

Network Information Book

West CTC

Bolivar (exc) to Spencer Junction (inc)

OGW-30-09

Applicability

Interstate Network

Publication Requirement

Internal / External

Primary Source

Route Access Standard - Defined Interstate Rail Network Section Pages D5 and D6

Document Status

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2.0	13 Mar 2024	Configuration Management Administrator	Corridor Assets & Operational Representative	Configuration Manager	Head of Operations Standards

Amendment Record

Amendment Version #	Date Reviewed	Clause	Description of Amendment
1.0	17 Jun 2016		Initial issue
1.1	16 Feb 2018	Various	Corrections made to various diagrams including Crystal Brook, Coonamia, Snowtown & Nantawarra. Port Augusta – Whyalla level crossings moved to OGW-30-10. Safety Interface Agreement references added. Drawing legend updated.
1.2	5 Dec 2018	1.14, 2.2, 2.12, 2.14, 2.15	Wayside equipment updates at Port Germein & Nectar Brook. Bolivar goods siding length corrected. Crystal Brook diagram updated, Crystal Brook to Coonamia diagram added and corrections to various diagrams.

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1.3	15 Jul 2020	1.2, 1.5, 1.8, 2.2, & 2.9	Safe Working System and Adjacent Train Control Centres updated. Level crossings table updated. Bolivar goods siding details updated. Snowtown goods siding removed and SMD 80 siding updated. GWA references updated. Spencer Junction diagram updated with ATMS control points for Whyalla line. Dry Creek North – Bolivar, Two Wells, Long Plains, Mallala, Redhill, Coonamia, Port Germein, Mambray Creek, Stirling North, Port Augusta & Spencer Junction diagrams updated.
1.4	2 Sep 2021	1.1, 1.5, 1.8, 1.14, 1.17, 2.2, 2.7, 2.9, 2.11, 2.14, 2.18 & 2.19	Board Extent, Adjacent Train Control information and level crossings table updated. Port Germein wayside equipment & diagram updated. Standing room lengths updated at Bolivar, Bowmans, Snowtown, Rocky River, Coonamia, Winninowie, Port Augusta & Spencer Junction. Drawing legend updated. Usage note added to all diagrams.
1.5	20 May 2022	Various	Board Extent, Level Crossings table, Coonamia location & diagrams updated.
1.6	23 Jan 2023	1.8, 2.1, 2.4, 2.8, 2.9, 2.12	Level Crossings table, Dry Creek North – Bolivar, Mallala, Nantawarra, Snowtown & Crystal Brook diagrams updated. One Rail Australia references updated to Aurizon.
2.0	13 Mar 2024	1.1, 1.8, 2.1, 2.2, 2.5, 2.8	Board Extent & Level Crossings table updated. Dry Creek North Junction and Bolivar locations moved to Adelaide Metro NIB, Mallala and Nantawarra locations updated. Mallala, Long Plains & Nantawarra diagrams updated.

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1 General Information

1.1 Board Extent

From Signal 24 Bolivar (32.601km) to Signal 6 and Signal 6E Crystal Brook (23.560km) to Signal 36 (3.226km) and Signal 33 (2.460km) Coonamia, to Signal 13E (84.919km) and 14E (85.529km) Stirling North, to Signal 54 (96.020km) and Signal 51 and Signal 52 (95.837km) at Spencer Junction.

This area is controlled by West CTC Network Controller, Network Control Centre West (NCCW).

Contact Numbers:

Phone: (08) 8152 8007

Emergency: (08) 8152 8067

Train Transit Manager: (08) 8152 8020

TTM Emergency: (08) 8152 8080

1.2 Safe Working System

CTC working from Dry Creek North Junction to and including Spencer Junction.

Most Goods sidings from Dry Creek Junction to Coonamia are accessed by an outlying point lock whereas the Mallala AWB loop, Port Germein Goods Loop and the Port Augusta triangle are accessed by an electric point lock (HLM) with the network controller providing the release.

1.3 Applicable Rules

The Code of Practice and ARTC Addendum apply to the sections covered by this Information Book.

1.4 Index to CoP and ARTC Addendum

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X		
Y		
Z		

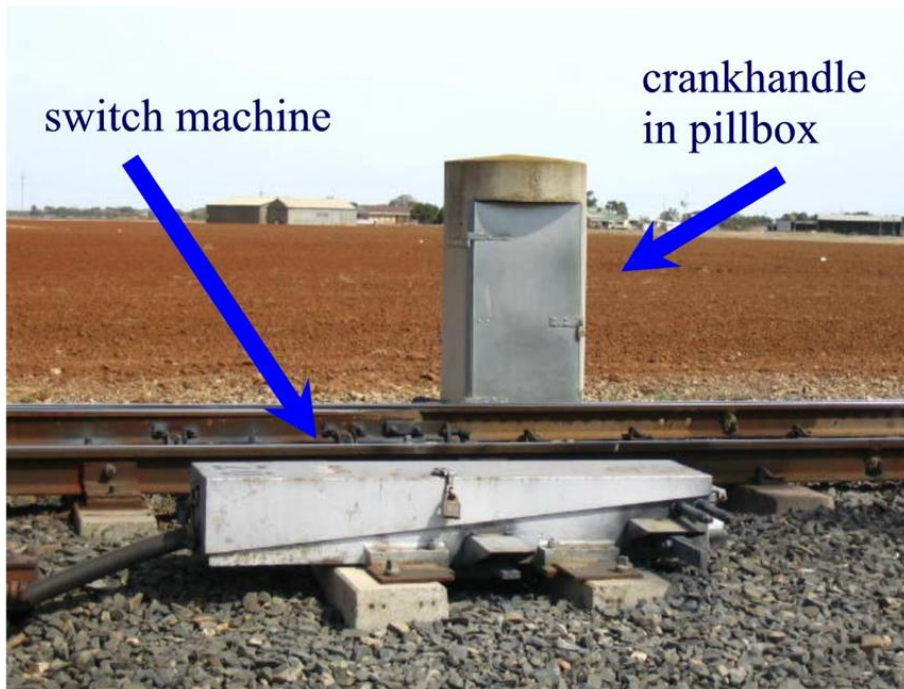
1.5 Adjacent Train Control Boards / Centres

ARTC Adelaide Metro	(08) 8152 8011	Emergency	(08) 8152 8071
ARTC North CTC	(08) 8152 8006	Emergency	(08) 8152 8066
Keolis Downer - DIT			
Gawler	(08) 7201 5010		
Area Control	(08) 7201 5018		
Shift Manager	(08) 7201 5016		
Aurizon			(08) 8343 7732
			(08) 8343 7730
			(08) 8262 5424
Pichi Richi			1800 777 245
Quorn			0428 486 186
			Fax (08) 8648 6181
Port Augusta			0428 486 025
			Fax (08) 8642 2733

1.6 Section Operating Equipment

Motorised Point Machines

Motorised points that require a crank handle have a special key attached to the crank handle to access the point machine cover.



M70 points machine as used in West CTC.



McKenzie & Holland Dual Control Points Machine



S Lock

Motor/Hand Lever

Normal/Reverse Lever
(for use in hand mode)

Hand

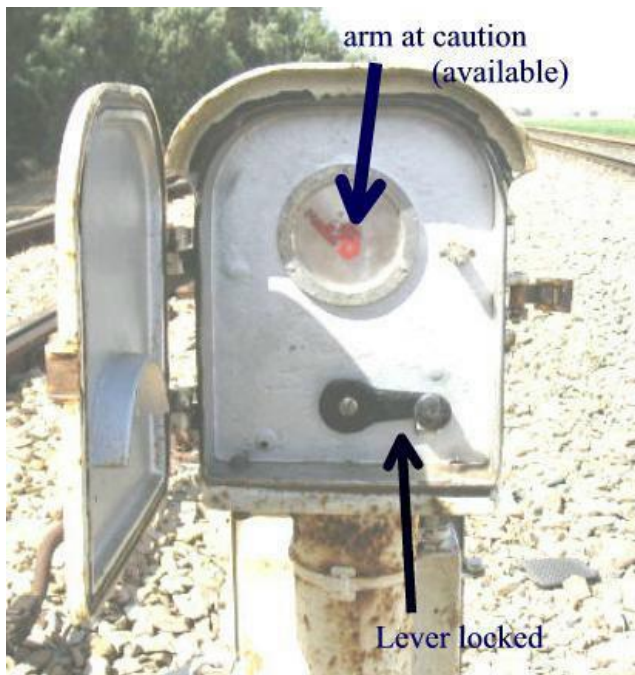
Motor

Reverse

Normal

Outlying Switch Locks & HLM Point Locks**Electric Points Lock**

At Port Augusta Triangle, Port Germein and Mallala AWB Loop.



Typical OSL as used on Western line with indicator at caution and lever locked.

- No through route set and OSL available for release.



OSL with indicator arm at stop and lever locked.

- No through route set and OSL available for release.



Indicator arm at caution, lever unlocked.

- OSL released and points may now be turned.

Typical Emergency Local Releases and Crank Handles

Typical crank handle and OSL emergency release arrangement.

Note key and chain attached to crank handle. The key unlocks the padlock on the crank handle access point of the point machine.

How to Take Local Control at Stations Equipped with Local Panels



Two Wells local control panel in relay room.

How to Take Local Control

1. Request permission from Network Control to take panel into local control.
2. Press green button marked 'Indicating Lights' to illuminate panel.
3. Check and ensure positions of buttons matches point and signal indications (to ensure that when local control is taken, the points and signals don't inadvertently alter in accordance with the panel display).
4. Press yellow 'Local Control' button.
5. To select (clear) a signal, push in signal button. To cancel it pull out button until the light inside the button is extinguished.
6. Press either green (normal) or yellow (reverse) button for remotely controlled points. Before doing so ensure that the points lock indicator lights (by the points buttons) are not illuminated so as not to increase any run down time.

1.7 Train Braking Requirements

Train braking and holding test are covered in the CoP and can be found by using the CoP and addendum index, however these are included here for quick reference.

BRAKE HOLDING TESTS FOR THE REARMOST VEHICLES (RETENTION TESTS)

The following apply:

1. The operator **shall** put into place systems for conducting brake holding tests.
2. The number of vehicles (or for articulated or permanently coupled vehicles the number of triple valve control units) required to conform to the requirements of this sub-section shall be:
 - a. Three (3) for freight trains operated in New South Wales;
 - b. Two (2) for freight trains not entering New South Wales; and
 - c. One (1) for all passenger trains where a guard is provided or three (3) for passenger trains without guards.
3. The vehicle operator shall ensure that air and hand brakes operate correctly.
4. The air brakes on the vehicles **shall** remain effectively applied for a period of time, based on train length, considered sufficient for a member of the train (locomotive) crew to reach the vehicles and secure handbrakes in the event of a breakaway enroute.
5. This time **shall** be ten (10) minutes plus three (3) minutes for each 100 metres or part thereof of train length. For example, a train 1240 metres long will require a holding (retention) time of $13 \times 3 + 10 = 49$ minutes.
6. If any of the required number of vehicles (as specified in item (2) above) fail the above test (as specified in item (5) above), generally known as a holding or retention test, the faulty vehicle(s) **shall** be repaired or the train remmarshalled to ensure compliance with the requirements of items (3) and (4) above.
7. Brake holding tests successfully completed will remain valid for the departure within a period of 24 hours from completion of the test. After that period, the vehicles **shall** be re-tested.

FREIGHT TRAINS

On freight trains, the maximum number of inoperative or isolated brakes permitted on a train **shall** be either of the following:

1. One conventional two-bogie vehicle for every ten (10) vehicles in the train where the vehicle is isolated as a unit.
2. One bogie for every ten (10) bogies in the train where individual bogies can be isolated or the isolation of triple valve control units affects more than two (2) bogies. This applies, only on the proviso that the total un-braked mass of the train **shall not** exceed 10% of the total train mass (excluding the mass of the hauling locomotives).

Item (1) above applies where the only vehicles isolated are conventional two-bogie vehicles. In all other cases, the requirements of item (2) **shall** be followed.

For the purposes of this clause, a four-wheel (two-axle) vehicle **shall** be counted as one bogie, and locomotives under power **shall not** be counted as train vehicles.

1.8 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).

Dry Creek to Crystal Brook

ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
722	Penfield Rd Virginia	Adelaide - Crystal Brook	34.552	Road	Public	Half Boom Flashing Lights
723	Gawler Road Virginia	Adelaide - Crystal Brook	35.195	Road	Public	Half Boom Flashing Lights
72	Angle Vale Road Virginia	Adelaide - Crystal Brook	36.815	Road	Public	Half Boom Flashing Lights
724	Gawler River Road Two Wells	Adelaide - Crystal Brook	40.013	Road	Public	Half Boom Flashing Lights
83	Dawkins Road Two Wells	Adelaide - Crystal Brook	41.730	Road	Public	Half Boom Flashing Lights
20	Hayman Road Two Wells	Adelaide - Crystal Brook	43.350	Road	Public	Half Boom Flashing Lights
725	Elizabeth Street Two Wells	Adelaide - Crystal Brook	43.730	Road	Public	Half Boom Flashing Lights
726	Gawler Road Two Wells	Adelaide - Crystal Brook	44.510	Road	Public	Half Boom Flashing Lights
728	Temby Road Two Wells	Adelaide - Crystal Brook	46.924	Road	Public	Stop Signs
729	Entr. To Murrow Farm	Adelaide - Crystal Brook	47.577	Road	Private	Stop Signs
730	Simpkin Road Korunye	Adelaide - Crystal Brook	49.313	Road	Public	Stop Signs
731	Private Road Korunye	Adelaide - Crystal Brook	49.980	Road	Private	
732	Pratt Road Korunye	Adelaide - Crystal Brook	52.272	Road	Public	Stop Signs
71	Mallala - Two Wells Rd Korunye	Adelaide - Crystal Brook	53.604	Road	Public	Half Boom Flashing Lights
733	Private Crossing	Adelaide - Crystal Brook	54.247	Road	Private	
734	Private Crossing	Adelaide - Crystal Brook	54.613	Road	Private	
82	Gallipoli Road	Adelaide - Crystal Brook	55.428	Road	Public	Stop Signs

ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
735	Private Crossing	Adelaide - Crystal Brook	56.640	Road	Private	
736	Entr. To Lincoln House	Adelaide - Crystal Brook	59.251	Road	Private	
737	Old Dublin Road Mallala	Adelaide - Crystal Brook	59.759	Road	Public	Stop Signs
19	Cameron Terrace Mallala	Adelaide - Crystal Brook	61.309	Road	Public	Primary Flashing Lights
738	Dublin - Mallala Road	Adelaide - Crystal Brook	61.958	Road	Public	Half Boom Flashing Lights
739	Hill Road Mallala	Adelaide - Crystal Brook	63.667	Road	Public	Primary Flashing Lights
740	Franks Road Mallala	Adelaide - Crystal Brook	65.550	Road	Public	Stop Signs
741	Private Crossing	Adelaide - Crystal Brook	66.486	Road	Private	Stop Signs
742	Hall Road Mallala	Adelaide - Crystal Brook	67.420	Road	Public	Stop Signs
743	Johnsons Road Mallala	Adelaide - Crystal Brook	68.574	Road	Public	Primary Flashing Lights
18	Powerline Road Mallala	Adelaide - Crystal Brook	69.587	Road	Public	Primary Flashing Lights
744	Broster Road Calomba	Adelaide - Crystal Brook	71.816	Road	Public	Stop Signs
745	Private Crossing	Adelaide - Crystal Brook	73.941	Road	Private	
746	Nairn Road Long Plains	Adelaide - Crystal Brook	74.842	Road	Public	Stop Signs
747	Parker Road Long Plains	Adelaide - Crystal Brook	75.735	Road	Public	Stop Signs
43	Lawrie Road Long Plains	Adelaide - Crystal Brook	76.826	Road	Public	Primary Flashing Lights
748	Cattle Yards Long Plains	Adelaide - Crystal Brook	78.820	Road	Private	
749	Farm Buildings Long Plains	Adelaide - Crystal Brook	80.128	Road	Private	
750	Port Lorne Road	Adelaide - Crystal Brook	82.708	Road	Public	Primary Flashing Lights
751	Pinery - Avon Road Avon	Adelaide - Crystal Brook	86.072	Road	Public	Primary Flashing Lights
752	Erith - Avon Road Avon	Adelaide - Crystal Brook	86.760	Road	Public	Primary Flashing Lights

ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
753	Kallora - Avon Road Avon	Adelaide - Crystal Brook	87.435	Road	Public	Stop Signs
754	Occupational Crossing	Adelaide - Crystal Brook	88.569	Road	Private	
755	Dead Mans Hill Road Kallora	Adelaide - Crystal Brook	92.315	Road	Public	Stop Signs
756	Kallora Road Kallora	Adelaide - Crystal Brook	93.366	Road	Public	Stop Signs
757	Erith Road Kallora	Adelaide - Crystal Brook	97.543	Road	Public	Stop Signs
758	Rundle Road Kallora	Adelaide - Crystal Brook	98.584	Road	Public	Stop Signs
759	Balaklava Road Bowmans	Adelaide - Crystal Brook	102.898	Road	Public	Primary Flashing Lights
760	Bowmans Road Bowmans	Adelaide - Crystal Brook	103.408	Road	Public	Stop Signs
761	Borlace Road Bowmans	Adelaide - Crystal Brook	105.841	Road	Public	Stop Signs
762	Private Crossing	Adelaide - Crystal Brook	108.150	Road	Private	Give Way Signs
763	Wheat Road Beaufort	Adelaide - Crystal Brook	109.673	Road	Public	Stop Signs
764	Beaufort Road Beaufort	Adelaide - Crystal Brook	111.352	Road	Public	Stop Signs
765	Branch Hill Road Goyder	Adelaide - Crystal Brook	112.973	Road	Public	Stop Signs
766	McLachan Road Goyder	Adelaide - Crystal Brook	113.744	Road	Public	Stop Signs
767	Occupational Crossing	Adelaide - Crystal Brook	115.244	Road	Private	
768	Pipeline Road Goyder	Adelaide - Crystal Brook	116.010	Road	Public	Stop Signs
769	Private Crossing	Adelaide - Crystal Brook	117.541	Road	Private	Stop Signs
770	Penna Road Nantawarra	Adelaide - Crystal Brook	117.963	Road	Public	Stop Signs
771	Bumbunga Road Nantawarra	Adelaide - Crystal Brook	119.621	Road	Public	Stop Signs
772	Nantawarra Road Nantawarra	Adelaide - Crystal Brook	120.180	Road	Public	Primary Flashing Lights
773	Middle Range Road Nantawarra	Adelaide - Crystal Brook	122.166	Road	Public	Stop Signs

ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
774	Nantawarra Road	Adelaide - Crystal Brook	123.500	Road	Public	Stop Signs
775	Kangaroo Hill Road	Adelaide - Crystal Brook	124.491	Road	Public	Stop Signs
776	Bismark Valley Road Bumbunga	Adelaide - Crystal Brook	128.352	Road	Public	Stop Signs
778	Blyth Road Bumbunga	Adelaide - Crystal Brook	131.250	Road	Public	Half Boom Flashing Lights
781	Private Crossing Bumbunga	Adelaide - Crystal Brook	133.400	Road	Private	Stop Signs
2368	Private Crossing Bumbunga	Adelaide - Crystal Brook	135.300	Road	Private	Stop Signs
784	Salt Lake Road Bumbunga	Adelaide - Crystal Brook	137.396	Road	Public	Stop Signs
785	Atkinson Road	Adelaide - Crystal Brook	138.570	Road	Public	Stop Signs
786	Elix Road	Adelaide - Crystal Brook	140.214	Road	Public	Stop Signs
787	Wirreanda Road Snowtown	Adelaide - Crystal Brook	143.413	Road	Public	Stop Signs
788	Adelaide / Lumeah Road Snowtown	Adelaide - Crystal Brook	145.486	Road	Public	Half Boom Flashing Lights
1883	Big Blade Pedestrian Crossing	Adelaide - Crystal Brook	146.330	Pedestrian	Public	Maze
789	North Terrace Snowtown	Adelaide - Crystal Brook	146.577	Road	Public	Primary Flashing Lights
790	Rayville Road Snowtown	Adelaide - Crystal Brook	146.950	Road	Public	Stop Signs
791	Windview Road Snowtown	Adelaide - Crystal Brook	149.720	Road	Public	Stop Signs
792	Slattery's Road	Adelaide - Crystal Brook	154.051	Road	Private	
793	Burnsfield Road Burnsfield	Adelaide - Crystal Brook	155.725	Road	Public	Stop Signs
794	Private Crossing	Adelaide - Crystal Brook	156.358	Road	Private	
795	Mallee Corner Road	Adelaide - Crystal Brook	160.433	Road	Public	Stop Signs
796	Lake View Road Lakeview	Adelaide - Crystal Brook	162.289	Road	Public	Stop Signs
797	Unknown Road Name	Adelaide - Crystal Brook	163.871	Road	Public	Stop Signs

ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
799	Collinsfield Road Collinsfield	Adelaide - Crystal Brook	166.110	Road	Public	Stop Signs
800	Wheaton Drive	Adelaide - Crystal Brook	167.954	Road	Public	Stop Signs
801	Adey Road	Adelaide - Crystal Brook	169.945	Road	Public	Stop Signs
802	Ellis Street Redhill	Adelaide - Crystal Brook	173.759	Road	Public	Primary Flashing Lights
805	Bairstowes Xing Redhill	Adelaide - Crystal Brook	177.020	Road	Public	Stop Signs
804	Occupational Crossing	Adelaide - Crystal Brook	177.720	Road	Private	
807	Private Crossing	Adelaide - Crystal Brook	181.943	Road	Private	
808	Private Crossing	Adelaide - Crystal Brook	184.174	Road	Private	
810	Private Crossing	Adelaide - Crystal Brook	185.720	Road	Private	
69	Narridy - Merriton Road Merriton	Adelaide - Crystal Brook	186.400	Road	Public	Primary Flashing Lights
811	Private Crossing	Adelaide - Crystal Brook	187.497	Road	Private	
812	Azile Road Merriton	Adelaide - Crystal Brook	188.889	Road	Public	Stop Signs
813	Heaslip Road Merriton	Adelaide - Crystal Brook	189.900	Road	Public	Stop Signs
814	Private Crossing	Adelaide - Crystal Brook	190.958	Road	Private	
815	Private Crossing	Adelaide - Crystal Brook	192.017	Road	Private	
816	Montrose Lane	Adelaide - Crystal Brook	193.128	Road	Public	Stop Signs
818	Private Crossing	Adelaide - Crystal Brook	194.194	Road	Private	
819	Private Crossing	Adelaide - Crystal Brook	194.609	Road	Private	
820	Binney Road Crystal Brook	Adelaide - Crystal Brook	196.012	Road	Public	Stop Signs
821	Clare Road Crystal Brook	Adelaide - Crystal Brook	196.909	Road	Public	Primary Flashing Lights

Coonamia to Crystal Brook

Number	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
823	Pirie Blocks Road Port Pirie	Coonamia - Crystal Brook	0.200	Road	Public	Half Boom Flashing Lights
824	Drovers Road Port Pirie	Coonamia - Crystal Brook	4.722	Road	Public	Stop Signs
825	Abbatoirs Road Warnertown	Coonamia - Crystal Brook	6.729	Road	Public	Half Boom Flashing Lights
827	Port Davis Road Warnertown	Coonamia - Crystal Brook	10.391	Road	Public	Stop Signs
828	Milcowie Road Warnertown	Coonamia - Crystal Brook	13.714	Road	Public	Stop Signs
829	Roscommon Road Crystal Brook	Coonamia - Crystal Brook	18.423	Road	Public	Stop Signs
830	Private Crossing Crystal Brook	Coonamia - Crystal Brook	19.545	Road	Private	
2345	Take Off Crystal Brook	Coonamia - Crystal Brook	21.521	Road	Service Road	
831	Cunningham Street Crystal Brook	Coonamia - Crystal Brook	22.860	Road	Public	Primary Flashing Lights
832	Weston Rd Crystal Brook	Coonamia - Crystal Brook	23.582	Road	Public	Primary Flashing Lights

Coonamia to Spencer Junction

Number	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
538	Wauchopes Road Coonamia	Coonamia - Port Augusta	2.180	Road	Public	Half Boom Flashing Lights
578	Warnertown Road No. 1 Coonamia	Coonamia - Port Augusta	2.776	Road	Public	Primary Flashing Lights
579	Warnertown Road No. 2 Coonamia	Coonamia - Port Augusta	2.800	Road	Public	Primary Flashing Lights
580	Port Germein Road / Spencer Highway Coonamia	Coonamia - Port Augusta	4.452	Road	Public	Primary Flashing Lights
581	Private Crossing	Coonamia - Port Augusta	7.950	Road	Private	
582	Causeway Road	Coonamia - Port Augusta	13.310	Road	Public	Stop Signs
583	Telowie Beach Road	Coonamia - Port Augusta	17.000	Road	Public	Stop Signs
585	Port Germein	Coonamia - Port Augusta	23.918	Road	Public	Primary Flashing

Number	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
	Southern Access	Augusta				Lights
587	Gribble Road Port Germein	Coonamia - Port Augusta	30.250	Road	Public	Stop Signs
588	Private Crossing Baroota	Coonamia - Port Augusta	31.250	Road	Private	
589	Private Crossing Baroota	Coonamia - Port Augusta	32.420	Road	Private	
590	Baroota Siding Road	Coonamia - Port Augusta	34.800	Road	Public	Stop Signs
591	Private Crossing Baroota	Coonamia - Port Augusta	35.610	Road	Private	
592	Private Crossing Baroota	Coonamia - Port Augusta	36.900	Road	Private	
593	Private Crossing Baroota	Coonamia - Port Augusta	38.050	Road	Public	
594	Hillam Road Baroota	Coonamia - Port Augusta	38.680	Road	Public	Stop Signs
595	Private Crossing Baroota	Coonamia - Port Augusta	39.300	Road	Private	
596	Private Crossing Baroota	Coonamia - Port Augusta	40.220	Road	Private	
597	Private Crossing Baroota	Coonamia - Port Augusta	41.200	Road	Private	
598	National Park Road Baroota	Coonamia - Port Augusta	42.900	Road	Public	Stop Signs
599	Private Crossing Mambray Creek	Coonamia - Port Augusta	44.050	Road	Private	
600	Mambray Creek Station Road	Coonamia - Port Augusta	44.930	Road	Public	Stop Signs
602	Private Crossing Mambray Creek	Coonamia - Port Augusta	45.720	Road	Private	
604	Private Crossing Mambray Creek	Coonamia - Port Augusta	46.090	Road	Private	
605	Private Crossing Mambray Creek	Coonamia - Port Augusta	47.360	Road	Private	
606	Leue Road	Coonamia - Port Augusta	48.360	Road	Public	Stop Signs
607	Private Crossing	Coonamia - Port Augusta	50.200	Road	Private	
608	Private Crossing	Coonamia - Port Augusta	52.060	Road	Private	

Number	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
609	Private Crossing	Coonamia - Port Augusta	57.200	Road	Private	
610	Nectar Brook Road	Coonamia - Port Augusta	60.950	Road	Public	Stop Signs
611	Private Crossing	Coonamia - Port Augusta	65.050	Road	Private	
612	Church Road	Coonamia - Port Augusta	66.770	Road	Private	
613	Horrocks Pass Road Winninowie	Coonamia - Port Augusta	68.925	Road	Public	Primary Flashing Lights
614	Private Crossing Winninowie	Coonamia - Port Augusta	70.680	Road	Private	
615	Private Crossing Winninowie	Coonamia - Port Augusta	73.340	Road	Private	
616	Private Crossing	Coonamia - Port Augusta	78.020	Road	Private	
617	Old Wilmington Road Stirling North	Coonamia - Port Augusta	81.915	Road	Public	Primary Flashing Lights
77	Quorn Road	Coonamia - Port Augusta	83.082	Road	Public	Primary Flashing Lights
618	North Terrace Stirling North	Coonamia - Port Augusta	84.732	Road	Public	Primary Flashing Lights (duplicated)
619	Harris Street Stirling North	Coonamia - Port Augusta	85.529	Road	Public	Half Boom Flashing Lights
620	Footner Road Port Augusta	Coonamia - Port Augusta	87.150	Road	Public	Half Boom Flashing Lights
2299	Victoria Parade Bridge PED Xing	Coonamia - Port Augusta	90.110	Pedestrian	Public	Maze
621	Stirling Road Port Augusta	Coonamia - Port Augusta	90.266	Road	Public	Half Boom Flashing Lights - (duplicated)
622	Hospital Road Port Augusta	Coonamia - Port Augusta	90.767	Road	Public	Half Boom Flashing Lights
623	Carlton Parade Port Augusta	Coonamia - Port Augusta	91.580	Road	Public	Half Boom Flashing Lights
76	Tassie Street Port Augusta	Coonamia - Port Augusta	92.839	Road	Public	Primary Flashing Lights
625	Private Crossing Spencer Junction	Coonamia - Port Augusta	93.484	Road	Private	
627	Private Crossing Spencer Junction	Coonamia - Port Augusta	95.300	Road	Private	Stop Signs

1.9 Emergency Local Releases

All yards with Goods Loops have a yard release which can be accessed by train crews if the outlying switch locks will not release.

1.10 Maximum Permitted Speeds and Permanent Speed Restrictions

Refer the Route Access Standard - Defined Interstate Rail Network Section Pages D15 for all speed information.

1.11 Maximum Train Length

Maximum train length is 1800 metres.

1.12 Structure Clearances

Refer Route Access Standards for Rolling Stock Outlines.

KM	LOCATION	TYPE
31.300	Northern Expressway Overpass	Reinforced earth
19.290	Crystal Brook Overpass	Reinforced earth
26.900	Port Germein Overpass	Reinforced earth
90.080	Cudmore Hill Overpass Port Augusta	Concrete column
92.149	Flinders Terrace Bridge Port Augusta	Steel column
92.360	Jervois St Bridge Port Augusta	Steel column
92.410	Highway One Bridge Port Augusta	Concrete column

1.13 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 Mile End network control centre 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

Frequency: 418.425 MHz (UHF),

Bandwidth: 12.5 KHz,

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

Tx CTCSS: 162.2 Hz

Rx CTCSS: 162.2 Hz

Selcall: disabled

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

1.14 Wayside Monitoring Devices

The following wayside monitoring systems are in place in this section:

- Port Germein - There is a Rail Bearing Acoustic Monitor (RailBAM), Wheel Condition Monitoring System (WCM), a WheelScan/Wheel Profile Monitor and a Truck Bogie Optical Geometry Inspection System (TBOGI) at 31.750km.

1.15 Ruling Gradients

Dry Creek to Spencer Junction	1 in 100
Spencer Junction to Dry Creek	1 in 100

1.16 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

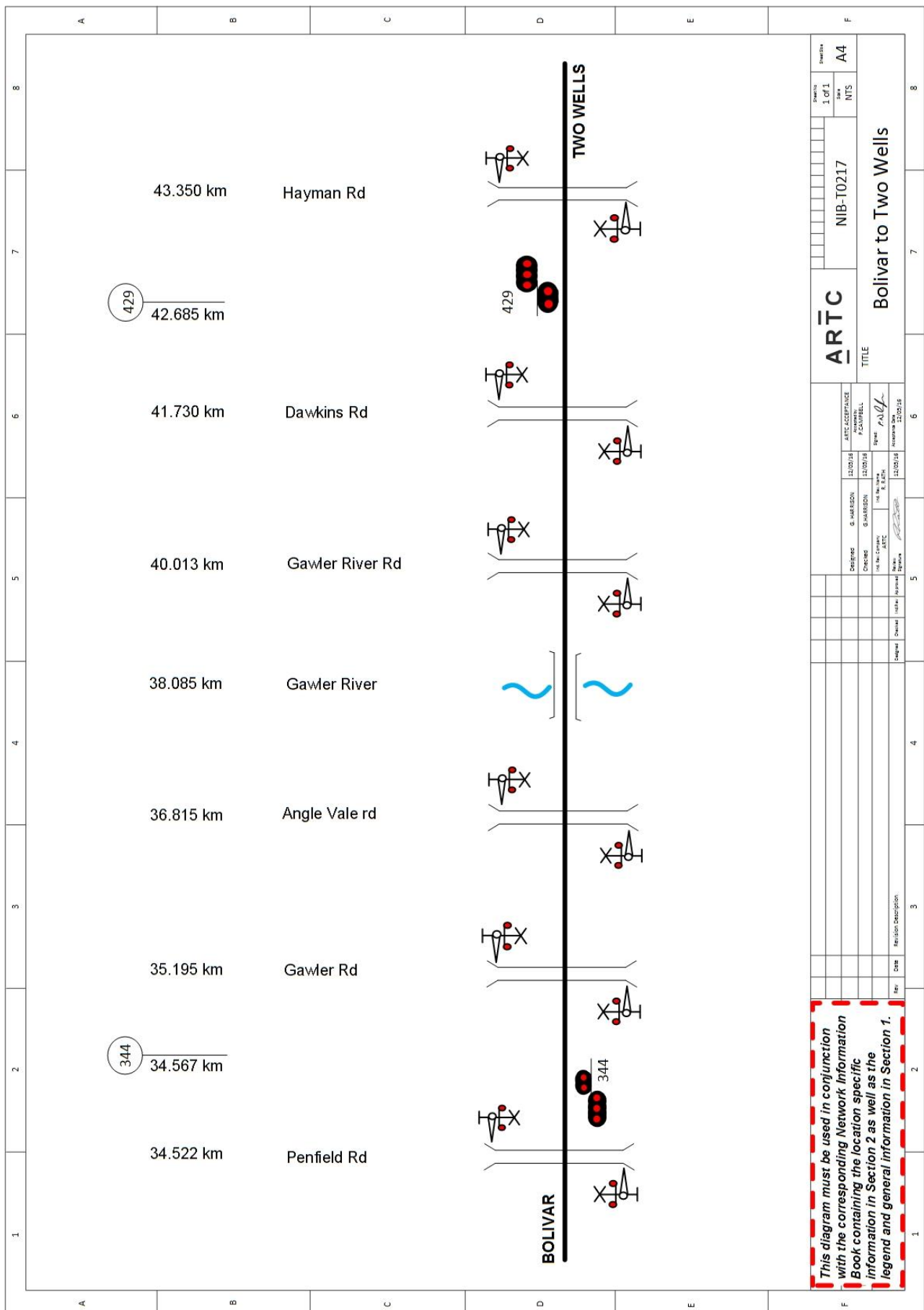
1.17 Drawing Legend

	Standard gauge track		Dual gauge track
	Broad gauge track		Crossover
	Advisory Sign or Location Sign		Tunnel
	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		Dual Control Motorised Points
	Point Indicator		Mechanical Frame
	Absolute Signals (Absolute signals in Victoria containing a 'P' on the name plate are co-acting signals)		
	Permissive Signals		Signal number reference
	Dwarf Signals		Banner Indicator
	Overheight Detectors		Wayside Equipment

2 Locations and Sections Information

2.1 Bolivar (BOL)

Refer Network Information Book OGW-30-08 Adelaide Metro – Mile End (inclusive) to Bolivar (inclusive) and Dry Creek to Outer Harbour for information pertaining to Bolivar.



