Safe Work Instruction

ATWS Worksite Protection for Adamstown Condition Monitoring equipment maintenance

DOCUMENT NO.	D2022/3757		
WORK DESCRIPTION	Routine network maintenance activities		
WPP Number	CMO7BWS 10001	**SAP Code**	
SCOPE:	This SWI is applicable for the worksite protection arrangements using ATWS for routine condition monitoring equipment maintenance activities performed by the Condition Monitoring Operations section. Work activities include: • Condition monitoring equipment corrective maintenance • Condition monitoring equipment routine maintenance		
AUTHORISATIONS:	**Protection Officer/Operator:** • Protection Officer Level 1 or higher, and • WATWS – Automatic Track Warning System **Installer:** • Protection Officer Level 1 or higher, and • WATWS – Automatic Track Warning System		
SAFETY CONTROLS – Lookout Working (ATWS) arrangements:	The work is performed at a defined worksite in yard limits, protected using Lookout Working arrangements with Automatic Track Warning System (ATWS) equipment: • Installed ATWS sensors for Down approach on the Down Main North line at 161.352 km • Installed ATWS sensors for Up approach on the on Up Main North line at 161.352 km		
PRESTART REQUIREMENTS:	Protection Officer/Operator assessment checklist (following page of this SWI) must be completed before instructions in this SWI are followed. Tools and equipment required: • Protection Officer/Operator requires a phone to contact the Signaller. • ATWS equipment (see Required ATWS equipment checklist) • Digital Radios **Designate, record and instruct which safe places the workers are to use as the work is completed along the work route within the worksite limits.**		
FURTHER INFORMATION:	*NWT 300 Planning work in the Rail Corridor* *NWT 310 Lookout Working* *NGE 200 Walking in the Danger Zone* *NPR 711 Using Lookouts* *NPR 751 Calculating Minimum Warning Time* *NPR 712 Protecting work from rail traffic on adjacent lines* *NPR 752 Using Wireless Automatic Warning Systems* *NLA 314 Gosford-Broadmeadow* *Lookout Working Prohibited Locations Register*		

Prepared using SMS-06-TP-4317 v1.5, Custodian: Senior Safety Specialist Safety Systems; Approver: Director Safety and Standards; Issue date: 19/08/2021

Protection Officer/Operator assessment checklist	
Protection Officer/Operator's name:	**Yes** *(Tick if Yes)*
This document is still current at the time of its application? (up to 12 months from the document issue date)	
SWI details and protection arrangements have been reviewed and validated for the assessed worksite location, including: • On-site safety assessment has been completed for relevancy of works being undertaken • The required protection details, environment and tasks are unchanged from the details of this SWI	
The Protection Officer and Qualified Workers deploying the ATWS equipment and protecting the worksite hold WATWS accreditation.	

Corridor Safety Number	Protection Officer Signature	Date

Warning

If an above item does not apply, the Protection Officer must not use this Safe Work Instruction. A new worksite protection plan must be completed in accordance with NRF 014 Worksite Protection Pre-work briefing and NRF 015 Worksite Protection Plan.

Required ATWS Equipment		
Item	**Description**	**Quantity**
Aerial	Telescopic Aerial	2
Assembly Kit	Orange Bag with Tools	1
Battery ZA24-2.9	Small battery for Junction Box & Transmitter	6
Device Frame	Protective Frame	3
F500-AB Junction Box	Receiver Device	2
F500-SEN Train Sensor	Sensor	2
Housing for Aerial	Housing for Telescopic Aerial	2
KF5-5 Extension Cable	Extension Cable (5m) for F500-SEN to F500-AB	1
Mobile Backpack	Harness for Device	0
Pouch	Pouch for small battery	4
Tripod	Tripod for Device	2
ZFS Radio Transmitter	Radio Transmitter Device	1
ZPW Warning Unit	Control & Warning Device	1

Worksite Protection Pre-work Briefing

Briefing date: / /

Protection Officer Details

name	signature	contact No.

