

1 May 2024

ARTC REF# 3-0000-210-EAP-00-LT-0002-DH

Mr Alexander Scott
(Attn: Max Obiakor)
Director Freight Team
Freight Assessment and Management
Department of Planning, Housing and Infrastructure

Via Major Projects Planning Portal

Dear Max

Inland Rail – Albury to Illabo (SSI-10055) Response to request for additional information – Air Quality Assessment

We write in response to the Department's letter of 18 April 2024 seeking additional information on air quality matters. Please refer below and to the attachments for our response to the Department's request.

Additional information request

Mapping of sensitive receivers near idling sites showing location and type of receivers and respective distances from the idling sites.

Response

Network configuration and potential idling sites

The Albury to Illabo Project is for the enhancement of infrastructure along the existing Main South Line (also known as the North-South Corridor). The line runs from Sydney to Melbourne. Dual track runs between Sydney and Junee, with single track largely present between Junee and Albury. Along this section there are a number of passing lanes as well as crossing loops that allow a train to move off the single track into loop and let another train pass on the mainline. The Network Diagram (Attachment 1) illustrates this arrangement (also available at https://www.artc.com.au/customers/maps/system/sydney-craigieburn). The Network Information Book (Attachment 2) provides more detailed information including the location of signals (see https://www.artc.com.au/customers/operations/nib).

ARTC's operational objectives include the maximisation of train movement and minimisation of stoppages and idling. For operational efficiency, the preference for crossing trains is within a passing lane, with loops used where necessary. Passing lanes are generally up to 7.0km in length and are in place five (5) locations between Junee and Albury. A passing lane offers the opportunity for a 'running cross' where one train enters the passing lane and can continue moving while the other train continues moving on the mainline. However, based on the timing of each train approaching the signals, a running cross may not be possible and the train in the passing lane may need to become stationary and idle. It is emphasised that not every train crossing results in an idling locomotive scenario.

Inland Rail

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Crossing loops vary in size but are generally up to 2.0km in length and are located with yards (e.g. stations / freight sidings). Most yards allow for train crossing (and therefore idling), e.g. one on the platform road while one crosses on the mainline. It is generally not time tabled for trains to cross in a yard but as the operation of the network is a live run environment, a delay to the XPT passenger service may be mitigated by standing a freight train or lower priority train in a yard to allow the XPT to cross. The other activity where a train might idle at a yard is for driver changeover at the end of the shift. This only happens at certain yards and is managed by the locomotive operators.

Inland Rail is not creating or extending the passing lanes. Works to crossing loops are necessary in various locations to achieve double-stacked clearances, with only minor alterations to loop lengths.

Mapping of predicted affected distances and receiver categorisation

Mapping of the predicted affected distances of NOx are provided in Attachment 2, including categorisation of the receiver types. These show the potential effects of idling trains, and the potential effects of a passing train with an idling train present.

The mapping of locations represents the up and down track signals of the loop or passing lane where a train could stop. This does not necessarily mean a train would stop at a location during every day operations, as each day's operational pattern differs. The locations are shown below.

Table 1 Locations of crossing loops and passing lanes

Location	South (Down)	North (Up)	Length (km)	Туре	Context
Albury Platform Road and Loop Road	646.546	645.475	1.1	Crossing loop	Urban
Albury Run Round Road and Coal Road	646.552	644.709	1.8	Crossing loop	Urban
Gerogery Loop Up	623.216	616.197	7.0	Passing lane	Rural
Culcairn Loop Up	597.142	595.836	1.3	Crossing loop	Rural
Culcairn Passing Lane	595.646	588.847	6.8	Passing lane	Rural
Henty Loop Down	581.182	580.055	1.1	Crossing loop	Rural
Yerong Creek Loop Up	567.679	560.515	7.2	Passing lane	Rural
The Rock Loop Down	551.419	550.343	1.1	Crossing loop	Rural
The Rock Loop Up	551.018	550.045	1.0	Crossing loop	Rural
Uranquinty Loop Up	541.924	534.900	7.0	Passing lane	Rural
Wagga Wagga Loop Up	522.095	520.484	1.6	Crossing loop	Urban
Bomen Passing Lane	514.59	507.577	7.0	Passing lane	Rural
Harefield Loop Down	498.526	497.418	1.1	Crossing loop	Rural
Junee Platform Up Road	486.378	485.162	1.2	Crossing loop	Urban

The distances and number of potentially affected receivers illustrated on the mapping are consistent with Table 5.18 and Table 5.19 respectively of Appendix F – Addendum Assessment to Technical Paper 14: Air Quality of the Preferred Infrastructure Report – Response to Submissions Report. Extracts of these tables are reproduced below.



Table 5.18	Indicative	exceedance	distance	for	idling	locations

Representative case study	Study area idling locations	Indicative distance for exceedance (m)
Urban – W2 idling train	Albury Platform Road and Loop Road	70
	Albury Run Round Road and Coal Road	
	Wagga Wagga Loop Up	
	Junee Platform Up Road	
Urban - W3 idling +passing train	Albury Platform Road and Loop Road	120
	Albury Run Round Road and Coal Road	
	Wagga Wagga Loop Up	
	Junee Platform Up Road	
Rural – C2 idling train	Gerogery Loop Up	100
	Culcairn Loop Up	
	Culcairn Passing Lane	
	Henty Loop Down	
	Yerong Creek Loop Up	
	The Rock Loop Down	
	The Rock Loop Up	
	Uranquinty Loop Up	
	Bomen Passing Lane	
	Harefield Loop Down	
Rural - C3 idling +passing train	Gerogery Loop Up	150
	Culcairn Loop Up	
	Culcairn Passing Lane	
	Henty Loop Down	
	Yerong Creek Loop Up	
	The Rock Loop Down	
	The Rock Loop Up	
	Uranquinty Loop Up	
	Bomen Passing Lane	
	Harefield Loop Down	

Table 5.19	Sensitive Receptors with poter	ntial for NO ₂ 1-hour exceedance

Representative case study	Study area idling locations	Sensitive receptors within maximum distance for potential exceedances
Urban - W3 idling +passing train	Wagga Wagga Case Study Area ¹	53
	Albury Platform Road and Loop Road	11
	Albury Run Round Road and Coal Road	3
	Wagga Wagga Loop Up	43
	Junee Platform Up Road	47
	TOTAL	157
Rural – C3 idling +passing train	Culcairn Case Study Area ²	2
	Gerogery Loop Up	4
	Culcairn Loop Up	2
	Culcairn Passing Lane	4
	Henty Loop Down	1
	Yerong Creek Loop Up	0
	The Rock Loop Down	2
	The Rock Loop Up	20
	Uranquinty Loop Up	5
	Bomen Passing Lane	0
	Harefield Loop Down	0
	TOTAL	40

Note:

Refer to Section 5.1.3
 Refer to Section 5.2.4

The mapping indicates the receiver type using available sensitive receiver data from late 2021. We note that buildings may have changed since this time, such as new residential developments in urban areas. Aerial photography of various dates is shown in the mapping and may not correlate with the receiver data set

As outlined in the Addendum Air Quality Assessment, the approach taken results is a conservative analysis. Consequently, the mapping illustrates potential air quality impacts dependant on the simultaneous occurrences required to generate 1-hour NOx exceedances as discussed in the Addendum Assessment.

Attachments

Please refer to the following attachments:

- 1. North South Corridor Network Diagram
- 2. Network Information Book extract
- 3. A2I Idling locations and predicted affected distances for NOx

Next Steps

We trust the attached provides the Department with sufficient information to progress consideration of this aspect of the proposal. If you wish to discuss any of the above further, please contact Wayne Window on 0447 553 401 or at wwindow@artc.com.au.

