

Network Information Book

Melbourne Metro

Newport (inc) to Somerton Loop (exc) & Melbourne Metro Area to Appleton Dock

OGW-30-04

Applicability

Interstate Network

Publication Requirement

Internal / External

Primary Source

Route Access Standard - Defined Interstate Rail Network Section Pages D1

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1.0	23 Sep 2016		Initial issue
2.0	20 Jul 2020	Various	Adjacent train control centres & level crossing details updated. Canal Lead & Emerald Grain Siding operating procedures updated. Sims Street & Newport signal failure information updated. Boundary change signage information removed from Tottenham to Somerton Loop. Albion Junction & McIntyre loop diagrams updated. Various text & diagram corrections.

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2.1	18 Feb 2022	1.1, 1.4, 1.11, 1.19, 2.2, 2.9.1, 2.11.5	Board Extent, Adjacent Train Control and Drawing Legend sections updated. Passenger Car Route Restrictions section added as 1.11. Melbourne Dock Access diagram and section 2.2.4 updated. Brooklyn & Jacana signal references updated. Moonee Ponds Creek, Tottenham Junction and Newport diagrams updated. Usage note added to all diagrams.
2.2	2 Sep 2022	1.1, 1.14, 2.2, 2.3, 2.10, 2.11	Board Extent & Appleton Docks Common User roads updated. Tullamarine Passing Lane updated to Tullamarine Crossing Loop. Melbourne Dock Access & Moonee Ponds diagrams updated.
2.3	17 Apr 2023	1.7, 2.1, 2.9.2	Level Crossings table updated. Port of Melbourne shunt channels added. Goninans siding references updated to UGL. Various diagrams updated.

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1 General Information

1.1 Board Extent

Albion Junction (inclusive) ALB 500 signal 14.054km to Jacana Junction (inclusive) JCA 4 signal 26.870km broad gauge track.

Albion Junction Down Lead Insulated Joint (13.570km) and Up Lead Signal ALB 500 (14.054km) to Jacana Junction Down Lead Signal BMS 547 (16.375km) and Up Lead Signal BMS537 (16.445km)

Moonee Ponds Creek Junction Signal MPJ202 (2.063km) and Signal MPJ218 (1.650km) (inclusive) and Appleton Dock to Newport (inclusive) NPT 724 signal 10.910km and Somerton (inclusive) SOM 2 signal 21.440km.

- Freight Link Track to Moonee Ponds Creek Junction
- South Dynon Yard to Moonee Ponds Creek Junction (Eastern entry)
- South Dynon Loco to Moonee Ponds Creek Junction
- North Melbourne Flyover to Moonee Ponds Creek Junction (Southern Cross Station)
- Moonee Ponds Creek Junction to South Dynon Junction
- South Dynon Yard to South Dynon Junction (Western entry)
- Locomotive Provisioning Centre to South Dynon Junction (Eastern entry)
- Appleton Dock Precinct to Appleton Dock Junction
- Canal Lead to Appleton Dock Junction
- Appleton Dock Junction to South Dynon Junction
- Melbourne Operations Terminal to South Dynon Junction
- North Dynon to South Dynon Junction
- South Dynon Junction to Sims Street Junction
- Locomotive Provisioning Centre to Sims Street Junction (Western entry)
- North Dynon to Sims Street Junction
- Sims Street Junction to Tottenham Junction
- Tottenham Junction to Newport (Brooklyn to Newport – Dual Gauge East Line only)
- Tottenham Junction to Somerton Loop (exclusive)

The Melbourne Metro Board comprises of Standard Gauge track, Dual Gauge track and Broad Gauge track.

The Interfaces are with the V/Line Train Controllers at Centrol for West Footscray and Tottenham Junctions for Broad Gauge traffic, North Dynon for movements into and out of the terminal and to and from South Kensington Junction and for the Freight Link Track to and from the South Hump avoiding track for Broad Gauge traffic.

The V/Line Signaller at No.1 Box for movements to and from Southern Cross passenger terminal.

The Interfaces are with Metro Trains Melbourne (MTM) at Metrol for Albion Junction and Jacana Junction for Broad Gauge traffic.

The MTM signaller at Newport for Broad Gauge movements to and from the Dual Gauge track through Newport.

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

Contact Numbers:

Phone: (08) 8152 8002

Emergency: (08) 8152 8062

Train Transit Manager: (08) 8152 8020

TTM Emergency: (08) 8152 8080

1.2 Safe Working System

The Safeworking Method is Centralised Traffic Control and ABS as per TA.20 Victorian Rules and Operating procedures for the Victorian Main Line Network.

1.3 Applicable Rules

TA20 ARTC Code of Practice for Victorian Mainline Operations.

1.3.1 Index to TA20

Section	Safeworking Rules
Section 00	Master Contents
Section 1	General Rules
Section 2	Fixed Signals
Section 3	Detention at Fixed Signal
Section 4	Defective Fixed Signals
Section 5	Working of points and Signals
Section 7	Audible track warning signals
Section 8	Control and working of stations
Section 9	Working of Level Crossings
Section 10	Working of Trains

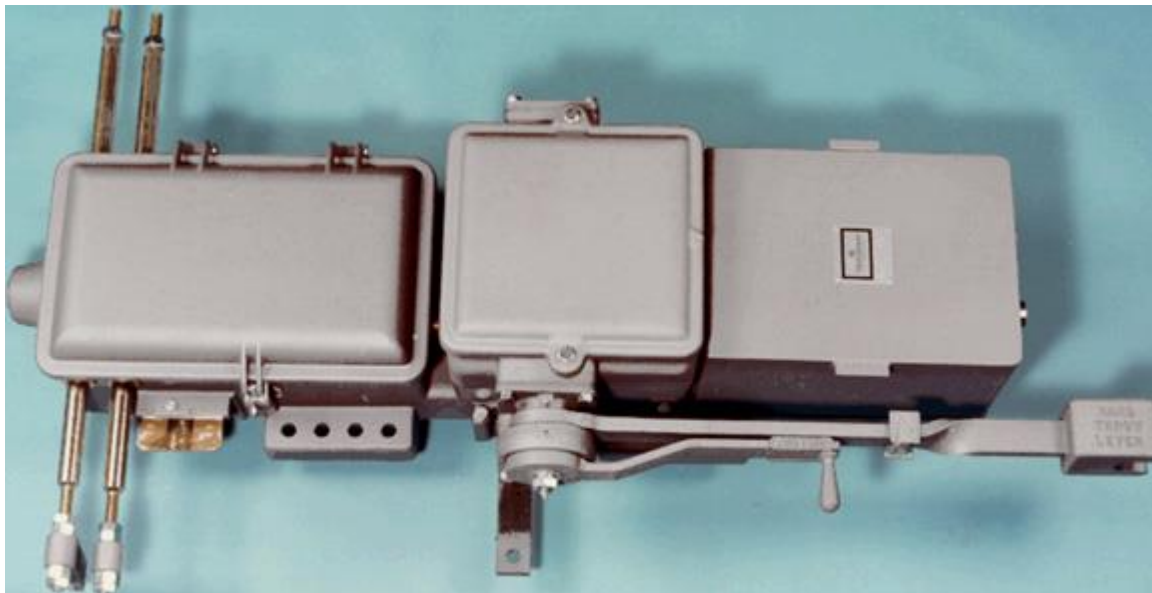
Section 11	Train Signals
Section 12	Shunting
Section 13	Train stopped by accident or obstruction
Section 14	Single Line Working
Section 15	Infrastructure Works
Section 17	Centralised Traffic Control
Section 18	Train Order Working
Section 19	Section Authority Working
Section 21	Train Staff and Ticket
Section 25	Issue of Train Authorities
Operating Procedures	
Section 27	Working of points and Signals
Section 28	Control and working of stations
Section 29	Working of Trains
Section 30	Infrastructure Works
Section 33	Overhead and Electrical equipment
Addendum	
n/a	Phoenix Electronic Train Order System

1.4 Adjacent Train Control Boards / Centres

ARTC Vic South West	(08) 8152 8001	Emergency	(08) 8152 8061
ARTC Main South C	(02) 6924 9802	Emergency	(02) 6924 9862
V/Line Train Control – Centrol	(03) 9619 1062		
V/Line – Signaller No.1 Signal Box	(03) 9619 2151		
Metro Trains - Metrol	(03) 9610 7205	(03) 9610 7204	
Metro Trains – Signaller Newport	(03) 9610 3184		
Metro Trains – Signaller Craigieburn	(03) 9610 2168		
Metro Trains Western Signal Control Panel	(03) 9610 7272		

1.5 Section Operating Equipment

1.5.1 Dual Control Point Machines



M23 Mk II Selector Level Hand throw lever

Dual control (motorised hand operation)

If the points are in reverse when placed in hand operation, the hand throw lever needs to be placed fully across to engage the clutch mechanism to turn the points.

1.5.2 Switch Locks – Appleton Dock



1.5.3 Electric Point Lock Operating Procedure – Appleton Dock

V5PSW key switches are located adjacent to the point lever and are electrically connected to the Network Controller's operating system in Adelaide and provide electric locking of the points.

The key switches have 3 positions as follows:

1. Cancel – Cancels the release command after the points have been set for the Loop Line
2. Centre – Allows the key to be inserted or removed from the Key Switch.
3. Accept – Accepts the release command initiated by the Network Controller.

Four indicator lights are provided at each Key Switch; the lights are labelled and indicate the status of the release or points as follows:

1. Points Locked: Indicates that the Points are set and secured and cannot be operated.
2. Release Available: Indicates that the Network Controller has provided a Release Command for acceptance by the Driver requiring to operate the points.
3. Points Normal: Indicates that the points at both ends of the crossover have been correctly set and the release can be cancelled.
4. Points Free: Indicates that the points are available for operation.

To obtain a release on the points the driver or qualified Safeworker must:

- Contact the Network Controller and request a release on the Points;
- Observe that the 'Release Available' light is displayed;
- Insert the key and turn it to the 'Accept' position;
- Observe that the 'Points Free' light is displayed;
- Return the key switch to the 'Centre' position, withdraw it; and
- Operate the points for the movement.

Immediately the shunting is complete, the points are to be restored to the 'Normal' position.

The Driver or qualified Safeworker must ensure that the indicator on the key switch indicates that the points are normal, insert the 5VPSW key in the key switch and operate it to the 'Cancel' position and advise the Network Controller.

The Network Controller, by observation of the control system, must ensure that the points have been restored and accept the cancellation of the release accordingly.

1.6 Train Braking Requirements

Train braking and holding test are covered in the RAS.

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 en route.
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 remarshalled 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.

1.7 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	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
6112	E Gate Access Rd North	Moonee Ponds Creek to South Dynon	2.172	Road	Private	Boom gate
6116	K Gate Dynon Yard No 1 - Access Rd	Moonee Ponds Creek to South Dynon	2.279	Road	Private	Stop Signs
6182	E Sidings Access	South Dynon – Sims Street Junction	3.844	Pedestrian	Private	No Control
6117	Dock Link Road	South Dynon – Sims Street Junction	3.935	Road	Public	Half Boom Flashing Lights
1710	Dock Link Road	South Dynon to Swanson Dock	3.940	Road	Public	Half Boom Flashing Lights
6017	PN Provisioning Centre Access	South Dynon – North Dynon 'W' Track	4.175	Road	Private	Stop Signs (duplicated)
	Raleigh Street Hi-Rail Pad	Sims Street Junction - Tottenham	6.058	Rail Only Bitumen	Private	Locked Gates
	Cross Street Hi-Rail Pad	Sims Street Junction - Tottenham	6.718	Rail Only Bitumen	Private	Locked Gates
	Tottenham Yard Hi-Rail Pad	Sims Street Junction - Tottenham	8.275	Rail Only (Ballast)	Private	No Control
	MT RIA Tottenham Yard crossing	Sims Street Jct. - Tottenham	8.333	Road	Private	Locked gates
	Tottenham Yard Hi-Rail Pad (Ballast)	South Dynon - Tottenham	10.064	Rail Only	Private	No control
1706	Drake St Sunshine North	Tottenham - Somerton	15.069	Pedestrian	Public	Maze
1707	Arundel Ave Glenroy	Tottenham - Somerton	25.927	Pedestrian	Public	Automatic Gates
	Jacana Hi-Rail Pad (Ballast)	Tottenham - Somerton	26.413	Rail Only	Private	Locked Gates
Km Change			27.035km becomes 16.000km			
	Broadmeadow Hi-Rail Pad (Ballast)	Tottenham - Somerton	17.072		Rail Only	Private
918	Smeaton Ave Dallas	Tottenham - Somerton	18.327	Pedestrian	Public	Automatic Gates
920	Lovat Ct (Dunkeld St)	Tottenham -	20.245	Pedestrian	Public	Automatic Gates

ALCAM ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
	Coolaroo	Somerton				
	Tottenham	Km Change	9.997km becomes 17.218km towards Newport			
1703	Somerville Rd Brooklyn	Tottenham – Newport	15.497	Road	Public	Half Boom Flashing Lights - (duplicated)
1703	Somerville Rd Brooklyn	Tottenham – Newport	15.497	Pedestrian	Public	Pedestrian Path Down Side Only
1702	Francis St Yarraville	Tottenham - Newport	14.250	Road	Public	Half Boom Flashing Lights
1701	Kernot St Spotswood	Tottenham - Newport	12.528	Pedestrian	Public	Automatic Gates
1700	Birmingham / Hicks Sts Spotswood	Tottenham - Newport	12.177	Pedestrian	Public	Maze
1701	Kernot St Spotswood	Tottenham - Newport	12.528	Pedestrian	Public	Automatic Gates
	Newport	KM Change	10.480km decreasing becomes 10.700km increasing			
319	Newport Workshops staff access	Tottenham - Newport	10.850	Pedestrian	Private	Maze

1.8 Emergency Local Releases

Nil

1.9 Maximum Permitted Speeds and Permanent Speed Restrictions

1.9.1 Maximum Permitted Speeds

Refer the Route Access Standard - Defined Interstate Rail Network Section Pages D1 for all speed information.

1.9.2 Special Speed Restrictions

Melbourne to Laverton		
Location	Maximum Speed km/h	
	When running from lines diverging from the straight track	When running on the straight track
Over facing points held by HAND	15	15
Between Tottenham and Newport	15	Line speed for type of train
Tottenham Junction Grade Separation between 17.125 km and 17.100 km for any Broad Gauge movement to/from the dual gauge	Broad Gauge	
Brooklyn between 15.600 km and 15.560 km for any move to/from West Line or to/from Sunshine	15	Line speed for type of train
Newport (602 points) between 11.010 km and 10.970 km for any move to/from West Line	15	40

ARTC Boundary and Laverton	40	Line speed for type of train
Appleton Dock Line parallel to the Melbourne Operations Terminal past shunt yard		15
		Whistle frequently and dim headlight

1.10 Maximum Train Length

Maximum train length is 1800 metres.

1.11 Passenger Cars Route Restrictions

The V/Line VLocity is not permitted through the following points or locations.

- Not permitted beyond Signal Post 2 at Brooklyn
- V/Line sidings at Somerton Loop

1.12 Structure Clearances

Refer Route Access Standards for Rolling Stock Outlines.

1.13 Tunnels

NAME	FROM KM	TO KM
Bunbury Street Tunnel	4.875	5.289

1.14 Significant Kilometre Markings

The following locations on the ARTC Network have kilometre posts that change on the ground and do not follow the measured distance between Kilometre post:

Jacana Flyover location

- Tullamarine Crossing Loop is 22.087 km AND Somerton Loop is 22.737 km (Tullamarine is approximately 11 km before Somerton) – (27.035 km becomes 16.000 km increasing towards Somerton Loop)

Tottenham

- Last Long Bearer of 17D Points 9.997km becomes 17.218km decreasing towards Newport

Newport

- 10.434km decreasing becomes 10.700km increasing towards Laverton.

1.15 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.

1.16 Wayside Monitoring Systems

There are no wayside monitoring systems in place in this section.

1.17 Ruling Gradients

Tottenham to Melbourne	1 in 70
Melbourne to Tottenham	1 in 75
Tottenham to Somerton	1 in 50
Somerton to Tottenham	1 in 132

1.18 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

1.19 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 Port of Melbourne Communications

Shunt Channels are available to assist train crews shunting within Appleton, Swanson and Victoria Docks as follows:

Melbourne Ports Shunt 1

463.8875 MHz

Tx CTCSS: 123.0 Hz

Rx CTCSS: 123.0 Hz

Bandwidth: 12.5 KHz,

EIRP: 8.3W

Melbourne Ports Shunt 2

464.525 MHz

Tx CTCSS: 114.8Hz

Rx CTCSS: 114.8 Hz

Bandwidth: 12.5 KHz,

EIRP: 8.3W

2.2 Appleton Dock Precinct (Melbourne Ports)

General Information:

The management of Rail movements and infrastructure activities from the Port of Melbourne precinct, Appleton Dock Junction, Freight Link Track, Moonee Ponds Creek Junction, South Dynon Junction to Sims Street Junction.

North Dynon to Sims Street Junction.

Sims Street Junction to West Footscray Junction.

West Footscray Junction to Tottenham Junction,

Tottenham Junction to Newport and Tottenham Junction to Somerton (Exclusive)

The ARTC Melbourne Metro Network Controller operates the points and signals on the ARTC Main Line and the V/Line Train Controller (Tottenham Area Signaller) operates the signals within the Melbourne Freight Terminal (MFT) North Dynon Yard and South Kensington and the Up and Down Independent Goods lines between Tottenham and West Footscray.

