

Network Information Book

Hunter Valley North

Werris Creek (inc) to Turrawan (inc)

OGW-30-20

Applicability

Hunter Valley

Publication Requirement

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Route Access Standard – Heavy Haul Network Section Pages H3

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2.5	26 May 2023	Configuration Management Administrator	Corridor Assets & Operational Representatives	Configuration Manager	Head of Operations Standards

Amendment Record

Amendment Version #	Date Reviewed	Clause	Description of Amendment
1.0	23 Mar 2016		Initial issue
1.1	12 Oct 2016	various	Location Nea clause 2.5 removed and Curlewis frame G updated. Diagrams for Watermark, Gap, Curlewis, Gunnedah, Turrawan & Boggabri updated.

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1.2	11 May 2018	Various	Gunnedah residential area signs and new Boggabri Coal level crossings added. Additional sidings and speed sign updates on Werris Creek diagrams. Boggabri signal and Gunnedah level crossing updates. Safety interface agreement details added and diagram legend updated.
1.3	4 Jan 2019	Various	Lookout Working details added as new section 1.14. Lookout working restrictions, speed board and other corrections to various diagrams.
1.4	19 Feb 2019	1.14	Lookout working information amended in section 1.14 and diagrams as detailed in safe notice 2-4164. Curlewis – Gunnedah diagram added.
1.5	15 Apr 2020	1.11, 1.15, 2.5	Wayside equipment details & drawing legend updated. Kamilaroi Highway level crossing details updated in Curlewis location text. Loop speed signs added to Breeza, Curlewis, Emerald Hill & Boggabri diagrams. Watermark, Gunnedah, Emerald Hill, Werris Creek, Werris Creek – Gap & Baan Baa diagrams updated
2.0	27 Nov 2020	1.11, 2.1, 2.6	Werris Creek and Breeza wayside equipment added. Werris Creek location & diagram updated. Gunnedah level crossings details and diagram updated.
2.1	18 May 2021	2.1.3, 2.6	ARTC – John Holland trackwork interface requirements added to Werris Creek Station information. Gunnedah diagram updated. Usage note added to diagrams.
2.2	13 Oct 2021	1.6, 1.15, 2.6, 2.7, 2.8, 2.10	Level Crossing table & Drawing Legend updated. Gunnedah location updated with removal of New Street level crossing. Emerald Hill, Boggabri & Narrabri Coal diagrams updated.
2.3	16 Feb 2022	1.1, 1.4, 1.6, 2.1, 2.3, 2.4, 2.5, 2.6	Board Extent updated. Country Regional Network references updated in Adjacent Train Control details and Werris Creek location. Level Crossing table & Breeza location updated for Bulunbulun Road upgrade. Watermark, Curlewis & Werris Creek diagrams updated. Gunnedah crew relief platform details added.
2.4	13 Dec 2022	1.6, 2.5, 2.6, 2.7	Level Crossing table, Curlewis, Gunnedah, Emerald Hill & Maules Creek – Boggabri Coal Loops diagrams updated.
2.5	26 May 2023	1.6, 2.1.1, 2.6	Level Crossings table updated. Adjacent Local Possession Authority details added to Werris Creek South and Gunnedah locations. Various diagrams updated.

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1 General Information

1.1 Board Extent

Werris Creek (inclusive) 15-23 signal 407.270km, 15-62 signal 599.720km to Turrawan (inclusive) TN4 signal 548.694km.

This area is controlled by Hunter North Network Controller, Network Control Centre North (NCCN).

Contact Numbers:

Phone: (02) 4902 7902

Train Transit Manager: (02) 4902 9410

Emergency: (02) 4902 7962

1.2 Safe Working System

Rail Vehicle Detection (RVD)

Operator keys are required for any sidings from Werris Creek to Turrawan.

1.3 Applicable Rules

The Network Rules and Procedures apply to the sections covered by this Information Book.

1.4 Adjacent Train Control Boards / Centres

ARTC Upper Hunter 2	Ph (02) 4902 7911	Emergency	(02) 4902 7971
ARTC Train Order Control	Ph (02) 4902 7916	Emergency	(02) 4902 7976
Country Regional Network – North West Control	Phone		(02) 4028 9501

1.5 Section Operating Equipment

1.5.1 Motorised Point Machines

All motorised points have a fixed nose; that means there are no swingnose points between Werris Creek and Turrawan.

1.5.2 Interlockings and Sidings

Km	Interlocking, Station, Platform or Siding	Length of Passenger Platform (metres)
410.710	Werris Creek	100
415.829	Werris Creek (Gap)	
420.822	Burilda	
433.783	Breeza	
446.110	Watermark	
458.485	Curlewis	Main, 122

475.556	Gunnedah	Loop Line South, 140
476.560	Gunnedah Stockyards & Wheat siding	
480.009	Gunnedah Coal Loop	
493.097	Emerald Hill	Main, 39
513.885	Boggabri	Main 110
520.083	Boggabri East Maules Creek branch	
521.414	Boggabri Coal Loop	
531.016	Baan Baa	
540.318	Narrabri Coal Loop	
547.265	Turrawan	

1.6 Level Crossings

ALCAM ID is the number allocated from the Australian Level Crossing Assessment Model used by rail and road managers across Australia. It's a national database for assessing risk which is overseen by a National Committee and supported by the Rail Industry Safety Standards Board (RISSB).

ALCAM ID	Cerberus ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
3954		Quipolly Lxing (Railway View)	Main North	405.615	Road	Private	Stop Signs
3955		Quipolly Lxing (Hillview)	Main North	406.550	Road	Private	Stop Signs
473	588	Single Street Werris Creek	Main North	408.995		Public	Primary Flashing Lights
1809		Werris Creek Coal Siding Lxing (South Street)	Werris Creek Coal Siding	409.860		Public	Stop Signs
474		Station Entrance Werris Creek	Main North	411.187		Public	Stop Signs
4377		Station Entrance Werris Creek	Werris Creek - Mungindi	410.900		Private	Stop Signs
4048		Werris Creek Lxing	Werris Creek - Mungindi	411.871		Private	Stop Signs
4049		Gap Junction Lxing	Werris Creek - Mungindi	413.300		Private	Stop Signs
514		Cana Road The Gap	Werris Creek - Mungindi	418.183		Public	Stop Signs
515	547	Bulunbulun Road Breeza	Werris Creek - Mungindi	431.757		Public	Half Boom Flashing Lights
516	532	Hogarth Street Breeza	Werris Creek - Mungindi	433.416		Public	Half Boom Flashing Lights
1795		Breeza Lxing	Werris Creek - Mungindi	435.609		Private	Stop Signs

ALCAM ID	Cerberus ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
1796		Breeza Lxing	Werris Creek - Mungindi	437.731		Private	Stop Signs
3041		Breeza Lxing	Werris Creek - Mungindi	438.566		Private	Stop Signs
3042		Breeza Lxing	Werris Creek - Mungindi	441.141		Private	Stop Signs
3043		Breeza Lxing	Werris Creek - Mungindi	443.636		Private	Stop Signs
517		Riordan Road Breeza	Werris Creek - Mungindi	444.903		Public	Stop Signs
518		Watermark Lxing	Werris Creek - Mungindi	448.524		Public	Stop Signs
519		Nea Siding Road Nea	Werris Creek - Mungindi	450.556		Public	Stop Signs
520	530	Kamilaroi Highway Curlewis	Werris Creek - Mungindi	457.930		Public	Half Boom Flashing Lights
1797		Curlewis Lxing	Werris Creek - Mungindi	460.413		Private	Stop Signs
3046		Curlewis Lxing	Werris Creek - Mungindi	463.572		Private	Stop Signs
3047		Gunnedah Lxing	Werris Creek - Mungindi	465.885		Private	Stop Signs
3048		Gunnedah Lxing	Werris Creek - Mungindi	468.650		Private	Stop Signs
521		Meadow Park Rd Gunnedah	Werris Creek - Mungindi	470.520		Public	Stop Signs
522	529	Carroll Street Gunnedah	Werris Creek - Mungindi	474.213		Public	Half Boom Flashing Lights
523	528	Marquis Street Gunnedah	Werris Creek - Mungindi	475.476		Public	Half Boom Flashing Lights
3049		Gunnedah Lxing	Werris Creek - Mungindi	481.460		Public	
526		Rothsay Crossing Emerald Hill	Werris Creek - Mungindi	486.424		Public	Stop Signs
527	533	Goolhi Road Emerald Hill	Werris Creek - Mungindi	493.068		Public	Half Boom Flashing Lights
1798		Emerald Hill Lxing	Werris Creek - Mungindi	496.100		Private	Stop Signs
528		Binnaalong Road Boggabri	Werris Creek - Mungindi	509.036		Public	Stop Signs
529	534	Boston Street Boggabri	Werris Creek - Mungindi	515.789		Public	Half Boom Flashing Lights

ALCAM ID	Cerberus ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
530		Stock Route	Werris Creek - Mungindi	516.780		Public	Stop Signs
531	531	Baranbah Street / Caloola Rd Baan Baa	Werris Creek - Mungindi	530.780		Public	Half Boom Flashing Lights
532		Mayfield Road Baan Baa	Werris Creek - Mungindi	532.472		Public	Stop Signs
1826		Baan Baa Lxing	Werris Creek - Mungindi	535.147		Public	Stop Signs
533		Turrawan Lxing	Werris Creek - Mungindi	537.259		Public	Stop Signs
534	535	Narrabri Coal Lxing Turrawan	Werris Creek - Mungindi	540.308		Public	Half Boom Flashing Lights
535		Greylands Crossing Turrawan	Werris Creek - Mungindi	544.072		Public	Stop Signs
1900		Turrawan Lxing	Werris Creek - Mungindi	546.811		Public	Stop Signs
	544	Boggabri Coal Access Road, Boggabri Coal Line	North	528.270	Road	Private	Half Boom Flashing Lights
	545	Boggabri Coal Access Road, Maules Creek Line	North	528.293	Road	Private	Half Boom Flashing Lights

1.7 Maximum Permitted Speeds and Permanent Speed Restrictions

Refer the Route Access Standard - Heavy Haul Network Section Pages H3 for all speed information.

1.8 Maximum Train Length

The maximum train length is 1350m.

1.9 Structure Clearances

Refer Route Access Standards for Rolling Stock Outlines.

1.10 Communications

The National Train Communications System (NTCS) is the Primary communications system for the ARTC controlled rail network and is mandatory for all operators to operate their locomotives using a NTCS ICE (In-Cabin Equipment) Unit as the primary communications device.

A standard ICE unit is installed with the following components

- Telstra NextG™ transceiver
- Iridium satellite transceiver
- UHF Radio
- GPS

The ICE unit primary communications is via the Telstra NextG™ and backup communications is provided via the Iridium Satellite network. The ICE unit will automatically call the appropriate Network Control Centre (Broadmeadow or Junee) based on GPS location when the routine and emergency buttons are pressed.

The UHF radio is used for the Local train Radio - Train to Train and train to track Side communications.

UHF Local Train Radio (LTR) frequency details

Channel Name WB

Frequency: 450.050 MHz (UHF),

Bandwidth: 12.5 KHz,

EIRP: 41W (remote/low density areas), 8.3W (medium & high density areas)

Tx CTCSS: 173.8 Hz

Rx CTCSS: NA

Selcall: disabled

Channel Name Mountain Radio (WB)

Frequency: 450.050 MHz (UHF),

Bandwidth: 12.5 KHz,

EIRP: 41W (remote/low density areas), 8.3W (medium & high density areas)

Tx CTCSS: 103.5 Hz

Rx CTCSS: NA

Selcall: disabled

Alternate Communication for this section is by mobile or satellite phones.

1.11 Wayside Monitoring Systems

Werris Creek South (DED) 409.400km

Breeza – Watermark (HBD, HWD) 437.330km

Gunnedah (HBD, HWD & DED) 480.170km

HBD-Hot Bearing Detector

HWD-Hot Wheel Detector

DED- Dragging Equipment Detector

1.12 Ruling Gradients

Down	1 in 52
Up	1 in 75

1.13 Curve and Gradient Data

For all Curve and Gradient data, refer to the ARTC Internet.

https://extranet.artc.com.au/eng_network-config_cd.html





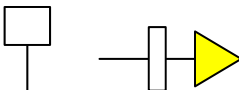

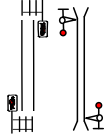

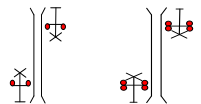
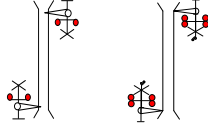
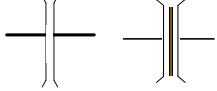

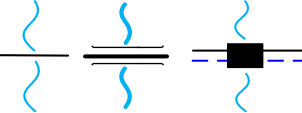
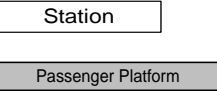

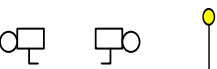
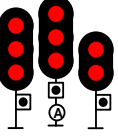
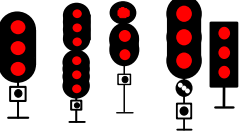
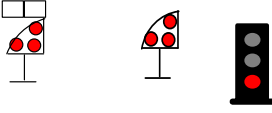
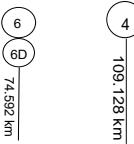


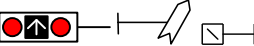



1.14 Lookout Working Hazardous Areas

The below list of locations are hazardous for Lookout Working and may require an additional Lookout or a higher level of protection to undertake work in these areas.