2.2 Two Wells (TWO)

Standing Room:

- 1817m

Goods Siding:

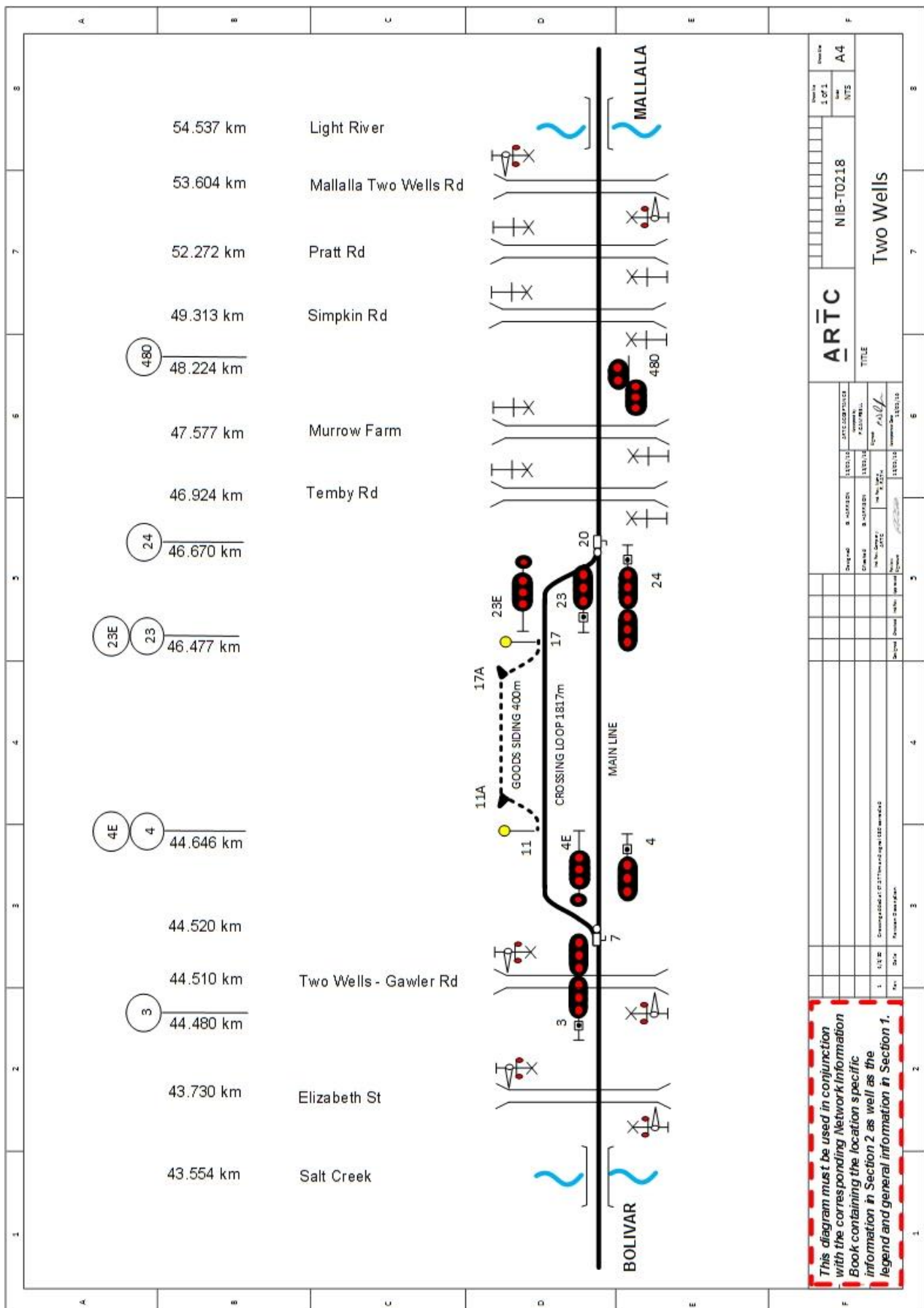
- Yes. 400 metres.

Crank Handles:

- Yes – In the former phone pill boxes at each end of the yard and in the relay room at south end of yard.

Local Control Panel:

- In relay room with OSL release.



2.3 Mallala (MGS)

2.3.1 Mallala AWB Balloon Loop

No crossing loop but trains can be locked away in the AWB balloon loop.

The following operating protocols will apply at the new AWB Mallala Grain Loop.

Note: The operating protocols relating to the operation of the Mallala Grain Siding currently remain unchanged.

Standing Room:

- Balloon Loop clearance point to stop board 1080 metres
- Block 1 to derail 886 metres
- Block 1 to balloon loop clearance point 377 metres
- Balloon loop (total in clear) 1539 metres

2.3.1.1 Overview

The Mallala Grain Loop is connected to the ARTC main line at the 60.161km in the single line section between Two Wells and Long Plains.

The points are facing for movements proceeding toward Long Plains, a 'location ahead' sign is located 2500 metres in advance of the facing points for west bound movements and is worded "Mallala Grain Loop".

Movements proceeding from Long Plains to Two Wells will not be permitted to shunt at the Mallala Grain Loop.

Operators requiring access to the Mallala Grain Loop shall obtain authority from AWB prior to requesting a path from the ARTC.

The points leading to the Mallala Grain Loop are provided with a hand operated point machine equipped with point indicators (Green Arrow/Red Dumbbell) as described in the ARTC Addendum to the Code of Practice for the Defined Interstate Network.

The points are secured by an electric point lock and are rodded to a derail at the clearance point of the grain loop. The points may only be operated provided the correct conditions exist as detailed in this procedure and that the train controller has initiated a 'Release' command on the CTC control system.

A cabinet (control box), the door of which is secured with an 'S' lock, is located adjacent to the points and contains push buttons as follows:

RELEASE BUTTON: Releases the points provided the correct conditions exist.

CANCEL BUTTON: Cancels the release and locks the points

In addition the following indicating lights are provided:

POINTS RELEASED (GREEN LIGHT):

(Flashing) Indicates that Release has been initiated (Push Button operated) and that the system is waiting for confirmation (from the local interlocking)

(Steady) Indicates that the points have been released and are available to be operated.

RELEASE AVAILABLE (YELLOW LIGHT):

(Flashing) Indicates that the ARTC train controller has provided a release and the 2-minute timer (for train movements waiting to enter the grain loop) has not expired.

(Steady) Indicates that the ARTC train controller has provided a release and the 2-minute timer has expired (for train movements waiting to enter the grain loop) and the release can be accepted.

POINTS LOCKED (RED LIGHT):

Indicates that the points are locked and are not available for operation. (Extinguished when points released).

The train controllers CTC Control System is provided with indications detailing the status of the points at the Mallala Grain Loop, and the status of the point release.

The control system is provided with two controls:

RELEASE:

Sends the release command to the field for the points to be released by the qualified safeworker.

CANCEL:

Cancels the release command after the points have been restored and the 'Cancel' button has been pressed on the field equipment.

In addition, the CTC system displays:

The position of the points and if they are locked or not locked.

An indicator displaying the status of the 2-minute timer.

An indicator displaying if the release has been accepted by the qualified safeworker.

2.3.1.2 Movement Entering Mallala Grain Loop

Prior to allowing the movement to depart Dry Creek, the train controller shall establish from the Train Crew that the movement can be accepted into the Mallala Grain Loop without delay.

The train controller can only provide a release on the points at Mallala Grain Loop for a movement to enter provided:

1. There is no movement proceeding from Long Plains to Two Wells.
2. Any preceding movement proceeding from Two Wells to Long Plains has cleared absolute signal 619.
3. The movement requiring entry to the grain loop has come to a stand on the track circuit immediately prior to the facing points and the approach track circuit has been occupied for at least 2 minutes.

To obtain a release on the points the driver shall bring the movement to a stand prior to the facing points and request the train controller to operate the release.

The train controller, provided all the correct conditions exist, shall operate the release and advise the driver, the driver shall then advise the qualified worker (if provided) that the release has been provided and the points may be operated.

The train controller can provide the release prior to the 2 minute timer expiring however the qualified safeworker cannot accept the release until the release available light has stopped flashing and is steady.

The qualified worker shall:

4. Open the Control Box and observe that the 'Points Locked' and 'Release Available' lights are displayed and are steady on the control box.
 - If the 'Release Available' light is flashing this means that the timer is still operating and the qualified worker shall wait until the light goes steady.
5. Press the 'Release' button and hold the button until the 'Points Released' light displays a flashing or steady green light.
6. When the 'Points Locked' light has gone out and the 'Points Released' indicating light is steady, unlock and operate the points for the movement to enter the grain loop.

Immediately the movement has entered the grain loop and is clear of the derail the qualified worker shall:

7. Restore the points for the main line.
8. Press the 'Cancel' button on the control box and observe that the 'Points Released' and 'Release Available' light are extinguished and the 'Points Locked' light is displayed.
9. Advise the driver that the points have been restored and the release has been cancelled.

The driver shall advise the train controller accordingly.

The train controller shall confirm that the CTC system indicates that the points are locked and the release is cancelled.

2.3.1.3 Movement Departing Mallala Grain Loop

The train crew of a departing movement shall not request entry onto the ARTC Main Line unless the movement is standing on the berth track immediately in advance of the derail and is ready to depart.

The train controller can only provide a release on the points at Mallala Grain Loop for a movement to enter provided:

10. There is no movement proceeding from Long Plains to Two Wells.
11. Any preceding movement from Two Wells to Long Plains has cleared absolute signal 619.
12. The movement requiring departure from the grain loop has come to a stand prior to the derail.

To obtain a release on the points the driver shall bring the movement to a stand on the track circuit prior to the derail and request the train controller to operate the release.

The train controller, provided all the correct conditions exist, shall operate the release and advise the driver, the driver shall then, advise the qualified worker (if provided) that the release has been provided and the points may be operated.

The qualified worker shall:

13. Open the Control Box and observe that the 'Points Locked' and 'Release Available' lights are displayed and are steady on the control box.
 - If the 'Release Available' light is flashing this means that the timer is still operating and the qualified worker shall wait until the light goes steady.
14. Press the 'Release' button and hold the button until the release light displays a flashing or steady green light.
15. When the 'Points Locked' light has gone out and the 'Points Released' indicating light is steady, unlock and operate the points for the movement to enter the grain loop.

Immediately the movement has entered the main line and is clear of the main line points the qualified worker shall:

16. Restore the points for the main line.
17. Press the 'Cancel' button on the control box and observe that the 'Points Released' and 'Release Available' light are extinguished and the 'Points Locked' light is displayed.
18. Advise the driver that the points have been restored and the release has been cancelled.

The driver shall advise the train controller accordingly.

The train controller shall confirm that the CTC system indicates that the points are locked and the release is cancelled.

The movement may then proceed in accordance with the rules contained within the Code of Practice and Addendum expecting to find the first signal at 'stop'.

2.3.1.4 Release of Point Locking During Failure:

In the event that a release cannot be obtained in the normal manner the train controller may arrange for a signal maintenance fitter to attend and release the points for a movement to enter or depart the grain loop.

If a movement is approaching or standing at Mallala Grain Loop and a release cannot be provided owing to failure, the movement shall be advanced to Long Plains and then return to Two Wells.

The movement shall then only be permitted to proceed to Mallala Grain Loop after arrangements have been made for the points to be released or the fault has been rectified.

Prior to releasing the points to either admit or allow a movement to depart the grain loop, the signal fitter shall confer with the train controller and obtain the train controllers permission to release the points.

In the event that the train controller has instated train order working, and the movement has been issued with a train authority to either enter or depart the grain loop, the signal fitter shall, in addition to conferring with the train controller, sight the train authority held by the driver prior to releasing the points.

Under no circumstances is the signal fitter to release the locking of the points without first conferring with the train controller.

Refer to interface agreement IA74 Grainflow for further details.

2.4 Mallala Silo Siding (MAL)

Standing Room:

- Nil. Not a crossing location.

Goods Siding:

- Yes.
- Goods Loop 492 metres

Local Control Panel

- No.

Crank handles:

- No, these are outlying switch locks.

Where there are interfaces with the ARTC network, the requirements are detailed in the interface agreement IA31

This is an intermediate goods siding.

No crossing or passing.

If a train is to shunt here it must then complete the movement through the block to either Two Wells or Long Plains. Trains cannot 'lock away' here. Nor can they proceed from Two Wells or Long Plains to Mallala, then return to Two Wells or Long Plains.

When shunting, trains can leave wagons on the main line whilst performing the shunt. When shunting, the second person provides a hand signal to pass Permissive Signals 613 or 618 at stop once the required points (11 or 17) are set in reverse to access the siding as per the Code of Practice section 3.4.

Absolute Signal 619 is located at the Long Plains end of the siding to protect the level crossing at Dublin Road. Push button operation is provided for shunting.

2.4.1 Dublin Road Level Crossing

The level crossing protection equipment will operate normally for the passage of through main line train movements in either direction.

Two push buttons for the manual control of the level crossing protection equipment are provided in a small enclosure mounted to the stub pole located next to Absolute Signal 619. These push buttons are labelled as follows:

19. No. 620A - "To Cancel Crossing".

20. No. 620B – "To Start Crossing".

A test switch is also provided in an enclosure mounted on a stub pole adjacent to the level crossing. The enclosure must be kept locked with an "S" type padlock and the test switch must only be operated for testing the level crossing protection equipment.

Shunting movements on the Long Plains end of the Mallala Station Yard, with down trains:

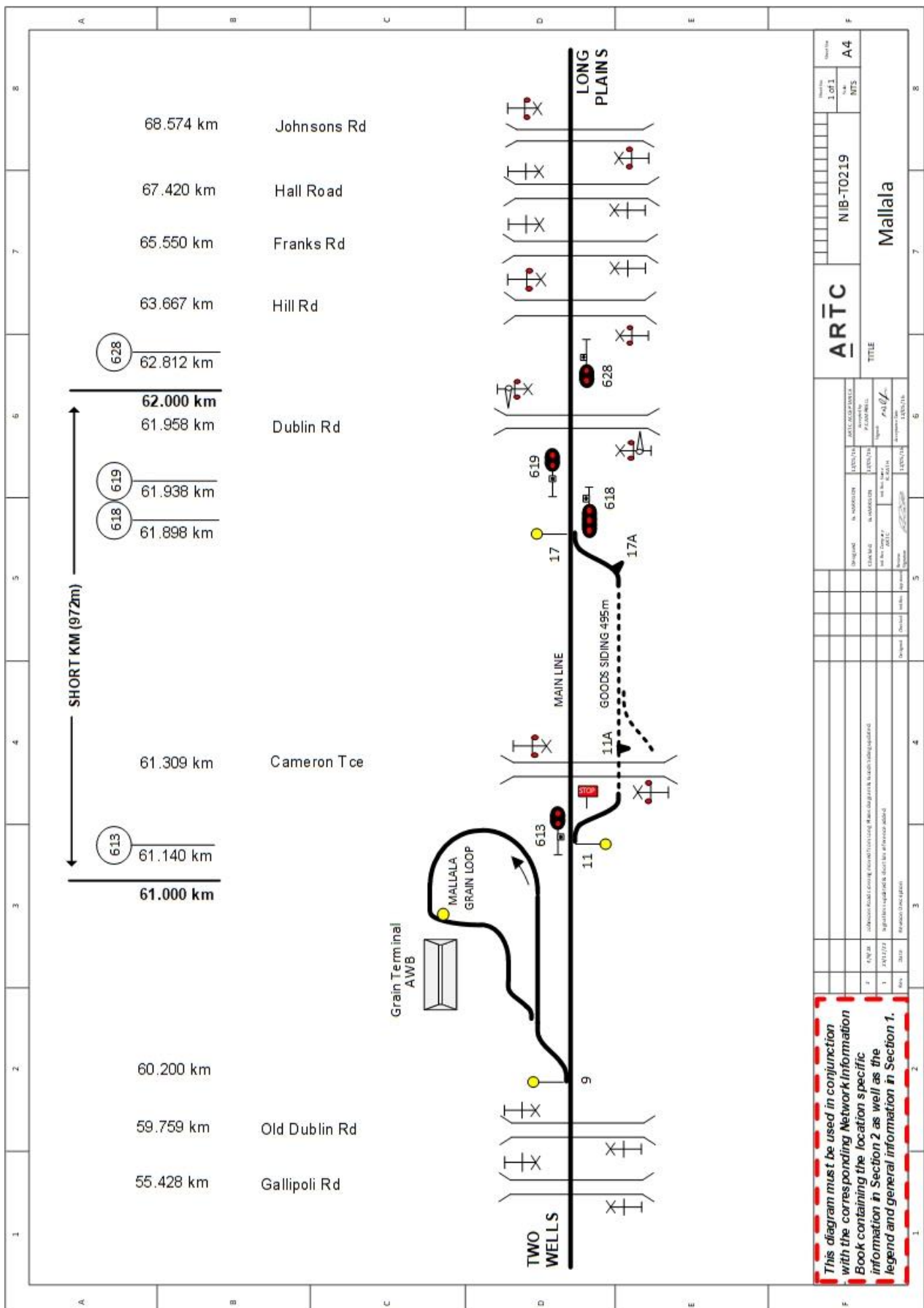
21. The movement must be brought to a stand on the main line.