Work location: **Adamstown**

Scope of work: **Routine/corrective Condition Monitoring maintenance**

Worksite protection: Lookout Working (ATWS) Refer to Worksite Protection Plan for details

Hazards (e.g. Site specific hazards identified, including physical environment, human errors, plant and equipment)	**Controls** (to be implemented to eliminate or reduce the risk to the lowest practicable level)	**Person responsible for Control**
• **Struck by rail traffic**	Lookouts must be trained and competent to perform lookout duties. Lookouts must be rotated if performing lookout for extended periods of time. Workers to remain within worksite limits as set out in this procedure Lookouts must be placed as per the protection plan attached to this document.. Workers are to stop work and move to a safe place immediately on being warned by the lookouts *Specific ATWS:* Lookout Working using ATWS procedures, NPR752 For ATWS Workers to be within 50m of a warning device at all times. ATWS sensors are verified and placed for all entry points into the worksite by accredited ATWS operator.	Protection Officer/Operator
• **Live adjacent lines**	Lookouts must provide warning to workers when rail traffic is approaching from the adjacent line in either direction.	Protection Officer & Lookout
• **Two - way running / multiple entry points into worksite**	One Lookout placed watching each direction before work starts. Lookouts are to warn workers of approaching rail traffic, including rail traffic entering or travelling within the worksite. Workers are to stop work and move to a safe place.	Protection Officer & Lookout
• **Unsignalled rail traffic movements can occur within Yard Limits**	ATWS dedicated Lookouts must be placed to watch for unsignalled movements in any direction.	Protection Officer & Lookout
• **Failure of operator to count trains in and out correctly**	Protection Officer/Operator must call out to workers the: • number of train warnings, and • clearing of each train warning	Protection Officer/Operator & Workplace Supervisor

	Dedicated Lookouts must confirm with the Protection Officer/Operator when rail traffic has cleared the worksite and which train warning that rail traffic belonged to.	
• **Mobile phone**	Mobile phones use is not permitted in the danger zone unless being used by maintenance staff for critical maintenance communications or recording of defects.	All
• **Access to / Egress from worksite** • **Slips, trips, falls and hazards carrying equipment**	Access and egress points must be agreed prior to entering the danger zone, consideration should be given to ease of access and safest possible entry and exit points. Protection Officer will assess and instruct when it is safe for workers to use *NGE 200 Walking in the Danger Zone* to move to the worksite or safe place.	All
• **Exposure to excessive noise from ATWS**	Workers must not stand directly in front of audible warning devices.	All

Workplace Supervisor Details

name	contact No.

Emergency assembly point: | SWMS/SWI Ref #:

First Aid kit location: | First Aider:

Workplace Supervisor Acknowledgement

The Workplace Supervisor acknowledges that all identified WHS and rail safety hazards have the appropriate controls in place to manage and/or eliminate the hazards.

Yes ☐ signature

Participant Acknowledgement

NOTE: Recipients of the briefing are to question the Briefer if they don't understand any part of this briefing.

All workers listed below acknowledge that they:

1. have been inducted to the site
2. are free from the effects of alcohol/drugs/fatigue
3. hold the applicable and current Rail Safety Worker Authorisation, trade licence and/or induction record e.g. Construction Industry Induction
4. wear the appropriate Personal Protective Equipment (PPE)
5. have been briefed on the contents of the Worksite Protection Plan
6. have been shown the Worksite Protection Plan diagram
7. understand the kinds and limits of worksite protection in place
8. have been briefed about any new hazards and controls identified during the final site inspection (*final site inspection must be conducted immediately before commencing work*)

Mark each check box below with a tick ☑ *if the item applies or a cross* ☒ *if the item does not apply.*

- ☐ have been informed of the requirements of the electrical permit (if required)
- ☐ have been briefed on the SWMS/SWIs/documented safe work practice for the job
- ☐ have been instructed in the controls recorded in this document and SWMS/SWIs
- ☐ have been made aware of any hazardous materials/substances on site
- ☐ have been briefed on Safety Data Sheets (SDS)
- ☐ have been briefed on the WHS Management plan
- ☐ have been briefed on the hazards of adjoining worksites/processes.

Name	Signature	Time of briefing: hh:mm	Amendment briefing: hh:mm and initial

Worksite Protection Plan – Lookout Working

Signaller Details

	Broadmeadow Panel	**4923 0901**

Protection Officer Details

name	signature	contact No.
RSW or RIW No.	designation	Planned duration

Workplace Supervisor details:

Type of work: **Routine/corrective Condition Monitoring maintenance**

Worksite Location (tick the tracks that apply)

On the **Up Main North line**

between **N 100.0 Auto Signal** **and** **N 99.4 Auto Signal**

Worksite Assessment

Has the Lookout Working Prohibited Locations Register been consulted? Yes ☐

Warning method

ATWS

Minimum Warning Time Calculations

Maximum track speed: 110km/h

Number of ATWS Sensors used: 2 — Position of ATWS Sensors: 161.352 km and 161.352 km

Number of dedicated Lookouts: — Position of Lookouts: — to —

See Time (S)		Move Time (M)		Safe Time	= Minimum Warning Time (MWT) (S+M+10 sec = MWT)		Track speed	Minimum Sighting Distance as calculated
7 sec	+	3 sec	+	10 sec		20 sec	110 km/h	612 metres
7 sec	+	3 sec	+	10 sec		20 sec	110 km/h	612 metres

* Add an additional 5 seconds of See Time has been applied when using ATWS sensors

Note – Additional MWT calculations can be recorded in the Protection Officer's Diary.