The Protection Officer is responsible for conducting a safety assessment and confirming that Lookout Working is suitable for the work to be performed at the location. This may require the use of an additional Lookout to ensure adequate minimum warning time to easily reach a Safe Place. If the safety assessment determines that Lookout Working is not suitable a higher level of protection must be applied.

Area	KM From	KM To	Line	Line Direction	Up / Down	Reason Unsuitable
The Gap - Burilda	416.500	417.500	Single Main	Bi-directional	Both	Bridge through to curve insufficient sighting distance. Sighting does not cater for 140 track speed around Gap curve
Breeza	432.000	433.000	Single Main	Bi-directional	Both	Cutting at Breeza limited safe places within cutting
Breeza - Watermark	439.500	440.800	Single Main	Bi-directional	Both	Insufficient sighting distance around Black Mountain curve with track speed 130 can't see minimum 730 metres
Boggabri Coal	519.800	521.000	Single Main	Bi-directional	Both	Curve and cutting location can't see minimum 670 metres for track speed 120
Boggabri Coal	522.500	524.500	Single Main	Bi-directional	Both	Can't see minimum 500 metres for 90 track speed

1.15 Drawing Legend

	Standard gauge track		Dual gauge track
	Broad gauge track		Crossover
	Advisory Sign or Location Sign		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
	River/Creek or Significant river bridge or Viaduct		Station or Platform
	Derail		Points
	Automatic Signals		Controlled Signals
	Dwarf Signals		Signal number reference
	Repeater Signal		Mechanical Frame
	Point Indicator		Tunnel
	Overheight Detectors		Wayside Equipment

2 Locations and Sections Information

2.1 Werris Creek (WCK)

General Arrangements

Werris Creek is a Rail Vehicle Detection location controlled from Network Control Centre North. It is a consolidated location, incorporating locations previously known as Werris Creek South, Werris Creek and The Gap.

There is a substantial non-track circuited Shunting Yard located on the Down side adjacent to the Goods Loop, utilising ground frames, non-interlocked points. The Shunting Yard is managed by the ARTC Terminal Coordinator located at Network Control Centre North (NCCN).

Goods loop 1380 metres

Up loop 789 metres

Operation of Points and Signals

The points and signals on the Main line and Loop line at Werris Creek are power operated and controlled by track circuit and cannot be moved unless the track indicator diagram is showing that the track(s) controlling the points is unoccupied and are controlled by the ARTC North Network Controller.

Other

For ease of understanding, the Werris Creek location is described under several discrete headings in this Network Information Book:

- Werris Creek (South)
- Werris Creek Coal Siding
- Werris Creek Station
- Werris Creek (silo) Wheat Sidings and
- Werris Creek (Gap)

2.1.1 Werris Creek South (WKS)

Single Street Level Crossing

Type F flashing lights and audible warning devices are provided at Single Street level crossing at 408.995km.

The warning equipment is automatically controlled by track circuit for Down and Up trains, subject to the clearance of the signals on each side of the crossing.

If a train closely approaching the Down Outer Home signal 15-23 or Up Starting signal 15-5 at STOP, the setting of the applicable signal route will cause the level crossing warning indicators to be displayed but the clearing of the signals will be delayed for 15 seconds.

If it becomes necessary to hold a train at signal 15-23 or 15-5 after the signal has been cleared, the level crossing warning indicators will continue to be displayed for a period of 120 seconds after the signal is returned to STOP and will then cancel automatically.

Ground Frame

Lever B

Lever B is located on the Up side of the main line adjacent to the points and provides access to the Up Loop line.

Lever B is unlocked by the releasing switch from the Network Controller Network Control Centre North.

Working on the Goods Loop

The Goods loop is on a falling grade towards Werris Creek station and must not be used for shunting purposes. When a train arrives in the Goods loop, the locomotive must be released with the least possible delay.

Before the locomotive is detached, the train must be secured by applying sufficient vehicle handbrakes to prevent the train from moving on the falling grade. The Competent Worker who detaches the locomotive will be responsible for securing the train.

EXCEPTION: Traffic for Werris Creek station may be placed in the Goods loop, provided that this traffic is accompanied by a Competent Worker. The Competent Worker must secure the vehicles with handbrakes while waiting for the arrival of a locomotive at the country end of the Goods Loop, before being placed where required.

When the locomotive is attached to the vehicles, the automatic air brake must be connected and operating on all vehicles being shunted to the country end of the loop line and, when the locomotive is detached, the vehicles must be secured by handbrakes.

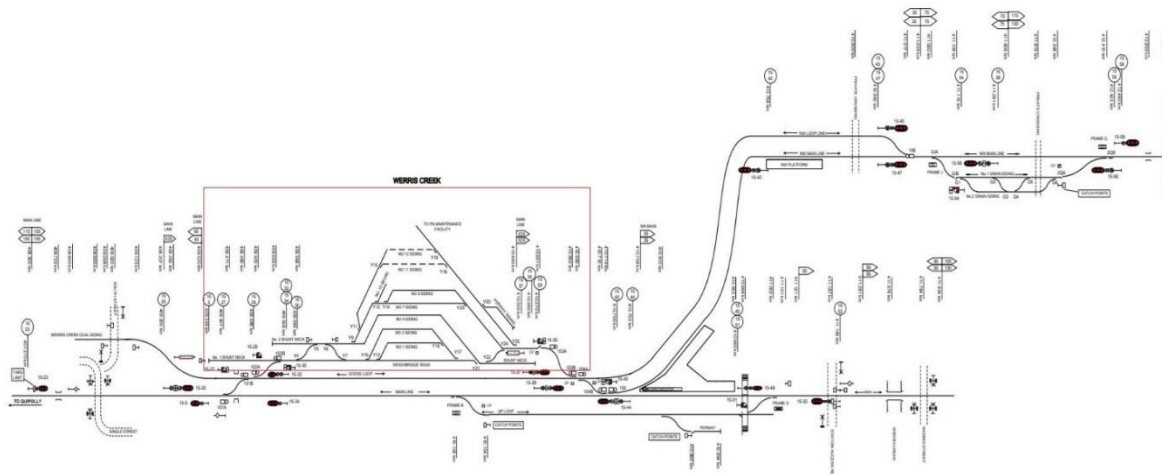
Adjacent Local Possession Authority

When work is to be undertaken and a Local Possession Authority (LPA) has been authorised on the Goods Loop, it will be permissible to use ANWT 300 Planning Work in the Rail Corridor - In Shunting Yards to adjoin the LPA as a method of Working Safely on Track.

Rail Traffic Entering the Shunting Yard

Werris Creek non-track circuited area is a shunting yard. All rail traffic entering the non-track circuited shunting yard must have authority from the ARTC Terminal Coordinator.

The area controlled by the ARTC Terminal Coordinator is highlighted in the red area on the below diagram.



Rail Traffic Crews with rail traffic scheduled for Werris Creek Shunting Yard are required to contact the ARTC Terminal Coordinator prior to arriving at the following locations;

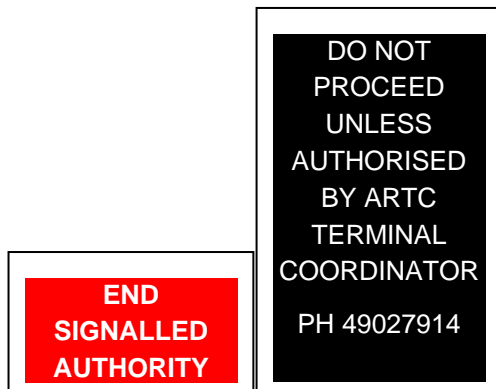
- Ardglan (Down direction rail traffic)
- Curlewis (Up direction rail traffic – Gunnedah)
- Springridge (Up direction rail traffic – Binnaway)
- West Tamworth (Up direction rail traffic – CRN).

Rail traffic must not enter the Weighbridge Road and Nos. 1, 2, 4, 7, 9, 10, 11, 12 Sidings until the Competent Worker has contacted the ARTC Terminal Coordinator and obtained authority. The Competent Worker must ensure that the points over which the rail traffic will pass are set in the correct position for all movements within the Shunting Yard.

Signage

END SIGNALLED AUTHORITY signage is located upon entry to the Werris Creek Shunting yard at:

- City end – 409.556km
- Country end – 410.700km
- From the Pacific National yard end at Interface point.



Example of the signage

Communications

ARTC Terminal Coordinators are responsible for authorising all rail traffic movements within the Werris Creek Shunting Yard. The movement of rail traffic within Werris Creek Shunting Yard is controlled and authorised by Two-way Radio Equipment.

Before permitting any rail traffic movements (i.e. shunting) to commence, the following instructions must be strictly adhered to:

- Any Operator requesting permission for a locomotive shunting movement or a rail traffic movement to commence using the two-way radio must:
 - identify themselves to the ARTC Terminal Coordinator
 - advise of their position
 - give details of the movement to take place, i.e. train number or locomotive number and destination, including route required to be taken
 - obtain authorisation from the ARTC Terminal Coordinator before commencing the movement
 - Advise the ARTC Terminal Coordinator when the movement has been completed.

The ARTC Terminal Coordinator must confer with the Network Controller before authorising and permitting any rail traffic movement towards the signalled territory.

NOTE: *All movements directed by two-way radio does not relieve Operators of their responsibility for ensuring that all points and signals are correctly set before commencing a shunting movement or a train movement.*

Securing Vehicles in Yard

As the tracks in the shunting yard are on a grade falling away from Sydney, vehicles placed in the shunting yard must be secured with handbrakes.

Admitting Locomotives to and from the Locomotive Depot

A STOP sign is provided 50 metres from No.2 points in the locomotive arrival road at the Quipolly end of the yard. Outgoing locomotives must not be permitted to enter No.2 shunting neck until directed to do so by the ARTC Terminal Coordinator.

Two STOP signs are provided at the points leading from the locomotive release road to No. 2 shunting neck for locomotives entering or departing the locomotive depot. All locomotives must be brought to a stand at the STOP sign, and:

- Must not proceed until authorised by the ARTC Terminal Coordinator.
- A stop sign is provided alongside No.1 locomotive road and locomotives proceeding from the locomotive depot must not pass this STOP sign, until authorised to do so by the ARTC Terminal Coordinator.

Refer safety interface agreements IA1601 Werris Creek Coal, IA1602 Pacific National and IA1603 Crawford's for further details regarding tracks and operations in Werris Creek shunting yard.

Road	Ownership/Management
1 Road – 392m	Pacific National
2 Road – 407m	Pacific National
4 Road – 615m	ARTC – Terminal Coordinator
7 Road – 598m	ARTC – Terminal Coordinator
9 Road – 606m	Pacific National
10 Road – 142m	Pacific National
11 Road – 485 metres	ARTC – Terminal Coordinator
12 Road – 445 metres	ARTC – Terminal Coordinator
No 1 Shunt Neck – 326m	ARTC – Terminal Coordinator
No 2 Shunt Neck – 370m	Pacific National
Weighbridge Road – 442m	ARTC – Terminal Coordinator
Perway Siding	ARTC – Terminal Coordinator
Loco Departure Roads	ARTC – Terminal Coordinator
Goods Loop – 1380 metres	ARTC – Network Controller
Up Loop – 789 metres	ARTC – Network Controller
No1 Grain Siding – 1148m	ARTC – Network controller
No2 Grain Siding – 966m	ARTC – Network Controller

Work on Track within Werris Creek Shunting Yard

The ARTC Terminal Coordinator is responsible for authorising and issuing work on track for the following tracks:

- Weighbridge
- 1, 2, 4, 7, 9, 10, 11 and 12
- No1 Shunting neck
- Perway siding

Water train siding (Shunt Neck). All work on track activities are to be carried out as per ARTC Network Rules and Procedures.

Work on Track as per ANWT 300 Planning work in the Rail Corridor - Working Safely on Track in Shunting Yards applies.

Before permitting any work on track to commence, the following instructions must be strictly adhered to:

- identify yourself to the ARTC Terminal Coordinator
- advise of your location
- give details of the worksite, including limits, protection
- work only to commence once authorised by the ARTC Terminal Coordinator.

2.1.2 Werris Creek Coal Siding

General Arrangements

Balloon Loop length: 1664 metres

Coal siding length: 1383 metres (clear of the balloon loop)

Arrival road: over 1350 metres (clear of road crossing and the balloon loop)

The Werris Creek Coal Siding is a private siding consisting of a balloon loop and a siding, both of which can pass through the coal loader.

Access to the coal siding is from the Up end of the Goods Loop. This requires all trains to run-around on the Goods Loop to put the locos on the Sydney end. Trains may be stabled unattended in the loop and siding.

Access to and from the Coal Siding is by the ARTC signals provided. The ARTC Network Controller will set the route and the shunt signal will display a yellow indication for entry into the Coal siding.

