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Document Status

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Amendment Record

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1.0	04 Aug 2016		First issue
1.1	30 May 2017	Various	Diagrams updated to include removal of 144 crossover, Kooragang Arrival Road stage 2 works & replacement of catchpoint indicators at Walsh Point. Kooragang Arrival Road stage 2 works changes and NCIG safety procedures updated and shunting signals note added to Kooragang Coal Sidings text
1.2	3 Jul 2018	1.12 & 2.1	Weighbridge details added to new section 1.12. NCIG safety procedures updated in section 2.1. Diagrams updated.
1.3	9 Jan 2019	Various	Speed board corrections made to diagrams
1.4	17 Jul 2020	1.5.1, 1.15,	NCIG 166 points details added. Looking Working hazardous areas

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		1.16, 2.1	information added to new section 1.15. Drawing legend updated. Hanbury Junction – NCIG & NCIG diagrams updated.
1.5	18 Dec 2020	1.5.1, 2.2 & 2.5	Kooragang 109 points added to section 1.5.1. Kooragang & Walsh Point diagrams updated
1.6	28 Sep 2021	1.6, 1.16, 2.2	Level crossings table and drawing legend updated. Kooraqang diagram updated. Usage note added to all diagrams.
1.7	15 Oct 2021	1.2, 2.1	Safeworking System updated. Hanbury Junction to NCIG diagram updated.
1.8	8 Feb 2023	1.1, 2.1, 2.2.1, 2.4	Board Extent and Hanbury Junction – NCIG diagram updated. Adjacent Local Possession Authority details added to NCIG and Kooragang Island locations text. Kooragang cripple sidings renamed to KCT sidings in Coal Terminal text and diagram.
1.9	15 Jan 2024	1.6, 1.8, 2.4.5, 2.5	Level Crossings table, Kooragang Coal Terminal safety procedures and Walsh Point diagram updated
2.0	27 Nov 2024	1.10, 2.1, 2.2	Communications text, NCIG and Kooragang Island diagrams updated
2.1	6 Nov 2025	1.8, 2.1	Maximum Train Length and NCIG diagram updated
3.0	26 May 2026	Various	Working in Shunting Yards added. Lookout Working Hazardous Areas and yard locations updated. NCIG diagram updated

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1 General Information

1.1 Board Extent

Kooragang Island (inclusive) to Sandgate (exclusive).
South Fork inclusive signal SFD1 (169.815), exclusive signal HJ28 (169.056),
North Fork inclusive NFD4 (169.221), inclusive NFU2 (170.047)

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

Contact Numbers:

Phone:	(02) 4902 7906
Train Transit Manager:	(02) 4902 9410
Emergency:	(02) 4902 7966

1.2 Safeworking System

Rail Vehicle Detection (RVD)

Uni-directional signalling on Down Branch from NFU2 and SFD1 signals to K9 signal

Uni-directional signalling from K9 and K11 into arrival roads 1 &2 via Holding Road A, and arrival roads 3, & 4 via Holding Road B.

Uni-directional signalling into NCIG arrival roads and through to Departure roads.

Bi-directional signalling Down Branch K8 to Walsh Point K16 via Holding Road B.

Bi-Directional signalling on Up Branch from NFD4 to 501 Stop Board and K70 shunt signal.

Yard Working

Yard Limit (YL) & End Yard Limit (EYL) signs are as follows:

Kooragang EYL

Signal NFU2 -170.047km Signal NFD4 - 169.851km - Signal SFD1 - 169.851km
Signal HJ28 – 169.056km

Kooragang YL

Signal NFU2 -170.047km Signal NFD4 - 169.851km - Signal SFD1 - 169.851km
Signal HJ28 – 169.056km

NCIG is within the Kooragang Yard Limits.

1.3 Applicable Rules

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

1.4 Adjacent Train Control Boards / Centres

ARTC Terminal Co-ordinator	02 4979 7131	0408 616 692
ARTC Lower Hunter	02 4902 7909	Emergency 02 4902 7969
ARTC Port Waratah	02 4902 7907	Emergency 02 4902 7967

1.5 Localised Working Arrangements

1.5.1 Working in Shunting Yards

Working On Track Within the Shunting Yards / Sidings

NSFW 300 Planning Work in the Rail Corridor, specifically Methods for Working Safely on Track In Shunting Yards is approved for locations included in the table below.

Location	Type	NIB Section(s)
NCIG	Yard	2.1
Kooragang Island	Yard	2.2
Kooragang Coal Sidings	Yard	2.3
Kooragang Coal Terminal	Yard	2.4
Walsh Point	Yard	2.5

Where required to apply NSFW 300 the following additional instructions MUST be strictly adhered to:

- Identify yourself and location to the ARTC Network Controller or Terminal Coordinator (most appropriate for location), and
- Give details of the worksite, type of work, expected duration, worksite location including limits, tracks, utilising the hierarchy of controls regarding protection.

Where practicable, points MUST be clipped and SL locked away from the worksite to exclude rail traffic.

If points can be clipped and locked away from the worksite, one or more of the following additional protection arrangements MUST be utilised as a minimum requirement when using NSFW 300:

- A Red Flag or STOP Sign / Red Light to be clamped in the four foot or attached to the head of rail at the protection limits, OR placed between limits and worksite if there is stored rail traffic in between limit and worksite, and it MUST be “tagged” with the Protection Officer's name and contact number,
- An adjoining work on track authority is in place that prevents unauthorised rail traffic access to the protection limits (if applicable),
- Blocking facilities from Network Control are confirmed as applied (if applicable),
- Handsignaller(s) are in place (if applicable).

If points cannot be clipped and locked away from the worksite, two or more of the following protection arrangements MUST be utilised as a minimum requirement when using NSFW 300:

- Dedicated Lookout responsible for keeping watch for rail traffic MUST be used in accordance with NSFP 711 Using Lookouts,
- A Red Flag or STOP Sign / Red Light to be clamped in the four foot or attached to the head of rail at the protection limits, OR placed between limits and worksite if there is stored rail traffic in between limit and worksite, and it MUST be “tagged” with the Protection Officer's name and contact number,

- An adjoining work on track authority is in place that prevents unauthorised rail traffic access to the protection limits (if applicable),
- Blocking facilities from Network Control are confirmed as applied (if applicable),
- Handsignaller(s) are in place (if applicable).

If there is Rail Traffic within the protection area and cannot be excluded, or has the potential to impact workers or equipment, the Protection Officer MUST put controls in place to manage this hazard including:

- Conducting a safety assessment to ensure the risk of unintended rollaway impacting the worksite is mitigated. i.e. conduct a grade assessment and visually verify unattended rolling stock is effectively chocked if required,
- A “tagged” Red Flag or STOP Sign / Red Light is clamped in the four foot or attached to the head of rail in clear display visible for rail traffic in conjunction with the listed protection methods,
- Protection Officer to speak directly with Rail Traffic Crew for agreed arrangements (if available).

NSFW 300 and Adjacent Local Possession Authority

When work is to be undertaken and a Local Possession Authority (LPA) has been authorised on the adjacent running line(s), it will be permissible to use NSFW 300 Planning Work in the Rail Corridor - In Shunting Yards adjoining the LPA as a method of Working Safely on Track within the ARTC Yards or Sidings listed in the table above.