The ARTC Melbourne Metro Network Controller interfaces with the V/Line Tottenham Train Controller for moves to and from North Dynon Yard and South Kensington, the Freight Link Track to Melbourne Yard and for Broad Gauge Moves to and from Tottenham Yard at West Footscray and Tottenham Junctions. Where ARTC interfaces with V/Line, the requirements are detailed in interface agreement IA02.

The ARTC Melbourne Metro Network Controller interfaces with the V/Line Signaller at No.1 Box for moves to and from the ARTC Main Line to the North Melbourne Flyover.

The ARTC Melbourne Metro Network Controller interfaces with the MTM Signaller at Newport for moves to and from the Dual Gauge to the Broad Gauge.

The following operating protocols will apply on the ARTC Network:

- Signals controlled by ARTC are provided with a sign ADL.
- Signals controlled by V/Line are provided with a sign MEL.
- Certain signals have a joint control junction dependent on the route of the points; these signals are identified ADL/MEL or MEL/ADL.

2.3 Appleton Dock

There are seven tracks located within the Appleton Dock sidings:

- No 1 Track (Emerald Grain operated) 1161 metres long from clearance point to baulk
- No 2 Track (Emerald Grain operated) 686 metres clear standing room
- No 3 Track (Common User) 1010 metres clear standing room
- No 4 Track (Common User) 915 metres clear standing, 1665 metres to end of wharf.
- No 5 Track (Common User) 915 metres clear standing
- No 6 Track (Patrick operated Container Park Siding) 865 metres clear standing
- No 7 Track (Patrick operated Container Park Siding) 865 metres clear standing
- A siding located at the southern end of the sidings and is known as the Patrick Wharf siding.

Additional Tracks:

There are 2 tracks at the West Swanson Dock sidings, which form a 563 metre loop prior to the entry point into the DP World sidings. Operators requiring passage into any of the private sidings located within the Appleton Dock or west Swanson Dock sidings must first seek the authority of the siding owner prior to requesting passage from the ARTC Network Controller.

Other Information:

ARTC manages the Rail Operations at Appleton Dock and West Swanson Dock sidings on behalf of the Port of Melbourne Corporation and in conjunction with Emerald Grain and Patrick.

Tracks 1 to 7 are track circuited and are indicated on the Phoenix system at NCCW.

In addition, the position of all points at the arrival end of the sidings is indicated on the Phoenix control system.

2.3.1 Position of Points

POSITION OF POINTS AND IDENTIFICATION, APPLETON DOCK SIDINGS: ARRIVAL END:

The points are provided with WSA levers and point indicators as detailed in rule 18, clause k, and section 27 of TA20. Each set of points are provided with an identification label on the timber of the points to indicate the name of the points.

The lay of the points and indication on the point indicator is as follows:

POINTS C:

- Emerald Grain lead to No 1 Track 'Yellow Circle'
- Emerald Grain lead to No 2 Track 'White Square'

POINTS D:

- Along No 2 Track - 'Yellow Circle'
- No 2 Track to No 3 Track - 'White Square'

POINTS A:

- Appleton Dock Lead to No 4 or 5 tracks - 'Yellow Circle'

- Appleton Dock Lead to No 6 or 7 tracks - 'White Square'

POINTS B:

- Along No 4 track - 'Yellow Circle'
- To No 5 track - 'White Square'

POINTS E:

- Along No 6 track - 'Yellow Circle'
- To No 7 track – 'White Square'

A crossover (No 3) is located between the Appleton Dock lead and No 3 track (Common User), the points are provided with WSA levers, which are secured by electric point locks released by the ARTC Network Controller, operation of the points locks is detailed.

The position of the points and associated track occupancy of the points is indicated on the Phoenix control system at NCCW. The points are not detected through any of the signalling at the sidings and can be freely released and operated, without impacting on the operation of the signalling, the exception to this, is if a movement is standing on the points or associated track circuits, the release should not be able to be cancelled until the points are unoccupied.

POINTS 3:

- Along No 3 track and No 4 Track - 'Yellow Circle'
- Set to run between No 3 and 4 tracks - 'White Square'

POSITION OF POINTS, PATRICK WHARF END: Points '1':

A crossover (No 1) is located between the Appleton Dock lead and No 3 track (Common User), the points are provided with WSA levers, which are secured by electric point locks released by the ARTC Network Controller, operation of the points locks is detailed.

The position of the points and associated track occupancy of the points is not indicated on the Network Controller's control system with the exception of an indication that the points are locked or unlocked.

POINTS 1:

- Along No 3 track and No 4 Track - 'Yellow Circle'
- Set to run between No 3 and 4 tracks - 'White Square'
- All other points are provided with WSA levers only.

PATRICKS SIDING:

Points A leading from the Appleton Dock Lead to the Patrick Container siding and points I leading from No 5 Track (Common User) to the Patrick Container siding are provided with lock bar pin and padlock. During the period that these points are not in use they must be set in the normal position and locked.

In addition, derails with red discs are provided at either end of the Patrick Container sidings. When the derail is on the rail the red disc is in the 'up' position to indicate to arriving movements that the derail is on.

During periods that there are no operations within the Patrick siding, the derails must be applied and secured.

COMMON USER ROADS:

Derailers and Ramp Blocks are installed on No 4 & No 5 Common User Roads on the Up and Down ends.

The derailleurs are fitted with a 5PSW key and will be locked 'OFF' unless required to be operated for roll out protection. Refer TA20 Section 12.

2.3.2 Patricks Siding/Common User Roads Operating Procedures

All movements proceeding into the Common User sidings must be signalled by the ARTC Network Controller onto the Appleton Dock lead track.

The ARTC Network Controller must also advise the Patrick Shift Supervisor at Appleton Dock prior to signalling a Broad Gauge or Standard Gauge movement towards the Patricks sidings.

Movements requiring entry to the Patrick Wharf Siding must, on arriving, reverse the locomotive and set back into the siding.

If the movement is required to proceed directly into the Patrick Park siding the points and derails must be set by a qualified Safeworker prior to the arrival of the movement to ensure direct passage into the siding. The train crew of the arriving movement must confirm the correct route and that the derail has been removed, by observation of the appropriate indicators provided.

Immediately the movement is proceeding along the Appleton Dock line the driver must contact the driver of any movement already operating within the common user sidings and advise of the imminent arrival and the track over which the movement is required to proceed onto.

Train Crews already operating within the sidings must acknowledge the driver of the arriving movement and ensure clear passage is maintained until the movement arrives in clear accordingly.

As the arriving movement proceeds along the Appleton Dock lead, the driver must also confirm, by observation of the point indicators, that the points are correctly set for the route the movement is required to proceed and where required, stop the movement and set the points for the movement.

The allowable standing time for the common user tracks is a maximum of 60 minutes unless otherwise approved by the Port of Melbourne Corporation and passed on to ARTC Network Control on a case by case basis.

PATRICK WHARF OR PATRICK SIDING SHUNTING MOVEMENT AT WHARF END:

Should it become necessary for a movement to shunt within the common user sidings, prior to operating the points at the wharf end of the siding, the driver must contact the ARTC Network Controller and confirm that no movements are planned to arrive.

The driver must also establish contact with any other movement operating within the common user sidings and advise of the intended movement. Provided the movement can proceed, the points can then be unlocked (leading from Patrick siding) and or set for the required movement.

If the shunting movement has come out of the Patrick Park siding, immediately after the movement has cleared the points they must be restored and secured with the lock bar pin and padlock provided.

At completion of shunting, in addition to restoring the points, the derail devices are also to be restored.

When proceeding into the Patrick Wharf sidings all wagons and locomotives shall cross the Appleton Dock Road Level crossing without stopping unless the total shunting movement including the uncoupling of locomotives can be completed with the maximum road closure of 5 minutes and the minimum time between reactivating the flashing lights of 5 minutes.

For any Emergency Vehicles requiring access to cross the Appleton Dock Road Level crossing, Trains shall be immediately moved or consist broken up and moved to clear the Level crossing to allow access.

PATRICK WHARF MOVEMENT ENTERING COMMON USER SIDINGS:

When a movement requires to proceed from the Patrick Wharf siding into the Common User sidings, the driver of the movement must contact the ARTC Melbourne Metro Network Controller and advise of the intended movement and confirm that no movements are planned to proceed onto the Departure track from the opposite end and request permission to proceed.

Provided permission is granted, the driver must then establish contact with any other movement working within the area and advise of the intended movement.

The driver must, after ensuring the points have been correctly set, proceed accordingly.

2.3.3 Westgate Ports Operating Instructions

All movements proceeding into Victoria Dock sidings are signalled by the ARTC Melbourne Metro Network Controller onto the Victoria Dock lead. A gate is located across the lead into the Westgate sidings and is opened by the Westgate Yard Coordinator for rail movements.

Prior to signalling a movement into the Victoria Dock sidings from Sims St Junction, North Dynon Junction or the Canal Lead, the driver of the movement must contact Victoria Dock (QUBE) Yard Coordinator and ensure that the movement can be accepted and that the gate is open for the movement. The Driver must then advise the ARTC Melbourne Metro Network Controller.

The Yard Coordinator will arrange for the gates to be opened and will set the applicable points for the movement to arrive. A notice board is provided adjacent signal APD8 for arriving movements with the following wording:

CONTACT YARD COORDINATOR PRIOR TO PROCEEDING

The driver of an arriving movement must contact the Westgate Yard Coordinator prior to proceeding beyond this notice board and obtain details re the train's arrival into the Westgate Port sidings and the working within the yard.

Should the arriving movement be too long to arrive into the sidings fully, after ensuring that the movement has arrived in clear of signal APD 24, the driver may then split the train at the points and draw the first portion into the yard.

The loco may then be detached and run around the consist to attach to the second portion and draw the second portion into an alternative track. Should the loco require to pass signal APD 8, the driver must contact the ARTC Melbourne Metro Network Controller and request that the signal be placed to proceed for the movement.

Upon the movement being completed, the Network Controller must be advised and the signal restored to stop.

SHUNTING MOVEMENTS:

Signal APD 8 is located at the entrance of the sidings for departing movements and is provided to ensure that a movement does not depart the sidings whilst a movement is entering the sidings.

When a movement requires to shunt out of the Victoria Dock (QUBE) sidings, the train crew must contact the ARTC Melbourne Metro Network Controller and advise that a shunt movement is about to occur.

Provided there are no conflicting movements, the ARTC Melbourne Metro Network Controller will place signal APD 8 to proceed and the shunt movement may then take place. Shunting movements that have passed signal APD 8 and require to depart without setting back behind signal APD 8, must not proceed to signal APD 24 without first liaising with the ARTC Melbourne Metro Network Controller.

DEPARTING MOVEMENTS:

A movement requiring departure from the Victoria Dock sidings must first contact the ARTC Melbourne Metro Network Controller and provide the appropriate train details for the movement. Provided the movement can be accepted, the ARTC Melbourne Metro Network Controller will advise the train crew and place signals APD 8 and signal APD 24 to proceed for the movement to commence down to the main line.

Should the movement already be passed signal APD 8, the train crew must advise the ARTC Melbourne Metro Network Controller and request signal APD 24 to be placed to proceed for the departure of the movement.

2.3.4 Canal Lead Operating Procedures

MOVEMENTS TOWARDS THE CANAL LEAD

The Dual Gauge North Dock Line and South Dock Line between Dock Link Road and Appleton Dock Junction are under the control of the ARTC Melbourne Metro Network Controller.

A baulk has been placed across the line adjacent to dwarf signal APD 26 until the Canal Lead is realigned.

2.3.5 Emerald Grain Siding Operating Procedures

Lock Bars have been installed on No. 1 (C points) & 2 (D points) Roads on the Appleton Dock Junction end. The Lock Bars have been fitted with an Emerald Grain specific lock and will be locked 'OFF' unless required to be operated for roll in protection. (Refer TA20 Section 12)

The Operating Procedures for the Port of Melbourne Precinct dated 29 May 2013 will be updated to reflect this change.

Operators that require access into the Emerald Grain Sidings must first seek the authority from Emerald Grain prior to requesting passage from the ARTC Network Control. ARTC Network Control will not send a movement toward Emerald Grain Sidings until the operator has confirmed access has been approved.

Roll In protection

When Emerald Grain are carrying out infrastructure works within No.1 and/or No.2 Roads, Emerald Grain will contact the Melbourne Metro Network Controller and advise that they are applying the Lock Bars to prevent any rail access into No.1 and/or No.2 Roads. The Melbourne Metro Network Controller will endorse the Train Graph accordingly.

Restricting Access to No.1 and/or No.2 Roads

While Emerald Grain is discharging wagons, Emerald Grain will contact the Melbourne Metro Network Controller and advise that access is restricted into No. 1 and/or No.2 Roads. The Melbourne Metro Network Controller will endorse the Train Graph accordingly.

When Emerald Grain has completed the discharging of wagons, they will contact Melbourne Metro Network Controller and advise that the restriction is removed.

* When Rail Operators are ready to depart the Emerald Grain Sidings they must first seek the authority from Emerald Grain and confirm the (*) Restriction (*) has been lifted prior to requesting passage from the ARTC Network Control.

Note: *This does not remove the obligation of the Train Crew in regards to passing the "CONTACT ARTC NETWORK CONTROL PRIOR TO PROCEEDING" sign, without the permission of the ARTC Network Control.*

2.3.6 Swanson Dock Operating Procedure

All movements proceeding toward the West Swanson Dock sidings shall be signalled by the ARTC Melbourne Metro Network Controller onto the West Swanson Dock line. Prior to requesting allowing a Broad Gauge movement to depart from the Up Independent Goods Line or Tottenham Yard or for a Standard Gauge Movement from Tottenham, the driver of the rail movement must ensure that the intended rail movement will have passage into the sidings.

Movements requiring to enter the DP World sidings, must first on arriving on the common user roads at Swanston Dock, reverse the locomotive and then set back into the Rail Terminal siding.

When shunting on the common user roads at Swanston Dock, Drivers in charge of movements must obtain permission from the ARTC Melbourne Metro Network Controller prior to passing the Stop board at the East end of the common user roads.

CONTACT ARTC NETWORK CONTROLLER PRIOR TO PROCEEDING

When proceeding into the DP World siding rail terminal all wagons and locomotives must cross the Dock Link Road level crossing without stopping unless the total shunting movement including the uncoupling of the locomotives can be completed with the maximum road closure time frame.

The Dock Link Road level crossing flashing lights are to be deactivated electronically or manually immediately they are not required for warning purposes. The maximum allowable time for the Dock Link Road level crossing to be blocked for rail operations is 5 minutes.

The minimum time frame between reactivating the Dock Link Road level crossing flashing lights is 5 minutes.

Driver in Charge will apply at Swanston Dock sidings between Dock Link Road Level crossing and Signal APD 34

Should a second rail service be required to proceed towards the West Swanson Dock common user roads, the driver of the second train must make contact with the driver in charge and come to agreement of the second train being able to arrive.

The ARTC Melbourne Metro Network Controller must be advised that the second rail movement can be accepted and can also arrive in clear of the Dock Link Road level crossing prior to signalling the second rail service towards the West Swanson Dock sidings.

Immediately the movement is proceeding along the Appleton Dock line and after passing over Dock Link Road Level Crossing at South Dynon Junction, the driver must contact the driver of any movement already operating within the West Swanson Dock sidings and advise of the imminent arrival.

Train Crews already operating within the sidings must acknowledge the driver of the arriving movement and ensure clear passage is maintained until the movement arrives in clear accordingly.

When operating within the confines of the DP World sidings, Train Crews must ensure that they operate in accordance with DP World protocols.

MOVEMENTS DEPARTING WEST SWANSON DOCK SIDINGS:

Rail Movements must not depart from the common user roads at West Swanson Dock sidings without first contacting the ARTC Melbourne Metro Network Controller.

Drivers in charge of rail movements ready to depart must give the ARTC Melbourne Metro Network Controller train details and destination prior to requesting permission to depart and pass the stop board at the East end of the common user roads and proceed towards signal APD34.

CONTACT ARTC NETWORK CONTROLLER PRIOR TO PROCEEDING

Provided there are no conflicting arriving movements, the ARTC Melbourne Metro Network Controller must grant the permission to the driver to proceed and set the applicable route for the movement to proceed.

The driver must then establish contact with any other movement operating within the applicable siding and advise of the intended movement accordingly.

2.3.7 Melbourne Ports Signalling General Information

APD 8: Dwarf signal is located at the entrance of the sidings for departing movements and is provided to ensure that a movement does not depart the sidings whilst a movement is entering the sidings. This signal displays Stop, Low Speed Caution and Clear Low Speed. Authority to pass at stop is a Signalman's Caution Order form 2377 by the ARTC Network Controller.

APD 20: Dwarf signal for departing movements from the Appleton Dock Lead toward signal APD 32 - This signal displays Stop, Low Speed Caution and Clear Low Speed. Authority to pass at stop is a Signalman's Caution Order form 2377 by the ARTC Melbourne Metro Network Controller.

APD 22: Dwarf signal for departing movements from the Emerald Grain Lead toward signal APD 32. This signal displays Stop, Low Speed Caution and Clear Low Speed. Authority to pass at stop is a Signalman's Caution Order form 2377 by the ARTC Melbourne Metro Network Controller.