Rail Traffic Departing the Werris Creek Coal Siding

When arriving at the STOP sign, the Driver must contact the ARTC Network Controller at the Network Control Centre North and request authority to depart. The Network Controller will give permission to pass the STOP sign and clear 15-27 shunt signal. The train will then proceed onto the Goods Loop and prepare to run around.

2.1.3 Werris Creek Station

General Arrangements

The station platform is triangular shaped, at the junction between the Main North line to Armidale, and the North-West Main to Narrabri / Moree / North Star.

The NSW Trains Explorer train (NP23 / 43 and NP24 / 44) divides on the Down and combines on the Up at Werris Creek (Station).

Working Trains to Armidale Line (CRN)

Signal 15-49 will be kept at STOP until the Driver advises the Network Controller that they have a valid Train Order for the section towards Armidale. Once the Driver has obtained a Train Order from CRN Train Order Control, the Driver must notify NCCN North Board Network Controller of the order/authority number, and the Network Controller must then clear the signal, which will display a pulsating white aspect.

Traffic may proceed only to the "Shunt Limit" sign at 411.101km, without possession of a Train Order. There is only 94 metres clear of G-frame points to the Shunt Limit.

Ground Frames

Frame G

Frame G is located on the Up side of the Main North line adjacent to the crossover and provides access to the Up Loop.

Frame G is unlocked by the releasing switch from the Network Controller NCCN.

Traffic may proceed only to the Shunt Limit sign at 411.101km, without possession of a Train Order.

Note: Trains must not traverse 104 points (reversed) to/from the North West main. With 104 points reversed, trains must only proceed to/from Main North line (Armidale side).

2.1.4 Country Regional Network Interface Requirements

Work on Track

The following instructions will apply if work on track will be conducted which:

- extends into an UGLRL controlled area, or
- requires protection to be provided by the UGLRL Network Controller Broadmeadow.

Where any work on track activity within the ARTC Network requires protection from the adjacent CRN Network, the UGLRL Network Control Officer, ARTC Network Controller and the Protection Officer must establish a conference call to agree upon:

- affected rail traffic movements
- location of work
- required protection arrangements
- duration of work.

Local Possession Authorities (LPA)

The limits of an LPA must not extend beyond the Operational Interface at 15-52 signal (Werris Creek Yard Limit 411.201km).

Back-to-back LPAs

Where back-to-back LPAs are implemented, the following instructions will apply:

- Worksites and rail traffic that need to move from CRN territory to ARTC territory are authorised and supervised by the ARTC Possession Protection Officer (PPO).
- Worksites and rail traffic that need to move from ARTC territory to CRN territory are authorised and supervised by the UGLRL PPO.

Where work is being undertaken at or over the interface boundary the following will apply:

- The UGLRL PPO and the ARTC PPO must confer and come to a clear understanding of the worksite protection to be established over the UGLRL and ARTC interface boundary.
- When the work at or over the interface boundary is completed, the UGLRL PPO and ARTC PPO must ensure that possession protection is removed.

UGLRL only LPA

Where a UGLRL only LPA is to be obtained, the UGLRL Possession Protection Officer must request the ARTC Network Controller to protect the possession limit by placing blocking facilities on 15-49 signal for the duration of the possession.

Where work is being undertaken within 500m of the protecting limits, a Work on Track Authority adjoining the entry end limit must be implemented for the duration of the work.

ARTC only LPA

Where work is being undertaken within 500m of the protecting limits, a Work on Track Authority adjoining the entry end limit must be implemented for the duration of the work.

Track Occupancy Authority (TOA)

The UGLRL Network Control Officer is responsible for implementing a TOA when a worksite is established on the CRN Network up to the Operational Interface at 15-52 signal (Werris Creek Yard Limit 411.201km).

The ARTC Network Controller is responsible for implementing a TOA when a worksite is established on the ARTC Network up to the Operational Interface at 15-52 signal (Werris Creek Yard Limit 411.201km).

When a TOA worksite extends beyond 15-52 signal (Werris Creek Yard Limit 411.201km) or the worksite is located within 500m of 15-52 signal (Werris Creek Yard Limit 411.201km), separate TOA's must be issued by the UGLRL Network Control Officer and the ARTC Network Controller.

Track Work Authorities (TWA)

The ARTC Network Controller is responsible for implementing a TWA when a worksite is established on the ARTC Network up to the Operational Interface at 15-52 signal (Werris Creek Yard Limit 411.201km).

The UGLRL Network Control Officer is responsible for implementing a TWA when a worksite is established on the CRN Network up to the Operational Interface at 15-52 signal (Werris Creek Yard Limit 411.201km).

TWAs must not extend beyond the operational interface at 411.201km.

Route Control Blocking (RCB)

The use of RCB is not permitted in the ARTC Network.

2.1.5 Werris Creek (silo) Wheat Sidings

No 1 and No 2 Grain sidings are located on the Up side of the Main line between the station platform and Werris Creek (The Gap).

These sidings are accessed via Frames J (south) and Frame Q (north)

Propelling Trains

Trains may be propelled from Frame Q to Werris Creek Shunting Yards, under control of signals. The Driver must sound the locomotive whistle frequently while approaching the private level crossing at 411.871km and the Competent Worker must be prepared to stop the train at this level crossing if it is obstructed.

Ground Frames

Frame J

Frame J is located on the Up side of the Main line adjacent to the crossover and provides access to Werris Creek Wheat sidings.

Frame J is unlocked by the releasing switch from the Network Controller NCCN.

Frame Q

Frame Q is located on the Down side of the Main line adjacent to the crossover and provides access to Werris Creek Wheat sidings.

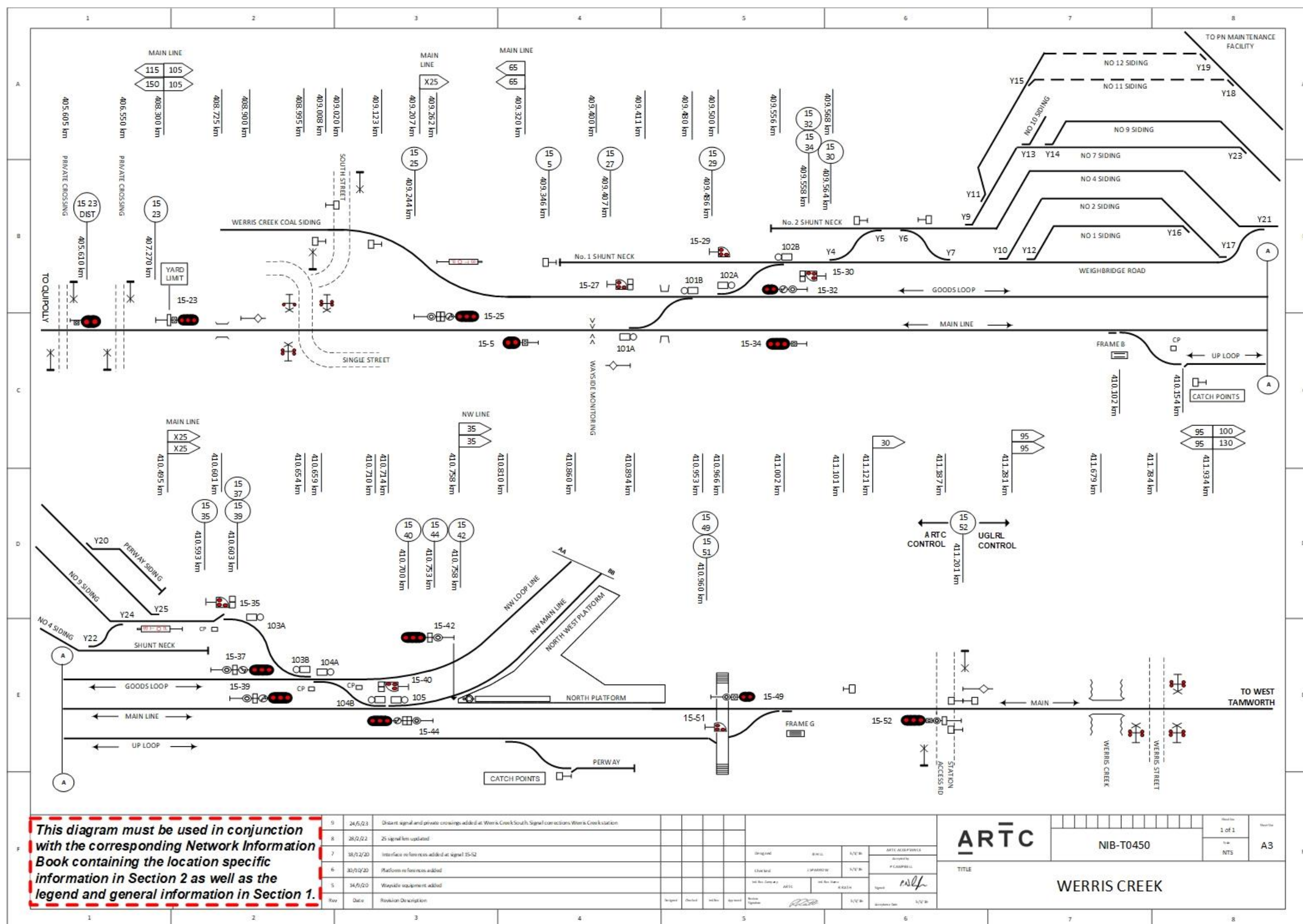
Frame Q is unlocked by the releasing switch from the Network Controller NCCN.

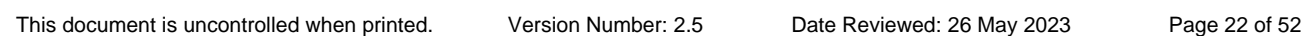
2.1.6 Werris Creek (The Gap)

Werris Creek (The Gap) is a junction at the down end of Werris Creek yard and a train order location for the Werris Creek – Carroona section.

Signal 15-61 provides authority to enter the Werris Creek to Carroona section. Signal 15-61 will be kept at STOP until the Driver advises the Network Controller that they have a valid Train Order for the section towards Carroona. Once the Driver has obtained a Train Order from ARTC Train Order Control, the Driver must notify NCCN North Board Network Controller of the order/authority number, and the Network Controller must then clear the signal, which will display a pulsating white aspect.

Traffic may proceed only to the “Shunt Limit” sign at 415.978km, without possession of a Train Order.





2.2 Burilda (BUR)

General Arrangements

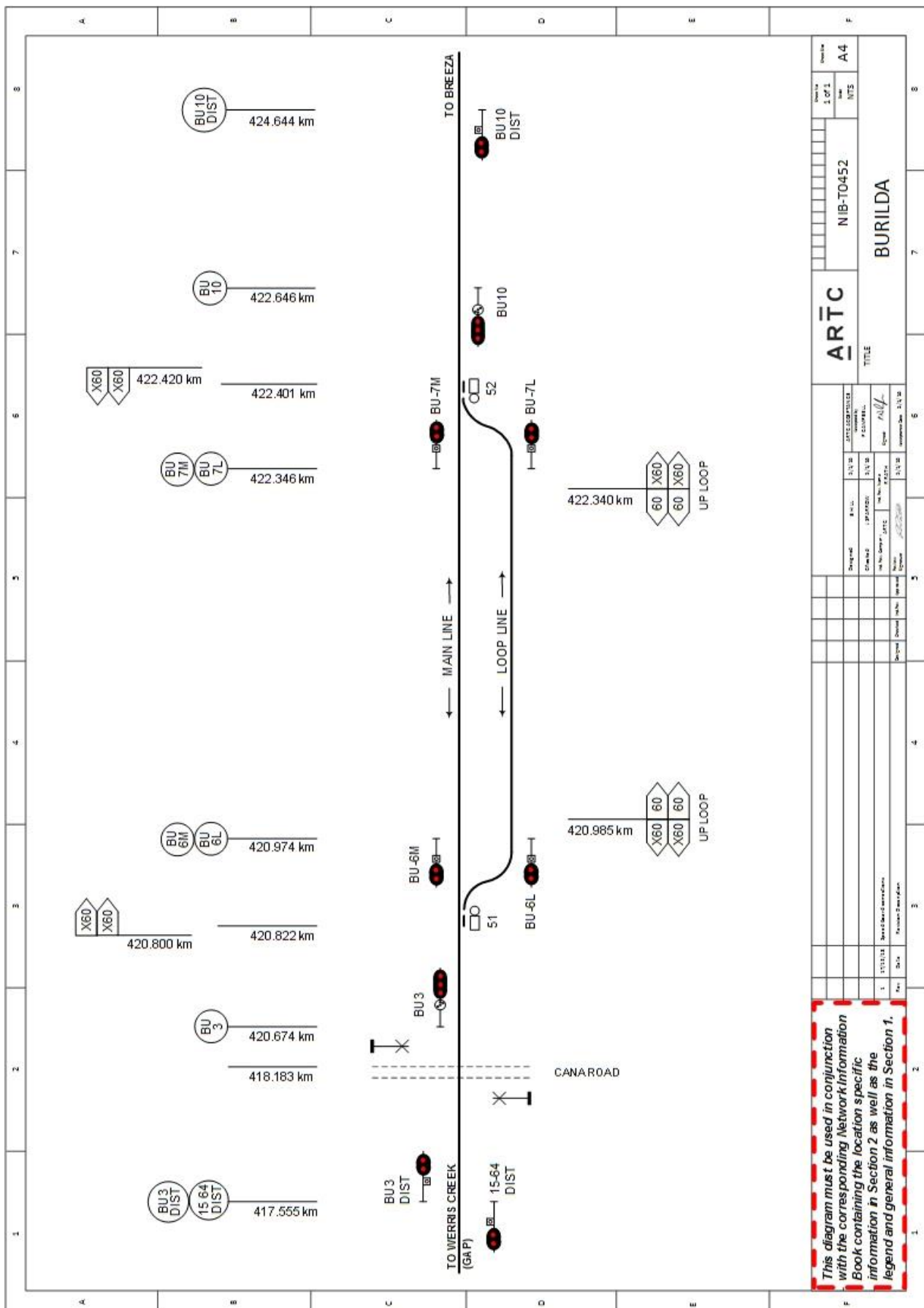
Burilda is a Rail Vehicle Detection location controlled from Network Control Centre North.