Dedicated Lookout

See Time (S)		Move Time (M)		Safe Time	= Minimum Warning Time (MWT) (S+M+10 sec = MWT)		Track speed	Minimum Sighting Distance as calculated
	+		+					

Where are the safe places identified for the Lookouts and the workers?

Lookouts: **Not applicable**

Workers: **Up Cess**

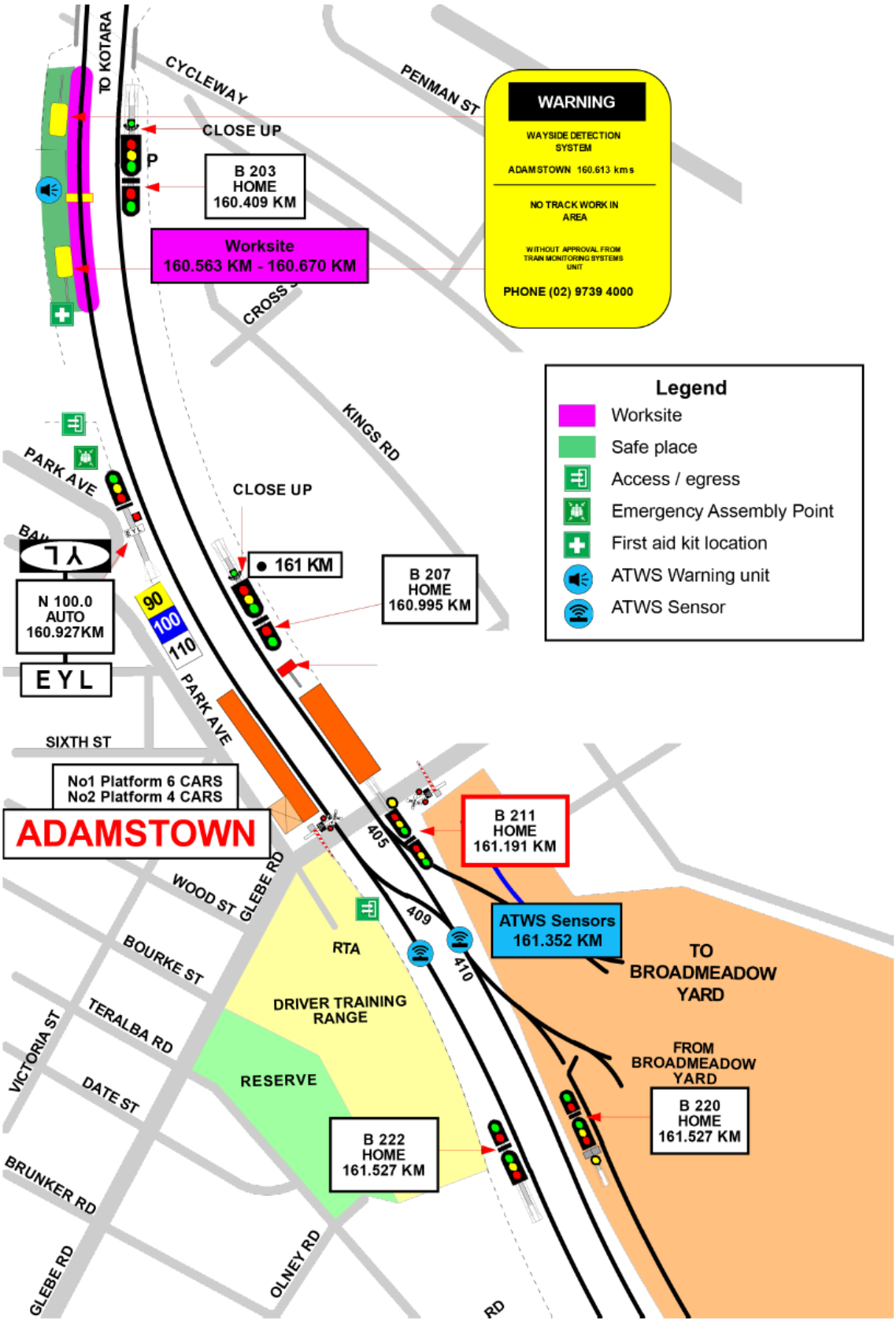
Ensure the workers have been briefed about these work details **Yes** ☐