APD 24: Dwarf signal for departing movements from Victoria Dock (QUBE) siding toward signal APD 32. This signal displays Stop, Low Speed Caution and Clear Low Speed. Authority to pass at stop is a Signalman's Caution Order form 2377 by the ARTC Melbourne Metro Network Controller.

APD 26: Dwarf signal for departing movements from the Canal onto the Canal Lead toward signal APD 38. This signal displays Stop and Low Speed Caution. Authority to pass at stop is a Signalman's Caution Order form 2377 by the ARTC Melbourne Metro Network Controller.

NOTE: *A baulk has been placed across the line adjacent to signal APD 26 until the Canal Lead is realigned.*

APD 28: Dwarf signal for arriving movements into the Appleton Dock Lead, Emerald Grain Lead or into the Victoria Dock (QUBE) siding. This signal displays Stop and Low Speed and is provided with arrow route indicators indicating the direction that the route is set for the movement. Authority to pass at stop is a Signalman's Caution Order form 2377 by the ARTC Melbourne Metro Network Controller.

APD 38: Home signal for departing movements from the Canal Lead to the South Dock Line, North Dock Line or the Melbourne Operations Terminal. This signal displays Stop, Medium Speed Warning, Clear Medium Speed, and Low Speed Caution. This signal also has banners to indicate V or S to display the gauge of the movement. Authority to pass at stop is a Signalman's Caution Order form 2377 from the ARTC Melbourne Metro Network Controller.

APD 44: Home signal for movements proceeding to the Appleton Dock lead, West Swanston Dock Lead or the Canal Lead. This signal displays stop and low speed warning. The signal is provided with a theatre box indicator and displays the following routes:

- AD: The route is set along the Appleton Dock lead
- SD: The route is set toward the West Swanson Dock lead
- C: The route is set toward the Canal Lead

Authority to pass at stop is a Signalman's Caution Order of the ARTC Network Controller.

APD 40: Dwarf signal for departing movements from MOT (3 Road East Yard) to the MOT (3 Road West Yard). This signal displays Stop and a Low Speed Caution. Authority to pass at stop is a Signalman's Caution Order from the ARTC Melbourne Metro Network Controller.

APD 46: Dwarf signal for departing movements from the MOT (3 Road West Yard) to either the MOT (3 Road East Yard), the Canal Lead, the Appleton Dock Lead or the West Swanston Dock Lead. This signal displays Stop and a Low Speed Caution. A theatre box indicator is provided but will not be commissioned at this time and will be turned away from the main line. Authority to pass at stop is a Signalman's Caution Order issued by the ARTC Melbourne Metro Network Controller.

APD 32: Home signal for movements departing the Appleton Dock lead to either the South Dock Line, North Dock Line or the MOT. This signal displays Stop, Low Speed Caution, Medium Speed Warning and Clear Medium Speed. The signal is provided with a V and S indicator to display the gauge of the movement. The signal is provided with a theatre box indicator and displays the following routes:

- SD: The route is set along the South Dock Line
- ND: The route is set toward the North Dock Line
- O: The route is set toward the MOT

Authority to pass at stop is a Signalman's Caution Order of the ARTC Melbourne Metro Network Controller.

APD 34: Home signal for movements departing the West Swanson Dock lead to either the South Dock Line, North Dock Line or the MOT. This signal displays Stop, Low Speed Caution, Medium Speed Warning and Clear Medium Speed. The signal is provided with a V and S indicator to display the gauge of the movement. The signal is provided with a theatre box indicator and displays the following routes:

- SD: The route is set along the South Dock Line
- ND: The route is set toward the North Dock Line
- O: The route is set toward the MOT

Authority to pass at stop is a Signalman's Caution Order of the ARTC Melbourne Metro Network Controller.

APD 42: Home signal for movements proceeding to the Appleton Dock lead, West Swanston Dock Lead or the Canal Lead. This signal displays Stop and Low Speed Caution. The signal is provided with a theatre box indicator and displays the following routes:

- AD: The route is set along the Appleton Dock lead
- SD: The route is set toward the West Swanson Dock lead
- C: The route is set toward the Canal Lead

Authority to pass at stop is a Signalman's Caution Order of the ARTC Melbourne Metro Network Controller.

2.3.8 Point Indications

Points 41D and Points 41U - Double ended points. In the normal position, to and from the West Swanston Dock Lead to the South Dock Line. In the reverse position, to and from the West Swanston Dock Lead to the North Dock Line.

Points 39D and Derail 39U - Points and derail. In the normal position, to and from the North Dock Line to the Appleton Dock Lead. In the reverse position, to and from the North Dock Line to the Canal Lead.

Derail 33 – Derail located adjacent to APD 32. In the normal position, set for derail – Signal APD 32 in the stop position. In reverse, set for no derail – Signal APD 32 in the proceed position.

Derail 35 – Derail located adjacent to APD 34. In the normal position, set for derail – Signal APD 32 in the stop position. In the reverse position, set for no derail – Signal APD 32 in the proceed position.

Points 27 - Single ended points. In the normal position, to and from Appleton Dock Junction to the Appleton Dock lead. In the reverse position, to and from Appleton Dock Junction to the West Gate Port sidings

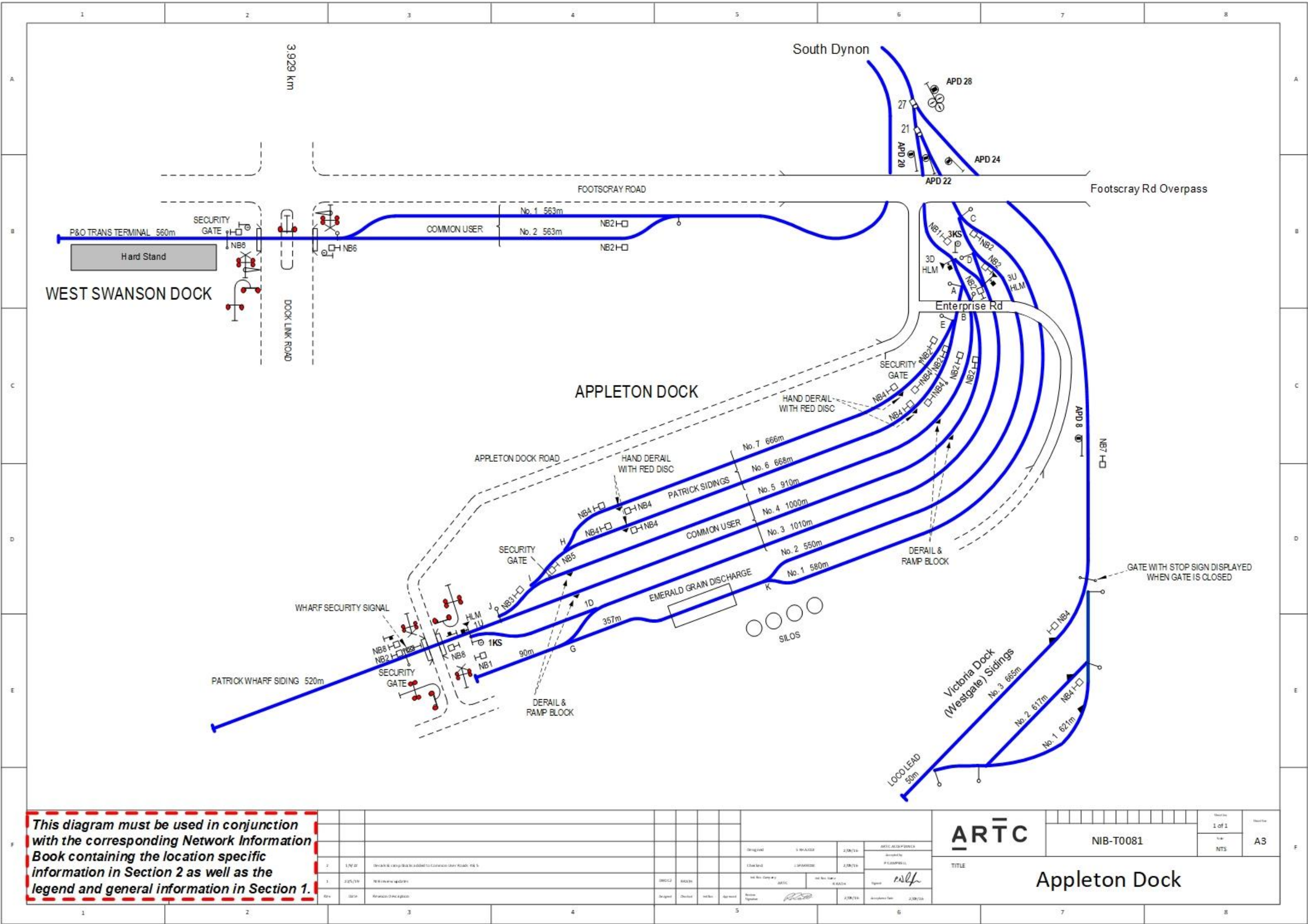
Points 21 – Single ended points. In the normal position, to and from Appleton Dock Junction to the Appleton Dock lead. In the reverse position, to and from Appleton Dock Junction to the ABA Lead.

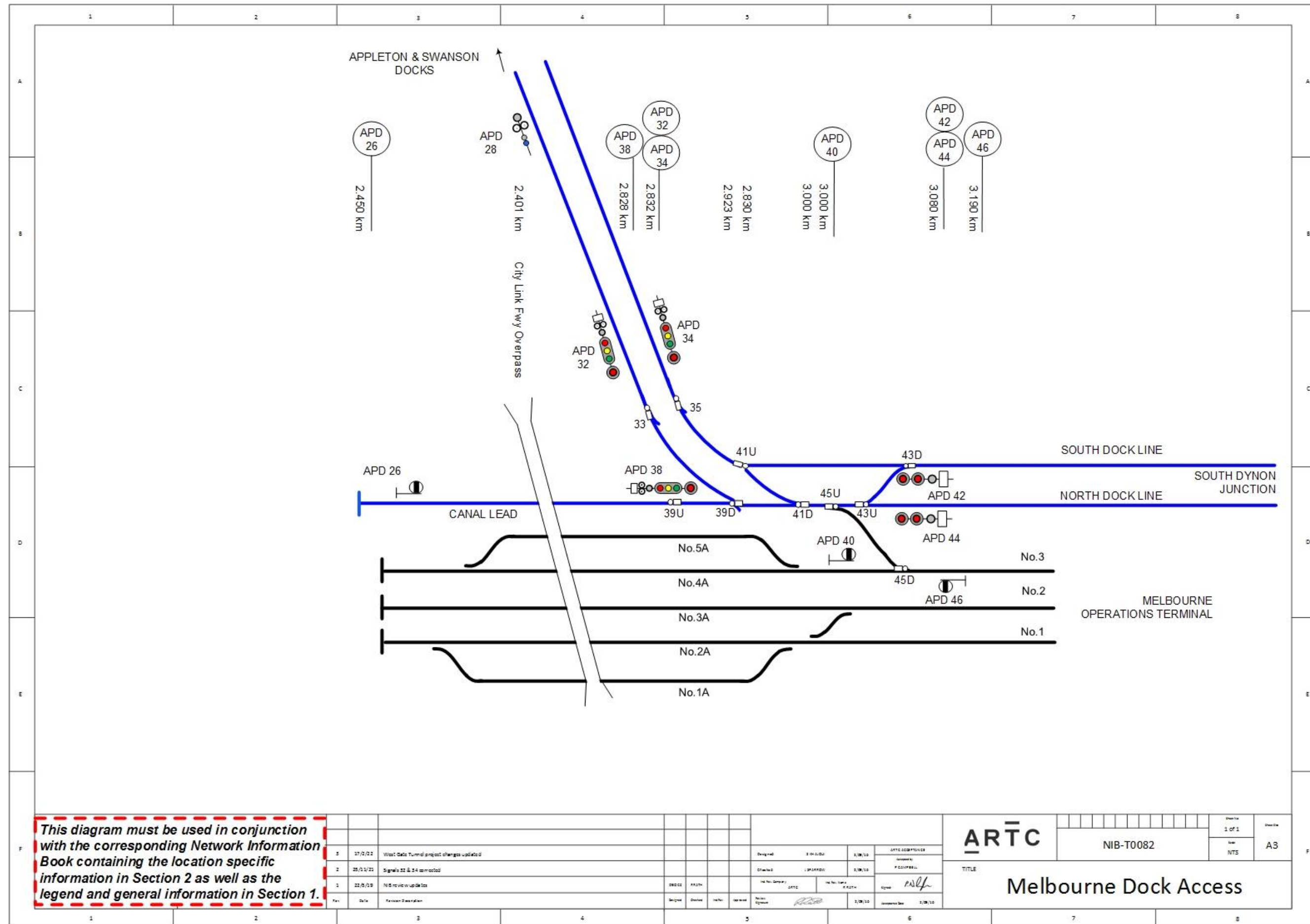
Points 3D and 3U: Electrically locked crossover between No 3 and No 4 common user tracks at the Appleton Dock Junction end of the sidings. Provided with a 5P key switch and released by the ARTC Melbourne Metro Network Controller.

Points 1D and 1U: Electrically locked crossover between No 3 and No 4 common user tracks at the Wharf end of the sidings. Provided with a 5P key switch and released by the ARTC Melbourne Metro network controller.

Points 45D and Points 45U – Double ended points: In the normal position, to and from the Appleton Dock Lead to the North Dock Line and to and from the MOT (3 Road West Yard) and the MOT (3 Road East Yard). In the reverse position, to and from the Appleton Dock Lead and the MOT (3 Road West Yard).

NOTE: *All points are dual controlled point machines and can be operated manually by a competent employee during failures.*





2.4 Moonee Ponds Creek Junction

General Information

Moonee Ponds Creek Junction comprises of Standard Gauge and Dual Gauge tracks. The ARTC Melbourne Metro Network Controller interfaces with the V/Line Spencer St. No. 1 Box Signaller for rail movements towards Southern Cross. The ARTC Melbourne Metro Network Controller interfaces with the Centrol Train Controller for Broad Gauge freight movements from the Freight Link Track to and from Melbourne Yard. Where ARTC interfaces with V/Line the requirements are detailed in interface agreement IA08.

Shunting Movements to and from South Dynon Yard and the South Dynon Locomotive Provisioning Centre

Number MPJ 205 Points when in the normal position will be set for the Freight Link Track and will be required to be operated to reverse position for rail services to and from Southern Cross Station.

The ARTC Melbourne Metro Network Controller in Adelaide will control all signals with the Prefix MPJ (Except MPJ 218 signal when points MPJ 219 Points are reversed) The V/Line Spencer St. No. 1 Box Signaller will control all signals with prefix MYD

NOTE: *No Freight services or Shunting can be signalled towards the North Melbourne Flyover and must only be signalled towards the Freightlink track.*

The ARTC Melbourne Metro Network Controller must confer with the V/Line Spencer St. No. 1 Box Signaller prior to issuing a Signalman's Caution Order to pass signal MPJ 212 at Stop for rail movements to Southern Cross and confirmation of number MYD 483 points are set and blocked for a movement to proceed.

For the purpose of any Track possessions on the North Melbourne Flyover, V/Line Spencer St. No. 1 Box Signaller will advise the ARTC Melbourne Metro Network Controller and request a blocking command be placed on MPJ 205 points in the normal position (set for Freight Link Track).

Prior to the ARTC Melbourne Metro Network Controller signalling a Standard Gauge movement towards Southern Cross Station the ARTC Melbourne Metro Network Controller must, prior to the Rail Movement departing Tottenham, contact the V/Line Spencer St. No. 1 Box Signaller and provide details of the intended movement and obtain approval for the movement to proceed.

Upon obtaining the approval from V/Line Spencer St. No. 1 Box Signaller, the ARTC Melbourne Metro Network Controller may then operate the signals at Moonee Ponds Creek Junction for the movement to proceed to Southern Cross Station.

NOTE: *Only when the ARTC Melbourne Metro Network Controller sets MPJ 205 points in reverse for movements towards Southern Cross Station will the V/Line Spencer St. No. 1 Box Signaller see SG movements on the ARTC network.*

Prior to the V/Line Signaller Spencer St. No 1 Box signalling a Standard Gauge movement towards Moonee Ponds Creek Junction, the Signaller Spencer St No 1 Box must contact the ARTC Melbourne Metro Network Controller and provide details of the intended movement and obtain approval for the movement to proceed.

Upon obtaining the approval from ARTC Melbourne Metro Network Controller, the Signaller Spencer St No 1 Signal Box may then operate the signals for the movement to proceed from Southern Cross Station towards the North Melbourne Flyover.

A Standard Gauge movement toward Moonee Ponds Creek may only be accepted towards signal MPJ202 (New signal located approximately 90 metres prior to MPJ 205 points), if Freight Link Track movements are completed and MPJ 205 points are in the reverse position. If MPJ 205 is not placed in the reverse position, the previous signal (MYD 987) can only display Stop indication.

NOTE: *Only when the V/Line Spencer St. No. 1 Box Signaller sets the 483 points for movements towards Moonee Ponds Creek Junction will the ARTC Melbourne Metro Train Controller see Broad Gauge movements on the V/Line network.*

2.4.1 Shunting to and from Pacific National Terminal South Dynon (Eastern entry)

All shunting activities to be performed from the Pacific National terminal will be required to operate towards the Freight Link Track and the Pacific National Yard Foreman must advise the ARTC Melbourne Metro Network Controller of the shunt move and length of the time the main line will be blocked for.