Yours sincerely

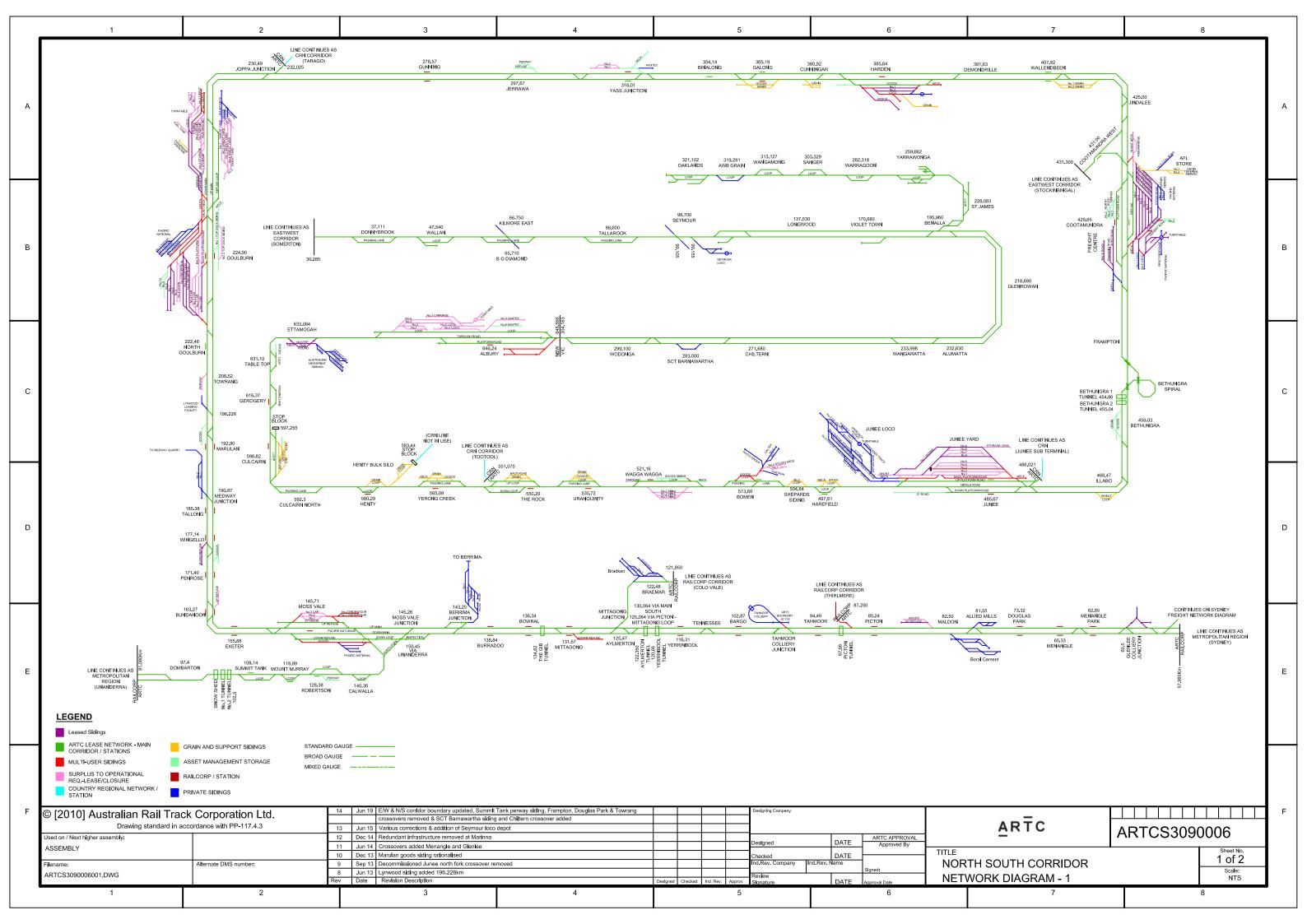
Wayne Window

Environment Manager – NSW & Victoria

20 Windows

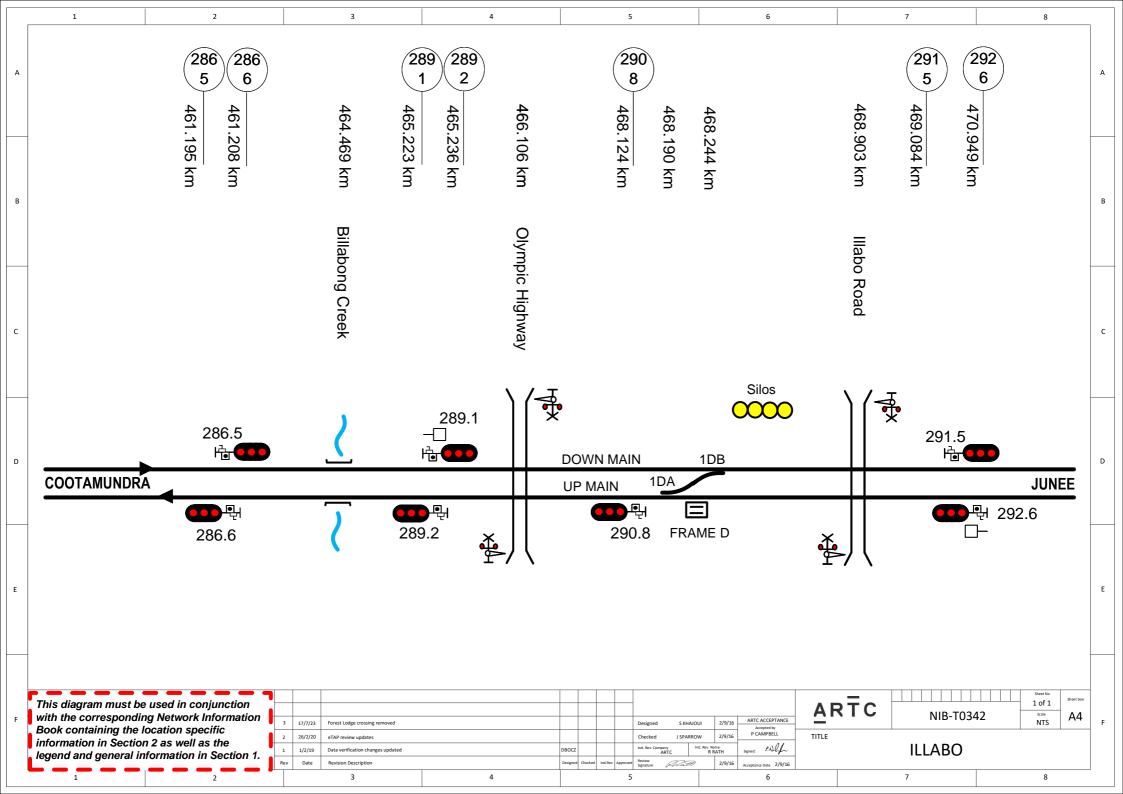


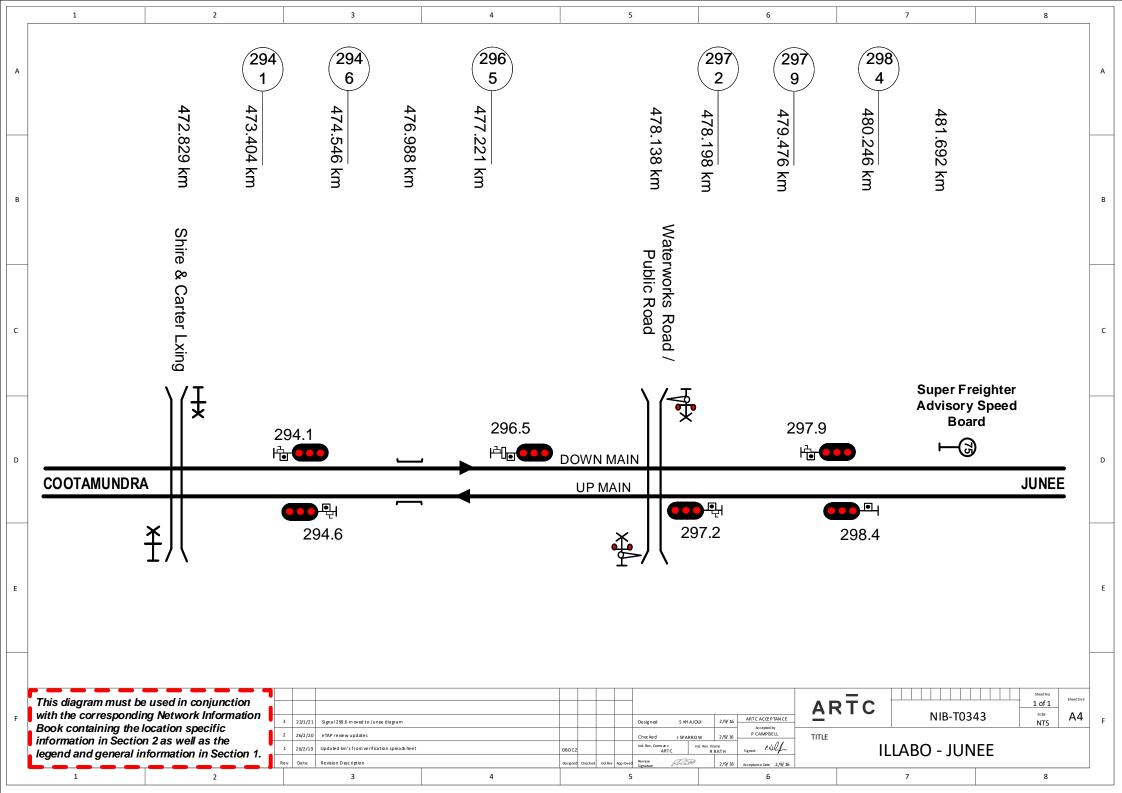
Attachment 1. North South Corridor Network Diagram

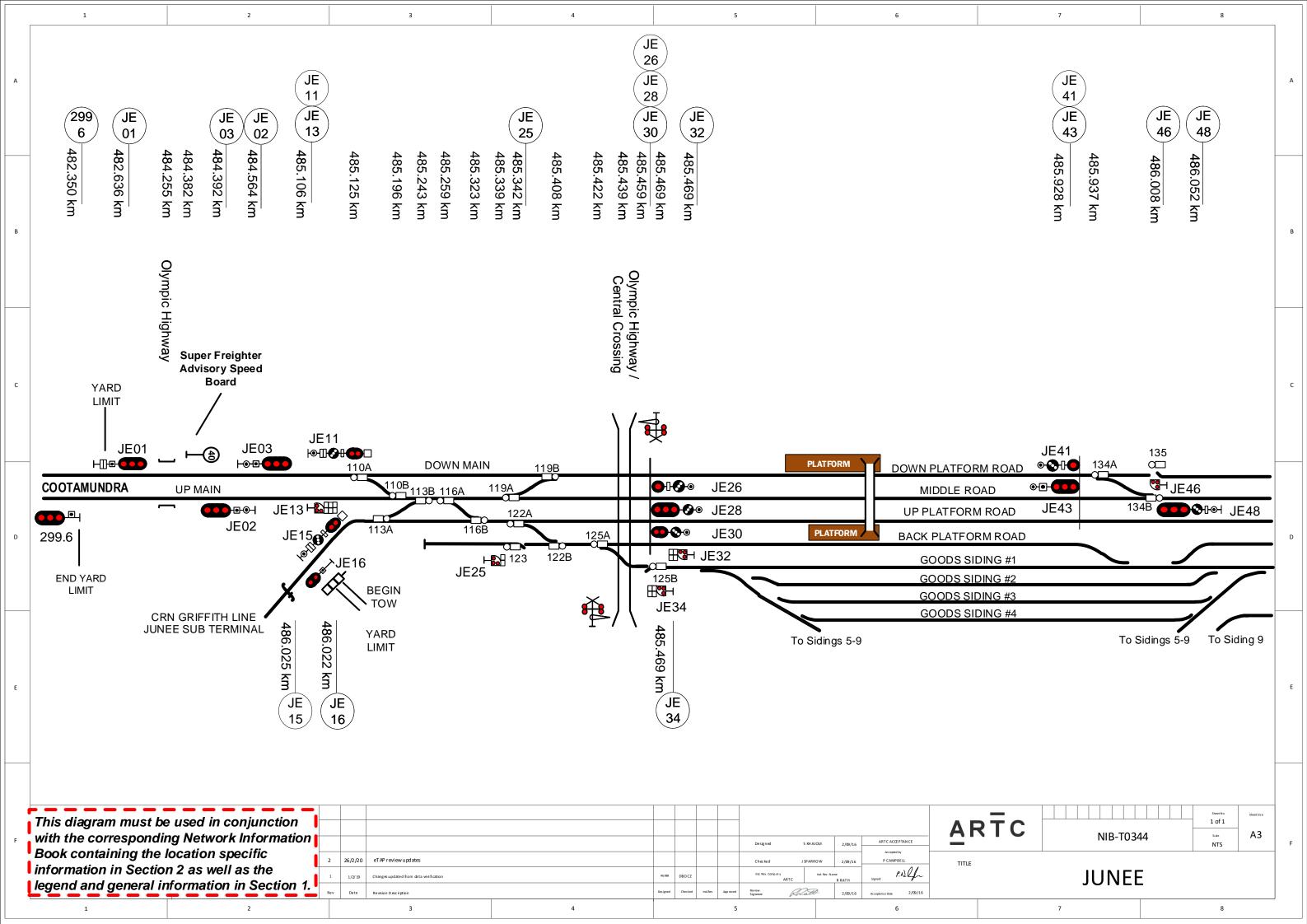


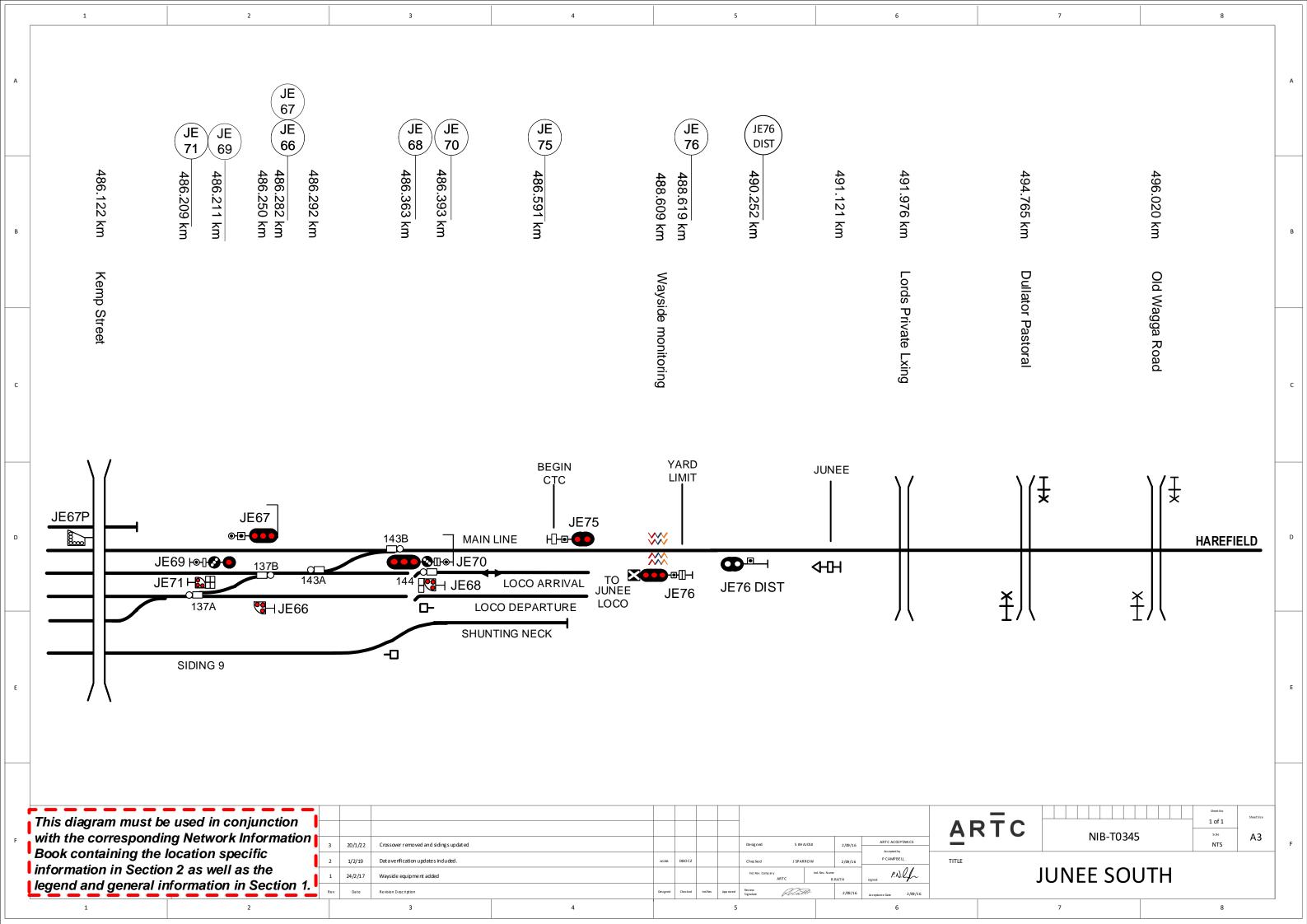


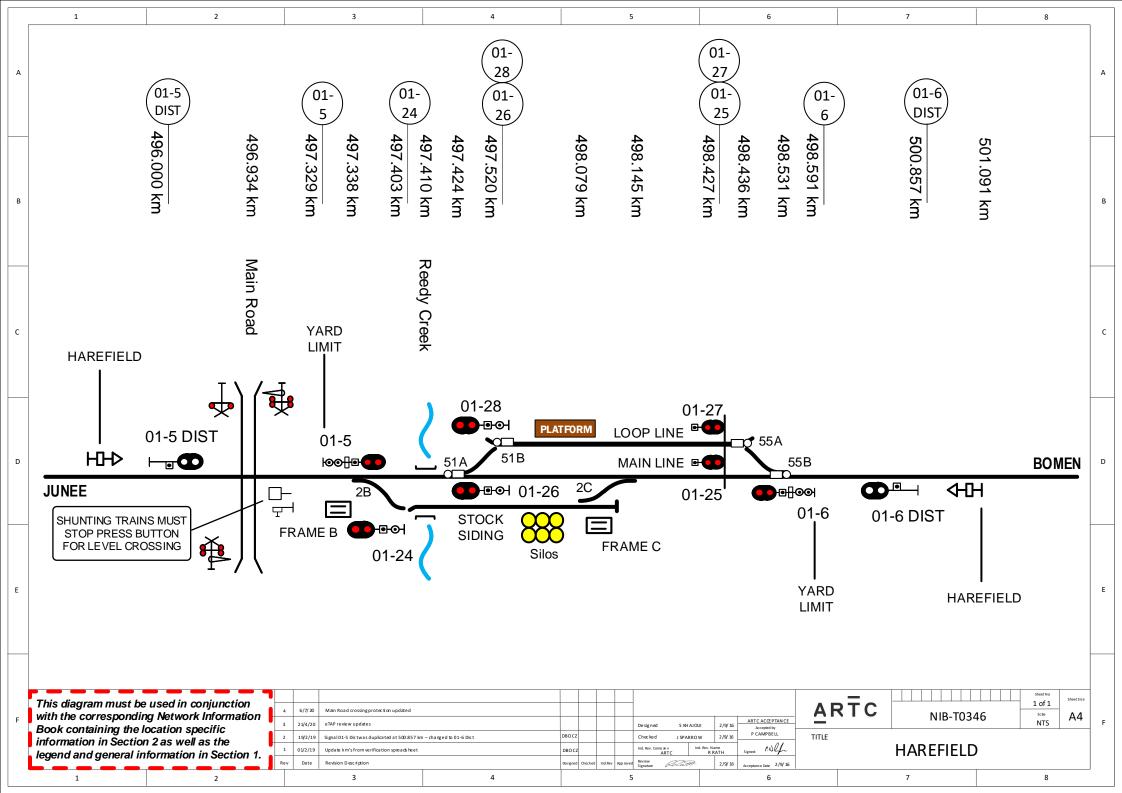
Attachment 2. Network Information Book extract