22. If the length of the shunting movements proposed can be accommodated between No. 17 points and Signal 619 (i.e. less than 70 metres), the signal and warning devices must be cancelled by depressing push button No. 620A.

23. If the length of the shunt movement is such that it is necessary to pass Signal No. 619, the warning devices must be cancelled by depressing push button No. 620A as soon as the shunt movement has pushed back clear of the level crossing and the absolute signal.

24. If the signal has been cancelled and it is necessary to make a further shunt past the signal, the warning devices must be restarted by pressing push button No 620B. Absolute Signal No. 619 will clear 20 seconds after the level crossing warning devices commence to operate.

Light locomotive movements can and often do 'confuse' the CTC when they pass through Mallala, dropping the block behind them thus preventing following movements until they clear the section.



2.5 Long Plains

Standing Room:

- 1900m

Goods Siding:

- Yes 389 metres.
- Block 1 to south end derail 172 metres
- Block 1 to north end derail 217 metres
- Engineers siding 35 metres approx.

Out Lying Switch Lock release:

- In Relay Room

Local Control Panel:

- Located in relay room with OSL release.

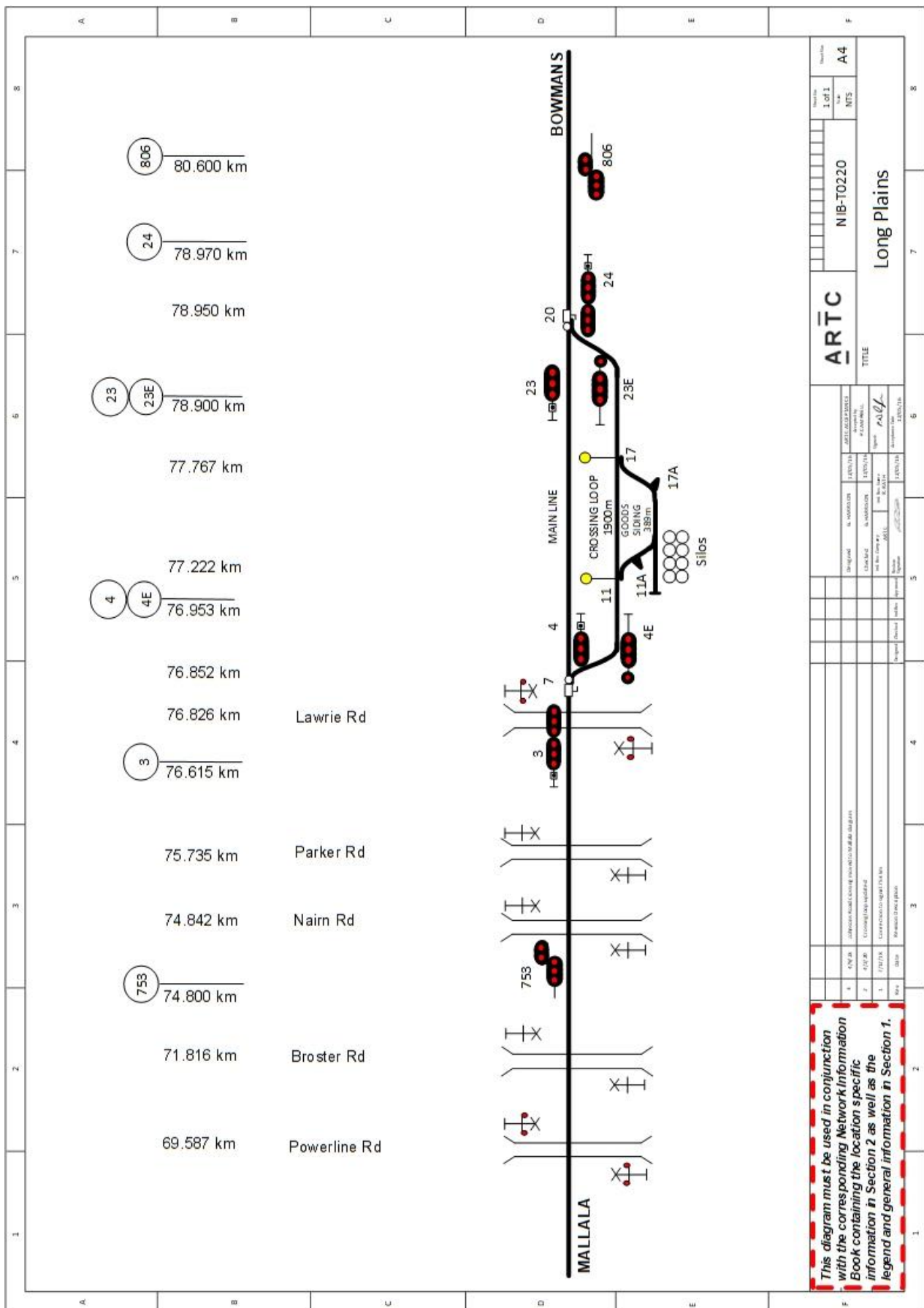
Crank handles:

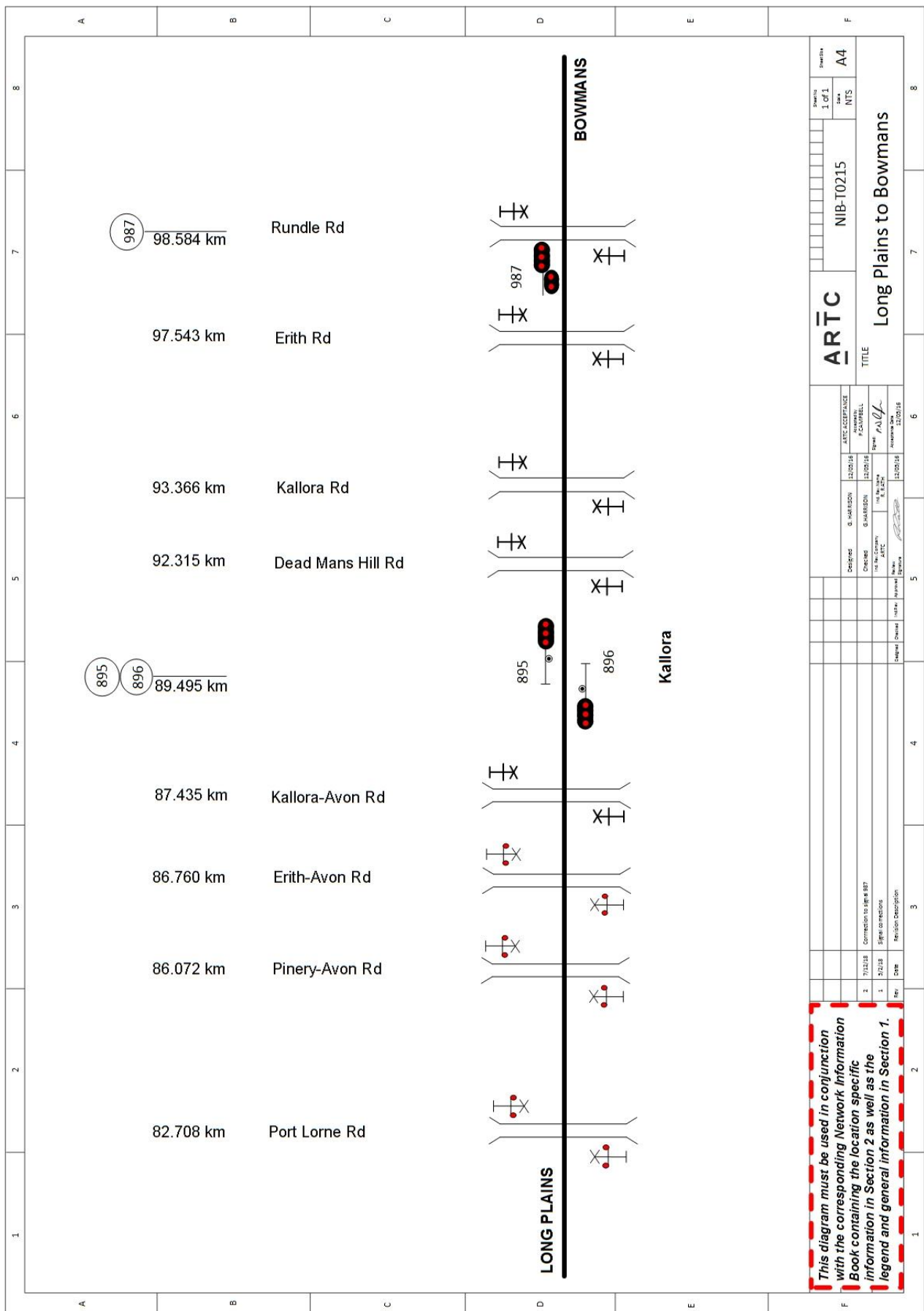
- Yes – Located in Pillboxes at either end of the yard.

Where there are interfaces with the ARTC network, the requirements are detailed in the interface agreement IA31

Grain:

Set up grain hoppers Mallala side of loading chutes or as per instructions from Grain Agent.
Wagons load towards Bowmans.





2.6 Bowmans

Standing Room:

- 1825m

Goods Siding:

- Yes. Major grain loading facility.
- Goods loop (between derails) 800 metres
- Block 1 to dead end 800 metres

Crank Handles:

- Yes – Located in Pillboxes at either end of the yard.

Local Control Panel:

- Yes. In Relay Room with OSL Release.

Where there are interfaces with the ARTC network, the requirements are detailed in the interface agreements IA31 & IA77 BOWMANS RAIL

Grain:

Set up grain hoppers Nantawarra side of loading chutes or as per instructions from Grain Agent. Wagons load towards Long Plains.

There is an actively protected level crossing at the Nantawarra end of the yard. This is the main road from Port Wakefield to Balaklava.

The track over 20 points between 23/23E and 24 signals is approximately 500m long on a curve.

No intermediate signal between Bowmans and Nantawarra.

2.6.1 Balco Siding at Bowmans

Refer to IA77 for further details.

2.6.1.1 Overview

The Balco Siding at Bowmans is connected to the ARTC network approximately 200m north from the Two Wells end of the Bowmans facing points.

Operators requiring access to this siding shall obtain authority from Balco prior to requesting a path from the ARTC.

The points leading to the siding are provided with point stand and point indicators as described in the ARTC Addendum to the Code of Practice for the Defined Interstate Network.

The points are secured by an electric point lock and are rodded to a derail at the clearance point of the siding.

A cabinet (control box), of which the door is secured with an 'S' lock, is located adjacent to the points and contains push buttons as follows:

Release Button:

- Releases the points provided the correct conditions (as detailed) exists.

Cancel Button:

- Cancels the release and locks the points

In addition the following indicating lights are provided:

Points Released (Green Light):

- Indicates that the points have been released and are available to be operated.

Points Locked (Red Light):

- Indicates that the points are locked and are not available for operation.

The points and electric point locking is interlocked with the signalling at Bowmans, movements requiring to shunt at the siding shall be signalled onto the Crossing Loop by operation of the low speed indication on signal 3 or 24 to allow operation of the point release locking.

2.6.1.2 Movement Entering or Shunting at Balco Siding

Movements terminating at Balco siding shall set back into the siding, a movement arriving from Adelaide shall first be signalled onto the Crossing Loop in the normal manner and the loco is to 'Run Around' the movement will then draw forward until clear of the points leading to the Balco Siding.

Should the movement require to pass signal 4E to clear the points leading to the Balco Siding, the Driver shall contact the Network Controller and request that the signal be operated to 'Proceed' accordingly.

Should the movement require to drive directly into the siding, the movement shall be signalled onto the Crossing Loop by operation of the 'Low Speed' indication on Signal 3 and come to a stand at the points leading to the Balco siding.

To obtain a release on the points the Driver shall bring the movement to a stand at the facing points.

25. Obtain permission from the ARTC Train Controller to operate the points.
26. Open the Control Box and observe that the points are locked.
27. Press the 'Release' button and hold the button.
28. Observe that the 'Points Released' indicating light is displayed and release the button.
29. Unlock the point stand and operate the points for the movement to enter the siding.

Immediately the movement has entered the siding, or shunting has been completed, the Driver shall:

30. Restore the points to the 'Normal' position.
31. Observe that the 'Points Locked' indicating light is displayed.
32. Lock the point stand.
33. Close and lock the door on the Control Box and advise the Train Controller.

Restoring the points to the 'Normal' position will automatically reset the point locking and lock the points.

In the event that a movement does not shunt after obtaining the release, the Driver shall ensure that the points are locked by pressing the 'Cancel Button' and observing that the 'Points Locked' light is displayed.

2.6.1.3 Movement Departing Balco Siding

When a movement is required to depart the Balco Siding the Driver shall:

34. Obtain permission from the ARTC Train Controller to operate the points.
35. Open the Control Box and observe that the points are locked.
36. Press the 'Release' button and hold the button.
37. Observe that the 'Points Released' indicating light is displayed and release the button.
38. Unlock the point stand and operate the points for the movement to depart the siding.

Immediately the total movement has entered the crossing loop, the Driver shall:

39. Restore the points to the 'Normal' position.
40. Observe that the 'Points Locked' indicating light is displayed
41. Lock the point stand.
42. Close and lock the door on the Control Box and advise the Train Controller.

Restoring the points to the 'Normal' position will automatically reset the electric point locking and lock the points.

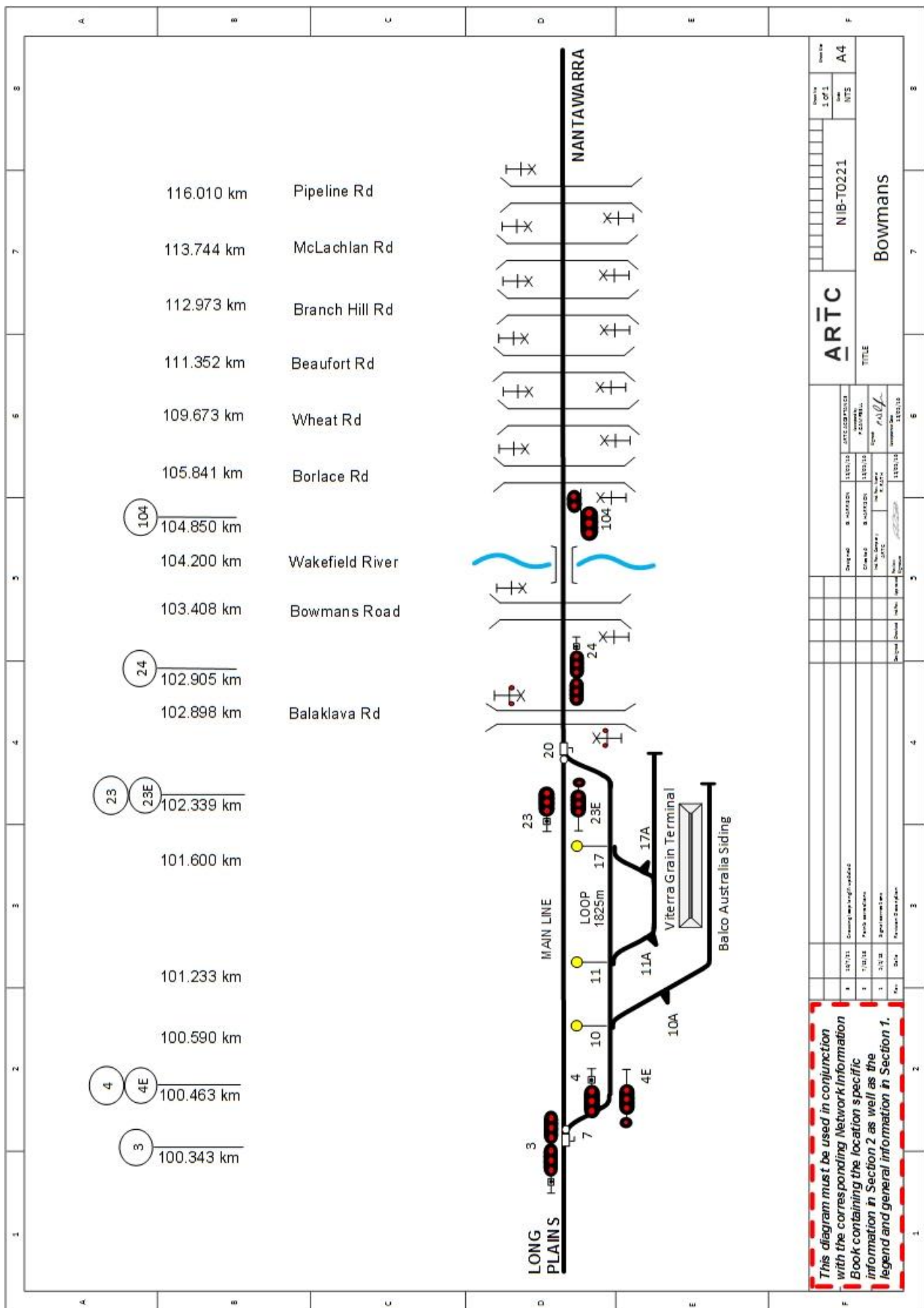
In the event that a movement does not proceed after obtaining the release, the Driver shall ensure that the points are locked by pressing the 'Cancel Button' and observing that the 'Points Locked' light is displayed.