Shunting movements must not be allowed if such moves will delay other main line movements

Prior to allowing a Broad Gauge service to depart from signal MPJ 262 to enter the Freight Link track, the ARTC Melbourne Metro Network Controller must confer with the Pacific National Yard Foreman and request permission for the Broad Gauge move to enter the Melbourne Freight Terminal via the "new" road.

Should permission be granted the Broad Gauge movement can be routed towards the Melbourne Freight Terminal, The ARTC Melbourne Metro Network Controller must cancel the fleet call on MPJ 218 and reverse MPJ 219 points for the Broad Gauge movement.

2.4.2 Freight Link Track

The Freight Link Track is dual gauge between Signal MPJ 204 and the Head Shunt located at signal MPJ 220. A Limit of Shunt Board will be positioned 8 metres from signal MPJ 220 and shunt movements must not pass this board.

A Shunt Limit Alarm will activate on the Phoenix system should a shunt movement travel past the Limit of Shunt Board and encroach on the 8 metre overlap. The Shunt Limit Alarm must be reported to the ARTC Track Supervisor and must be reset by pressing the reset button in the telephone box on the side of GR 218.

Signal MPJ 218 will fleet and is only required to be set to stop by the ARTC Melbourne Metro Network Controller for Broad Gauge movements to and from the Melbourne Yard and Number MPJ 219 Points are located just past signal MPJ 218 and when set to reverse allow for a Broad Gauge service to operate between the Freight Link track and Melbourne Yard.

The Freight Link Track is dual gauge and is 498 metres in length to the Shunt Limit Board located 8 metres short of signal MPJ 220. The distance between Signal MPJ 204 and Signal MPJ 218 is 417 metres.

The ARTC Melbourne Metro Network Controller and the Control Train Controller must confer and come to an agreement as to whether the intended broad gauge train movement can occur. If agreed, The ARTC Melbourne Metro Network Controller must take Signal MPJ 218 out of automatic mode (cancel call on signal) and remove the Block on Points MPJ 219. For a train to enter the Freight Link Track, the ARTC Melbourne Metro Network Controller must operate slot release 200 to the Reverse position.

After slot release 200 has been operated to the Reverse position, the Control Train Controller must remove the block on Points MYD 139 and then set the route and place Dwarf signal MYD 262 to the 'Proceed' position. When broad gauge train movements have cleared Points MYD 139, the Control Train Controller must operate the Points to the 'Normal' position and apply a Block on the Points.

When broad gauge train movements have cleared Points MPJ 219, ARTC Melbourne Metro Network Controller must operate the Points to the 'Normal' position and apply a Block on the Points. After the intended Broad Gauge train movement has been completed, the ARTC Melbourne Metro Network Controller must restore slot release 200 to the 'Normal' position

NOTE: *Only when the Control Train Controller sets the points for movements towards the Freight Link Track will the ARTC Melbourne Metro Network Controller see parallel Broad Gauge movements on the V/Line network.*

The ARTC Melbourne Metro Network Controller and the Control Train Controller must confer and come to an agreement as to whether the intended Broad Gauge train movement can occur. If agreed, The ARTC Melbourne Metro Network Controller must take Signal MPJ 218 out of automatic mode (cancel call on signal).

For a train to exit the Freight Link Track, the Control Train Controller must operate slot release 300 to the Reverse position. After slot release 300 has been operated to the Reverse position, the ARTC Melbourne Metro Network Controller must remove the block on Points MPJ 219 and then set the route and place Dwarf signal MPJ 218 to the 'Proceed' position.

When broad gauge train movements have cleared Points MPJ 219, ARTC Melbourne Metro Network Controller must operate the Points to the 'Normal' position and apply a Block on the Points. When broad gauge train movements have cleared Points MYD 139, the Control Train Controller must operate the Points to the 'Normal' position and apply a Block on the Points.

After the intended Broad Gauge train movement has been completed, the Control Train Controller must restore slot release 300 to the 'Normal' position'

NOTE: *Only when the Control Train Controller sets the points for movements towards the Freight Link Track will the ARTC Melbourne Metro Network Controller see parallel Broad Gauge movements on the V/Line network.*

Should Signal MYD 262 or MPJ 218 fail to exhibit a proceed aspect when MYD 139 and MPJ 219 Points are reversed, both the ARTC Melbourne Metro Network Controller and the Control Train Controller, will be responsible for ensuring their respective part of the route is set and secured prior to the Network Controller who is receiving the train, authorising the issue of verbal permission to the Driver of the Broad Gauge movement to pass the affected signal at the 'Stop' position.

The Network Controller controlling the affected signal may only grant permission to pass the affected signal at the 'Stop' position after receiving authority from the receiving Network Controller.

The Freight Link track passes through the ARTC Dive, the signalling system will interface with the ARTC Dive pump station controller to detect if the track has flooded (water is at the top of rail). When flooding has been detected the signals protecting the ARTC Dive will be held at stop to prevent trains entering the flooded track including Signal MYD 262

In the case of flooding, the ARTC Melbourne Metro Network Controller will receive an alarm on the Phoenix screen as well as the signals not being able to be placed to proceed. The flooding

Alarm must be reported to the ARTC Track supervisor. The ARTC Melbourne Metro Network Controller will also receive alarms when there is a failure of the pump station.

This alarm indicates a pump fault, no water flow, or power failure and these faults are to be reported to the ARTC Track Supervisor. The pump warning alarms will not hold the signals at stop for the Freight Link Track.

2.4.3 South Dynon Locomotive Provisioning Centre/Car Sheds

Train crews of rail movements required to access the South Dynon Loco/Cars Sheds sidings shall advise the ARTC Melbourne Metro Network Controller that they have permission to enter the siding.

Access to the South Dynon Locomotive siding is for Standard Gauge Rail Movements ONLY.

2.4.4 Moonee Ponds Creek Signal Failures

The ARTC Melbourne Metro Network Controller interfaces with the V/Line Spencer St. No. 1 Box Signaller at Signal MPJ 212 with MPJ 205 Points reversed for a rail movement for Southern Cross.

If there is a failure of signal MPJ 212, the ARTC Melbourne Metro Network Controller must confer with the V/Line Spencer St. No. 1 Box Signaller advising of the defective signal and request permission for the rail movement to pass Signal MPJ 212 at Stop and head towards Southern Cross. The V/Line Signaller must ensure MYD 483 points are set and blocked for the rail movement and advise the ARTC Melbourne Metro Network Controller.

The ARTC Melbourne Metro Network Controller will then issue a Signalman's Caution Order (2377) to pass signal MPJ 212 at Stop.

NOTE: *Prior to the issue of an Authority to pass signal MPJ 212 towards Southern Cross, the status of MYD 483 points must be confirmed with the V/Line Spencer St. No. 1 Box Signaller and set and blocked for movement*

Signals MPJ 214, MPJ 210, MPJ 206, MPJ 202, MPJ 204,

In the event that Signal MPJ 212, MPJ 214, MPJ 210, MPJ 202 or MPJ 206 fails to assume a proceed aspect when operated by the ARTC Melbourne Metro Network Controller for a Rail movement, the Authority to pass any of these signals at Stop will be the issue of a Signalman's Caution Order (form 2377). The ARTC Melbourne Metro Network Controller must contact the V/Line Spencer St. No. 1 Box Signaller and advise of the circumstances. Provided the correct conditions exist the ARTC Melbourne Metro Train Controller may then issue a Signalman's Caution Order to the Train Driver to pass the signal at stop.

NOTE: *Permission cannot be given for trains to pass signal MPJ 220 as this signal is located at the Freight Link Buffer Stop 8 metres past the Limit of Shunt and rail movements must not pass the Limit of Shunt Board.*

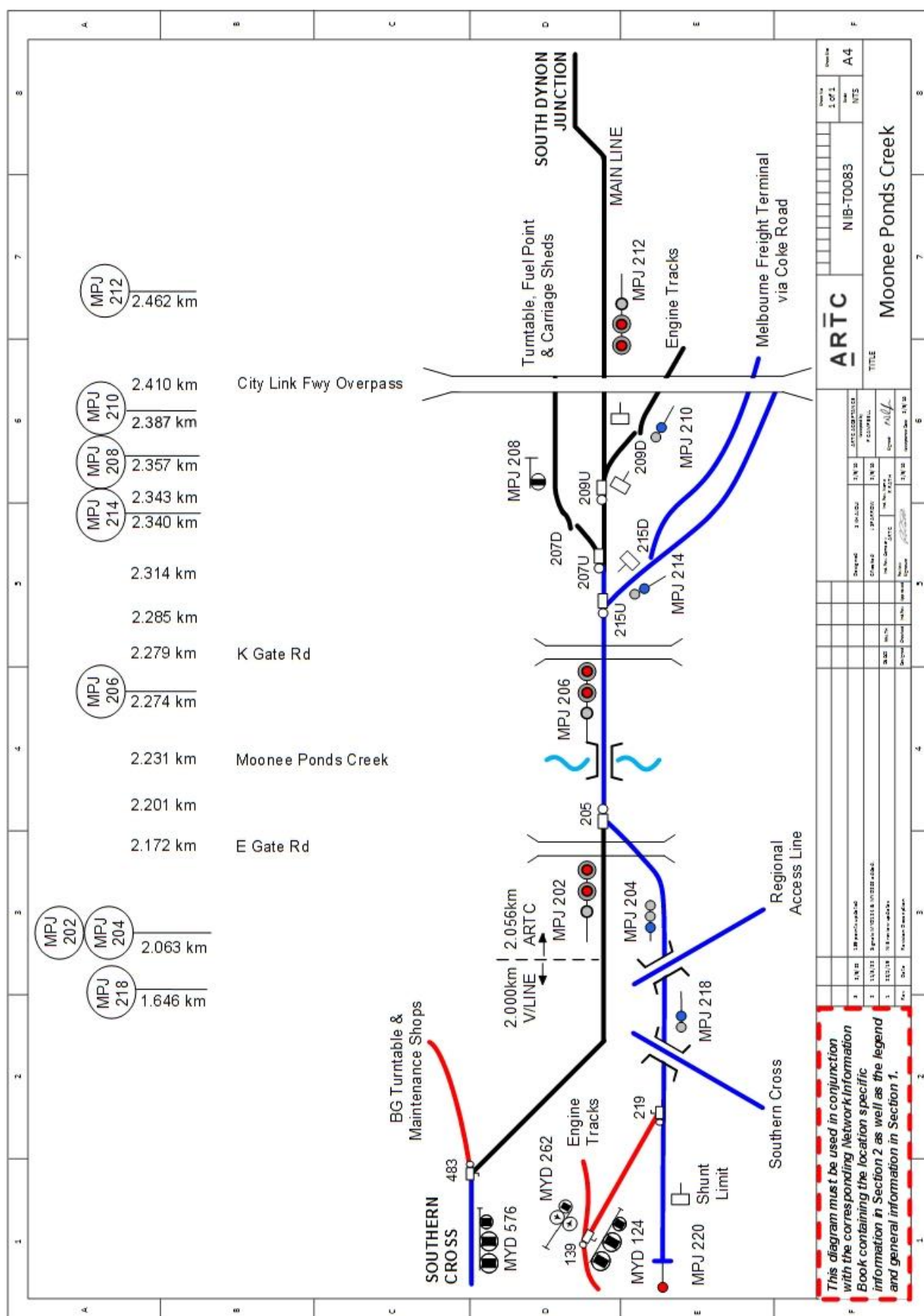
2.4.5 Failure of Points

In the event of a failure of the points, the services of a signal maintenance technician must be obtained to rectify the fault and/or operate the points for the movement as directed by the ARTC Melbourne Metro Network Controller. This applies to Points MPJ 213, MPJ 205, MPJ 215, MPJ 207 and, MPJ 209 and will require the attendance of an ARTC Signal Technician.

Points MPJ 219 are dual controlled on the ARTC side but crank on the V/Line side of the interface. Train Crews will work under the direction of the ARTC Melbourne Metro Network Controller during failure conditions.

2.4.6 Level Crossings

The existing passive (give way signs) level crossing access for E Gate (2.172km) and K Gate (2.279km) will remain as per current configuration.



2.5 South Dynon Junction

The Management of Rail Movements at South Dynon Junction is as follows:

The ARTC Melbourne Metro Network Controller operates the points and signals at South Dynon Junction and interfaces with the Pacific National Yard Foremen at signals DYN 236 and DYN 236P for arriving trains to the Pacific National Melbourne Freight Terminal at South Dynon

Prior to signalling a Standard Gauge movement from Sims St Junction or North Dynon Junction to arrive at South Dynon Yard, the ARTC Melbourne Metro Network Controller must first contact the Pacific National yard supervisor South Dynon and ensure the movement can be accepted.

The ARTC Melbourne Metro Network Controller must then advise the V/Line Brooklyn Loop train controller of the movement and upon confirmation that signal 236 is at proceed for the movement, signal the movement toward South Dynon Junction toward the Melbourne Freight Terminal.

When a movement is required to depart from the Pacific National Terminal South Dynon and enter the ARTC Main Line, the Pacific National Yard Coordinator must contact the ARTC Melbourne Metro Network Controller and advise of the Train Number and signal from where the train will depart. The train crew must also contact the ARTC Melbourne Metro Network Controller to provide train details and conduct a test of Radio communications prior to departure.

It will be the responsibility of the Pacific National Yard foremen or train crew when yard is not attended to advise the V/Line Tottenham Train Controller and request the yard signal for departing from the yard towards signal DYN 234.

2.5.1 Pacific National Wagon Maintenance Terminal

Main Line Points 123 leading into the Pacific National wagon maintenance terminal, are operated by the ARTC Melbourne Metro Network Controller and released by the terminal operator at the wagon maintenance terminal.

When there is no release provided the points are locked and cannot be operated to reverse.

When there is requirement for the points to be reversed for a movement the terminal operator must first operate the release located at the points and the points will show as released on the Phoenix screen. Upon confirmation that the points are free, the ARTC Melbourne Metro Network Controller may then operate the points and signal for the movement as required.

Immediately the movements have been completed, the points are to be restored to normal and the release cancelled. The Pacific National Yard foremen / train crew prior to requesting a move to or from the Wagon Maintenance Centre must advise the Terminal Operator and request the release.

2.5.2 Pacific National Melbourne Operations Terminal

The Pacific National Bogie Pilot crew will advise the ARTC Melbourne Metro Network Controller when they are in charge of the Yard and when they have completed duty.

Movements between the ARTC Main Line and the Pacific National Melbourne Operations Terminal are undertaken in liaison between the ARTC Melbourne Metro Network Controller and the Pacific National shunt driver (when on duty) by means of Train Radio communications - local shunt pilot train number 9932.

Prior to signalling a movement into the Pacific National Melbourne Operations Terminal the ARTC Melbourne Metro Network Controller must first contact the Pacific National shunt driver or terminal operator and seek approval for the movement to enter.

When a movement requires to depart from the PN Melbourne Operations Terminal, the train crew of the departing movement must contact the ARTC Melbourne Metro Network Controller and provide train details. The ARTC Melbourne Metro Network Controller may then operate the relevant points and signals for the train departure as required.

During periods when the Melbourne Operations Terminal is unattended by the PN Shunt Crew arriving train movements must advise the ARTC Melbourne Metro Network Controller that permission has been granted for the said movement to enter the Yard.

2.5.3 Pacific National – Locomotive Provisioning Centre (LPC)

Derail number 115 provides roll out protection from the Locomotive Provisioning Centre tracks 1 and 2 whilst points and derail 117 provide roll out protection from tracks 3, 4 and 5 towards South Dynon Junction.

These points are provided with Self Normalisation function that ensures that the points restore to normal after the passage of each movement. In addition to this is that should the points or derail be operated to reverse, and then the applicable signal is not operated after 45 seconds, the points will automatically restore to normal.

Should the ARTC Melbourne Metro Network Controller require to operate the points or derailer to reverse and hold that position without operating a signal for the route, a blocking command may be applied on the points which in turn will disable the self-normalisation function.

A cabinet containing a local control to secure derail 115, or points 117 is provided at signal DYN 118. There are 2 sets of push buttons labelled 'LOCK' and 'UNLOCK', one for derail 115 and the other for points 117 along with indicator lights displaying the status of the locking.

The push buttons allow the locking of points 115 or 117 in the normal position removing the ability of the ARTC Melbourne Metro Network Controller to reverse the points, the purpose of these controls is to allow maintenance operations on nominated tracks during which the entry of movements is prohibited.

There are 2 push buttons and indicator lights that display the status of the points. The push buttons are only to be operated in liaison with the ARTC Melbourne Metro Network Controller and only when loco maintenance operations are required in the specific track. When it becomes necessary to lock derail 115, or points 117 in the normal position the operator must:

1. Contact the ARTC Melbourne Metro Network Controller and advise of the required works and confirm that the points or derail are set in the 'normal' position.
2. Open the cabinet housing the controls and observe the 'UNLOCKED' indicator light is illuminated on the points/derail to be secured.
3. Press the LOCK button and observe that the 'LOCKED' light is displayed
4. Close and lock the cabinet

When works are completed, the locking is to be released immediately.

1. Open the cabinet housing the controls and observe the 'LOCKED' indicator light is illuminated on the points/derail that are secured
2. Press the UNLOCK button and observe that the 'UNLOCKED' light is displayed

3. Confirm with the ARTC Melbourne Metro Network Controller that the points/derail is released
4. Close and secure the cabinet

2.5.4 Signals Failure

The ARTC Melbourne Metro network controller will issue a Signalman's Caution Order (form 2377) as authority to pass signals at the stop position, in the event that the signal fails to assume a proceed indication for a movement applicable to the ARTC Main Line. In the event of system failure, paper authorities can be issued to keep a movement going if required.