1.5.2 Lookout Working Hazardous Areas

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

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

Area	KM From	KM To	Line	Line Direction	Up/Down	Reason Unsuitable
Hanbury Junction to NCIG	169.900	169.300	Up North Fork	Uni-directional	Down	No sighting distance
Hanbury Junction to NCIG	169.900	169.300	Down North Fork	Bi-directional	Up & Down	No sighting distance

1.6 Section Operating Equipment

1.6.1 Motorised Point Machines

Some of the motorised points in this area are Swingnose points – EXTREME CAUTION must be exercised if points are being manually operated to ensure both parts of the turnout are wound, and to ensure that the whole route through the turnout is set correctly. Please note, if there are 4 keys in EOL box, there are 4 sets of points to wind.

NCIG	Kooragang
No 160 points ABCD	No 103 points AB
No 161 points ABC	No 109 points AB
No 162 points AB	No 111 points AB
No 166 points AB	

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	Cerberus ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
4344		South Fork Service LX	Kooragang East Jct - Sandgate Jct	169.140	Road	Private	Stop Signs
4360		North Fork Level Crossing	Kooragang East Jct - Sandgate Jct	169.481	Road	Private	Stop Signs
4346		Sandgate Jct North Fork Hi-Rail Takeoff	Kooragang Island	169.840	Road	Private	
4361		Kooragang Dept Service Lxing	Kooragang Departures	179.039	Road	Private	Stop Signs
3919		Kooragang Dept/EDI Lxing (EDI Sidings)	Kooragang Island	179.104	Road	Private	
4362	571	Windmill Road T4	Kooragang Departure Road	179.290	Road	Private	Half Boom Flashing Lights
3910		Kooragang Terminal Coal Unloaders Lxing	Kooragang Island - Walsh Point Line	177.077	Road	Private	
3911		Kooragang Terminal Coal Unloaders Lxing	Kooragang Island - Walsh Point Line	177.222	Road	Private	
3912		Kooragang Terminal Lxing	Kooragang Island - Walsh Point Line	177.499	Road	Private	
3913		Walsh Point Lxing (AGL)	Kooragang Island - Walsh Point Line	177.918	Road	Private	

ALCAM ID	Cerberus ID	Road Name	Line Segment	KM	Traffic Type	Access	Control Type
1672		Heron Street	Kooragang Island - Walsh Point Line	178.363	Road	Public	Give Way Signs
1673		K4 K5 K6 Berths	Kooragang Island - Walsh Point Line	178.465	Road	Private	Give Way Signs
1674		Walsh Point Lxing NPC - Kooragang NO3	Kooragang Island - Walsh Point Line	178.863	Road	Private	Stop Signs
3917		Walsh Point Lxing (Craig Mostyn)	Kooragang Island - Walsh Point Line	178.887	Road	Private	
1675		Walsh Point Lxing (Craig Mostyn)	Kooragang Island - Walsh Point Line	179.062	Road	Private	Stop Signs (duplicated)
1676		Walsh Point Line (P & O and Cement Co)	Kooragang Island - Walsh Point Line	179.109	Road	Private	Stop Signs (duplicated)
1677		Walsh Point Lxing (ACL)	Kooragang Island - Walsh Point Line	179.182	Road	Private	Stop Signs
3922		Walsh Point Lxing (Coal Loaders)	Kooragang Island - Walsh Point Line	179.249	Road	Private	
1678		P&O and Kooragang No2	Kooragang Island - Walsh Point Line	179.305	Road	Private	Stop Signs
1681		Walsh Point Lxing (Boral)	Kooragang Island - Walsh Point Line	179.349	Road	Private	
1679		Walsh Point Lxing (Boral)	Kooragang Island - Walsh Point Line	179.412	Road	Private	Stop Signs
1680		Walsh Point LX (Boral)	Kooragang Island - Walsh Point Line	179.592	Road	Private	Stop Signs
1665		Heron Street	Kooragang Island - Walsh Point to Blue Circle	178.363	Road	Public	Give Way Signs
1666		Tomago Aluminium	Kooragang Island - Walsh Point to Blue Circle	178.586	Road	Private	Stop Signs (duplicated)
1667		Bechtel (Coal loaders)	Kooragang Island - Walsh Point to Blue Circle	178.606	Road	Private	Stop Signs (duplicated)
		Cormorant Road (Cargills)	Kooragang Island - Walsh Point to Blue Circle	179.051	Road	Private	Lights and Bells
		Cormorant Road (Blue Circle Southern Cement)	Kooragang Island - Walsh Point to Blue Circle	179.764	Road	Private	Lights and Bells

1.8 Maximum Permitted Speeds and Permanent Speed Restrictions

Refer the Route Access Standard - Heavy Haul Network Section Pages H1 for all speed information.

1.9 Maximum Train Length

The maximum train length is 1550m.

1.10 Structure Clearances

Refer Route Access Standards for Rolling Stock Outlines.

1.11 Communications

Refer to the Route Access Standard general information section 4.10 for National Train Communications System (NTCS) details.

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

UHF Local Train Radio (LTR) frequency details

Channel Name WB

Frequency: 450.050 MHz (UHF),

Bandwidth: 12.5 KHz,

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

Tx CTCSS: 173.8 Hz

Rx CTCSS: NA

Selcall: disabled

Channel Name Mountain Radio (WB)

Frequency: 450.050 MHz (UHF),

Bandwidth: 12.5 KHz,

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

Tx CTCSS: 103.5 Hz

Rx CTCSS: NA

Selcall: disabled

1.12 Wayside Monitoring Systems

Newcastle Coal Infrastructure Group Rail Unloading Facility (NCIG)

1.13 Weighbridges

Location	Km	Description
Hunter River	170.450	Weighbridge located on the Down Kooragang Branch road. Weighbridge hut located on the arrival side of the corridor. Consultation with the Wayside team required prior to undertaking any works including grinding and tamping.
Kooragang	173.020	Weighbridge located on the Down Kooragang Branch road. Weighbridge hut located on the departure side of the corridor. Consultation with the Wayside team required prior to undertaking any works including grinding and tamping.

1.14 Ruling Gradients

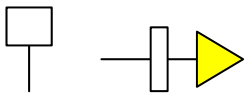
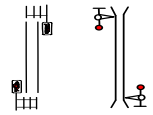
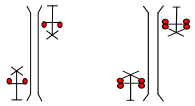
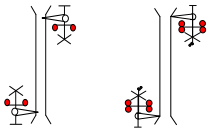
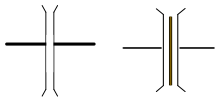
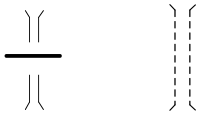
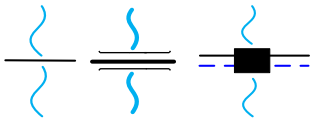
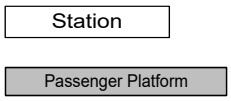
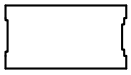
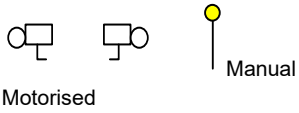
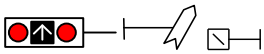
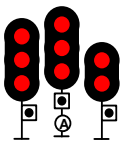
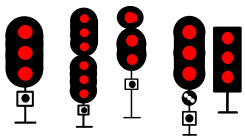
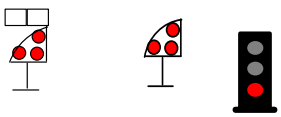
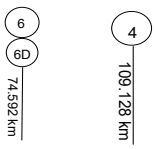
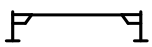
Down	1 in 70
Up	1 in 90

1.15 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

1.16 Drawing Legend

	Standard gauge track		Dual gauge track
	Advisory Sign or Location Sign		Speed sign
	Pedestrian Crossing		Passive Protection Level Crossing
	Active Protection Level Crossing – Flashing Lights		Active Protection Level Crossing – Lights and Boom
	Bridge or Overpass		Underpass
	River/Creek or Significant river bridge or Viaduct		Station or Platform
	Tunnel		Crossover
	Turnout		Catchpoint
	Derail		Points Operating Mechanism
	Point Indicator		Mechanical Frame
	Automatic Signals		Controlled Signals
	Dwarf Signals		Signal number reference
	Distant Signal		Repeater Signal
	Overheight Detectors	>> <<	Wayside Equipment

2 Locations and Sections Information

2.1 Newcastle Coal Infrastructure Group Rail Unloading Facility (NCIG)

General Arrangements

The Newcastle Coal Infrastructure Group's (NCIG) rail unloading facility is accessed via a flyover from the Down Kooragang Branch line and turnouts to the Up Kooragang Branch Line. The Flyover carries three arrival roads over the Kooragang Up branch to two dump stations. Exit from the dump stations leads to three departure roads and two sidings.