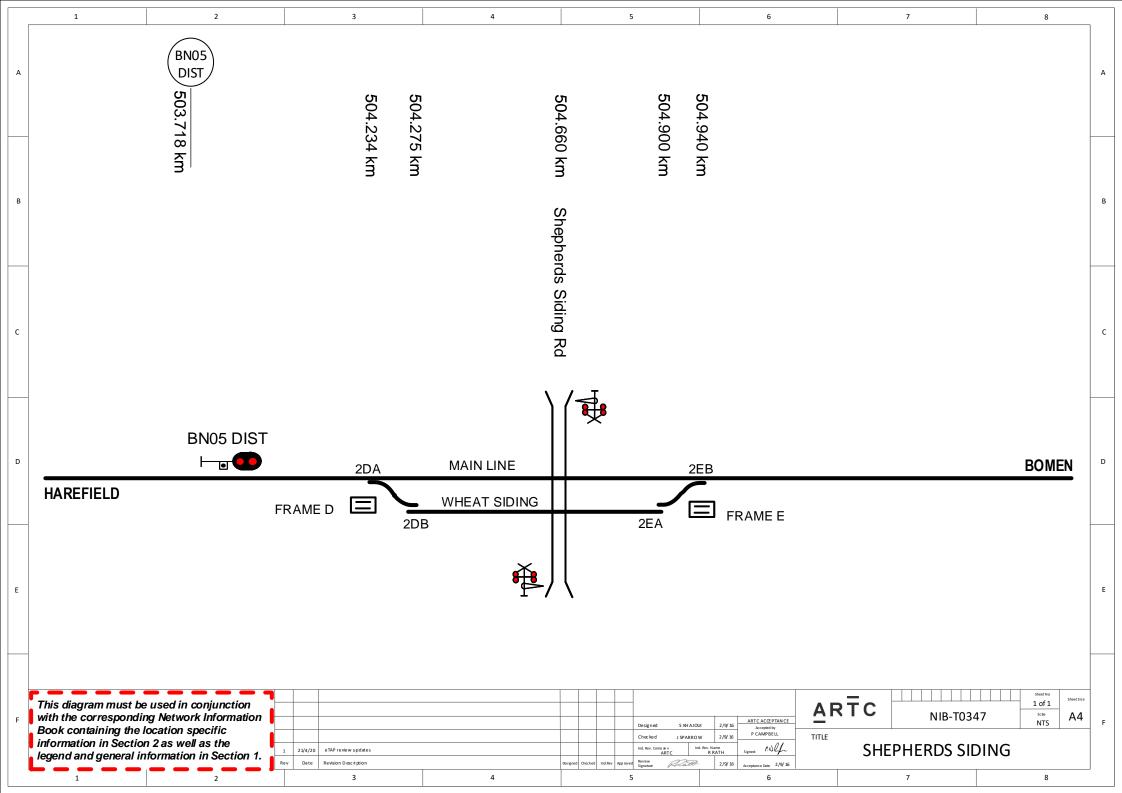


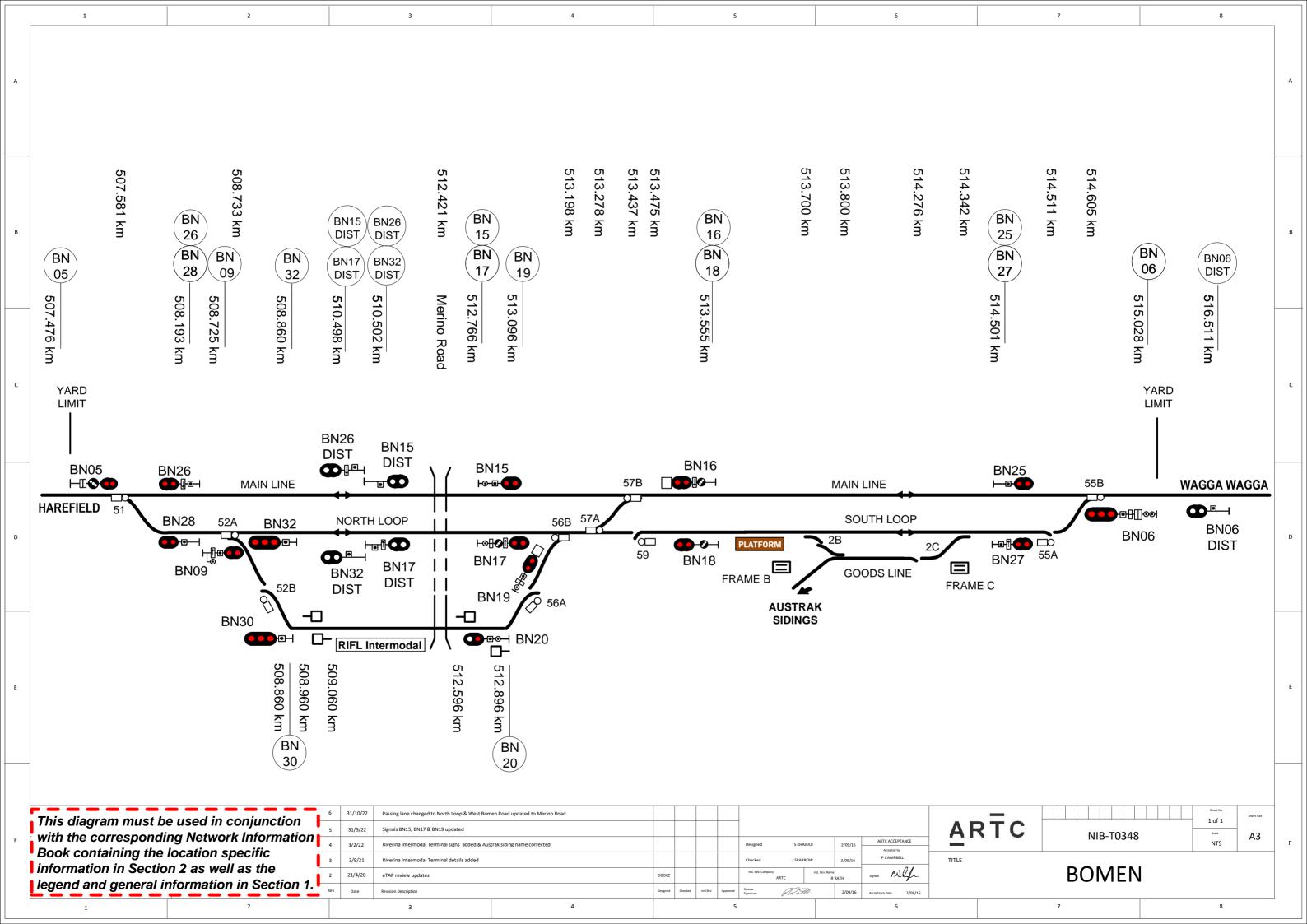


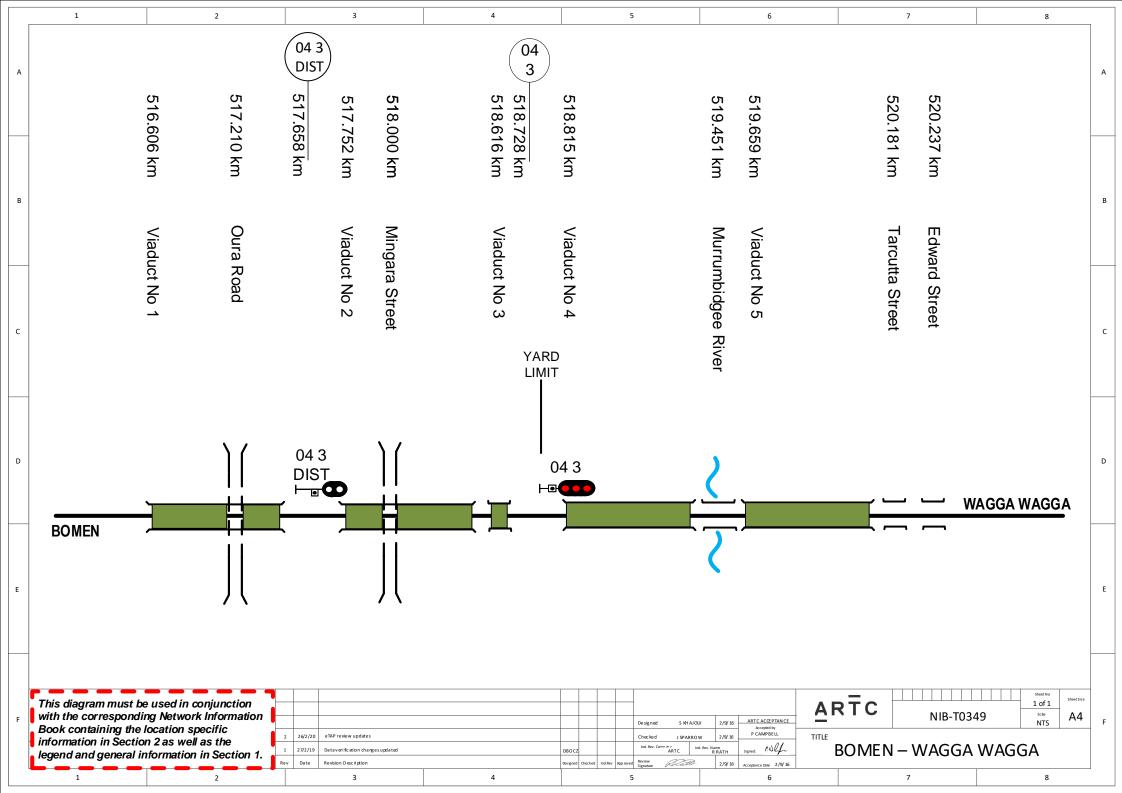


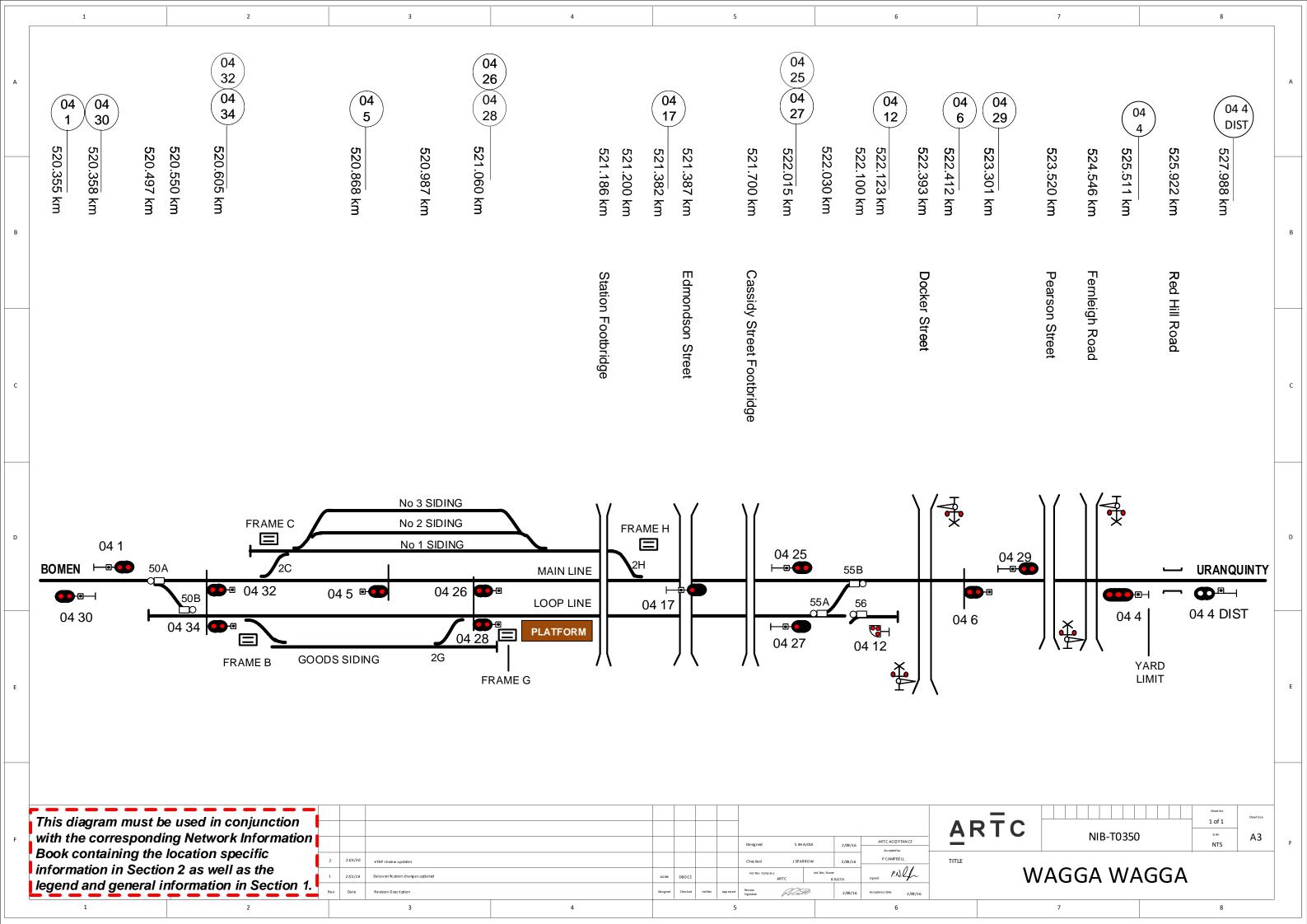


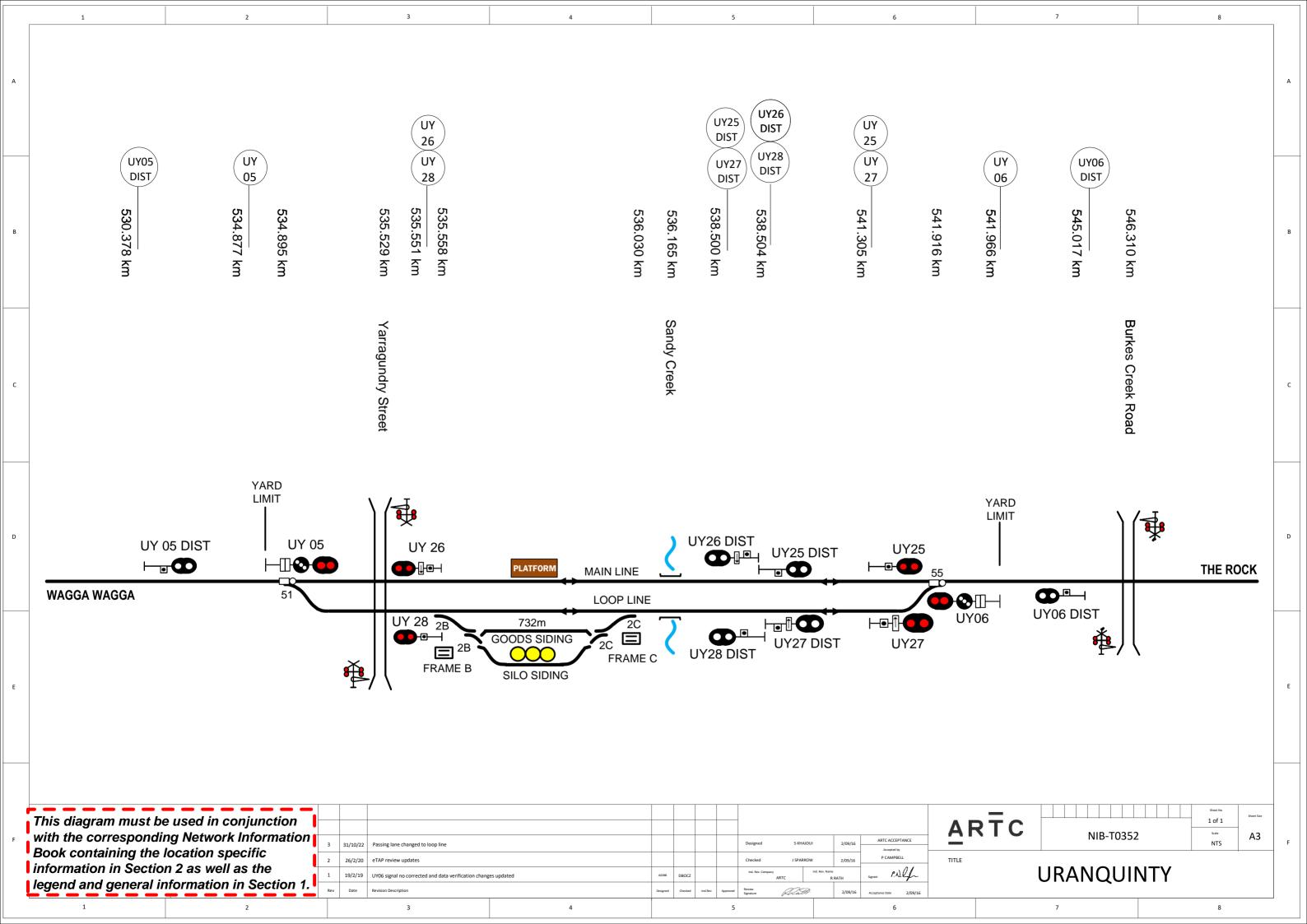


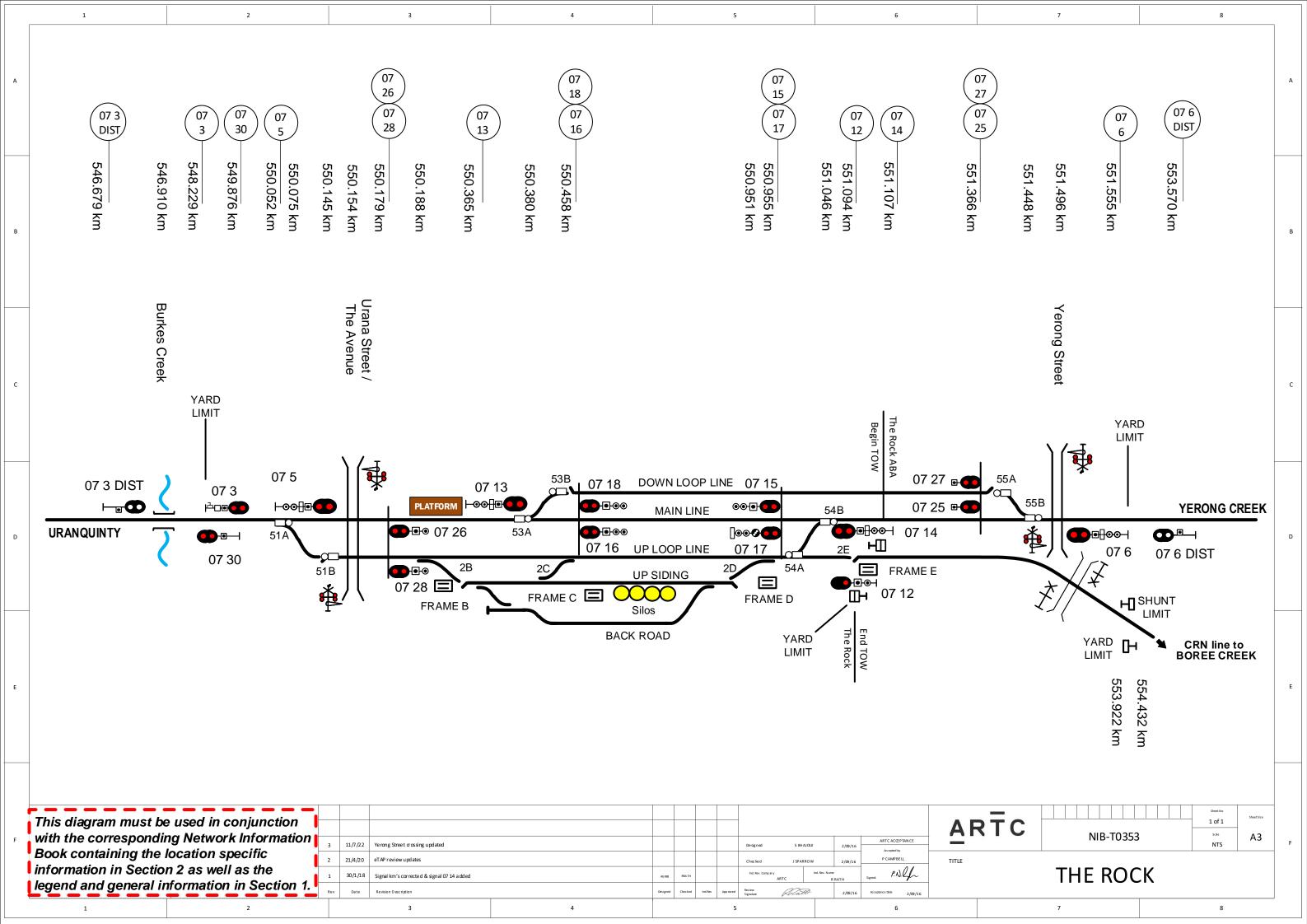


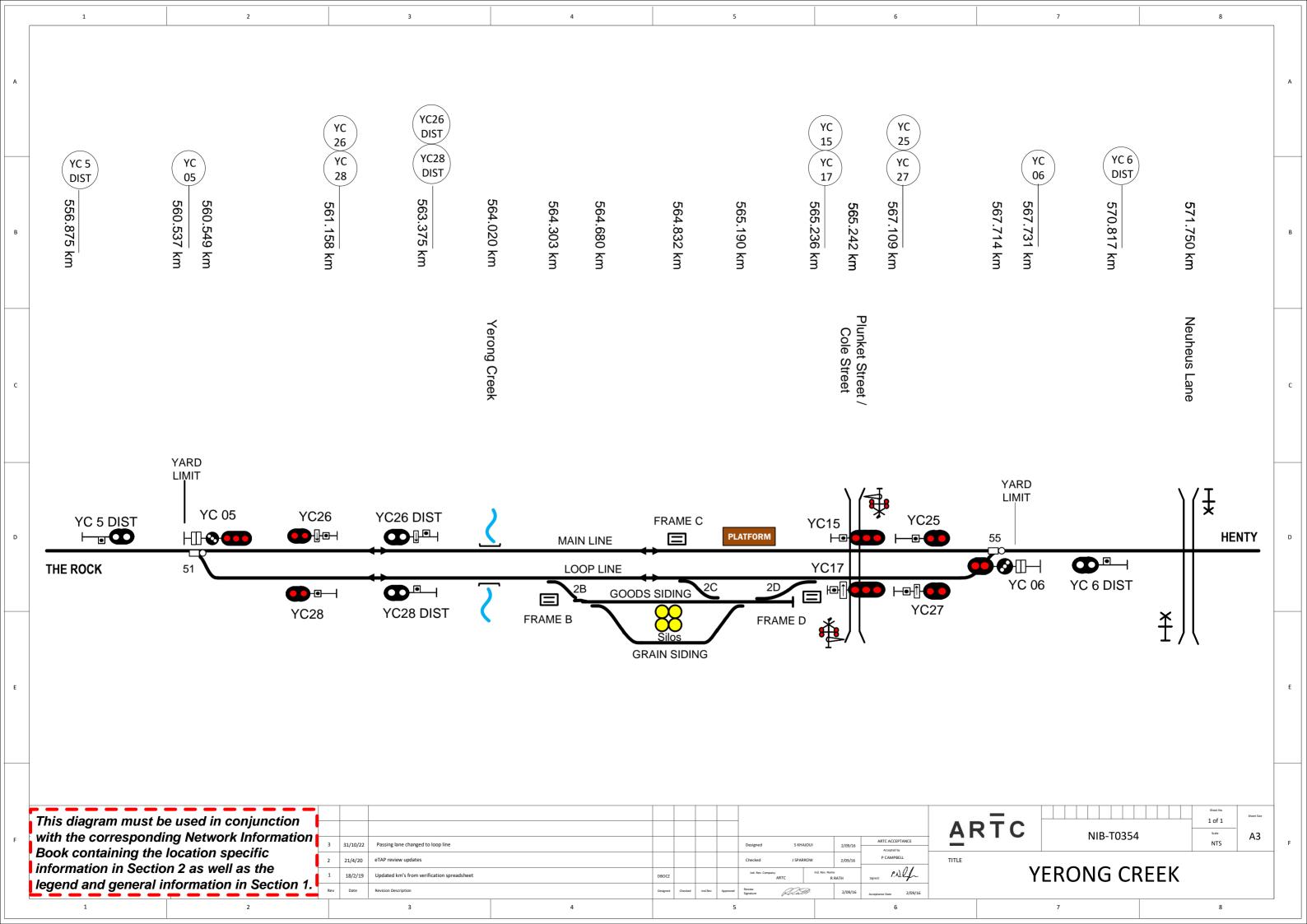


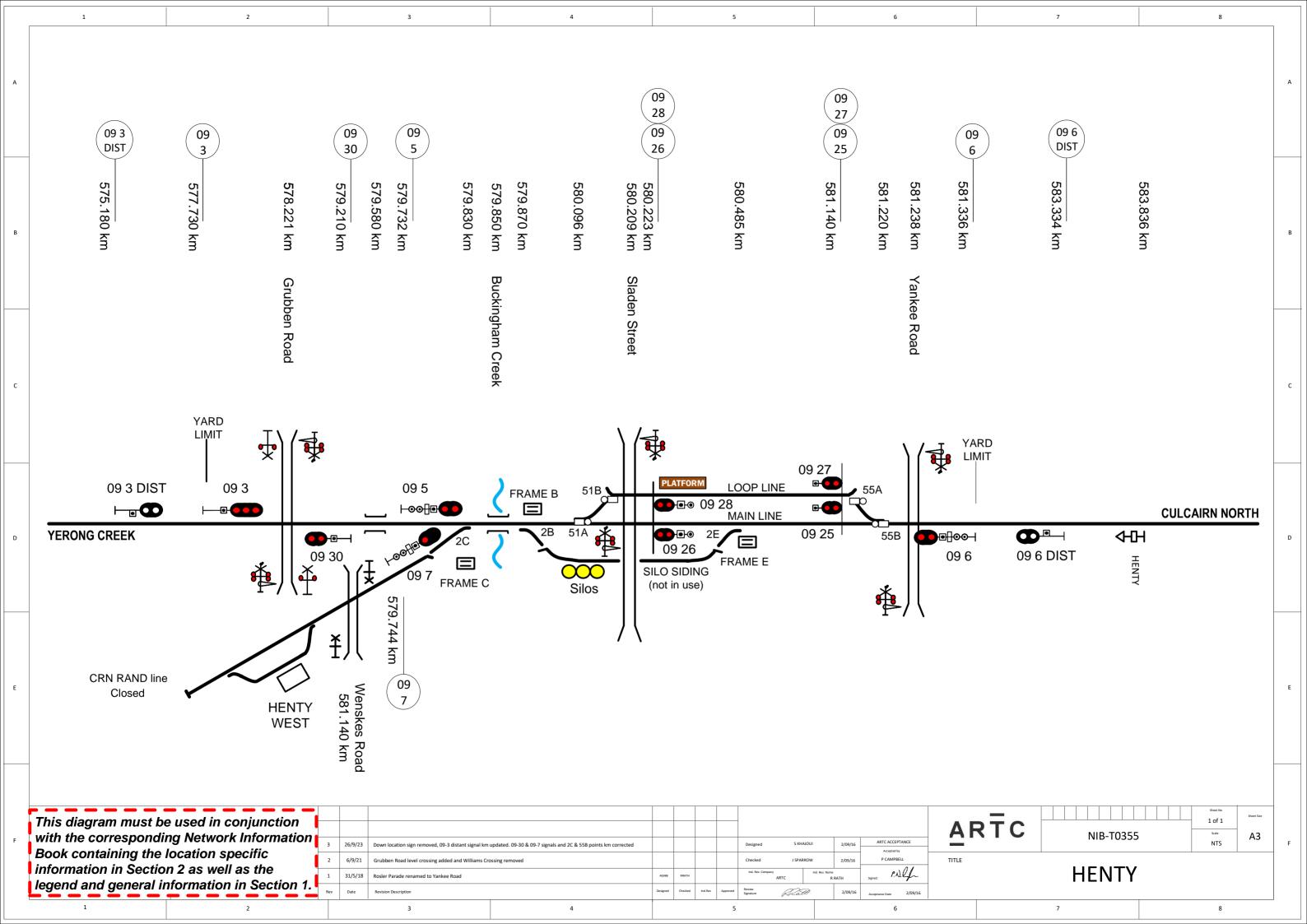