The VLP Tottenham train controller will provide authority to pass signals at the stop position, in the event that the signal fails to assume a proceed indication for a movement applicable to the V/Line controlled area.

In all instances, prior to authorising movements to pass signals at stop the gauge of the train must first be confirmed with the train crew and the set route also must be confirmed on the control systems to be correct for the intended move and blocking commands applied.

2.5.5 Points Failure

In the event of point's failure, the services of a signal maintenance technician must be obtained to rectify the fault and or operate the points for the movement as required. Any movement of the points must be undertaken in coordination with the V/Line Brooklyn Loop train controller and the ARTC Melbourne Metro Network Controller.

Points: 133,137,129,127,125,123 are dual controlled Westinghouse point machines and can be operated manually by train crews if required

The ARTC Network Controller must always ensure the route being manually set is correct for the gauge of the train.

In the event that the derail 115, or points 117 fail to assume a reverse aspect, the ARTC network controller is to confirm that the points have not been locked for maintenance purposes and request a member from the Locomotive Provisioning Centre check and confirm that the indicator lights are displaying 'UNLOCKED'

2.6 North Dynon

2.6.1 North Dynon Operating Procedures

The ARTC Melbourne Metro Network Controller signals all standard gauge movements at the apex of the triangle leading to W track, whilst the V/Line Tottenham Train Controller signals all movements providing standard gauge access into the North Dynon sidings, and all broad gauge movements.

The V/Line Brooklyn Loop Train Controller provides a slot release for broad gauge movements proceeding towards North Dynon or South Kensington from Sims Street. Broad gauge crossover points number 101 are operated by the ARTC Melbourne Metro Network Controller and are operated to allow movements to proceed to or from W track. 101 Points are dual controlled and can be operated by the train crew during failure conditions.

Signal DYN 106 from W track to the Standard gauge or Broad gauge is a dual operated signal. When the route is set toward North Dynon Junction for a standard gauge movement the signal is operated by the ARTC Melbourne Metro Network Controller. When the route is set for a broad gauge movement the signal is operated by the V/Line Brooklyn Loop Train Controller.

Signal DYN 104 from the broad gauge toward Sims St Junction, or toward W track is a dual operated signal. When the route is set toward W track the signal is operated by the ARTC Melbourne Metro Network Controller. When the route is set toward Sims St junction the signal is operated by the V/Line Brooklyn Loop Train Controller.

A slot release is in place for standard gauge movements between North Dynon and signal DYN 102. When the V/Line Train Controller requires signalling a standard gauge movement from the North Dynon Yard from signals DYN 94 or DYN 90 towards the ARTC Network, the V/Line Train Controller must contact the ARTC Melbourne Metro Network Controller and request the release for the signals to be cleared.

Provided the correct conditions exist, the ARTC Melbourne Metro Network Controller will provide the release and the V/Line Brooklyn Loop Train Controller will accept the release after which the signalling may be operated at North Dynon. The release will not cancel after each movement allowing continual operation of the signalling at North Dynon as required.

Upon the release no longer being required, the V/Line Train Controller will advise the ARTC Melbourne Metro Network Controller and then cancel the release allowing the ARTC Melbourne Metro Network Controller to accept the cancellation for alternative movements from W or X track.

In the event of a signal failing to assume a proceed indication at North Dynon, the V/Line Brooklyn Loop Train Controller must first liaise with the ARTC Melbourne Metro Network Controller prior to authorising the movement to pass the signal at stop. In all instances, prior to authorising movements to pass signals at stop the route must be confirmed on the control systems and blocking commands applied.

2.6.2 Points Failure

In the event of point's failure of 101,103 points, the points are dual controlled point machines and can be operated by the train crew as required and authorised by the ARTC Network Controller. The VLP Train Controller must be advised prior to the manual operation of the points.

Arrangements should be made for a Signal Technician to attend and rectify the fault or operate the points under the direction of the ARTC Network Controller.

2.7 Sims Street Junction

The ARTC Melbourne Metro network controller operates the points and signals on the ARTC Main Line including the Broad Gauge and Standard Gauge leads to North Dynon and the Standard Gauge lead into the Locomotive Provisioning Centre.

Pacific National train crews manage the Locomotive Provisioning Centre and liaise with the ARTC Melbourne Metro network controller regarding the priority of movements into the Locomotive Provisioning Centre (LPC).

The Pacific National crew providing the advice must ensure that the movement is safe to enter the L.P.C prior to requesting a signal from the ARTC Melbourne Metro network controller to proceed.

The V/Line Brooklyn Loop train controller provides a slot release for the ARTC Network Controller to clear signals at Sims Street for broad gauge movements proceeding toward North Dynon or South Kensington

Prior to signalling movements thru Sims St Junction going to or from North Dynon, the VLP Train Controller and the ARTC Melbourne Metro network controller must liaise and agree on the required movements.

Train crews turning locomotives requiring the use of Sims St Junction must ensure that there is a competent employee in the cabin of the locomotive at each end of the consist prior to commencing the turning movement so as to ensure that the movement can be turned without the need for train crews to alight from the locomotive for the purposes of changing ends at Sims St Junction.

Train crews are no longer permitted to alight from locomotives at Sims St Junction for the purposes of changing ends. They may alight in the case of an emergency situation, after consultation with the ARTC Melbourne Metro Network Controller.

All shunt movements coming to a stand on the Maribyrnong River Bridge for a reverse movement must have either an attended loco at each end of the movement or an attended shunters float (wagon equipped for a shunter) in lieu of a loco.

2.7.1 Signal Failures

The ARTC Melbourne Metro Network Controller will issue a Signalman's Caution Order as authority to pass signals at the stop position in the event that the signal fails to assume a proceed indication for a movement applicable to the ARTC Main Line. In the event of system failure, paper authorities can be issued to keep a movement going if required.

When authorising a movement to pass signals at stop, the ARTC Melbourne Metro Network Controller must ensure that the route is correctly set for the movement that appropriate blocking commands have been applied and advise the driver of the movement the route the movement is to take. The driver of the movement must confirm each set of points prior to passing over them and ensure that the movement is proceeding along the route as advised by the ARTC Melbourne Metro Network Controller.

If the movement is proceeding toward North Dynon, the ARTC Melbourne Metro Network Controller must first liaise with the V/Line Brooklyn Loop Train Controller and advise of the failure.

In the event of a signal failing to assume a proceed indication at North Dynon, the V/Line Brooklyn Loop train controller must first liaise with the ARTC Melbourne Metro network controller prior to authorising the movement to pass the signal at stop.

The V/Line Train Controller will provide authority to pass signals at the stop position in the event that the signal fails to assume a proceed indication for a movement applicable to the V/Line controlled area. In all instances, prior to authorising movements to pass signals at stop, the gauge of the train must first be confirmed with the train crew and the set route also must be confirmed on the control systems to be correct for the intended move and blocking commands applied.

2.7.2 Point Failures

In the event of point's failure, the services of a signal maintenance technician must be obtained to rectify the fault and or operate the points for the movement as required. Any movement of the points must be undertaken in coordination with the V/Line Train Controller and the ARTC Melbourne Metro Network Controller

Points 131u, 131d, 151, 155, can only be operated manually by a signal technician by means of a crank handle.

Points: 157, 147 and 143 are dual controlled Westinghouse point machines and can be operated manually by train crews if required.

The ARTC Melbourne Metro Network Controller must always ensure the route being manually set is correct for the gauge of the train.

2.7.3 Sims Street to West Footscray

Sims Street to West Footscray comprises of two bi-directional Dual Gauge Running Lines and these running lines are known as Main Line and Local Line.

Prior to allowing a Broad Gauge movement to depart from West Footscray Junction from signal WFS 44 (Up independent Goods Line) or Signal WFS 42 (Tottenham Yard) the ARTC Network Controller must confirm that the Broad Gauge service can be accepted at the intended destination.

If the Broad Gauge movement is required to run towards North Dynon/South Kensington area then the V/Line Train Controller must first be advised and the Broad Gauge release is given for the train to be signalled from Sims Street to North Dynon Junction Signal DYN 112

Prior to allowing a Broad Gauge service to depart onto the ARTC Main line and head towards West Footscray Junction, The ARTC Melbourne Metro Network Controller must first advise the V/Line Train Controller and obtain advice that the train can be accepted and will not be held at Sims Street Junction.

The authority to pass all signals within the Melbourne Metro precinct will be by the issue of a Signalman's Caution Order form 2377 and in the event of a signal failure, the following instruction must be adhered to

The driver must advise the ARTC Network Controller of the Signal displaying a stop aspect, the train number and gauge of the train and destination.

The ARTC Network Controller prior to Authorising the driver to pass a signal at stop must adhere to the following instruction

At all times prior to the issue of a Signalman's Caution Order the following protocol must be followed:

TA20 Victorian Rules and Operating Procedures

The Signalman's Caution Order form (2377) will be altered to allow for the ARTC Network Controller to check and confirm the following and also record the information.

1. The route setting is compatible with the gauge of the train with the driver is about to receive a Signalman's Caution Order.
2. The Route integrity has been verified by the Network Controller reference to the Phoenix Screen
3. The Driver of the train has been advised to confirm all points to be traversed are set correctly prior to proceeding during a point failure

The driver of Rail movements must still be advised to confirm the route prior to proceeding over the points. Even if the Phoenix signalling screen indicates the points are set correctly and the route is correctly set for the gauge of the rail movement.

Prior to the issue of a Signalman's Caution Order (SW Form 2377) The ARTC Network Controller Must ensure this procedure is followed

Signal Failure only

The driver must on arriving at the Signal advise the ARTC Network Controller and advise of the Signal Number the train is standing at and also advise of the Train Number, Destination and Gauge.

The ARTC Network Controller MUST prior to the issue of a Signalman's Caution Order check the Following

1. Confer with driver of affected train and confirm gauge of train BG or SG
2. Observe the Phoenix screen and check that the route is correctly set for the Train Gauge as advised by the driver.
3. Check that the points are all shown as locked for the intended movement
4. Apply a Blocking command to the points.

The ARTC Network Controller may then complete the Signalman's Caution Order and transmit the details to the driver.

1. The Signalman's Caution Order must also be endorsed with the line for which the Caution Order applies to.
2. The Network Controller and the Driver must then exchange names

NOTE: *It will not be necessary for the driver to take down the Signalman's Caution Order details but the Driver must confirm*

1. The Signal Post Number to be passed
2. The line to which the Signalman's Caution Order will apply to as required

Point failure:

If positive detection cannot be obtained on the points ahead of the Fixed Signal to which the Signalman's Caution Order will apply, The ARTC Network Controller will instruct the driver to head to the Points and

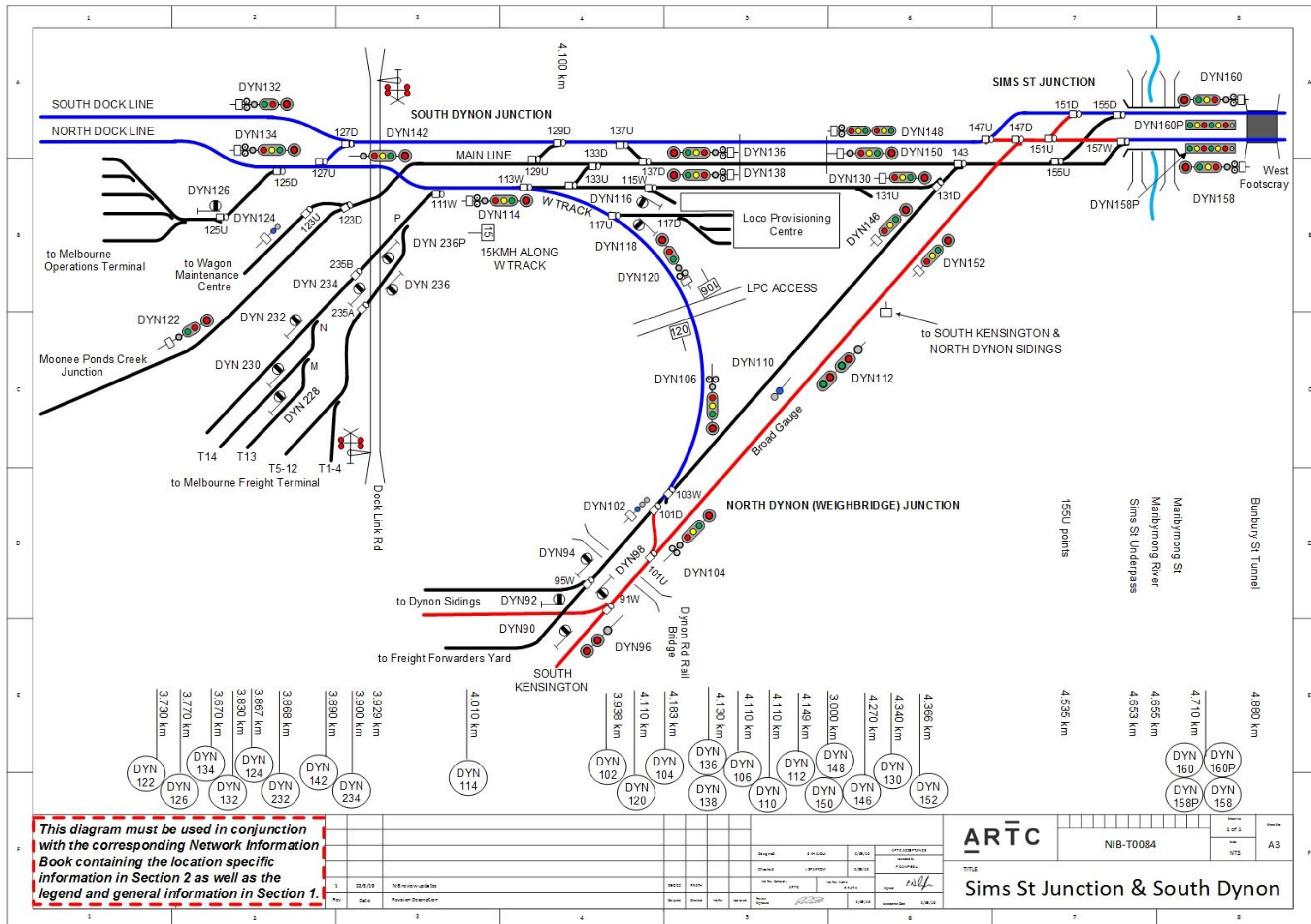
1. Place the selector lever of the Dual controlled points to the HAND position and set the hand throw level to the required position.
2. The driver on completion of step one will advise the ARTC Network Controller and confirm that the points are correctly set for the intended movement.

On receipt of the above confirmation (steps 1 & 2), The ARTC Network Controller may then issue the Signalman's Caution Order to the driver for the train to pass the signal at stop.

The points can be left in the manual mode of working (Hand Position) and arrangements are to made for a Signal Maintenance Technician to attend.

NOTE:

1. *For Locations in the Melbourne Metro area, where points can only be manually operated by the means of Crank Handle, A Signal Technician must be arranged to attend and operate the points for the intended move.*
 2. *The Signal Technician must be advised by the Network Controller on the route to be set, Train Gauge and line the train will operate to.*
 3. *The Rail Movement must be stationary at the Fixed Signal where the Signalman's Caution Order will apply to.*
 4. ***The driver shall also be advised to inspect the points for the intended route prior to traversing over.***
-



2.8 West Footscray

2.8.1 West Footscray Procedures

The ARTC Melbourne Metro Network Controller operates the points and signals on the ARTC Dual Gauge and Standard Gauge Main Line and Local Line. The ARTC Melbourne Metro Network Controller also operates signal WFS 42 and WFS 44 for moves from Tottenham Yard or from the Up Independent Goods Line to the up dual gauge Local Line and Main Line.

The V/Line Train Controller Control operates the points 41 and 43 on the Broad Gauge at West Footscray Junction and provides a BG release to ARTC for movements to proceed from the Dual Gauge lines to the down independent goods line or to Tottenham yard. When a Broad Gauge movement requires to be signalled from the up or down independent goods line toward Tottenham yard or the down independent goods line, the V/Line Train Controller at Control shall first set the route for the movement and then provide the slot release allowing the ARTC Melbourne Metro Network Controller to operate signals WFS 14 or WFS 2.

When a Broad Gauge Rail movement is required to depart from Tottenham Yard or from the Up Independent Goods line, the V/Line Train Controller shall first obtain permission from the ARTC Melbourne Metro Network Controller. If permission is granted, shall then set the route for the applicable Broad Gauge Rail movement and then advise the ARTC Melbourne Metro Network Controller accordingly.