Equipment is controlled from Network Control Centre North Kooragang Network Controller Phoenix Panel and includes motor points, colour light signals and rail vehicle detection provided by axle counters. All signalling functions and system alarms are indicated via the Phoenix control system to the Kooragang Network Controller workstation.

NCIG is within the Kooragang Yard Limits.

NCIG Arrival and Departure roads are signalled uni-directionally only.

NSFW 300 Approved Area

The Protection Officer is responsible for conducting a safety assessment and confirming that NSFW 300 is suitable for the work to be performed at the location, prior to work commencing.

The use of NSFW 300 at this location has additional mandatory controls listed in Section 1.5.1 of this NIB. The mandatory controls are the minimum requirement, and additional controls may be implemented based on the safety assessment conducted by the Protection Officer.

NOTE: NSFW 300 use is not permitted to be used on running lines.

Operation of Points and Signals

The points and signals at NCIG are operated from Network Control Centre North.

All indications are displayed on the control panel at Network Control Centre North.

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

Wayside detectors are provided as follows:

Sliding Wheel Detector / Dragging Equipment Detector - 175.296km on departure road 2 and 3.

All wayside alarms are broadcast over the 450MHz Train Radio System.

A Maintenance Isolation Switch for 162 points is provided at 162 Signal Hut (176.668km) on the up side of the line to facilitate worksite protection within the NCIG facility. After ensuring all points are in the normal position and upon authorisation of the Kooragang Network Controller, operating the Maintenance Isolation Switch will prevent the movement of the motor points which provide entry to the facility.

Dump Station Arrangements

Nos. 1, 2, and 3 Newcastle Coal Infrastructure Group (NCIG) arrival roads are connected to three departure roads for the discharge of coal through a single track bottom discharge rail receival system, identified as NCIG Rail Discharge Shed.

Entry to the dump station is managed by the NCIG dump station controller. Train crews must ensure they have the dump station controller's authority to proceed into the dump station before entering.

No 1 NCIG arrival road is connected via Dump Station 1 to Departure Road 2. Connections are provided for access to No 2 Arrival Road, Departure Road 1 and Departure Road 3. Train movements from Dump Station No 1 to the Up Branch via these three departure roads is Uni-directional only.

No 2 NCIG arrival road is connected to both Dump Stations. Connections are provided for access from Arrival Road 1 and Arrival Road 3. Train movements are Uni-directional only.

No 3 NCIG arrival road is connected via Dump Station 2 to Departure Road 3. Connections are provided for access to No 2 Arrival Road, Departure Road 2 and Departure Road 1. Train movements from Dump Station No 2 to the Up Branch via these three departure roads, is Uni-directional only.

Operation of Sidings

Use of the sidings within NCIG is by arrangement with NCIG.

Siding 1 is accessed from Departure Road 2, via 170 motor points.

Siding 2 is accessed from Departure Road 3, via 175 motor points.

Number 170 and 175 motor points are operated by a push button panel located near the respective siding and is released by NCCN Kooragang Network Controller. A white light is provided to indicate that the points are free to be operated, and green lights indicate the lie of the points (Normal or Reverse). Upon receiving the authority from the Network Controller, depressing the Normal or Reverse push button for 3 seconds will operate the points to their corresponding position.

The departure road Siding 1 (accessed by 170 points reverse at 175.249km) is fitted with a motorised derail device. Before entering or departing the siding via 170 Points, operators must ensure the turnout and derail are in the correct position. A stop board is located at the end of the siding.

The departure road Siding 2 (accessed by 175 points reverse at 175.301km) is fitted with a motorised derail device. Before entering or departing the siding via 175 Points, operators must ensure the turnout and derail are in the correct position. A stop board is located at the end of the siding.

Emergency Operators Locks (EOL)

Note: When manually operating these points via the EOL, some points may have swingnose crossing and care MUST be taken to ensure that all ends of these points have been operated before a train is permitted to move over the points. EOL for all NCIG points are located on either 162 points location hut, or 170 points location hut.

Swingnose points –

No 160 points ABCD

No 161 points ABC

No 162 points AB

No 166 points AB

Safety Procedures

The NCIG is located within the Kooragang Yard Limits; this location is designated as a Shunting Yard.

Where work is required to be undertaken on any track, excluding the Unloading Dump Stations 1 and 2 at NCIG, the work must be undertaken as per ARTC Network Rule ANWT 300 Planning Work in the Rail Corridor, In Shunting Yards, Unattended Yards.

NCIG employees / contractors working on or near the track in the NCIG Private Siding

For all work that requires NCIG employees / contractors, tools and / or equipment to be placed on or next to a track, the following instructions will apply:

The Network Controller must be notified by the Protection Officer of;

- your name, and the location of the work, and
- the type of work to be done, and
- the commencement time and the expected duration of the work, and
- the proposed protection arrangements to protect the workers, tools and equipment.
- the Network Controller and Protection Officer must:
    - agree with the protection arrangements, and
    - implement the safety measures before work begins.
- On completion of the work, the Network Controller must be advised by the Protection Officer of:
    - the time when all workers, tools, equipment have been removed from or next to the track, and
    - as required, protection has been removed.

