ATWS Worksite Protection for Woy Woy Condition Monitoring Equipment Maintenance

WORK DESCRIPTION	Routine Maintenance activities
WPP Number	CM06BWS 10001
SCOPE:	Routine maintenance activities performed by Condition Monitoring Operations team. • on the **Up Main** and **Down Main** lines between **71.875** km to **71.972** km • that does not involve the use of tools or equipment, or • using tools which can be easily and immediately removed from the track by one person and are light, non-powered hand tools, or light battery powered tools or devices.
AUTHORISATIONS:	**Protection Officer, ATWS Operator (Operator) & ATWS Installer (Installer):** • Protection Officer (PO) Level 1 – 4, and • WATWS – Wireless Automatic Track Warning System
PERSONAL PROTECTIVE EQUIPMENT	High visibility vest, boots, high visibility lookout sleeve
SAFETY CONTROLS – Lookout Working (ATWS) arrangements:	• Automatic Track Warning System (ATWS) - provides visual and audible warning for workers • ATWS sensor for **Down** direction running on the **Down Main North** line at **71.180** km • ATWS sensor for **Up** direction running on the **Up Main North** line at **73.184** km **IMPORTANT!** • This document must not be used to install or adjust the ATWS sensors • All sensors in the plan and shown on the diagram must be connected to transmit a warning
PRESTART REQUIREMENTS:	• Refer to D2015-45354 Wireless ATWS (Automatic Track Warning System) to install or remove sensors
FURTHER INFORMATION:	*Refer to "D2015-45354 Wireless ATWS (Automatic Track Warning System)" for detailed instructions to set-up, connect, test and operate the ATWS system with pre-installed ATWS sensors*

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

Protection Officer/Operator assessment checklist	
Protection Officer's name:	**Yes** *(Tick if Yes)*
This document has not expired 12 months beyond the 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 • All boxes have been ticked if applicable and crossed if not applicable • All fields have been completed	

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.

Worksite Protection Pre-work Briefing

Briefing date: / /

Protection Officer details

name	signature	contact no.

Work location:

Scope of work:

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

Hazards (e.g. environment, plant, equipment, human error)	**Controls** (to be implemented to eliminate or reduce the risk to the lowest practicable level)	**Person responsible for Control**
Crossing live lines	A qualified Protection Officer (PO) or Access Corridor Safety (ACS) must make a safety assessment to cross live lines in accordance with NGE200 and supervise workers who do not hold the PO or ACS qualification.	Qualified PO/ACS
Accessing Danger Zone to conduct plate test	Use appropriate safety measures as validated by a PO. Refer to diagram for minimum safety assessment.	Qualified PO
Electricity	ATWS antennae not to encroach safe approach distance to overhead wiring	Operator
Slips, trips, falls carrying ATWS equipment	Use correct manual handling techniques, secure safety boots, clear obstacles for work area and agree a safe path.	All
Approaching rail traffic	• Lookout Working using approved ATWS as assessed in the plan & diagram. • All points of entry have been validated and ATWS safety measures (sensors and point clips) have been installed. • On bi-directional lines the XYZ key has been removed. • Confirm with the Operator that the ATWS has been tested and is operational. • Workers immediately move to the designated safe place when warned. • Provide ALL CLEAR handsignal after workers and equipment are in a safe place. • After the warning has been cancelled, confirm there is no approaching rail traffic between the sensors and the worksite before allowing work to resume.	PO
Ineffective ATWS warnings / Adjoining / surrounding worksites	• Test and confirm workers can see and hear the warning in the noisiest environment. • Explain the emergency warnings. • Workers to be within 50m of warning device. • Workers to remain within sight and hearing of warning unit at all times. • Radios not to be used near ATWS.	PO
Train warning time longer than expected (stopping points or ATWS equipment fault)	Workers to remain in a safe place until confirmed the ATWS is working correctly. Contact the Signaller or visually confirm the line is clear between the sensors and the worksite. Potential stopping points: **Up - 45.4 Auto Signal, Woy Woy Station Platform 1 & 44.8 Auto Signal**	PO
Adjacent live lines	Remain within the tracks being protected by the ATWS	PO
Second train warning cancelled in error	• Nominate a team member to confirm with the Operator when each rail traffic has completely passed the worksite. • Tell the PO and workers about the second train warning. • Cancel each warning after each train has completely passed the worksite.	Operator / nominated team member
Distraction	Obtain permission from PO to use electronic devices in the Danger Zone.	All
Obstructions to safe place	Agree on paths to reach designated safe places from the worksite.	PO
Electrical storms	Stop work immediately	All

☐ A final site inspection has been conducted immediately before commencing work, and any new hazards and controls have been included.

