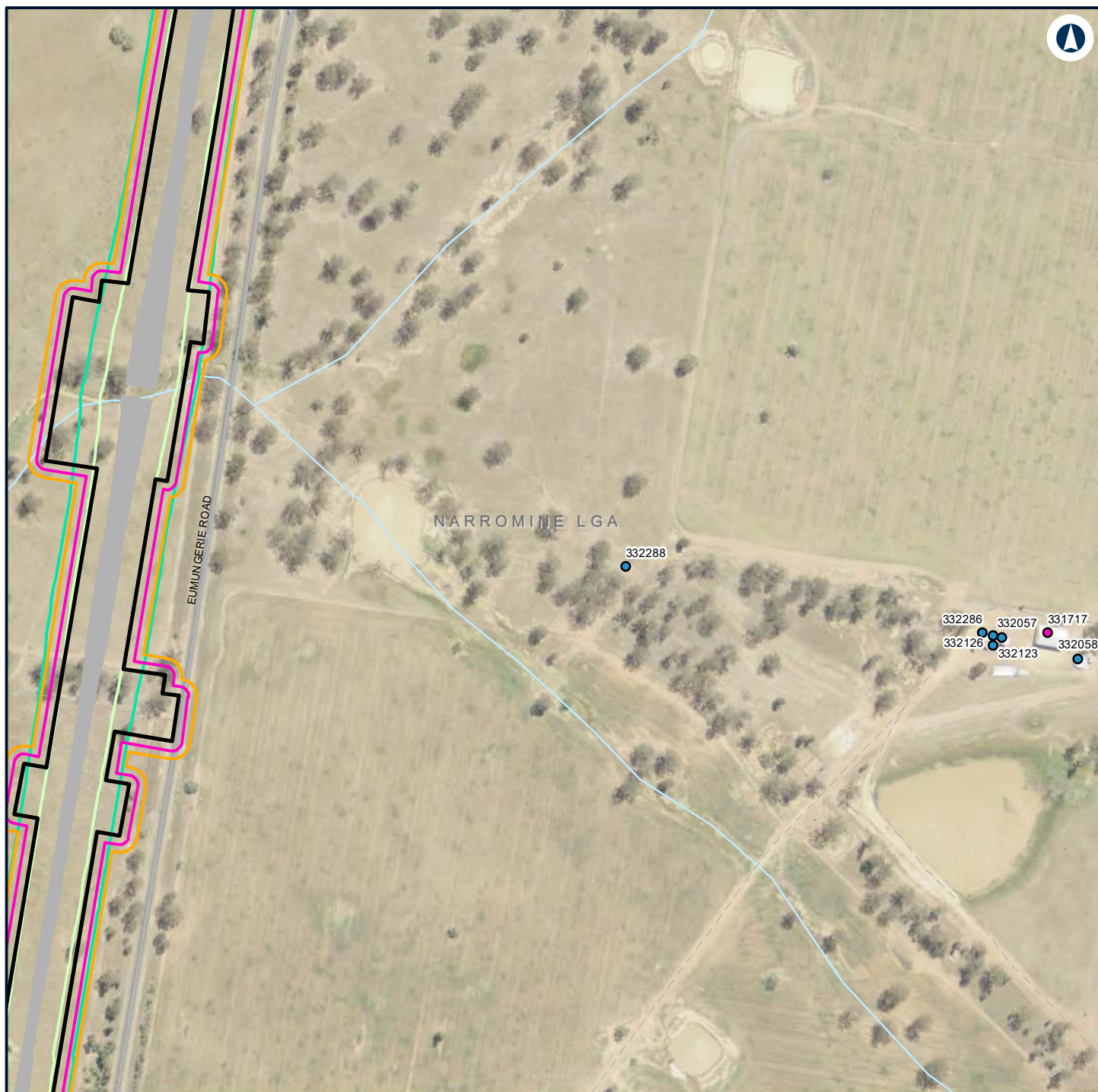
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

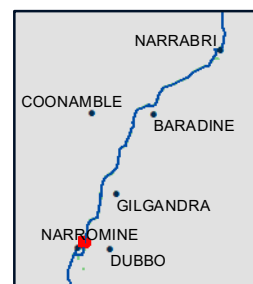
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 23 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

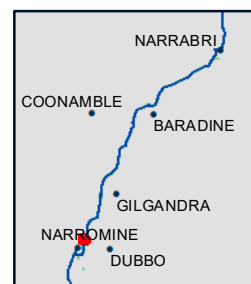
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 24 OF 113

0 0.1 0.2
Km

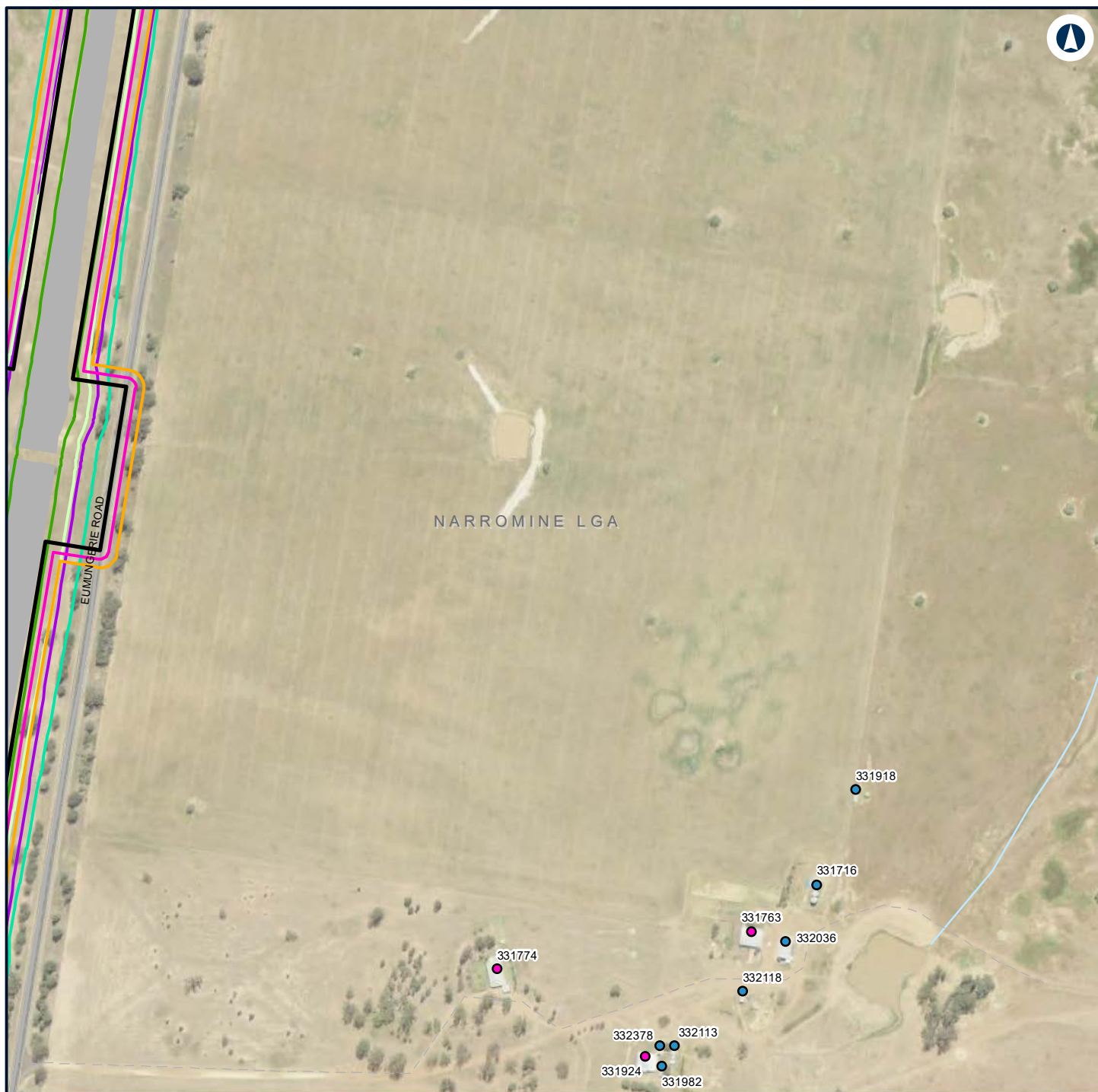
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

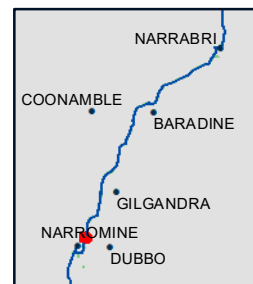
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 25 OF 113

0 0.1 0.2
Km

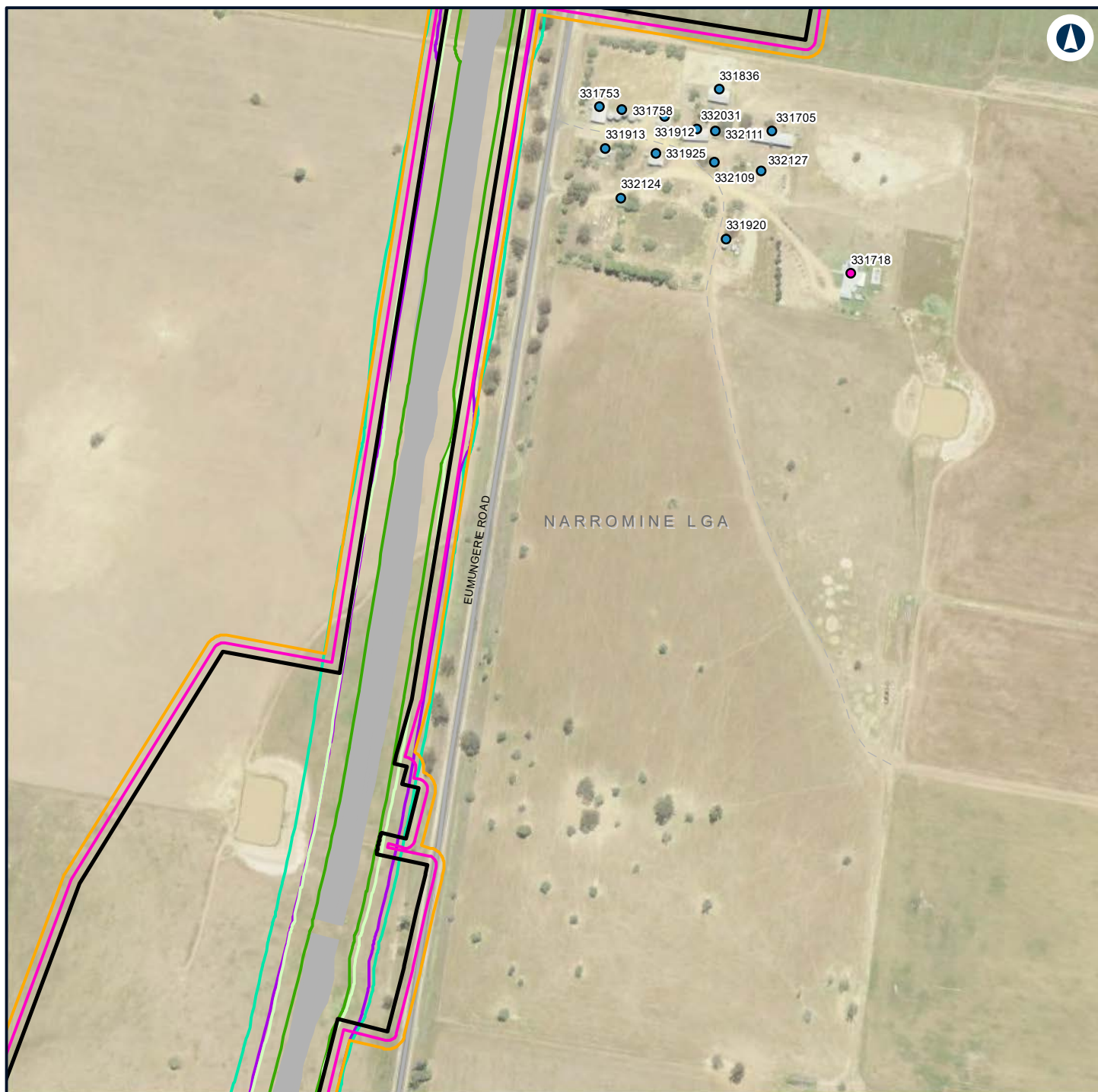
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- | | |
|--|--|
| Construction footprint | Clearing (Dozer) – Standard buildings: 5mm/s, 8m |
| Rail earthworks extent | Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
| Other | Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Residential | Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Clearing (Dozer) – Heritage structures: 3mm/s, 15m | Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 26 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

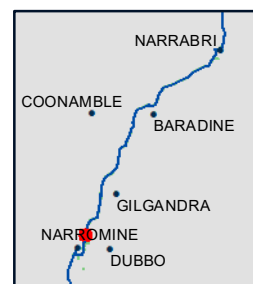
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 27 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

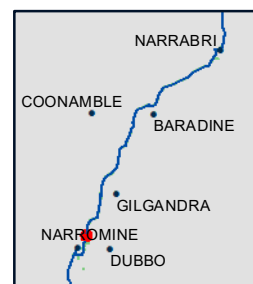
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 28 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

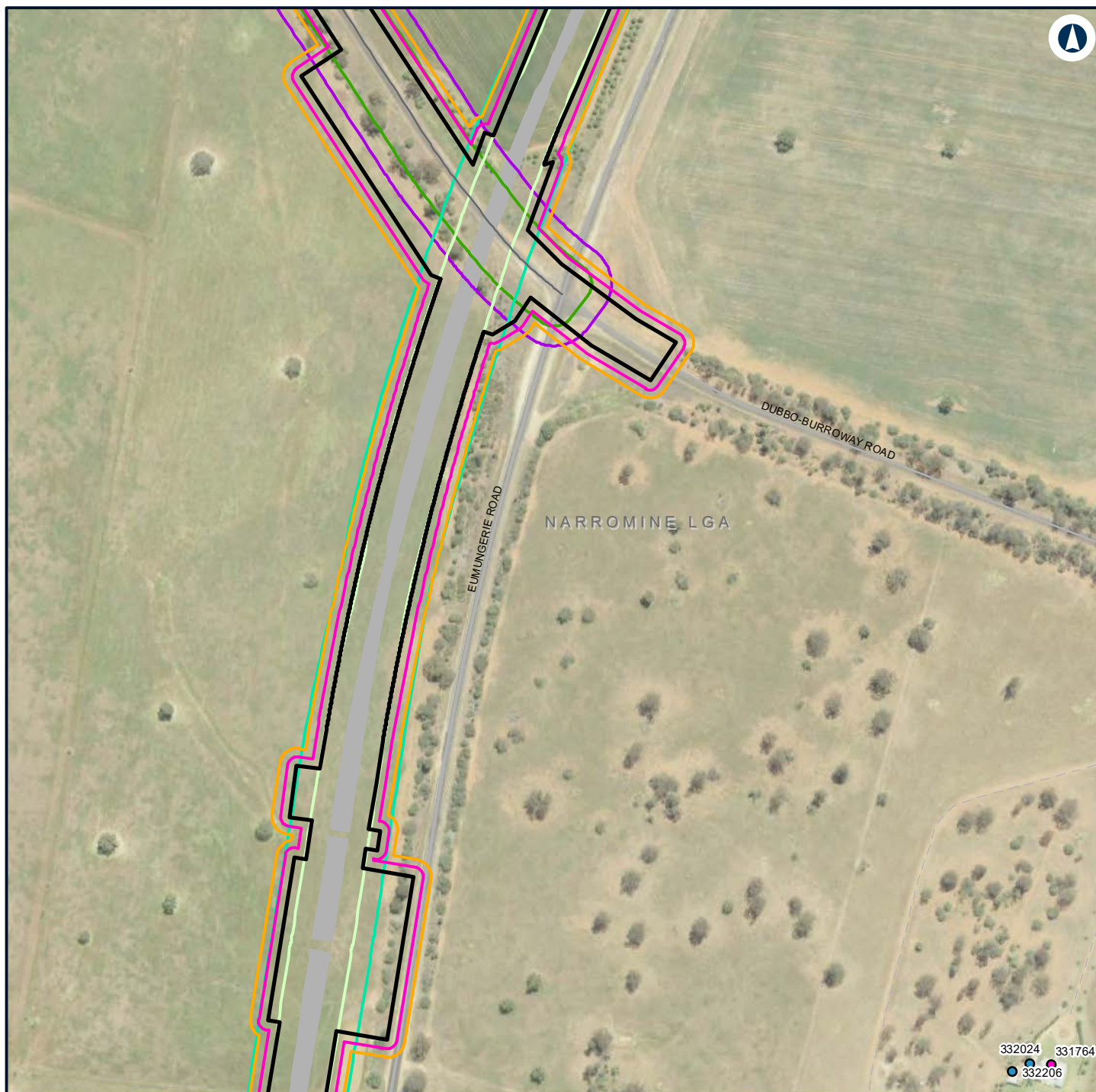
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Road design
- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 29 OF 113

0 0.1 0.2
Km

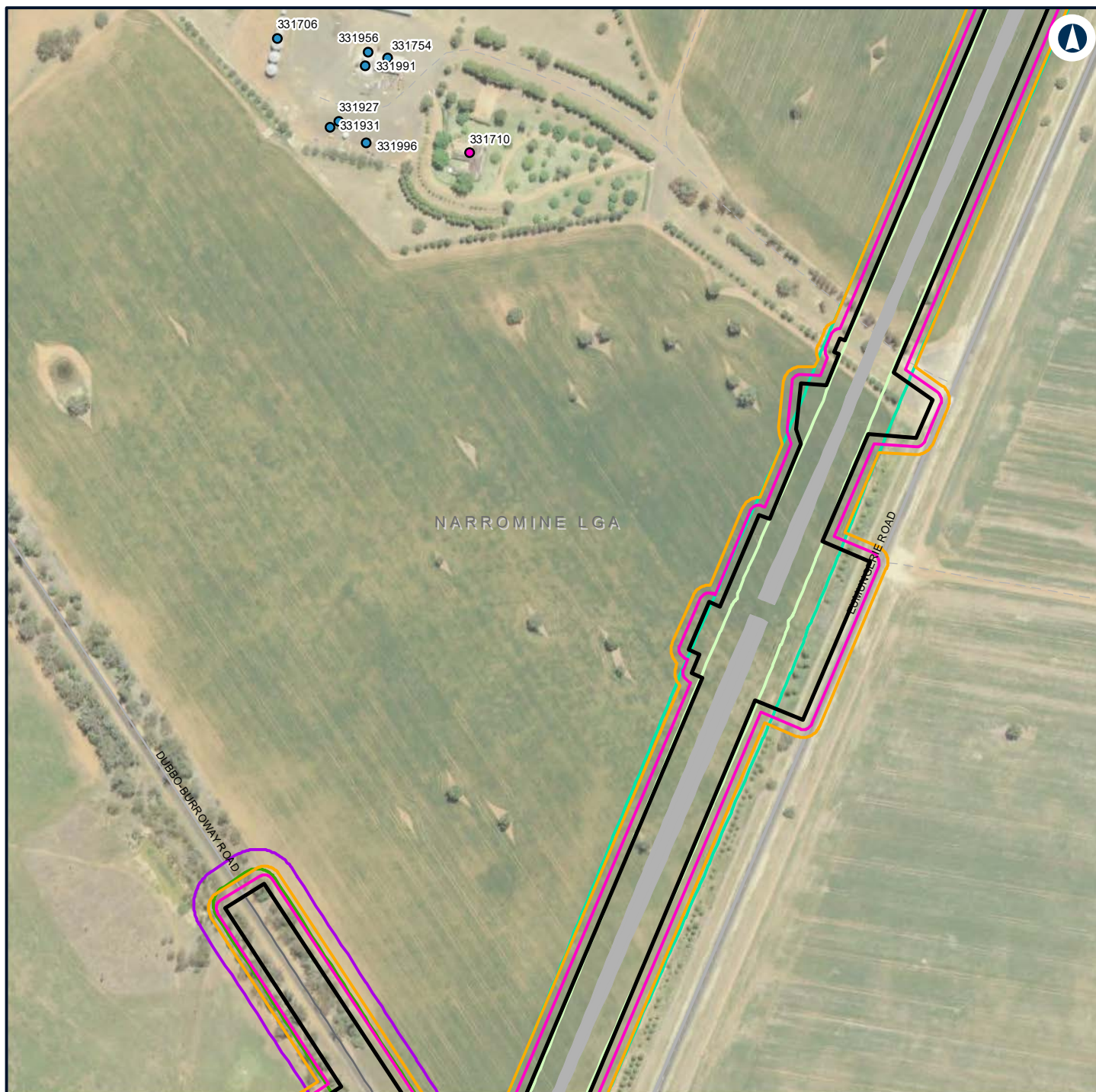
Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Road design
- ▬ Construction footprint
- ▬ Rail earthworks extent
- Other
- Residential
- ▬ Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- ▬ Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- ▬ Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- ▬ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 30 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 31 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

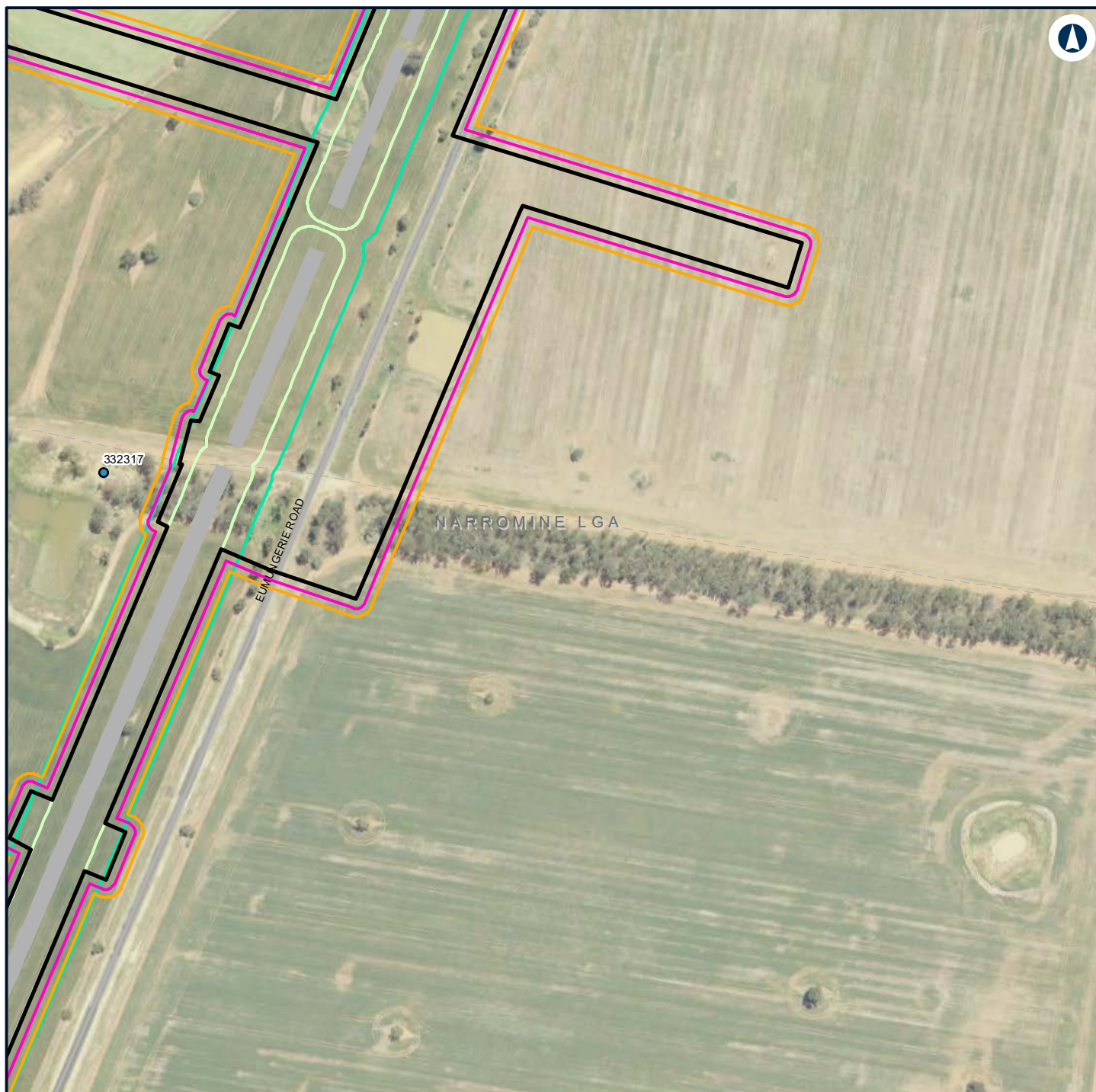
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

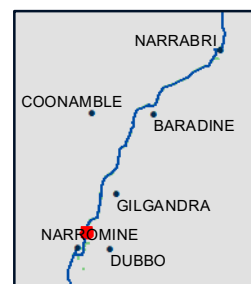
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 32 OF 113

0 0.1 0.2
Km

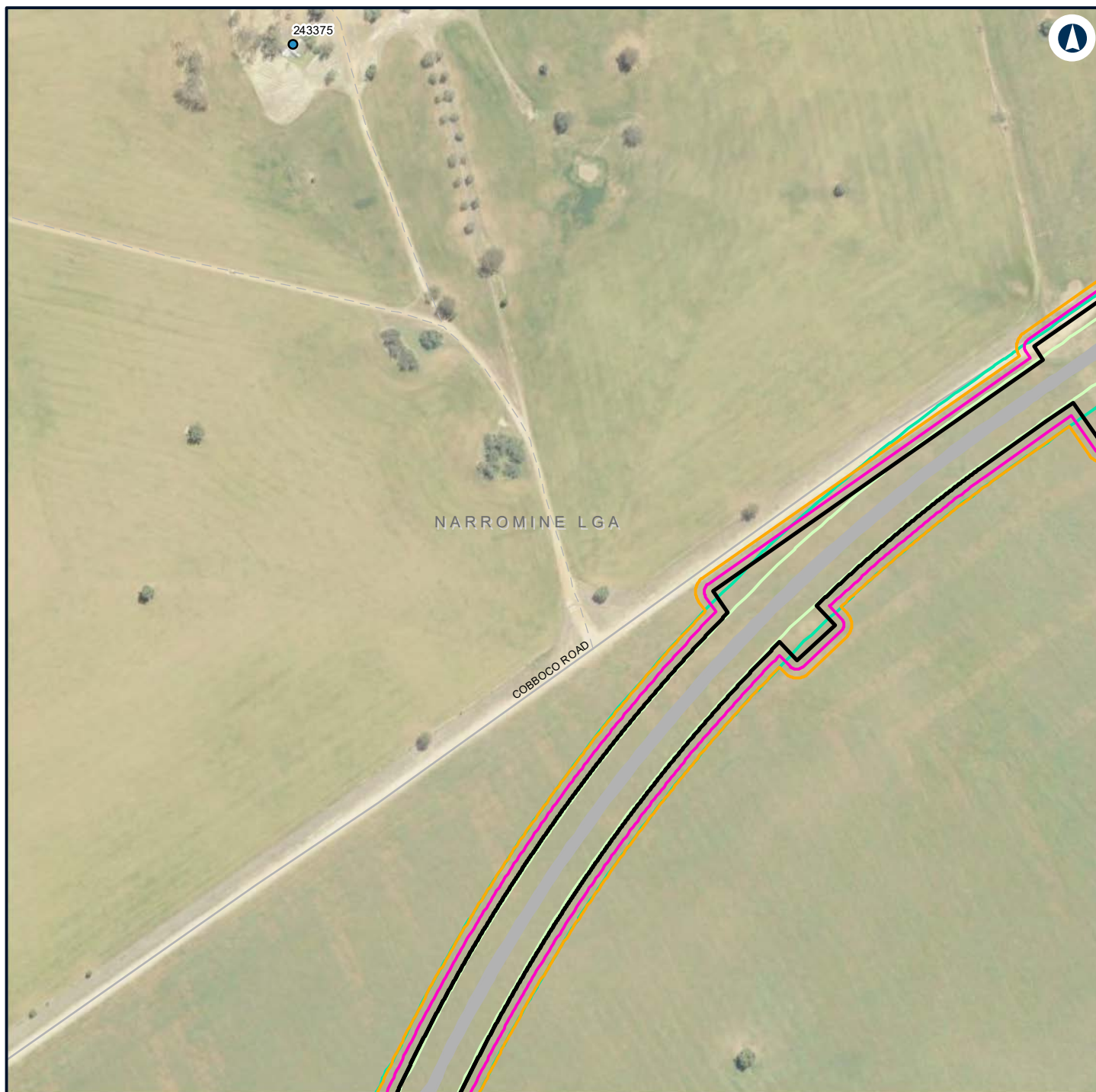
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

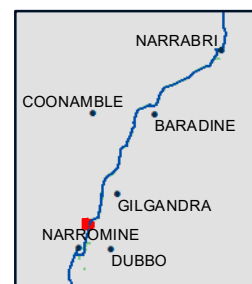
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 33 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 34 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

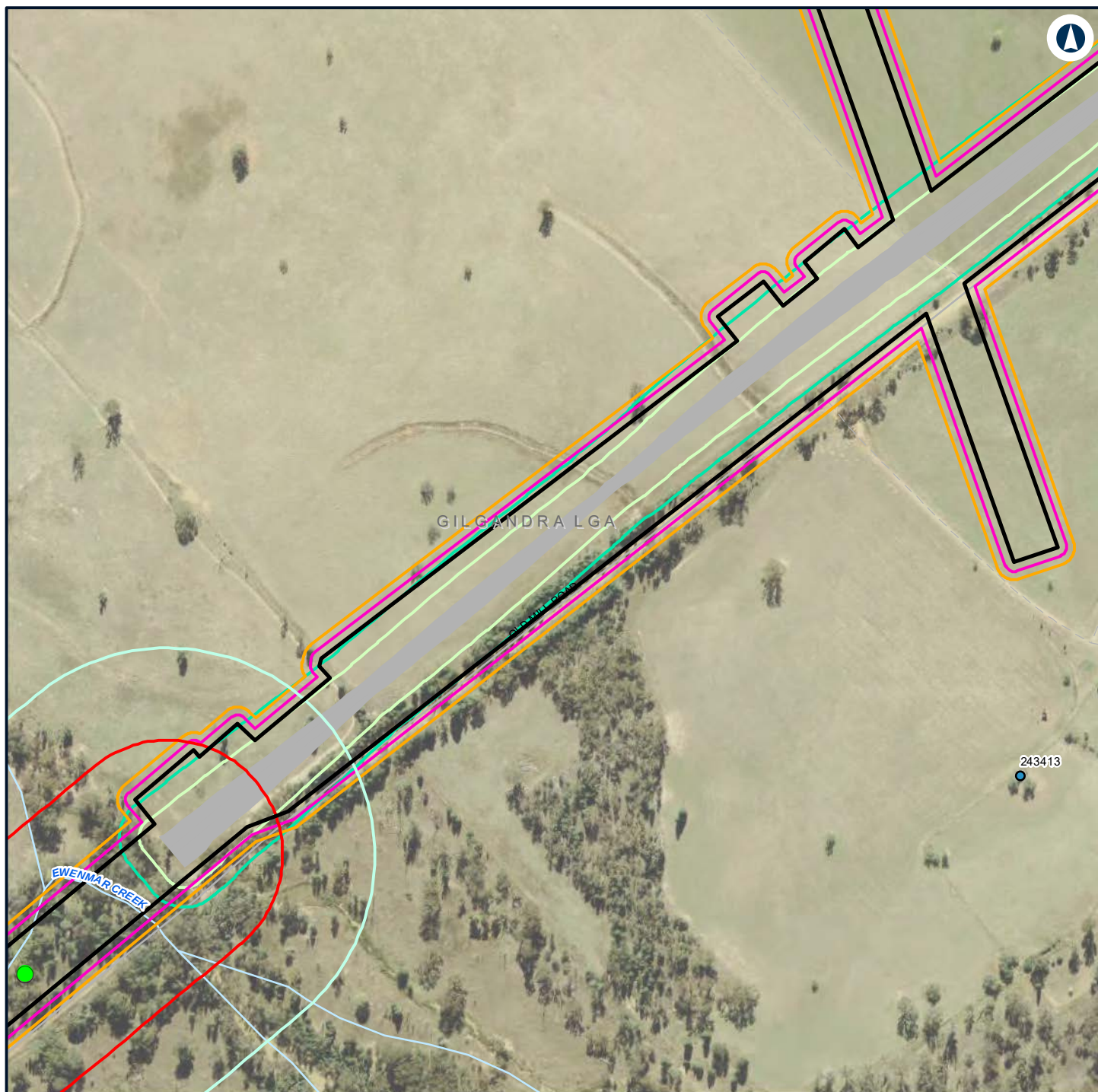
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Bridge centre
- Construction footprint
- Rail earthworks extent
- Other
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 35 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

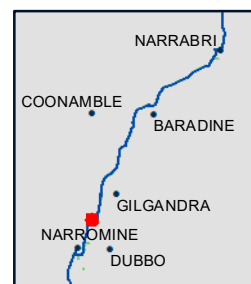
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- | | |
|---|--|
|  Construction footprint |  Clearing (Dozer) – Standard buildings: 5mm/s, 8m |
|  Rail earthworks extent |  Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
|  Other |  Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
|  Residential |  Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
|  Clearing (Dozer) – Heritage structures: 3mm/s, 15m |  Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 36 OF 113

0 0.1 0.2
Km

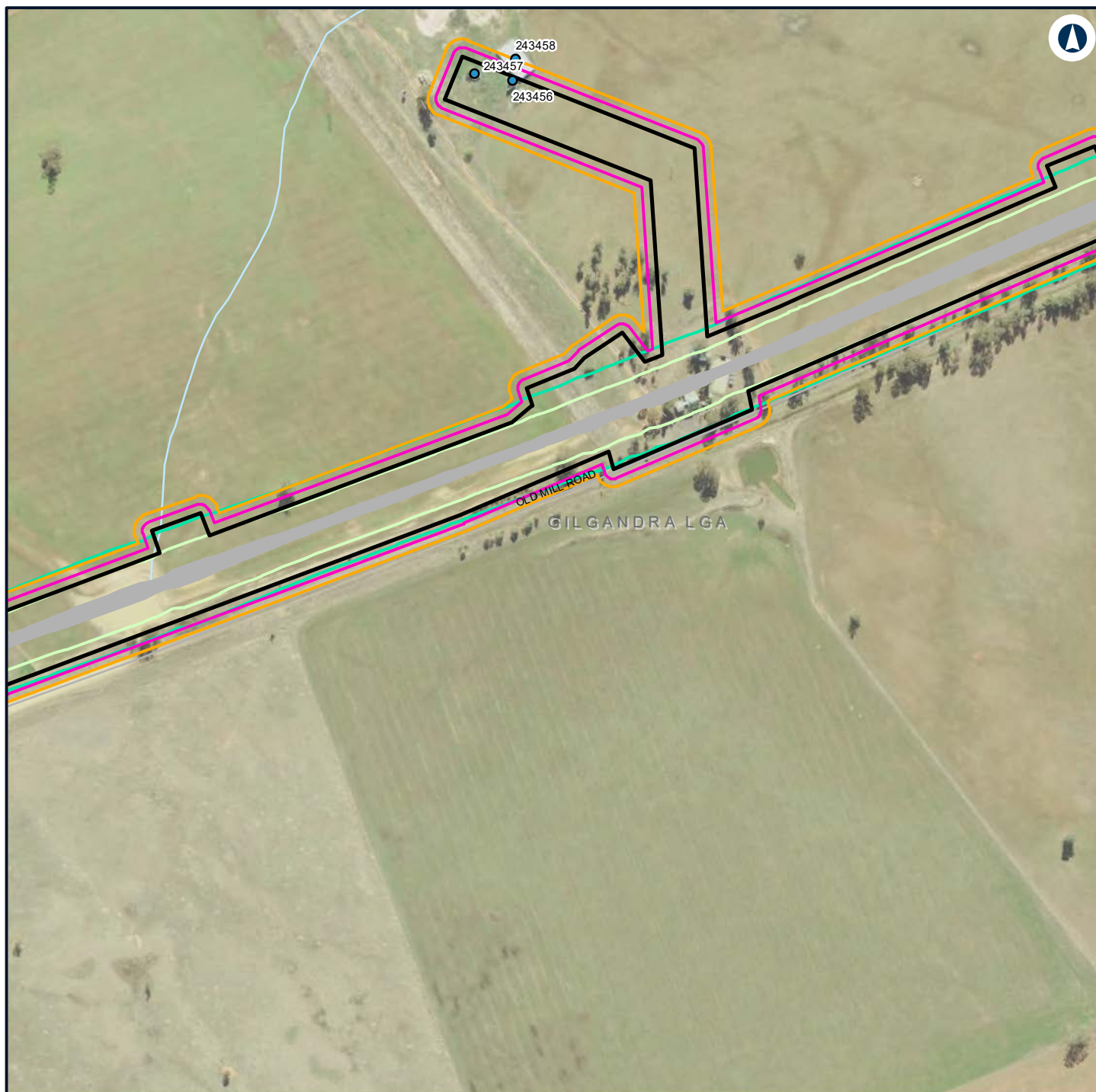
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