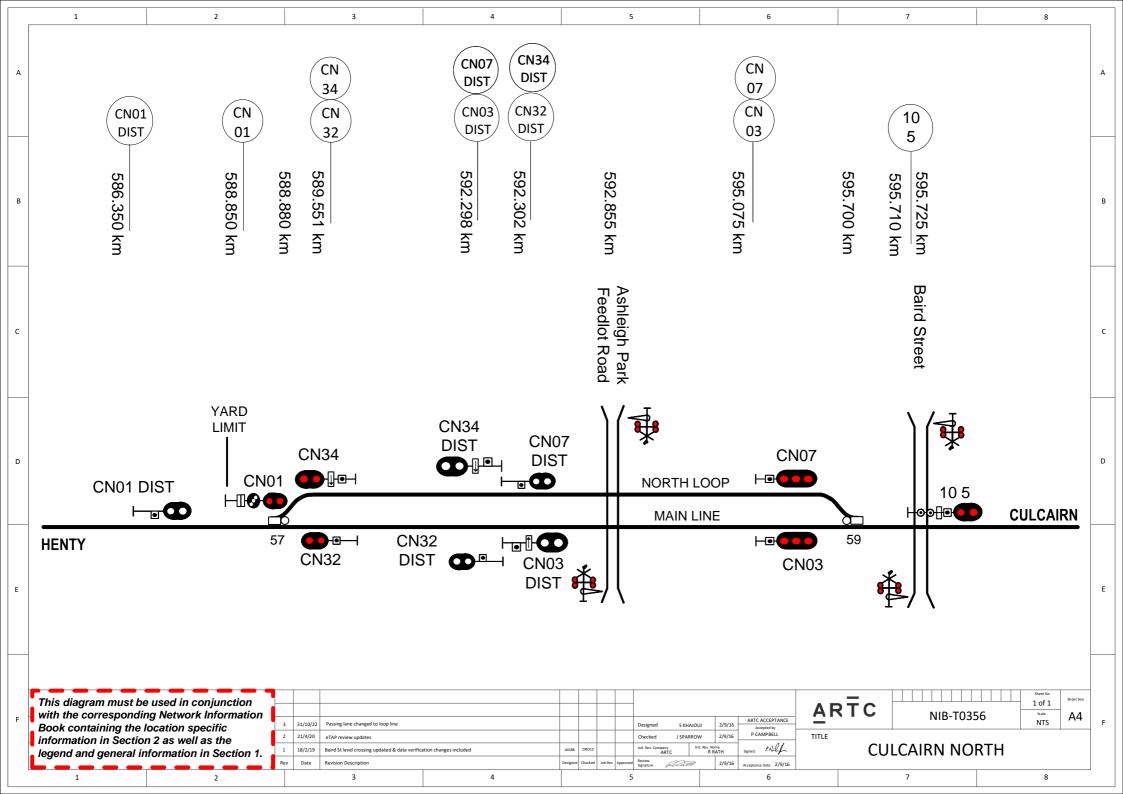


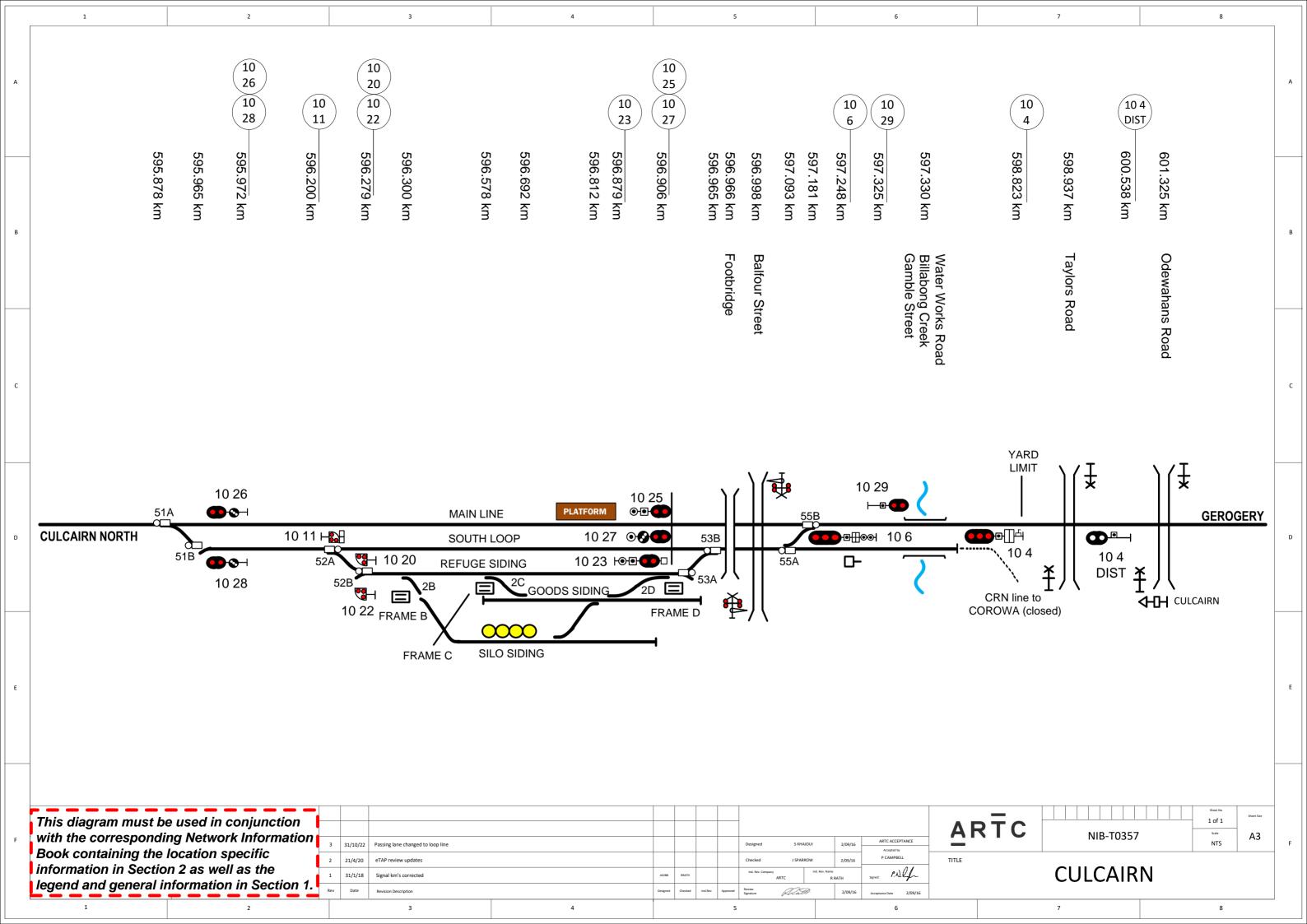


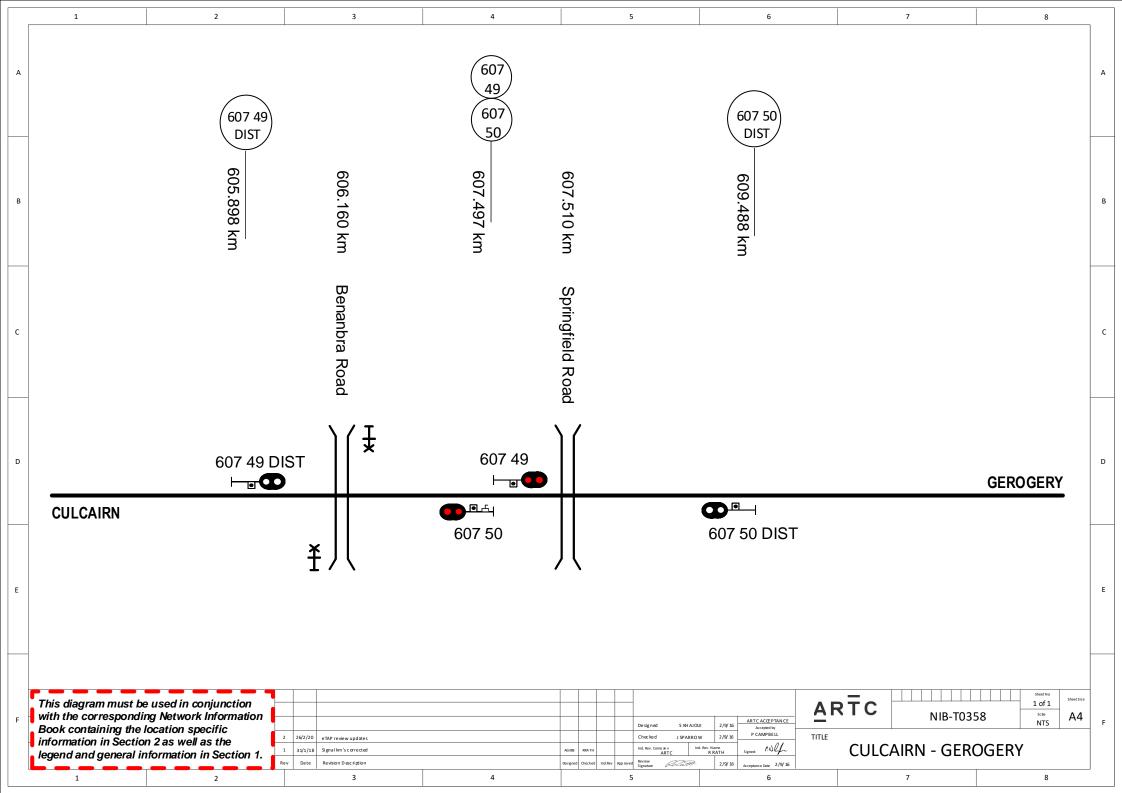


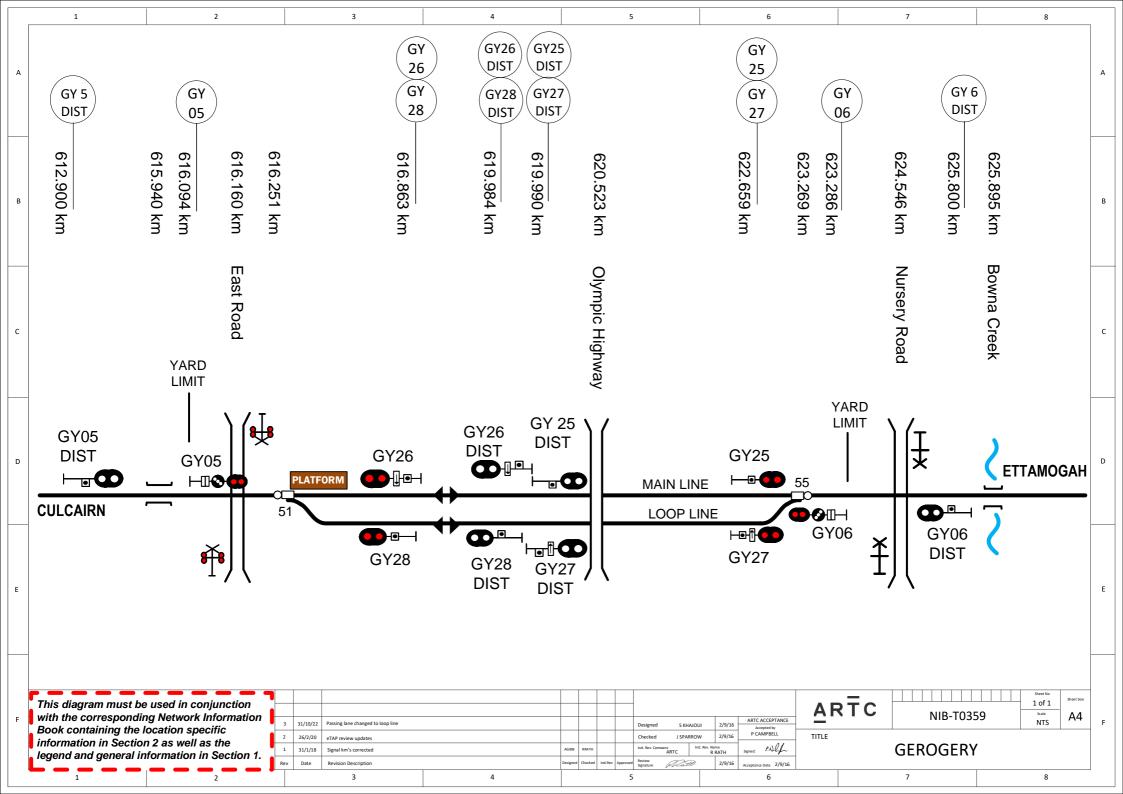


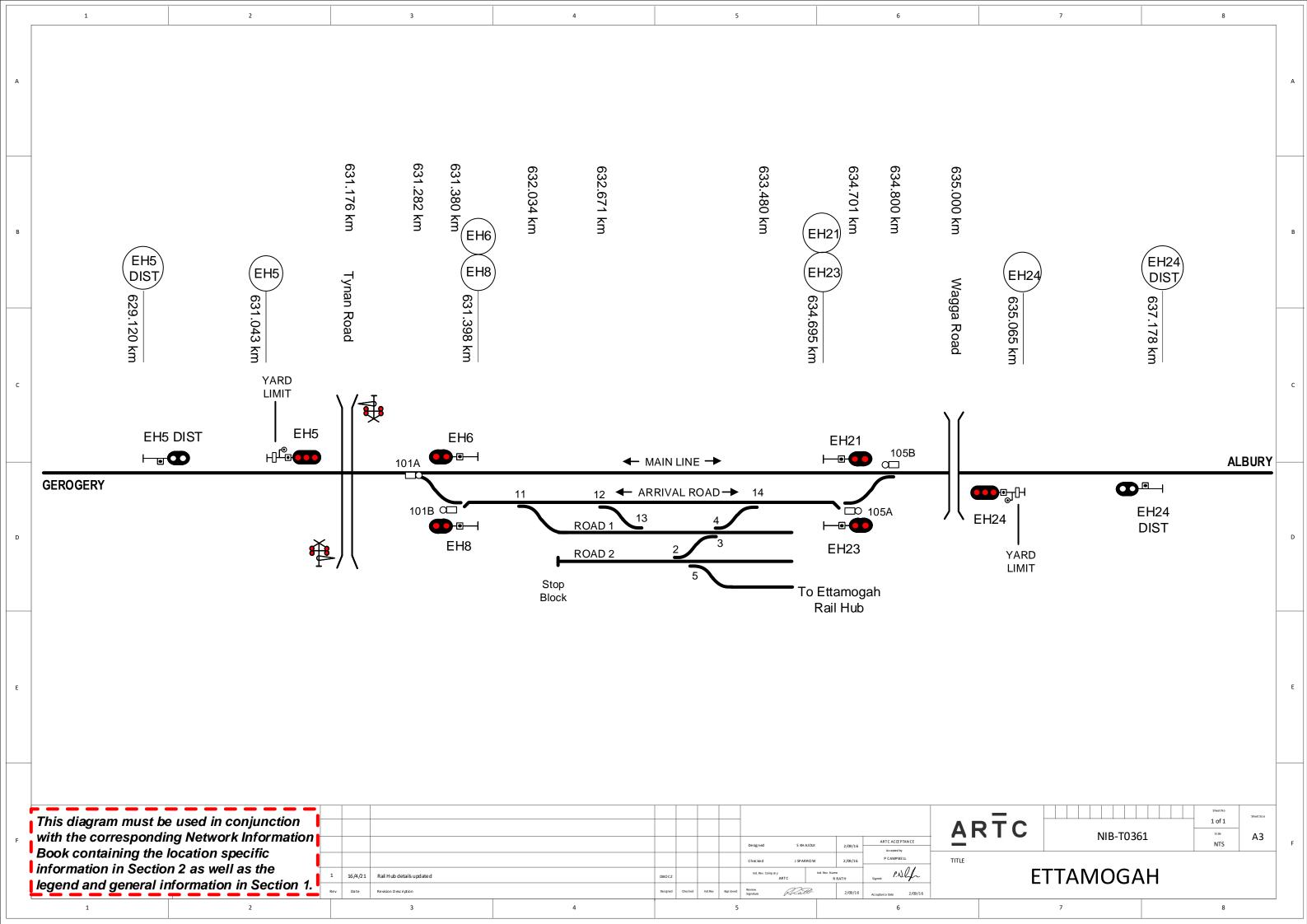


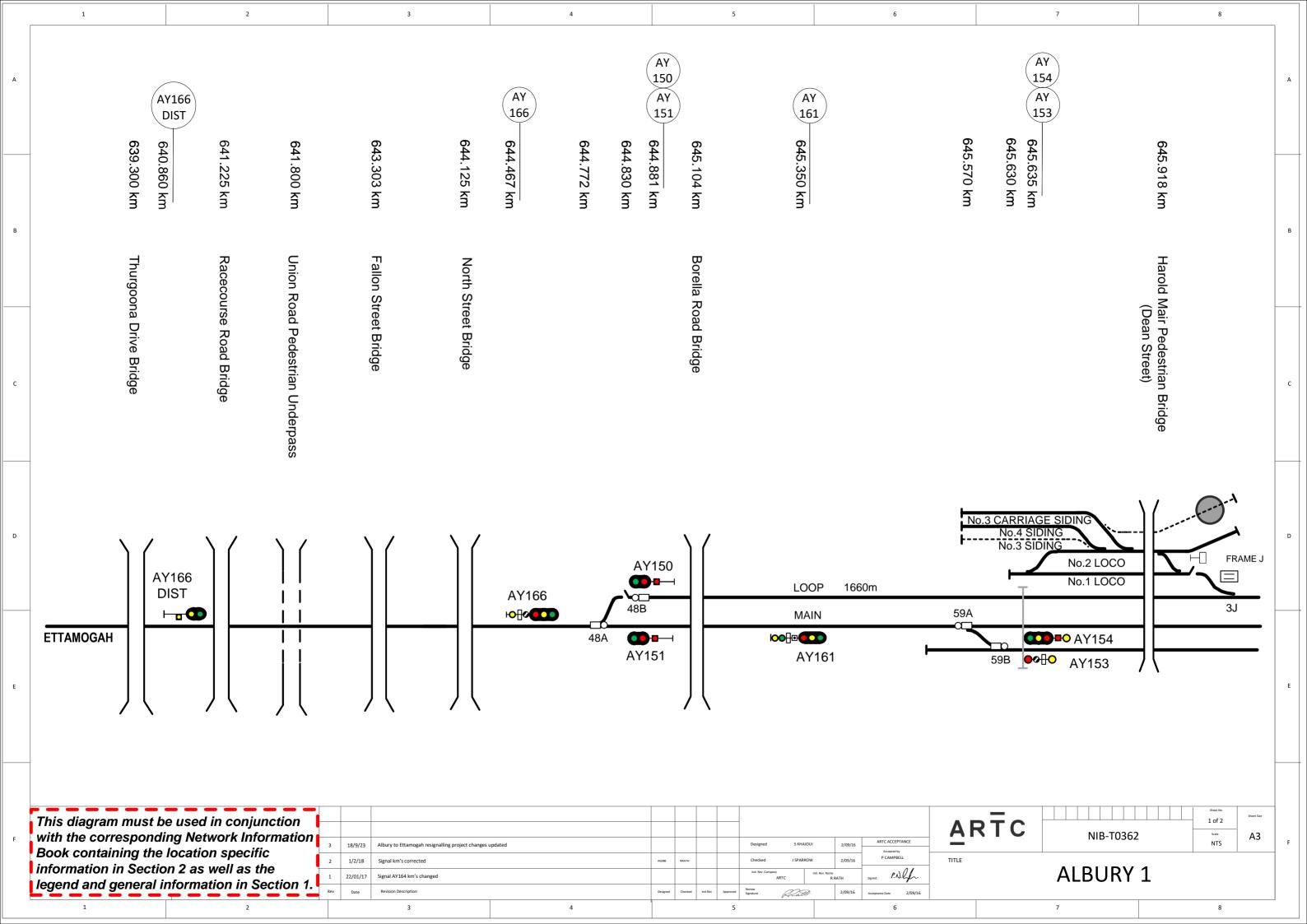










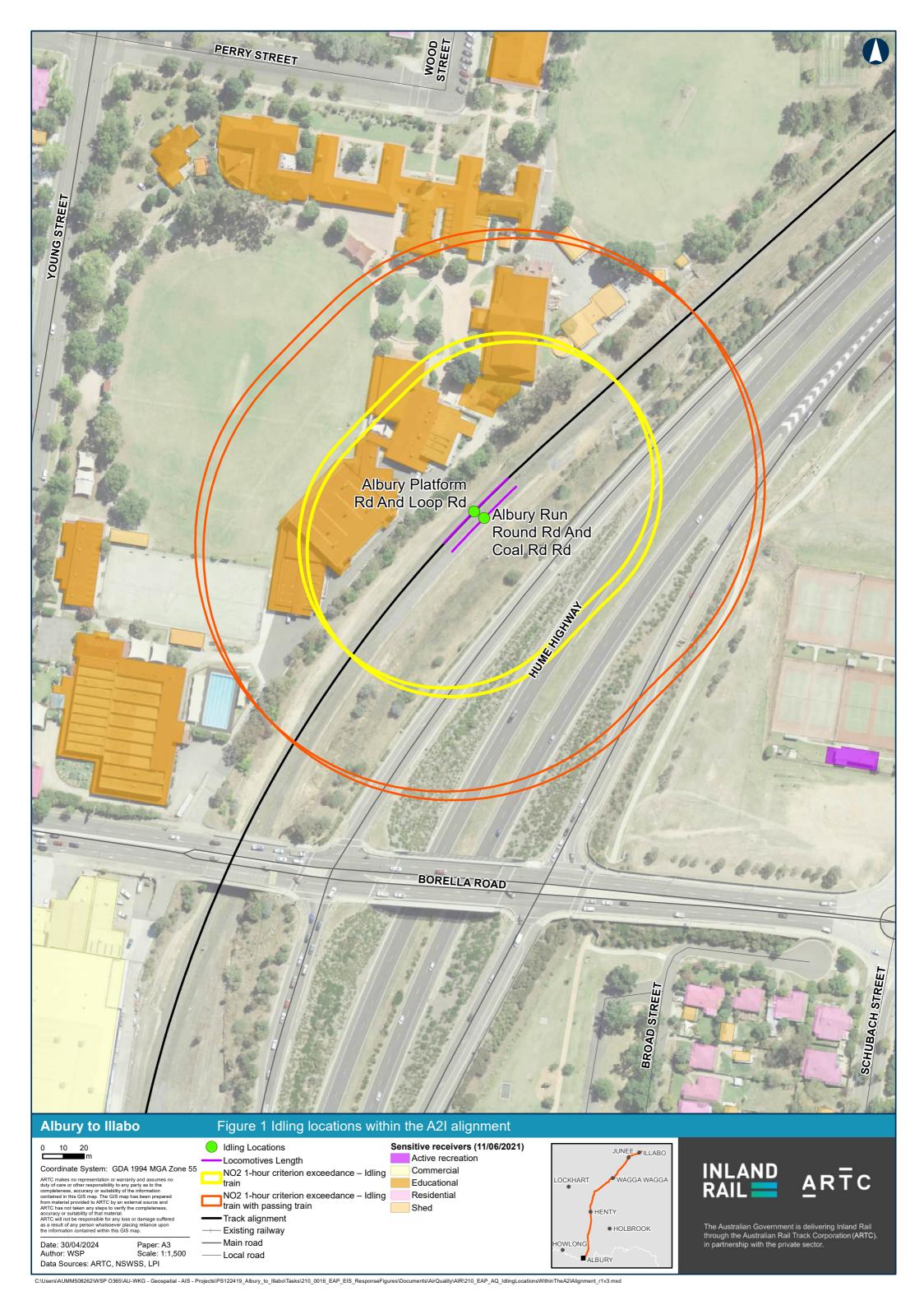


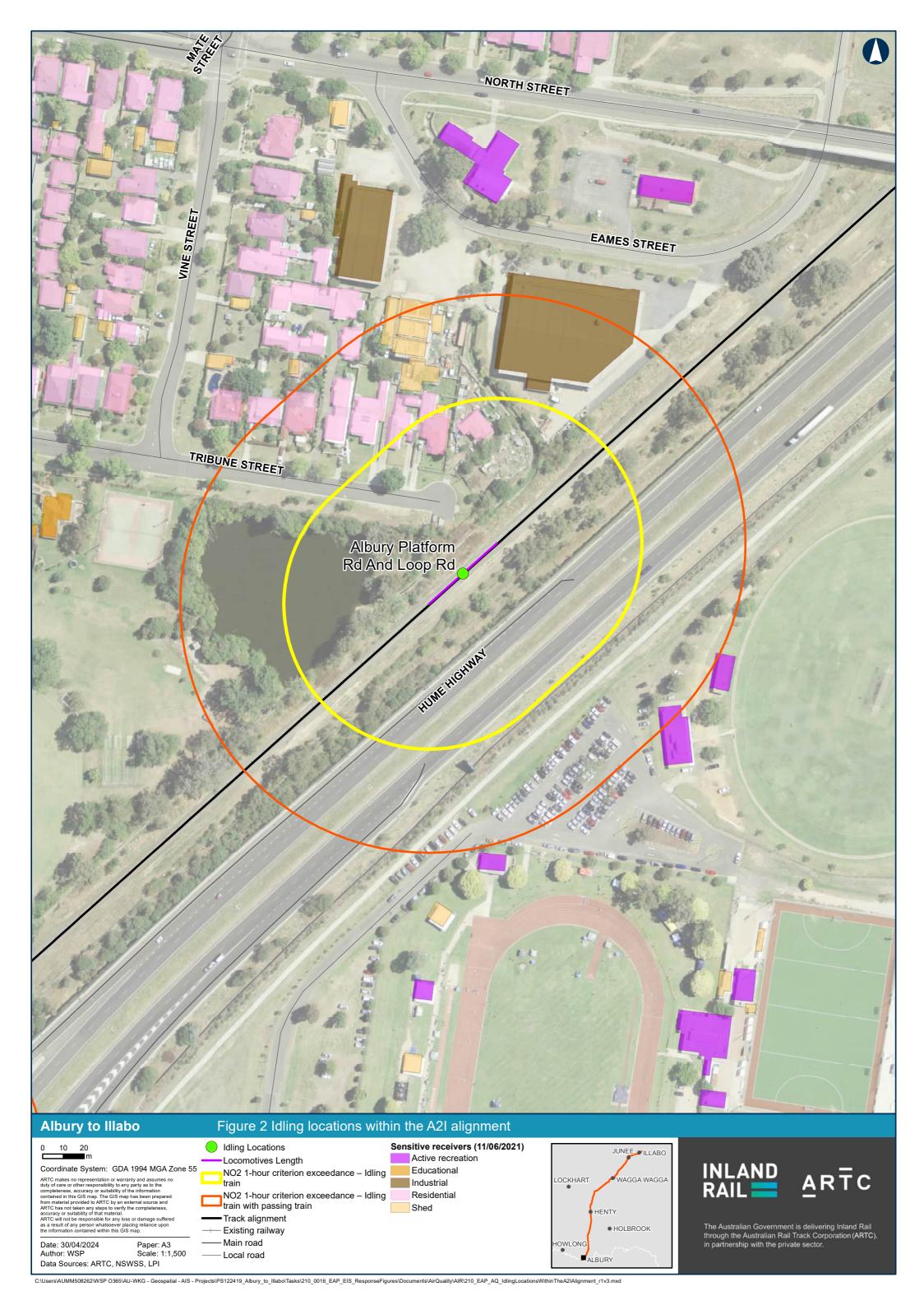
Drawing Legend