2.6.1.4 Emergency Release

An 'Emergency Release' button is provided in the Relay Room in the Local Control Panel room. The button is enclosed in a glass cabinet, which shall be broken to gain access.

In the event that a release cannot be obtained in the normal manner or a failure of the track circuitry is preventing a release being provided, the Network Controller shall authorise the Driver to break the glass and press the Emergency Release button.

The Network Controller shall report the fault to the Signal Maintenance Maintainer who shall arrange for the glass to be replaced and any fault rectified.



2.7 Nantawarra (NTW)

Standing Room:

- 1810m

Goods Siding:

- Yes
- Goods loop (south derail to fouling point between 1 & 2) 364 metres
- No 1 goods loop (in clear) 202 metres
- No 2 goods loop (in clear) 202 metres

Crank Handles:

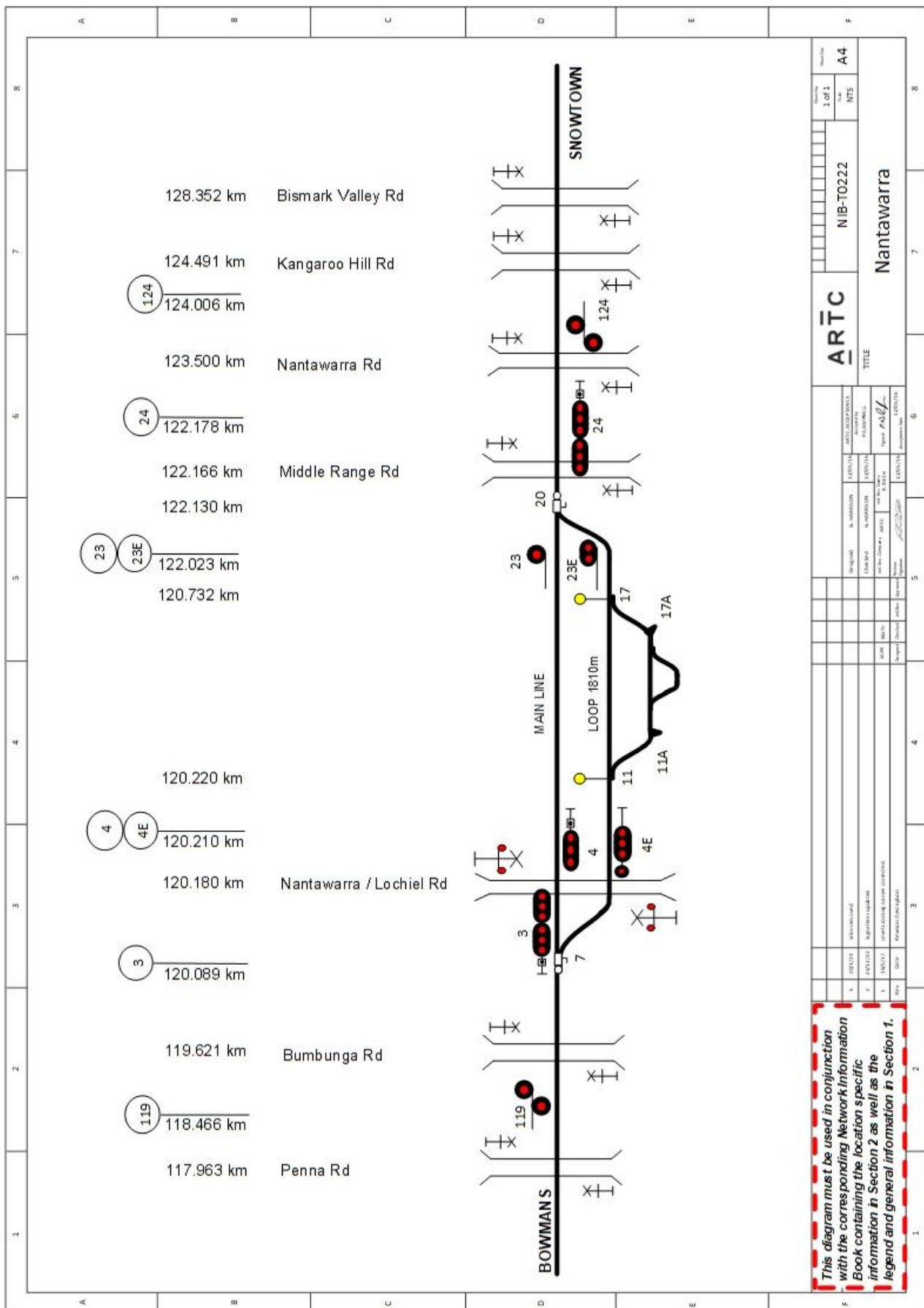
- Yes – Located in Pillboxes at either end of the yard.

Local Control Panel:

- In relay room by signals at South end of yard. Accessible by train crews.

Where there are interfaces with the ARTC network, the requirements are detailed in the interface agreement IA31.

Locations and Sections Information



2.8 Snowtown (STW)

Standing Room:

- Main Line 1820m
- Crossing Loop 1790m

Siding:

- Yes.
- SMD80 siding 340m

Grain Siding:

- Wallaroo branch line.
- Block 1 to dead end 700 metres
- Block 1 to highway 1 level crossing 700 metres

Crank Handles:

- Yes – Located in Pillboxes at either end of the yard and by points #9 and #10 on side of relay room. Another crank handle is in pill box by North Terrace Crossing.

Local Control Panel:

- Yes. In relay room – no access for train crews.

Low Level Platform:

- There is a 'station' of sorts located between 13 signal and 23 signal. There is approximately 600m standing room here.

Where there are interfaces with the ARTC network, the requirements are detailed in the interface agreement IA31

Grain:

Set up grain hoppers Barunga Gap side of loading chutes or as per instructions from Grain Agent. Wagons load towards Redhill.

Aurizon send trains toward the Wallaroo branch line, across Port Wakefield Rd (Highway 1). Authority to access is given by Aurizon. When they return they must run around their train.

Signals 3 and 13 display a yellow indication until Signal 23 is cleared due to limited sighting distance of signal 13.

Signal 24 will not clear until Signal 14 is cleared.

(IAN No 134) Standing TN 1833 of 17/12/02 refers

Snowtown Signal Aspect Changes

On Wednesday 18 December between the hours of 0800 and 1630 signal aspect alterations will be made to Permissive signal 148, Absolute Signal 24 and Absolute Signal 14.

Permissive Signal 148 will be altered to display 'Stop', 'Normal Speed Warning' and 'Clear Normal Speed' aspects dependent on the aspect displayed on Absolute Signal 24 and the condition of the track immediately ahead of Permissive Signal 148.

Absolute Signal 24 will be altered to display 'Stop', 'Normal Speed Warning' and 'Clear Normal Speed' dependant on the aspect displayed on Absolute Signal 14.

Absolute Signal 14 will be altered to display 'Stop', 'Normal Speed Warning' and 'Clear Normal Speed' when the route is set for the main line and 'Stop', 'Medium Speed Warning' or 'Clear Medium Speed' when the route is set for the Crossing Loop.

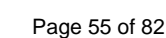
The following Route Signalling will now apply:

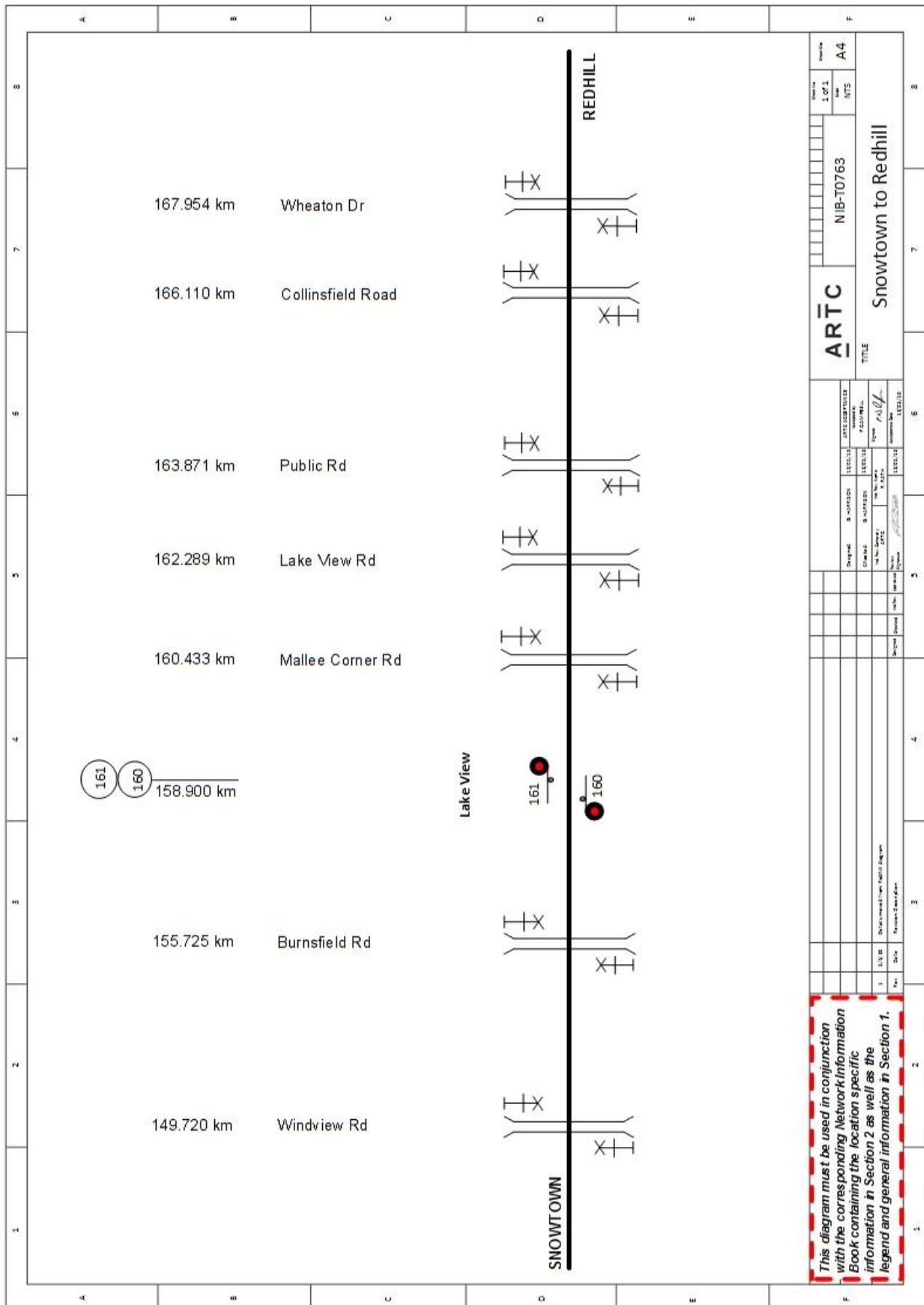
When Absolute Signal 14 is at 'Stop', Permissive Signal 148 and Absolute Signal 24 will display 'Normal Speed Warning' aspects.

When Absolute Signal 14 is displaying a 'Normal Speed' aspect (set for Main Line), Permissive Signal 148 and Absolute Signal 24 will display 'Clear Normal Speed' aspects.

When Absolute Signal 14 is displaying a 'Medium Speed' aspect (set for Crossing Loop), Permissive Signal 148 and Absolute Signal 24 will display 'Normal Speed Warning' aspects.

Absolute Signal 24 will no longer display a 'Reduce to Medium Speed' aspect when Absolute Signal 14 is displaying a 'Medium Speed' aspect.





2.9 Red Hill (REH)

Standing room:

- 1980m

Goods sidings:

- Yes. (Leased to Aurizon)
- Goods siding 430 metres
- Block 1 to south derail 147 metres
- Block 2 to south derail 228 metres

Crank Handles:

- Yes – Located in Pillboxes at either end of the yard.

Local Control Panel:

- Yes - In relay room with OSL release.

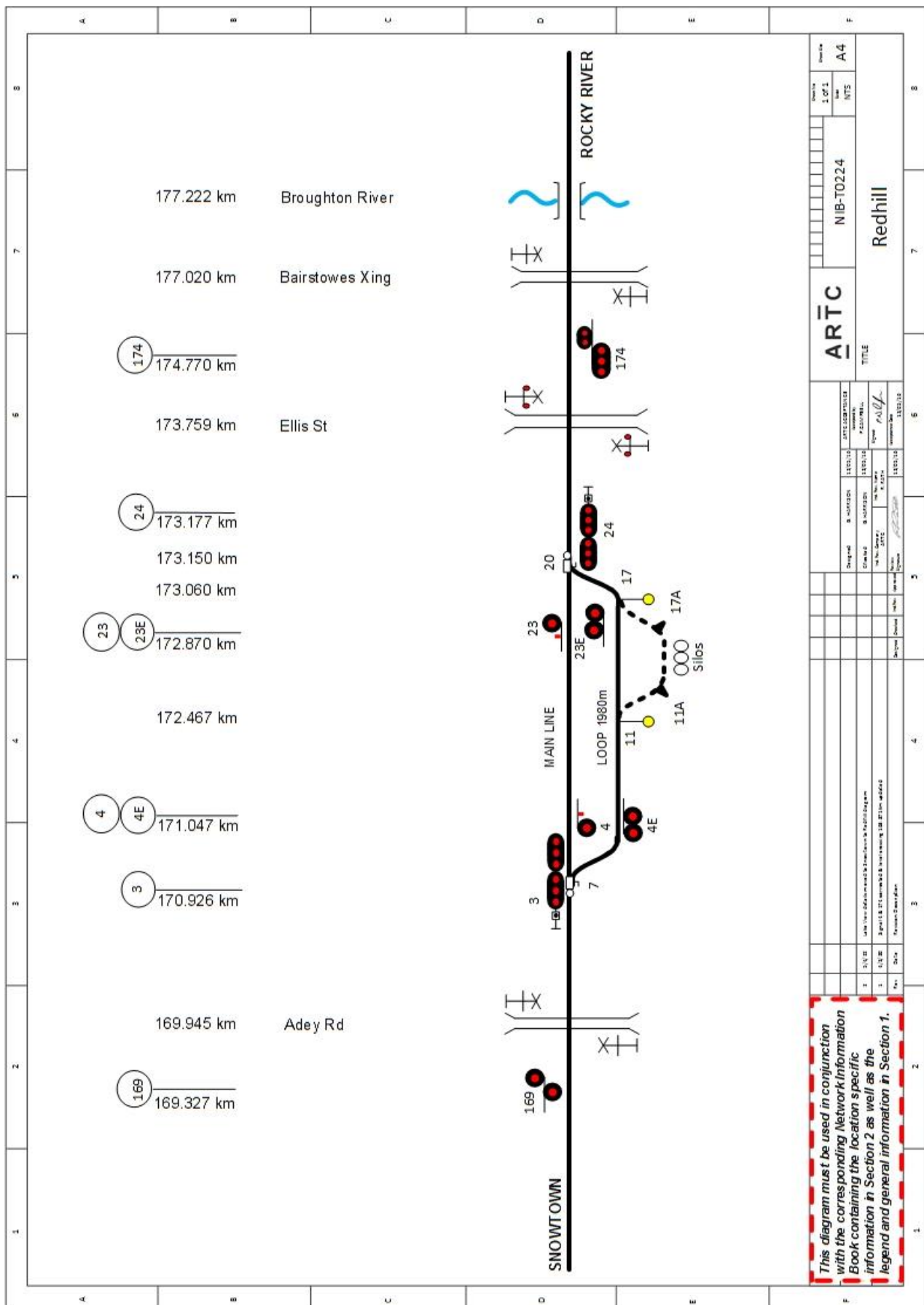
Where there are interfaces with the ARTC network, the requirements are detailed in the interface agreement IA31

Grain:

Set up grain hoppers Snowtown side of loading chutes or as per instructions from Grain Agent.
Wagons load towards Rocky River.