Loop length: 1370 metres

Operation of Points and Signals

The points and signals at Burilda are power operated and controlled by track circuit and cannot be moved unless the track indicator diagram is showing that the track(s) controlling the points is unoccupied.

Locations and Sections Information



2.3 Breeza (BZA)

General Arrangements

Breeza is a Rail Vehicle Detection location controlled from Network Control Centre North.

Loop length 1350 metres

There is a Shunt Limit Board facing Up trains at 433.015km.

Operation of Points and Signals

The points and signals at Breeza are power operated and controlled by track circuit and cannot be moved unless the track indicator diagram is showing that the track(s) controlling the points is unoccupied.

Ground Frames

Frame E

Frame E is located on the Down side of the main line adjacent to the crossover and provides access to the Silo siding.

Frame E is unlocked by releasing switch from the Network Controller NCCN.

Hogarth Street Level Crossing

Type F flashing lights and bells, and half-boom barriers are provided at the Hogarth Street (Quirindi-Narrabri Road) level crossing at 433.416 km.

Bulunbulun Road Level Crossing

Type F level crossing protection including roadside flashing lights, audible warning device and half-boom barriers are provided at the Bulunbulun Road at 431.757km.

Trackside approach warning signs are located:

Down Direction at 430.575km

Up Direction at 432.676km

The Bulunbulun Road level crossing emergency and test keys are located at the ARTC Provisioning Centre at Gunnedah.

NOTE: Road / Rail vehicles must not be placed on or off at the Bulunbulun Road level crossing.

Bulunbulun Road Level Crossing Operation:

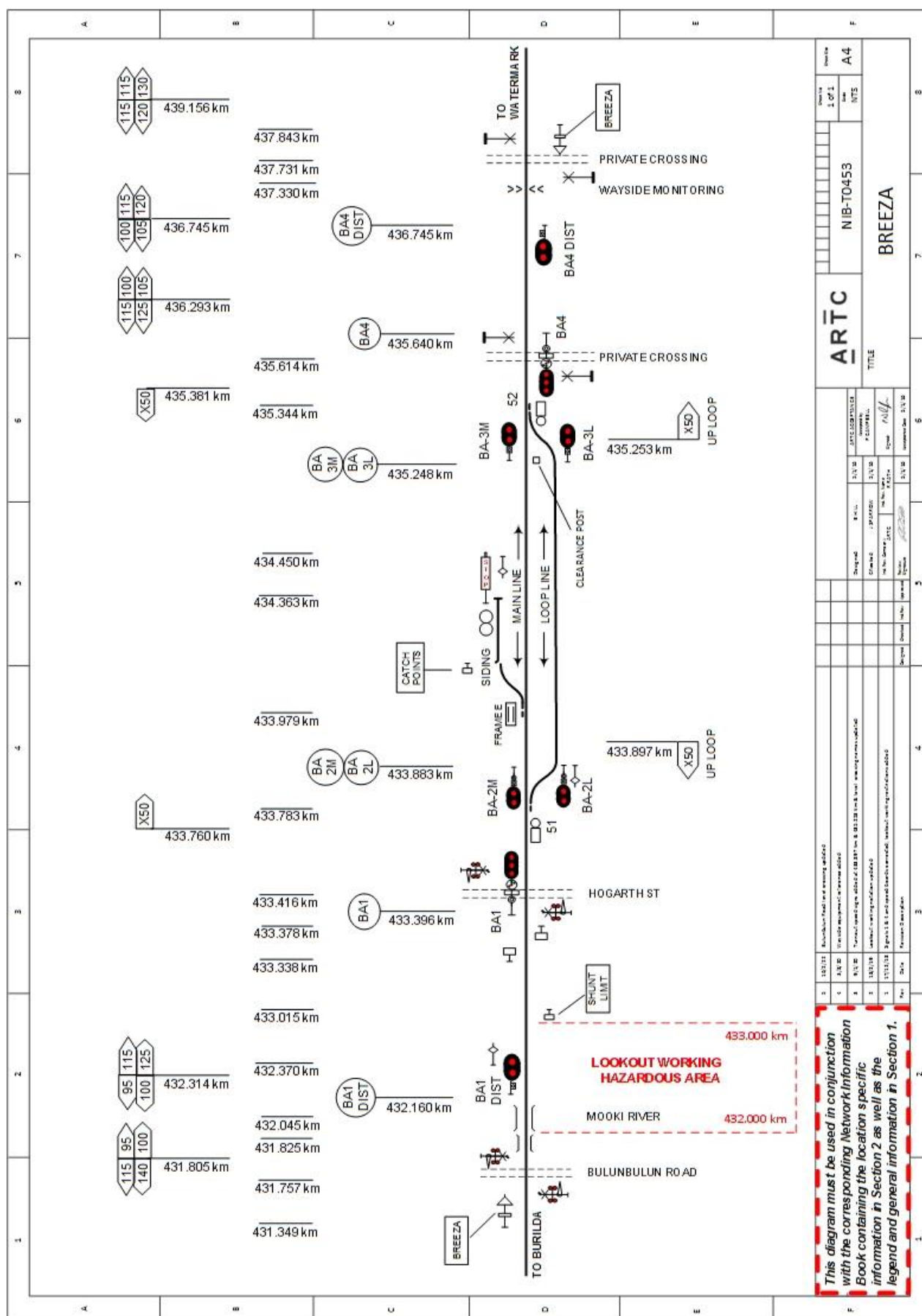
Bulunbulun Road Level Crossing is activated by axle counter track circuits. Axle counter track circuits are displayed on the Phoenix Train Control system as additional text. When an axle counter track is clear, the associated text will display steady white text. When an axle counter track circuit is occupied or in a failed condition the associated text will display steady red text. The Bulunbulun Road level crossing text on the Phoenix Train Control system will flash red when the level crossing warning equipment is activated.

Axle Counter Reset Procedure

Bulunbulun Road Level Crossing Axle Counter Reset Procedure:

- Network Controller identifies the axle counter track circuit as failed showing occupied on the Phoenix Train Control system. NOTE: The Phoenix display will show the Microtrax track section over the level crossing as unoccupied.

- Network Controller contacts the Rail Traffic Crew of the last train/ track vehicle through the section to verify that it is clear and complete of the level crossing
- When the last train/track vehicle is confirmed as clear and complete, the Network Controller requests an axle counter reset on the axle counter system in the Phoenix Train Control system
- If the reset is successful, the axle counter track circuit will indicate clear with steady white text displayed on the Phoenix Train Control system
- If the axle counter track circuit does not clear, the Network Controller must ask the Signals Maintenance Representative to attend the location and apply a pre-reset
- The Signals Maintenance Representative must confirm with the Network Controller that the axle counter track circuit is clear of rail traffic, the axle counter is operational and applies a pre-reset followed by a Network Controller reset.



2.4 Watermark (WMK)

General Arrangements

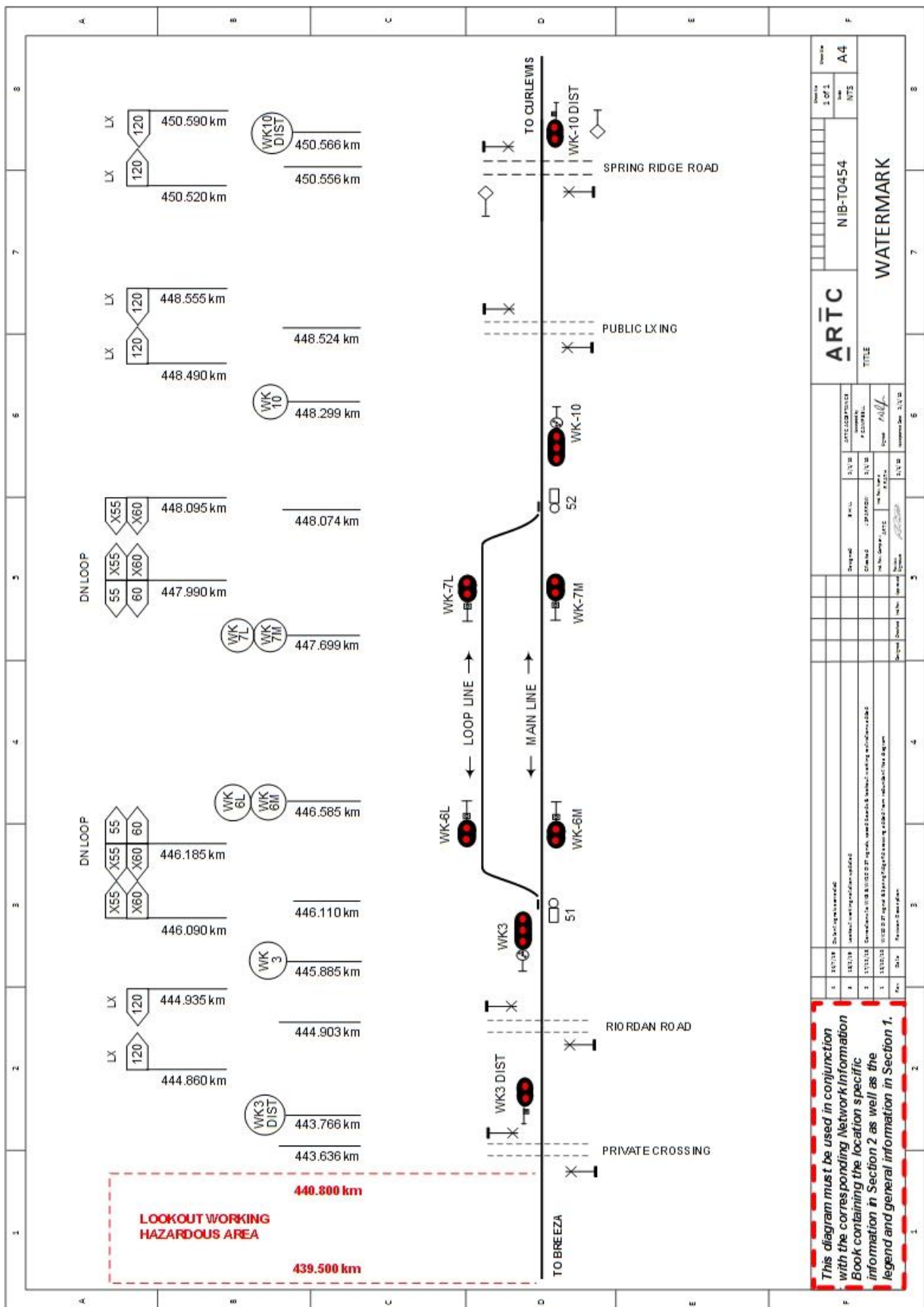
Watermark is a Rail Vehicle Detection location controlled from Network Control Centre North.

Loop length 1350 metres

The crossing loop allows trains up to 1350 metres in length to cross. The crossing loop is constructed 300 metres longer than existing crossing loops and will allow for simultaneous entry of rail traffic.

Operation of Points and Signals

The points and signals at Watermark are power operated and controlled by track circuit and cannot be moved unless the track indicator diagram is showing that the track(s) controlling the points is unoccupied.



2.5 Curlewis (CLS)

General Arrangements

Curlewis is a Rail Vehicle Detection location controlled from Network Control Centre North.

Loop length 1490 metres

Passenger platform is located on the mainline.

Operation of Points and Signals

The points and signals at Curlewis are power operated and controlled by track circuit and cannot be moved unless the track indicator diagram is showing that the track(s) controlling the points is unoccupied.

Ground Frames

Frame E

Frame E is located on the Up side of the main line adjacent to the crossover and provides access to No. 1 siding.

Frame E is unlocked by releasing switch from the Network Controller NCCN.

Frame G

Frame G is located on the Up side between the Silo Siding and the Stock Siding adjacent to the crossover and provides access from No.1 Goods Siding to the Loop Line.

Frame G is unlocked by releasing switch from the Network Controller NCCN.

Kamilaroi Highway (Quirindi – Narrabri Road) Level Crossing

Type F flashing lights and bells, half-boom barriers and pedestrian boom barriers are provided at the Kamilaroi Highway (Quirindi – Narrabri Road) level crossing at 457.930 km.