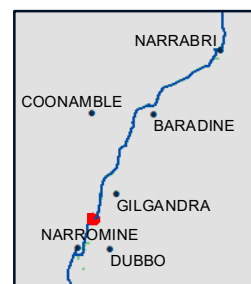
INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 37 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

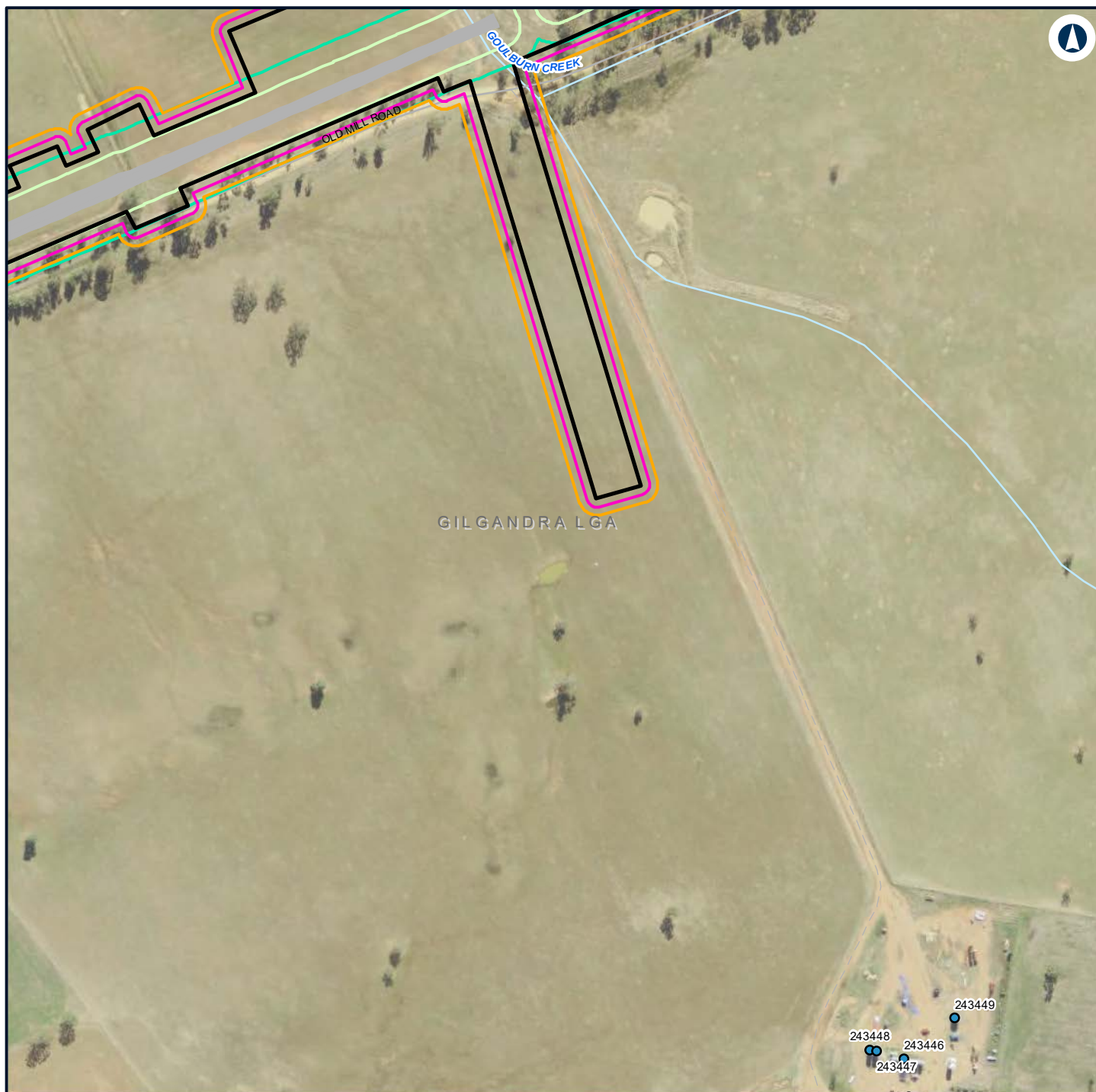
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 38 OF 113

0 0.1 0.2
Km

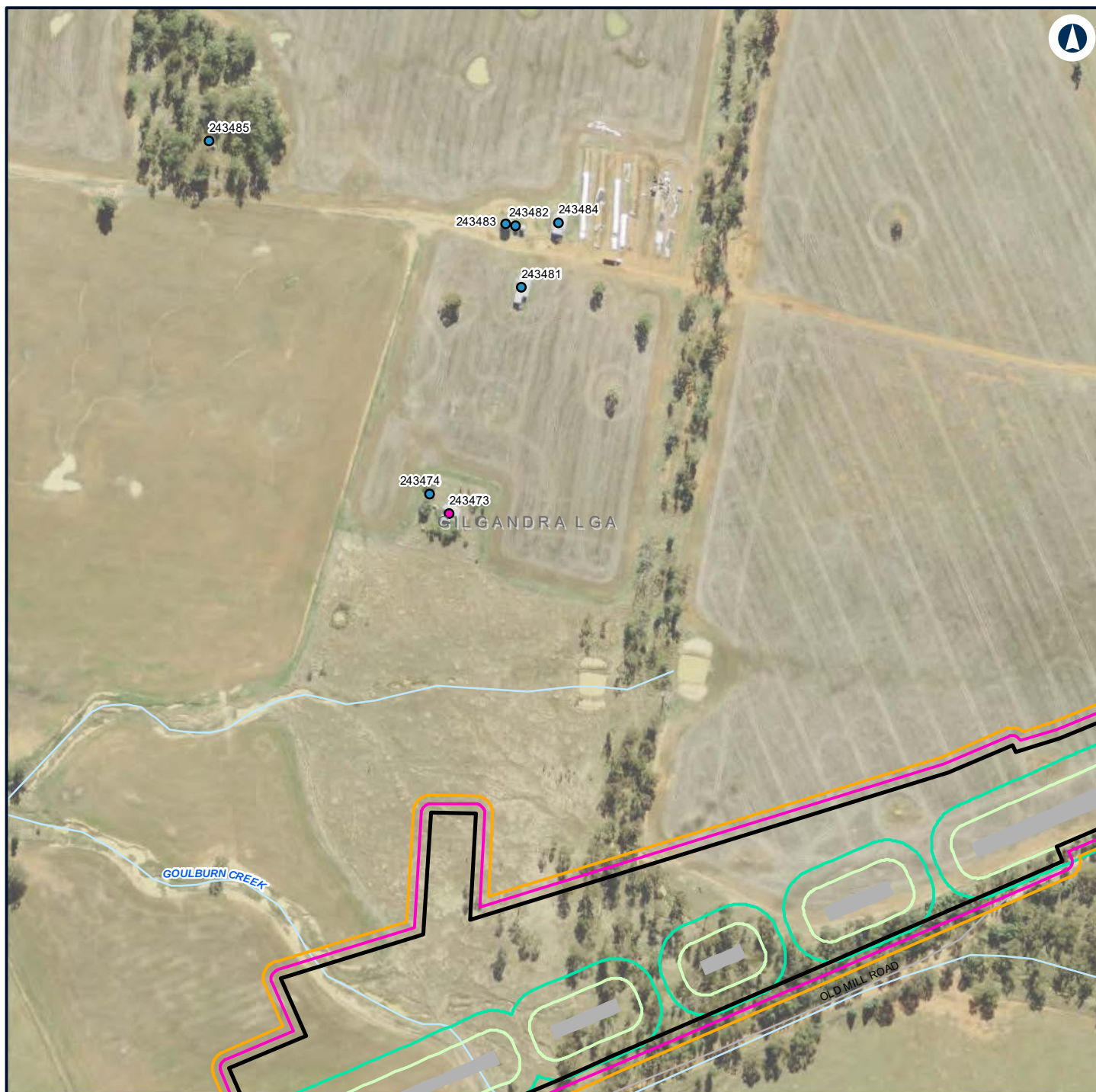
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

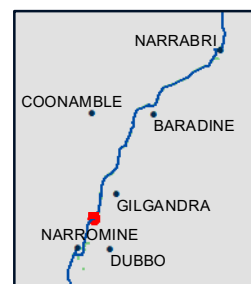
INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 39 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

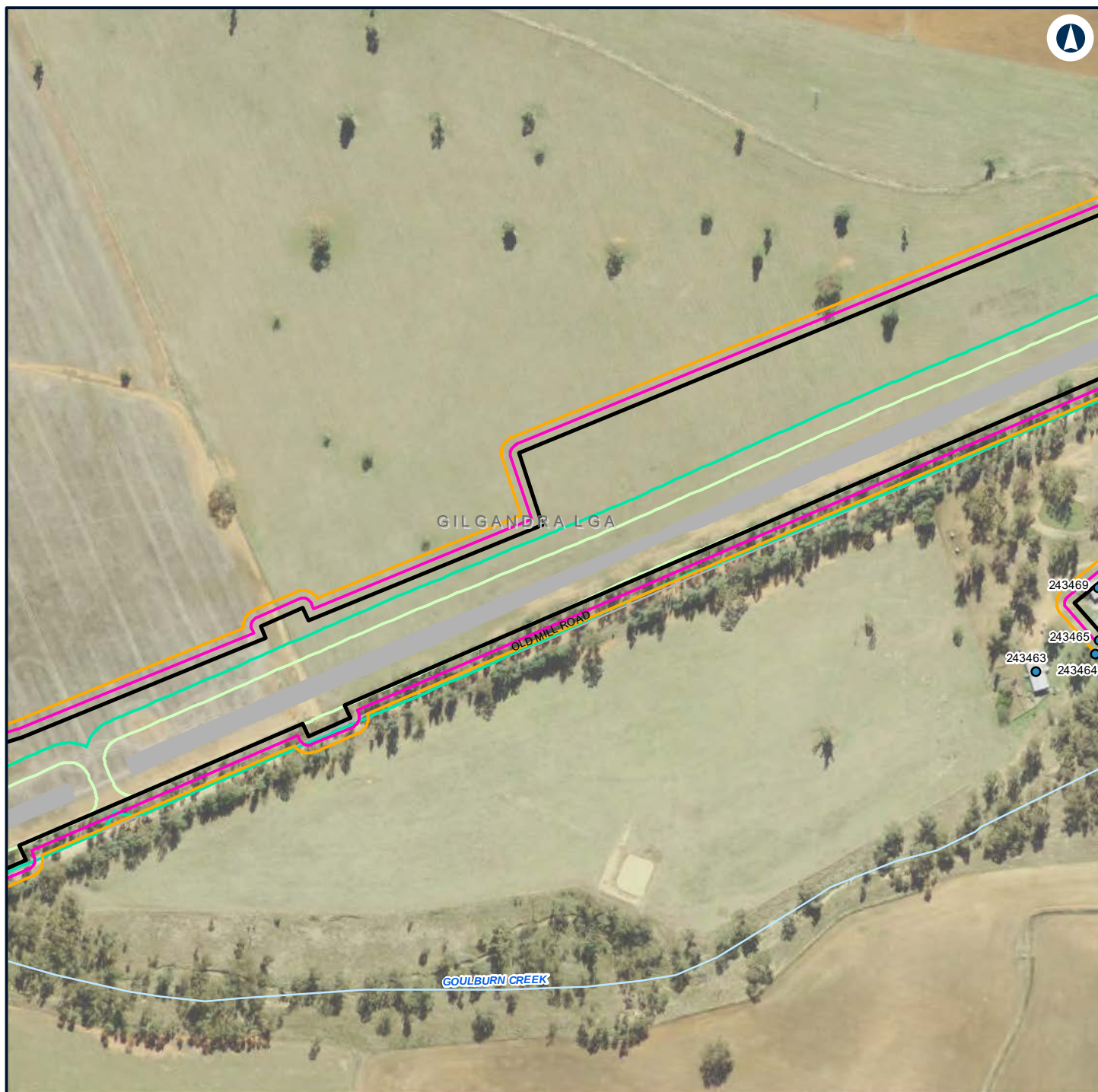
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 40 OF 113

0 0.1 0.2
Km

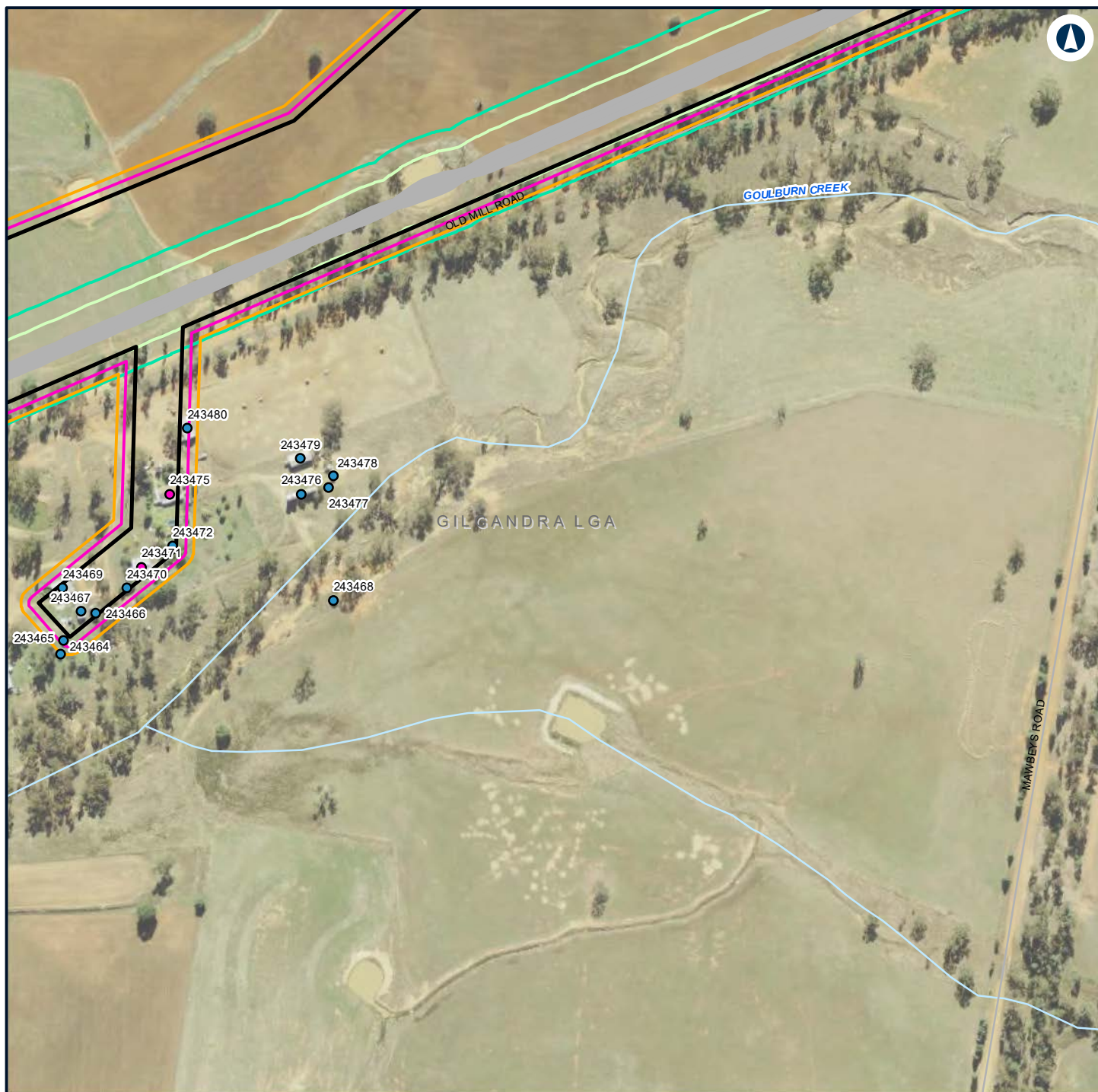
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 41 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

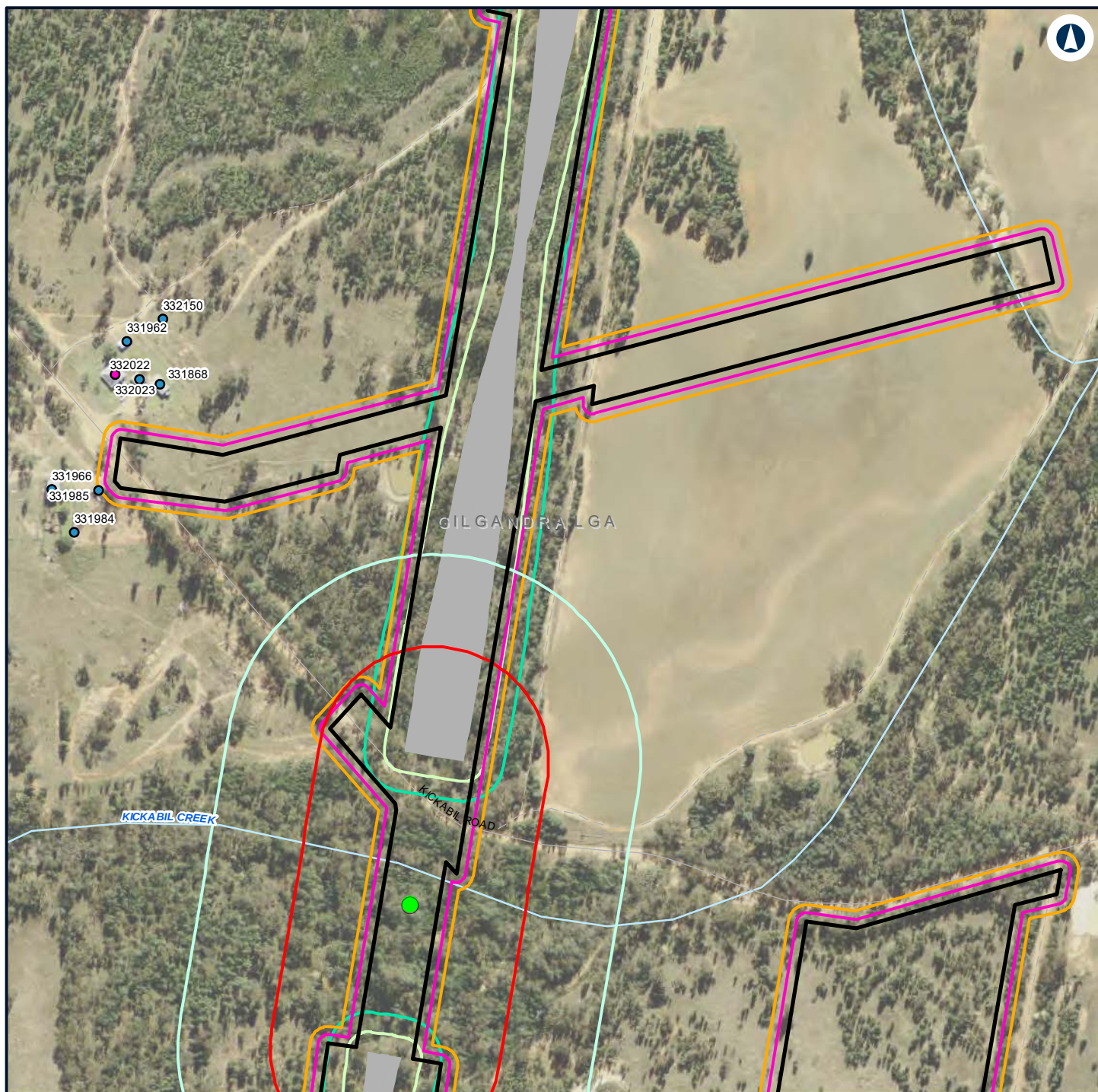
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

● Bridge centre

■ Construction footprint

■ Rail earthworks extent

● Other

● Residential

■ Bridges (Impact piling) – Heritage structures: 3mm/s, 180m

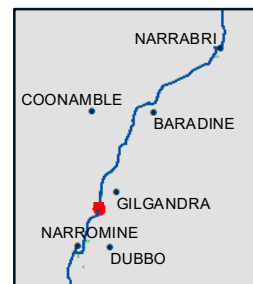
■ Bridges (Impact piling) – Standard buildings: 5mm/s, 100m

■ Clearing (Dozer) – Heritage structures: 3mm/s, 15m

■ Clearing (Dozer) – Standard buildings: 5mm/s, 8m

■ Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m

■ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 42 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

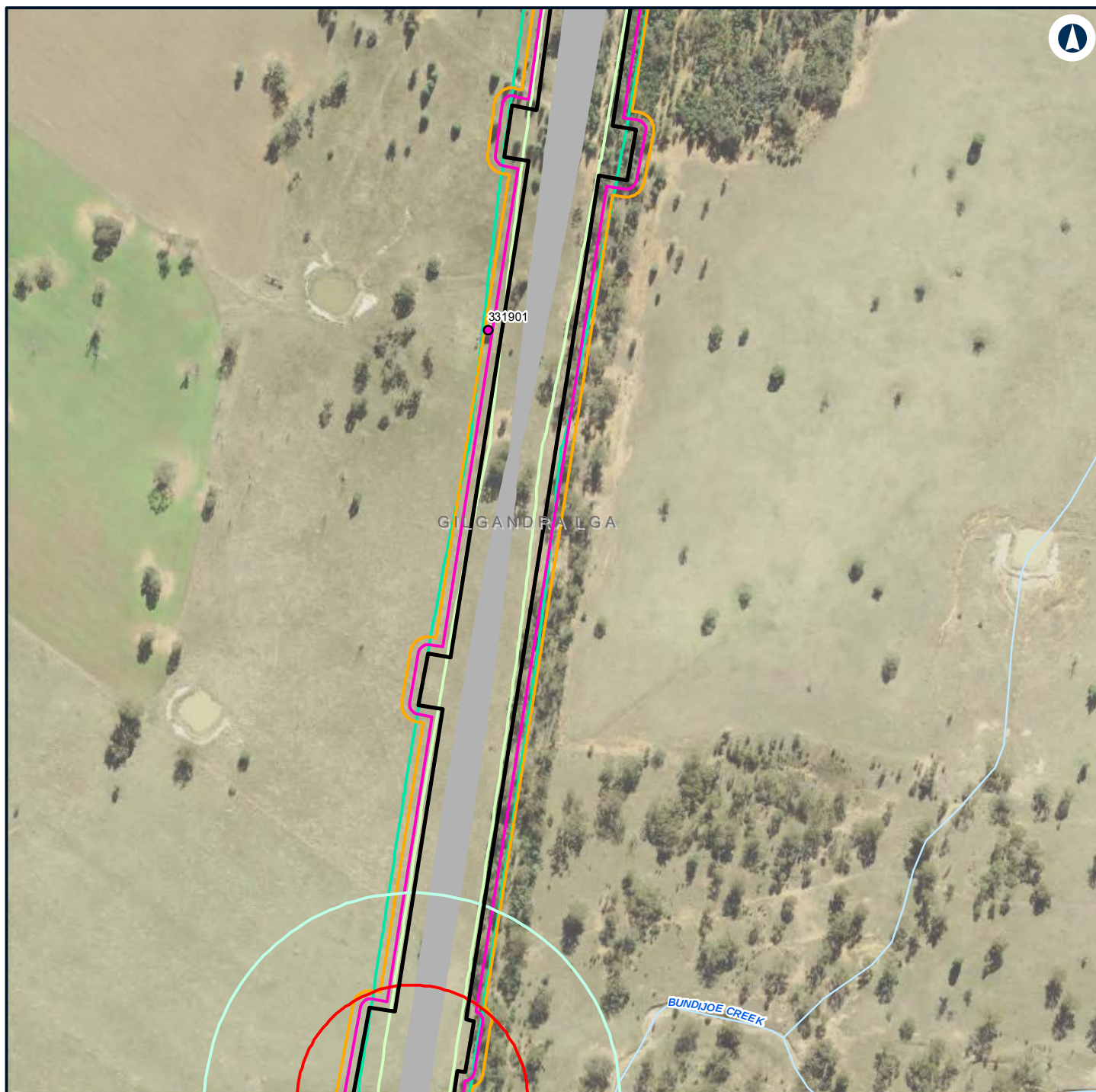
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- | | |
|--|--|
| Construction footprint | Clearing (Dozer) – Heritage structures: 3mm/s, 15m |
| Rail earthworks extent | Clearing (Dozer) – Standard buildings: 5mm/s, 8m |
| Residential | Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
| Bridges (Impact piling) – Heritage structures: 3mm/s, 180m | Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Bridges (Impact piling) – Standard buildings: 5mm/s, 100m | |



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 43 OF 113

0 0.1 0.2
Km

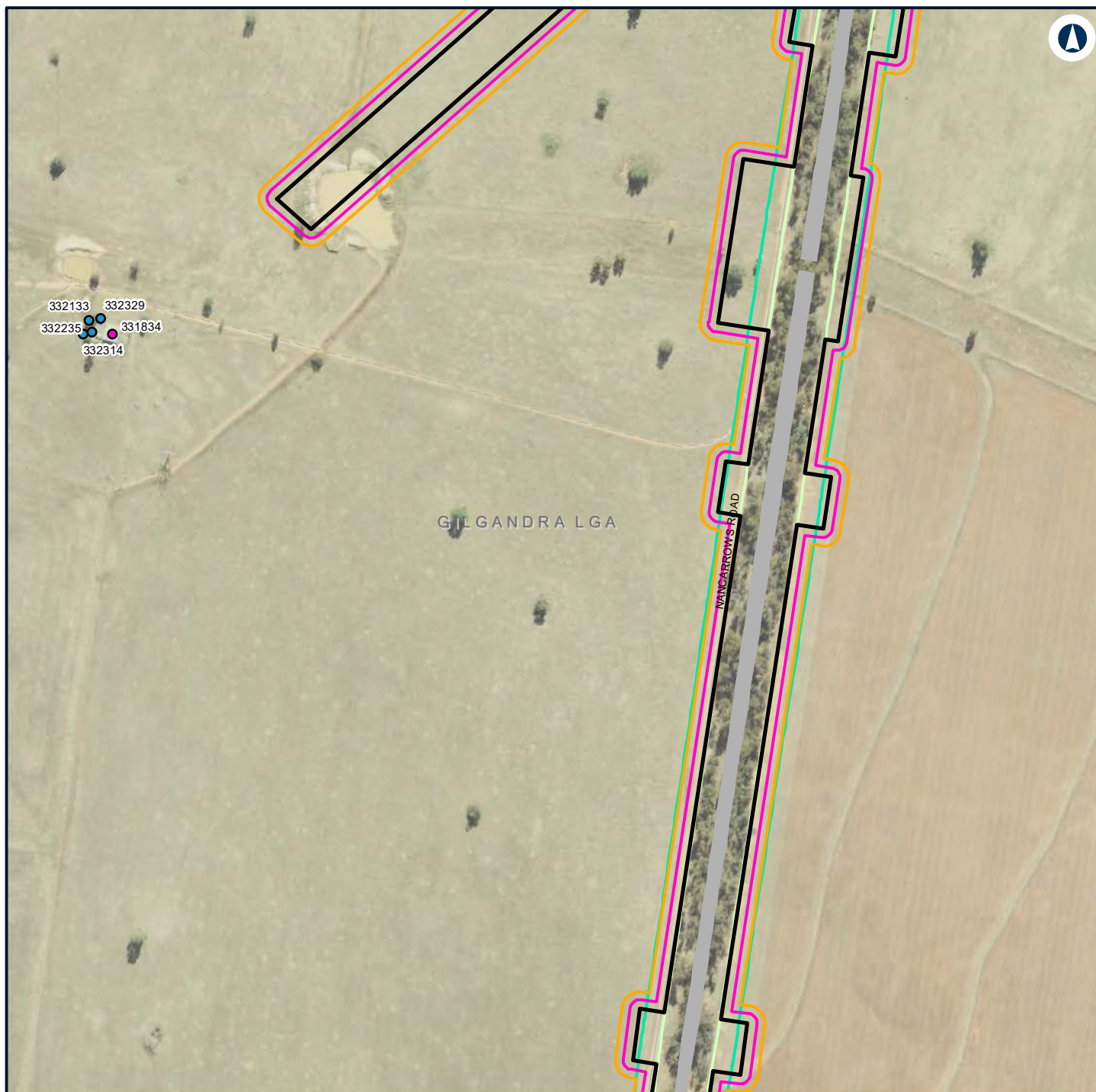
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 44 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

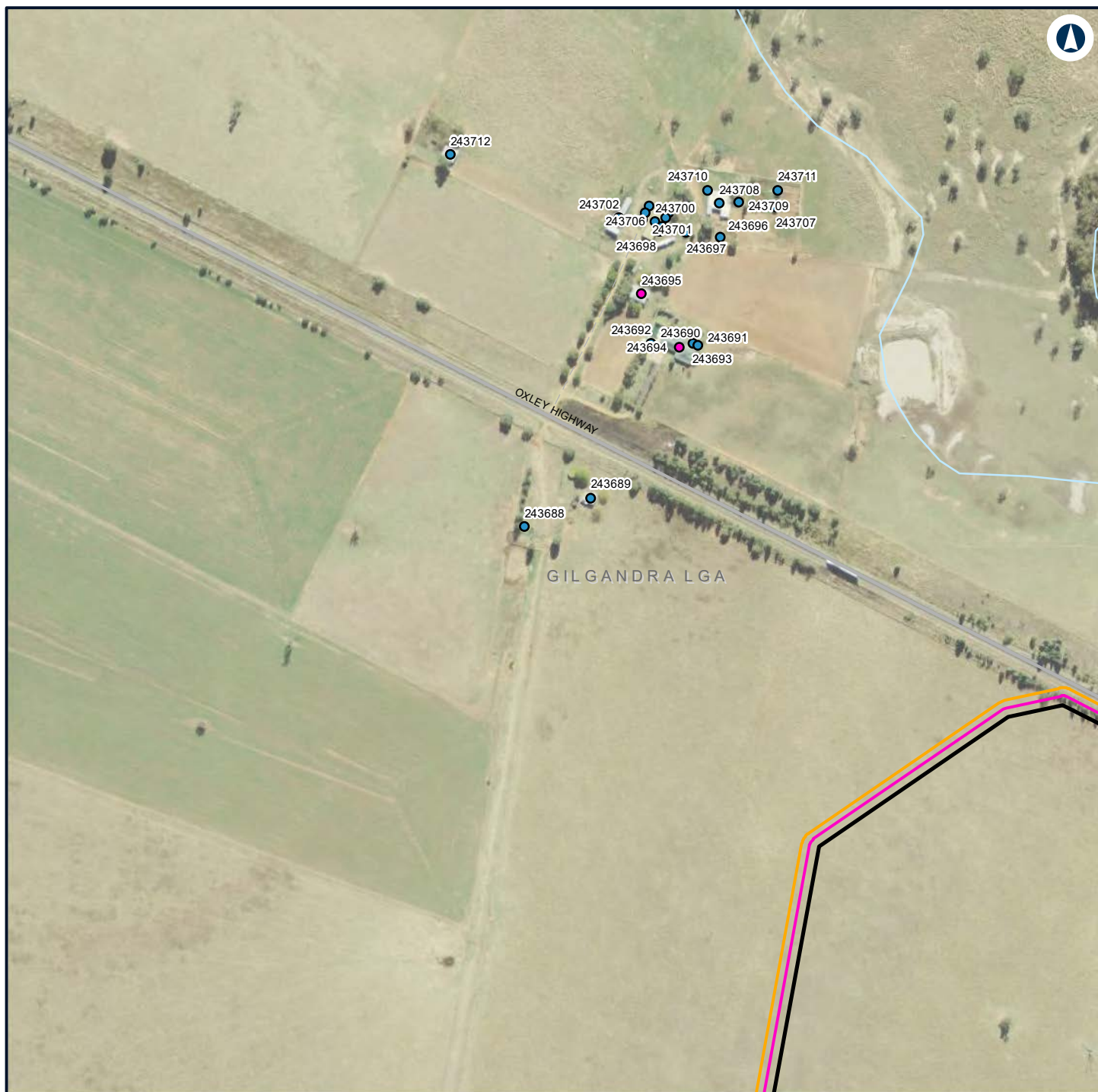
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 45 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 46 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

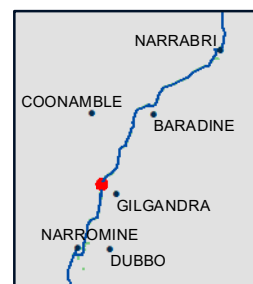
INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 47 OF 113

0 0.1 0.2
Km

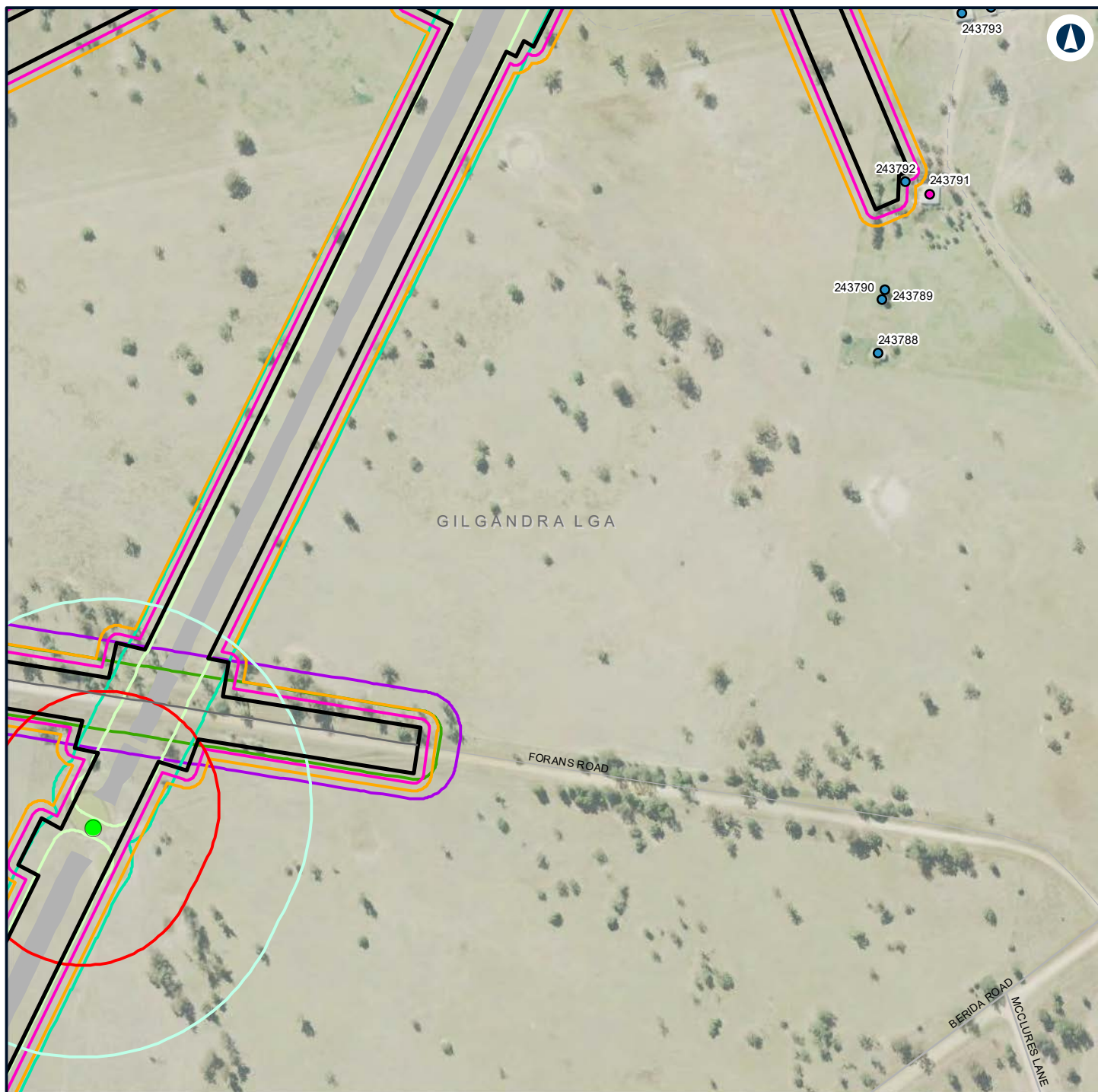
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