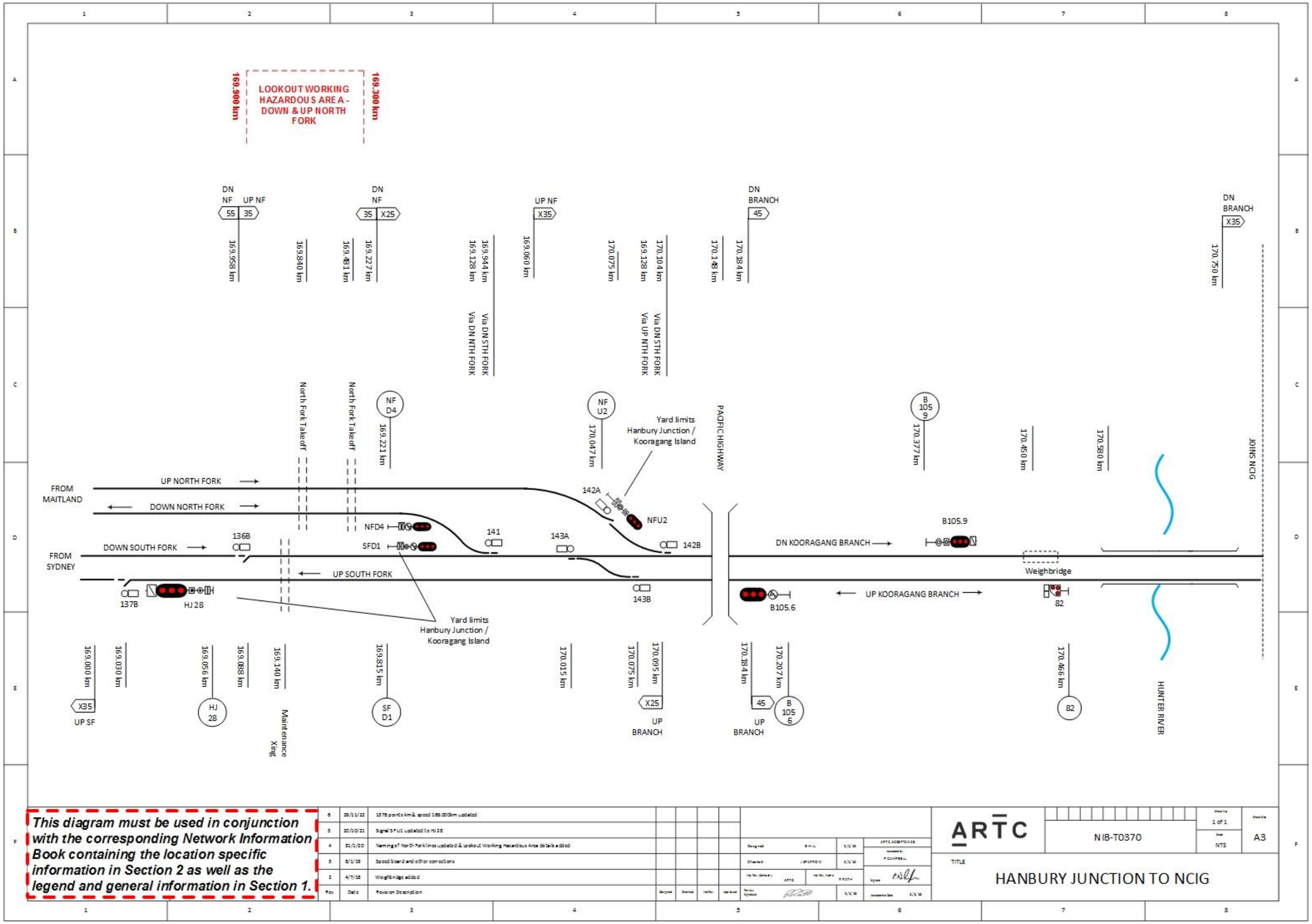
Working in the Unloading Dump Stations 1 and 2

When working in the Unloading Dump Stations 1 and 2, the following precautions should be taken:

- The NCIG employee / contractor is required to notify the Network Controller of intentions and request possession of the appropriate dump station rail corridor zone. The Network Controller will then apply blocking facilities and record details on the Train Control Diagram to prevent rail vehicle access to the required section of rail track
- The NCIG employee / contractor must ask the Network Controller to repeat back details of the blocking facility applied. Once the NCIG employee / contractor has confirmed that the blocking facilities are correct, the NCIG employee / contractor will record their name, the name of the Network Controller and time of the conversation onto the top of the NCIG isolation plan (not an ARTC document).
- Derails may be attached to the eastern and western side of the dump station.
- On completion of the work the NCIG employee / contractor must contact the Network Controller to advise them that works are completed, all personnel, tools, equipment, and when used derails are clear of the rail corridor, and request that the applicable blocking facilities be removed.

Note: ***Details of the above process must be recorded by the Network Controller on the Train Control Diagram in permanent form.***

Warning: ***NCIG employees must not weld or earth rail track without the authority of the Signal Engineer, Newcastle.***


LOOKOUT WORKING HAZARDOUS AREA - DOWN & UP NORTH FORK
169.900 km
169.300 km
DN NF
UP NF
DN NF
UP NF
DN BRANCH
DN BRANCH
169.958 km
169.840 km
169.481 km
169.227 km
169.944 km
169.128 km
169.060 km
170.075 km
170.104 km
169.128 km
170.148 km
170.184 km
170.750 km
Via DN STH FORK
Via DN NTH FORK
Via DN STH FORK
Via UP NTH FORK
North Fork Takeoff
North Fork Takeoff
NF D4
169.221 km
NF U2
170.047 km
Yard limits Hanbury Junction / Kooragang Island
PACIFIC HIGHWAY
B 105 9
170.377 km
170.450 km
170.580 km
JOINS NCIG
FROM MAITLAND
UP NORTH FORK
DOWN NORTH FORK
142A
NFU2
NFD4
SFD1
141
143A
142B
136B
DOWN SOUTH FORK
FROM SYDNEY
UP SOUTH FORK
DN KOORAGANG BRANCH
B105.9
Weighbridge
137B
HJ 28
143B
B105.6
UP KOORAGANG BRANCH
82
Yard limits Hanbury Junction / Kooragang Island
169.000 km
169.030 km
169.056 km
169.088 km
169.140 km
169.815 km
170.015 km
170.075 km
170.095 km
170.184 km
170.207 km
170.466 km
X35
UP SF
HJ 28
Maintenance Xing
SF D1
X25
UP BRANCH
45
UP BRANCH
B 105 6
82
HUNTER RIVER
This diagram must be used in conjunction with the corresponding Network Information Book containing the location specific information in Section 2 as well as the legend and general information in Section 1.
ARTC
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1 of 1
NTS
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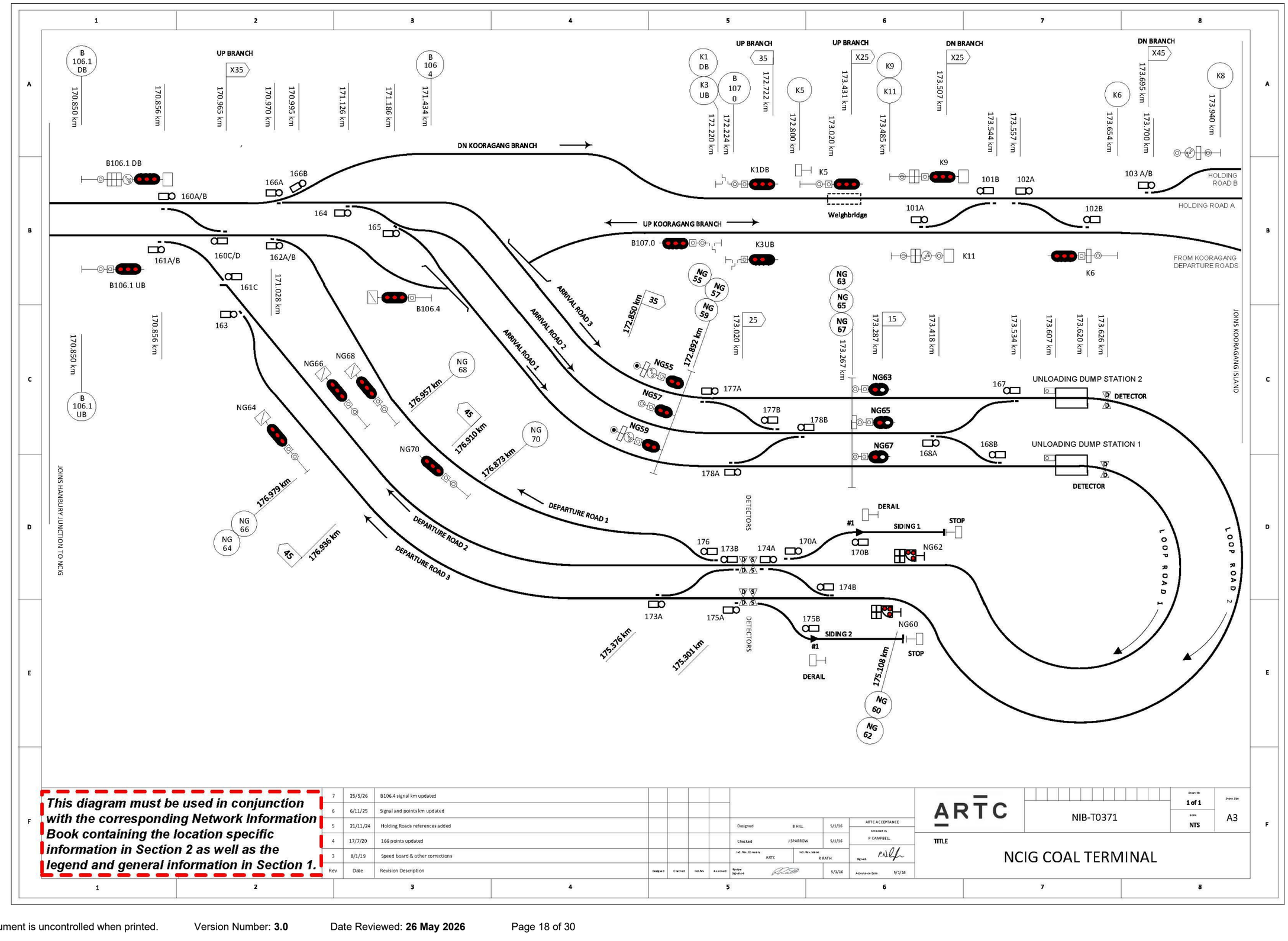
TITLE
HANBURY JUNCTION TO NCIG