The warning equipment is automatically controlled by track circuit for Down and Up trains subject to the clearance of the signals on either side of the level crossing, and manually controlled by an operator's pushbutton unit for trains shunting the Loop line and No. 1 siding.

If a train closely approaches Up starting signal No. 7 or Down home signal No. 2, the setting of the applicable signal route will cause the level crossing warning indicators to be displayed, but clearing of the signals will be delayed for 15 seconds.

If it becomes necessary to hold a train at signal No. 7 or No. 2 after the signal has been cleared, the level crossing warning indicators will continue to be displayed for a period of 120 seconds after the signal is returned to stop and will then cancel automatically.

Operator's Pushbutton Unit for the Level Crossing

An operator's pushbutton unit is provided in a box inscribed "Shunter's switch" and attached to a post located near frame C.

When a shunting movement will be required to obstruct the level crossing, before hand-signalling the train over the level crossing, the Qualified Worker controlling the shunt must unlock the operator's pushbutton unit and depress the "Start" pushbutton for one second to cause the warning equipment to operate.

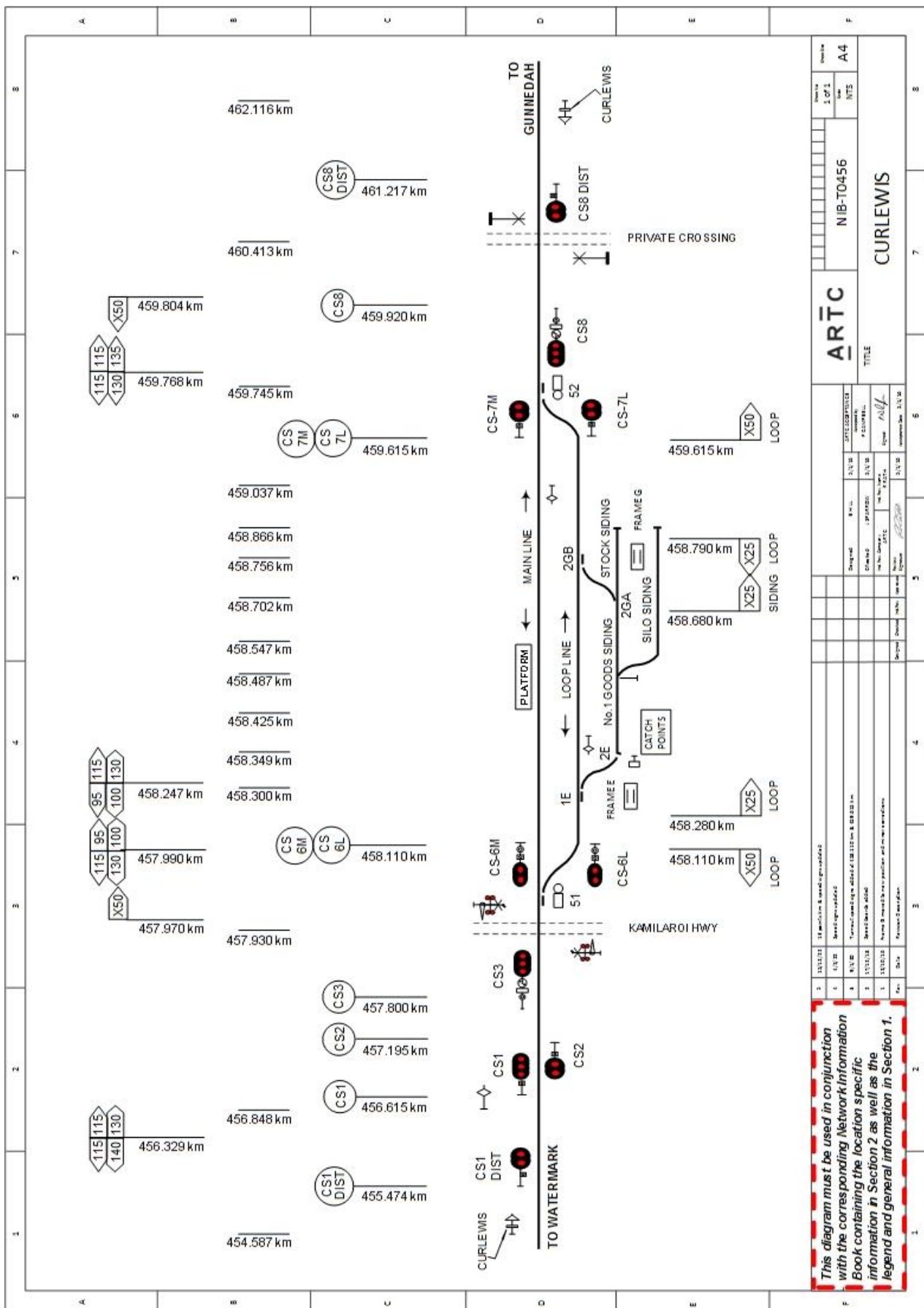
The warning indications must be cancelled manually when the rear of the shunting movement has cleared the level crossing.

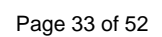
If the movement is not proceeded with, the warning indications must be cancelled by pressing the "Cancel" pushbutton in the operator's pushbutton unit for one second.

The operator's pushbutton unit must be kept closed and secured by an SL lock when not in use.

Manual Operation Switch

A manual operation switch for use by Competent Workers in accordance with the instructions detailed in ARTC Network Rule ANGE 218 is installed on the side of Kamilaroi Highway level crossing equipment hut. The manual operation switch **MUST** be kept closed and secured by an SL lock when not in use.





2.6 Gunnedah (GDH)

2.6.1 General Arrangements

Gunnedah is a Rail Vehicle Detection location controlled from Network Control Centre North.

Loop line South: 250 metres (platform road)

Loop line North: 1360 metres

Passenger station is located on Loop line South.

Yard Limits

In the Up direction, yard limits are GH26 to Shunt Limit board at 474.745km

In the down direction, yard limits are GH 1 to GH 26.

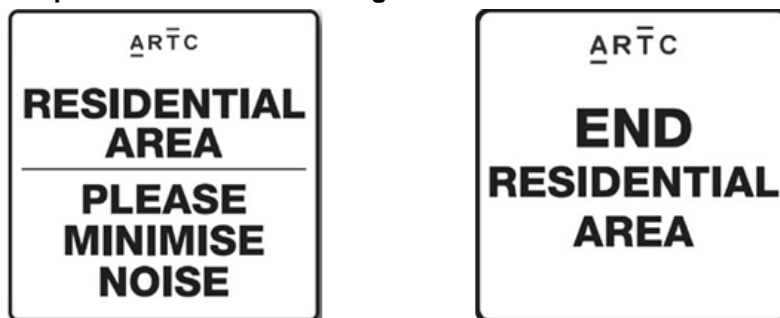
Adjacent Local Possession Authority

When work is to be undertaken and a Local Possession Authority (LPA) has been authorised for the main line within the Gunnedah Yard Limits, it will be permissible to use ANWT 300 Planning Work in the Rail Corridor - In Shunting Yards to adjoin the LPA as a method of Working Safely on Track on the Sidings within the Gunnedah Yard Limits.

'RESIDENTIAL AREA PLEASE MINIMISE NOISE' signs are placed at 470.830km for Down direction rail traffic movements and 478.840km for Up direction rail traffic movements.

'END RESIDENTIAL AREA' signs are placed at 478.840km for Down direction rail traffic movements and 470.830km for Up direction rail traffic movements.

Example of Residential Area signs



The signs are provided to identify the residential area and to identify where Train Crews and Track Vehicle Crews may be able to minimise noise by:

- Using the train whistle only as required by Network Rules;
- Using the 'town' whistle where available;
- Minimising whistle duration proportionate to risk;
- Sounding the whistle away from noise sensitive locations (e.g. dwellings);
- Managing the train to avoid buff and draft (bunch and stretch); and
- Avoiding heavy dynamic braking.

Operation of Points and Signals

The points and signals at Gunnedah are power operated and controlled by track circuit and axle counters and cannot be moved unless the track indicator diagram is showing that the track(s) controlling the points is unoccupied.

Manildra Sidings, Goods Sidings and Loop Line

Shunting between the Manildra Sidings and Loop Line South can only commence when No.68 release has been given by the Network Controller and the release key has been taken by the shunter. The release key will allow the operation of Frame K. To ensure that 48 points are not inadvertently operated while non-signalling shunting movements occur, No.68 release will lock and detect 48A / B points normal but will not automatically call the points from the reverse position. All main and shunt class routes that read over 48 points reverse will be required normal before No.68 release can be given and will be locked when No.68 release is reversed, meaning that the release must be restored before any signalling movements onto the Main Line through 48 points can occur. Refer safety interface agreement IA2215 for further details on Manildra sidings.

Shunting between the Goods Sidings and Loop Line South can only commence when No.69 release has been given by the Network Controller and the release key has been taken by the shunter. The release key will allow the operation of Frame F. To ensure that 50 points are not inadvertently operated while non-signalling shunting movements occur, No.69 release will lock and detect 50A / B points normal but will not automatically call the points from the reverse position. All main and shunt class routes that read over 50 crossover reverse will be required normal before No.69 release can be given and will be locked when No.69 release is reversed, meaning that the release must be restored before any signalling movements onto the Main Line through 50 points can occur.

Movements over 50A points will be only the authority of GH7 signal and 50A points indicator. The signals will display a white arrow automatically when No 69 release is taken and levers 1F and 2F (catch points) have been reversed with 50 points in the normal position.

Catch points (48B) on the Sydney end of the Loop Line provide protection for the Main Line from unauthorised movements. The catch points are to be used for trapping protection only and not as an overlap.

The Loop Line South may be used for the stabling of Manildra train unattended on arrival overnight. However, the Loop Line South must not be used for the storage of wagons during the day. Number 48 and 50 crossover must be placed in the normal position. Catch points (48B) are provided on the Sydney end of the Loop Line South to protect the Main Line from unauthorised movements from the Loop Line South.

Ground Frames

Frame K

Frame K is located on the Up side of the Main Line adjacent to the crossovers and provides access to the Manildra Group Mill Sidings.

Frame K is unlocked by a key from releasing switch K which is located adjacent to frame K. Releasing switch K is electrically released by No 68 release from Network Control Centre North.

Frame F

Frame F is located on the Up side of the Loop Line adjacent to catch points and provides protection to the Loop Line from unauthorised movement from the Goods sidings.

Frame F is unlocked by a key from releasing switch F which is located adjacent to frame F. Releasing switch F is electrically released by No 69 release from Network Control Centre North.

Grain Siding

Shunting operations can only commence when 49, 51 and 52 points are set normal and No 70 release given by the Network Controller. This will enable the release key to be taken from the releasing switch by the qualified worker / shunter. The release key (loose key) will enable shunting operations to take place. The key shall be carried by the qualified worker / shunter in control of the shunt movement. To ensure that 49, 51 and 52 points are not operated while non-signalled shunting movements within the Grain Siding are taking place, No 70 release will lock 49, 51 and 52 points in the normal position. No 70 release, when given, will lock normal all routes onto the Main Line from the Grain Siding and all routes into the Grain Siding from the Main Line. The release must be restored before any signalled movements from the Grain Siding to the Main Line or to the Grain Siding from the Main Line can occur.

Shunting operations into the Shunting Neck or Loco Roads can also commence when 8(S)B or 11(S)A routes are cleared by the Network Controller from signals GH8 and GH11 respectively. To ensure that opposing non-signalled movements are not authorised during these operations, the routes 8(S)B and 11(S)A will both require and lock 70 release normal.

Movements over 52A and 51B points will be on the authority of signals GH 11 and GH 10 respectively. The signals will display a white arrow automatically when No 70 release is given with 51 and 52 points locked in the normal position.

Movements over 49B points will be on the authority of GH 8 signal and 49B points indicator. The signals will display a white arrow automatically when No 70 release is given, with 49 points locked in the normal position.

2.6.2 Level Crossings

2.6.2.1 Carroll Street Level Crossing

Type F flashing lights and bells are provided at Carroll Street level crossing at 474.166 km.

Failure of Signals Protecting the Carroll Street Level Crossing

In the event of failure of the signals protecting the active level crossing at Carroll Street level crossings, or if rail traffic is authorised to pass the protecting signals in the STOP position, rail traffic crews will be required to activate the level crossing warning equipment by operating the push buttons provided on the level crossing hut before passing the protecting signals in the STOP position.

Ensure that the level crossing roadside flashing lights and audible warning devices have activated and the crossing is clear of road and pedestrian traffic.

Proceed past the signal at stop in accordance with ARTC Network Rule ANSG 608 Passing Signals at STOP.

2.6.2.2 Marquis Street Level Crossing

Type F flashing lights, bells, half boom barriers, active pedestrian warning and pedestrian swing gates are provided at Marquis Street level crossing at 475.476 km.

To prevent the unnecessary operation of Marquis Street level crossing, level crossing operation is not initiated when rail traffic approaches GH 2, GH 3 or GH 4 signals at STOP.