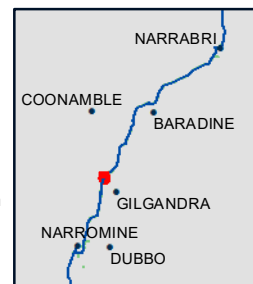
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Bridge centre
- Road design
- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 48 OF 113

0 0.1 0.2
Km

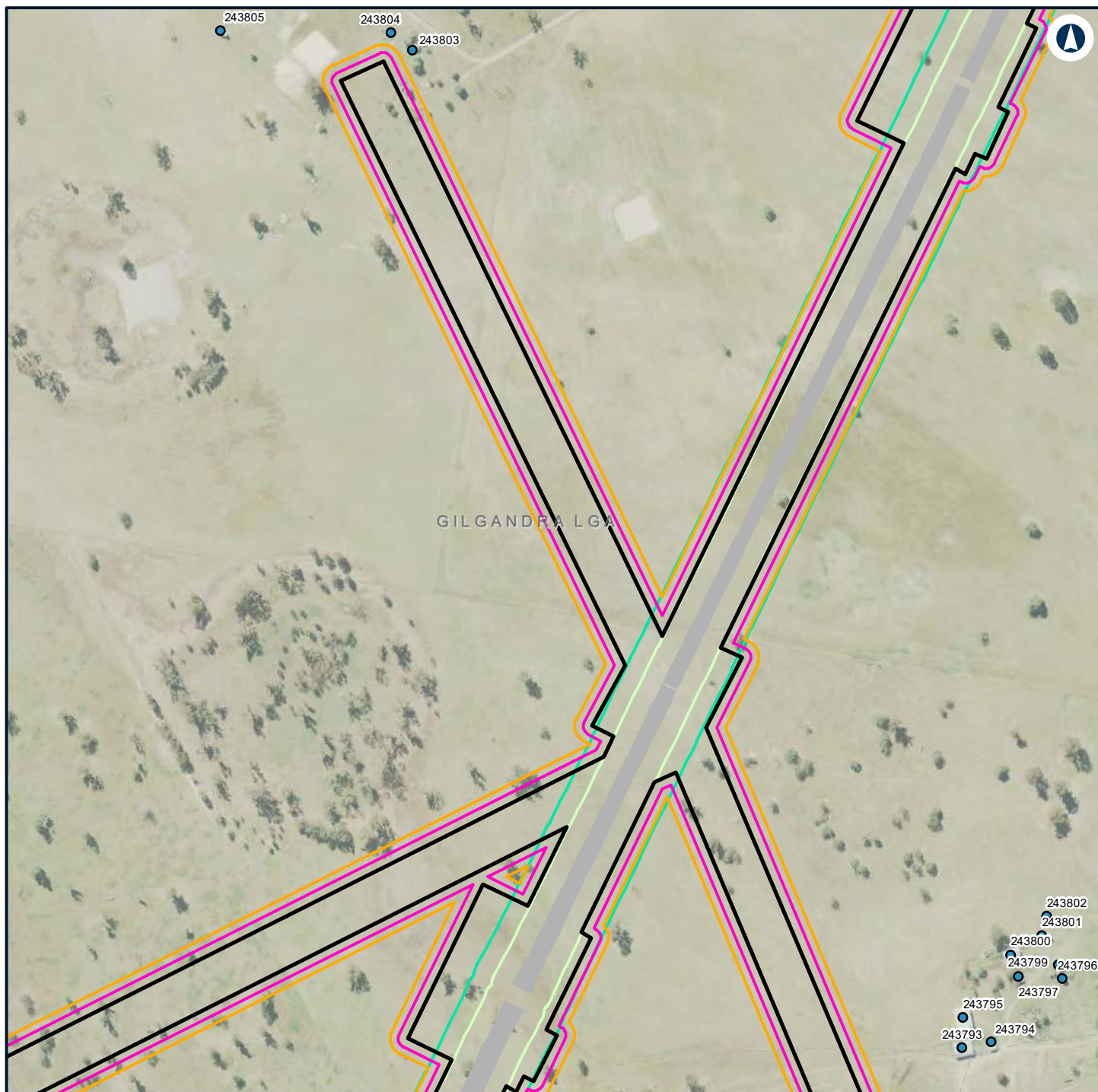
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 49 OF 113

0 0.1 0.2
Km

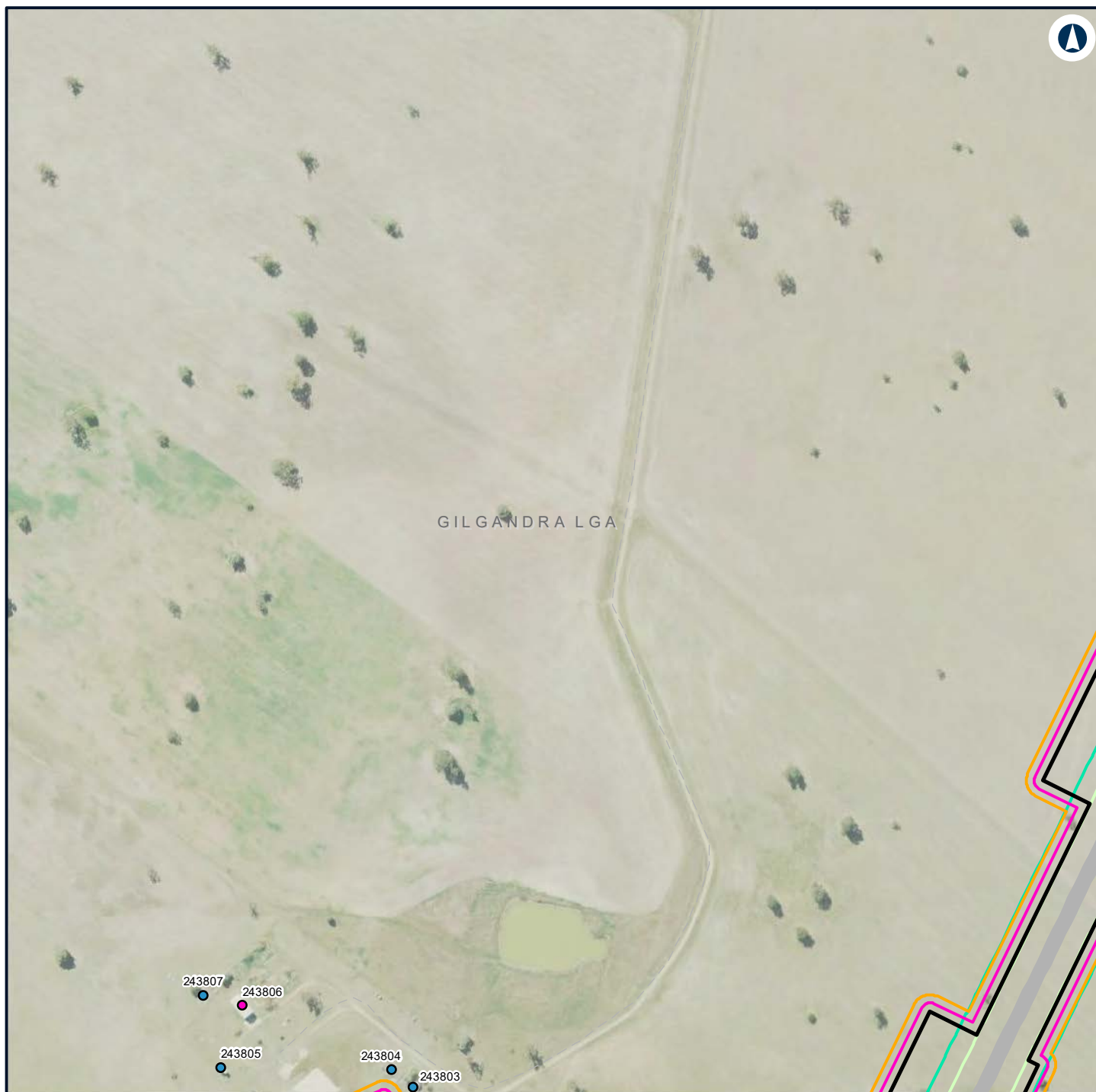
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 50 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

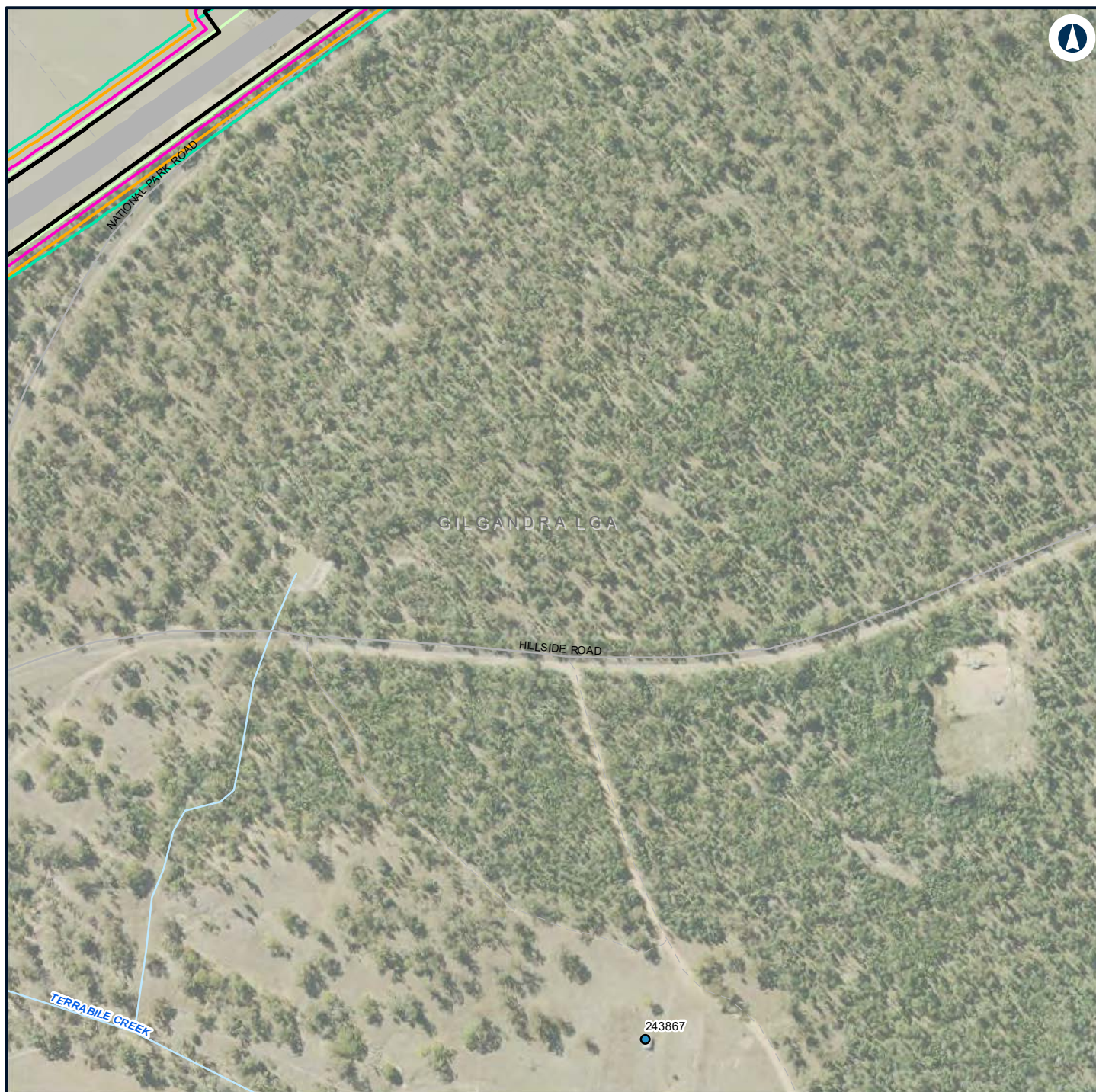
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Active recreation
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 51 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

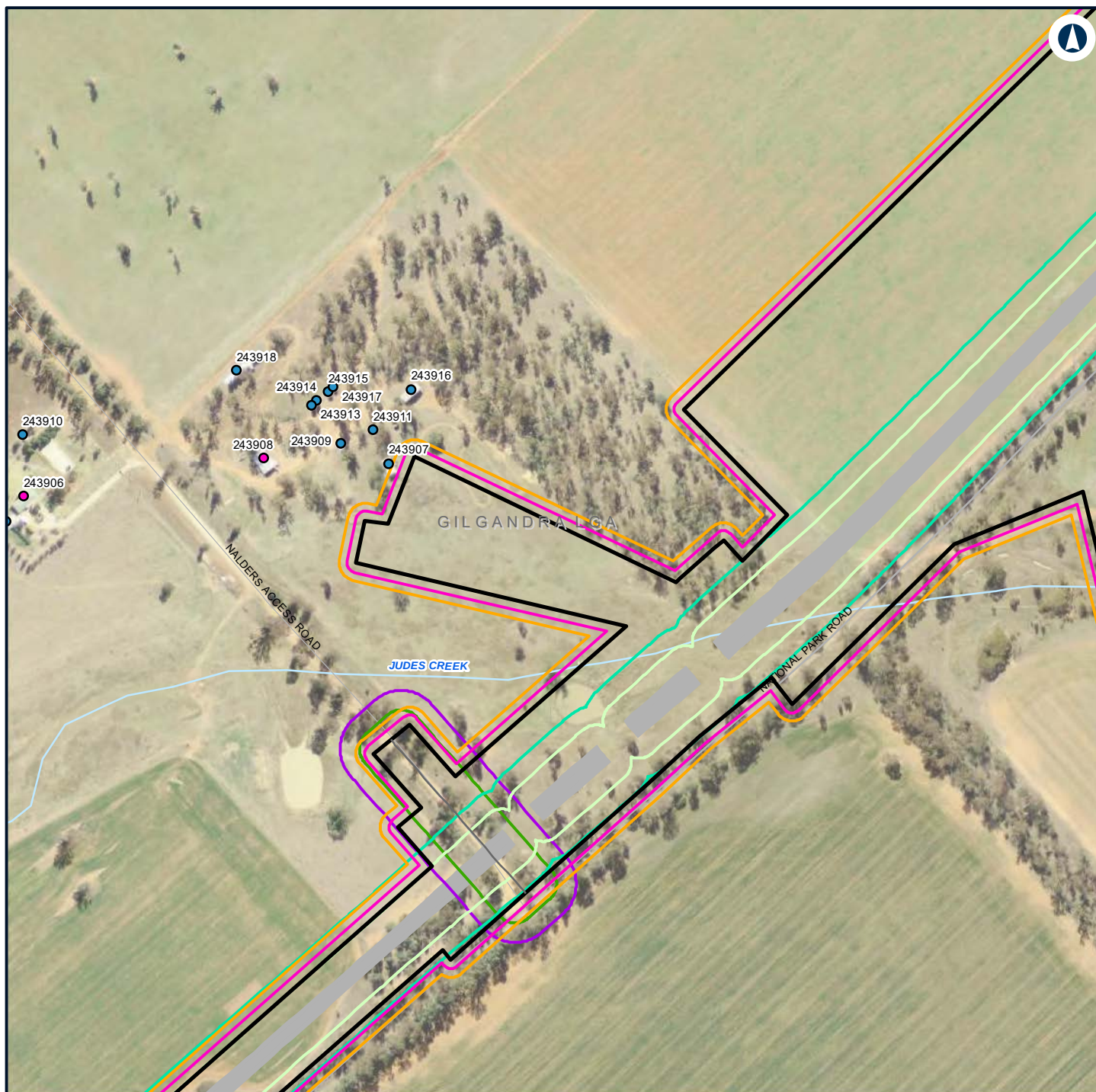
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Road design
- ▬ Construction footprint
- ▬ Rail earthworks extent
- Other
- Residential
- ▬ Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- ▬ Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- ▬ Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- ▬ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 52 OF 113

0 0.1 0.2
Km

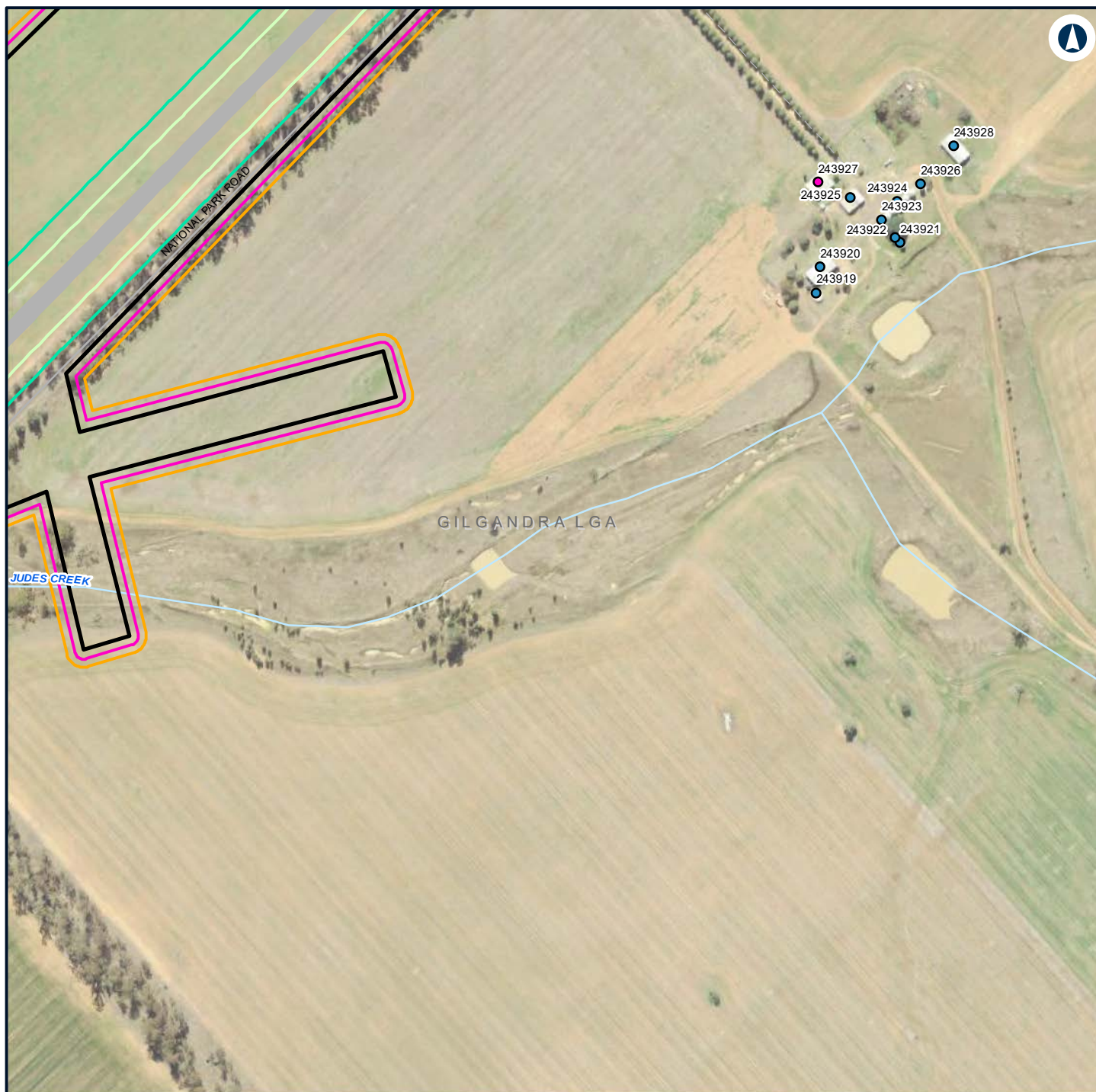
Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 53 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

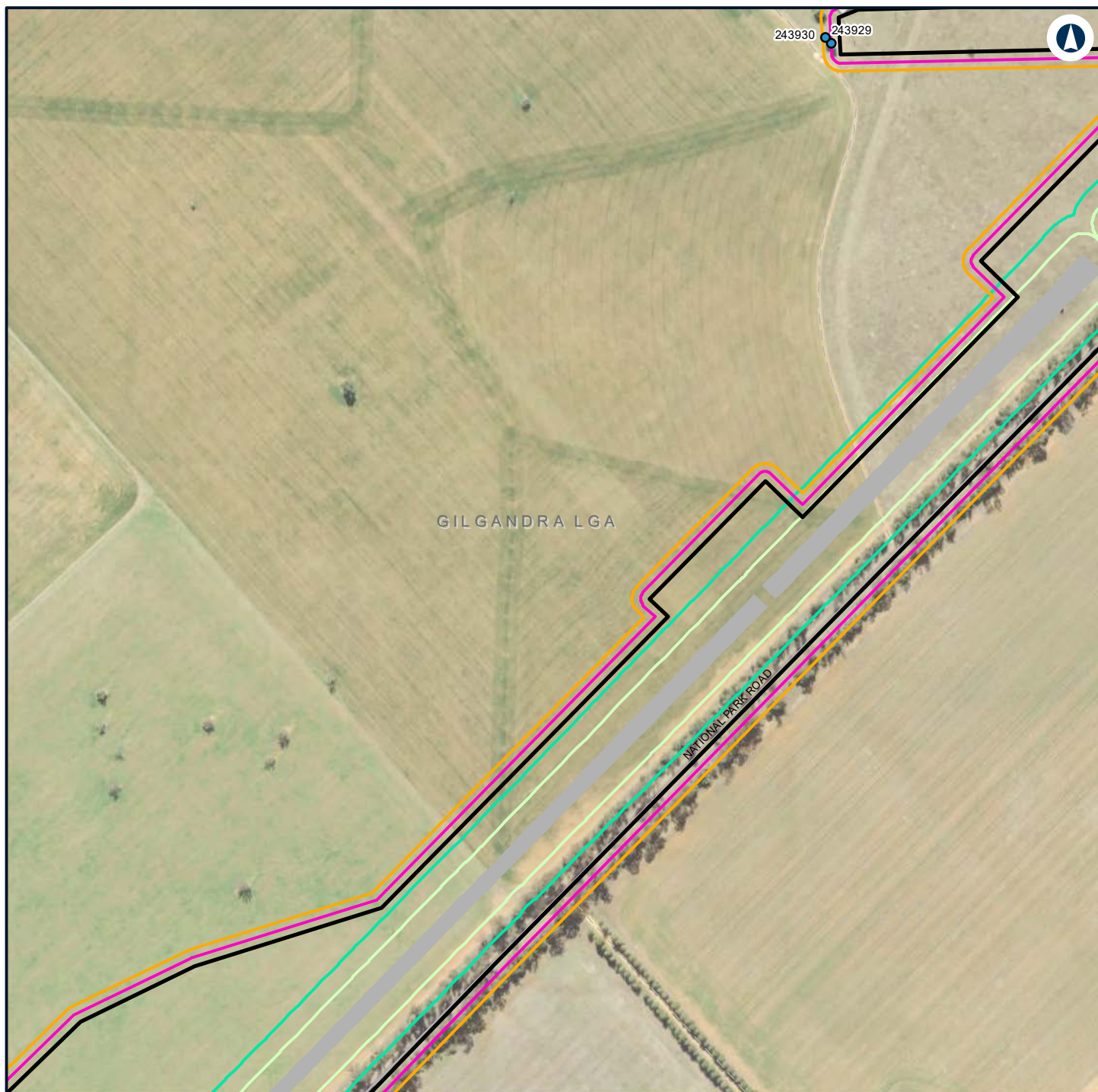
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

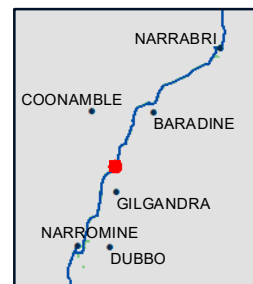
INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 54 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 55 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

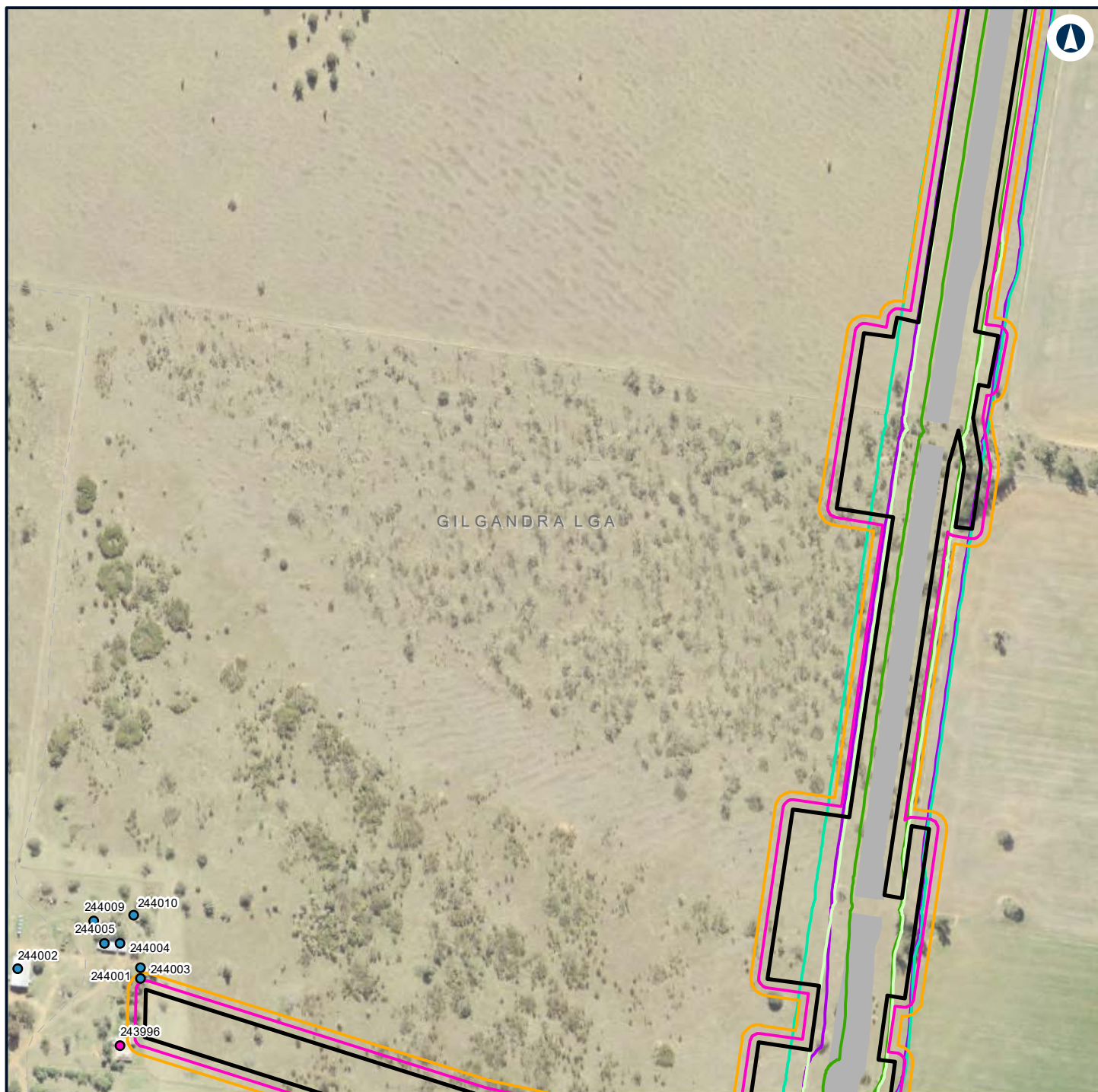
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

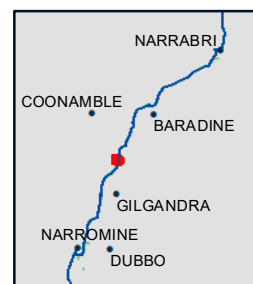
INLAND RAIL **ARTC**

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LEGEND

- | | |
|--|--|
| Construction footprint | Clearing (Dozer) – Standard buildings: 5mm/s, 8m |
| Rail earthworks extent | Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
| Other | Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Residential | Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Clearing (Dozer) – Heritage structures: 3mm/s, 15m | Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 56 OF 113

0 0.1 0.2
Km

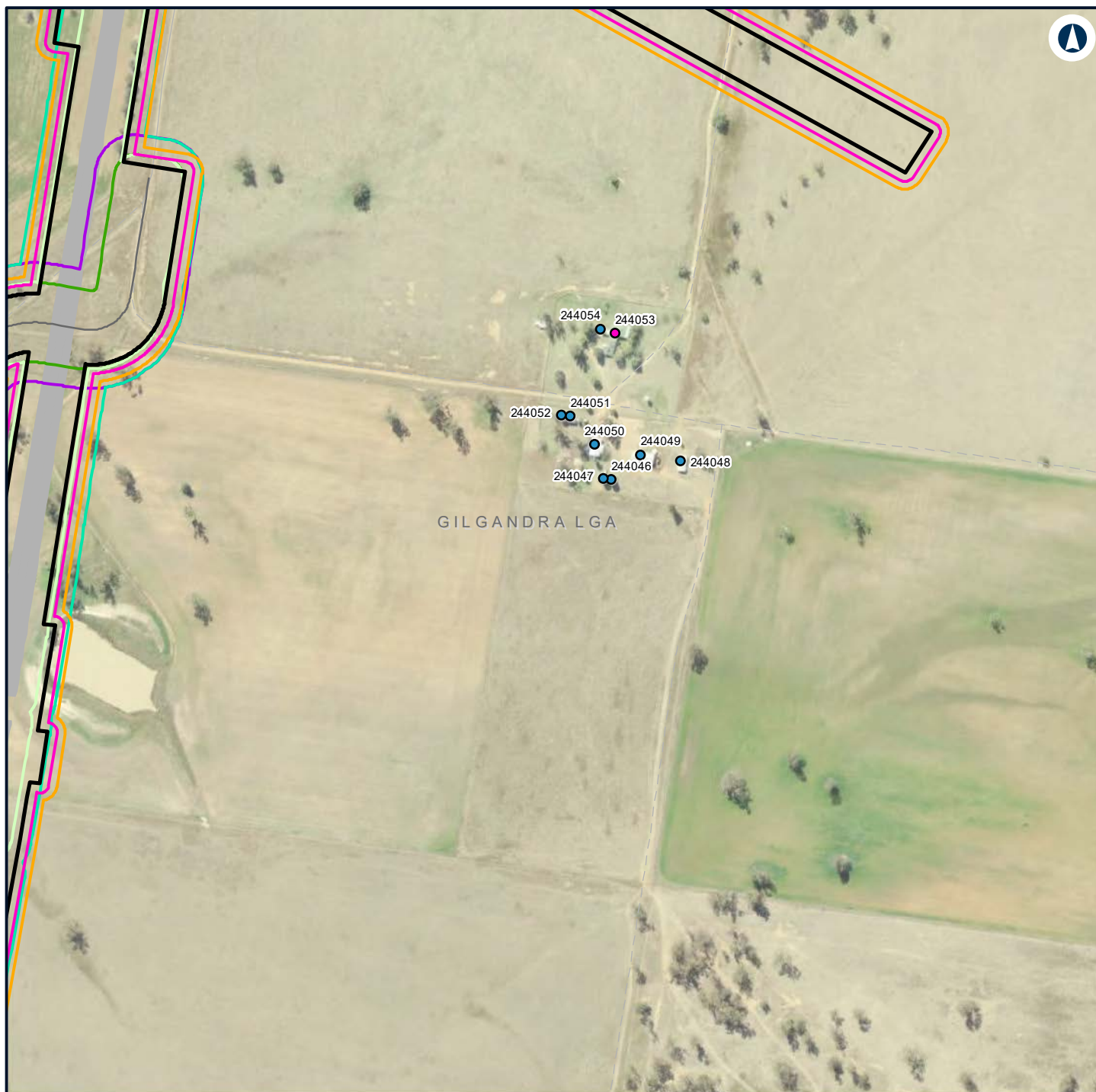
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Road design
- ▬ Construction footprint
- ▬ Rail earthworks extent
- Other
- Residential
- ▬ Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- ▬ Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- ▬ Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- ▬ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 57 OF 113

0 0.1 0.2
Km

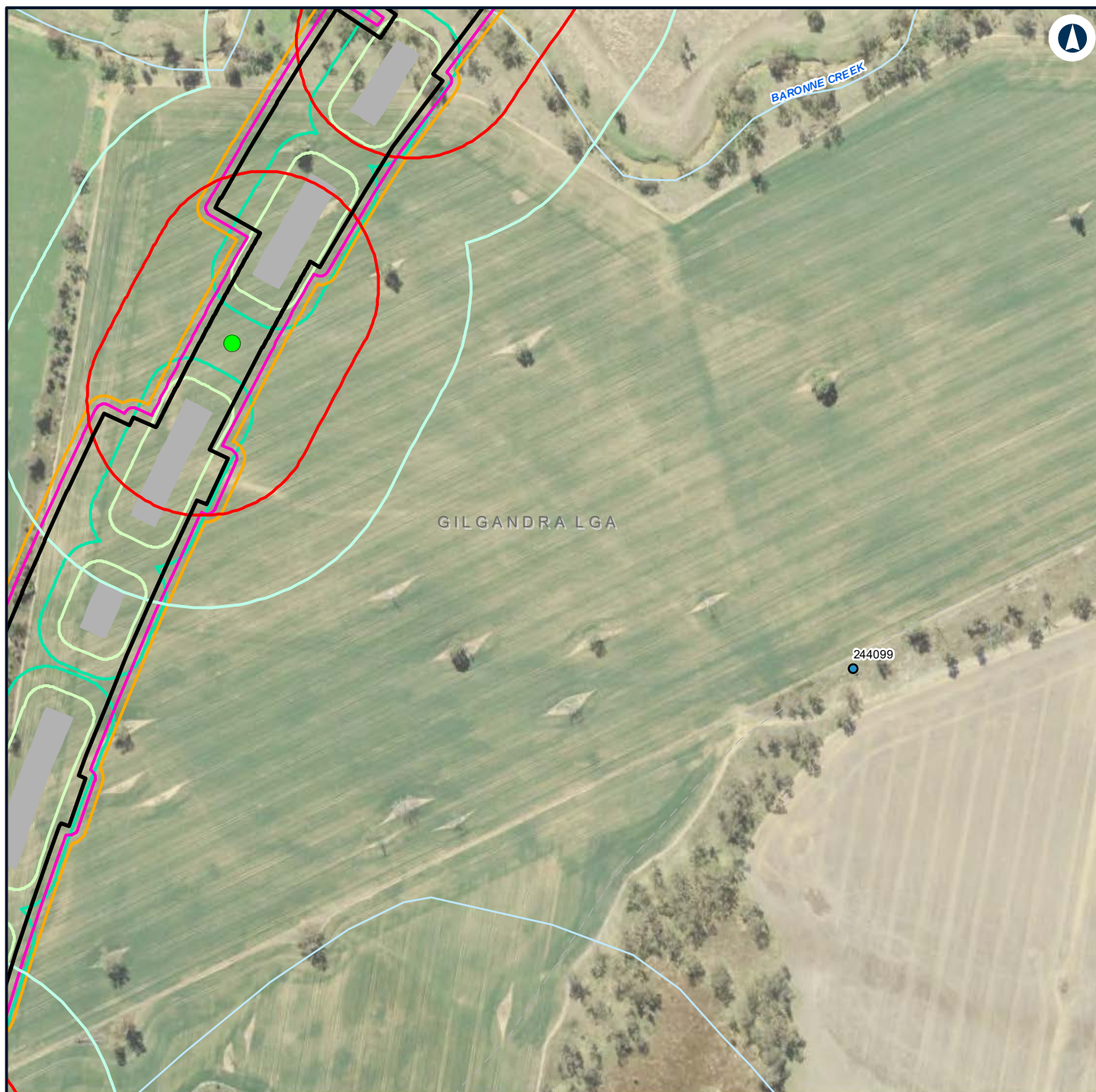
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre
- Construction footprint
- Rail earthworks extent
- Other
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 58 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