Workplace Supervisor details

name	signature	contact no.

Yes ☐ the Workplace Supervisor acknowledges that the Protection Officer will arrange worksite protection as required.

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. hold the applicable and current Rail Safety Worker Authorisation
2. have been briefed on the identified hazards and controls
3. have been briefed on the risks from adjacent lines and/or worksites
4. have been briefed on the planned worksite protection
5. understand the limits of the worksite
6. have been briefed on the contents of the Worksite Protection Plan
7. have been shown the worksite protection diagram or map

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

Worksite Protection Plan – Lookout Working

Signaller details

	Central Coast Panel	02 4349 963

Protection Officer details

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

Workplace Supervisor details:

Type of work: **Routine Maintenance Activities**

Worksite location

On the	**Up Main North line**			☐
between	**44.8 Auto Signal**	**and**	**44.0 Auto Signal**	
On the	**Down Main North line**			☐
between	**43.9 Auto Signal**	**and**	**44.7 Auto Signal**	

Worksite Assessment

The Lookout Working Prohibited Locations Register been consulted Yes ¨

Warning method

ATWS

Minimum Warning Time Calculations

Maximum track speed **125** km/h

Number of ATWS Sensors used: 1 / 2 — Position of ATWS Sensors: **71.180** km and **73.184** km

7 sec	+	**3** sec	+	**10** sec	**= Minimum Warning Time (MWT)**	**20** sec	**125** km/h	**695** metres	**Up Main** line
7 sec	+	**3** sec	+	**10** sec		**20** sec	**125** km/h	**695** metres	**Down Main** line
See Time (S)		*Move Time (M)*		*Safe Time*	*(S+M+10 sec = MWT)*		*Track speed*	*Minimum Sighting Distance as calculated*		

Where are the safe places identified for the ATWS Operator, Lookouts and workers?

Lookouts:	**N/A**
Workers:	**Up Cess for Up Main. Down Cess for Down Main.**

Confirm mandatory first train tests were completed for all sensors **Yes ¨**
Ensure the workers have been briefed about these work details **Yes ¨**

NOTE: Diagrams and instructions that follow form part of this worksite protection plan.

ATWS Check-sheet

Planning

1. How will the installed location of sensor(s) be verified?

☐ The PO will have direct line of sight to the sensor from the worksite location

☐ The installer will travel from the sensor location to the worksite location on the same side of track

☐ The ID no. of the first train will be verified between the operator and installer

Train ID # observed: _____

Verified by installer: ☐ (tick to confirm)

Testing

2. Record evidence of mandatory First Trains Tests:

a. Record Train ID # or type of train observed for all sensors:

_____

b. Confirm mandatory first train tests are complete for all sensors installed ☐ (tick to confirm)