This diagram must be used in conjunction with the corresponding Network Information Book containing the location specific information in Section 2 as well as the legend and general information in Section 1.

Rev	Date	Revision Description
7	25/5/26	B106.4 signal km updated
6	6/11/25	Signal and points km updated
5	21/11/24	Holding Roads references added
4	17/7/20	166 points updated
3	8/1/19	Speed board & other corrections

Designed B HILL 5/1/16
Checked J SPARROW 5/1/16
Ind. Rev. Co-ordinator ARTC
Ind. Rev. Name R RATH
Review Signature 5/1/16
ARTC ACCEPTANCE
Accepted by P CAMPBELL
Signed.
Acceptance Date 5/1/16

ARTC

NIB-T0371

Sheet No 1 of 1
Sheet Size A3
Scale NTS

TITLE
NCIG COAL TERMINAL

2.2 Kooragang Island (KCL)

2.2.1 General Arrangements

Trains arriving at Kooragang will have main line running signals onto and along the Arrival Roads. The junctions at the entrance to the arrival roads will be signalled as an equal speed junction. This arrangement allows the use of multi-lamp route MLRI indicators (MLRI) in conjunction with a green aspect.

NSFW 300 Approved Area

The Protection Officer is responsible for conducting a safety assessment and confirming that NSFW 300 is suitable for the work to be performed at the location, prior to work commencing.

The use of NSFW 300 at this location has additional mandatory controls listed in Section 1.5.1 of this NIB. The mandatory controls are the minimum requirement, and additional controls may be implemented based on the safety assessment conducted by the Protection Officer.

NOTE: NSFW 300 use is not permitted to be used on running lines.

Operation of Points and Signals

The points and signals at Kooragang Island are operated from Network Control Centre North.

All indications are displayed on the control panel at Network Control Centre North.

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

Operation of Power-Operated Points in an Emergency

All points worked from the Network Control Centre North are electrically power-operated.

If these points fail to operate correctly, the Network Controller must try to restore the points to their previous position to allow trains to continue running. However, if it is necessary to alter the route, the points may be manually operated.

The Signals maintenance representative must be promptly advised of the circumstances.

Setting Back Signals

When cleared, No. K71 set back signal, Up branch to main departure road, will authorise a movement as far as the 501 stop sign in the main departure road.

2.2.2 Downer EDI (Ready Power) Facility

To work a locomotive(s) into the facility:

Drivers will enter the Downer EDI siding on the authority of fixed signals and bring the locomotive(s) to a stand at the inbound stop sign #605, located on the eastern side of the catchpoints at 179.250km.

The Driver of a locomotive(s) that is entering the siding must proceed cautiously, prepared to stop short of any obstruction.

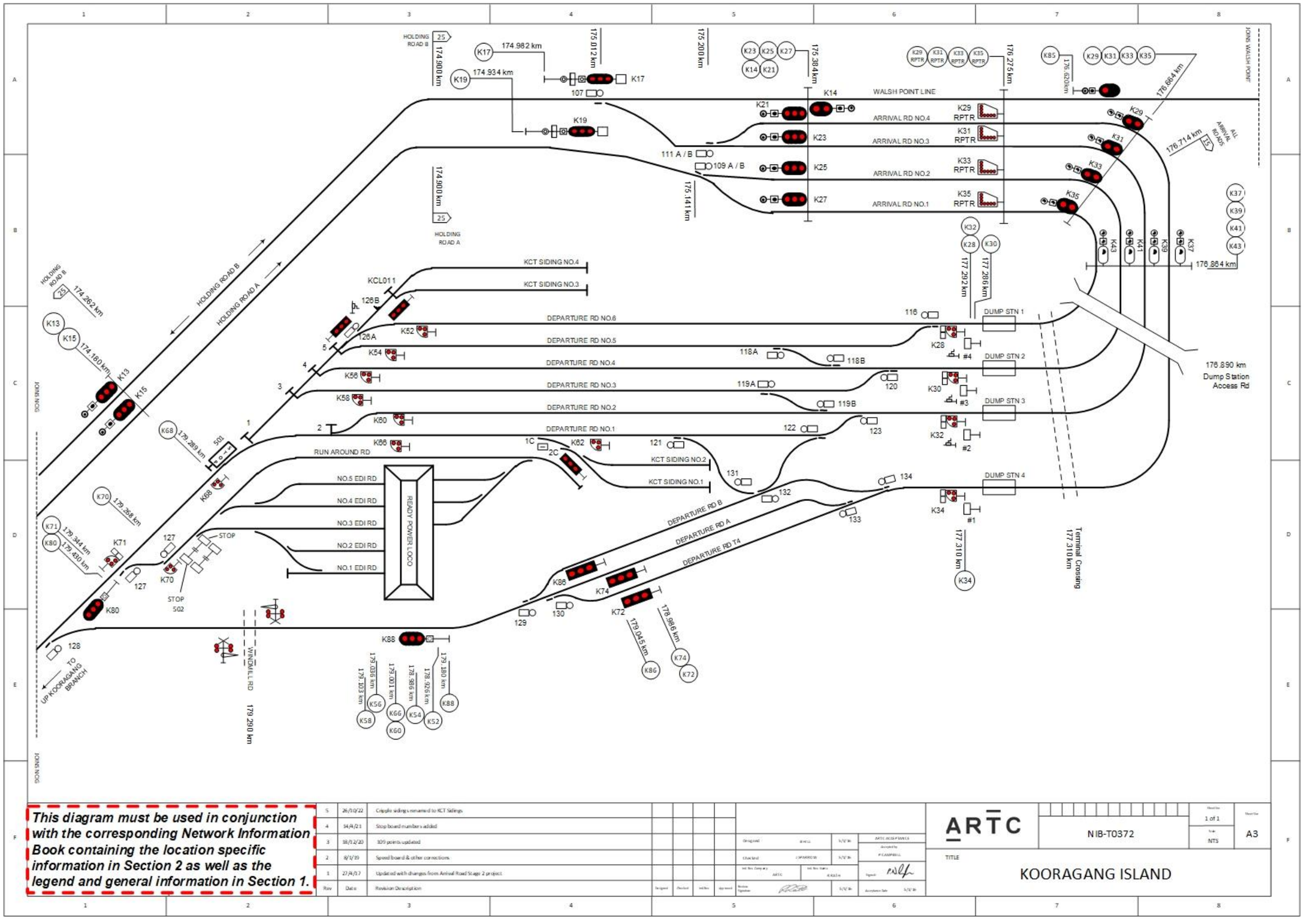
A notice sign is provided beside the stop sign. The notice sign is inscribed:

INCOMING DRIVER
Do not pass this stop board without first obtaining authority by contacting the maintenance facility on Ph: 4920 0415

To work a locomotive(s) from the facility:

After the Competent Worker contacts the Network Controller using the telephone provided near the outbound stop sign #502 and obtains the Network Controller's permission, the Driver may then move the locomotive(s) forward to the siding exit and leave the siding when the signal clears. Shunting moves within the EDI facility may need to pass 502 Stop sign and must contact the Network Controller using the telephone provided to obtain the Network Controller's permission.

Before authorising an outbound locomotive(s) movement from the outbound stop sign to the siding exit signal, the Network Controller must ensure that an opposing locomotive(s) movement has not been authorised by checking the track indicator diagram


WALSH POINT LINE
ARRIVAL RD NO.4
ARRIVAL RD NO.3
ARRIVAL RD NO.2
ARRIVAL RD NO.1
KCT SIDING NO.4
KCT SIDING NO.3
DEPARTURE RD NO.6
DEPARTURE RD NO.5
DEPARTURE RD NO.4
DEPARTURE RD NO.3
DEPARTURE RD NO.2
DEPARTURE RD NO.1
RUN AROUND RD
NO.5 EDI RD
NO.4 EDI RD
NO.3 EDI RD
NO.2 EDI RD
NO.1 EDI RD
READY POWER LOCO
KCT SIDING NO.2
KCT SIDING NO.1
DEPARTURE RD B
DEPARTURE RD A
DEPARTURE RD T4
DUMP STN 1
DUMP STN 2
DUMP STN 3
DUMP STN 4
HOLDING ROAD A
HOLDING ROAD B
JOINS NCIS
JOINS WALSH POINT
ALL ARRIVAL ROADS
TO UP KOORAGANG BRANCH
WINDMILL RD
Terminal Crossing
176.890 km
Dump Station Access Rd
This diagram must be used in conjunction with the corresponding Network Information Book containing the location specific information in Section 2 as well as the legend and general information in Section 1.
5 26/10/22 Cripple sidings renamed to KCT Sidings
4 14/4/21 Stop board numbers added
3 18/12/20 109 points updated
2 8/1/19 Speed board & other corrections
1 27/4/17 Updated with changes from Arrival Road Stage 2 project
Rev Date Revision Description
ARTC
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TITLE
KOORAGANG ISLAND

2.3 Kooragang Coal Sidings

2.3.1 Kooragang Sidings Entry and Exit

The movement of trains on the arrival and departure roads of the sidings are authorised by the clearing of the appropriate main and shunting signals. The signals are operated from Network Control Centre North.

Train entry and exit is on the authority of fixed signals, and the signalled direction of travel around the loop is in a clockwise direction.

Trains arriving at Kooragang will have main line running signals onto and along the Arrival Roads. The junctions at the entrance to the arrival roads will be signalled as an equal speed junction. This arrangement allows the use of multi-lamp route MLRI indicators (MLRI) in conjunction with a green aspect.

At 175.000km, there is located a “PWCS KOORAGANG COAL TERMINAL” entry sign directing drivers to contact PWCS on Channel Shunt 4.

A 15kmh speed sign is located at 176.714km leading to the KCT PWCS dump stations for up directional rail traffic.

Signals on the Arrival Roads to the PWCS dump stations at KCT are mounted on three signal gantries located at 176.275km, 176.664km and 176.864km.

Gantry at 176.275 km – Repeater signals for K29, K31, K33, K35

Gantry at 176.664 km – Main and Shunt signals K29, K31, K33, K35

Gantry at 176.864 km – Shunt signals K37, K39, K41, K43

2.3.2 Shunting Signals

The movement of trains on the arrival and departure roads of the sidings are authorised by the clearing of the appropriate main and shunting signals.

Each shunting signal can be cleared with a train occupying the track between the shunting signal and the next signal. The Network Controller must ensure by checking the indicator diagram that no conflicting moves are taking place.

Note: Selective shunting signals have stored route functionality.

Drivers are responsible for keeping their trains within the speed limit of 15 km/h and must be prepared to stop short of any obstruction or any signal displaying a stop indication, or to obey any hand signal displayed by a Competent Worker.

Procedure if there is a Failure of the Loop Position Light Shunting Signals

If there is a failure of any shunting signal within the loop area, trains must not be permitted to pass this signal in the stop position, except on the authority of the Network Controller.

After ensuring that no conflicting train movement is taking place, the Network Controller may authorise the signal concerned to be passed in the stop position.

To maintain the security of the interlocking, the Network Controller must, if possible, set the appropriate route applying to the defective signal as if the signal was working correctly.

After a Driver has been authorised to pass a signal at stop, the Driver must draw the train forward cautiously towards the next signal, being prepared to stop short of any obstruction.

2.3.3 NSFW 300 Approved Area

The Protection Officer is responsible for conducting a safety assessment and confirming that NSFW 300 is suitable for the work to be performed at the location, prior to work commencing.

The use of NSFW 300 at this location has additional mandatory controls listed in Section 1.5.1 of this NIB. The mandatory controls are the minimum requirement, and additional controls may be implemented based on the safety assessment conducted by the Protection Officer.

NOTE: NSFW 300 use is not permitted to be used on running lines.

2.4 Kooragang Coal Terminal

2.4.1 General Arrangements

Nos. 1, 2, 3 and 4 Kooragang Coal Terminal (KCT) arrival roads are connected to nine departure roads for the discharge of coal through a single track bottom discharge rail receival system, identified as Kooragang Rail Discharge Shed.

No 3 Kooragang Coal Terminal (KCT) arrival road is connected via Dump Station No 3 to two departure roads 1 & 2. Connections are provided for access to Departure Road 1 from Dump Station 4 and Departure Road 3 from Dump Station 3. Train movements from these departure roads are Bi-directional.

No 2 Kooragang Coal Terminal (KCT) arrival road is connected via Dump Station No 2 to two departure roads No 3 & 4. Connections are provided for access to Departure Road 3 from Dump Station 3 and Departure Road 5 from Dump Station 2. Train movements from these departure roads are Bi-directional.

No 1 Kooragang Coal Terminal (KCT) arrival road is connected via Dump Station No 1 to two departure roads No 5 & 6. Connections are provided for access to Departure Road 5 from Dump Station 2. Train movement from these departure roads are Bi-directional.

No 4 Kooragang Coal Terminal (KCT) arrival road is connected to three departure roads T4, A & B. Connections are provided for access to Departure Road B from Dump Station 3 and Departure Road 1 from Dump Station 4. Train movements from Dump Station No 4 to the Up Branch via these three departure roads is Uni-directional only.

KCT Sidings 1, 2, 3 & 4 are for the stowage of defective rolling stock that is required to be removed from the network or as required by Network Operations.

NSFW 300 Approved Area

The Protection Officer is responsible for conducting a safety assessment and confirming that NSFW 300 is suitable for the work to be performed at the location, prior to work commencing.