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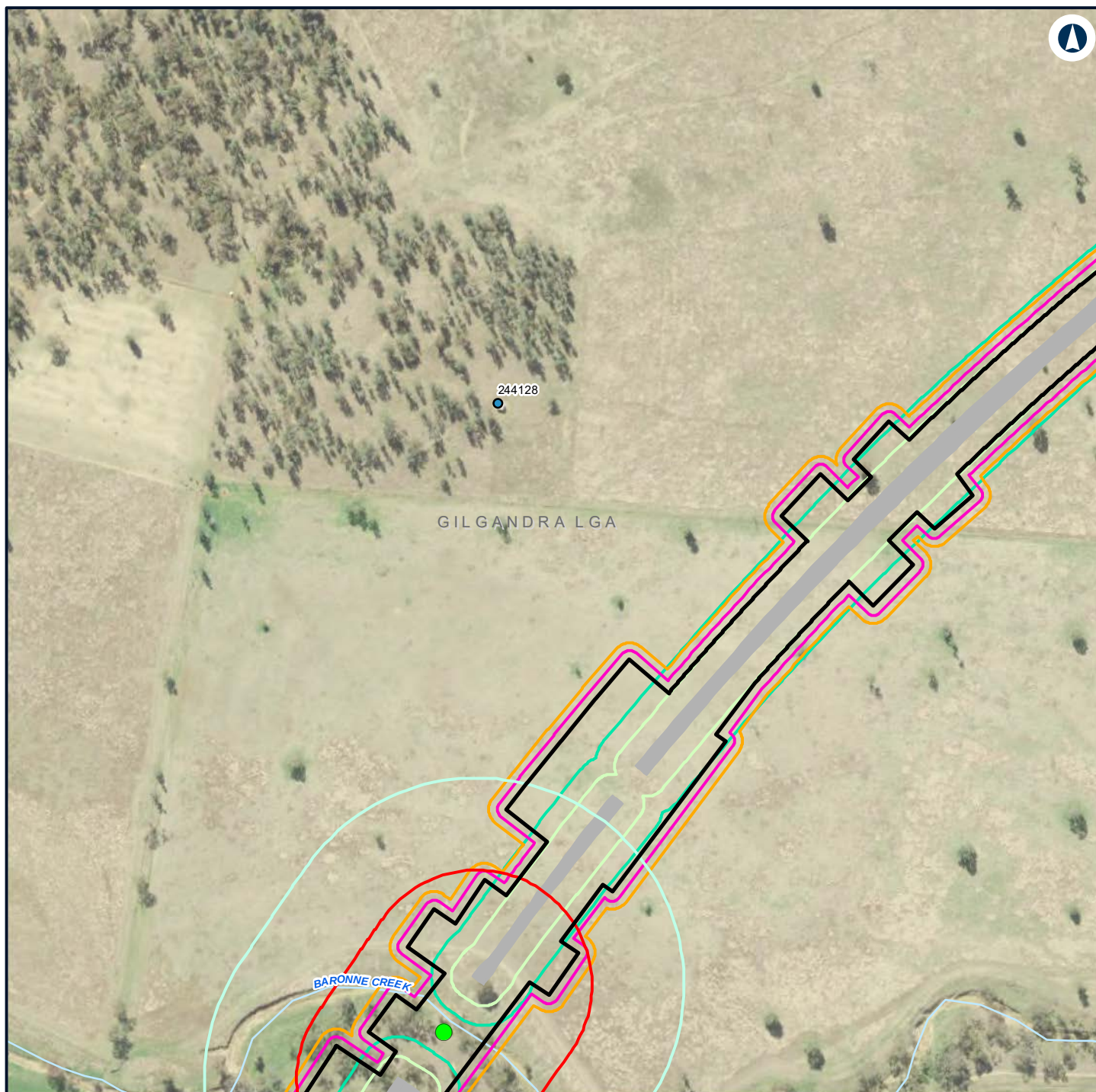
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre
- Construction footprint
- Rail earthworks extent
- Other
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 59 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 60 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

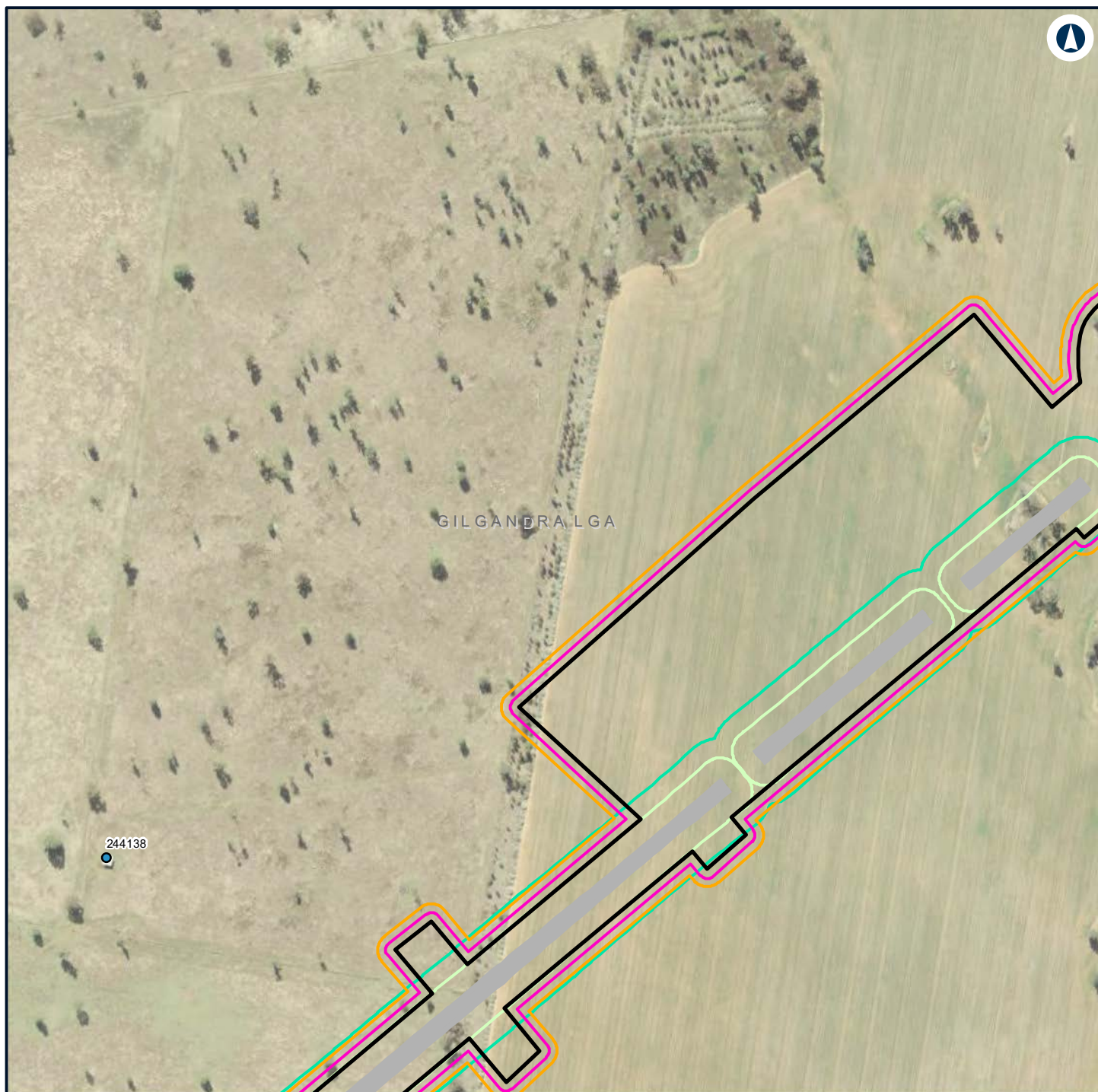
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 61 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

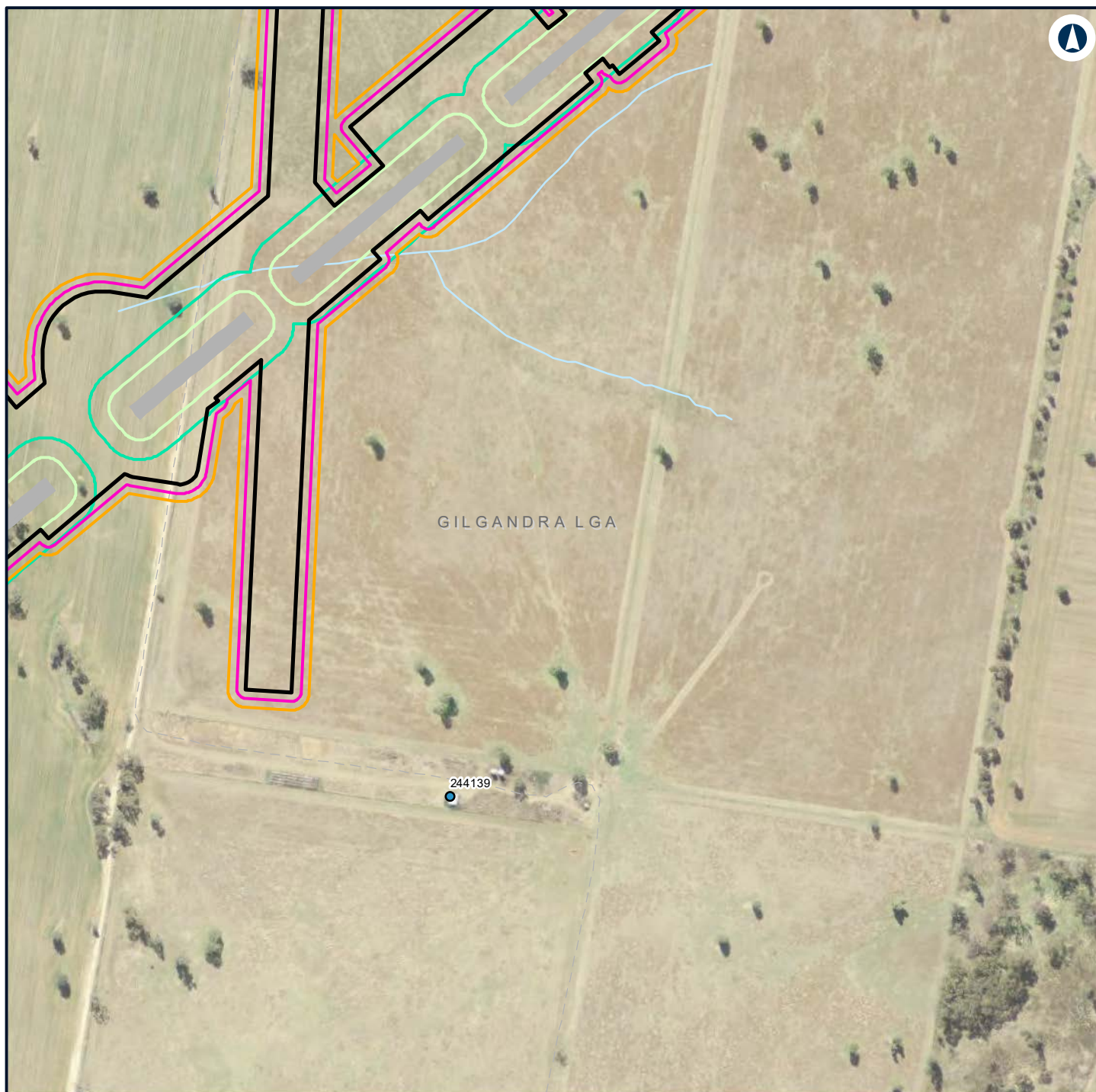
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 62 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

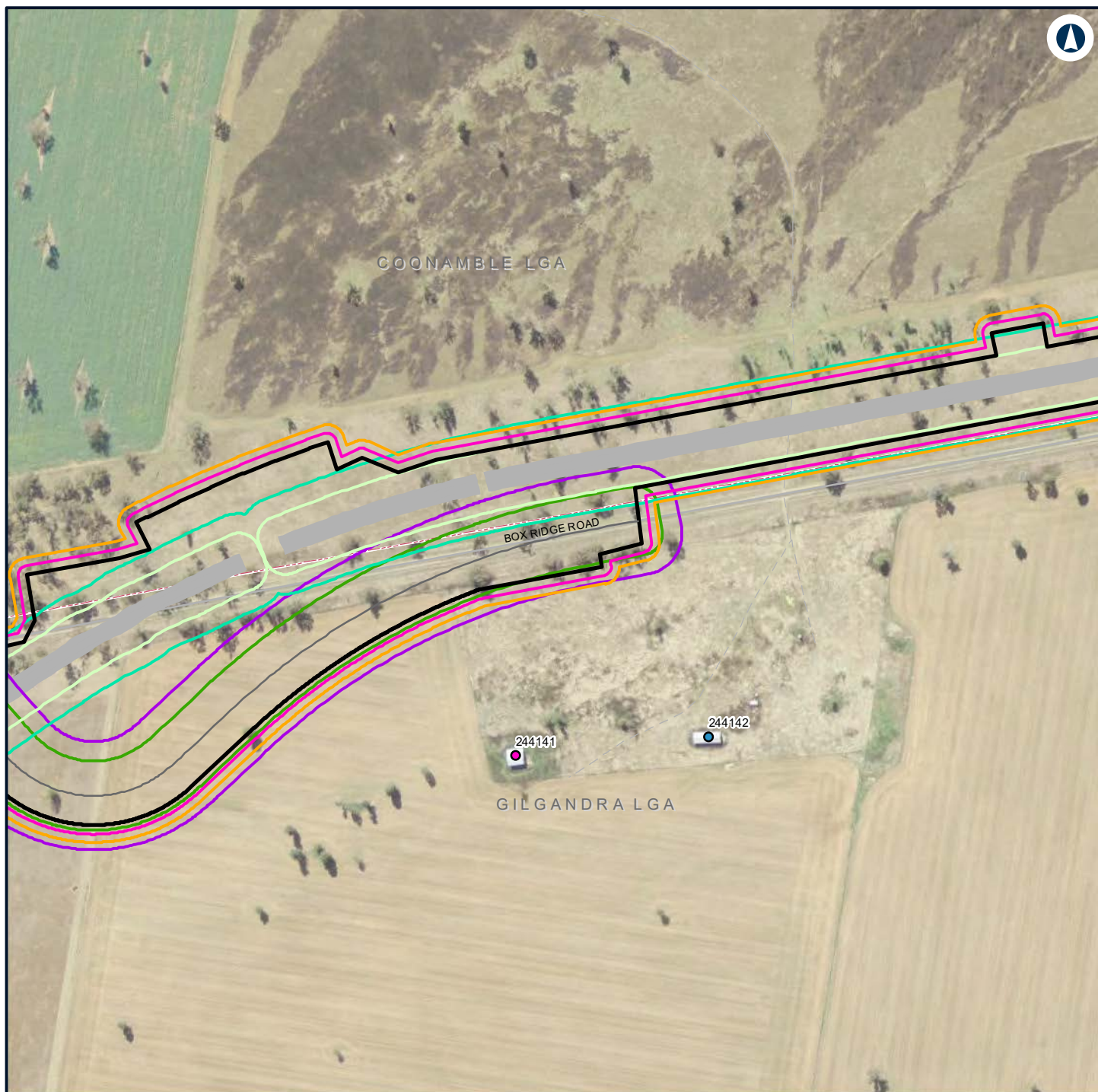
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

— Road design

▬ Construction footprint

▬ Rail earthworks extent

● Other

● Residential

▬ Clearing (Dozer) – Heritage structures: 3mm/s, 15m

▬ Clearing (Dozer) – Standard buildings: 5mm/s, 8m

▬ Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m

▬ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m

▬ Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m

▬ Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 63 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 64 OF 113

0 0.1 0.2
Km

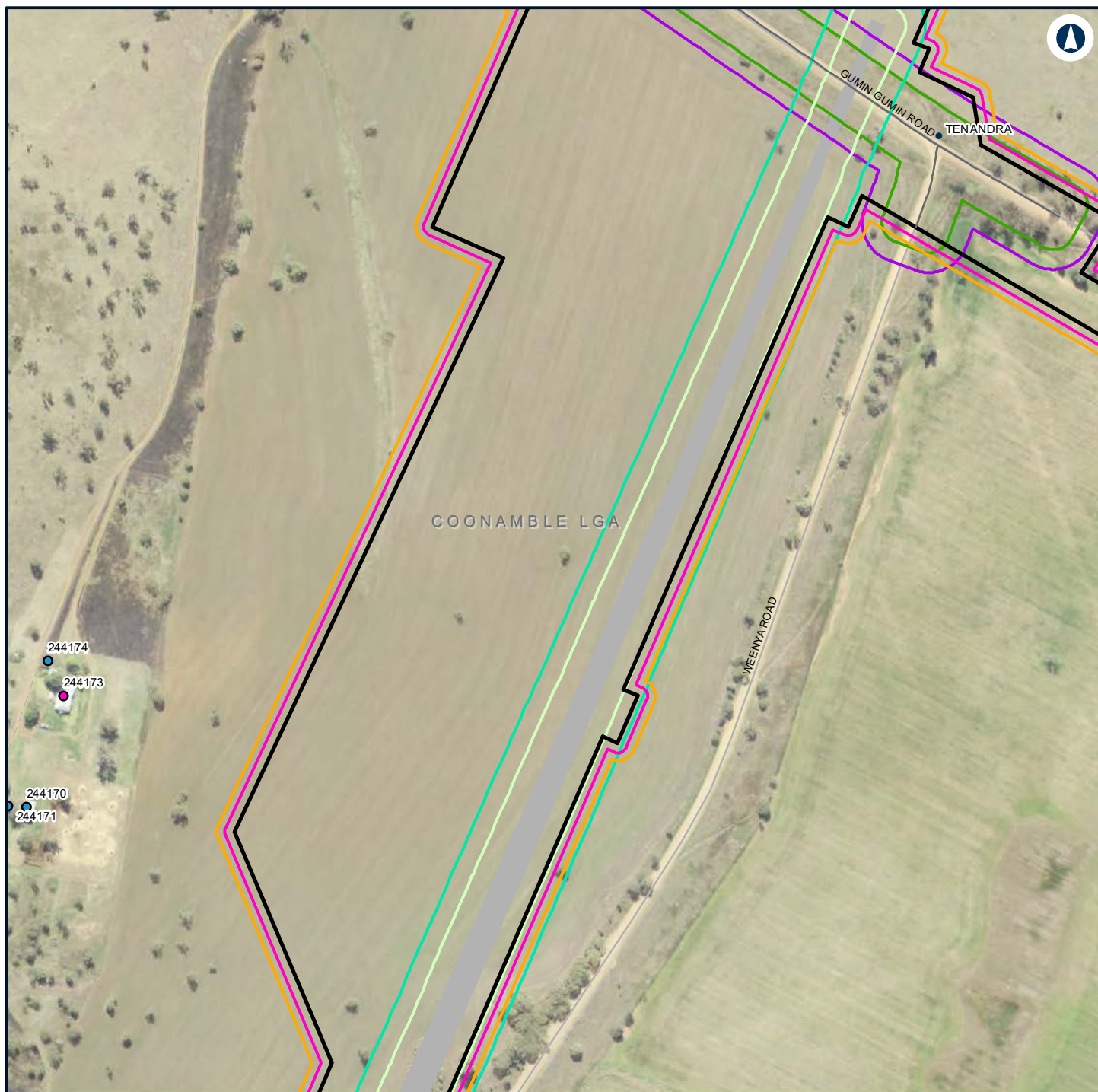
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LEGEND

- Road design
- ▬ Construction footprint
- ▬ Rail earthworks extent
- Other
- Residential
- ▬ Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- ▬ Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- ▬ Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- ▬ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 65 OF 113

0 0.1 0.2
Km

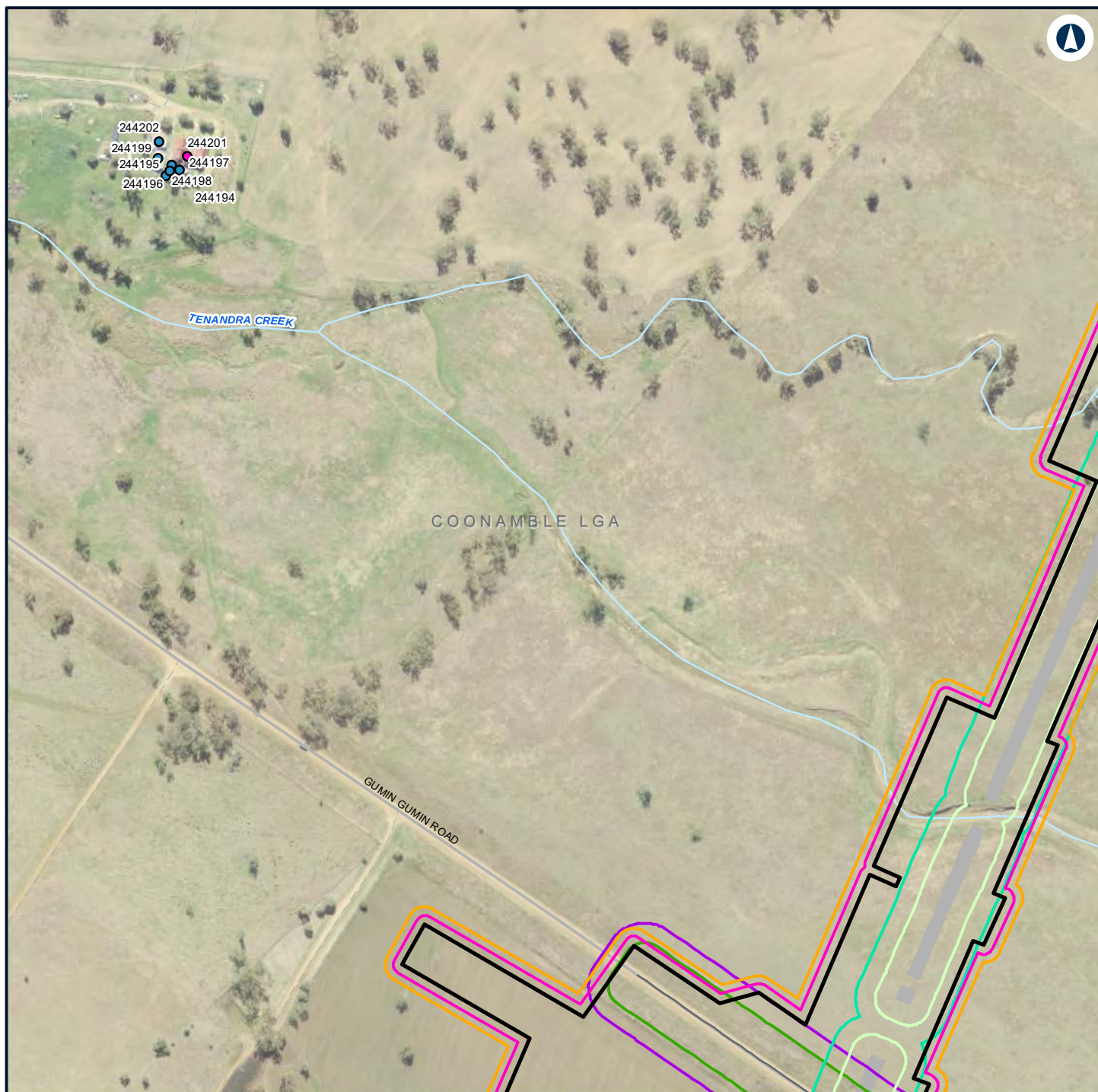
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LEGEND

- Road design
- ▬ Construction footprint
- ▬ Rail earthworks extent
- Other
- Residential
- ▬ Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- ▬ Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- ▬ Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- ▬ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▬ Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 66 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 67 OF 113

0 0.1 0.2
Km

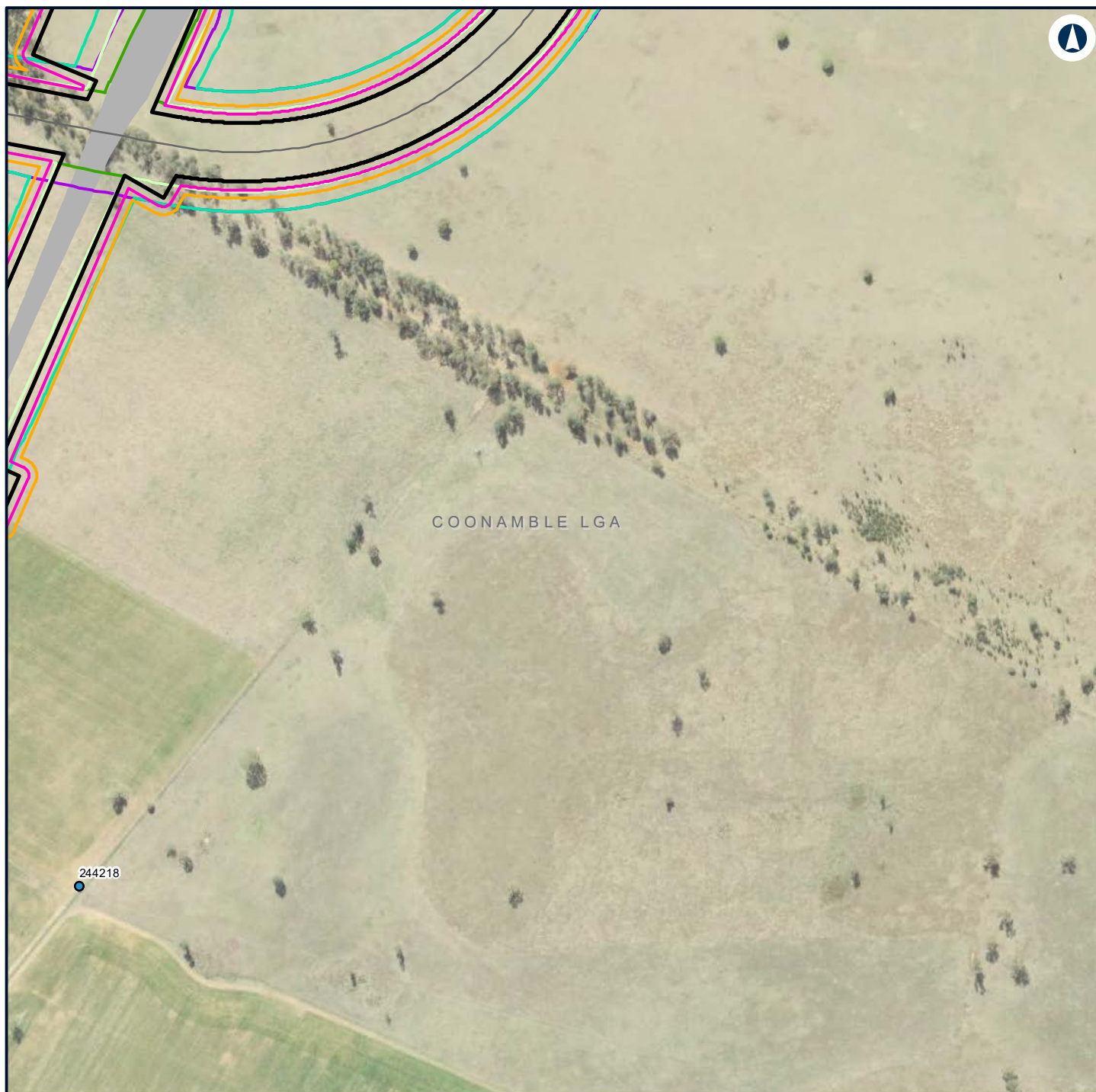
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Road design
- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 68 OF 113

0 0.1 0.2
Km

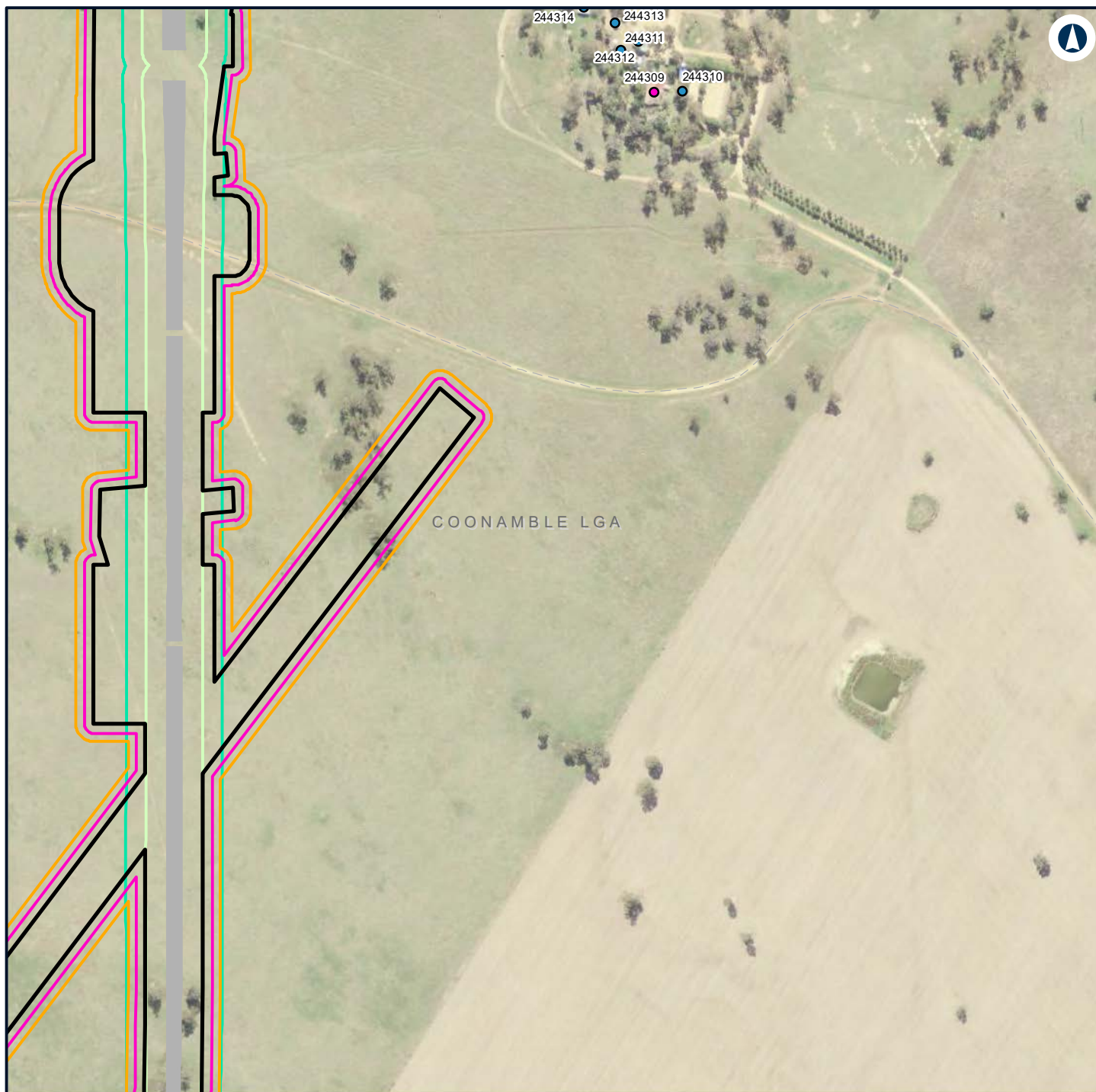
Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 69 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

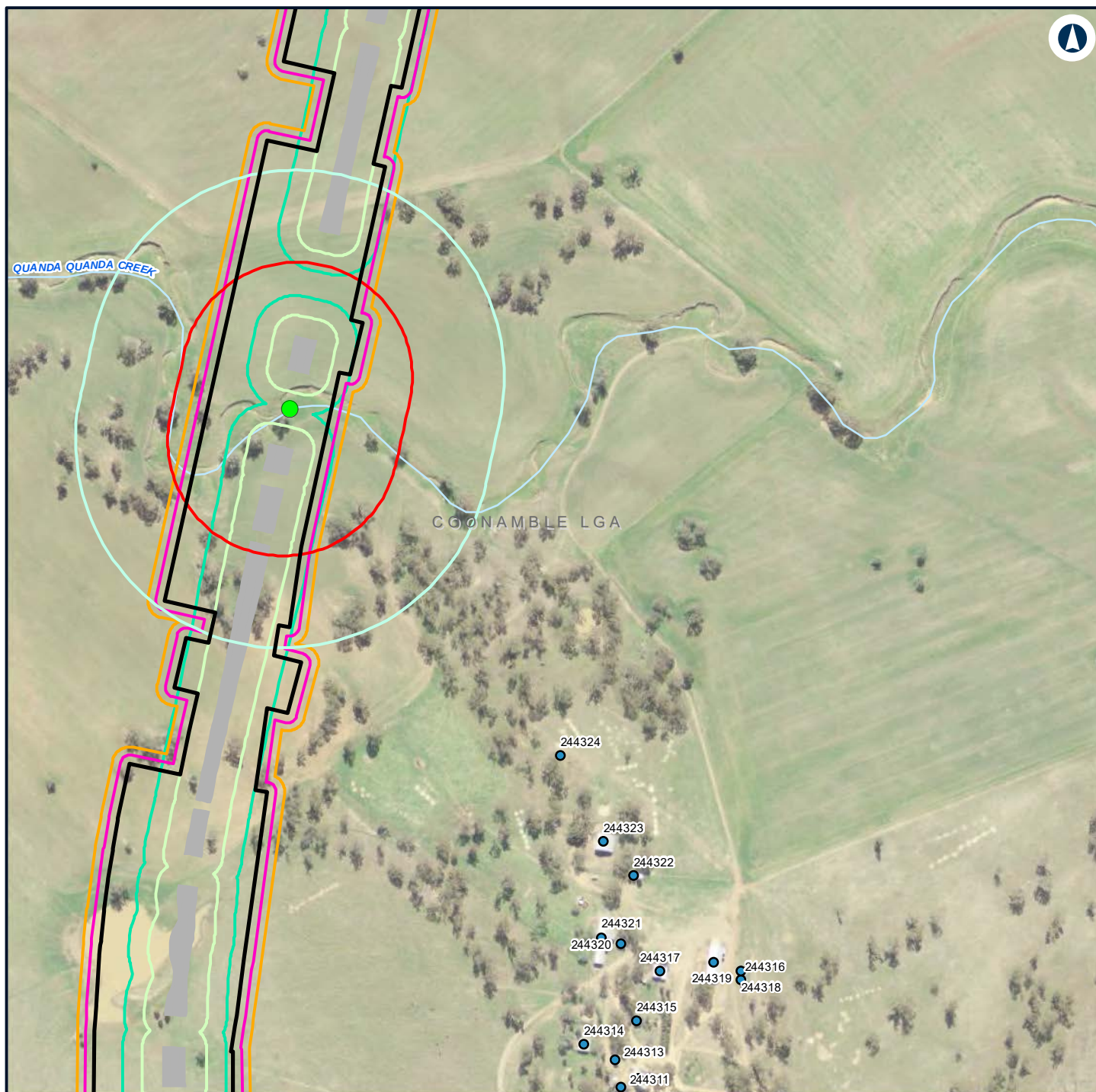
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre
- Construction footprint
- Rail earthworks extent
- Other
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 70 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