Pre-work Briefing

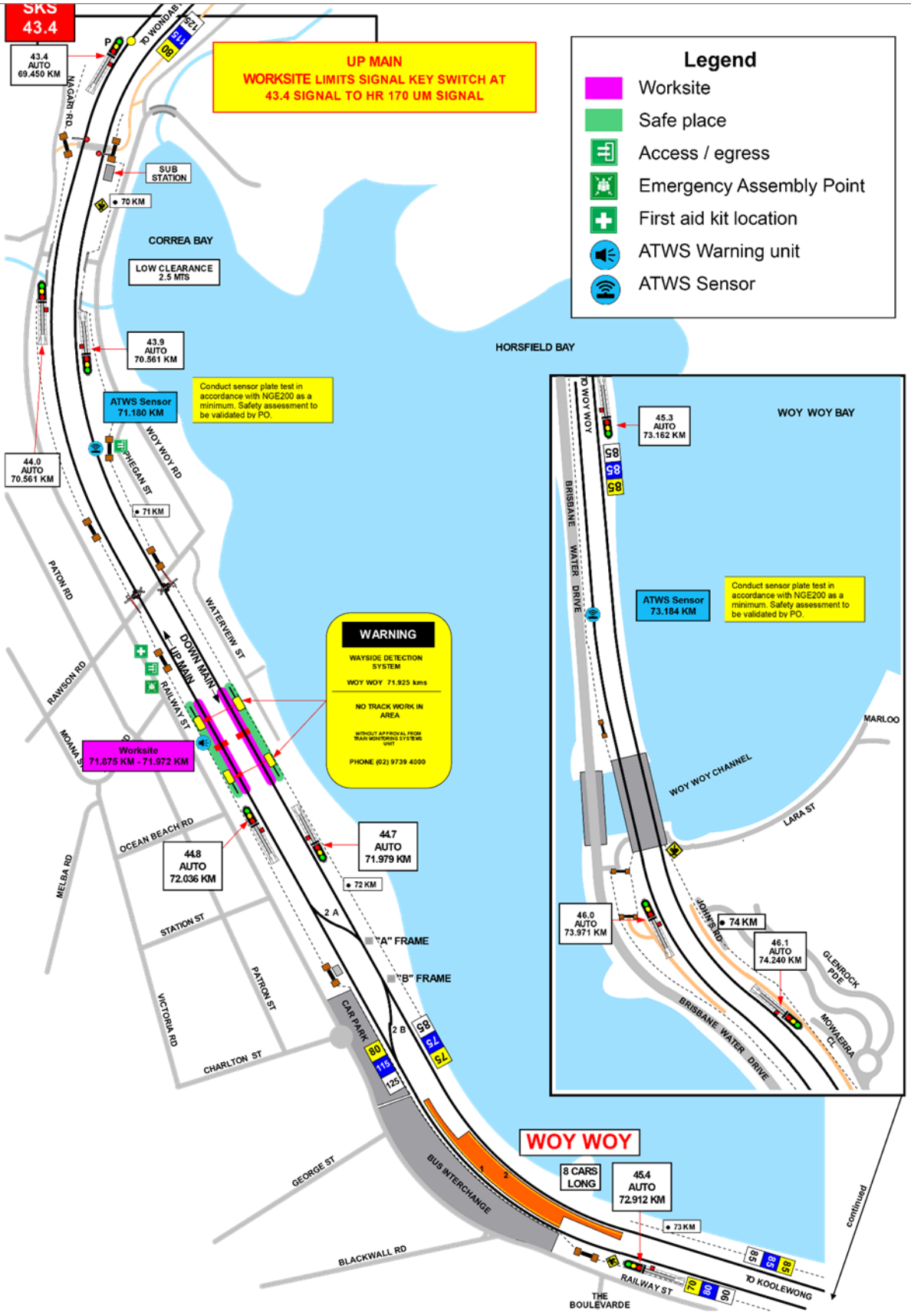
3. Identify potential stopping points affecting warning times:

Record any potential stopping points e.g. (stations or signals) between the sensor(s) and worksite which could cause variable warning times:

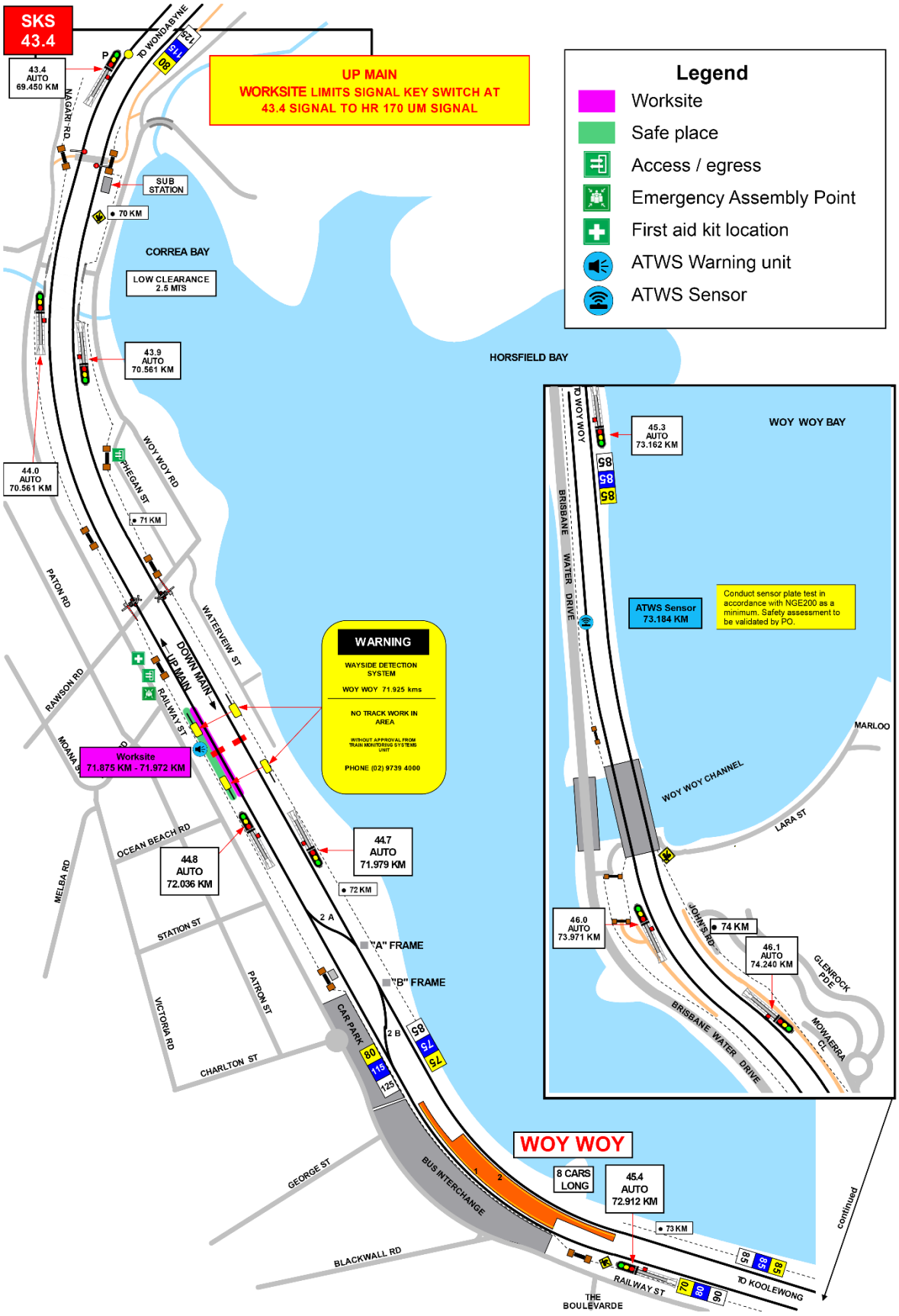
Up - 45.4 Auto Signal, Woy Woy Station Platform 1 & 44.8 Auto Signal

Note: Factors affecting warning times should be highlighted to staff during the pre-work brief

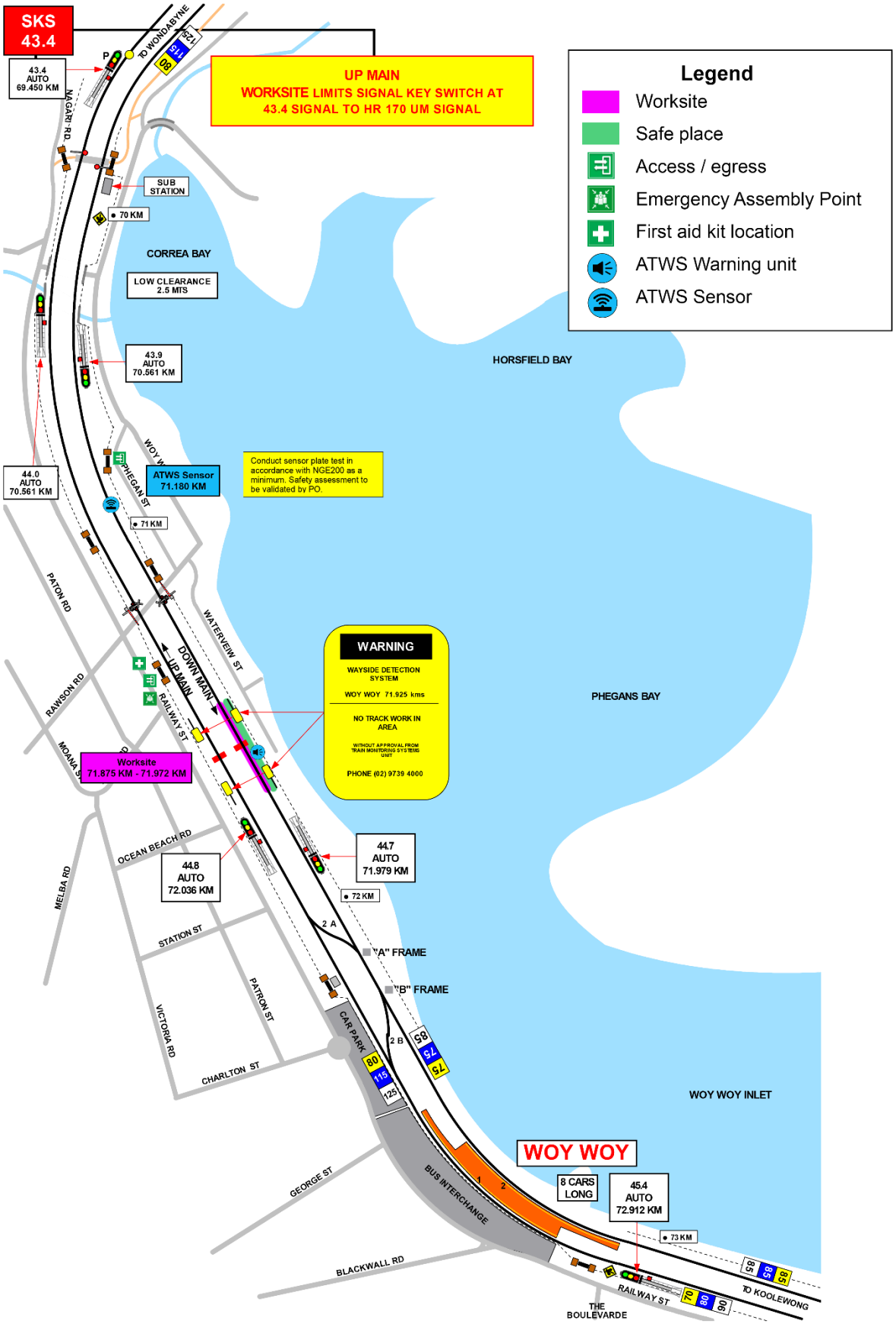
Tick if used ☐	Worksite on the **Up Main** & **Down Main** lines