The use of NSFW 300 at this location has additional mandatory controls listed in Section 1.5.1 of this NIB. The mandatory controls are the minimum requirement, and additional controls may be implemented based on the safety assessment conducted by the Protection Officer.

NOTE: NSFW 300 use is not permitted to be used on running lines.

2.4.2 Method of Operation

Dump station departure signals Nos K28, K30, K32 and K34 are controlled by the Kooragang Network Controller.

The Network Controller is to clear signals Nos. K28, K30, K32 and K34 after the route is set into the departure roads.

Trains may be required to propel from Kooragang departure sidings through the rail discharge shed in the wrong running direction.

The Network Controller is to ensure that the track is clear for the propelling movement back to the arrival road and apply blocking facilities to the applicable signals Nos. K21, K23, K25, K27, K29, K31, K33 and K35.

A Competent Worker must contact the Network Controller and the KCT supervisor and request permission to propel a train through the rail discharge shed.

The Competent Worker must check the level crossings and the rail discharge area before the propelling movement commences, inform all employees working in the area of the movement, and then protect the level crossing while the movement is taking place.

When informed of the proposed propelling movement, the KCT supervisor is to clear the rail discharge shed of all employees and activate the warning bells before the propelling movement commences.

The train is to be reversed in clear of signal Nos. K37, K39, K41 or K43 so that these signals can be cleared for the train movement.

2.4.3 Ground Frames

Kooragang Departure Roads 1 to 6 have trailable ground frames to access the Up Branch. These ground frames should be set for departure by competent operators but may be trailed through by departing trains. Shunting movements will require the ground frames to be set for the required moves.

Lever C – KCT Sidings 1 & 2.

Lever C is unlocked by a key from releasing switch C, which is electrically released by No. 125 release from the Network Controller NCCN.

Frame H – KCT Sidings 3 & 4.

Frame H is motorised points, derailer and rail crowder controlled by push button panel, which is electrically released by No. 126 release from the Network Controller NCCN.

***NOTE**: Authority to use KCT Sidings No 3 & 4 must be obtained from the ARTC Terminal Co-ordinator, before requesting the releases from the Network Controller NCCN.*

2.4.4 Level Crossing Windmill Road

Active level crossing protection is provided at 179.290km for Windmill Road. The level crossing is remotely monitored by Network Control Centre North.

Signal K88 is interlocked to the Windmill Road level crossing and will not clear without the crossing operating correctly.

Emergency Operation of the Level Crossing warning equipment

Emergency switches are provided to isolate the warning equipment in the event of failure. The 'Emergency Switch Box' is located on the outside of the Level Crossing Equipment Hut and is opened by the emergency keys obtained from the ARTC Carrington Provisioning Centre. The warning equipment must be operated in accordance with ARTC Network Rule ANGE 218 Type F Level Crossing Management and Procedure ANPR 715 Protecting Type F Level Crossings.

Manual Operation of Level Crossing warning equipment

A manual operation switch is provided in a box secured by an SL Lock, located on the outside of the Level Crossing Equipment Hut. The manual operation switch is provided for use by competent workers in accordance with ARTC Network Rule ANGE 218 Type F Level Crossing Management, and Procedure ANPR 715 Protecting Type F Level Crossings and ANPR 717 Using Emergency Roadside Warning Equipment.

2.4.5 Safety Procedures

PWCS Kooragang Coal Terminal (KCT) is located within the Kooragang Yard Limits; this location is designated as a Shunting Yard.

Where work is required to be undertaken on any track, excluding the Rail Discharge Bins DS1, DS2, DS3 and DS4 at KCT, the work must be undertaken as per ARTC Network Rules and Procedures.

PWCS employees / contractors working on or near the track in the KCT

For all work that requires PWCS employees / contractors, tools and / or equipment to be placed on or next to a track, the following instructions will apply.

The Network Controller must be notified by the Protection Officer of;

- your name, and the location of the work, and
- the type of work to be done, and
- the commencement time and the expected duration of the work, and
- the proposed protection arrangements to protect the workers, tools and equipment.

The Network Controller and Protection Officer must:

- agree with the protection arrangements, and
- implement the safety measures before work begins.

On completion of the work, the Network Controller must be advised by the Protection Officer of:

- the time when all workers, tools, equipment have been removed from or next to the track, and
- as required, protection has been removed.

Working in the Rail Discharge Bins DS1, DS2, DS3 and DS4

When working in the Rail Discharge Bins DS1, DS2, DS3 and DS4, the following precautions should be taken:

- The PWCS employee / contractor is required to notify the Network Controller of intentions and request possession of the appropriate dump station rail corridor zone. The Network Controller will then apply blocking facilities and record details on the Train Control

Diagram / Electronic Graph to prevent rail vehicle access to the required section of rail track

- The PWCS employee / contractor must ask the Network Controller to repeat back details of the blocking facility applied. Once the PWCS employee / contractor has confirmed that the blocking facilities are correct, the PWCS employee / contractor will record their name, the name of the Network Controller and time of the conversation on the Rail Track Access Permit (RTAP) (not an ARTC document).
- Derails may be attached to the eastern and western side of the dump station in accordance with PWCS procedures.
- On completion of the work the PWCS employee / contractor must contact the Network Controller to advise them that works are completed, all personnel, tools, equipment and when used derails, are clear of the rail corridor, and request that the applicable blocking facilities be removed.

***NOTE**: Details of the above process must be recorded by the Network Controller on the Train Control Diagram/Electronic Graph in permanent form.*

***WARNING**: PWCS employees must not weld or earth rail track without the authority of the Signal Engineer, Newcastle.*

2.5 Walsh Point (WSH)

General Arrangements

The Walsh Point line is a single line connected to the end of the Kooragang Coal arrival roads. Mountain Industries has a loading facility on the Walsh Point line at 177.100km.

The line services the following sidings:

- Former Incitec / Greenleaf sidings 178.115km
- Cargill Wharf siding 178.886km 178.908km
- Cement Australia 179.307km
- South Spur Siding (PWCS owned) 178.101km
- Cargills (Australia) Ltd. 178.979km
- Sims metal siding 179.150km
- Blue Circle Southern cement 179.849km

NSFW 300 Approved Area

The Protection Officer is responsible for conducting a safety assessment and confirming that NSFW 300 is suitable for the work to be performed at the location, prior to work commencing.

The use of NSFW 300 at this location has additional mandatory controls listed in Section 1.5.1 of this NIB. The mandatory controls are the minimum requirement, and additional controls may be implemented based on the safety assessment conducted by the Protection Officer.

NOTE: NSFW 300 use is not permitted to be used on running lines.

Operation of Points and Signals

The signals controlling the entry and exit of trains to and from the Walsh Point line are operated from Network Control Centre North.

All indications are displayed on the control panel at Network Control Centre North.

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

Down home signal

Down home signal No. K85 displays a permanent stop indication in the main signal aspect. A calling-on signal operated from the Network Control Centre North is provided to authorise trains to pass the Down home signal.

Stop board

Two stop boards No 610 & 612 are provided on the Down side of the Walsh Point line and Loop at 177.950km. After passing the Down home signal, all trains must be brought to a stand at these stop boards.

A train must not pass these stop boards until authorised by the ARTC Terminal Co-ordinator. A Competent Worker will pilot the train to the required location.

A stop board No 503 is also provided on the side of the Walsh Point line at 177.990km. This stop board is for UP direction movements only. A train must not pass this stop board until authorised by the Network Controller NCCN.