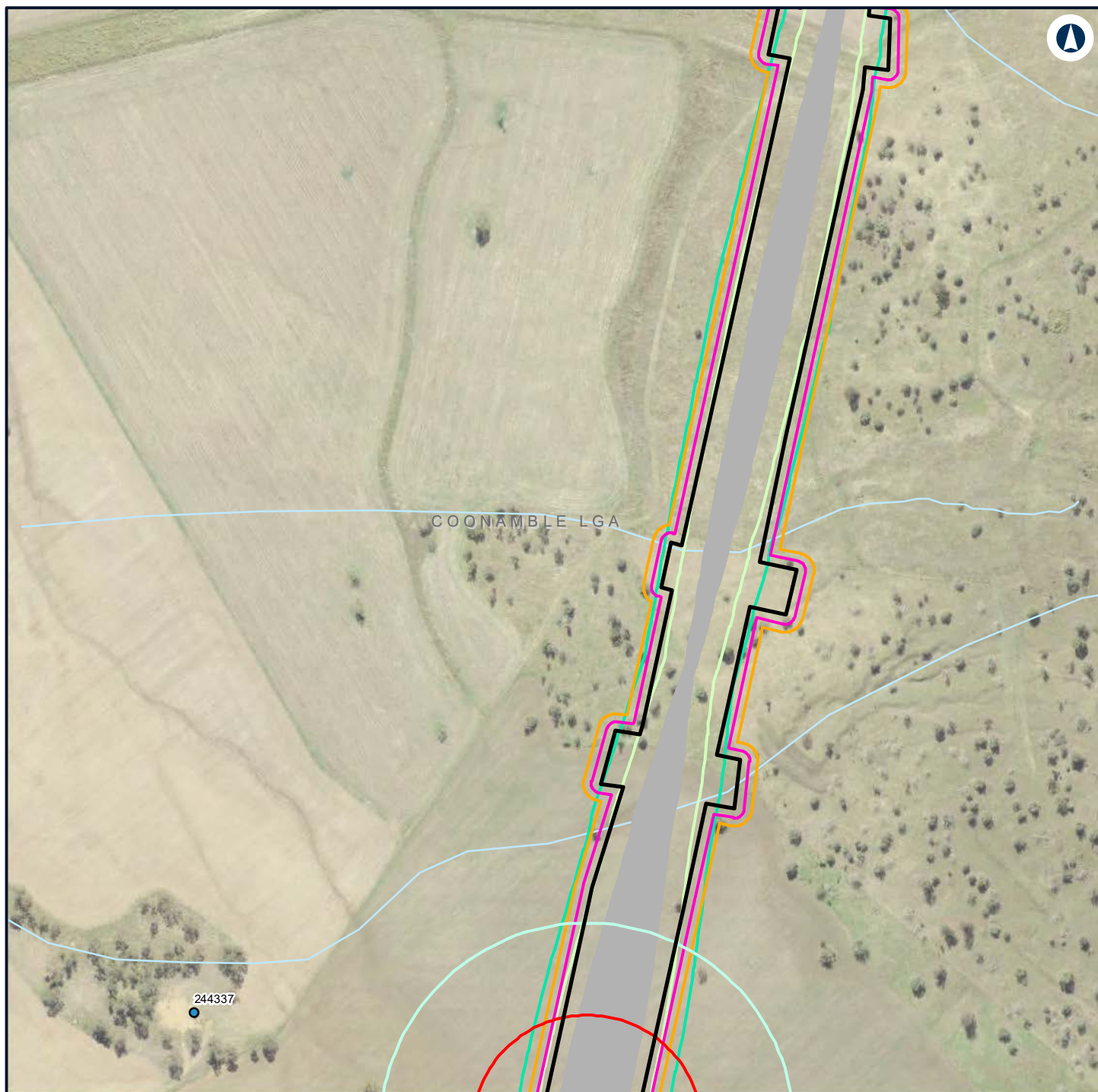
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 71 OF 113

0 0.1 0.2
Km

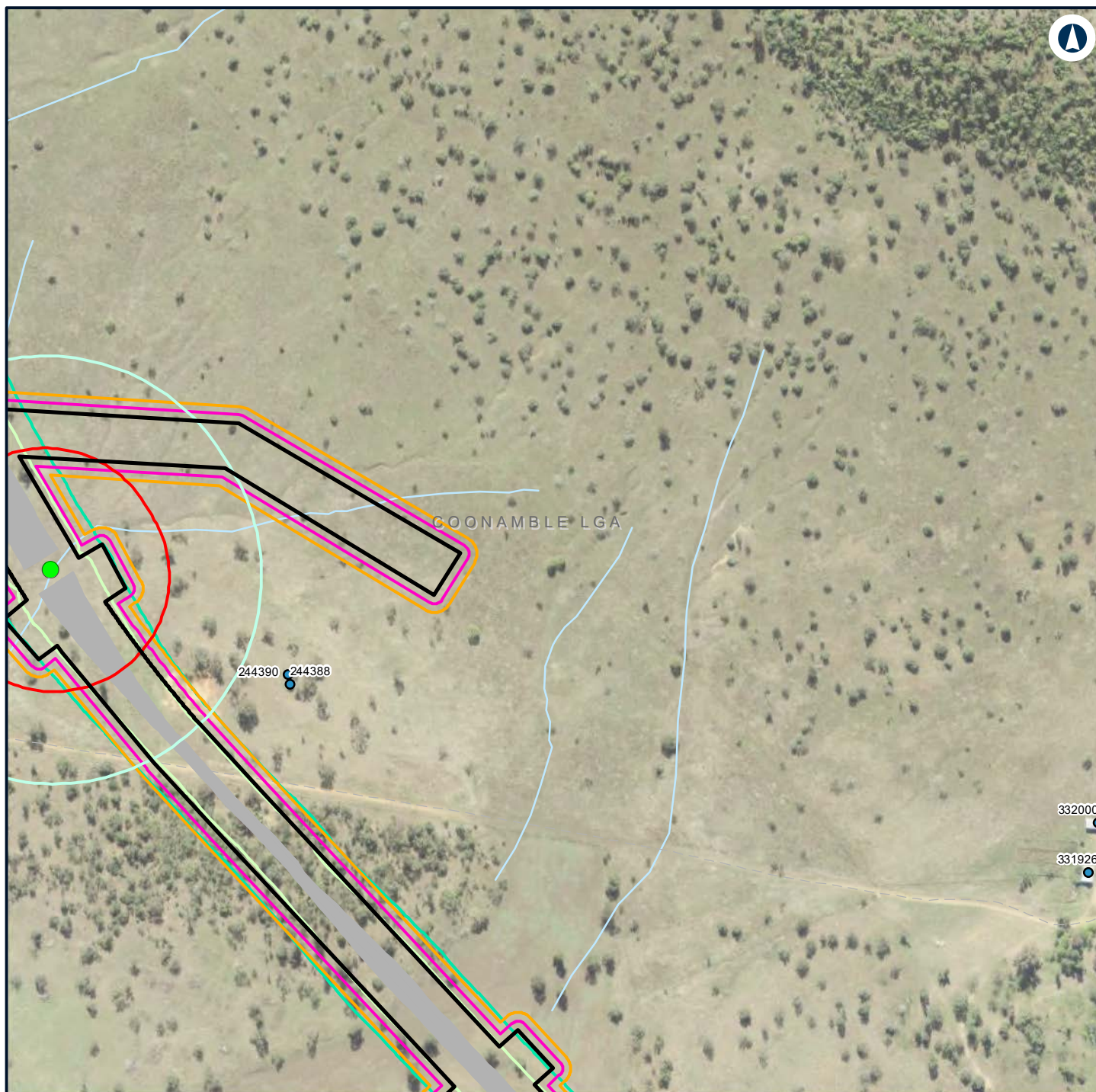
Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre
- Construction footprint
- Rail earthworks extent
- Other
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 72 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

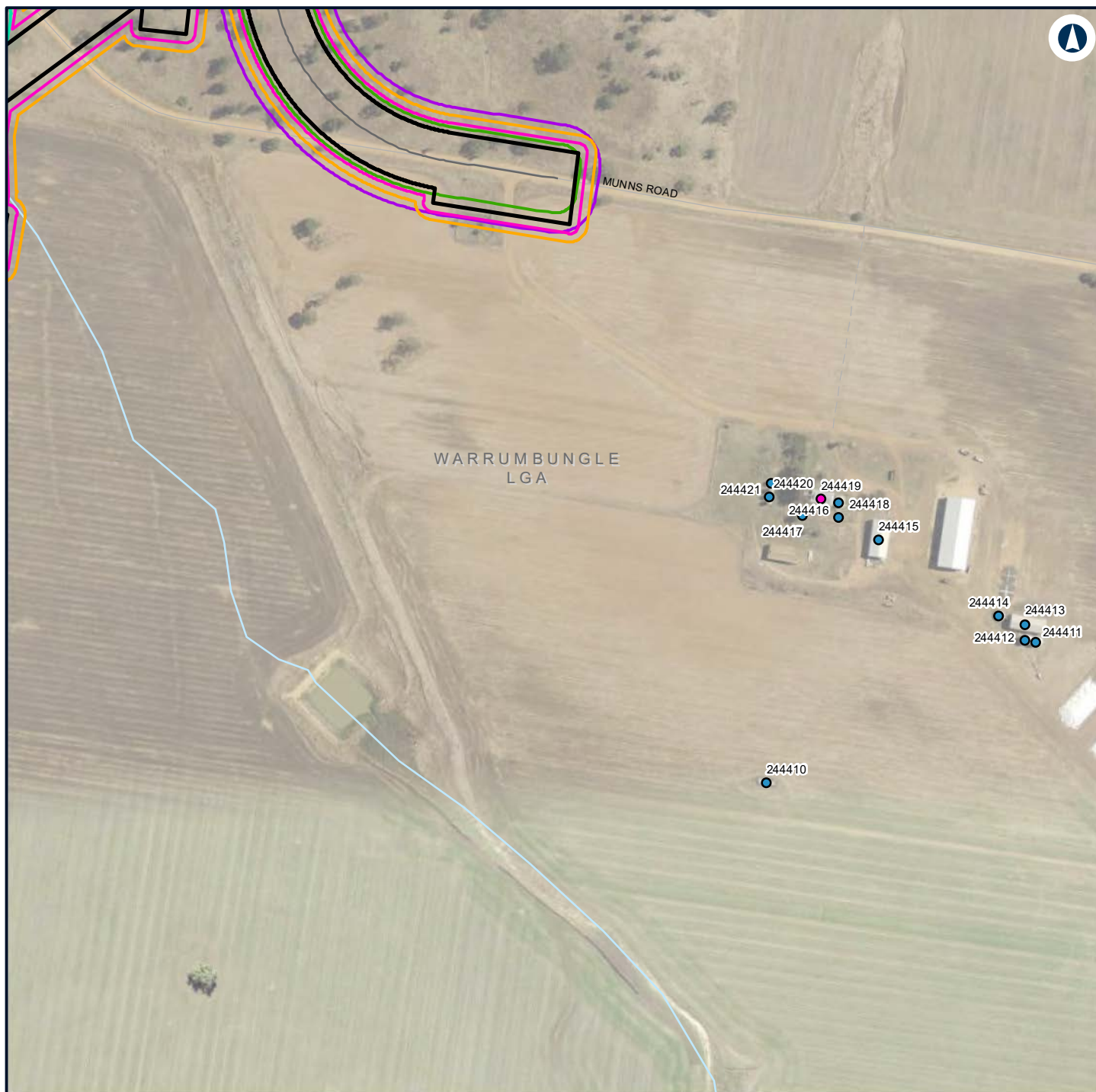
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Road design
- ▭ Construction footprint
- Other
- Residential
- ▭ Clearing (Dozer) – Heritage structures: 3mm/s, 15m

- ▭ Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- ▭ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▭ Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- ▭ Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 73 OF 113

0 0.1 0.2
Km

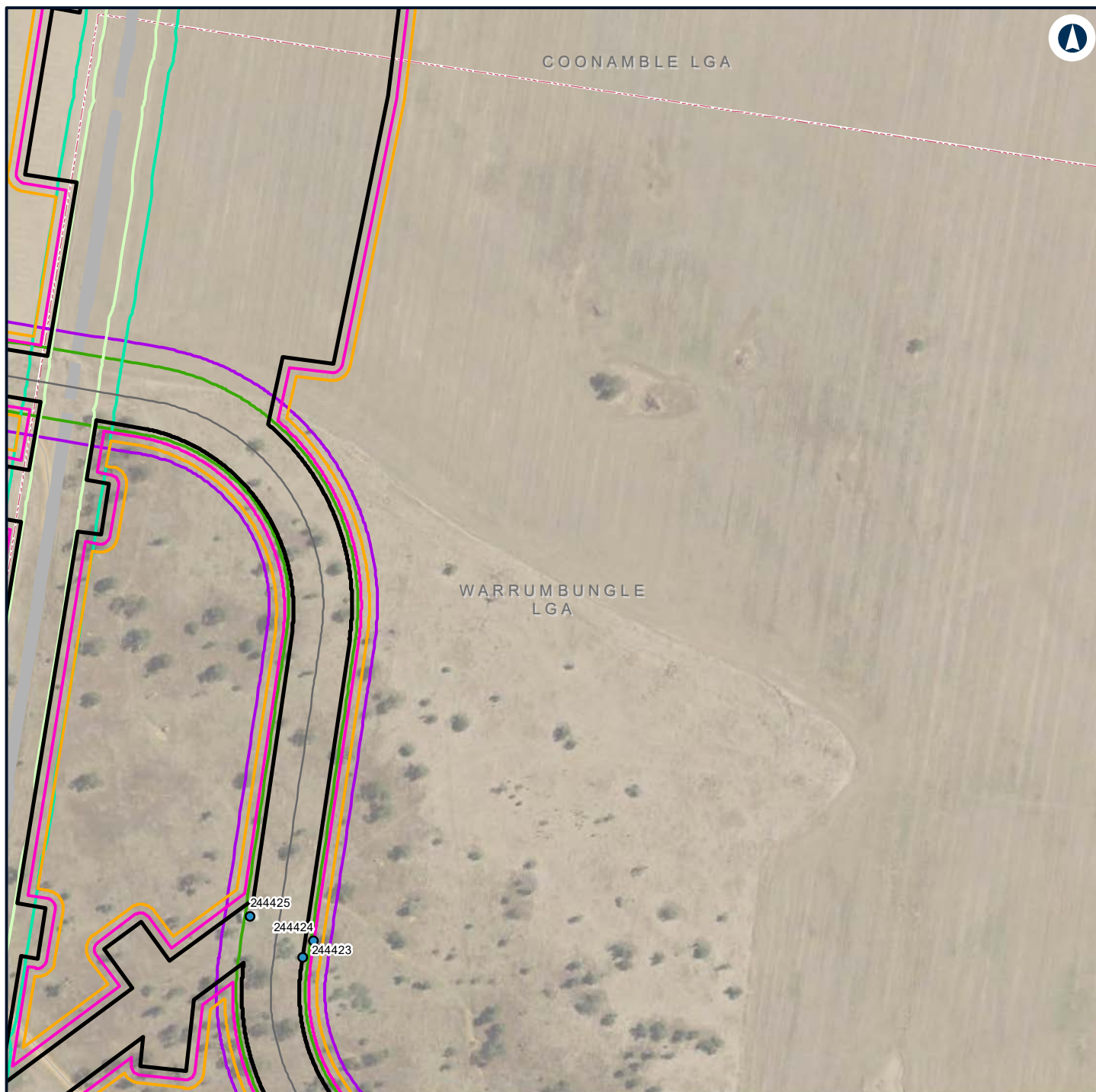
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

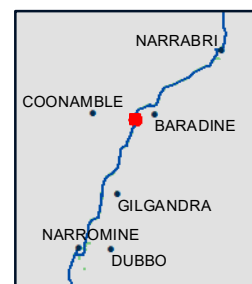
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Road design
- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 74 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

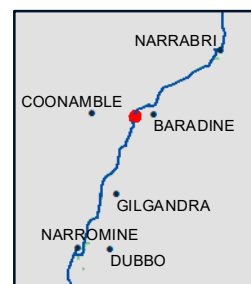
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 75 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

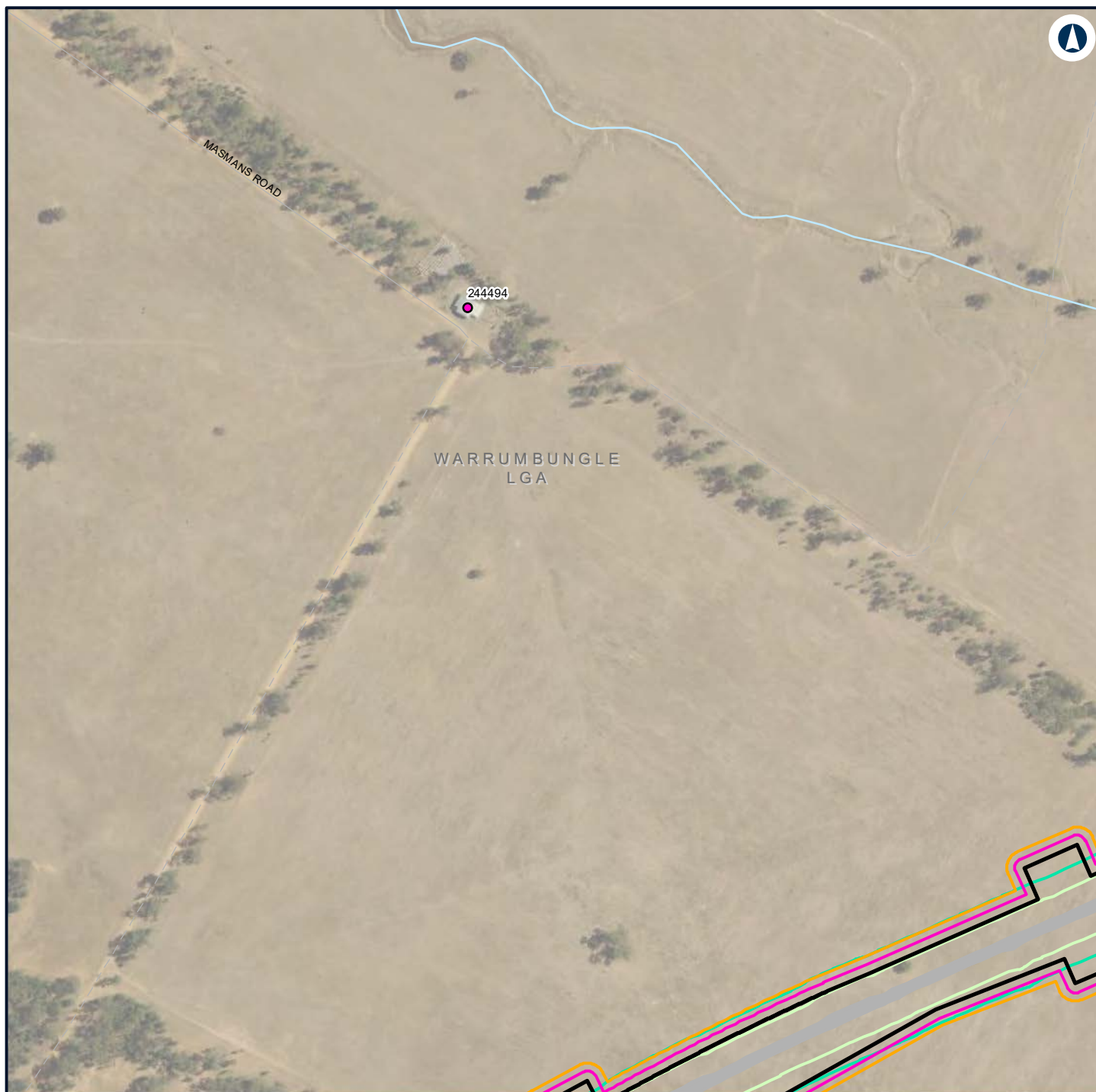
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

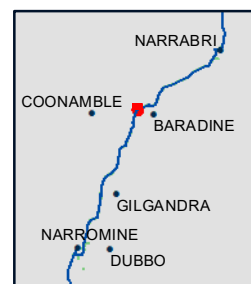
INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 76 OF 113

0 0.1 0.2
Km

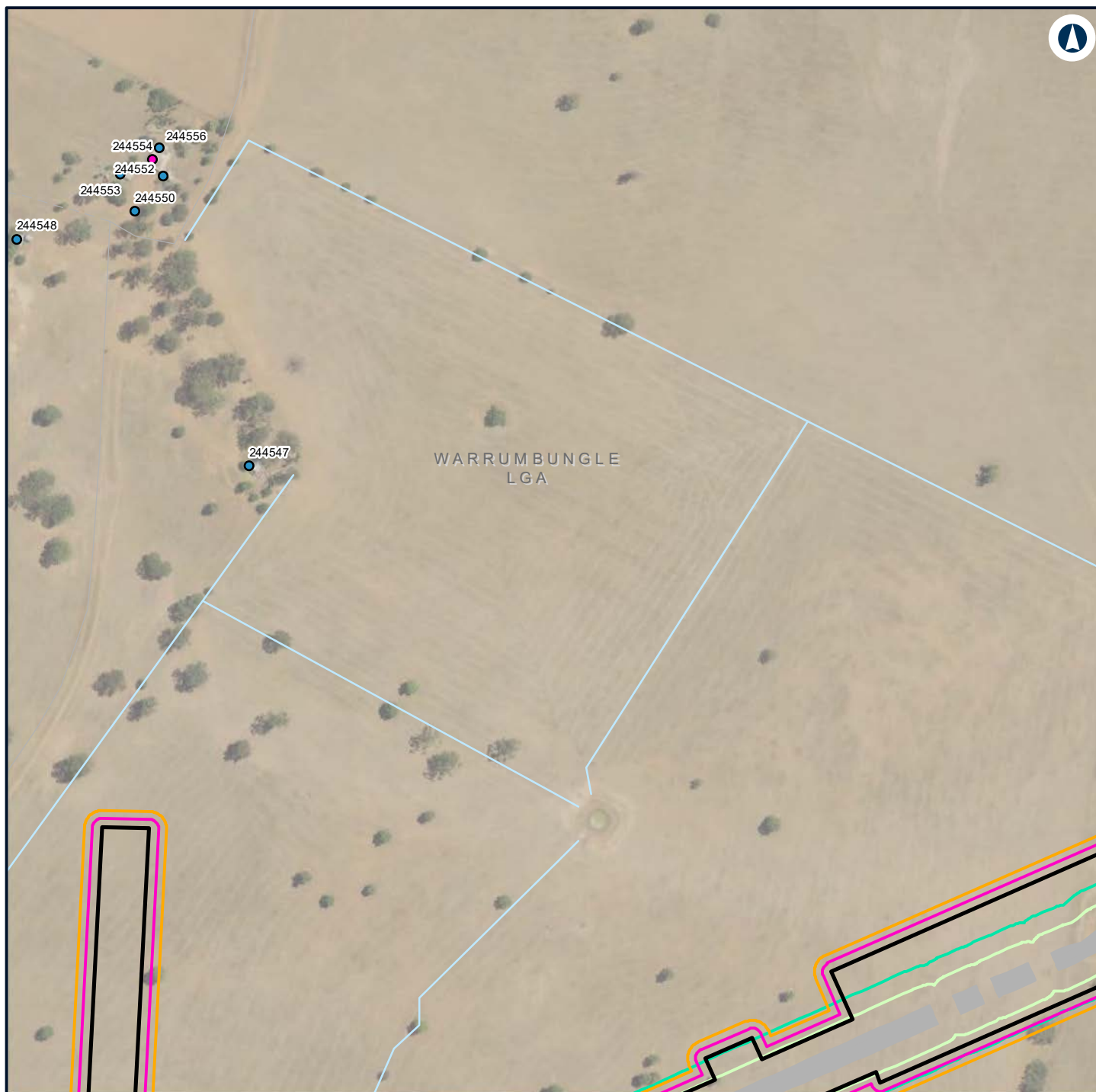
Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 77 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

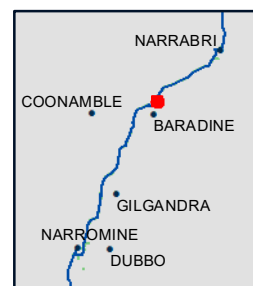
INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 78 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

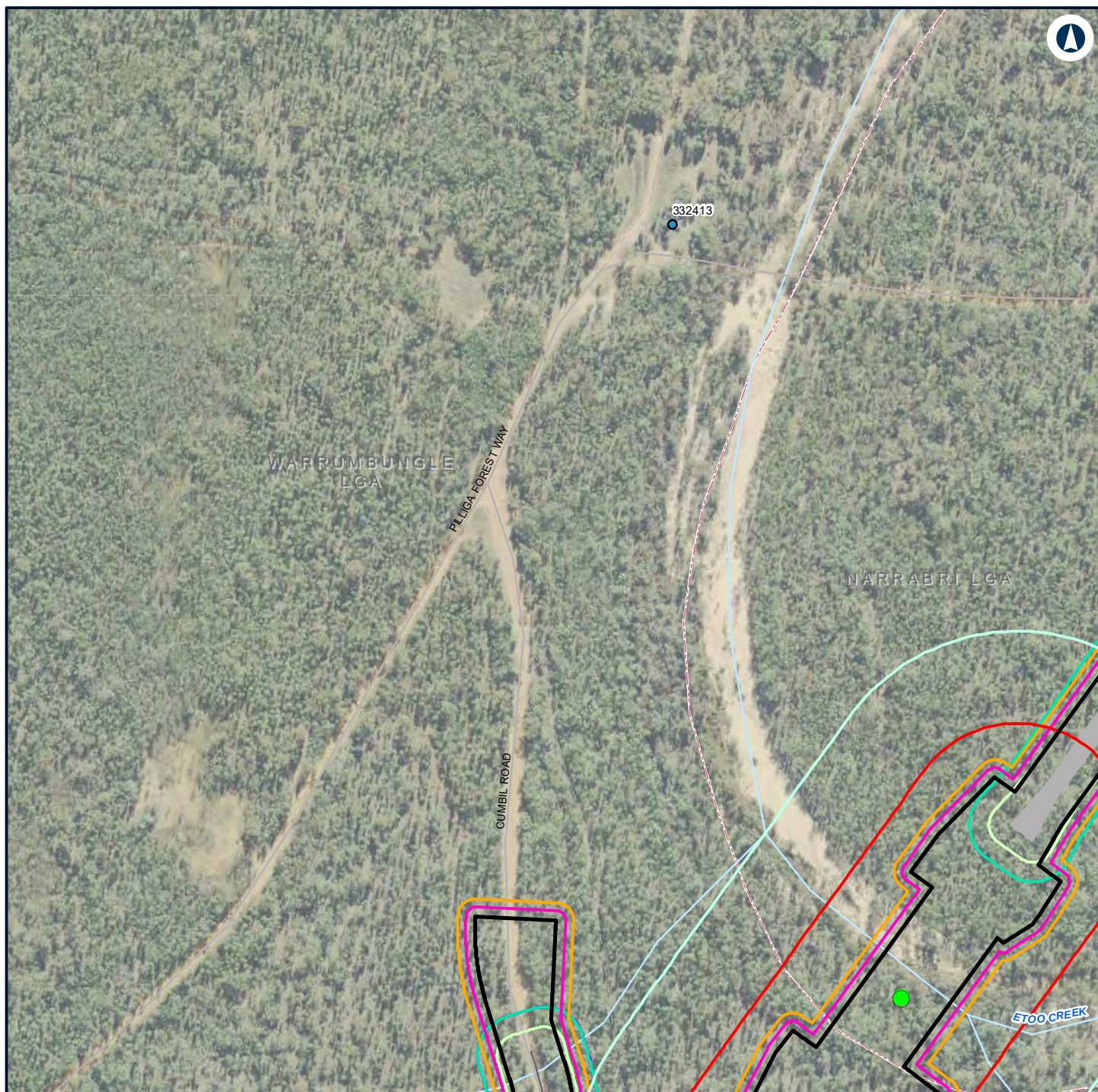
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre
- Road design
- Construction footprint
- Rail earthworks extent
- Other
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 79 OF 113

0 0.1 0.2
Km

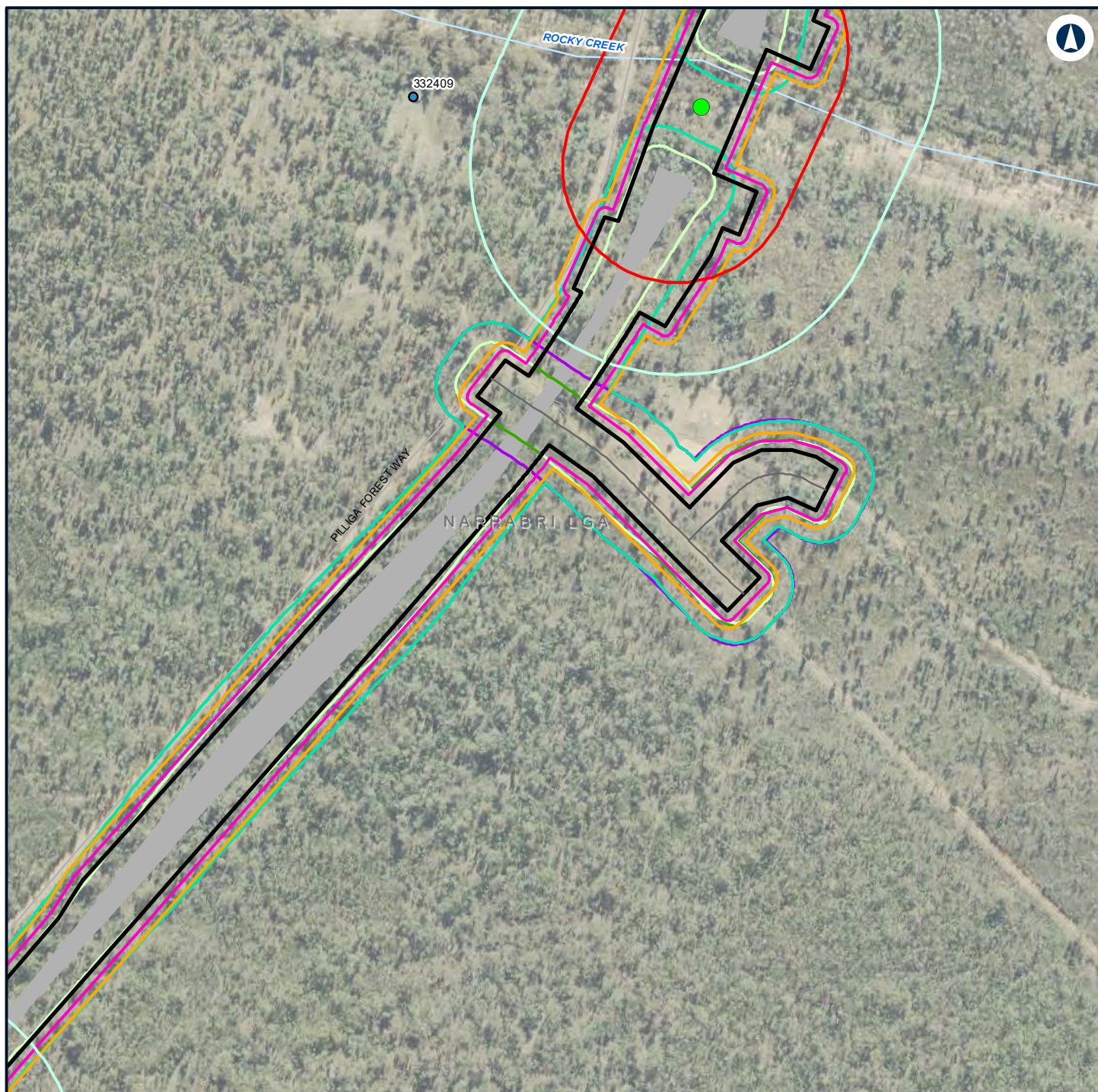
Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre
- Road design
- Construction footprint
- Rail earthworks extent
- Other
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 80 OF 113

0 0.1 0.2
Km

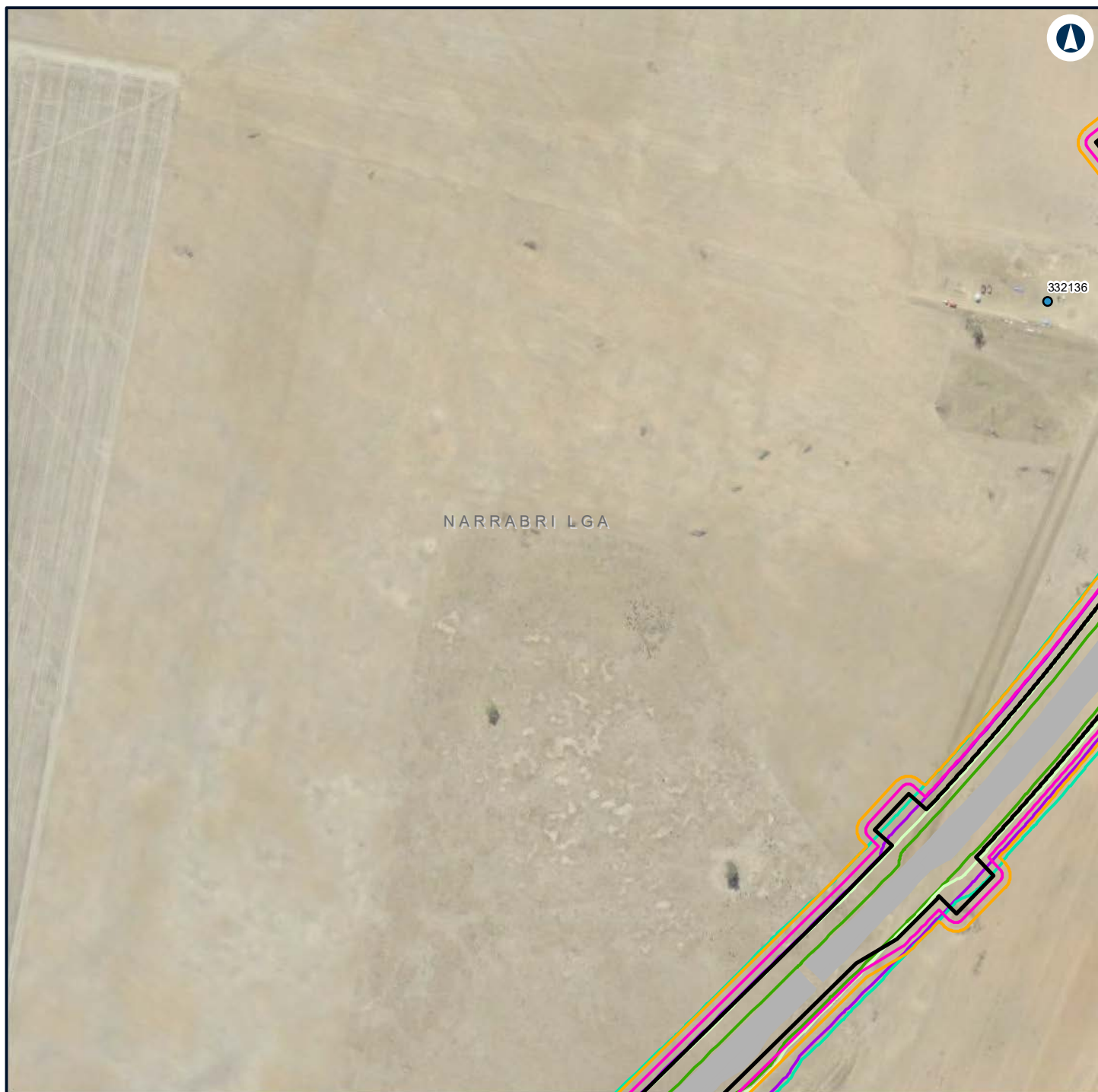
Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- | | |
|--|--|
| Construction footprint | Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
| Rail earthworks extent | Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Other | Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Clearing (Dozer) – Heritage structures: 3mm/s, 15m | Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
| Clearing (Dozer) – Standard buildings: 5mm/s, 8m | |