Block 1 is Adelaide end, Block 2 is Port Augusta end.

The actively protected level crossing on the Rocky River end of the yard is a little way out. Trains shunting towards Rocky River will not activate it until they are a fair way out past the signal.



2.10 Rocky River (RRR)

Standing room:

- 1810m

Goods sidings:

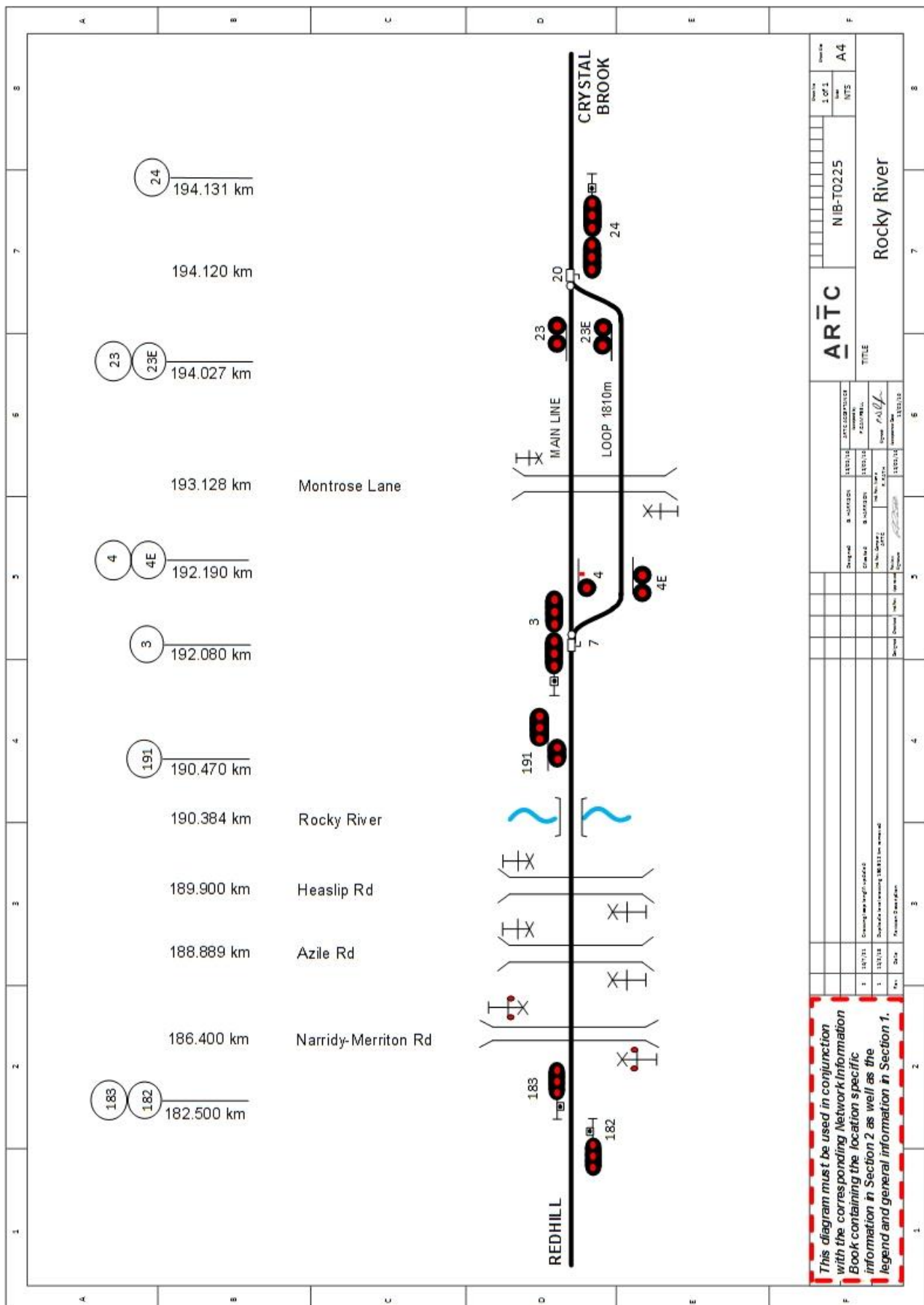
- No.

Crank Handles:

- Yes – Located at each end of yard in pill box.

Local Control Panel:

- In Relay Room – available to train crews.



2.11 Crystal Brook (CRB)

Standing Room:

- 968m

Goods Siding:

- Yes. Three switchlocks to access.
- Block 3 to south derail 466 metres
- Block 1 to north derail 156 metres
- Block 2 to north derail 224 metres
- Block 3 to north derail 284 metres
- Ballast siding (in clear) 270 metres
- Block 1 to ballast siding dead end 307 metres
- Block 2 to ballast siding dead end 375 metres
- Block 3 to ballast siding dead end 435 metres

Local Control Panel

- Yes. In relay room, no access to Train Crews.
- OSL release is on the side of #12 SW Loc Box near #12 OSL

Crank handles:

- Yes – Located in Pillboxes at ends of yard, i.e. by points # 7, 8, 9 and 17.

Generator:

- Yes. 100 litre tank and will last for approximately two days.

Where there are interfaces with the ARTC network, the requirements are detailed in the interface agreement IA31 and IA75 Grainflow

Grain:-

Set up grain hoppers Rocky River side of loading chutes or as per instructions from Grain Agent. Wagons load towards Coonamia.

Block 1 is Port Augusta end, Block 2 is in the middle and Block 3 is the Adelaide end.

This is the junction of the ACB (Adelaide – Crystal Brook) line and the Broken Hill line.

At no.3 signal the track splits upgrade towards Broken Hill or downgrade towards Crystal Brook yard. It is a 35kph curve into the yard.

There are three actively protected level crossings here.

- Clare Rd between 3 and 13E signals,
- Main Rd between 13/13E and 14/15 signals,
- Weston Rd between 5 and 6/6E signals.

At the Coonamia end of the yard the track splits into double track, the westbound mainline and eastbound mainline. Signal 23/23E will not clear onto the up mainline. However 23/23E low speed will clear when points set for AWB siding.

For Broken Hill bound trains it is advisable not to clear signal 14 until signal 6 has been cleared as there is only 500m between the two.

2.11.1 AWB Balloon Loop

In addition to the silos on the yard goods siding there is a balloon loop branching off the UP main line and the instructions are as follows:-

CRYSTAL BROOK GRAIN LOOP OPERATING PROCEDURE

2.11.1.1 Overview

The Crystal Brook Grain Loop is connected to the ARTC East Bound main line at the Coonamia end of Crystal Brook.

The mainline turnout points are trailing for mainline movements proceeding toward Crystal Brook.

Operators requiring access to the Crystal Brook Grain Loop shall obtain authority from AWB prior to requesting a path from the ARTC.

The points (No 27) consist of a single mainline turn out and associated derail off of the east bound main line. Point machines are provided on both the main line points and the derail

The following signalling is provided at the west end of Crystal Brook:

Signal 23: Absolute signal for movements departing the main line and proceeding to Coonamia, or into the Crystal Brook Grain Loop.

- Displays Stop, Normal Speed Caution or Clear Normal Speed when route is set for Coonamia, and low speed when route is set for the AWB Grain Loop.

Signal 23E: Absolute signal for movements departing the crossing loop and proceeding to Coonamia, or into the Crystal Brook Grain Loop.

- Displays Stop, Medium Speed Caution or Clear Medium Speed when route is set for Coonamia, and low speed when route is set for the AWB Grain Loop.

Signal 24: Absolute signal for movements proceeding to Crystal Brook on the eastbound line.

- Displays Stop, Normal Speed Caution or Clear Normal Speed when route is set for Main Line, Medium Speed Caution and Clear Medium Speed when route is set for crossing loop, and low speed when initiated by the train controller.

Signal 24D: Signal for movements proceeding from the West bound main line back to the main line or crossing loop.

- Displays Stop, caution or proceed.

Signal 24E: Signal for movements proceeding from the Crystal Brook Grain Loop to the main line or crossing loop.

- Displays Stop, caution or proceed.

Signal 182: Absolute signal for movements proceeding along East bound main line to Crystal Brook.

- Displays Stop, Normal Speed Caution, Reduce to Medium Speed or Clear Normal Speed.

Note: This signal is not controlled and does not assume a proceed aspect unless signal 24 has been operated by the train controller.

The lead to the Crystal Brook Grain Loop parallels the ARTC main line and then diverges toward the grain loop.

A notice board is provided within the Crystal Brook Grain Loop with the following wording:

MOVEMENTS SHALL NOT PASS
THIS POINT UNTIL READY TO
ENTER ARTC MAIN LINE

To ensure uninterrupted passage onto the ARTC main line, train crews of departing movements shall ensure that all required train preparations are performed prior to passing this notice board.

2.11.1.2 Movement Entering Crystal Brook Grain Loop

To signal a movement into the Crystal Brook Grain Loop the train controller shall ensure that the passage of the grain movement will not impact on the normal passage of an East bound movement.

When set to enter the Crystal Brook Grain Loop, signal 23 from the main line or 23E from the crossing loop will display a low speed indication and the train crew shall ensure that the movement enters the siding in accordance with the aspect displayed on the signal.

2.11.1.3 Movement Departing Crystal Brook Grain Loop

Under no circumstances is a departing movement to pass the notice board until all train preparation requirements have been performed, and the train controller has been advised that the movement is ready to depart.

The train controller shall, upon being advised of the imminent departure, ensure that the movement can be accepted and advise the train crew that the movement can draw forward toward signal 24E.

The train controller may then set the appropriate route for the movement to depart.

2.11.1.4 Operation of Signals 182 and 24

Signal 182 is an uncontrolled absolute signal which will clear to a proceed aspect upon signal 24 being operated.

A movement shall only pass signal 182 at stop in accordance with the procedures set out within the CoP.

During periods that train order working is in force owing to a failure, the train controller shall not issue a train authority for a movement to pass signal 182 at stop whilst a movement has been authorised to either enter or depart the Crystal Brook Grain Siding.

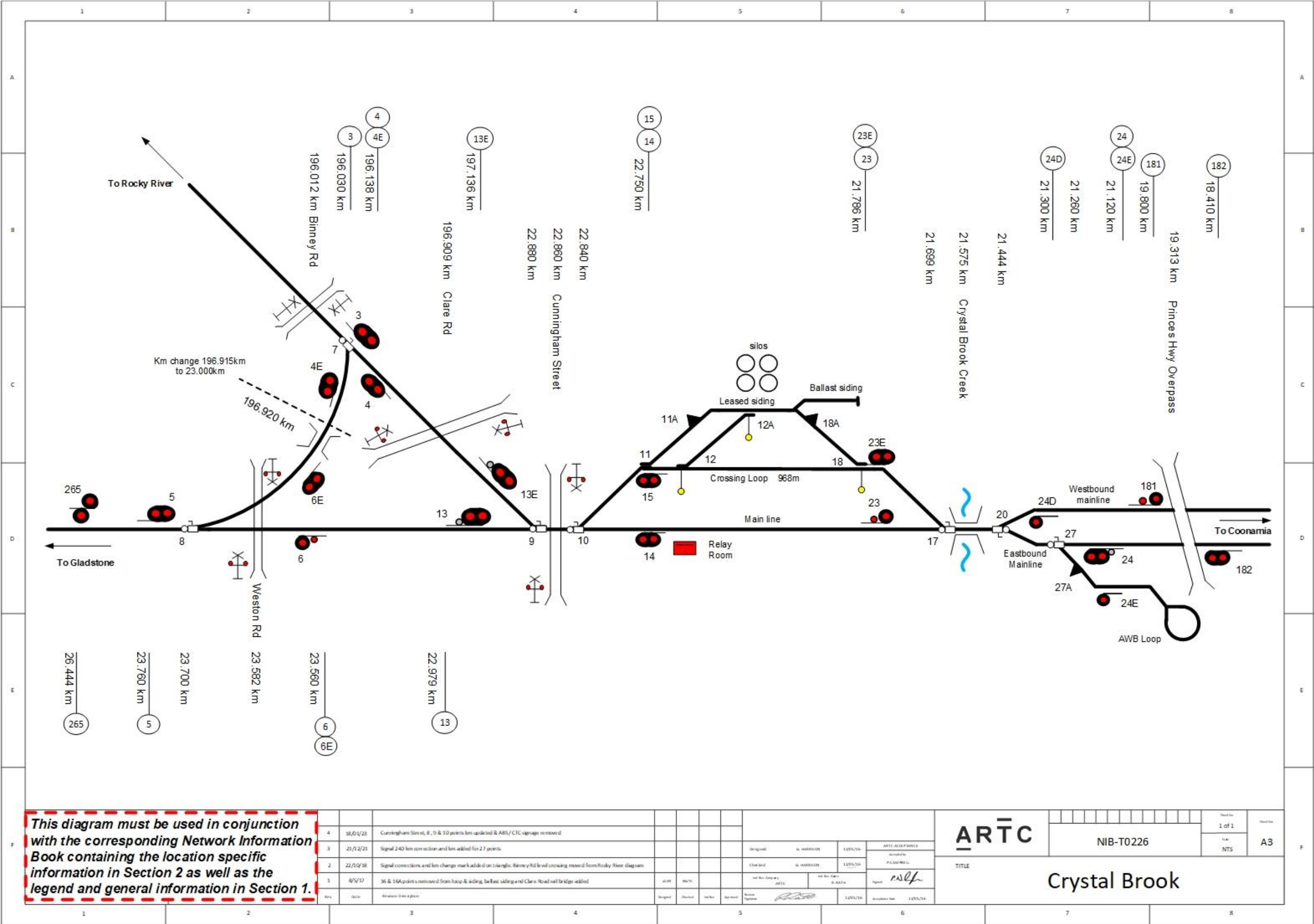
2.11.1.5 Failure of Points

In the event a failure requiring the train crew to manually set the route using the crank handle, the train crew shall ensure that all point machines (including the machine operating the derail) have been correctly set prior to the movement proceeding.

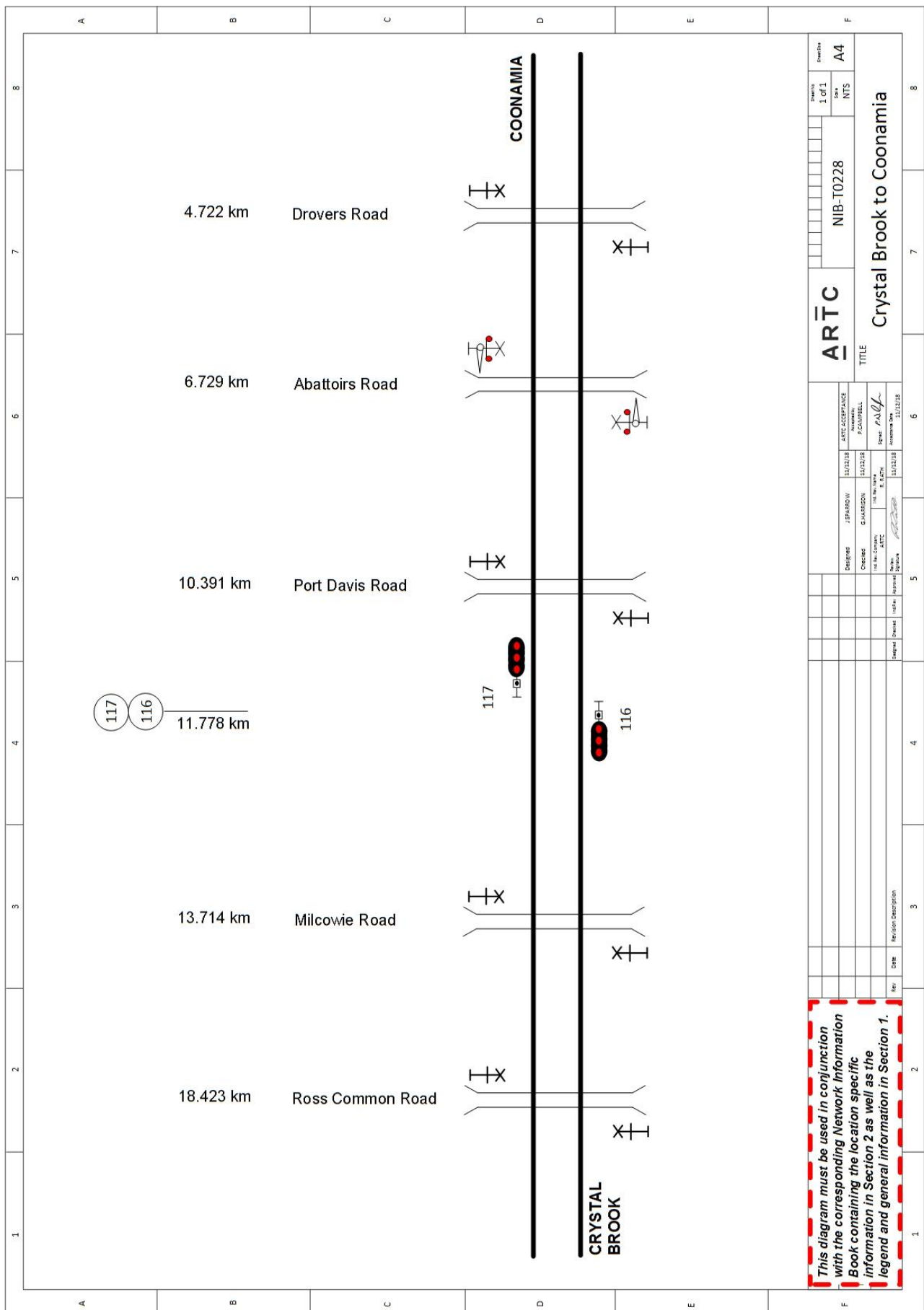
A crank handle, to manually operate the points, is located in a crank handle box adjacent to 27 points (main line turn out to the Crystal Brook Grain Siding).