Yard working

Yard working is in place between the Down stop boards and all sidings located on the Walsh Point line.

Ground Frames

Lever B

Lever B is located on the Down side of the Walsh Point line adjacent to the crossovers and provides access to the Loop siding.

Lever B is unlocked by a key from releasing switch B, which is electrically released by No. 110 release from the Network Controller NCCN.

Three Loose Keys for the private sidings are stored in a cabinet on the Relay room beside K16 Up signal.

Lever D

Lever D is located on the Down side of the Walsh Point line adjacent to the crossovers and provides access to the former Incitec / Greenleaf sidings.

Lever D is unlocked by Loose Key.

Lever E

Lever E is located on the Down side of the Walsh Point line adjacent to the crossovers and provides access to the South Arm Spur line and the Cargill Australia siding.

Lever E is unlocked by Loose Key.

Lever F

Lever F is located on the Down side of the Walsh Point line at 179.845km on north side of Cormorant Road and controls the catchpoints that provide access to the Blue Circle Southern Cement sidings.

Lever F is unlocked by same Loose Key as Frame E.

Warning: ***Lever F must be operated to close the catchpoints for trains travelling in both directions. All trains must be brought to a stand clear of the roadway and wait for the Competent Worker controlling the movement to close the catchpoints.***

Lever M

Lever M is located on the Up side of the Walsh Point line adjacent to the crossovers and provides access to the Cargill Wharf sidings. Lever M is unlocked by Loose Key

Lever N

Lever N is located on the Up side of the Walsh Point line adjacent to the crossovers and provides access to the Cargill Wharf sidings.

Lever N is unlocked by frame Key inscribed ACL-Kooragang, held by Cement Australia Site Supervisor.

Cormorant Road Level Crossing 179.051km

Type F flashing lights and bells are provided at Cormorant Road level crossing at 179.051km on the Cargill Australia private siding. This is a privately owned crossing and not ARTC maintained.

The warning equipment is manually controlled by operator's pushbutton switches for Up or Down trains shunting the siding. Operators must ensure correct operation of the crossing equipment before entering the level crossing.

If the level crossing warning equipment fails to operate correctly, Cargill Australia must be contacted by telephoning 02-4920-0100.

Notice Boards

Notice boards inscribed "Shunting trains stop, operate switch for level crossing lights", are located on each side of the level crossing.

Operator's pushbutton unit for the level crossing

Operator's pushbutton units are provided in boxes inscribed "Shunter's switch", which are attached to posts located on each side of the level crossing.

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

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

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

Cormorant Road Level Crossing 179.763km

Type F flashing lights and bells are provided at Cormorant Road level crossing at 179.763km on the Blue Circle Southern Cement private siding. This is a privately owned crossing and not ARTC maintained.

The warning equipment is manually controlled by operator's pushbutton switches for Up or Down trains shunting the siding. Operators must ensure correct operation of the crossing equipment before entering the level crossing.

If the level crossing warning equipment fails to operate correctly, Blue Circle Southern Cement must be contacted.

Notice Boards

Notice boards inscribed "Shunting trains stop, operate switch for level crossing lights", are located on each side of the level crossing.

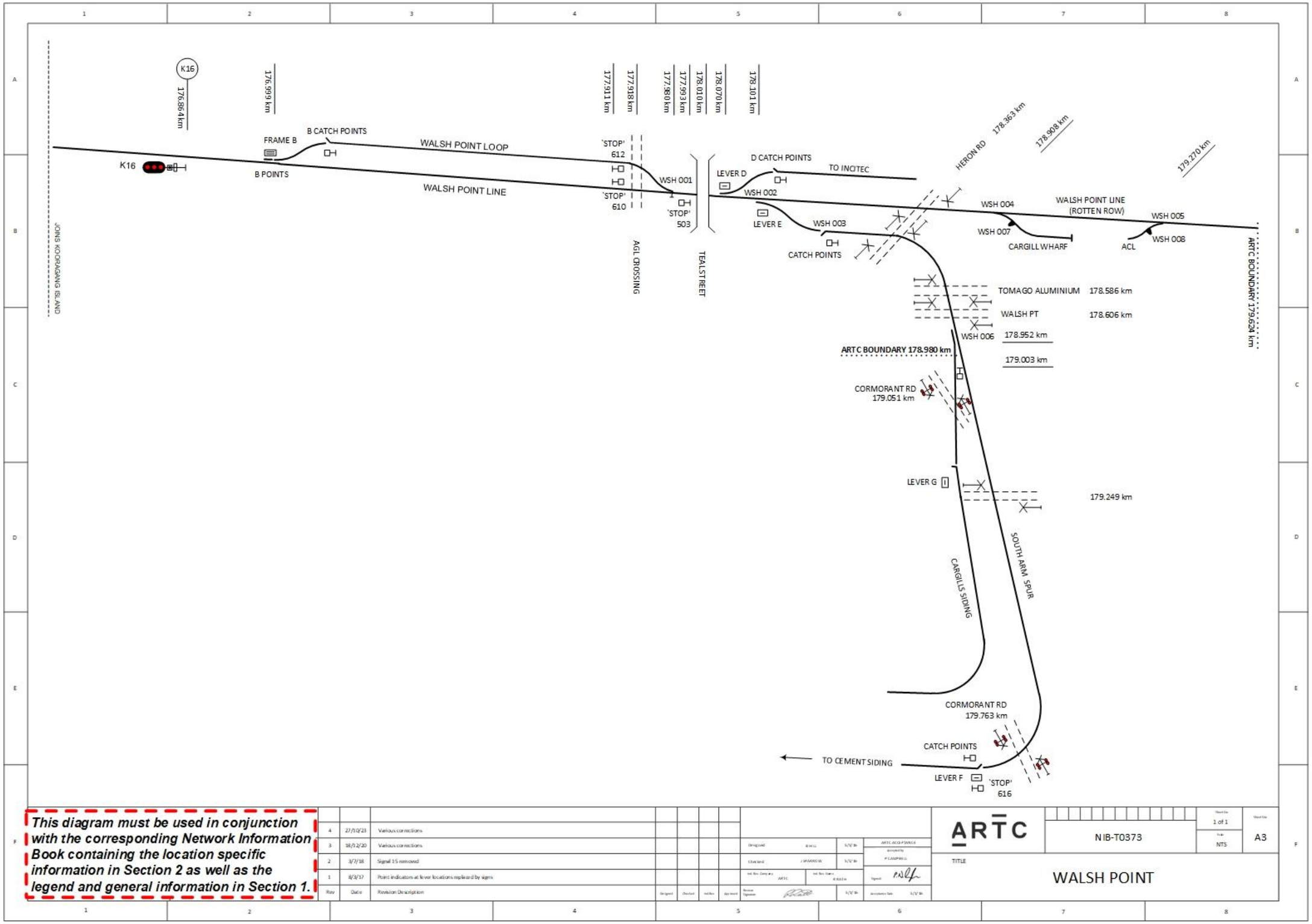
Operator's pushbutton unit for the level crossing

Operator's pushbutton units are provided in boxes inscribed "Shunter's switch", which are attached to posts located on each side of the level crossing.

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

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

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



This diagram must be used in conjunction with the corresponding Network Information Book containing the location specific information in Section 2 as well as the legend and general information in Section 1.

Rev	Date	Revision Description
4	27/10/23	Various corrections
3	18/12/20	Various corrections
2	3/7/18	Signal 15 removed
1	8/3/17	Point indicators at lever locations replaced by signs

ARTC

NIB-T0373

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Scale: NTS

Sheet Size: A3

TITLE

WALSH POINT