Failure of Signals Protecting the Marquis Street Level Crossing

Signal Failure

In the event of a failure of the signals protecting the active level crossing at Marquis Street, or if rail traffic is authorised to pass the protecting signals in the STOP position, Rail Traffic Crews are to follow ARTC Network Rule ANSG 608 Passing Signals at STOP.

Telemetry Failure

In the event of a Telemetry failure resulting in the complete loss of Remote Train Control and Indications within Gunnedah Yard, the Network Controller must advise the Rail Traffic Crew of the Telemetry failure before authorising rail traffic to pass GH 2, GH 3 or GH 4 signals at STOP.

The Rail Traffic Crew will be required to activate the level crossing warning equipment, by operating the push buttons provided on GH 2 and GH 3 to manually operate Marquis Street level crossing.

Signals Protecting the Level Crossing with Push Buttons

Signal	Km	Line	Level Crossing
GH 2	475.496	Main	Marquis Street
GH 3	475.351	Main	Marquis Street

Operation of Push Buttons on Protecting Signals

Rail Traffic Crews must contact Network Control Centre North prior to the operation of the push buttons.

Press the push button on the signal and provided the operation is successful, a white light will be displayed. Ensure that the level crossing roadside flashing lights, half booms (Marquis street) and audible warning devices have activated, and the crossing is clear of road and pedestrian traffic.

Proceed past the signal at STOP in accordance with ARTC Network Rule ANSG 608 Passing Signals at STOP.

The level crossing warning will stop operation automatically following the passage of the rail traffic.

Advisory signs are located on the Pushbuttons enclosure stating:

**BEFORE OPERATING PUSH
BUTTON RAIL TRAFFIC CREW
MUST CONTACT NETWORK
CONTROL**

Note: Rail Traffic Crews must obtain the appropriate authority from the relevant Network Controller before passing signals at STOP.

2.6.3 Ground Frames Stock & Wheat Sidings

Frames L and M

Frames L and M are located on the Down side of the Main Line adjacent to the crossovers and provide access to the Stock sidings.

Frame L is unlocked by a key from releasing switch L which is located adjacent to frame L. Releasing switch L is electrically released by No 71 release from Network Control Centre North.

Frame M is unlocked by a key from releasing switch M, N which is located midway between M & N frames, up side. Releasing switch M is electrically released by No 71 release from Network Control Centre North.

Frame N

Frame N is located on the Down side of the Main Line adjacent to the crossovers and provides access to the Wheat sidings.

Frame N is unlocked by a key from releasing switch M, N which is located midway between M & N frames, up side. Releasing switch N is electrically released by No 71 release from Network Control Centre North.

Note: Frames M & N are unlocked by the one key.

2.6.4 Working Arrangements for the Gunnedah Coal Loop

Entry to and exit from the Gunnedah Coal Loop is remotely controlled by the Network Controller from the Network Control Centre North.

Only one 1340m train fits in this balloon loop.

Rail Traffic Entering the Gunnedah Coal Loop

The train must proceed through Gunnedah Yard according to the signals provided. The ARTC Network Controller will set the route and signal will display a yellow subsidiary shunt indication for entry into the Gunnedah Coal Loop

Rail Traffic Departing the Gunnedah Coal Loop

When arriving at the stop sign, the driver will contact the ARTC Network Controller at the Network Control Centre North Broadmeadow and request authority to depart. The Network Controller will reverse the main line points and clear the signal. The train will then proceed onto the Main Line and continue on the authority of fixed signals.

Refer safety interface agreement IA2214 for further details.

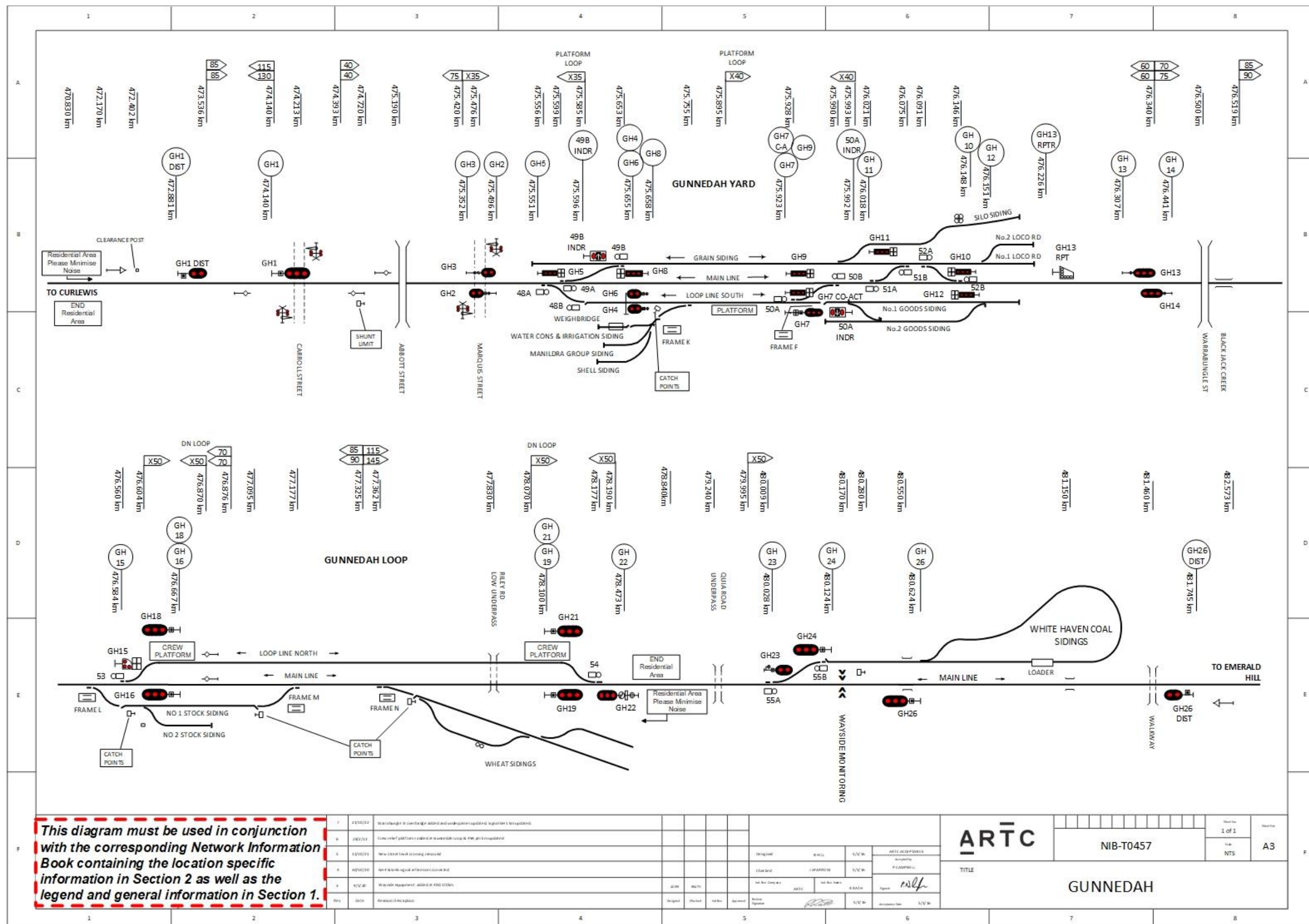
2.6.5 Crew Relief Platforms

There are rail traffic crew relief platforms at Gunnedah Loop designed for the purpose of safe and effective rail traffic crew changes.

These platforms are located at:

Down direction – GH21 signal at 478.100km

Up direction – GH18 signal at 476.667km



2.7 Emerald Hill (EH)

General Arrangements

Emerald Hill is a Rail Vehicle Detection location controlled from Network Control Centre North.

Loop length 1337 metres

Refer safety interface agreement IA1523 for details of loading operations at this location.

Operation of Points and Signals

The points and signals at Emerald Hill are power operated and controlled by track circuit and cannot be moved unless the track indicator diagram is showing that the track(s) controlling the points is unoccupied.

Goohli Road (Gunnedah Road) Level Crossing

Type F flashing lights, bells, half boom barriers, are provided at Goohli Road level crossing at 493.068 km.

To prevent the unnecessary operation of Goohli Road level crossing, level crossing operation is not initiated when rail traffic approaches EH 3, EH 4M, or EH 4L signals at Stop.

Failure of Signals Protecting the Goohli Road Level Crossing

In the event of failure of the signals protecting the active level crossing at Goohli Road level crossing, or if rail traffic is authorised to pass the protecting signals in the STOP position, rail traffic crews will be required to activate the level crossing warning equipment by operating the push buttons provided on the level crossing hut before passing the protecting signals in the STOP position.

Ground Frames

Frame B

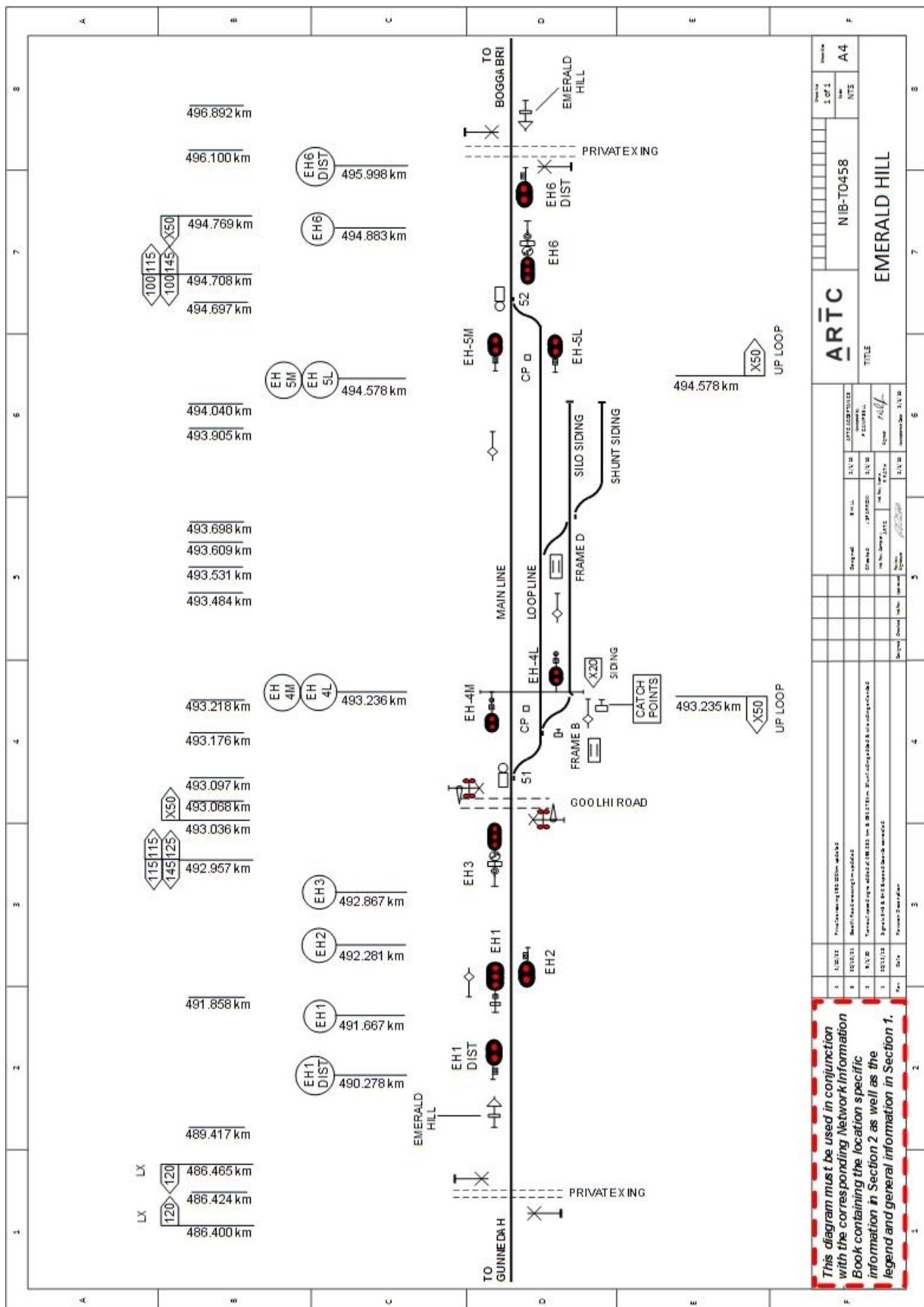
Frame B is located on the Up side of the Loop line adjacent to the crossover and provides access to the Grain siding.

Frame B is unlocked by releasing switch from Network Controller NCCN.

Frame D

Frame D is located on the Up side of the Loop line adjacent to the crossover and provides access to the Silo siding.

Frame D is unlocked by releasing switch from Network Controller NCCN.



2.8 Boggabri (BOG)

General Arrangements

Boggabri is a Rail Vehicle Detection location controlled from Network Control Centre North.

It is a consolidated location incorporating Boggabri, Boggabri Maules Creek branch, and Boggabri Coal loop.

Loop length 1377 metres

Passenger station is located on the mainline.

Yard Limits

Boggabri yard limits extend from BI 1 to BC 8 signals.