Upon confirmation that the route is correctly set the ARTC Melbourne Metro Network Controller may then operate the respective signal (WFS 42 or WFS 44) for the movement to proceed onto the ARTC Dual Gauge track

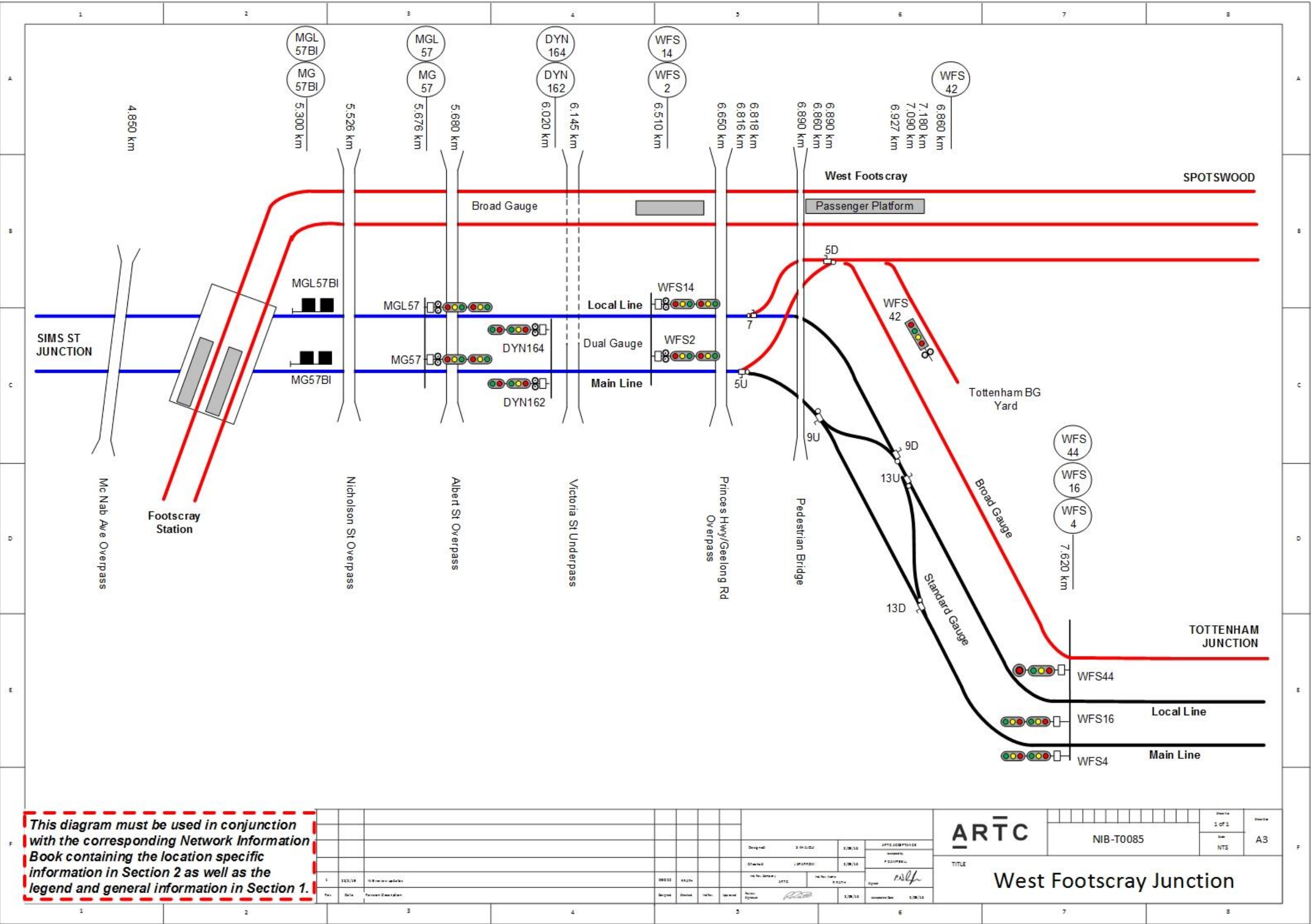
For standard gauge movements the ARTC Melbourne Metro Network Controller shall issue a Signalman's Caution Order to pass signals WFS 2 or WFS 14 at stop. The driver must also be advised as to which line the Signalman's caution order will apply to either Main Line or Local Line.

In the event that signal WFS 14 or WFS 2 fails to assume a proceed aspect for a Broad Gauge movement, or signals WFS 42 or WFS 44 fail to assume a proceed aspect, the ARTC Melbourne Metro Network Controller will issue a Signalman's Caution Order as authority to pass these signals at stop.

Prior to granting the authority to pass the signal at stop, the ARTC Melbourne Metro Network Controller must first liaise with the V/Line Train Controller at Control and advise of the failure and also confirm that the points are correctly set and blocking commands have been applied.

Details of the Signalman's Caution Order provided shall be recorded on the ARTC Melbourne Metro Network Controller's train graph and in all instances, prior to authorising movements to pass signals at stop the route shall be confirmed on the control systems and blocking commands applied.

NOTE: *Point operations - The points at West Footscray Junction are provided with dual control point machines and shall be operated by competent Employee or train crews as directed by the ARTC Melbourne Metro Network Controller.*



2.9 Tottenham Junction (Triangle)

The ARTC Melbourne Metro Network Controller operates the points and signals on the ARTC Standard Gauge at Tottenham Junction and interfaces with the V/Line Train Controller at Centrol for Broad Gauge movements to and from Tottenham yard, and the Up and Down Independent Goods lines from Brooklyn and Sunshine.

The ARTC Melbourne Metro Network Controller also interfaces with the ARTC South West Network Controller for Standard Gauge movements to or from Newport, The V/Line Train Controller for Broad Gauge movements to the West Line between Brooklyn and Newport and the MTM Signaller at Newport for Broad Gauge moves

The V/Line Train Controller Centrol operates the points and signals along the up and down independent goods line to or from Tottenham yard. The ARTC Melbourne Metro Network Controller interfaces with the V/Line Train Controller Centrol at points 35 providing Broad Gauge access to or from the Brooklyn line, and the grade crossing at Tottenham Junction.

Points 35 are operated by the V/Line Train Controller at Centrol and when operated will alter the control of signals TOT 32 and TOT 36. When points 35 are in the normal position, signals TOT 32 and TOT 36 are operated by the V/Line Train Controller at Centrol for Broad Gauge movements toward Sunshine (this requires the grade release from ARTC Melbourne Metro Network Controller).

When points 35 are in the reverse position, signals TOT 32 and TOT 36 are operated by the ARTC Melbourne Metro Network Controller for Broad Gauge movements toward Brooklyn

In addition, the V/Line Train Controller at Centrol will provide a slot release for signal TOT 20 for Broad Gauge movements to proceed toward the Up Independent Goods line or towards Tottenham yard.

2.9.1 Grade Crossing Releases

At Tottenham there are two separate grade crossing releases provided for the operation of Broad Gauge services across the two legs of the triangle via the up and down independent goods lines for moves to and from Sunshine. Grade crossing release 23 is located at the East leg and Grade crossing release 25 is located at the West end of the Triangle.

Both releases are shared by the ARTC Melbourne Metro Network Controller and the V/Line Train Controller and are managed by the means of a Release and Accept sequence,

Both grade releases can only be provided on the condition that points 17 on the east leg and points 9 and 19 on the west leg of the triangle are set in the normal position.

When both releases have been accepted by the V/Line Train Controller, Signals TOT 32, TOT 36 and TOT 34 are available to be operated as required by the V/Line Train Controller and in addition a medium speed indication will be available on signal TOT 40.

2.9.2 Broad Gauge Movements – Up and Down Independent Goods Lines

When a BG movement is required to proceed along the up or down independent goods line, the V/Line Train Controller at Centrol shall request the grade release from the ARTC Melbourne Metro Network Controller. Provided the correct conditions exist, the ARTC Melbourne Metro Network Controller shall operate the release and the V/Line Train Controller at Centrol shall accept the release and then operate the appropriate signals for the required movement.

In agreement with the ARTC Melbourne Metro Network Controller, there is no requirement for the V/Line Train Controller at Centrol, to immediately cancel the release allowing continued BG movements.

If there are no movements requiring the release, the Train Controller at Centrol may cancel the release and accept the release as required, as arranged with the ARTC Melbourne Metro Network Controller.

During the period that the release is cancelled, the ARTC Melbourne Metro Network Controller may accept cancellation of the release as required for a standard gauge movement.

2.9.3 Standard Gauge Movements to and from Brooklyn

The ARTC Melbourne Metro Network Controller and the ARTC South West Network Controller shall liaise with each other regarding the priority of Standard Gauge movements between Tottenham and Laverton Loop.

The ARTC Melbourne Metro Network Controller and the ARTC South West Network Controller shall liaise with each other regarding the priority of Standard Gauge movements between Tottenham and Laverton Loop.

In addition, The ARTC Melbourne Metro Network Controller and the ARTC South West Network Controllers prior to signalling any Standard Gauge movements from either Tottenham Junction or Laverton Loop MUST first communicate with each other by means of a taped phone and come to an understanding of which Standard Gauge move will be signalled between Tottenham Junction and Laverton Loop

A prompt will come up on the Phoenix Signalling screen 'Can ASW accept train' at Tottenham and 'Can Melbourne Metro accept train' at Laverton Loop will flash and the departure signals will only call until the prompt has been acknowledged by the ARTC Network Controllers

2.9.4 Broad Gauge Rail Movements from Brooklyn

When a Broad Gauge movement is required to proceed from Brooklyn to the Up Independent Goods line or Tottenham Yard, The ARTC Melbourne Metro Network Controller must advise the V/Line Train Controller and confirm that the movement can be accepted and request a slot release for the movement.

Provided the movement can be accepted the V/Line Train Controller Centrol shall provide the slot release for signal TOT 20 and reverse points 35 and other points on the route as required

The ARTC Melbourne Metro Network Controller shall then allow the Broad Gauge movement to depart from Brooklyn and head towards Tottenham Junction.

NOTE: *Provided the V/Line Train Controller has advised the Broad Gauge movement can be accepted, it is not necessary for the V/Line Train Controller to immediately provide the slot release for the Broad Gauge movement and the Broad Gauge movement may approach signal TOT 20 provided the move will not impact on Standard Gauge services.*

2.9.5 Broad Gauge Rail Movements to Brooklyn

When a Broad Gauge movement is required to proceed from Tottenham yard or the down independent goods line toward Brooklyn, the V/Line Train Controller shall advise the ARTC Melbourne Metro Network Controller of the movement including the signal from which the movement will proceed and then reverse points 35.

The ARTC Melbourne Metro Network Controller shall operate Signal TOT 32 or TOT 36 for the Broad Gauge to depart and head towards Brooklyn.

2.9.6 Standard Gauge Rail Movements from McIntyre Loop

Standard Gauge train movements proceeding from McIntyre Loop towards Brooklyn will be speed proven on the approach to automatic signal MGS 122 at a speed of 55kph.

Upon the successful speed proving, Signal MSG 122 will then display a medium speed warning indication and Number 9 points will then become available and may be operated to the reverse position and signal TOT 8 can be cleared for the Standard Gauge moves to head towards Brooklyn.

After signal TOT 8 has been cleared, Automatic signal MSG 122 will then display a 'reduce to medium speed' indication in conjunction with an illuminated AD on the route indicator.

2.9.7 Signal Failures Tottenham Junction

The ARTC Melbourne Metro Network Controller will issue a Signalman's Caution Order (form 2377) as authority to pass signals at the stop position in the event that a signal fails to assume a proceed indication for a movement applicable to the ARTC main line.

For Standard Gauge movements Signals TOT 28, TOT 18 and TOT 6 are classified as CTC Home Departure signals at Tottenham Junction for SG moves towards McIntyre Loop. The authority to pass the signals at stop is the issue of a CTC Caution Order in accordance with the applicable CTC rules.

In the event that signals TOT 8, TOT 6, TOT 18, TOT 28, TOT 32 and TOT 36 fail to assume a proceed aspect for a movement toward Brooklyn, The ARTC Melbourne Metro Network Controller shall issue a Signalman's Caution Order as authority to pass the signal at stop. The V/Line Train Controller at Centrol shall issue the Authority for Broad Gauge movements to pass signals TOT 32, TOT 36 for moves to Sunshine.

NOTE: *In the event signal TOT 8 fails for a Standard Gauge movement, The ARTC Melbourne Metro Network Controller will issue a Signalman's Caution Order to pass the signal at Stop. The driver must be advised of the line which the Rail movement will travel over Main Line or Local Line*

NOTE: *For Standard Gauge movements Signal TOT 20 is classified as a CTC Home Departure signal at Tottenham Junction for Standard Gauge moves towards McIntyre Loop. The authority to pass this signal at stop is the issue of a CTC Caution Order in accordance with the applicable CTC rules.*

NOTE: *In the event that signal TOT 20 fails to assume a proceed aspect for a Standard Gauge movement toward West Footscray or a Broad Gauge movement to Tottenham Yard or the Up Independent Goods Line, The ARTC Melbourne Metro Network Controller after conferring with the V/Line Train Controller shall issue a Signalman's Caution Order as authority to pass the signal at stop*

In the event of signals TOT 32, TOT 36 or TOT 34 fail to assume a proceed aspect the V/Line Train Controller at Centrol shall authorise the movement to pass the signal at stop after liaising with the ARTC Melbourne Metro Network Controller.

In the event of signal TOT 40 fails to assume a proceed aspect the V/Line Train Controller at Centrol shall authorise the movement to pass the signal at stop. Details of the authority provided by the V/Line Train Controller Centrol shall be recorded in the train register book. In all instances, prior to authorising movements to pass signals at stop the route shall be confirmed on the control systems and blocking commands applied.

2.9.8 Point Failures Tottenham Junction

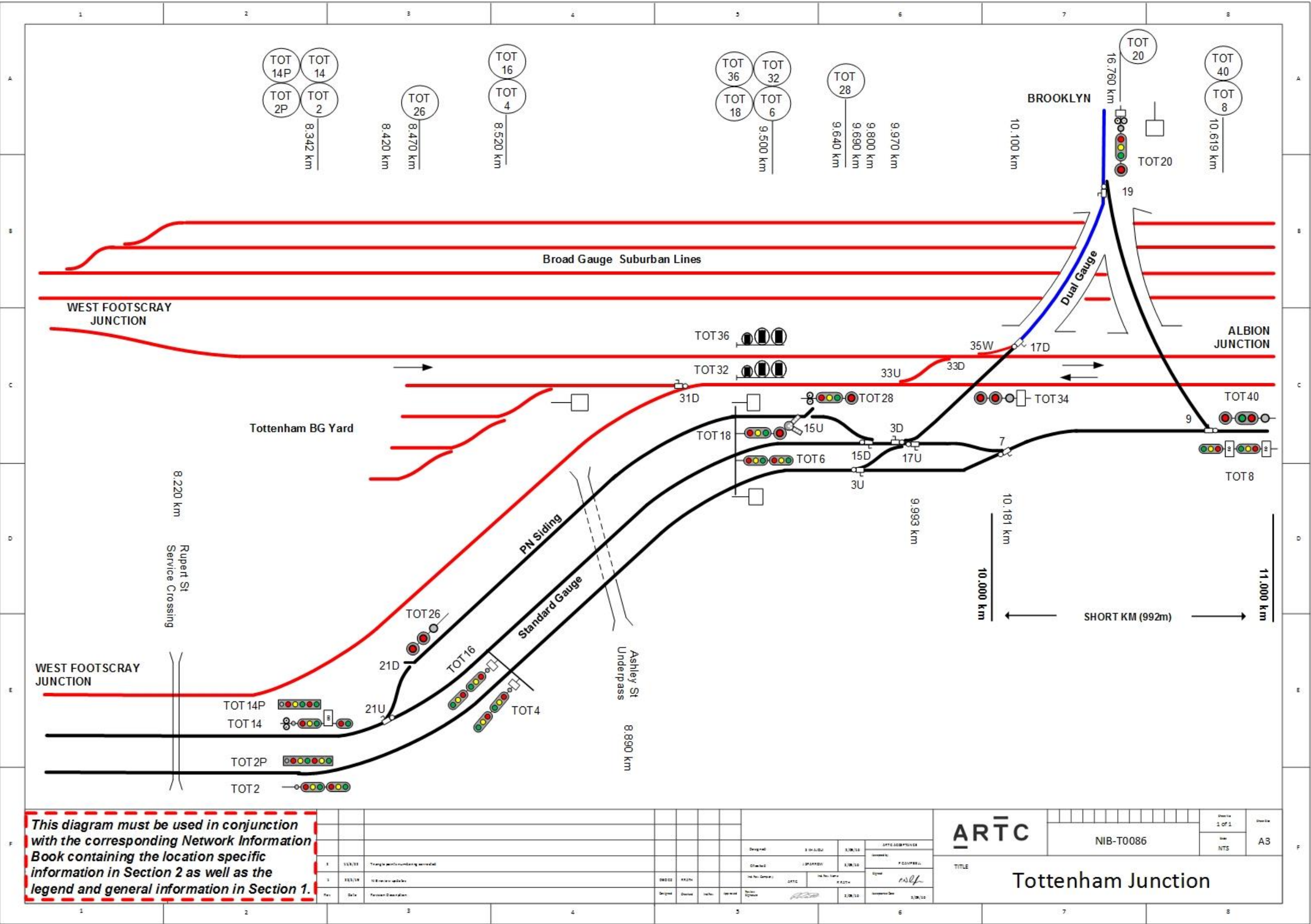
The points at Tottenham Junction are provided with dual control point machines and shall be operated by competent employee or Train Crews as directed by the ARTC Melbourne Metro Network Controller or the V/Line Train Controller at Centrol.

2.9.9 Movement of Road Rail Vehicles or Track Vehicles

When the ARTC Melbourne Metro Network Controller authorises a Road Rail vehicle to pass a signal at stop to transverse the Tottenham Triangle, it must be first ensured that the route is correctly set for the intended movement and that the appropriate sleeving or blocking commands have been applied to the points and blocking of signals.