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 81 OF 113

0 0.1 0.2
Km

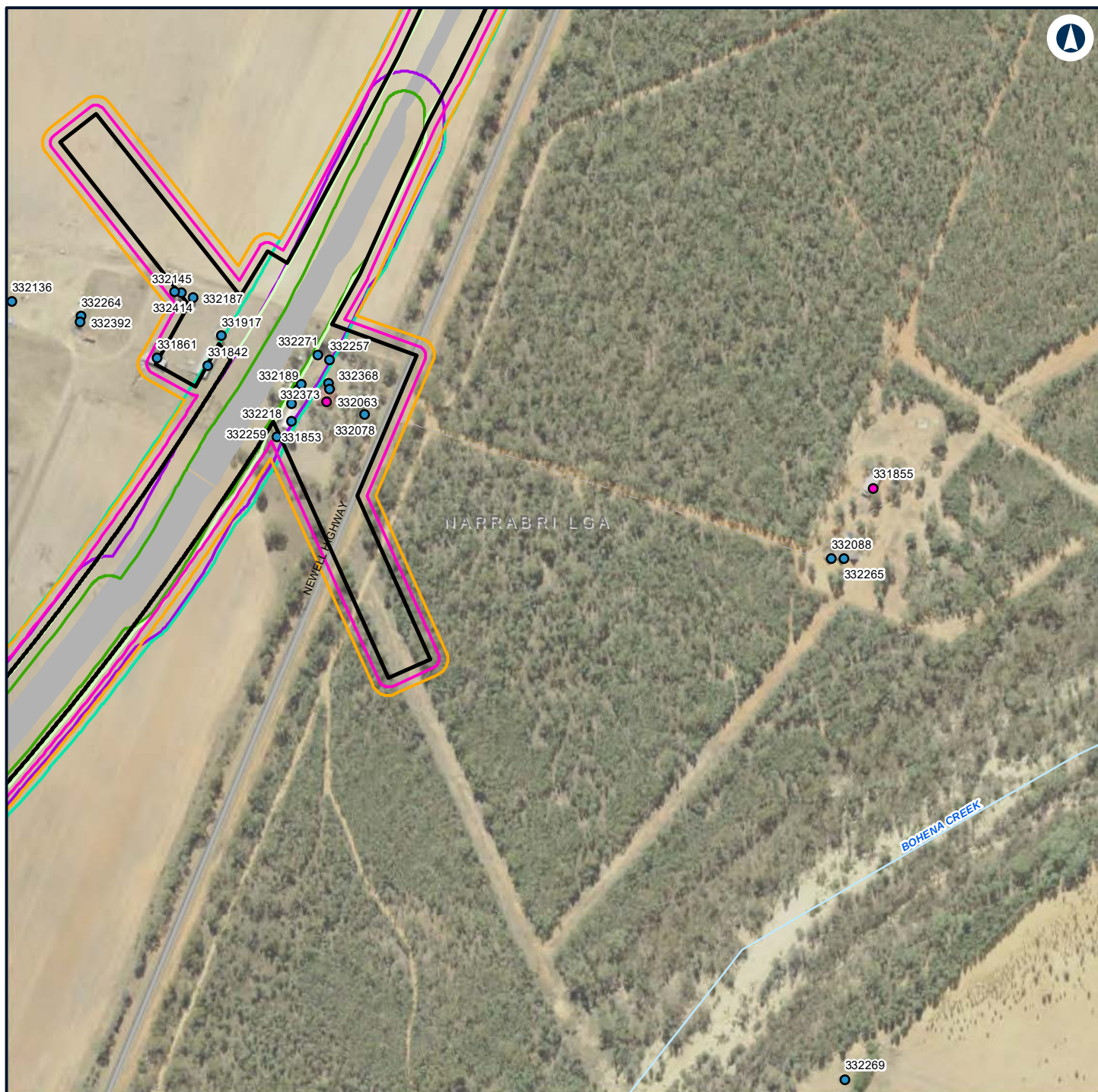
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- | | |
|--|--|
| Construction footprint | Clearing (Dozer) – Standard buildings: 5mm/s, 8m |
| Rail earthworks extent | Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
| Other | Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Residential | Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Clearing (Dozer) – Heritage structures: 3mm/s, 15m | Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 82 OF 113

0 0.1 0.2
Km

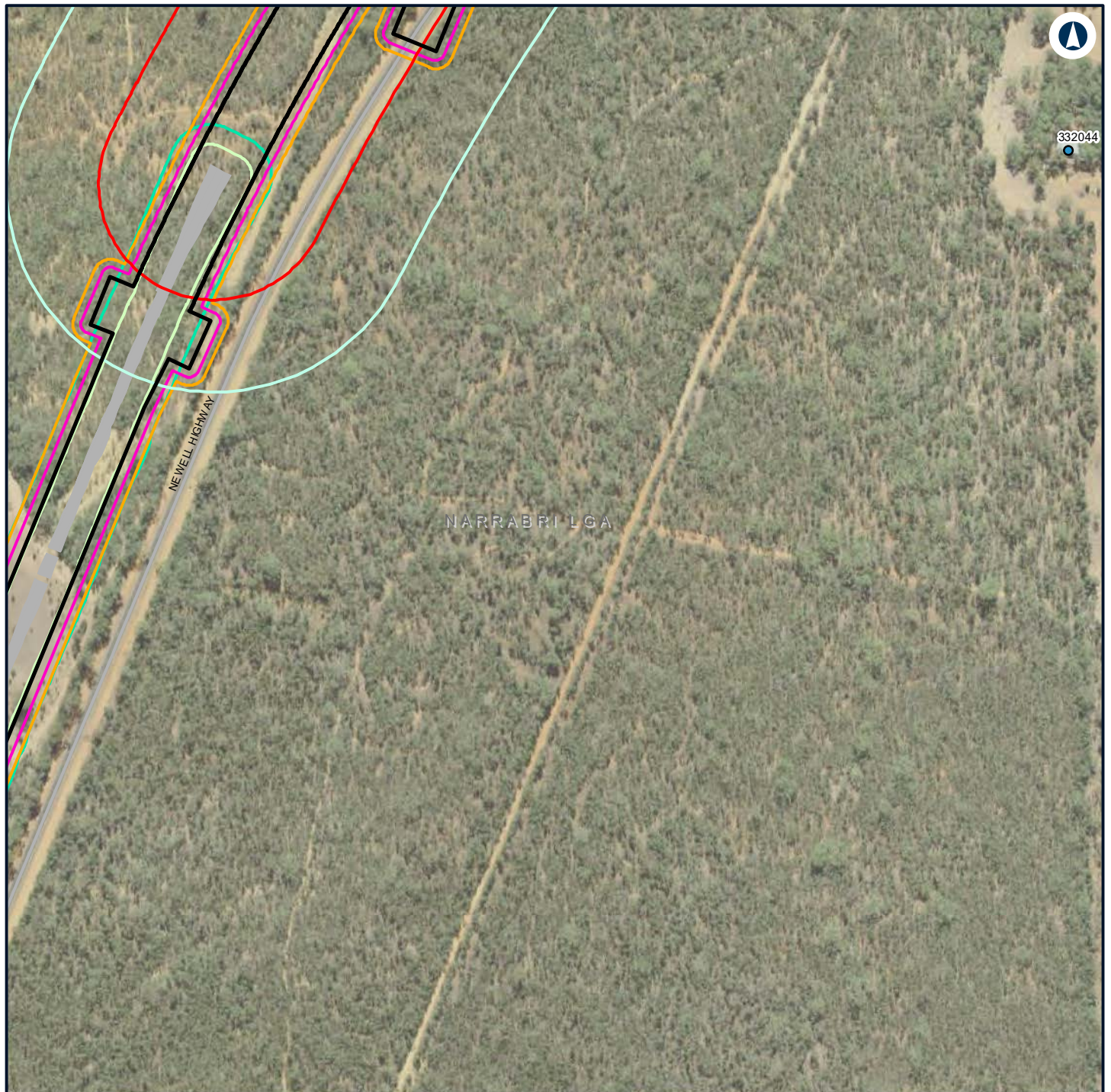
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

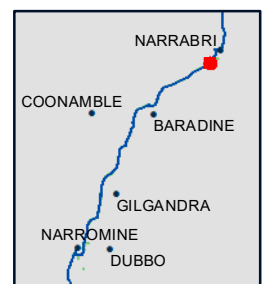
INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- | | |
|--|--|
| Construction footprint | Clearing (Dozer) – Heritage structures: 3mm/s, 15m |
| Rail earthworks extent | Clearing (Dozer) – Standard buildings: 5mm/s, 8m |
| Other | Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
| Bridges (Impact piling) – Heritage structures: 3mm/s, 180m | Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Bridges (Impact piling) – Standard buildings: 5mm/s, 100m | |



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 83 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 84 OF 113

0 0.1 0.2
Km

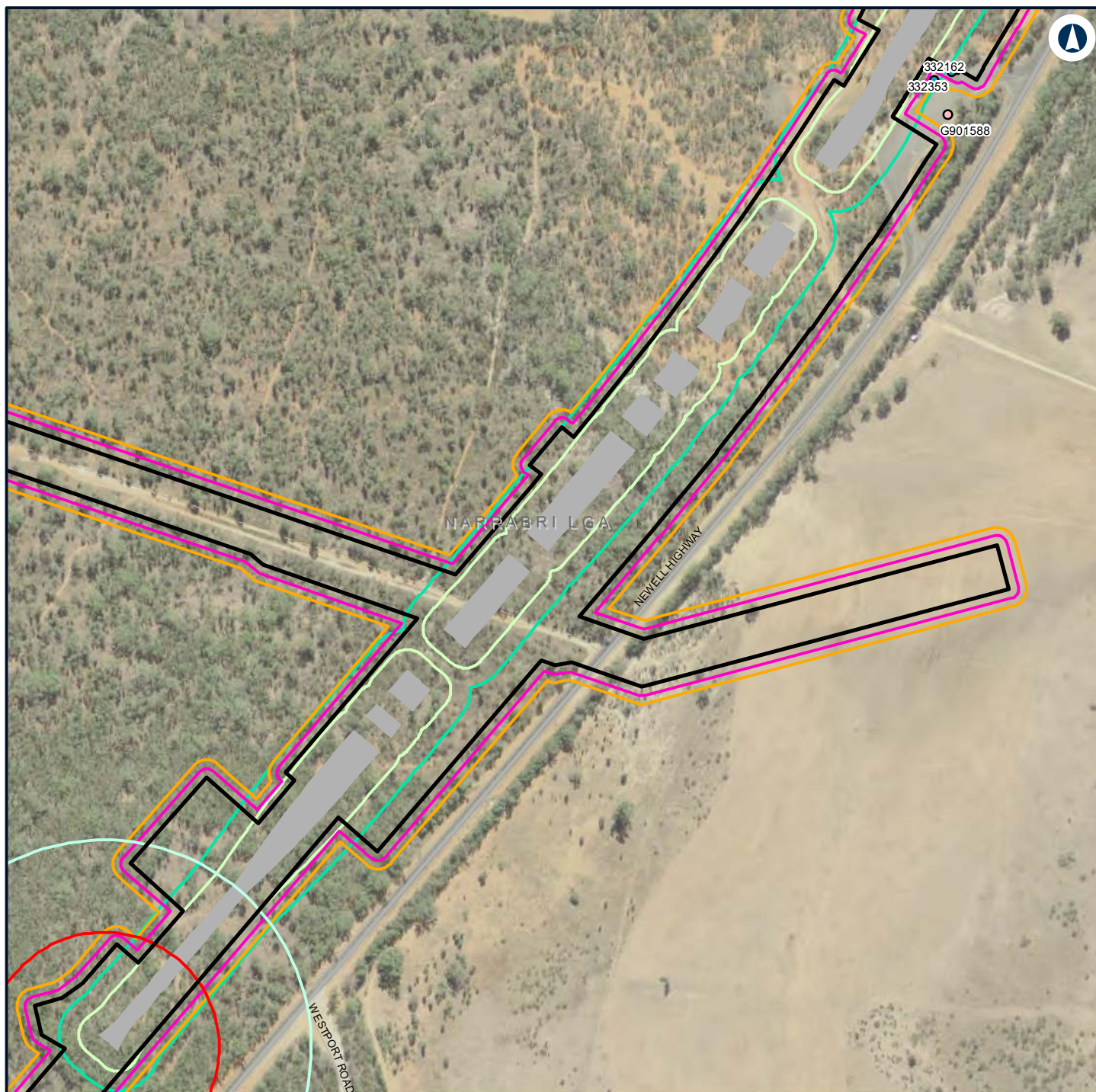
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Passive recreation
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 85 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

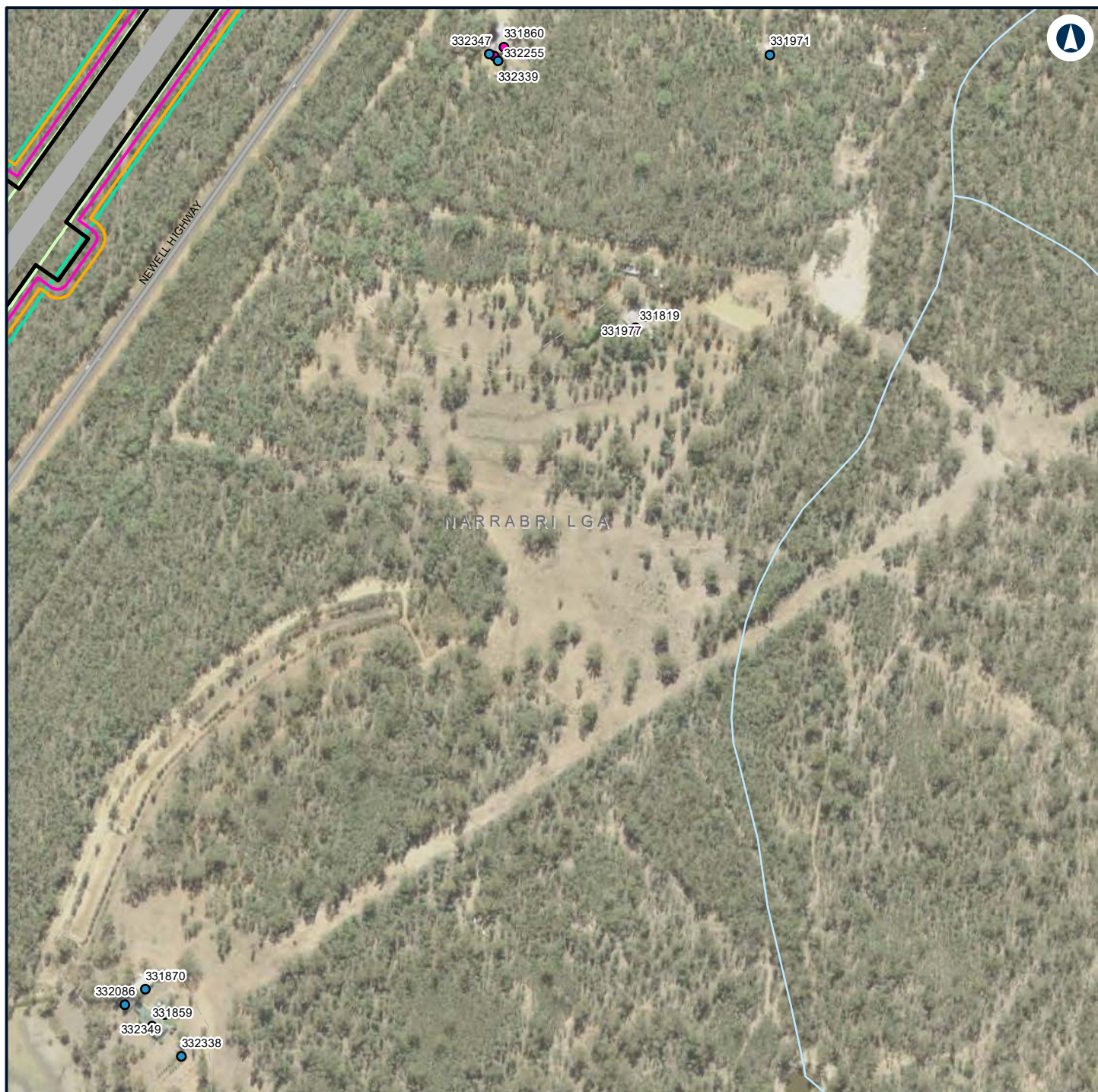
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 86 OF 113

0 0.1 0.2
Km

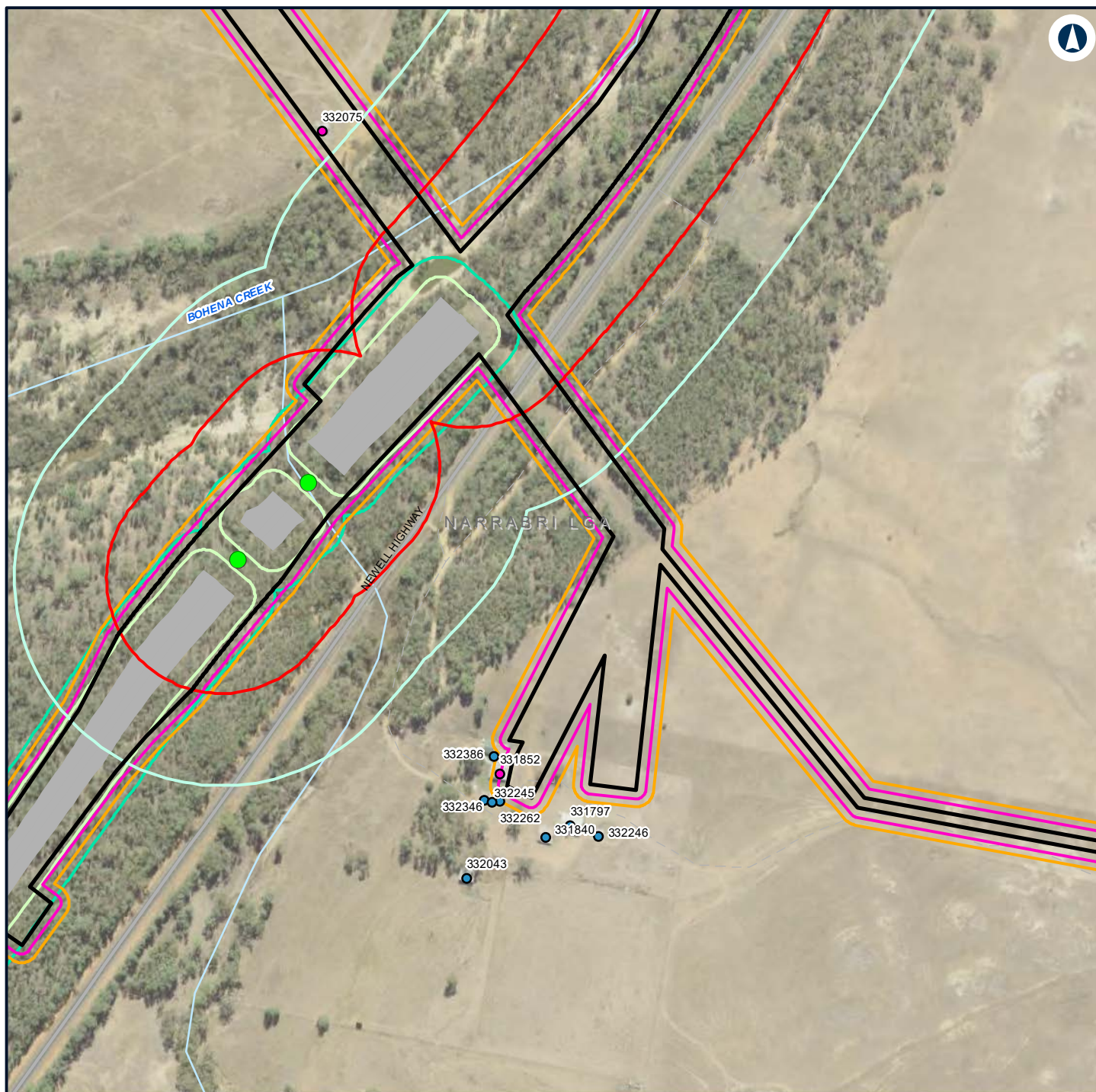
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Bridge centre
- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 87 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

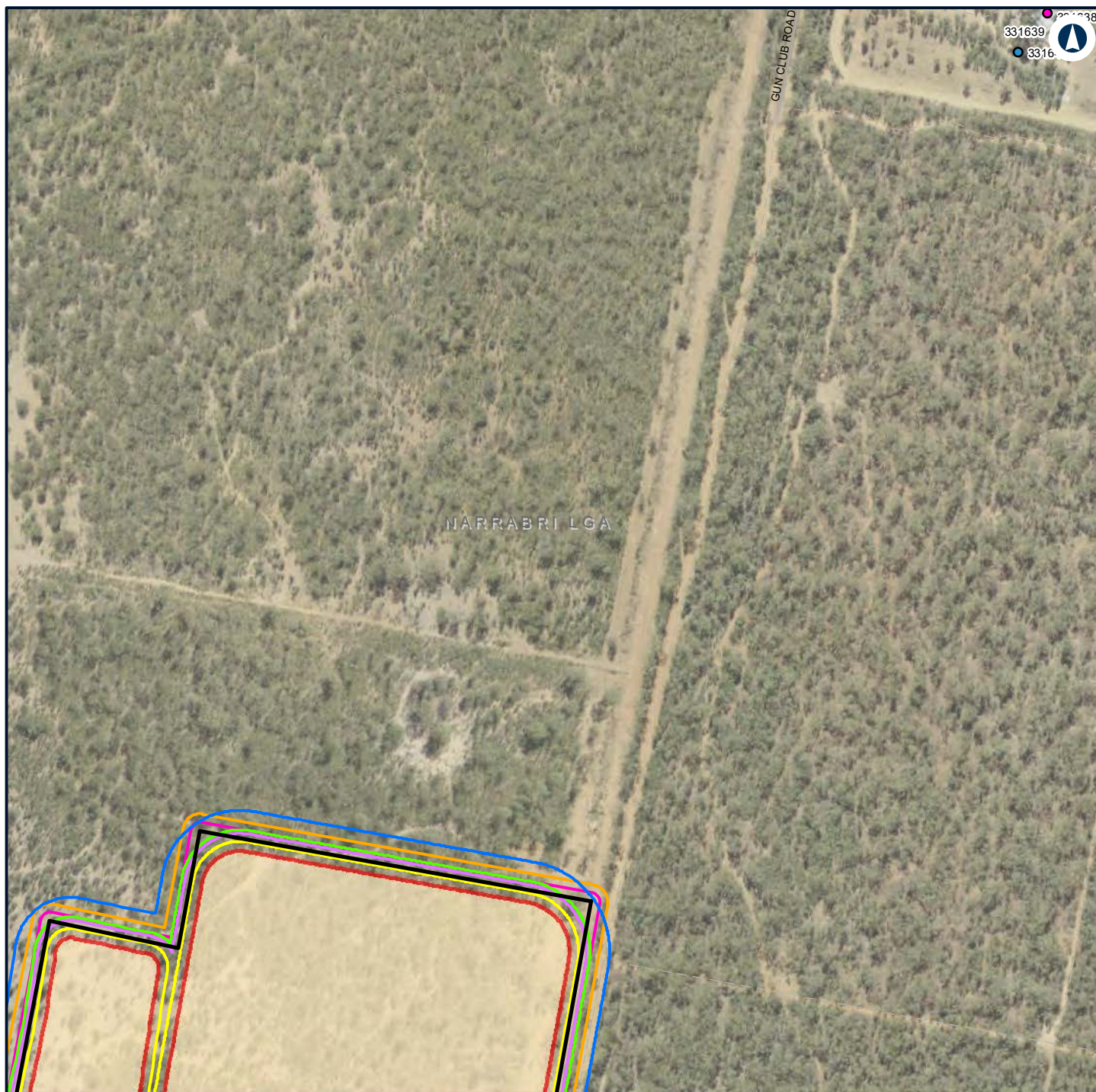
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC) in partnership with the private sector.



LEGEND

- Construction footprint
- Other
- Residential
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Borrow pits (Dozer) – Heritage structures: 3mm/s, 15m
- Borrow pits (Dozer) – Standard buildings: 5mm/s, 8m
- Borrow pits (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Borrow pits (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 88 OF 113

0 0.1 0.2
Km

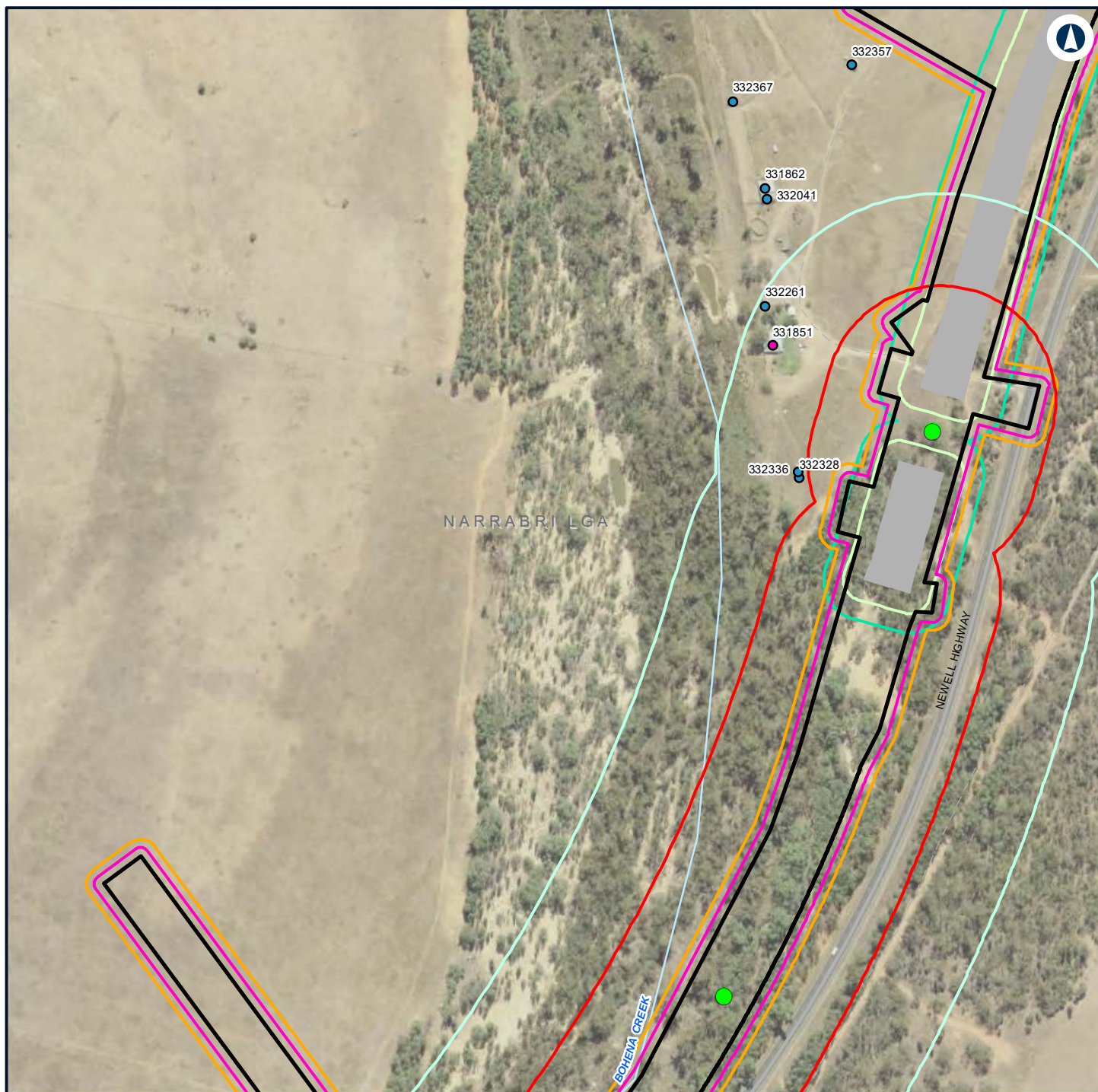
Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

● Bridge centre

▬ Construction footprint

▬ Rail earthworks extent

● Other

● Residential

▬ Bridges (Impact piling) – Heritage structures: 3mm/s, 180m

▬ Bridges (Impact piling) – Standard buildings: 5mm/s, 100m

▬ Clearing (Dozer) – Heritage structures: 3mm/s, 15m

▬ Clearing (Dozer) – Standard buildings: 5mm/s, 8m

▬ Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m

▬ Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARRABRI TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 89 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 90 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

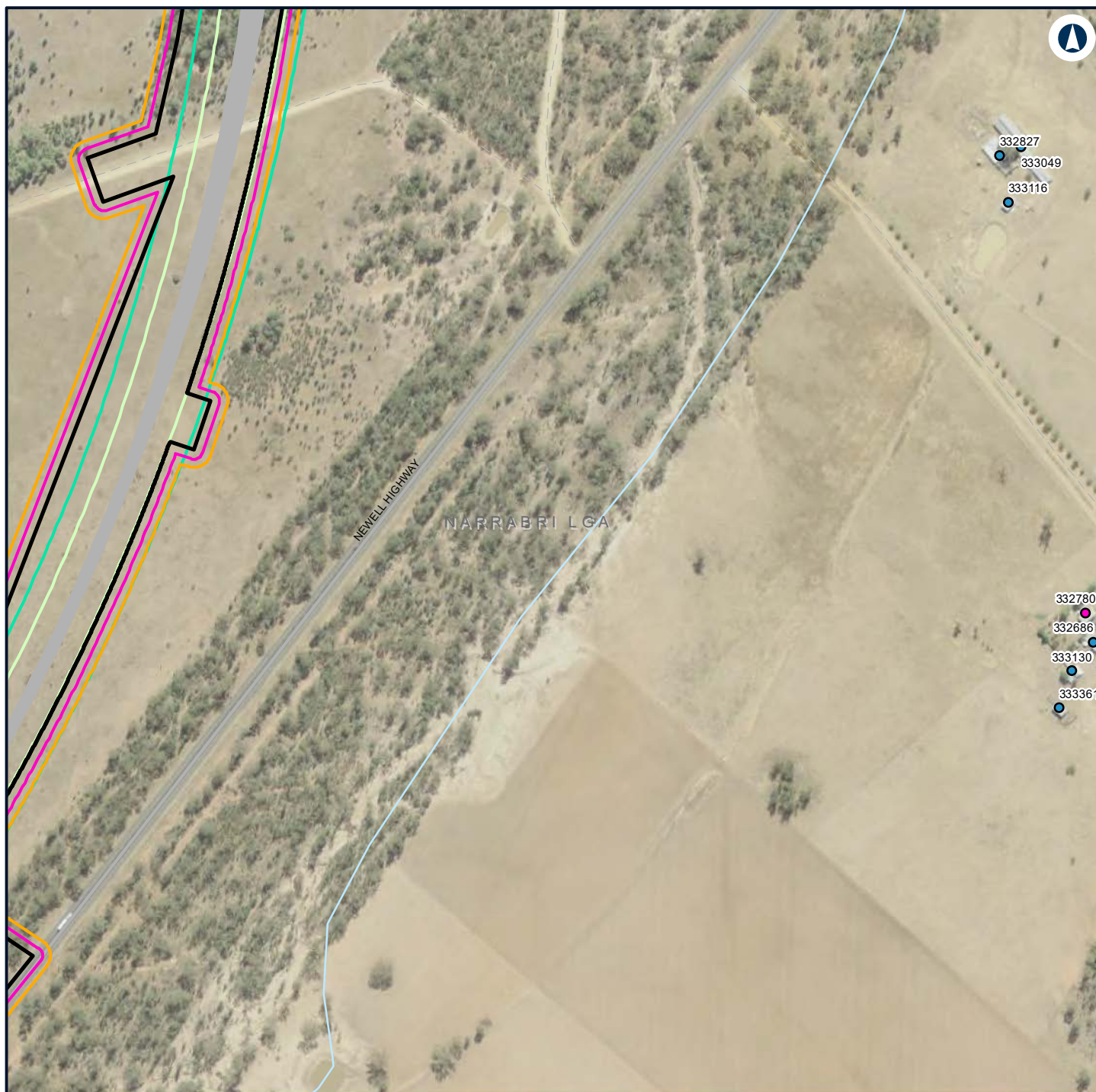
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 91 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

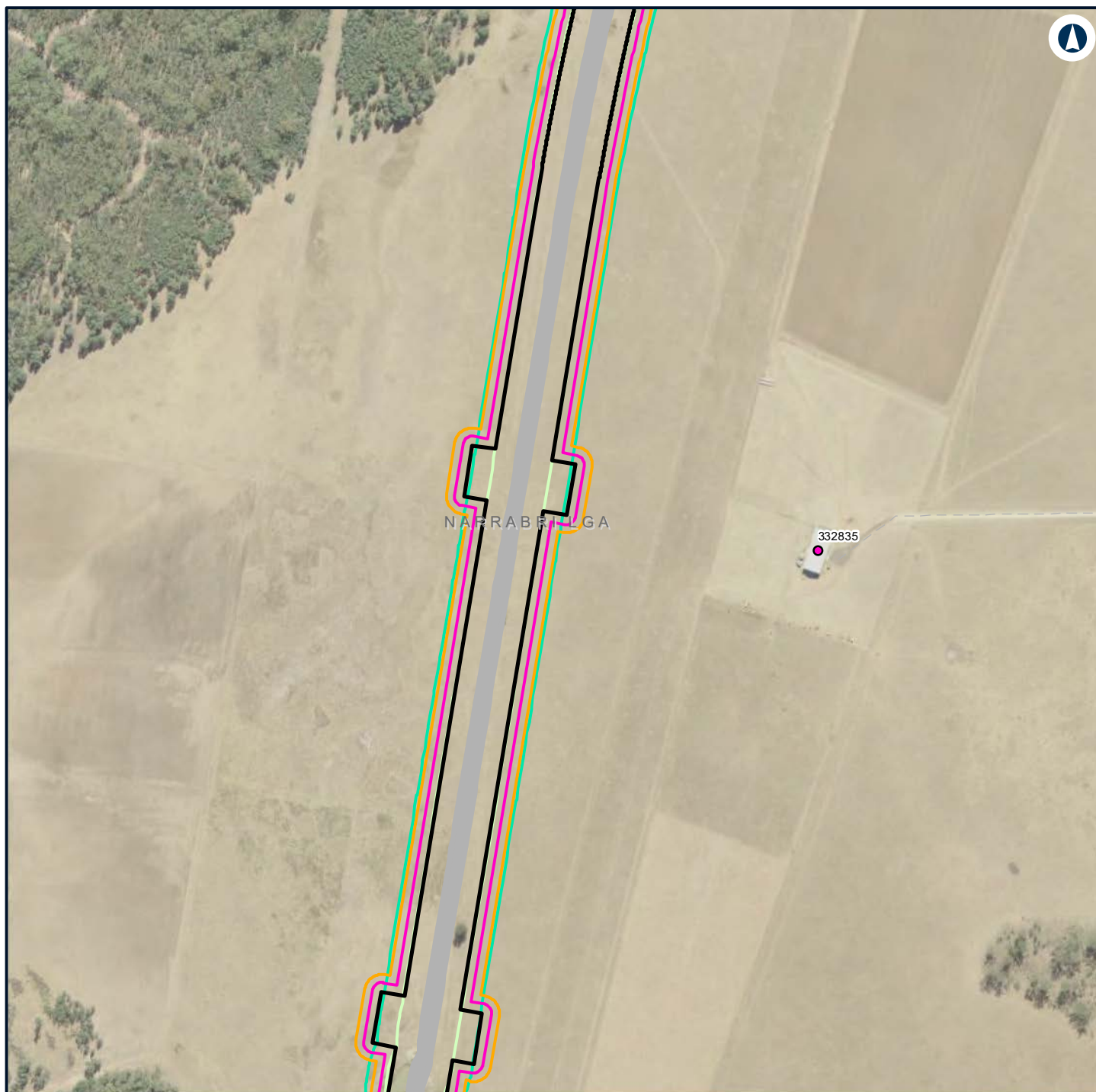
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 92 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