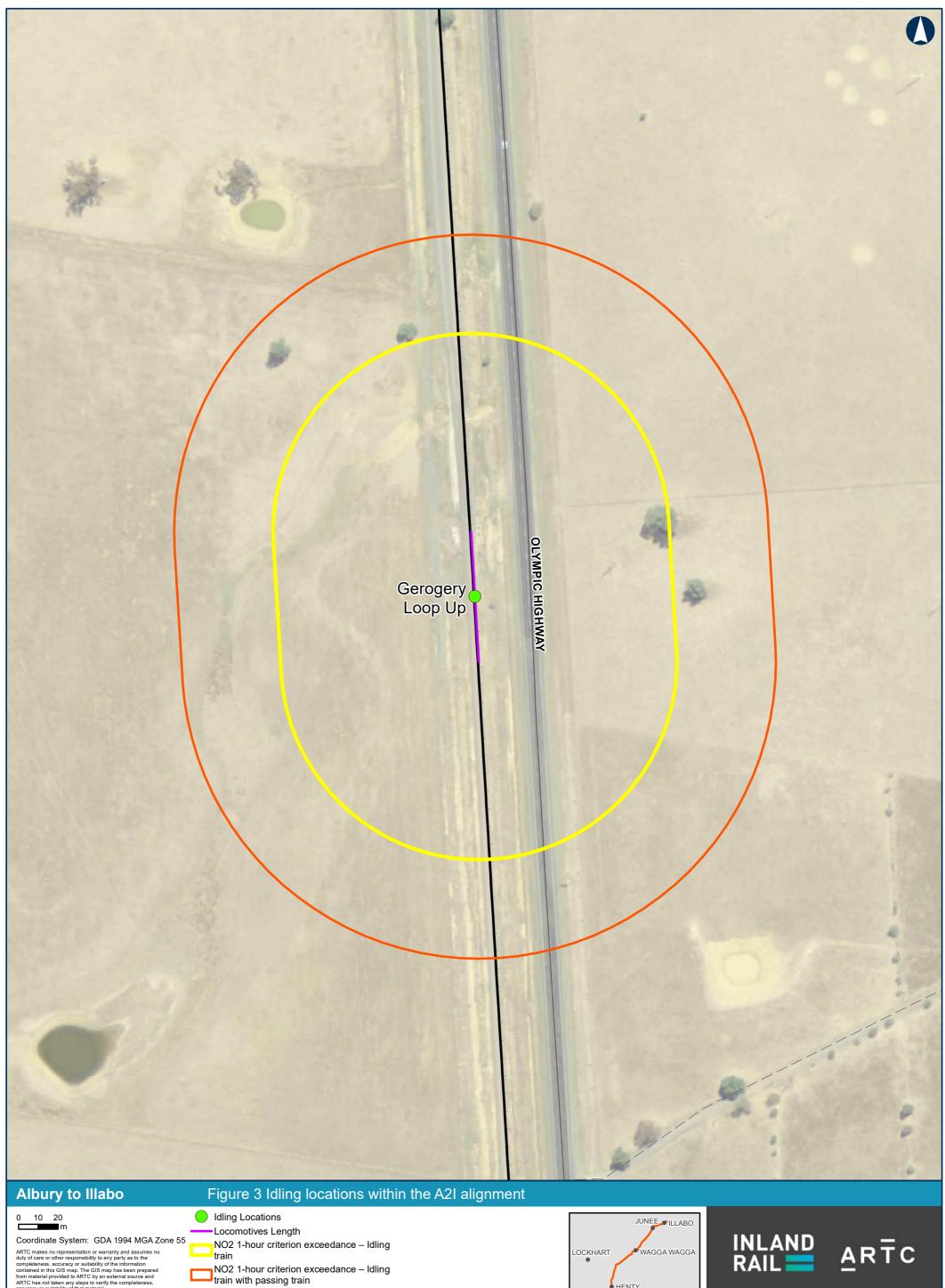
Drawing Legenu			
	Standard gauge track		Dual gauge track
7 -	Advisory Sign or Location Sign	75 80	Speed sign
	Pedestrian Crossing		Passive Protection Level Crossing
	Active Protection Level Crossing – Flashing Lights		Active Protection Level Crossing – Lights and Boom
	Bridge or Overpass		Underpass
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	Tunnel	/ /	Crossover
	Turnout	~	Catchpoint
Y	Derail	Manual Motorised	Points Operating Mechanism
	Point Indicator		Mechanical Frame
	Automatic Signals		Controlled Signals
	Dwarf Signals	(a) (B) 74592 km	Signal number reference
	Distant Signal	4	Repeater Signal
PT	Overheight Detectors	>> <<	Wayside Equipment