2.11.1.6 Single Line Working Over the Double Track

Because the active level crossings in the section are bi-directional, trains may proceed at normal speed on both tracks in each direction except for past the work site. Train Authority not required for travel in the “right” direction until the first train travels in the “wrong” direction. Then all trains in either direction must proceed by Train Authority until double line working is resumed.



Locations and Sections Information



2.12 Coonamia (CNM)

Standing Room:

- 1638 m

Goods Siding:

- No.

Local Control Panel

- Yes. No access for train crews.

Crank handles:

- No – Dual Control Point Machines

Top track is the crossing loop (4E to 13E signals). The 'station' is here. Passenger trains go through the crossing loop in both directions if they have pickups/drop-offs.

The bottom track is the mainline.

There is a level crossing prior to no.3 signal on the down mainline.

Port Pirie is adjacent and Coonamia forms the entrance to Port Pirie. Via no.35 signal is the mainline, via 33 Signal is the Sub.

2.12.1 Axle Counters

Overview

Axle Counters are used for train detection within the following limits:

- From Pt Pirie Yard (@3.68km) on approach to 36 signal to the clearance point of 17 Points (approx. 2.25km) on approach to 14 signal.
- From GWA Yard (@2.45km) at 33 signal to the clearance point of 17 Points (approx. 2.25km) on approach to 14 signal, via 40A points reverse.
- From GWA Yard 2.45km at 33 signal to the clearance point of 20 Points, via 40A points normal.

Wauchope Road Level Crossing

Wauchope Road Level Crossing is initiated by axle counters (via 14 signal) from Port Pirie. Failure of axle counter section 40T will not ring the crossing if 14 signal is not called (Reverse). However, if 14 signal is set (reverse) a failure at 40T will ring the crossing continuously until a reset is completed.

Warnertown Road Level Crossing

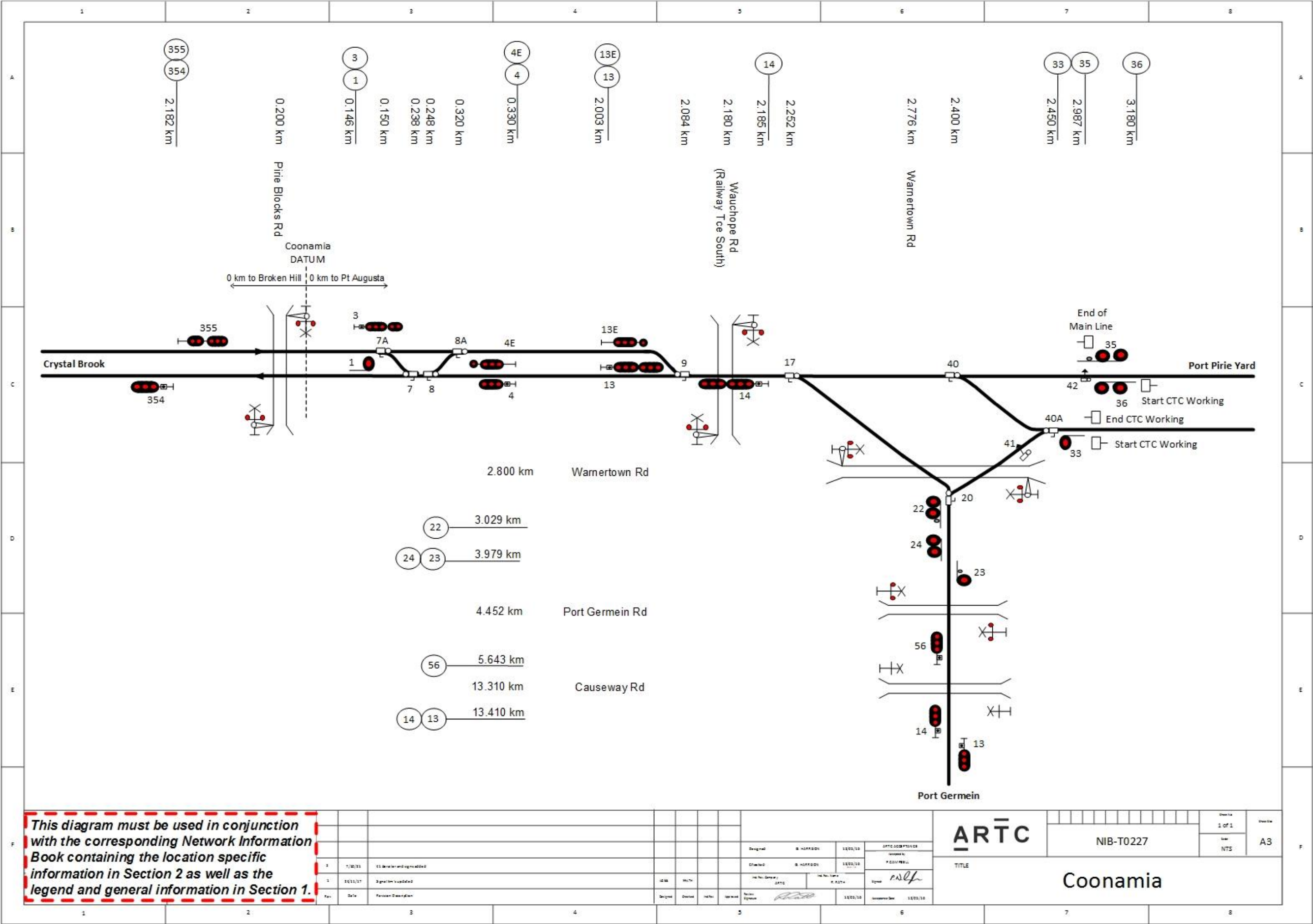
The approach to Warnertown road level crossing via 33 signal (GWA Yard), is activated by axle counters.

Remote Operation of Axle Counter Reset

The reset process will reset all 5 axle counter track sections at the same time. The remote reset procedure shall follow ARTC approved procedures.

Local Operation of Axle Counter Reset

Local operation of the axle counter reset shall only be carried out by qualified Signal Maintainer when advised by the Network Controller. This will also mean that one or more of the axle counter tracks will be displaying a red indication (due to an error or miscount).



2.13 Port Germein (PGM)

Standing Room:

- 1960m

Goods Siding: 110m

- Yes.

SCT Siding

- 805m

Local Control Panel

- No. Local Control via laptop only.

Crank handles:

- No, Dual Control Point Machines.

Wayside Systems:

The following wayside monitoring systems are in place in the Port Germein to Mambray Creek Section (31.750 km):

- Rail Bearing Acoustic Monitor (RailBAM)
- Wheel Condition Monitoring System (WCM)
- WheelScan / Wheel Profile Monitor
- Truck Bogie Optical Geometry Inspection System (TBOGI)

RailBAM can detect bearing faults which are just beginning and may have many thousands of kilometres to go before they fail. Train crews can tell if the unit is working or not by the fact that the track side sensor cabinets raise the doors exposing the microphones to the passing train, as it approaches from 50 metres away. This detects faulty bearings on passing trains by analysing the sound of the bearing. On detection, the information obtained by this device is sent to the Network Controller to advise the train crew.

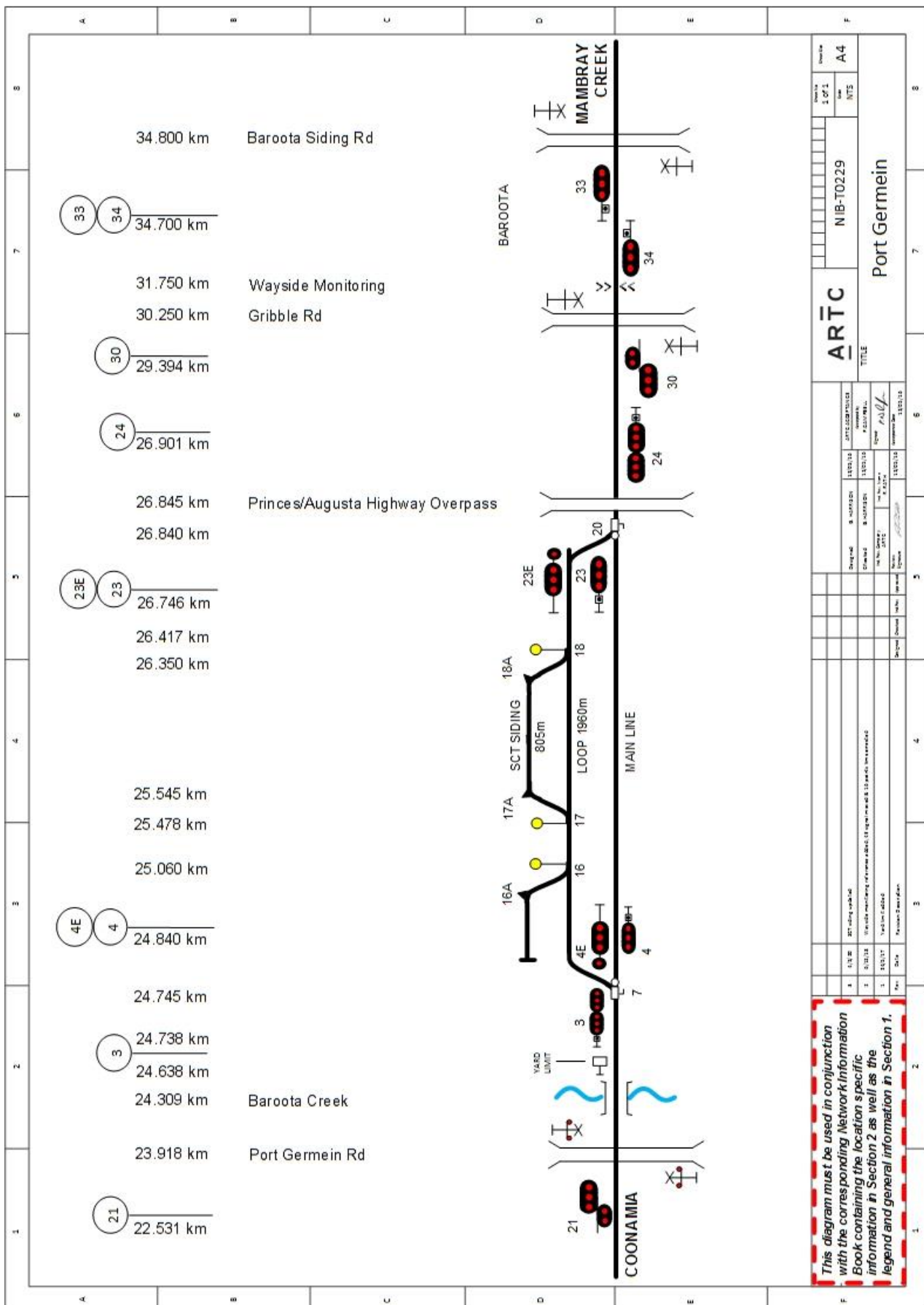
The WCM detects an exceedance of force between the rail wheels and the rail caused by wheel flats. If it detects a level of kilo-newton force of energy above a threshold, it sends this information to the Network Control Centre for action.

A WheelScan System uses lasers to scan all rail wheels when the train passes, detecting wear abnormalities in the wheel tyres. After many passes it will build a picture of the circumference of each wheel. If the wear goes outside a certain tolerance, the information is sent to the Network Control Centre for action.

The TBOGI system detects using lasers if any of the bogies are "Hunting". If the hunting reaches a level of severity, the information is sent to the Network Control Centre for action.

Refer to interface agreement IA24 for details relating to the SCT siding.

Locations and Sections Information



2.14 Mambray Creek (MBC)

Standing Room:

- 1876m

Goods Siding:

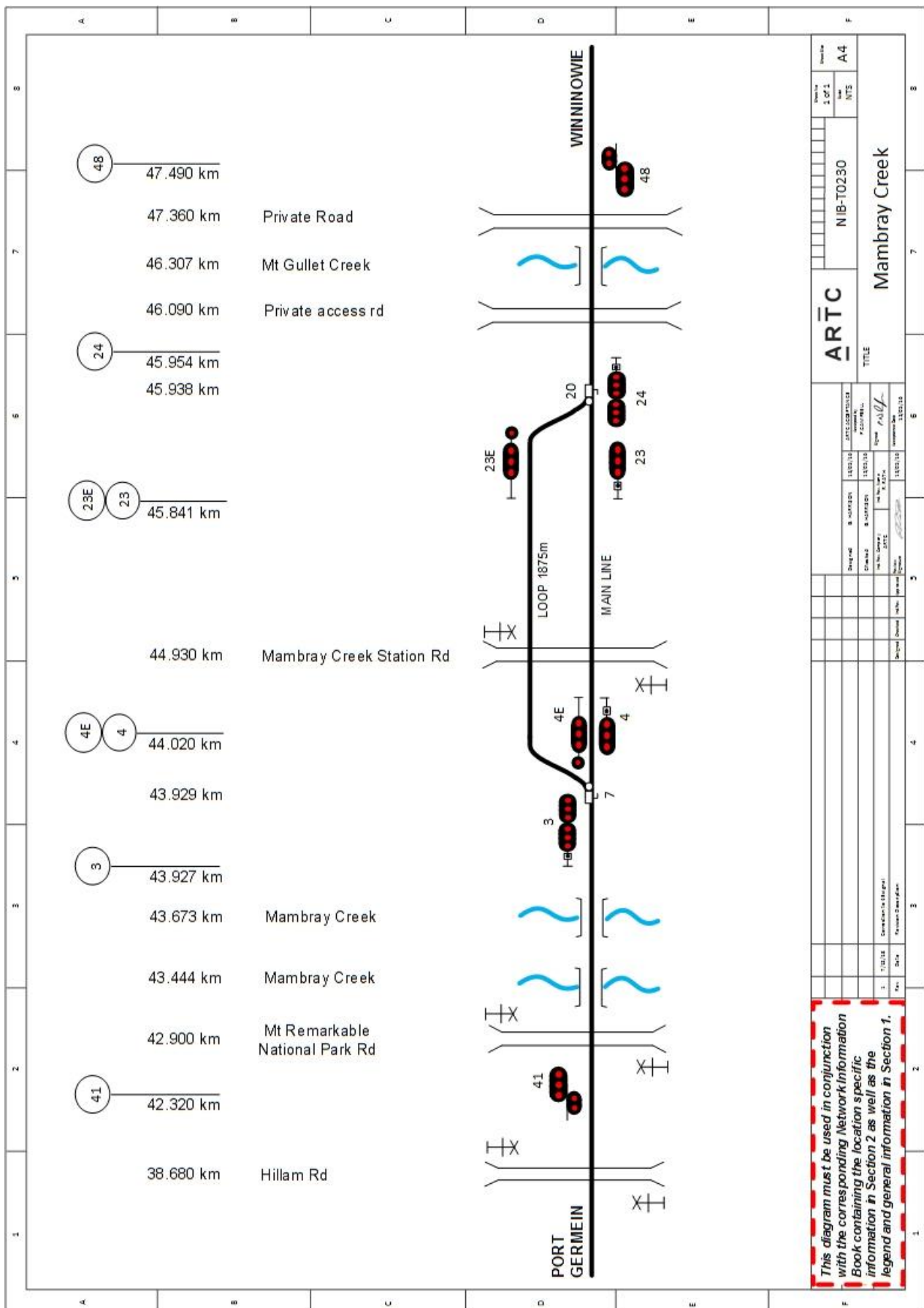
- No.