Tick if used ☐	Worksite on the **Up Main** line



Tick if used ☐	Worksite on the **Down Main** line



INSTRUCTIONS:	Workers enter the rail corridor via access gate **N00 72.060 U**. Use assets to validate worksite location on **Up Main** and **Down Main North** lines between **71.875** km to **71.972** km Conduct WP Pre-work briefing to set-up ATWS. Tell Signaller at **Central Coast** Panel about the use of lookout working with ATWS.
Tick if used ☐	Access Up Cess **73.164** km, verify sensor label & connect to sensor cable, calibrate with test plate, connect and turn on the transmitter.
Tick if used ☐	Access Dn Cess **71.180** km, verify sensor label, connect to sensor cable, calibrate with test plate, connect & turn on transmitter.
	Place warning system on same side of tracks if working on one track only within sight & hearing of workers, conduct siren & light self-test, & connect to transmitter(s). Record first rail traffic movement test for each sensor on ATWS Check-sheet. Conduct WP Pre-work briefing for lookout working with ATWS and confirm workers have seen and heard the warning. Start work when advised by the PO and move to the designated safe place when warned. When work is complete, and workers and equipment are in a safe place, turn off and pack up warning unit
Tick if used ☐	Access Dn Cess to turn off and pack up transmitter unit(s).
Tick if used ☐	Access Up Cess to turn off and pack up transmitter unit(s).
	Access **Up** Cess for all workers to leave the rail corridor via access gate **N00 72.060 U**. Tell Signaller at **Central Coast** Panel when work is completed and the workers and their equipment are clear of the Danger Zone.

Tick if used ☐	**Position of ATWS transmitter and sensor on the Up Main North line at 73.164 KM**

Image 1: Sensor and transmitter installation location

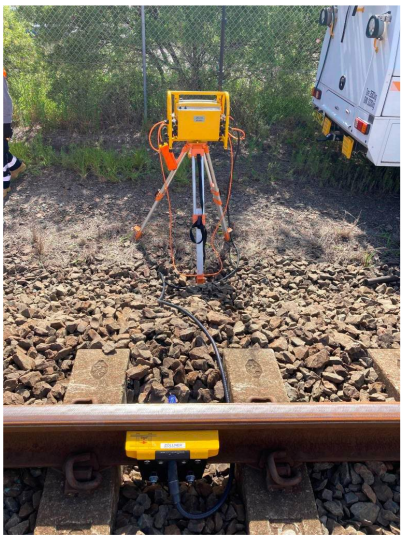


Image 2: Sensor and transmitter installation location

Tick if used ☐	Position of ATWS transmitter and sensor on **Down Main North** line at **71.180** KM

Image 1: Sensor and transmitter installation location

Image 2: Access gate to sensor location, at 67 Phegan St

Protection Officer's diary

Date	Time	Notes