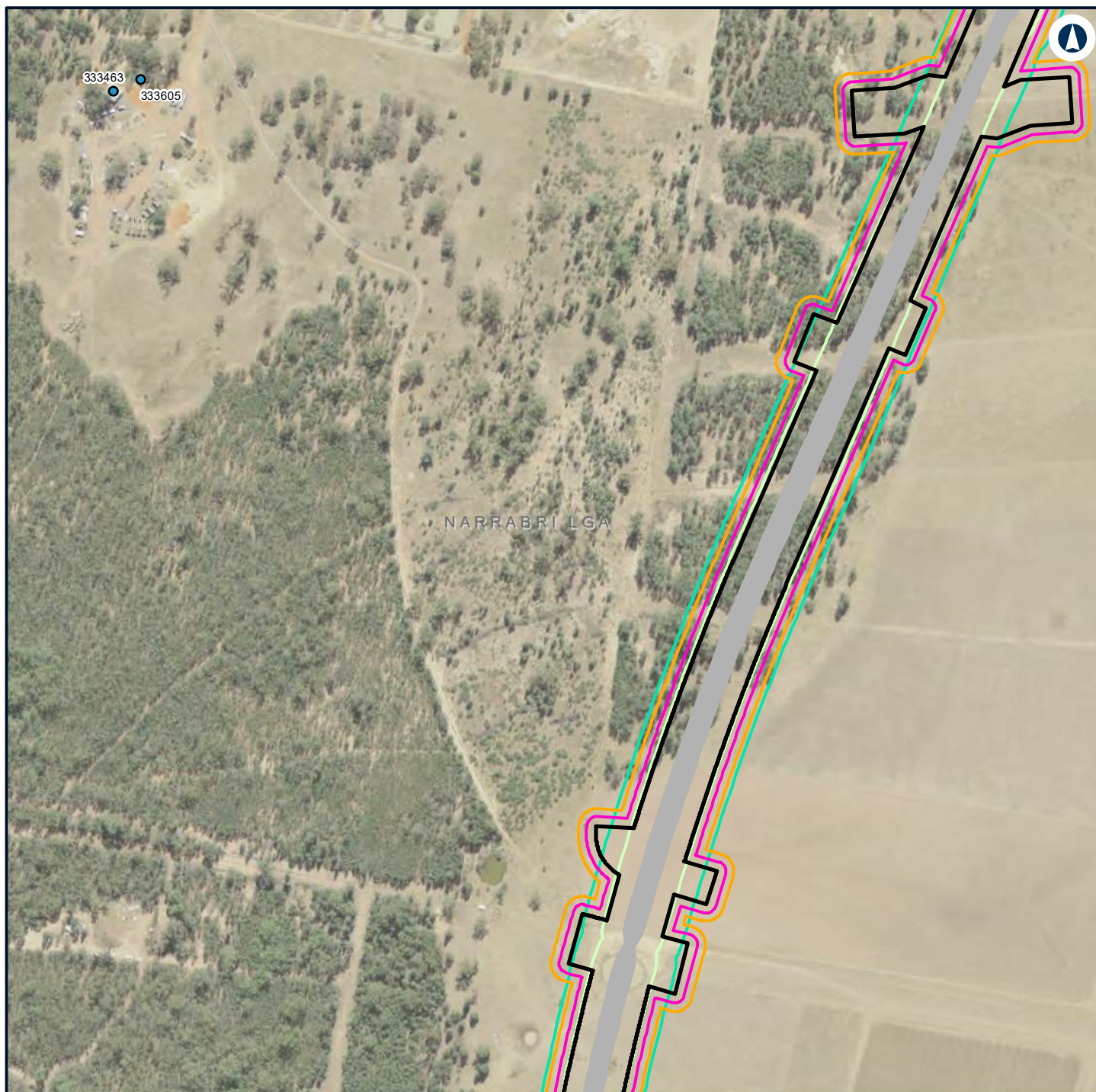
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 93 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 94 OF 113

0 0.1 0.2
Km

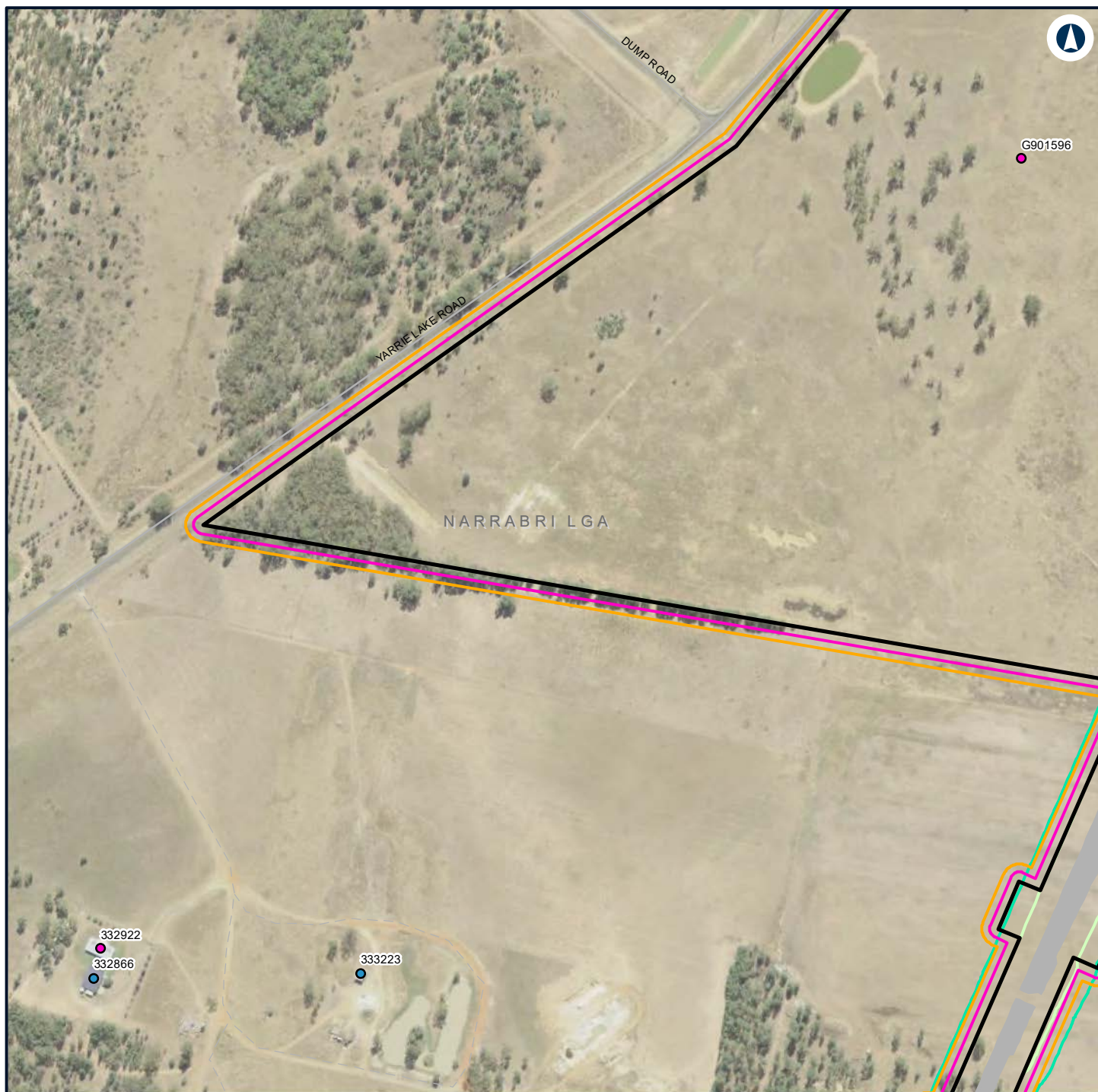
Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 95 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

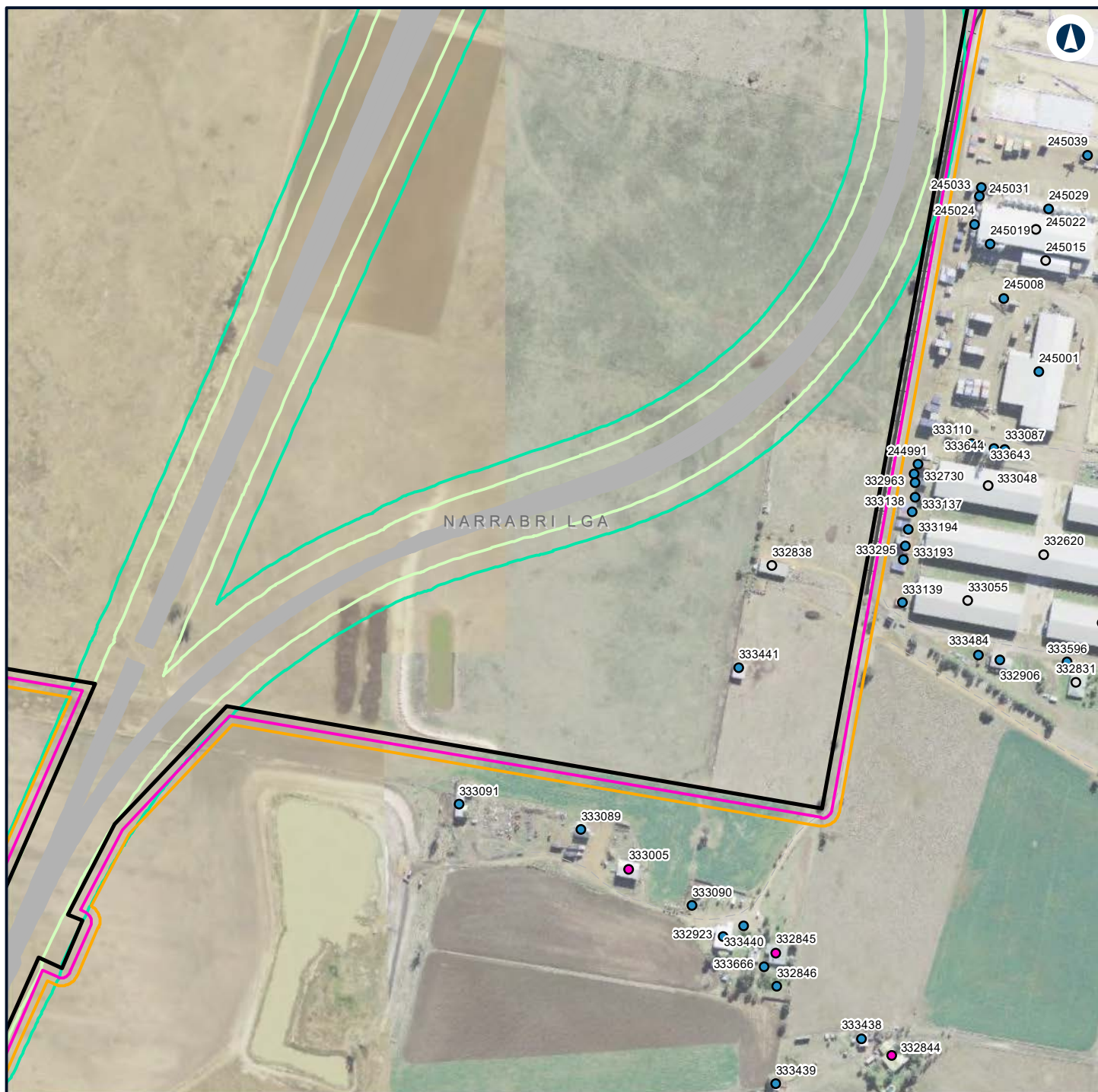
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Rail earthworks extent
- Commercial/Industrial
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 96 OF 113

0 0.1 0.2
Km

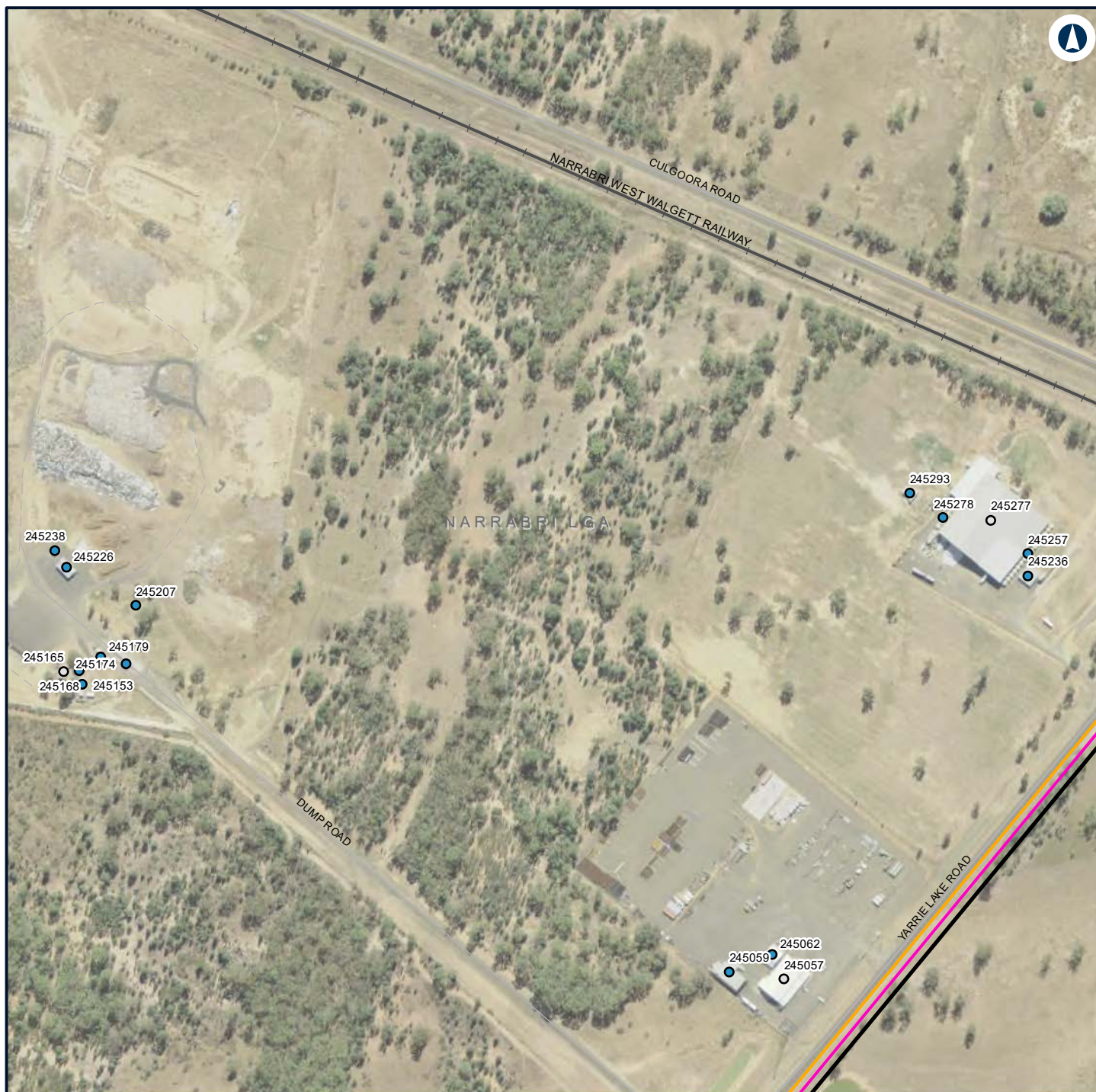
Coordinate System: GDA 1994 MGA Zone 55

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LEGEND

- Construction footprint
- Commercial/Industrial
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 97 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

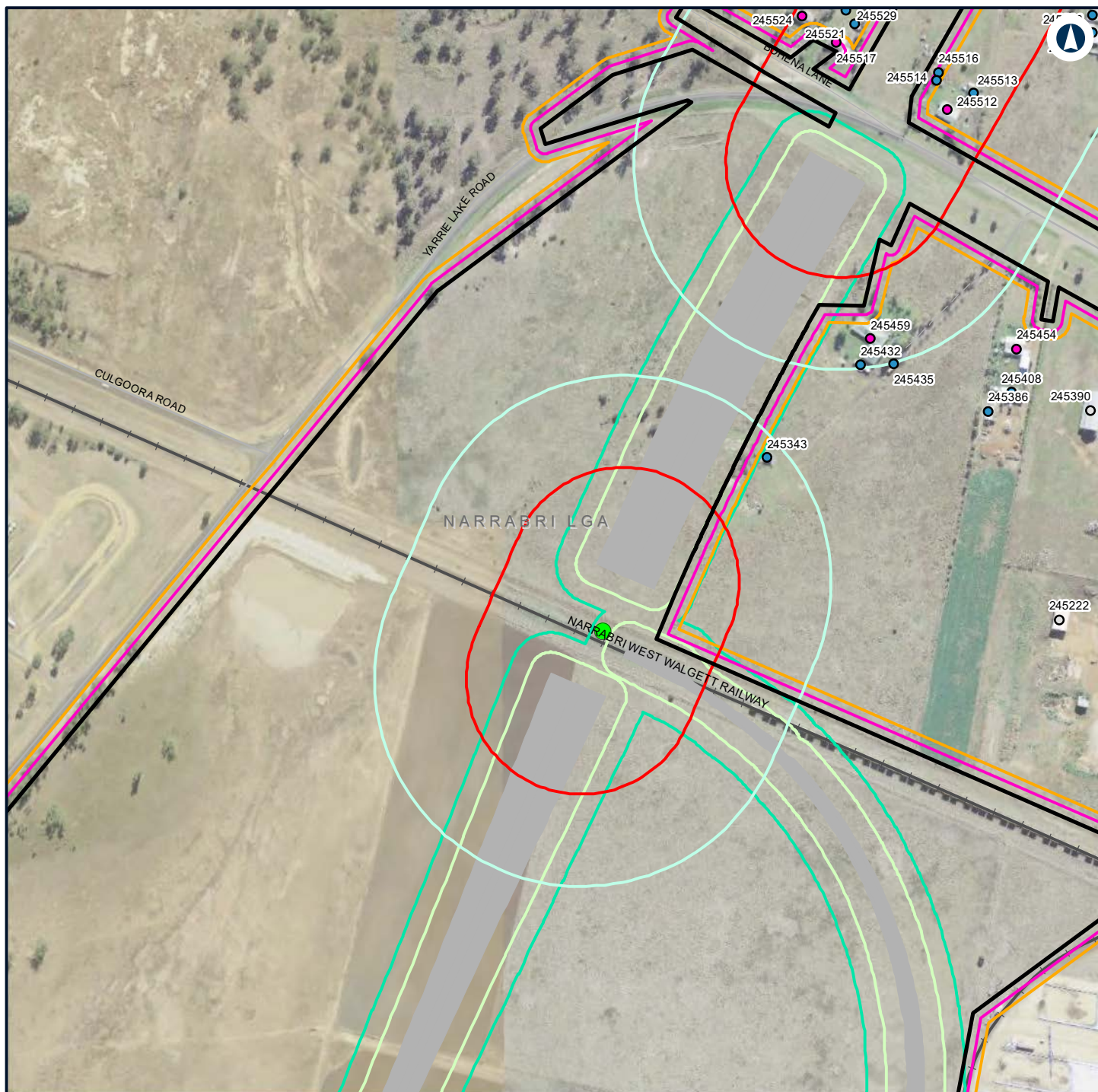
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre
- Construction footprint
- Rail earthworks extent
- Commercial/Industrial
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m

- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 98 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Commercial/Industrial
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 100 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

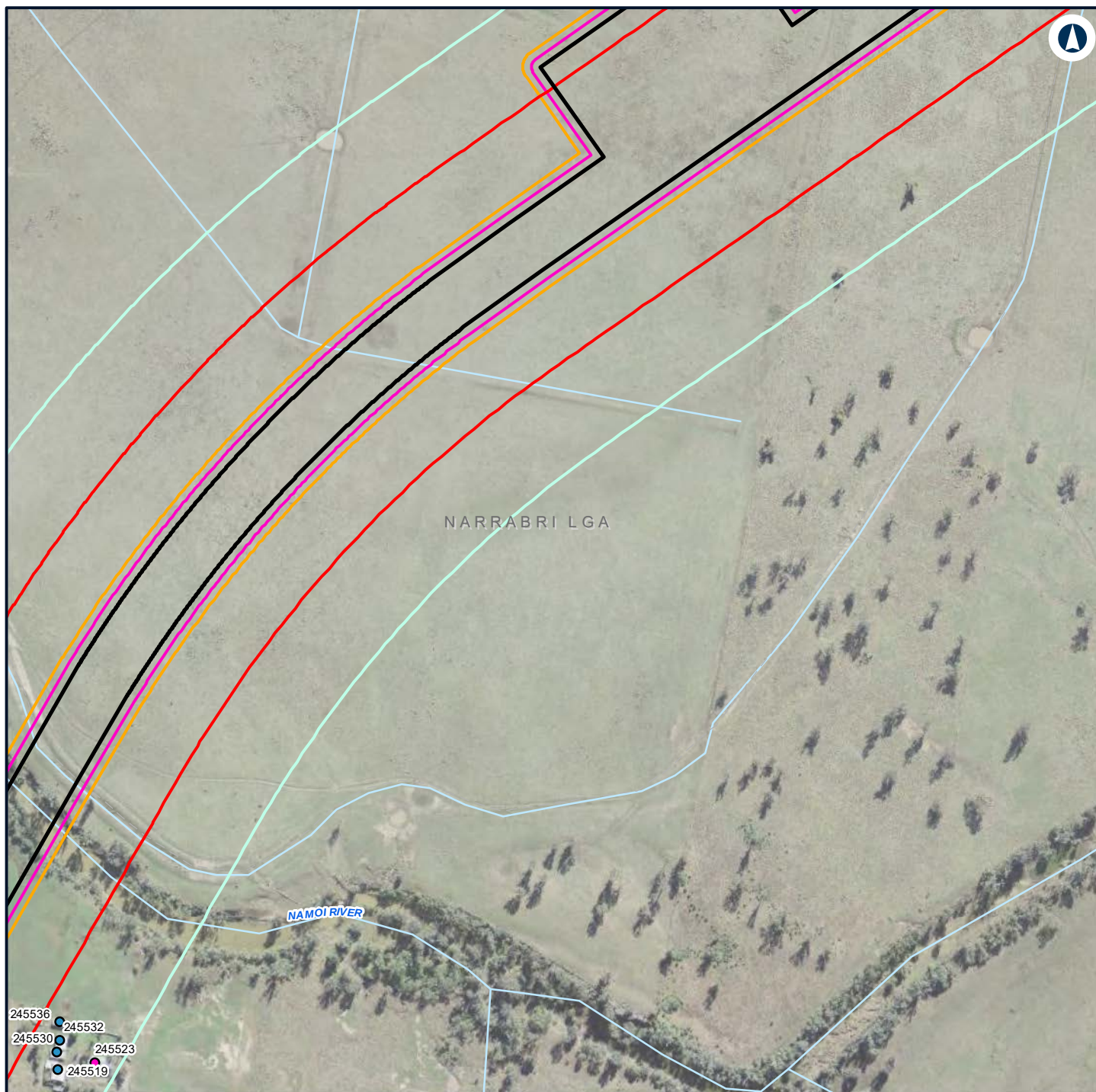
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 101 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

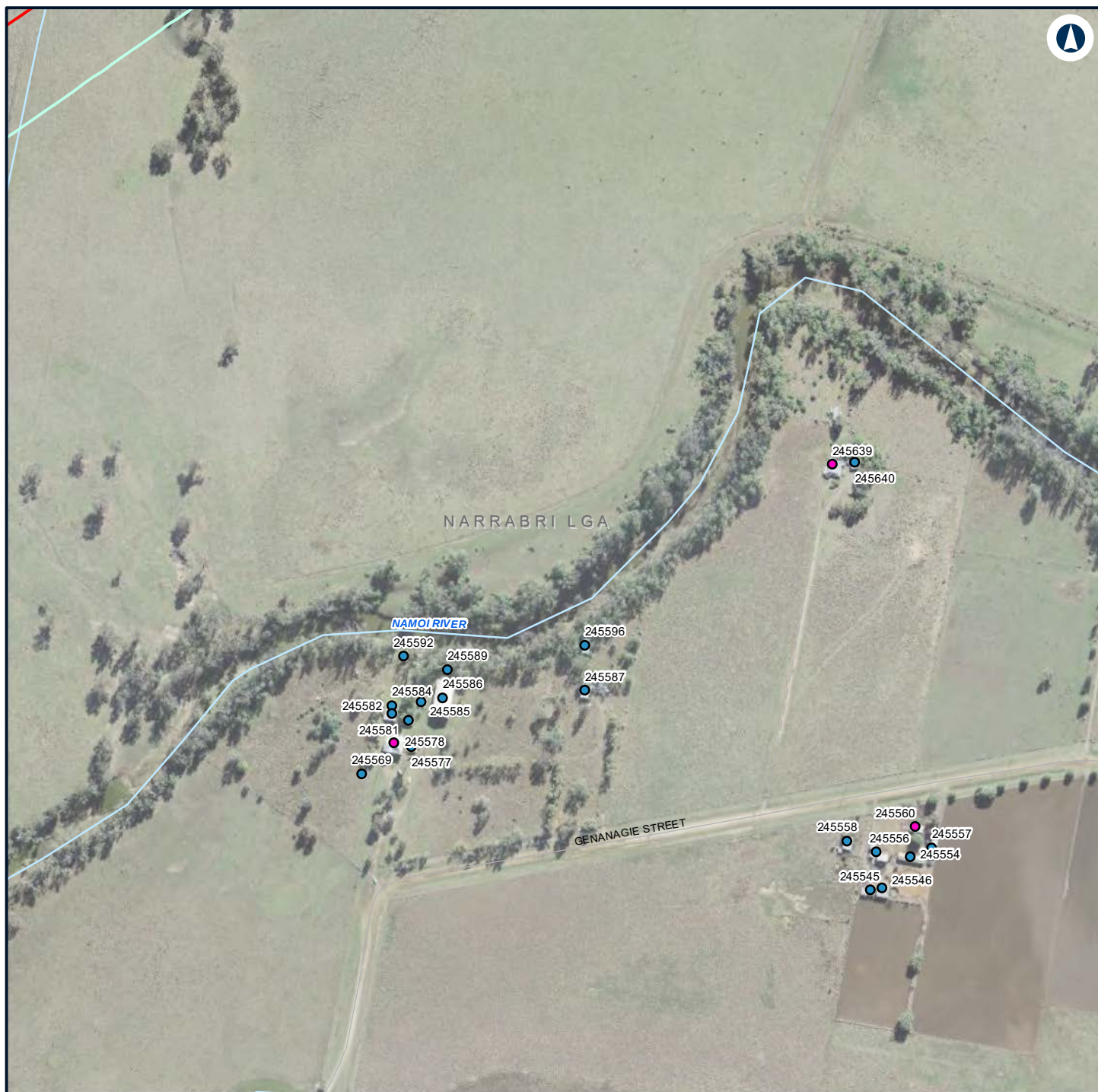
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 102 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021 Paper: A4
Author: GHD Scale: 1:5,000
Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 103 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

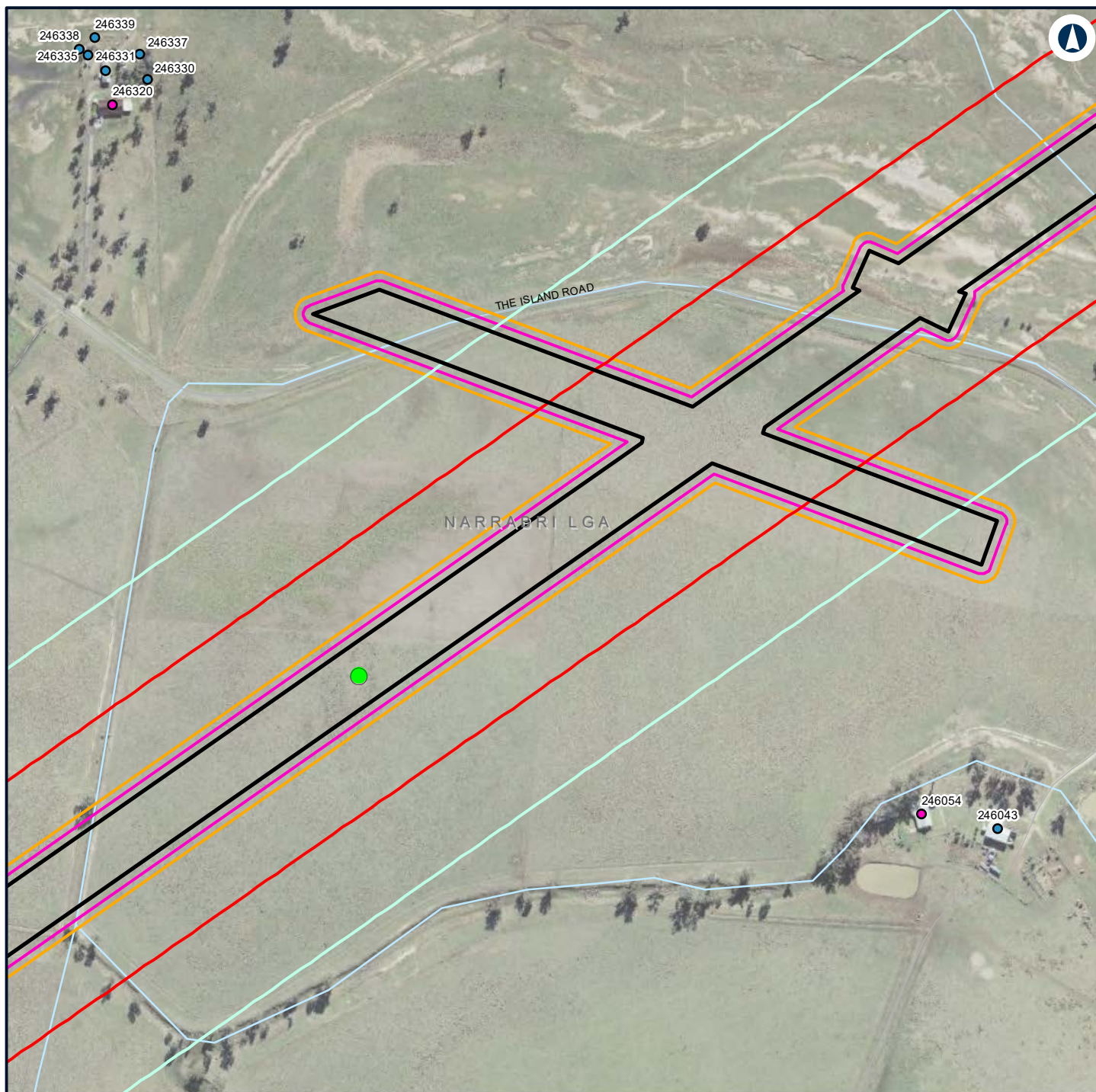
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre
- Construction footprint
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 104 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

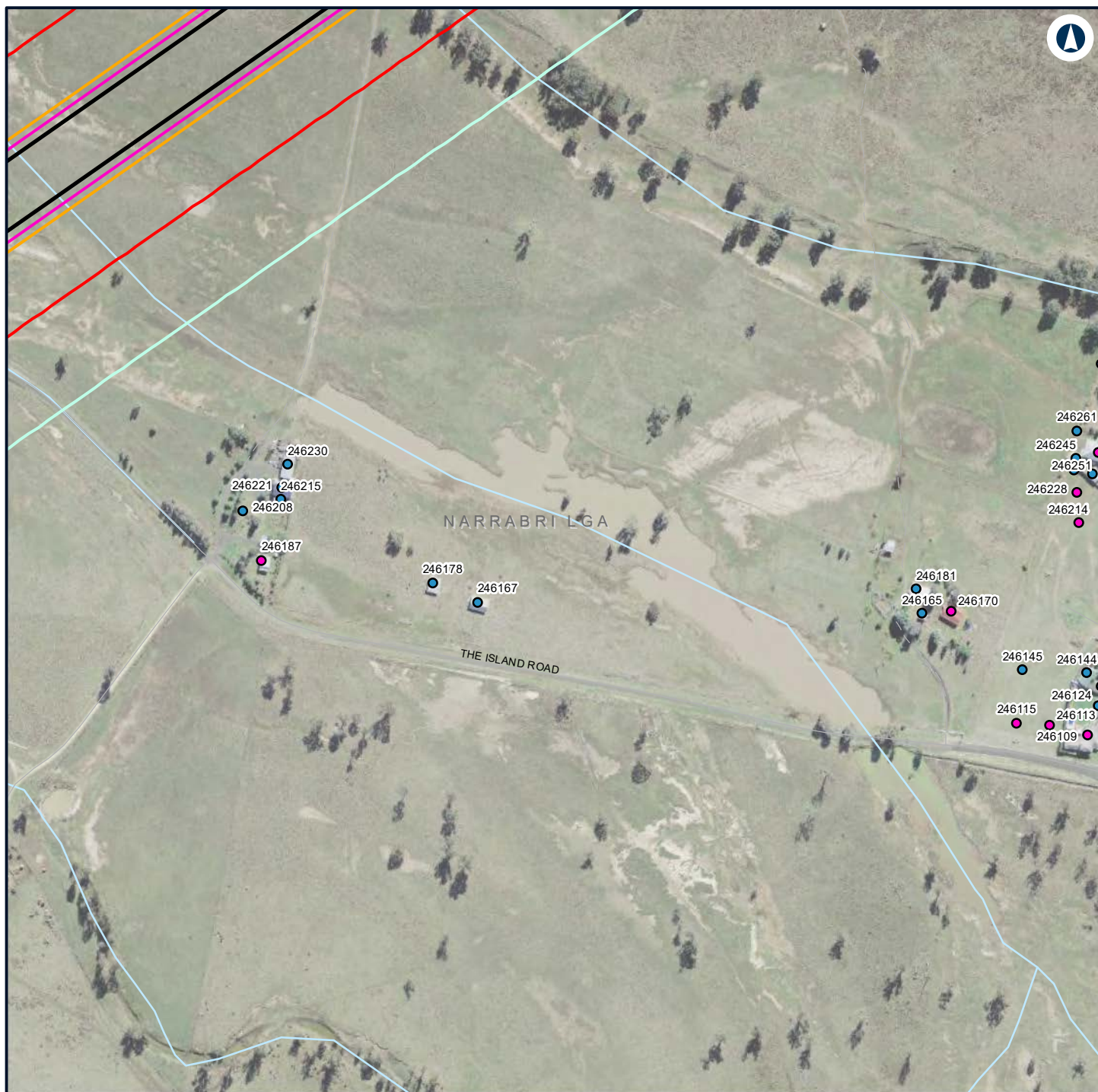
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Construction footprint
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 105 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

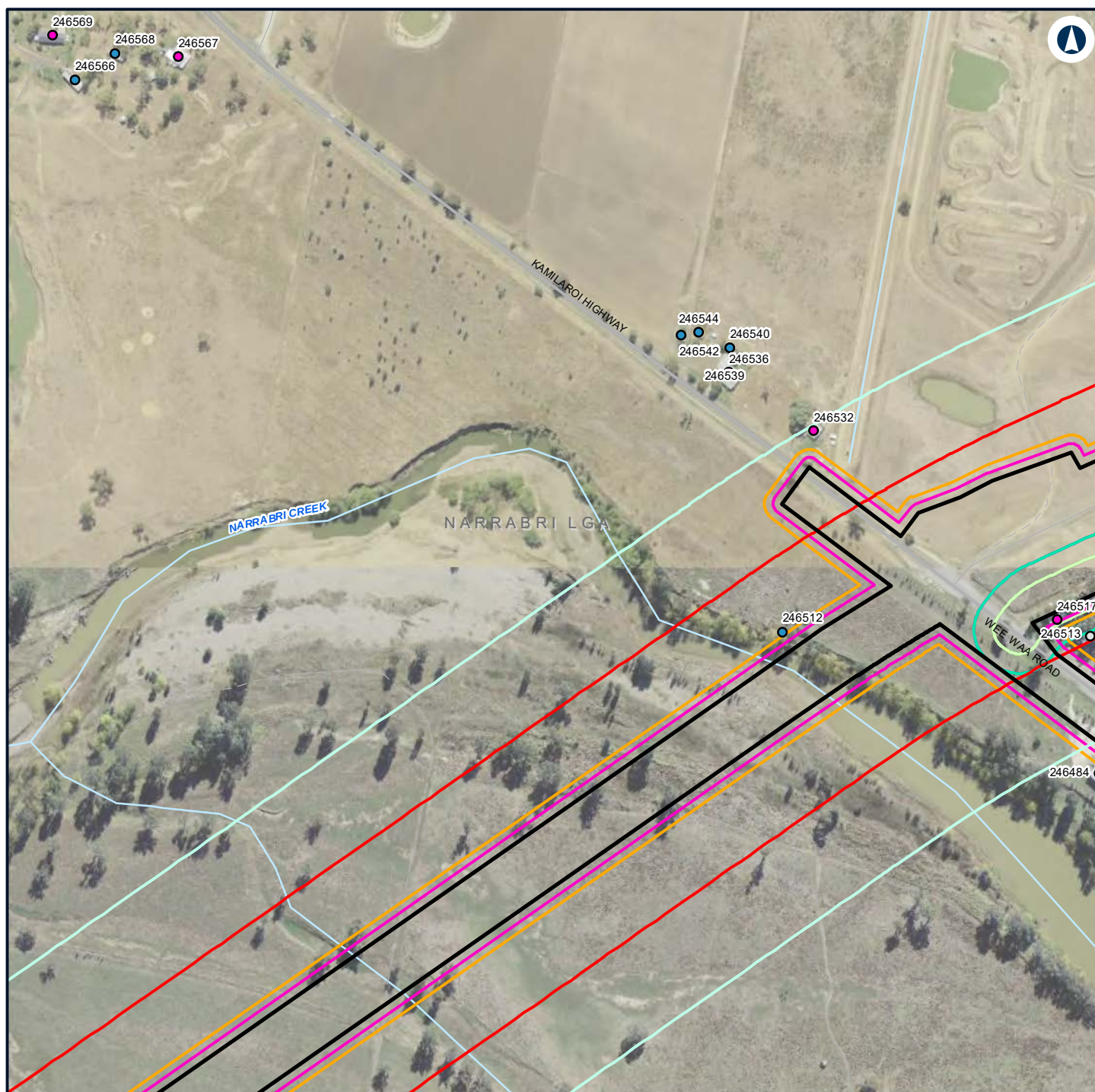
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- | | |
|--|--|
| Construction footprint | Clearing (Dozer) – Heritage structures: 3mm/s, 15m |
| Commercial/Industrial | Clearing (Dozer) – Standard buildings: 5mm/s, 8m |
| Other | Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |
| Residential | Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Bridges (Impact piling) – Heritage structures: 3mm/s, 180m | Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m |
| Bridges (Impact piling) – Standard buildings: 5mm/s, 100m | Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m |