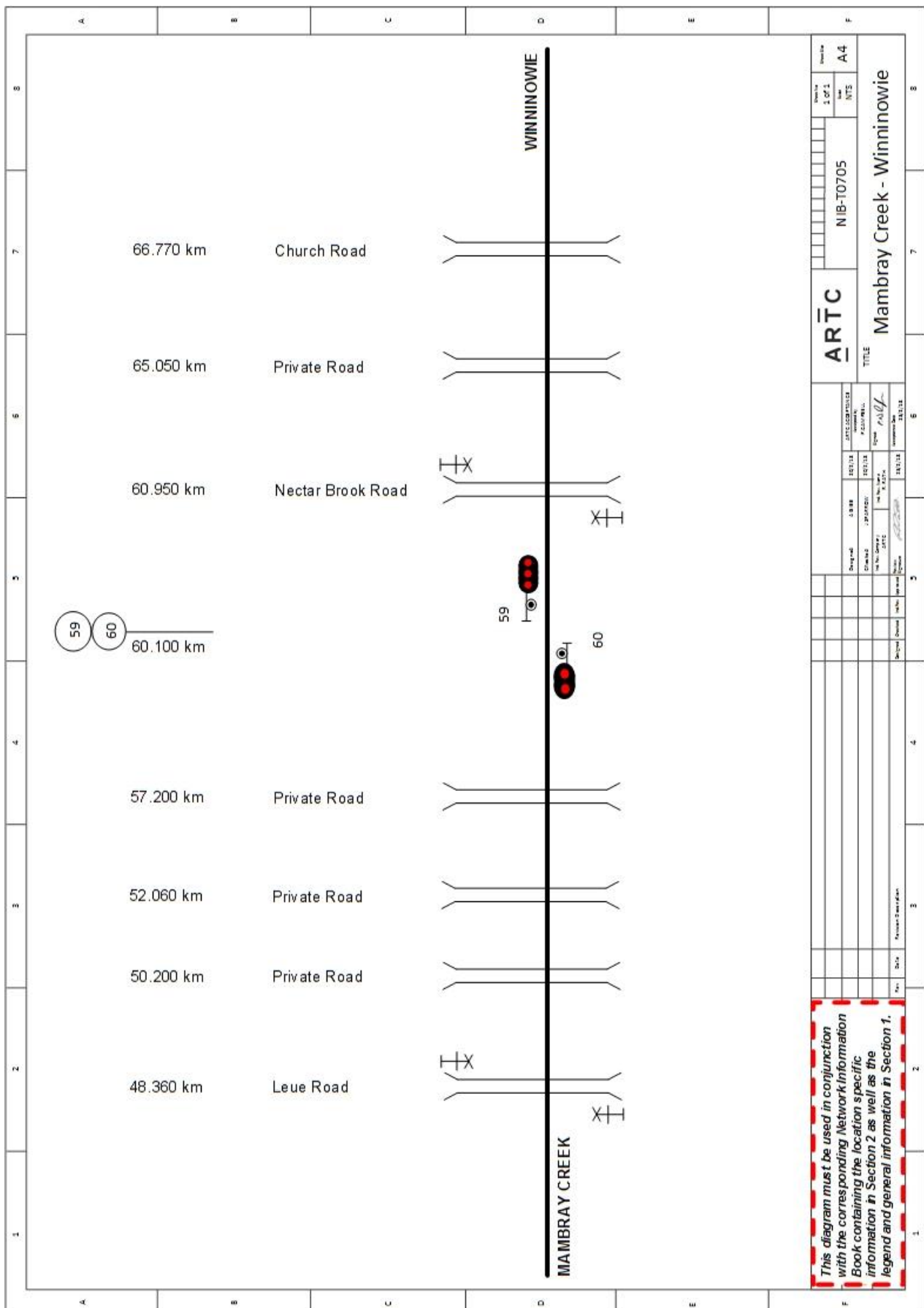
Local Control Panel

- No.

Crank handles:

- No, Dual Control Point Machines.





2.15 Winninowie (WNN)

Standing Room:

- 1850m

Goods Siding:

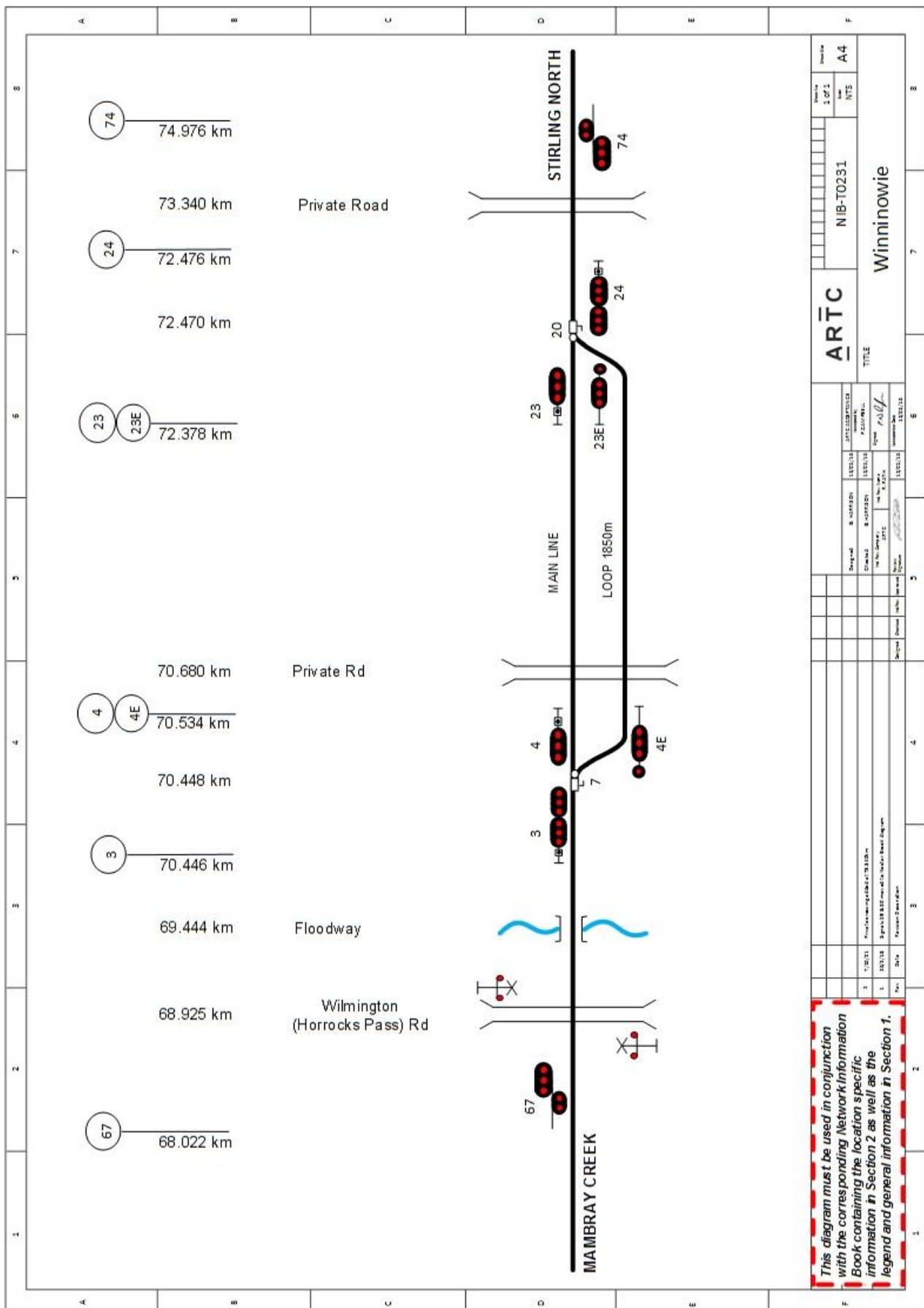
- No.

Local Control Panel

- No.

Crank handles:

- No, Dual Control Point Machines.



2.16 Stirling North (STI)

Standing Room:

- Nil.

Goods Siding:

- Not for main line trains – only for coalfield line.

Local Control Panel

- No. Local Control via laptop only.

Crank handles:

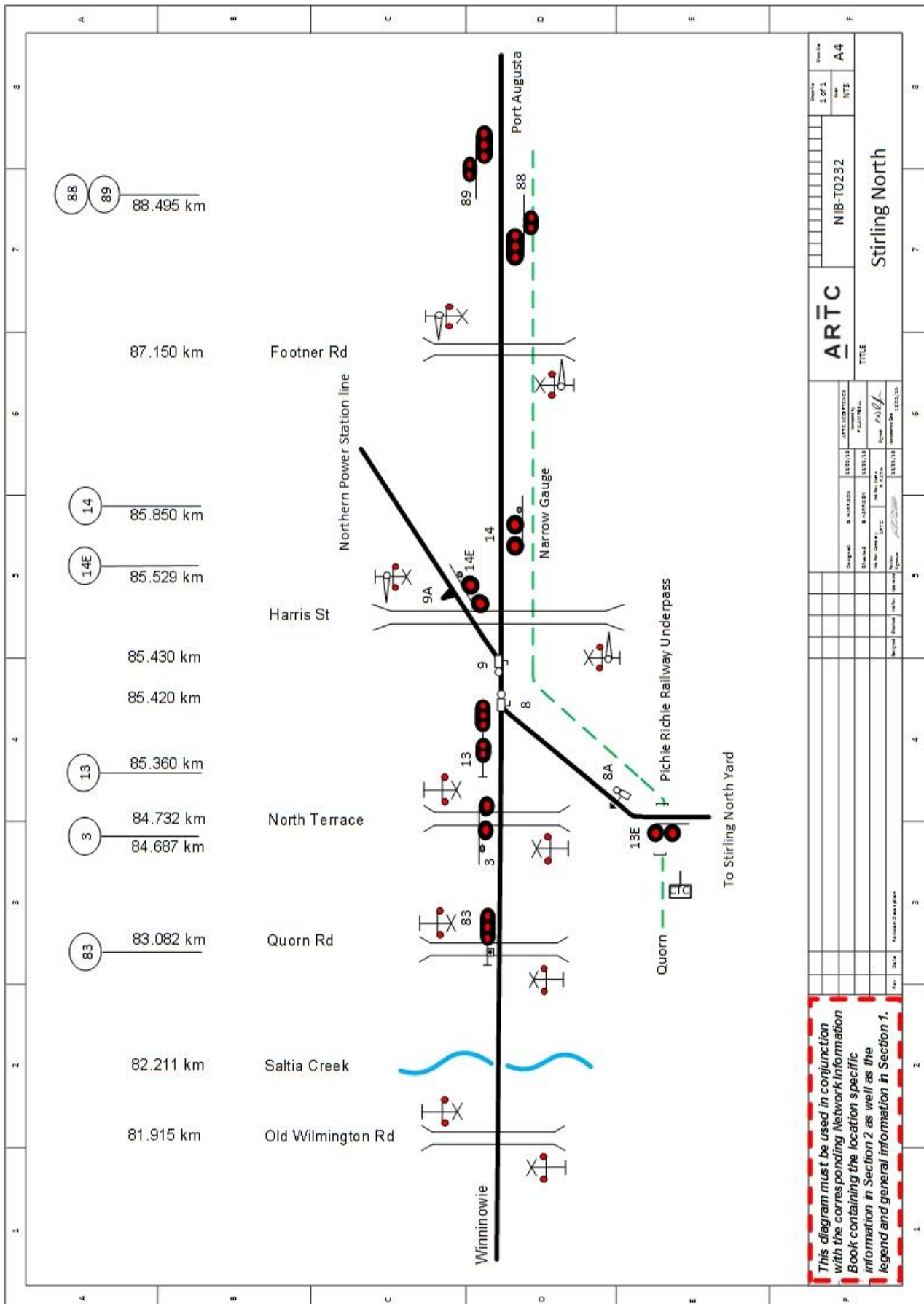
- Yes – In pillbox between mainline points.

Stirling North Yard is leased to CFCLA. Operators requiring access to Stirling North Yard must contact CFCLA for permission to enter.

Where there are interfaces with the Stirling North Yard, the requirements are detailed in the interface agreement IA71.

Stirling North is also the start of where the main line runs parallel to the narrow gauge Pichi Richi Railway which runs historic trains on a limited basis. The two tracks have a fairly limited clearance from each other and operate over the same level crossings in the Stirling North to Port Augusta section.

Where the ARTC network interfaces with the Pichi Richi Railway, the requirements are detailed in the interface agreement IA51



2.17 Port Augusta (PUG)

Standing Room:

- 1040m

Goods Siding:

- No.
- Access to The Workshops and triangle is off the main line.
- Access to the workshops is via the two Electric Point locks located on the mainline.
- No.18 points are very close to Signal 24 and this signal needs to be cleared to enter/exit the 'triangle' here.
- The 'Pirie' leg is via no.18 points while the 'Western' leg is via no.19 points.
- If required to access either of these points the movement must be admitted to the mainline with a low speed signal. Once on the 'circuit' the release can then be given.
- Normal detection on 18 or 19 points will not be restored until the release is cancelled.

Local Control Panel

- No. Local Control via laptop only.

Crank handles:

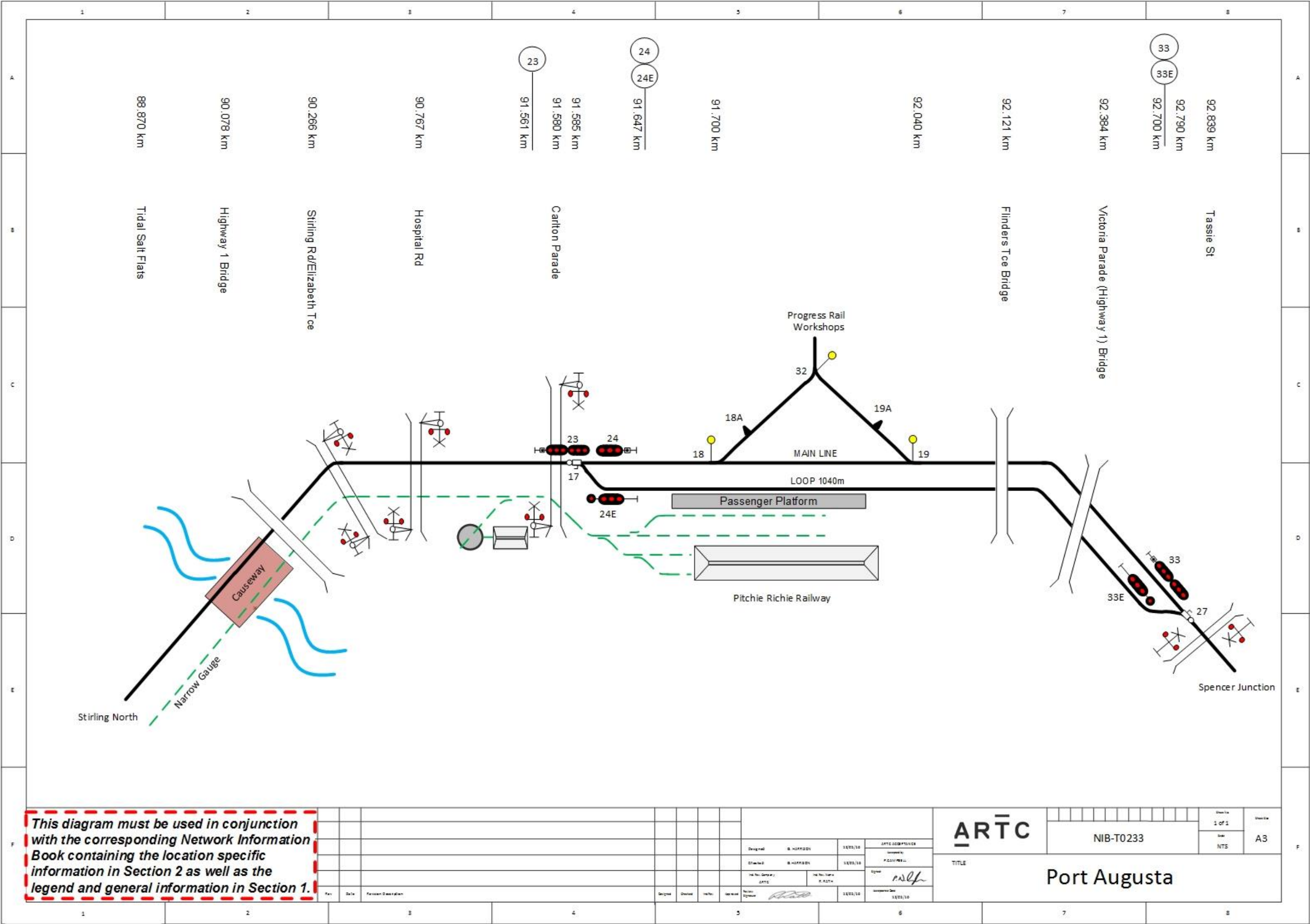
- Yes – In smash box by #17 points at Carlton Parade and also at #28 points at Tassie Street crossing.

The Port Augusta station is here.

- All passenger trains take the platform road.
- All freight trains take the mainline.

The platform road is NOT able to take OOG (double stacked) loading as it has NOT been LOWERED. Rollingstock at Plate "C" outline can traverse the passenger loop. ARTC Standard Rollingstock outline for main lines is Plate "F".

The narrow gauge trains use platform 2 which is rear side of the island section of the platform on the Coonamia end of the station.



2.18 Spencer Junction (SJC)

Standing Room:

- 1880m

Goods Siding:

- Yes. (Major marshalling yard, leased to Progress Rail).

Local Control Panel

- No. Local Control via laptop only.

Crank handles:

- Yes – In smash boxes adjacent to #28 points at Tassie Street crossing and adjacent to #38/39 points at Tent Hill end of Yard.

Location consists of crossing loop and shunting yard and is the junction station for the Whyalla line.

At the Stirling North end of the yard, between the Passenger Loop and Crossing Loop, is Tassie Street, an actively protected level crossing. Do not block.

The southern entrance to Spencer Junction yard is also here. Admit trains via low speed signal.

The low speed signal on 34H will work onto the mainline to access the triangle.

ATMS Whyalla Line operation is covered in Network Information Book OGW-30-10 Tarcoola CTC and Whyalla ATMS.