The Driver of the Road Rail vehicle or track machine must be advised of the route the movement is to take. The driver of the Road Rail vehicle or Track Machine must confirm each set of points prior to passing over them and ensure the movement is proceeding along the route set as advised by the ARTC Network Controller.

NOTE: *At Tottenham Number 9 and 19 points will self-restore to the normal position unless they are sleeved or blocked by the ARTC Network Controller.*



2.10 Tottenham to Newport

The Points and Signals between Tottenham Junction and Newport are operated by the ARTC Melbourne Metro Network Controller

The Brooklyn to Newport Section is dual gauge track and operated under Automatic Block Signalling rules and Procedures.

The West Line is Broad gauge track only and operated by the V/Line Train Controller at Centrol.

The Single line section between Tottenham Junction and Brooklyn is Dual Gauge track.

2.10.1 Brooklyn

18 and 19 points are dual controlled point machines and controlled by the ARTC Melbourne Metro Network Controller.

The Signals are controlled by either the ARTC Network Controller or the V/Line Train Controller Centrol depending on the position of the points.

For Broad gauge movements to/from Sunshine the ARTC Network Controller shall reverse 18 and 19 Points and this gives control of Signals 1 and 7 to the V/Line Train Controller Centrol.

For a Broad Gauge Rail movement to operate to the Quarry Siding at Brooklyn the V/Line Train Controller Centrol must advise the ARTC Network Controller and request 18 and 19 be operated to reverse and then Signal 1 is cleared for the rail movement to arrive into siding.

Signal 2 is operated by the ARTC Network Controller when 19 points are normal and Standard or Broad gauge movement will operate via the East Line (Dual gauge track) and by the V/Line Train Controller Centrol when 19 points are reversed for Broad Gauge movements only

Signal 1 is operated by the ARTC Network Controller when 19 points are reverse for a broad gauge movement to operate via the East Line (Dual gauge track) and by the V/Line Train Controller Centrol when 18 and 19 points are reversed for Broad Gauge movements only.

Signal 4 is operated by the ARTC Network Controller for Standard and Broad gauge movement to operate via the East Line (Dual gauge track).

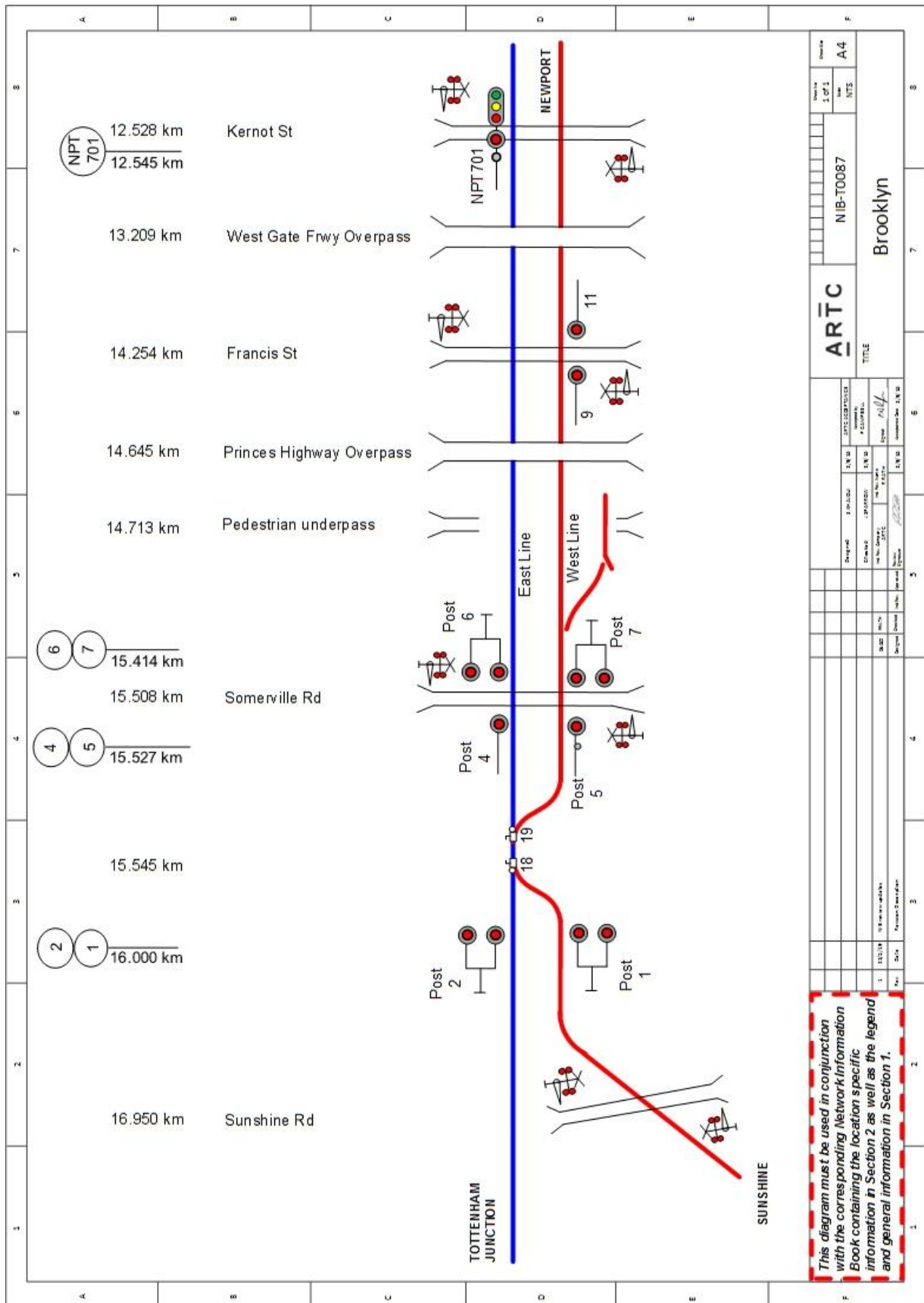
Signal 6 is operated by the ARTC Network Controller when 18 and 19 points are normal for movements toward Tottenham Junction and when 18 points are reversed by the V/Line Train Controller Centrol for Broad Gauge movements to Sunshine.

Signal 7 is operated by the ARTC Network Controller when 19 points are reversed for a Broad gauge movement will operate from the West Line towards Tottenham and by the V/Line Train Controller Centrol when 18 and 19 points are reversed for Broad Gauge movements towards Sunshine only

Signal 5 is operated by the V/Line Train Controller Centrol for Broad Gauge movements on the West Line.

During failure conditions, The ARTC Network Controller shall prepare and dictate a Signalman's Caution Order to pass Signals at Stop under ARTC Control.

During failure conditions, the V/Line Train Controller Centrol shall issue the appropriate Authorities to pass Signals at Stop under V/Line control. At all times the position of the points must be confirmed they are set correctly for the intended movement.



2.10.2 UGL Siding

The ARTC Network Controller signals movements into or from UGL Siding. Operators seeking access to the UGL siding must first seek authority from the siding operator prior to seeking passage from the ARTC Network Controller.

When a Rail movement requires to proceed into the UGL Siding, the train crew must obtain authority from the siding operator prior to departing Tottenham or Manor and advise the Network Controller accordingly.

Provided the train crew have confirmed that permission has been obtained to proceed into the siding, the Network Controller may then signal the movement accordingly.

2.10.3 Anzac Siding Newport

Where there are interfaces with the ARTC network, the requirements are detailed in interface agreement IA193-1 VicRoads & V/Line.

The ARTC Network Controller signals movements into or out of Anzac Siding. Operators seeking access to the Anzac siding must first seek authority from the siding operator prior to seeking passage from the ARTC Network Controller.

When a movement requires to proceed into the Anzac Siding, the train crew must obtain authority from the siding operator prior to departing Tottenham or Manor and advise the Network Controller accordingly.

Provided the train crew have confirmed that permission has been obtained to proceed into the siding, the Network Controller may then signal the movement accordingly.

When a movement requires either setting back into the siding, or setting back out of the siding, a qualified Safeworker shall be provided and shall protect the setback movement in accordance with the relevant train operator's operating requirements.

Signal NPT 700 - Movement: United Group Siding to East Line - Authority: ARTC Melbourne Metro Network Controller provides verbal authority to driver.

Signal NPT 701 - Movement: East Line or to United Group Siding - Authority: ARTC Melbourne Metro Network Controller issues a Signallers Caution Order to driver. Driver does not record the Caution Order.

2.10.4 Newport

Where there are interfaces with the ARTC network, the requirements are detailed in interface agreement IA09 MTM

The V/Line Train Controller Control operates signal NPT 704 and NPT 702 for broad gauge movements to proceed onto the broad gauge west line.

The MTM Signaller Newport provides a release allowing the ARTC Network Controller to operate signals NPT 707 or NPT 709 allowing movements to be signalled toward the broad gauge Altona Sidings, and Signal NPT 723 for broad gauge movements requiring to be signalled toward the broad gauge goods line.

The ARTC Network Controller signals movements into or out of the Anzac sidings and the Goninan's siding. Operators requiring access to the V/Line operated main line, the MTM operated main line, the Goninan's siding or the Anzac siding must first seek access from the relative track operator prior to seeking passage from ARTC.

Newport - West Bound Broad Gauge Movements to Altona Siding or Goods Lines

When a broad gauge movement requires to proceed from the V/Line broad gauge West Line, or the ARTC Dual Gauge East line, the ARTC Network Controller must liaise with the MTM Signaller Newport.

The MTM Newport signaller will advise the route the movement is to take and then provide the release for the applicable signal (NPT 707 or NPT 709 for moves to the Altona Siding, or to the Goods Line).

The ARTC Network Controller may then operate the signal as required for the movement to proceed.

The signalling is so structured that the ARTC Network Controller has the ability to place a call on signals NPT 707 or NPT 709 in advance pending a release being provided by the Newport signaller.

Newport - East Bound Broad Gauge Movements to the V/Line West Line

When a west bound broad gauge movement requires to proceed from Newport to the V/Line West Line, the V/Line Train Controller Control must advise the ARTC Network Controller.

The ARTC Network Controller must then set the route for the movement as requested and the V/Line Train Controller Control may then operate signals NPT 702 or NPT 704 for the movement.

Newport - Signal Failure

In the event of a signal failing to assume a proceed aspect when operated, the ARTC Network Controller shall liaise with the V/Line Train Controller Control and the MTM Signaller at Newport and come to an understanding regarding the failure.

Provided detection on the affected points is displayed, the authority to pass the signal at stop may be granted after ensuring the applicable point blockings have been applied. In the event the point detection is not provided, arrangements must be made for the relevant point machines to be placed in the hand operating position and the points operated manually as required for the movement.

The authority to pass signals at stop is the issue of a Signalman's Caution Order to the driver of the movement. The Network Controller must prepare a Signalman's Caution Order and dictate it to the driver of the movement. There is no requirement for the driver to record the Caution Order.

The drivers name must be provided to the Network Controller who must confirm an understanding of the authority granted to proceed.

The authority to pass signals at Stop is as detailed:

Signal NPT 700 - Movement: United Group Siding to East Line - Authority: ARTC Melbourne Metro Network Controller provides verbal authority to driver.

Signal NPT 701 - Movement: East Line or to United Group Siding - Authority: ARTC Melbourne Metro Network Controller issues a Signalman's Caution Order to driver. Driver does not record the Caution Order.

Signal NPT 702 - Movement: Altona Siding to East Line or Anzac Siding - Authority: ARTC Melbourne Metro Network Controller issues a Signalman's Caution Order to driver. Driver does not record the Caution Order.

Signal NPT 702 - Movement: Altona Siding to West Line - Authority: VLP Train Controller CENTROL issues a Signallers Caution Order to driver. Driver does not record the Caution Order.

Signal NPT 704 - Movement: Main line to East Line or Anzac Siding – Authority: ARTC Melbourne Metro Network Controller issues a Signalman's Caution Order to driver. Driver does not record the Caution Order.

Signal NPT 704 - Movement: Main line to West Line - Authority: VLP Train Controller Control issues a Signalman's Caution Order to driver. Driver does not record the Caution Order.

Signal NPT 705 - Movement: Anzac Siding to NPT 707 - Authority: ARTC Melbourne Metro Network Controller provides verbal authority to driver.

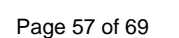
Signal NPT 707 - Movement: Standard gauge along East Line - Authority: ARTC ASW Plains Network Controller issues a Signalman's Caution Order to driver. Driver does not record the Caution Order.

Signal NPT 707 - Movement: Broad Gauge East line to Altona Siding - Authority: After consultation with MTM Signaller Newport ARTC Melbourne Metro Network Controller issues a Signalman's Caution Order to driver. Driver does not record the Caution Order.

Signal NPT 709 - Movement: West Line to Altona Siding or Dual Gauge - Authority: After consultation with MTM Signaller Newport, ARTC Melbourne Metro Network Controller issues a Signalman's Caution Order to driver. Driver does not record the Caution Order.

Signal NPT 724 - Movement: Standard Gauge to Dual gauge - Authority: ARTC Melbourne Metro Network Controller issues a Signalman's Caution Order to driver. Driver does not record the Caution Order.

Signal NPT 722 - Movement: Broad Gauge to Dual gauge - Authority: ARTC Melbourne Metro Network Controller issues a Signalman's Caution Order to driver. Driver does not record the Caution Order.



2.11 Tottenham to Somerton Loop

The ARTC Main line Standard Gauge track between Tottenham Junction and Somerton Loop (exclusive) and the Broad Gauge track between Albion Junction and Jacana Junction (Dual Gauge Track at Tullamarine Crossing Loop) is managed by the ARTC Melbourne Metro Network Controller at (NCCW) located in Mile End Adelaide. The system of safe working will remain CTC as per Section 17 of TA.20 Rules and Operating procedures.

The safe working for the CTC Single line section between Tullamarine Crossing Loop Signals TME 6 and TME U6 to Somerton Loop SOM 2 is managed by the ARTC Melbourne Metro Network Controller.

The ARTC Melbourne Metro Network Controllers at Mile End and the Network Controller at NCCS must communicate and come to a clear understanding of the priority of train movements between Somerton Loop and Tullamarine Crossing Loop prior to any departure signals being cleared for entry into the single line section.

Train movements approaching from Melbourne will require the ARTC Melbourne Metro Network Controller liaising with the NCCS Network Controller for priority of the departing train and if the train is required to be held at Tullamarine or signals cleared for train to travel towards Somerton Loop.

Train movements approaching from Albury will require the NCCS Network Controller to provide adequate train running information and advise the ARTC Melbourne Metro Network Controller of the train being advanced towards Tullamarine. Once agreement has been met between the two Network Controllers then the departure signals at Somerton Loop can be cleared for the train to continue towards Melbourne.

To avoid any unnecessary delays to Broad Gauge services, Standard Gauge trains when being held at Tullamarine Crossing Loop for an extended period must be held on the Standard Gauge track and the Dual gauge track at Tullamarine kept free for Broad Gauge traffic to operate

TRACK ACTIVITIES - All track inspection and track maintenance activities between Tullamarine Crossing Loop and Somerton Loop to SOM 2 are to be performed under the direction of the ARTC Melbourne Metro Network Controller as per TA20 ARTC Victorian Rules.

Should a Track Warrant / Absolute Occupation be required the ARTC Melbourne Metro Network Controller must first advise the Network Controller NCCS and request a Blocking Command be applied to the departure signals at Somerton Loop SOM 4, SOM U4 and SOM V4. Once the Track Warrant or Absolute Occupation has been cleared the ARTC Melbourne Metro Network Controller must advise the NCCS Network Controller and then the signal Blocking Command can be removed.

Should a track maintenance vehicle or Road Rail (Hi Rail) operator request to operate between Tullamarine Crossing Loop and Somerton Loop, the Network Controller Mile End will grant such time for the Road Rail vehicle as far as Signal SOM 2 at Somerton Loop.

Should the Road Rail or Track Machine vehicle be required to operate through Somerton Loop, the track operator will request time from the Network Controller NCCS prior to entering Somerton Loop. The NCCS Network Controller will advise the ARTC Melbourne Metro Network Controller when the Road Rail vehicle has cleared the single line section.

2.11.1 Failure Conditions

During failure conditions the ARTC Melbourne Metro Network Controller will issue all safeworking forms for the section between Tullamarine Crossing Loop and Somerton Loop on the Standard Gauge. The ARTC Melbourne Metro Network Controller will be responsible for the issue of CTC Caution Orders to pass the Home departure signals SOM 4, SOM U4, and SOM V4.

Before the ARTC Melbourne Metro Network Controller issues a CTC Caution Order to pass the Home Departure signals at Somerton Loop, the following conditions must first be in place

1. Ensure the ARTC Network Controller NCCS has been advised
2. Ensure the Network Controller NCCS has set the points for the intended Rail Movement and Blocking Commands have been applied to the points
3. The Broad Gauge Release for the Grade Crossing has not been given to the MTM Signaller Craigieburn for any Broad Gauge service to operate and Blocking Commands have been applied.
4. The Network Controller NCCS has applied blocking commands to the signals at Somerton Loop.
5. The ARTC Melbourne Metro Network Controller has applied Blocking Commands on signals at Tullamarine Crossing Loop

The Network Controller NCCS will issue the CTC Arrival Message for signal SOM 2 during failure conditions.