Operation of Points and Signals

All points worked from the Network Control Centre North are controlled by track circuit / axle counter and cannot be moved unless the track indicator diagram is showing the track(s) controlling the points is unoccupied.

Ground Frames

Frame F is located on the down side of the main line and provides access to the sleeper siding. Release is obtained from the Network Controller NCCN.

2.8.1 Boggabri Maules Creek Branch Line

Entry to and exit from the Boggabri Maules Creek branch line is remotely controlled by the Network Controller from the Network Control Centre North. Further details on the branch line are included in safety interface agreement IA2203.

Rail Traffic departing the Maules Creek Coal & Boggabri Coal East Balloon Loops

When arriving at the departure signal and train loading is completed the driver will contact the ARTC Network Controller at the Network Control Centre North and request authority to depart. When authorised to proceed, the Network Controller will clear the applicable signal. The train will then proceed onto the branch line and continue on the authority of fixed signals.

Note: Boggabri Maules Creek branch line is a private siding. Rail movements on the branch lines to Maules Creek Coal and Boggabri Coal East Balloon Loops is remotely controlled by the Network Controller from Network Control Centre North. The rail operation within the Maules Creek Coal and Boggabri Coal East Balloon Loops are managed by the respective producers / owner of the load-out terminals. Both of these balloon loops hold at least one 1340m loaded train and two 1340m rakes on the approach side of the load point.

Special instruction for isolating the points leading to Boggabri Maules Creek branch line for maintenance purposes

To prevent access to the Boggabri Maules Creek Branch line during maintenance work within the branch lines, special key-locked isolating switches are provided in a locked box to enable the power for No 51 points providing access from the main line to Boggabri Maules Creek Branch line to be isolated.

Number 51 points to the Boggabri Maules Creek Branch line must be set in the normal position for main line rail traffic movements prior to the maintenance isolation switch being operated.

Special instruction for isolating the points leading to Maules Creek branch line or Boggabri East branch line for maintenance purposes

To prevent access to the either of the mine branches during maintenance work within the branch lines, special key-locked isolating switches are provided in a locked box to enable the power for No 55 points providing access from the branch line to the individual coal loop branches to be isolated.

Number 55 points must be set in the position for the other coal loop prior to the maintenance isolation switch being operated. For example, to isolate the Maules Creek coal branch, 55 points must be set to the Boggabri East coal branch before the isolation switch is operated. An indication appears on the Network Controllers Phoenix panel to show that the maintenance switch has been operated.

Boggabri Coal Maules Creek Coal Branch Line Level Crossing at 528.293km and Boggabri Coal Branch Line Level Crossing at 528.270km.

Type F flashing lights, bells, half boom barriers, active warning is provided at Boggabri Coal access road, Maules Creek Coal Branch Line Level Crossing at 528.293km and Boggabri Coal Branch Line Level Crossing at 528.270km.

To prevent the unnecessary operation of Boggabri Coal access road level crossings, level crossing operation is not initiated when rail traffic approaches BC12, BC14 signals at stop.

Failure of Signals Protecting the Boggabri Access Road Level Crossing

In the event of failure of the signals protecting the active level crossing at the Boggabri Access Road, or if rail traffic is authorised to pass the protecting signals in the Stop position, rail traffic crews will be required to activate the level crossing warning equipment by operating the push buttons provided on the level crossing hut before passing the protecting signals in the STOP position.

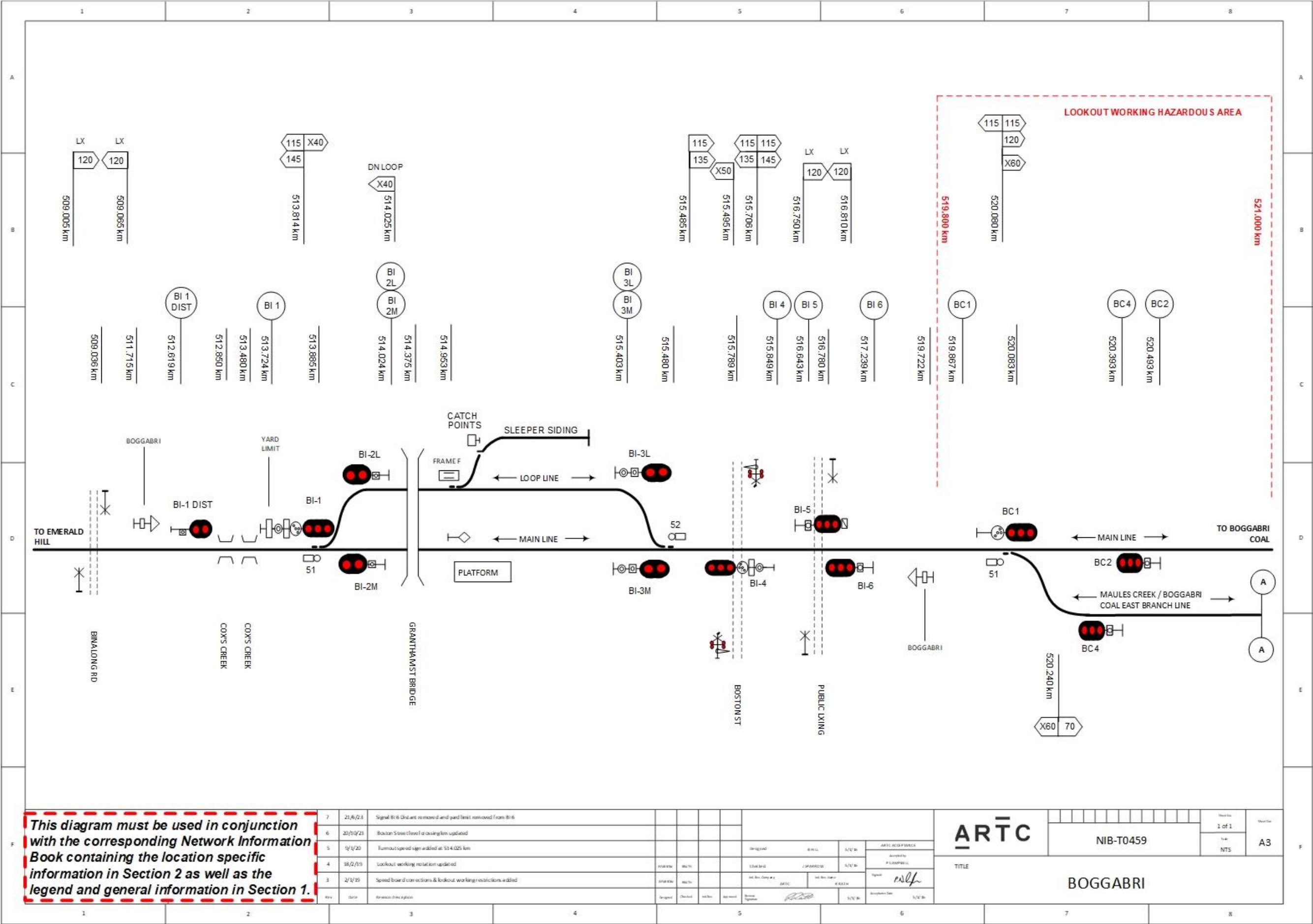
2.8.2 Boggabri Coal Balloon Loop

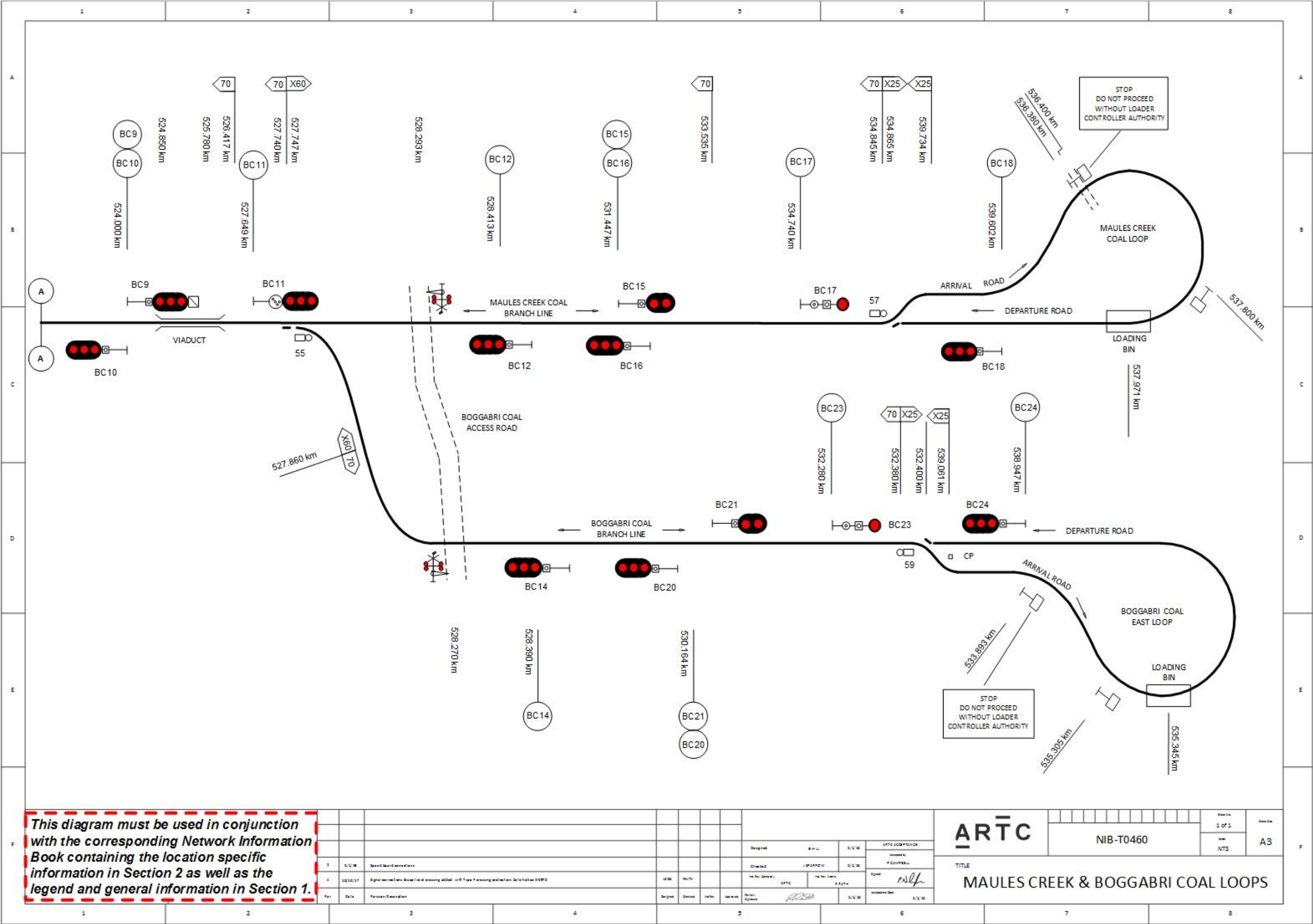
Entry to and exit from the Boggabri Coal Loop is remotely controlled by the Network Controller from the Network Control Centre North.

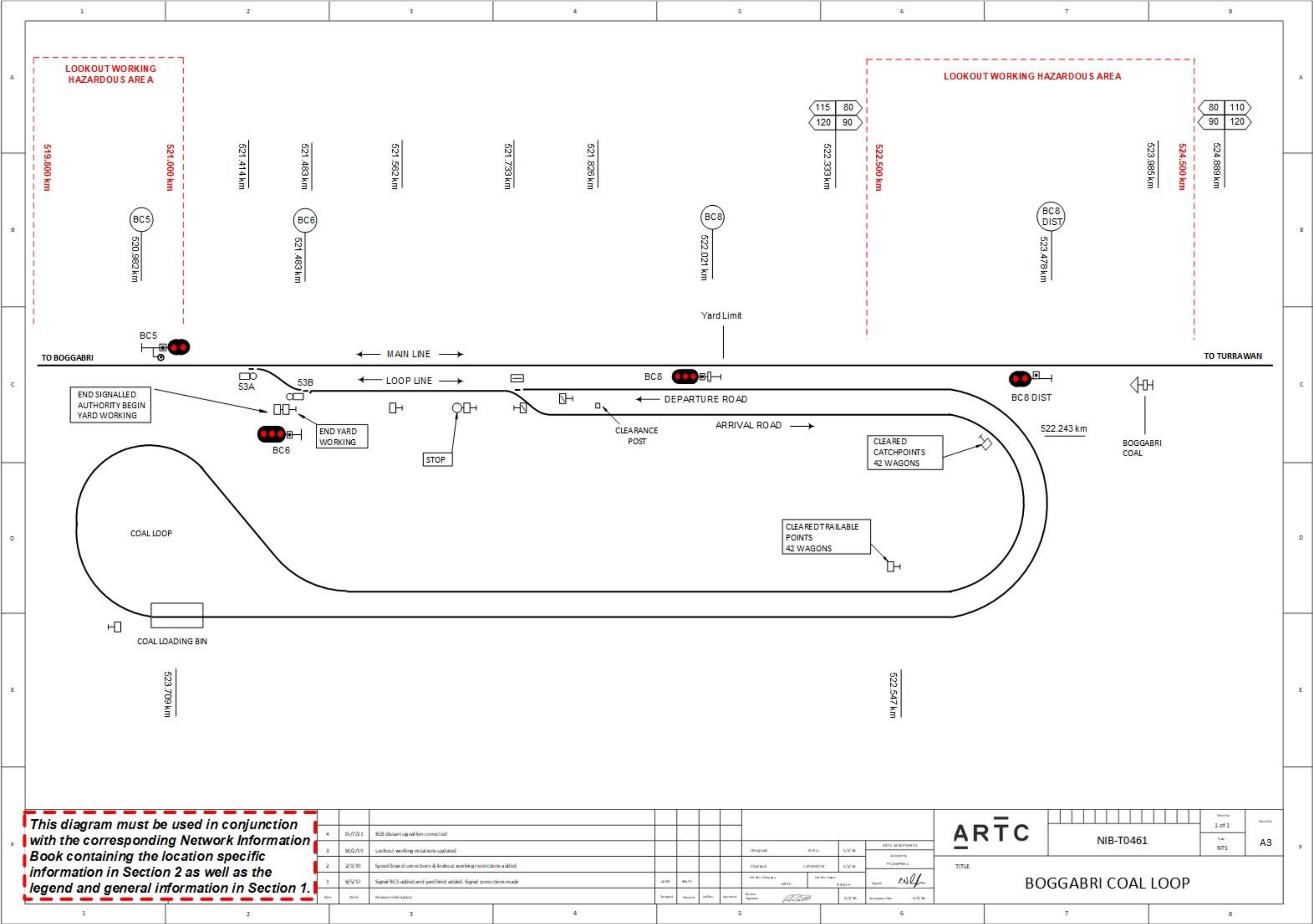
When arriving at the departure signal and train loading is completed the driver will contact the ARTC Network Controller at the Network Control Centre North and request authority to depart. When authorised to proceed, the Network Controller will clear the applicable signal. The train will then proceed onto the main line and continue on the authority of fixed signals.