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 106 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

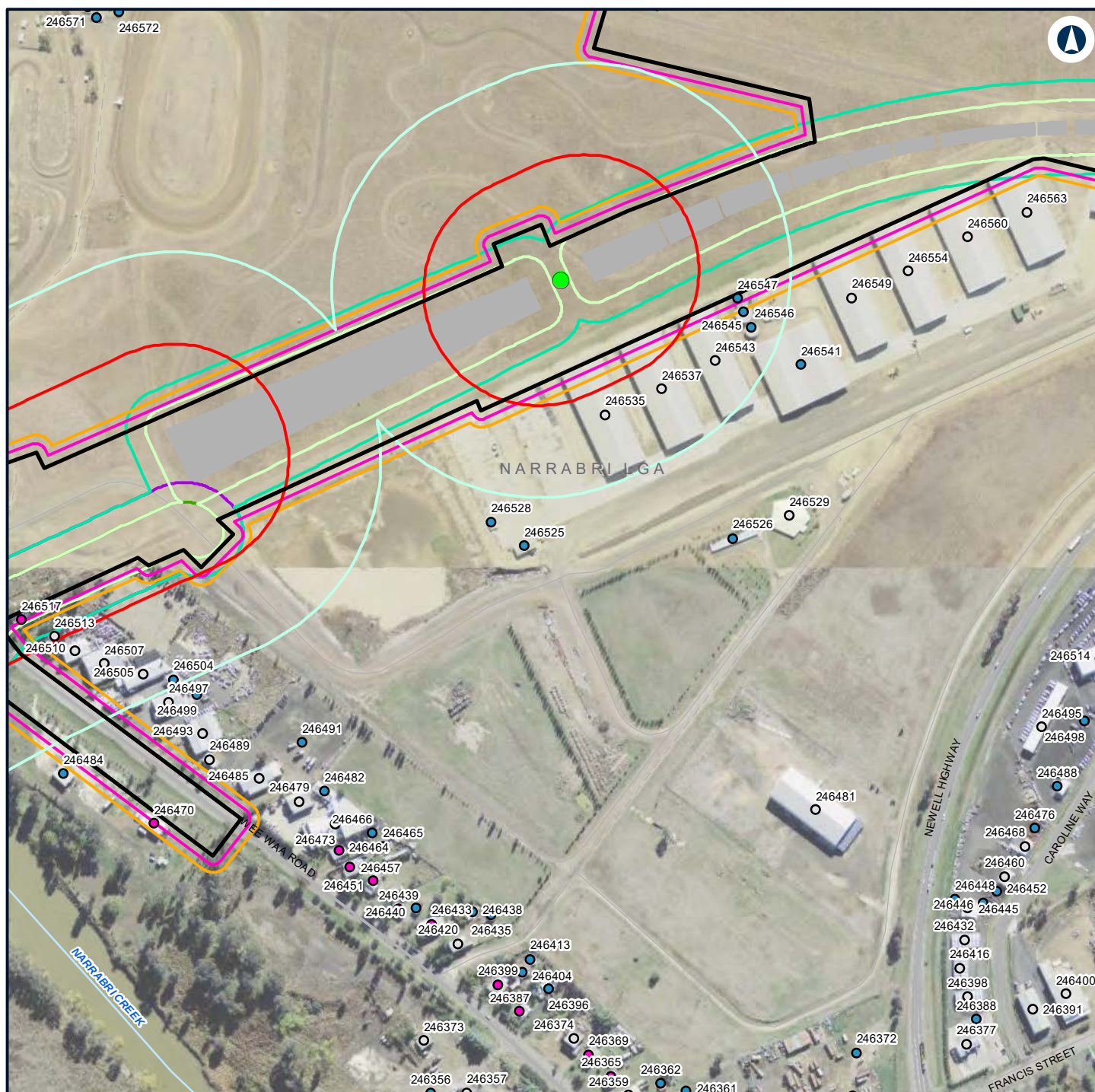
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

INLAND RAIL **ARTC**

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LEGEND

- Bridge centre
- Construction footprint
- Rail earthworks extent
- Active recreation
- Commercial/Industrial
- Other
- Residential
- Bridges (Impact piling) – Heritage structures: 3mm/s, 180m
- Bridges (Impact piling) – Standard buildings: 5mm/s, 100m
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Road earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m



NARRABRI TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 107 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

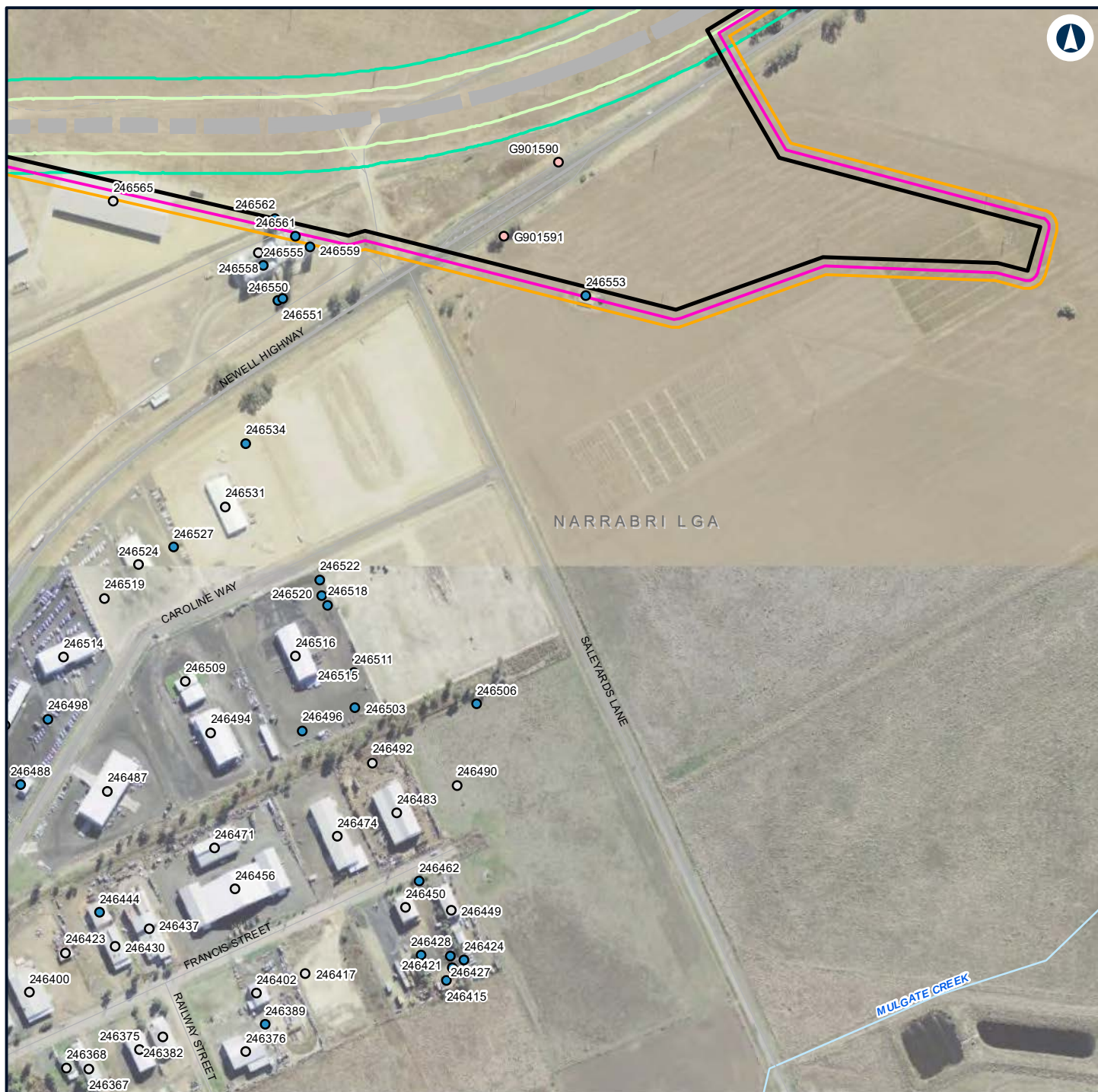
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Commercial/Industrial
- Other
- Passive recreation



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 108 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

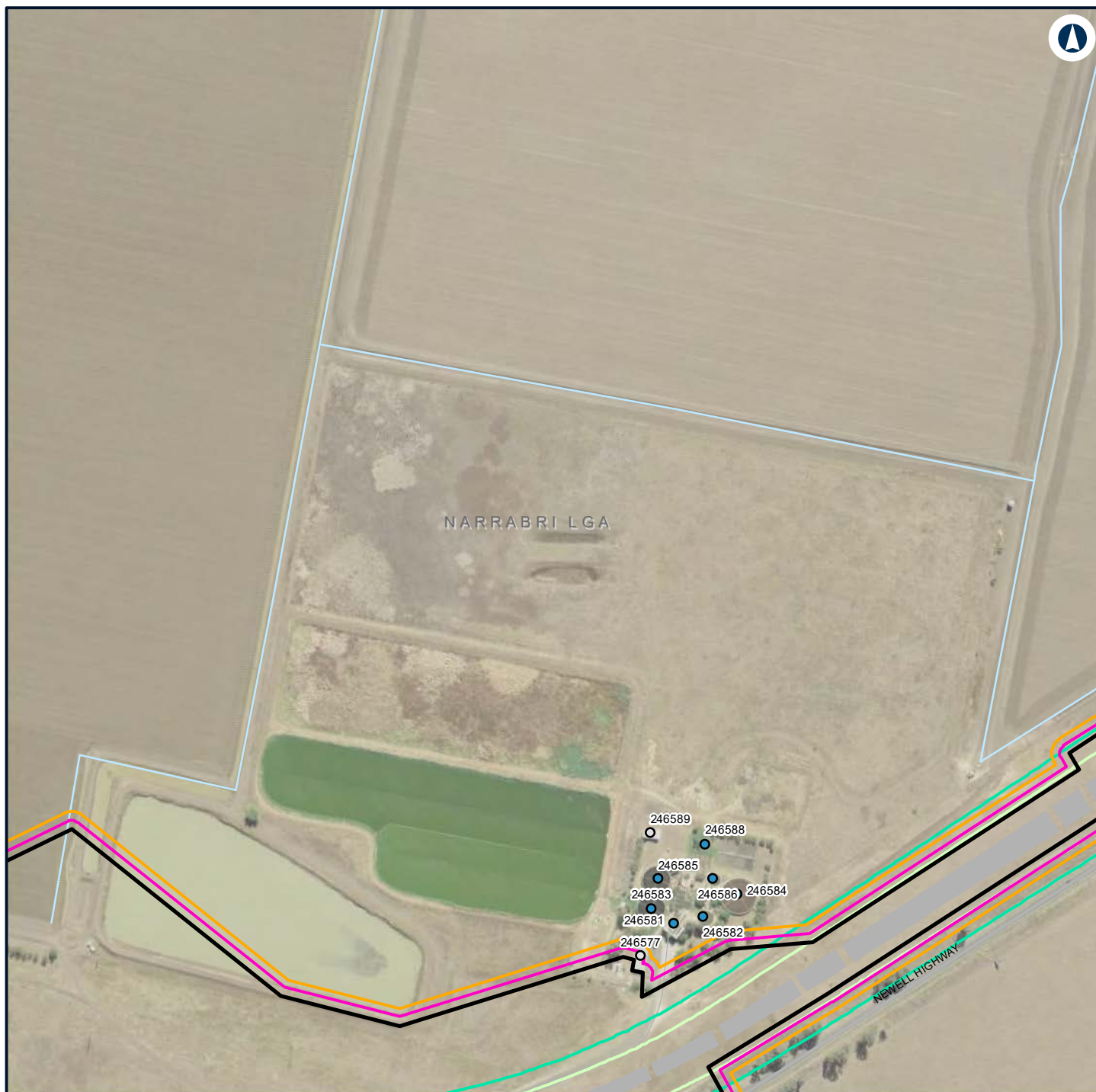
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Rail earthworks extent
- Commercial/Industrial
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 109 OF 113

0 0.1 0.2
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 22/12/2021

Paper: A4

Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

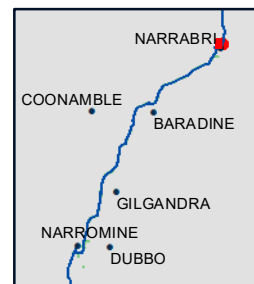
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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 110 OF 113

0 0.1 0.2
Km

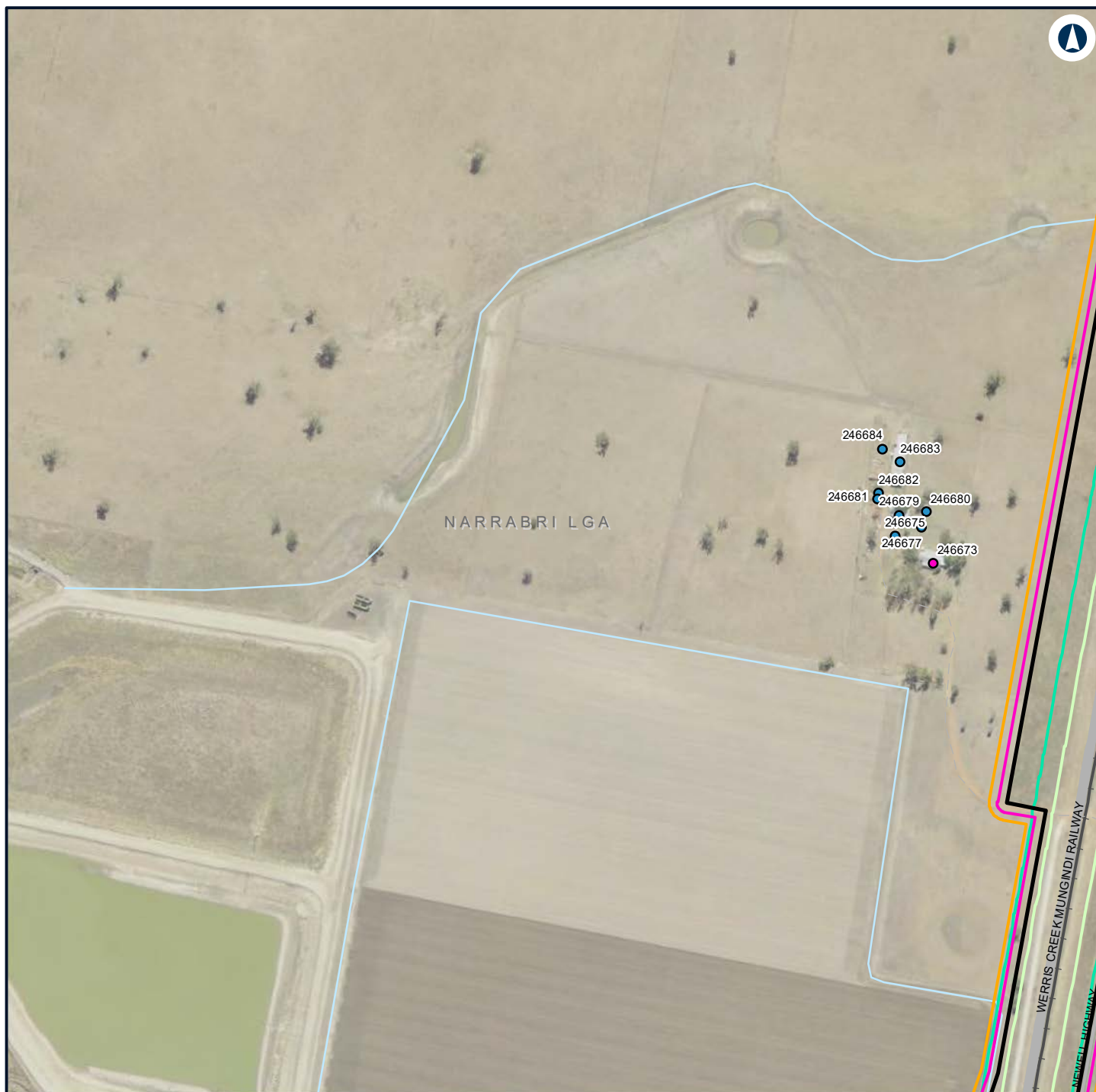
Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Residential
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 111 OF 113

0 0.1 0.2
Km

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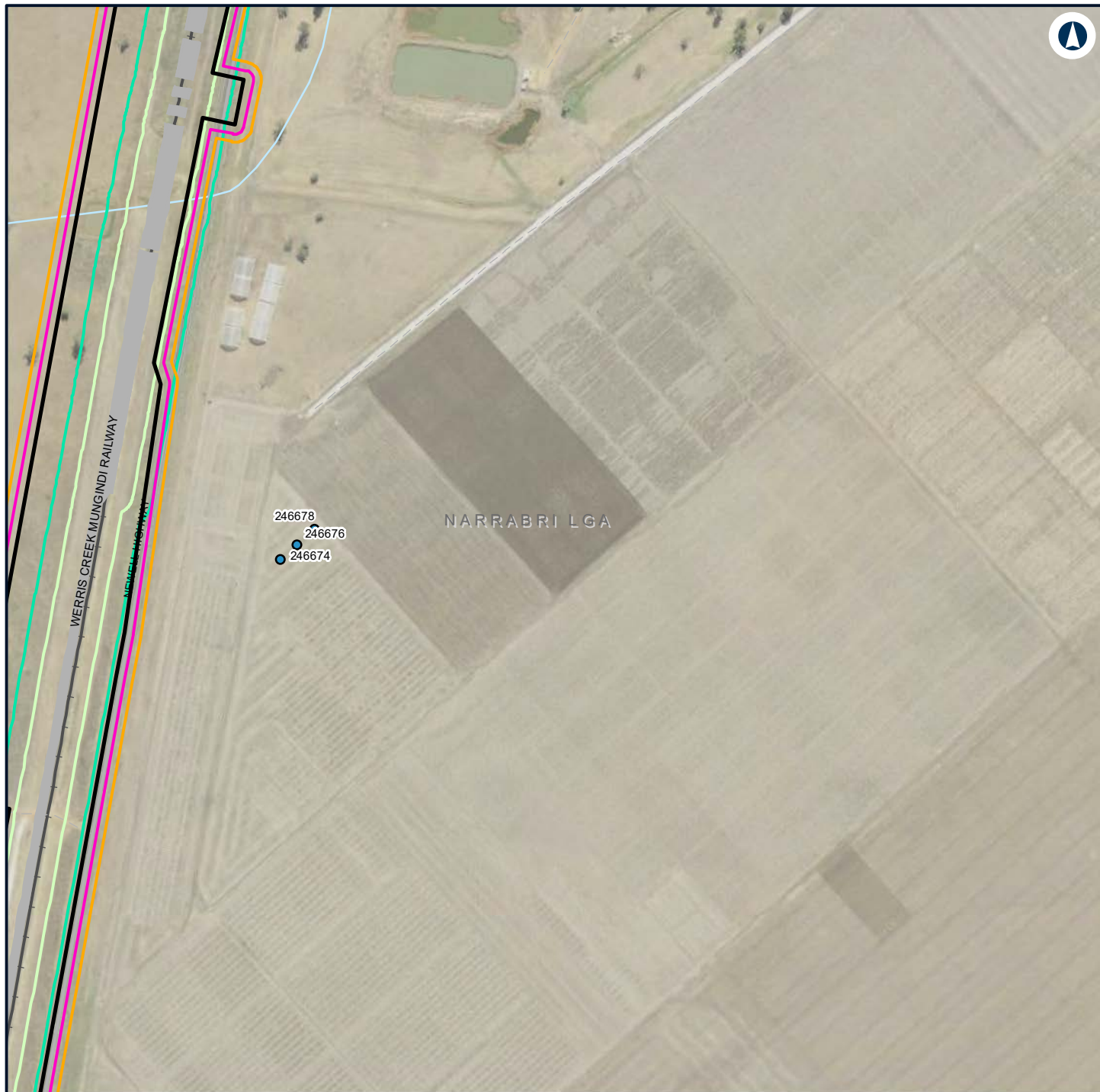
Author: GHD

Scale: 1:5,000

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

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LEGEND

- Construction footprint
- Rail earthworks extent
- Other
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 112 OF 113

0 0.1 0.2
Km

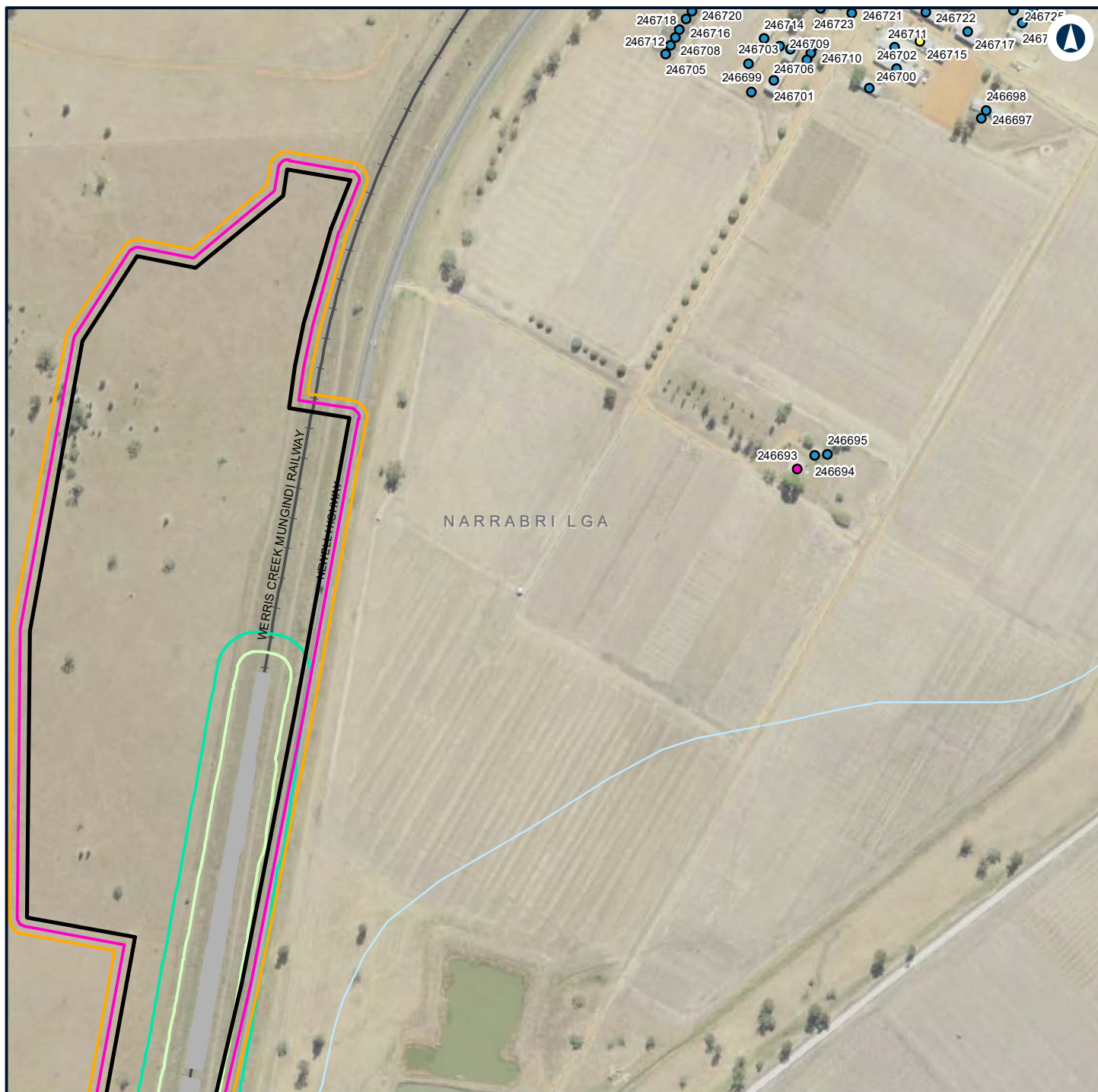
Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

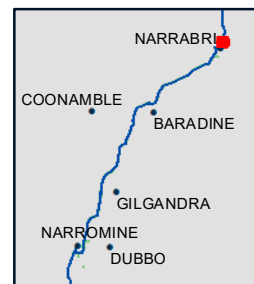
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LEGEND

- Construction footprint
- Clearing (Dozer) – Heritage structures: 3mm/s, 15m
- Rail earthworks extent
- Clearing (Dozer) – Standard buildings: 5mm/s, 8m
- Community
- Rail earthworks (Vibratory roller) – Standard buildings: 5mm/s, 18m
- Other
- Rail earthworks (Vibratory roller) – Heritage structures: 3mm/s, 35m
- Residential



NARROMINE TO NARRABRI

Construction vibration buffers, Structural damage

Appendix N - MAP 113 OF 113

0 0.1 0.2
Km

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TECHNICAL REPORT 08

Updated noise and vibration assessment—
construction and other operations

Appendix O Temporary workforce accommodation NPI assessment impacts

NARROMINE TO NARRABRI PROJECT



Appendix O - Temporary workforce accommodation NPI assessment noise levels

Receiver ID	Coordinate X	Coordinate Y	Day, dB LAeq	Evening, dB LAeq	Night, dB LAeq	LMax (Sleep Disturbance)	Day Criteria	Evening Criteria	Night Criteria	NPI Sleep Disturbance Criteria	RNP Sleep disturbance criteria	Receiver type	Temporary accommodation site
R_245459	763475.3	6641248.0	36.0	36.0	36.0	50.0	40.0	35	35	52	62	RR	Narrabri
R_244983	761638.5	6640248.4	37.0	37.0	37.0	51.0	40.0	35	35	52	62	RR	Narrabri
R_332922	761906.9	6639817.7	37.0	37.0	37.0	50.0	40.0	35	35	52	62	RR	Narrabri
R_331098	696430.4	6574983.4	36.0	36.0	36.0	48.0	40.0	35	35	52	62	RR	Barradine
R_331360	696274.3	6574862.2	36.0	36.0	36.0	52.0	40.0	35	35	52	62	RR	Barradine
R_330953	696746.0	6574733.4	38.0	38.0	38.0	50.0	40.0	35	35	52	62	RR	Barradine
R_331125	696801.4	6574724.9	37.0	37.0	37.0	49.0	40.0	35	35	52	62	RR	Barradine
R_330952	696863.8	6574633.6	36.0	36.0	36.0	48.0	40.0	35	35	52	62	RR	Barradine
R_331355	696248.9	6574592.7	49.0	49.0	49.0	74.0	48.0	48	-	-	-	PRA	Barradine
R_331356	696236.0	6574573.6	50.0	50.0	50.0	78.0	48.0	48	-	-	-	PRA	Barradine
R_330979	696309.7	6574561.7	55.0	55.0	55.0	79.0	48.0	48	-	-	-	PRA	Barradine
R_331347	696266.2	6574552.1	66.0	66.0	66.0	91.0	48.0	48	-	-	-	PRA	Barradine
R_331034	696552.3	6574416.4	46.0	46.0	46.0	62.0	40.0	35	35	52	62	RR	Barradine
G900033	696533.6	6574260.0	45.0	45.0	45.0	61.0	40.0	35	35	52	62	RR	Barradine
G900061	696588.4	6574203.1	42.0	42.0	42.0	57.0	40.0	35	35	52	62	RR	Barradine
G900088	696566.1	6574127.3	44.0	44.0	44.0	56.0	40.0	35	35	52	62	RR	Barradine
G900097	696560.0	6574108.4	43.0	43.0	43.0	56.0	40.0	35	35	52	62	RR	Barradine
G900098	696678.4	6574106.1	39.0	39.0	39.0	51.0	40.0	35	35	52	62	RR	Barradine
G900186	695990.2	6573806.0	36.0	36.0	36.0	48.0	40.0	35	35	52	62	RR	Barradine
G900261	655984.3	6491841.7	36.0	36.0	36.0	47.0	40.0	35	35	52	62	RR	Gilgandra
G900266	656009.9	6491770.2	36.0	36.0	36.0	48.0	40.0	35	35	52	62	RR	Gilgandra
G900269	655973.4	6491720.0	39.0	39.0	39.0	49.0	40.0	35	35	52	62	RR	Gilgandra
G900272	656243.4	6491689.5	38.0	38.0	38.0	50.0	40.0	35	35	52	62	RR	Gilgandra
G900274	656221.7	6491600.0	40.0	40.0	40.0	53.0	40.0	35	35	52	62	RR	Gilgandra
G900275	655902.6	6491586.4	44.0	44.0	44.0	56.0	40.0	35	35	52	62	RR	Gilgandra
G900297	656208.0	6491466.6	43.0	43.0	43.0	59.0	40.0	35	35	52	62	RR	Gilgandra
G900304	656274.0	6491411.9	43.0	43.0	43.0	58.0	40.0	35	35	52	62	RR	Gilgandra
G900309	655971.9	6491396.0	52.0	52.0	52.0	62.0	40.0	35	35	52	62	RR	Gilgandra
G900349	655911.4	6491166.7	57.0	57.0	57.0	79.0	40.0	35	35	52	62	RR	Gilgandra
G900352	655973.9	6491163.8	58.0	58.0	58.0	82.0	40.0	35	35	52	62	RR	Gilgandra
G900363	655942.7	6491141.5	53.0	53.0	53.0	73.0	40.0	35	35	52	62	RR	Gilgandra
G900364	656207.5	6491138.5	45.0	45.0	45.0	61.0	40.0	35	35	52	62	RR	Gilgandra
G900370	655900.2	6491126.0	50.0	50.0	50.0	69.0	40.0	35	35	52	62	RR	Gilgandra
G900374	656027.7	6491123.4	50.0	50.0	50.0	69.0	40.0	35	35	52	62	RR	Gilgandra
G900375	655973.9	6491123.4	49.0	49.0	49.0	69.0	40.0	35	35	52	62	RR	Gilgandra
G900385	656232.8	6491103.8	43.0	43.0	43.0	58.0	40.0	35	35	52	62	RR	Gilgandra
G900393	655972.1	6491076.4	46.0	46.0	46.0	64.0	40.0	35	35	52	62	RR	Gilgandra
G900413	656274.9	6491049.7	41.0	41.0	41.0	55.0	40.0	35	35	52	62	RR	Gilgandra
G900439	655967.1	6491014.0	42.0	42.0	42.0	59.0	40.0	35	35	52	62	RR	Gilgandra
G900440	656039.6	6491012.4	43.0	43.0	43.0	59.0	40.0	35	35	52	62	RR	Gilgandra
G900456	655935.8	6490993.5	42.0	42.0	42.0	58.0	40.0	35	35	52	62	RR	Gilgandra
G900462	656023.3	6490989.4	42.0	42.0	42.0	58.0	40.0	35	35	52	62	RR	Gilgandra
G900467	656256.4	6490981.3	40.0	40.0	40.0	53.0	40.0	35	35	52	62	RR	Gilgandra
G900469	655966.3	6490980.2	39.0	39.0	39.0	57.0	40.0	35	35	52	62	RR	Gilgandra
G900472	656324.6	6490977.1	39.0	39.0	39.0	51.0	40.0	35	35	52	62	RR	Gilgandra
G900481	656217.5	6490968.3	40.0	40.0	40.0	53.0	40.0	35	35	52	62	RR	Gilgandra
G900488	656264.6	6490960.2	40.0	40.0	40.0	52.0	40.0	35	35	52	62	RR	Gilgandra
G900487	656067.0	6490959.6	41.0	41.0	41.0	56.0	40.0	35	35	52	62	RR	Gilgandra
G900492	656140.0	6490956.8	40.0	40.0	40.0	54.0	40.0	35	35	52	62	RR	Gilgandra
G900496	656158.3	6490955.2	40.0	40.0	40.0	54.0	40.0	35	35	52	62	RR	Gilgandra
G900495	656342.1	6490954.6	37.0	37.0	37.0	50.0	40.0	35	35	52	62	RR	Gilgandra
G900503	656182.2	6490949.0	40.0	40.0	40.0	53.0	40.0	35	35	52	62	RR	Gilgandra
G900508	656022.8	6490942.5	37.0	37.0	37.0	55.0	40.0	35	35	52	62	RR	Gilgandra
G900516	656356.7	6490939.5	36.0	36.0	36.0	49.0	40.0	35	35	52	62	RR	Gilgandra
G900517	655621.5	6490938.7	40.0	40.0	40.0	52.0	40.0	35	35	52	62	RR	Gilgandra
G900527	656068.6	6490932.2	37.0	37.0	37.0	47.0	40.0	35	35	52	62	RR	Gilgandra
G900540	656021.4	6490921.2	37.0	37.0	37.0	47.0	40.0	35	35	52	62	RR	Gilgandra
G900545	655834.2	6490919.3	41.0	41.0	41.0	54.0	40.0	35	35	52	62	RR	Gilgandra
G900549	656115.8	6490915.3	39.0	39.0	39.0	53.0	40.0	35	35	52	62	RR	Gilgandra
G900551	656067.7	6490913.9	36.0	36.0	36.0	53.0	40.0	35	35	52	62	RR	Gilgandra
G900561	656141.2	6490909.1	38.0	38.0	38.0	52.0	40.0	35	35	52	62	RR	Gilgandra
G900562	656161.1	6490909.0	36.0	36.0	36.0	51.0	40.0	35	35	52	62	RR	Gilgandra
G900580	656063.9	6490893.5	36.0	36.0	36.0	52.0	40.0	35	35	52	62	RR	Gilgandra
G900597	655623.4	6490877.8	37.0	37.0	37.0	50.0	40.0	35	35	52	62	RR	Gilgandra
G900598	656021.5	6490877.8	37.0	37.0	37.0	52.0	40.0	35	35	52	62	RR	Gilgandra
G900613	655672.0	6490867.5	36.0	36.0	36.0	51.0	40.0	35	35	52	62	RR	Gilgandra
G900625	656017.0	6490856.9	36.0	36.0	36.0	51.0	40.0	35	35	52	62	RR	Gilgandra
G900638	656104.3	6490850.5	37.0	37.0	37.0	51.0	40.0	35	35	52	62	RR	Gilgandra
G900651	655701.7	6490840.0	38.0	38.0	38.0	50.0	40.0	35	35	52	62	RR	Gilgandra
G900676	655621.4	6490826.5	36.0	36.0	36.0	49.0	40.0	35	35	52	62	RR	Gilgandra
G900690	655945.3	6490815.7	37.0	37.0	37.0	50.0	40.0	35	35	52	62	RR	Gilgandra
G900701	655852.2	6490804.7	37.0	37.0	37.0	50.0	40.0	35	35	52	62	RR	Gilgandra
G900705	655814.8	6490802.7	36.0	36.0	36.0	49.0	40.0	35	35	52	62	RR	Gilgandra
G900704	655895.9	6490802.6	38.0	38.0	38.0	50.0	40.0	35	35	52	62	RR	Gilgandra
R_324810	625766.2	6436669.3	38.0	38.0	38.0	50.0	40.0	35	35	52	62	RR	Narromine North

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