2.12 Albion to Jacana Broad Gauge

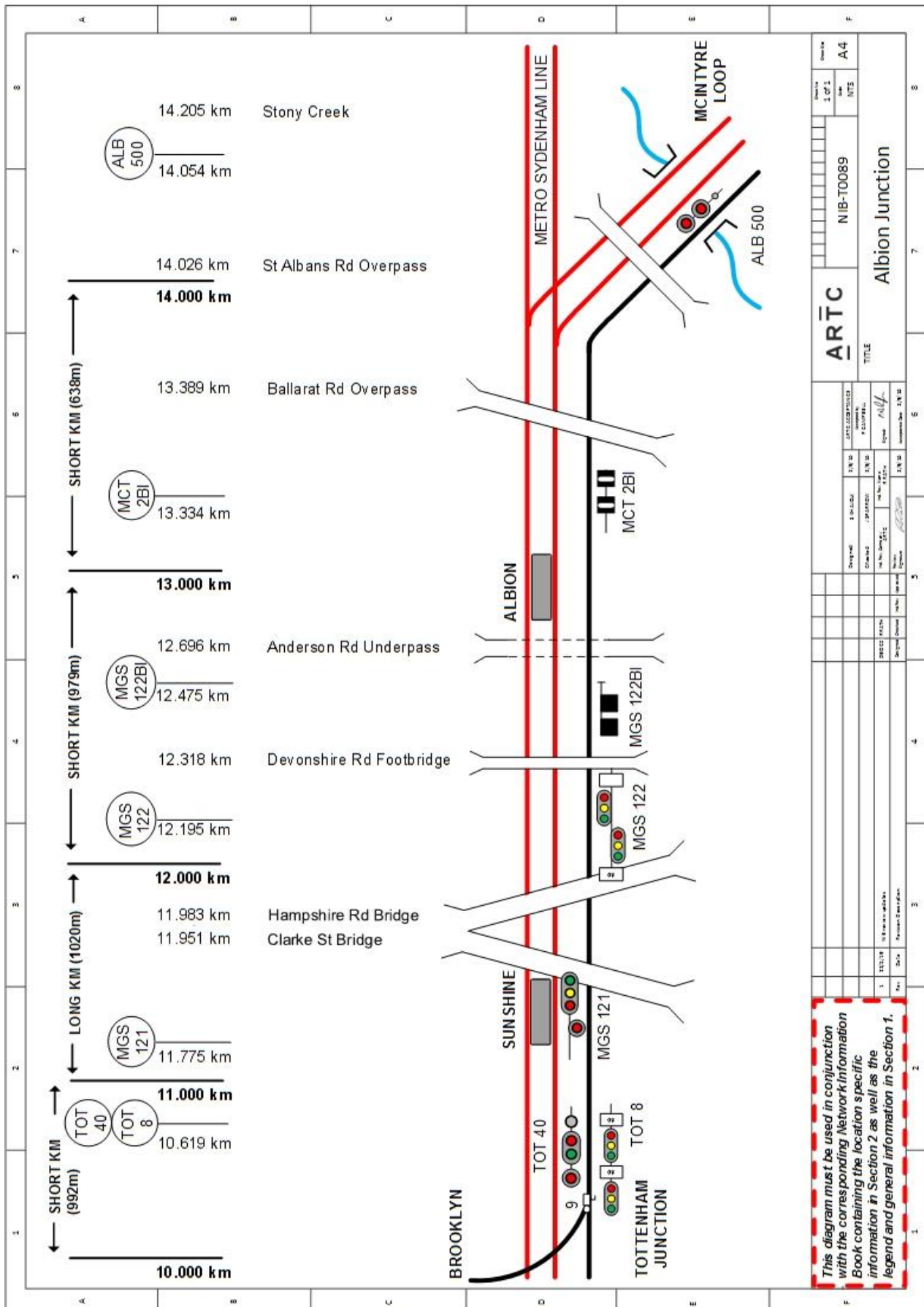
The ARTC Melbourne Metro Network Controller NCCW has full train control responsibility for the management of rail movements and maintenance operations between Albion Loop (Up and Down Lead Tracks) and Jacana Loop (Up and Down Lead Tracks).

The ARTC Melbourne Metro Network Controller interfaces with the Metro Trains Signaller at Sunshine for Broad Gauge Rail Movements to / from Sunshine (Watergardens Main Suburban Line) and the Metro Trains Signaller Craigieburn for all Broad Gauge Rail movements to/from Jacana (Craigieburn Main Suburban Line)

Safeworking is conducted under TA20, "ARTC Code of Practice for Victorian Main Line Operations – Centralised Traffic Control"

2.12.1 Defective Signals – Albion Junction

- MCT / 14 – CTC Caution Order
- MCT / 20 – CTC Home Arrival Message
- MCT / 12 – CTC Home Arrival Message



2.12.2 McIntyre Loop

McIntyre Loop is considered an unattended CTC Crossing location and the Authority to pass signals at Stop are

- CTC Home Arrival Message for Signals MCT 2 and MCT 8
- CTC Caution Order to pass signals MCT 4, MCT U4, MCT V4, MCT 6, MCT U6 and MCT V6,
- The Points are Dual Controlled Points Machines and can be operated by Train Crews / Competent Employees during failure conditions.
- The Standing Room is 891 metres
- Emergency Automatic Mode is not in operation.
- Grade Crossing to allow for Broad Gauge movements to enter/exit from the Maintenance Centre

2.12.3 McIntyre Maintenance Centre

The McIntyre Maintenance Sidings are located at McIntyre Loop and are provided with a signalled Broad Gauge connection at Albion Junction and a Standard Gauge connection from number three track at the McIntyre Crossing Loop. The Broad Gauge connection crosses the ARTC Standard Gauge main line from the ARTC Albion to Jacana Broad Gauge track connecting to the new Broad Gauge sidings and converted Broad Gauge Southern Spur line. All points and signals leading from the ARTC Broad and Standard Gauge main lines, are operated by the ARTC Melbourne Metro Network Controller. The McIntyre Sidings are provided for common use by an Accredited Rail Operator (ARO). AROs will have an access agreement and safety interface agreement with VicTrack.

Access to the siding is planned in conjunction with the ARO, VicTrack and ARTC. VicTrack oversee planned use of the siding. The ARTC Melbourne Metro Network Controller signals movements to and from No.3 road in accordance with this procedure. Operators requiring access to the VicTrack No 3 Siding must first obtain permission from VicTrack prior to requesting a path from the ARTC Melbourne Metro Network Controller. Operators requiring access to the McIntyre Maintenance Sidings must first obtain permission from the siding operator prior to requesting a path from the ARTC Melbourne Metro Network Controller. The ARTC Melbourne Metro Network Controller must not permit entry without prior advice from VicTrack. VicTrack issue a daily advice to confirm rail traffic and work activity within the siding. Should traffic request access to McIntyre and this is not on the planning advice, the ARTC Melbourne Metro Network Controller must contact VicTrack to confirm acceptance.

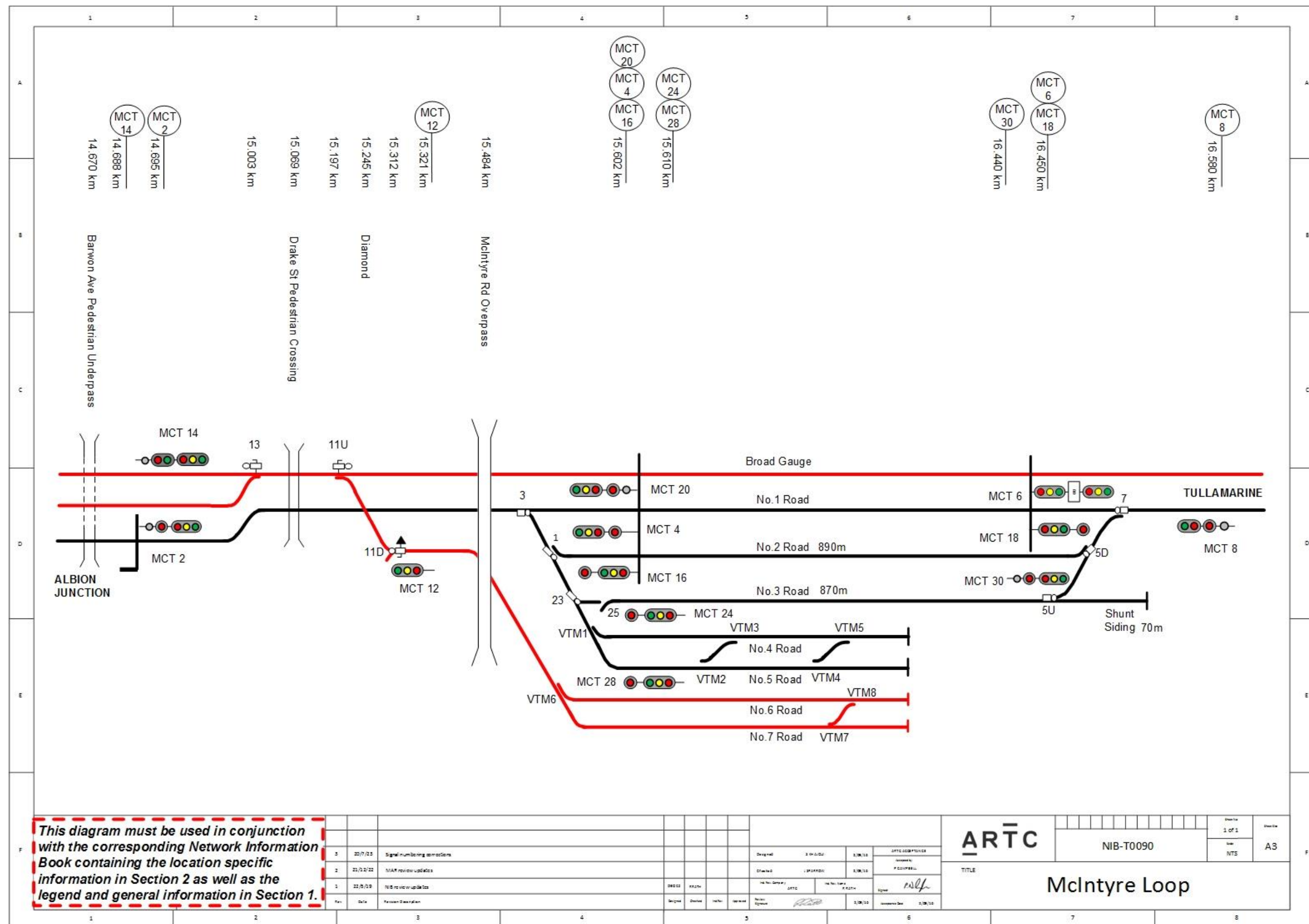
VicTrack Coordinator will provide an Arrival/Departure Sheet each day to ARTC for approved Rail Movements granted permission by VicTrack to operate into 3 road and the Maintenance Centre.

Standard Gauge Rail Movements to operate at McIntyre Loop 3 road or Maintenance Siding

Within the Melbourne yard precinct, or Laverton Loop, the driver of the movement must ensure that the movement has VicTrack authority to enter the VicTrack operated Number 3 track or permission from the siding operator prior to entering the maintenance sidings and then confirm with the ARTC Melbourne Metro Network Controller. The ARTC Melbourne Metro Network Controller upon being advised by the driver, may then signal the movement into the applicable track.

Broad Gauge Rail Movements to operate at McIntyre Maintenance Siding

Prior to a movement commencing its journey from its location of origin, or if in transit, departing from Tottenham or Brooklyn, the driver of the movement must ensure that the movement has authority from the siding operators to enter the McIntyre Maintenance Sidings and then confirm with the ARTC Melbourne Metro Network Controller. Upon the movement approaching Signal MCT 14 the ARTC Melbourne Metro Network Controller may then signal the movement into the broad gauge sidings.



2.12.4 Tullamarine Crossing Loop

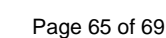
Tullamarine Crossing Loop is 6.8km in length and has one Dual Gauge Track and One Standard Gauge Track. Intermediate Automatic signals are located approximately half-way on the crossing loop to allow for follow on Rail Movement.

When a Standard Gauge rail movement is required to be held at Tullamarine Crossing Loop for an extended period, the Standard Gauge rail movement must be held on the Standard Gauge track to avoid any delays to Broad Gauge services.

The following permanent Speed Restrictions apply for the Standard Gauge and Dual Gauge tracks at Tullamarine Crossing Loop

1. Standard Gauge Track – Maximum Speed 115 kph
2. Dual Gauge Track – Maximum Speed 80 kph
3. Broad Gauge Track – as per Published TSR

All Train Crews must adhere to the permanent Speed Restrictions and any other Temporary Speed Restrictions that may apply.



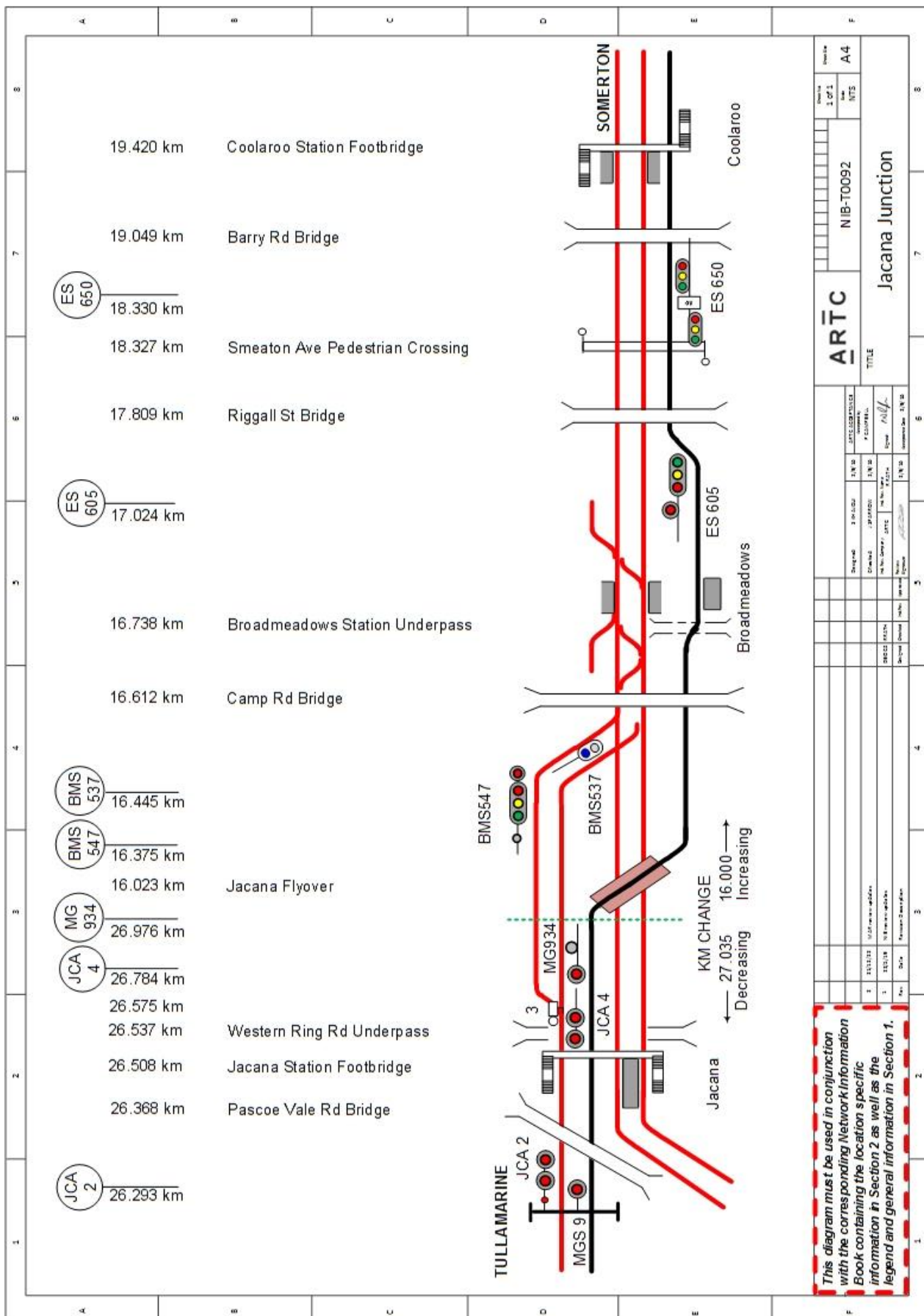
2.12.5 Defective Signals – Jacana

- JCA 4 – CTC Home Departure Caution Order
- JCA 2 – CTC Home Arrival Message

To ensure that Main Suburban lines are not blocked, the MTM signaller Craigieburn is to inform the ARTC Network Controller when they have signalled a broad gauge train movement (APEX), so that signal JCA4 can be put to proceed. If required, the train will be held at Somerton until a suitable window is available so as not to impact suburban lines.

Dwarf Signal BMS 537 is situated on the Up Lead Track and allows for Broad Gauge train movements to set back from the Up lead track to the Main Suburban Lines.

Signal BMS 537 is controlled by the MetroTrains Signaller at Craigieburn.



2.13 Somerton Loop

The signals and points at Somerton Loop are controlled by the ARTC Network Controller NCCS. Both ARTC Melbourne Metro Network Controller and NCCS Network Controller must come to an understanding on the planning of rail movements between Somerton Loop and Tottenham Junction to avoid any unnecessary delays.