Note: Boggabri Coal is a private siding, the rail operations within Boggabri Coal Balloon loop is managed by the producer / owner of the load-out terminals. Only one 1340m coal train fits in this loop and requires access to the mainline to complete loading.

Refer safety interface agreement IA2204 for further details.







2.9 Baan Baa (BAA)

General Arrangements

Baan Baa is a silo siding located in the Boggabri to Narrabri Coal section.

Siding length: 402 metres

Safeworking

Note: If a train or track vehicle has locked away in the siding, a Special Proceed Authority (SPA) or TOA is needed to shunt or depart Baan Baa.

Train crew shunting Baan Baa should take both frame keys at the start of shunting, and not return either key until all shunting work is complete. Returning either key will lock up the interlocking and may require the train to depart the section to rectify.

Ground Frames

Frame E

Frame E is located on the Down side of the main line adjacent to the points and provides access to No. 2 siding.

Frame E is unlocked by releasing switch from Network Controller NCCN.

Frame F

Frame F is located on the Down side of the main line adjacent to the points and provides access to No. 2 siding.

Frame F is unlocked by releasing switch from Network Controller NCCN.

Operator's Pushbutton Unit for the Level Crossing

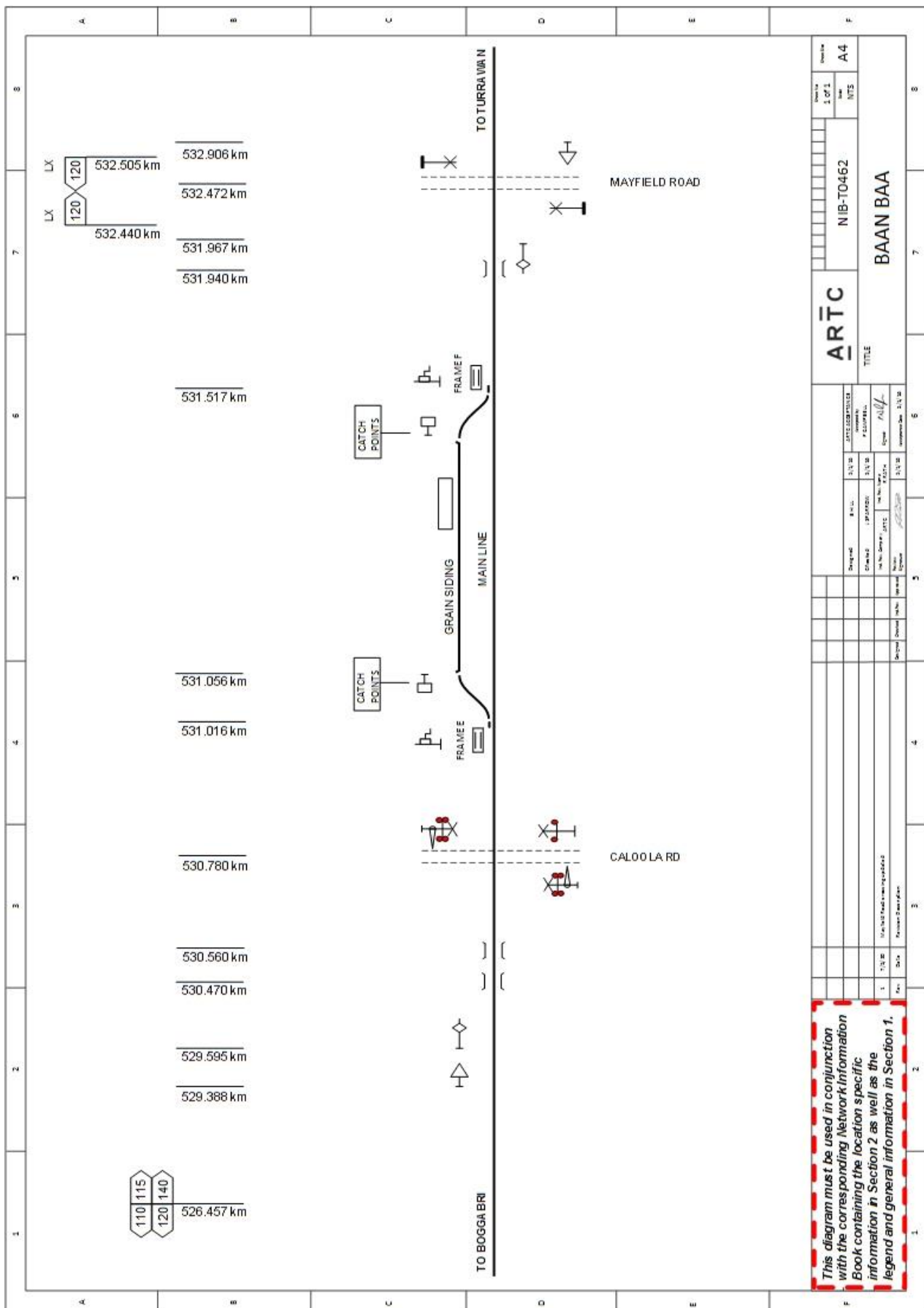
An operator's pushbutton unit is provided in a box inscribed "Shunter's switch" and attached to a post located near Frame E.

When a shunting movement will be required to obstruct the level crossing, before hand-signalling the train over the level crossing, the Qualified Worker controlling the shunt must unlock the operator's pushbutton unit and depress the "Start" pushbutton for one second to cause the warning equipment to operate.

The warning indications must be cancelled manually when the rear of the shunting movement has cleared the level crossing.

If the movement is not proceeded with, the warning indications must be cancelled by pressing the "Cancel" pushbutton in the operator's pushbutton unit for one second.

The operator's pushbutton unit must be kept closed and secured by an SL lock when not in use.



2.10 Narrabri Coal (NCL)

Narrabri Coal is a Rail Vehicle Detection location controlled from Network Control Centre North. It is a private coal balloon loop.

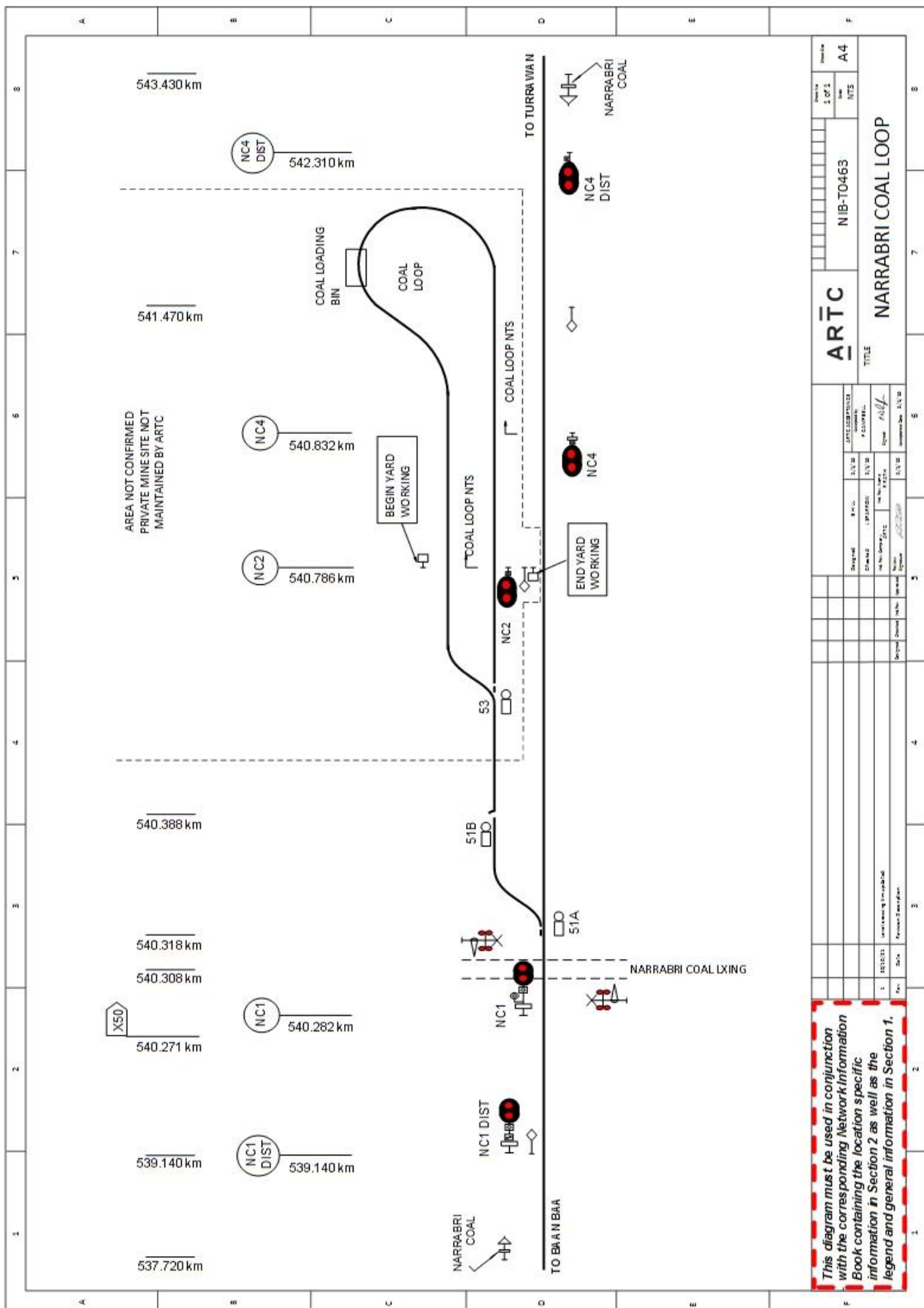
Entry to and exit from the Narrabri Coal Loop is remotely controlled by the Network Controller from the Network Control Centre North.

When arriving at the departure signal and train loading is completed the driver will contact the ARTC Network Controller at the Network Control Centre North and request authority to depart. When authorised to proceed, the Network Controller will clear the applicable signal. The train will then proceed onto the main line and continue on the authority of fixed signals.

Note: Narrabri Coal is a private siding. The rail operations within the Narrabri Coal Balloon loop are managed by the producer/owner of the load-out terminals. A second 1340m coal train fits in this loop once the first has completed loading.

Refer safety interface agreement IA2221 for further details.

Locations and Sections Information



2.11 Turrawan (TWN)

General Arrangements

Turrawan is a Rail Vehicle Detection location controlled from Network Control Centre North. Train control north of Turrawan is by Train Order Working.

Loop length 1080 metres

Operation of Points and Signals

All points worked from the Network Control Centre North are controlled by track circuit/axle counter and cannot be moved unless the track indicator diagram is showing the track(s) controlling the points is unoccupied.

Once the driver has obtained a Train Order (or Proceed Authority) from train Order Control, the driver must notify NCCN North Board Network Controller of the order/authority number, and the Network Controller should then clear the relevant MLI.

Main Line Indicators TN 3M and TN 3L will indicate with a pulsating white light, when the road is cleared for departure into Train Order Territory. On TN 3M and TN 3L there are signs stating:

'DO NOT PROCEED UNLESS IN POSSESSION OF A TRAIN ORDER'

Begin and End Train Order Working signs are located at 548.694km.