Attachment 3. A2I Idling locations and predicted affected distances for NOx







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Date: 30/04/2024

Paper: A3 Scale: 1:1,700 Data Sources: ARTC, NSWSS, LPI

Track alignment

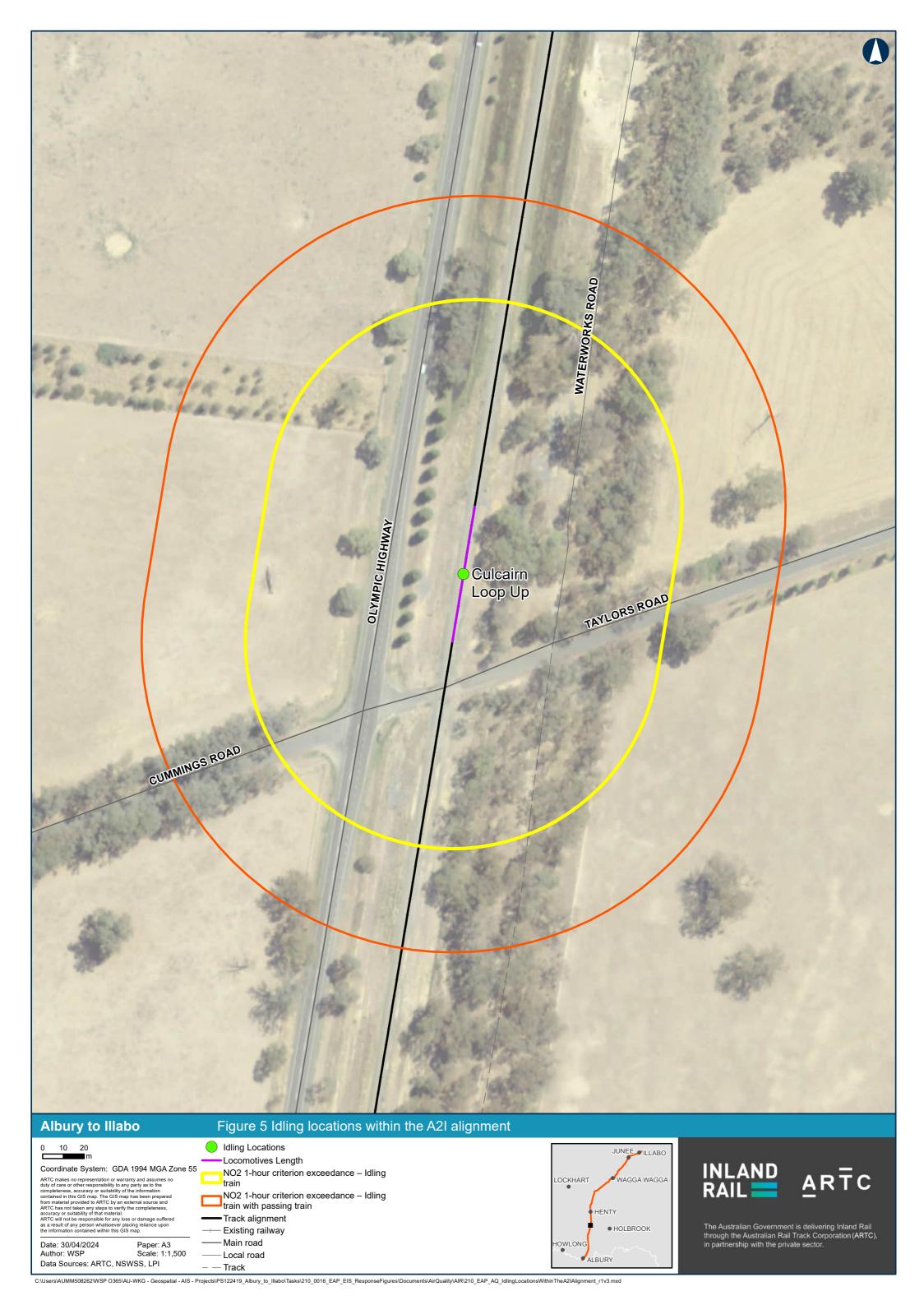
--- Existing railway ---- Main road

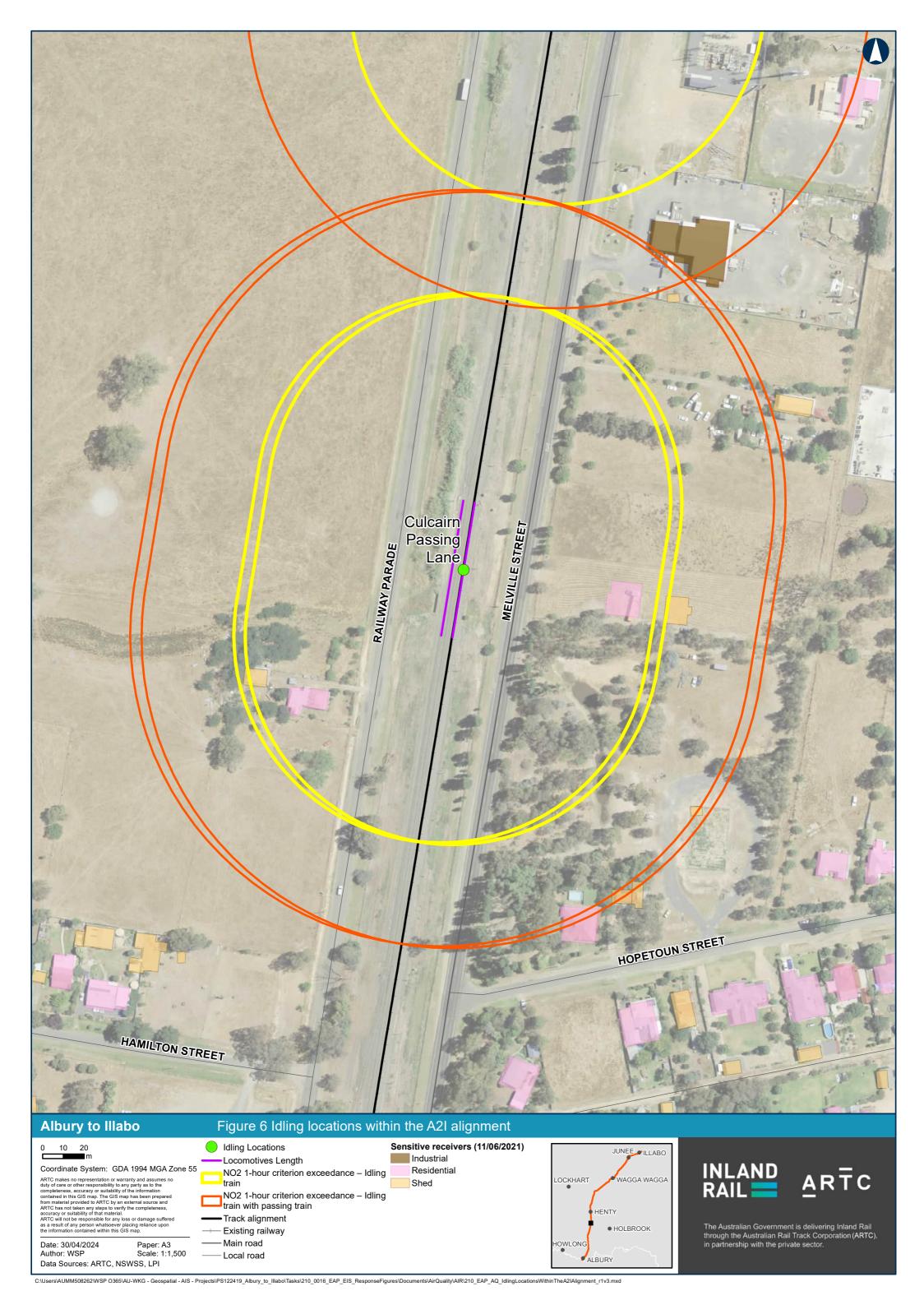
- - Track

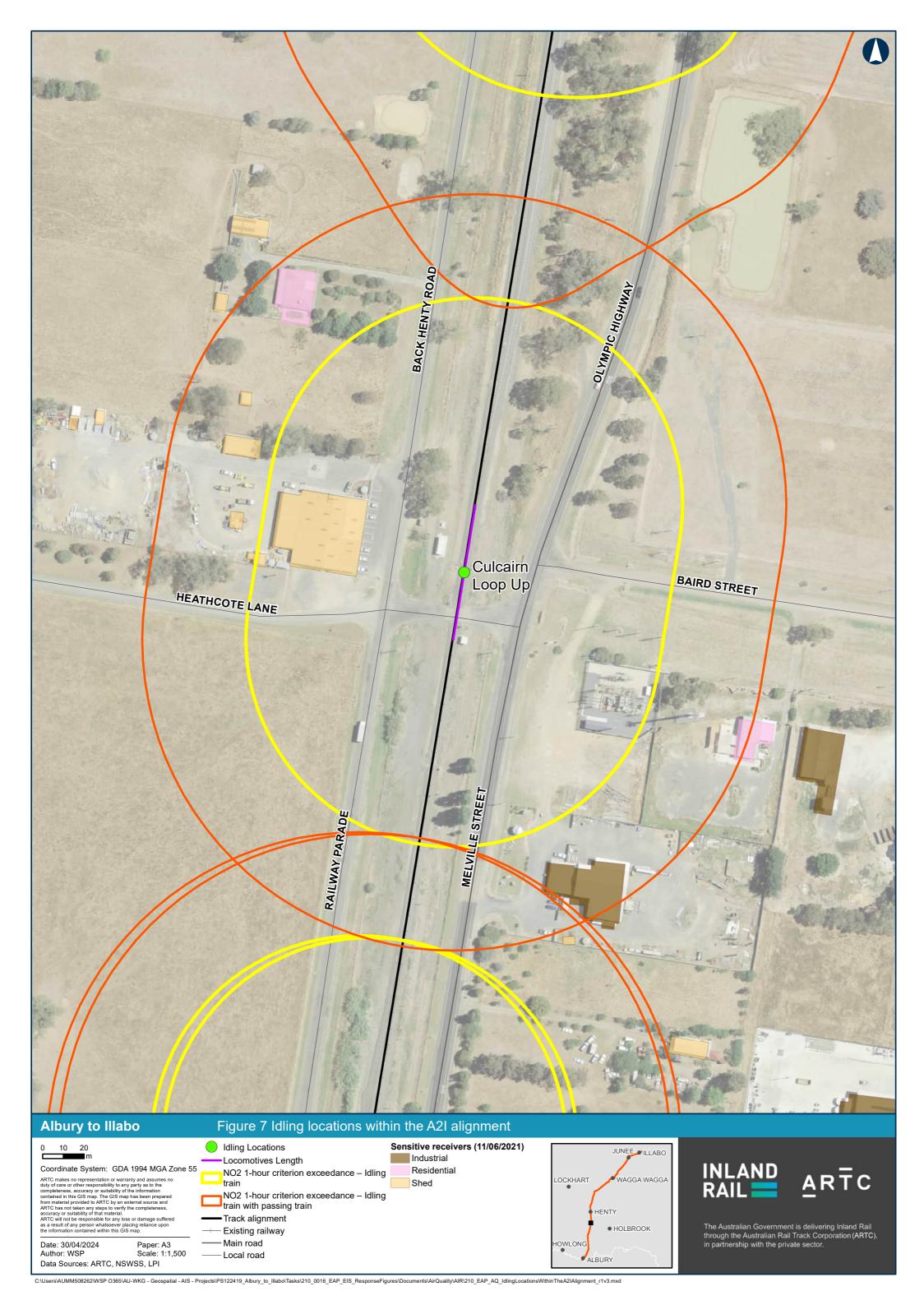


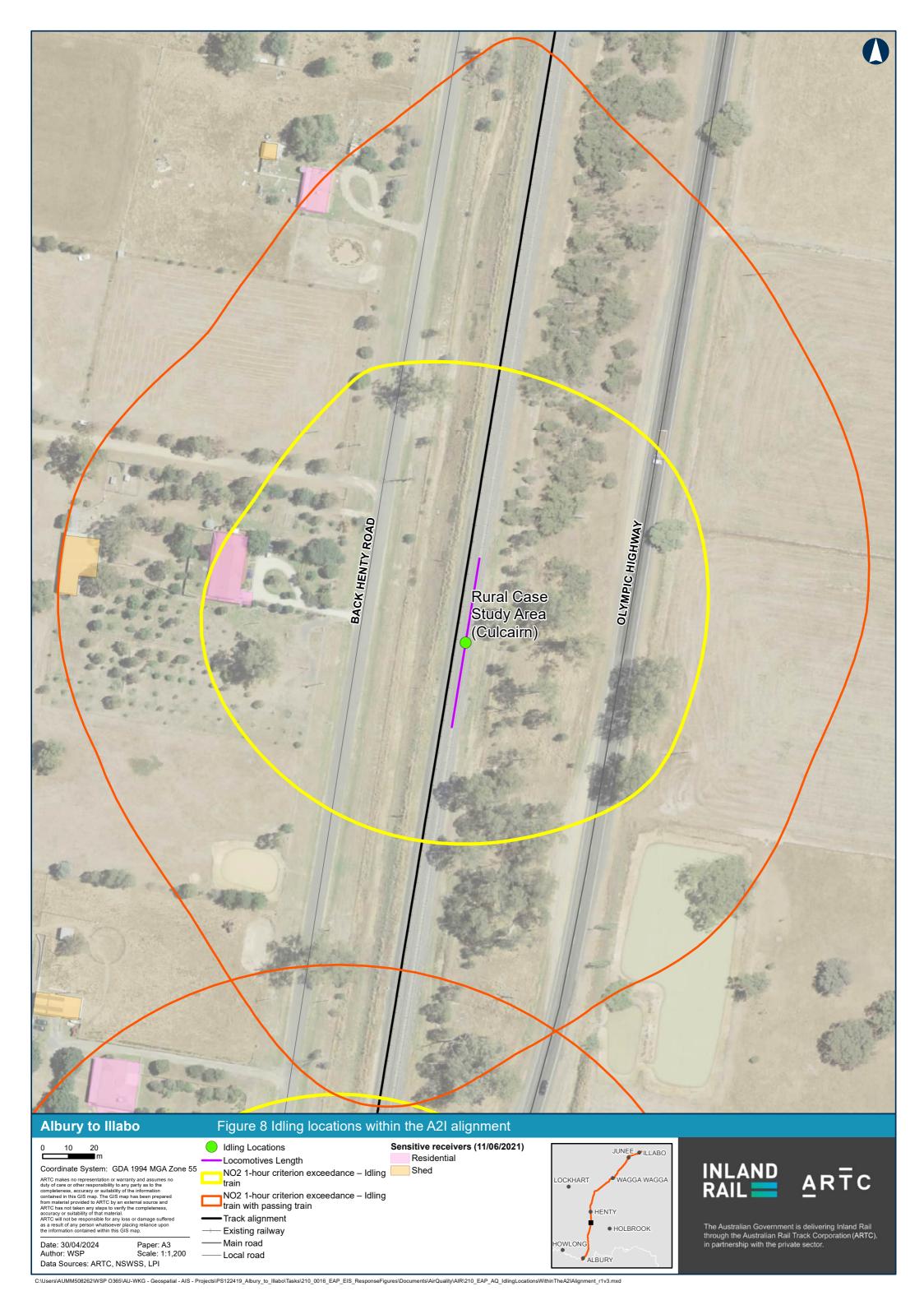
The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC), in partnership with the private sector.

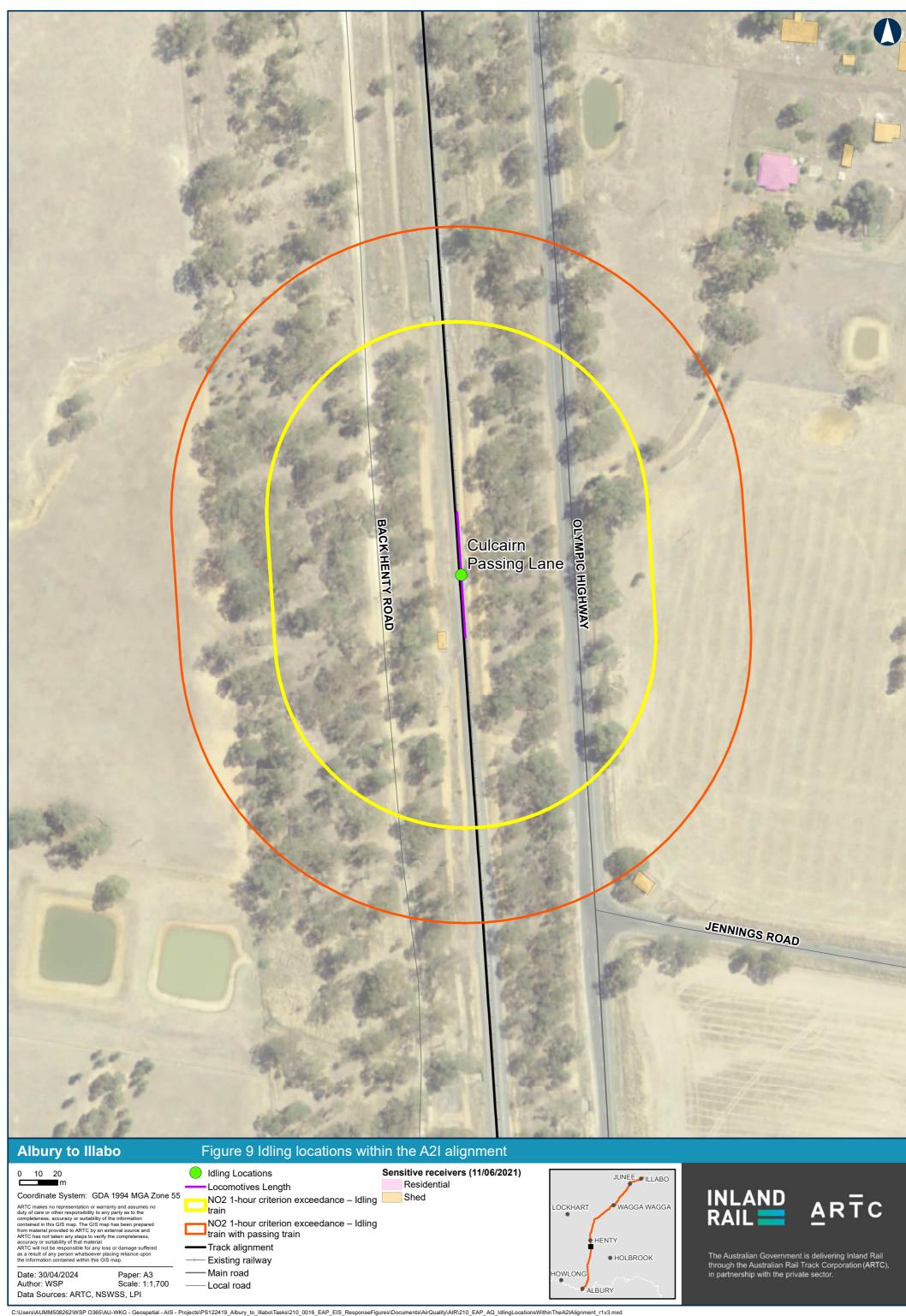


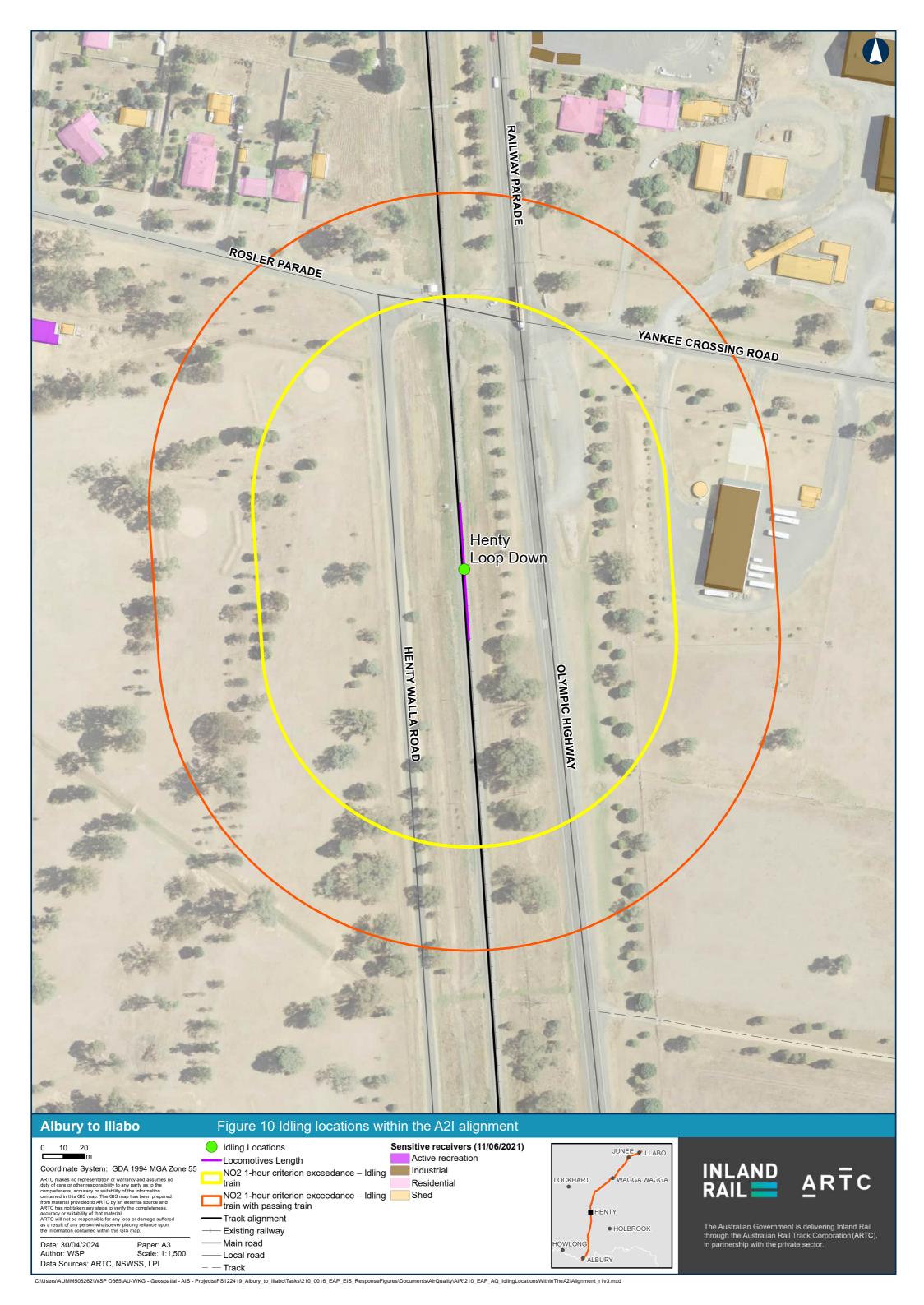














Coordinate System: GDA 1994 MGA Zone 55

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Date: 30/04/2024 Paper: A3
Author: WSP Scale: 1:1,500
Data Sources: ARTC, NSWSS, LPI

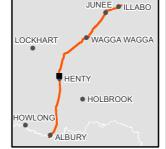
NO2 1-hour criterion exceedance – Idling train

NO2 1-hour criterion exceedance – Idling train with passing train

Track alignment

Existing railwayMain road

— Local road





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Date: 30/04/2024

Paper: A3 Scale: 1:1,700 Data Sources: ARTC, NSWSS, LPI

Locomotives Length

NO2 1-hour criterion exceedance – Idling

train

NO2 1-hour criterion exceedance – Idling train with passing train

----Track alignment

— Existing railway

---- Main road —— Local road - - Track

LOCKHART WAGGA WAGGA HENTY • HOLBROOK HOWLONG



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