INSTRUCTIONS:	1. Workers enter the rail corridor at access gate **N00 160.921 U.** 2. Protection Officer conducts the worksite protection pre-work briefing. 3. Protection Officer contacts Broadmeadow Panel as required to tell the Signaller(s) about the use of ATWS. 4. Setup ATWS Worksite Warning System as per installation instructions 5. Install/calibrate/verify Down ATWS sensor at 161.352 KM on the Down Main North line. 6. Install /calibrate/verify Up ATWS sensor at 161.352 KM on the Up Main North line. 7. Test ATWS equipment. 8. Workers start work. 9. Once work is completed, workers move into a safe place. 10. Turn off ATWS Warning unit. 11. Turn off and remove all ATWS transmitter units. 12. All workers egress the rail corridor at **N00 160.921 U.** 13. Protection Officer contacts the Signaller at Broadmeadow Panel as required to end ATWS.

Setup checklist for ATWS worksite warning units

Installer name		
Step	**Task Description**	**Installer Initials**
1	Verify Worksite Start Location with Kilometres	
2	Confirm Audible Level	
3	Confirm & Set Radio Channel for Warning Unit	
4	Book in ATWS sensor 1	
5	Book in ATWS sensor 2	
6	Perform Worksite Warning Test with all ATWS sensors	
7	Ensure the workers have seen the visual warning and heard the audible warning	
8	Select & Confirm Channel for the Radio Transmitter	
9	Confirm worksite warning unit is operational with Installers and advise them to lock devices & remove key	
10	Lock device & remove key	

Diagram


TO KOTARA
CYCLEWAY
PENMAN ST
CLOSE UP
P
B 203
HOME
160.409 KM
Worksite
160.563 KM - 160.670 KM
WARNING
WAYSIDE DETECTION SYSTEM
ADAMSTOWN 160.613 kms
NO TRACK WORK IN AREA
WITHOUT APPROVAL FROM TRAIN MONITORING SYSTEMS UNIT
PHONE (02) 9739 4000
CROSS
KINGS RD
Legend
Worksite
Safe place
Access / egress
Emergency Assembly Point
First aid kit location
ATWS Warning unit
ATWS Sensor
PARK AVE
CLOSE UP
161 KM
B 207
HOME
160.995 KM
N 100.0
AUTO
160.927KM
EYL
90
100
110
PARK AVE
SIXTH ST
No1 Platform 6 CARS
No2 Platform 4 CARS
ADAMSTOWN
405
B 211
HOME
161.191 KM
WOOD ST
GLEBE RD
409
ATWS Sensors
161.352 KM
RTA
410
TO
BROADMEADOW
YARD
BOURKE ST
DRIVER TRAINING
RANGE
TERALBA RD
VICTORIA ST
FROM
BROADMEADOW
YARD
RESERVE
DATE ST
B 220
HOME
161.527 KM
B 222
HOME
161.527 KM
BRUNKER RD
GLEBE RD
OLNEY RD
RD

Protection Officer's diary

Date	Time	Notes

(This page can be separated from the worksite protection plan to be given to the assigned installer)

Installation checklist for ATWS transmitter and sensor on Up Main North line at 161.352 KM		
Installer name		
Step	**Task Description**	**Installer Initials**
1	Verify Track Label for Location of Sensor as per the Protection Diagram and Photos in this document	
2	Sensor clamp (SK150) pre-adjusted according to the rail profile as per the Worksite Protection Diagram	
3	Sensor Direction is Installed as per Worksite Protection Diagram and Photos in this document	
4	Connect Sensor Cable to Junction Box	
5	Confirm all batteries are fully charged	
6	Connect Junction Box to ZFS using Channel T1 –T4	
7	Commence calibration and automatic self-test	
8	Perform function test using Test Plate (Strike In)	
10	Confirm Transmitter booked in to correct T-channel (T1-T4)	
11	Select & Confirm Channel for the Radio Transmitter	
12	Perform Worksite Warning Test using Test Plate	
13	Lock Device & Remove Key	

Image 1: Sensor installation reference location

Image 2: Sensor access gate N00 160.367 U