

# ATWS Worksite Protection for Rhodes Condition Monitoring Equipment Maintenance

<b>WORK DESCRIPTION</b>	Routine Maintenance activities
<b>WPP NUMBER</b>	CMO13BWS 10002
<b>SCOPE</b>	Routine maintenance activities performed by Condition Monitoring Operations team. <ul style="list-style-type: none"> <li>on the <b>Up Main</b> and <b>Down Main</b> lines between <b>16.951 km</b> to <b>17.019 km</b></li> <li>that does not involve the use of tools or equipment, or</li> <li>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.</li> </ul>
<b>AUTHORISATIONS</b>	<b>Protection Officer, ATWS Operator (Operator) &amp; ATWS Installer (Installer):</b> <ul style="list-style-type: none"> <li>Protection Officer (PO) Level 1-4, and</li> <li>WATWS – Wireless Automatic Track Warning System</li> </ul> <b>Dedicated Lookout:</b> (PO) Level 1 - 4, or Handsignaller 1 - 2
<b>PERSONAL PROTECTIVE EQUIPMENT</b>	High visibility vest, boots, high visibility lookout sleeve
<b>SAFETY CONTROLS – Lookout Working (ATWS) arrangements:</b>	<ul style="list-style-type: none"> <li>Automatic Track Warning System (ATWS) - provides visual and audible warning for workers</li> <li>ATWS sensor for <b>Down</b> direction running on the <b>Down Main North</b> line at <b>16.292 km</b></li> <li>ATWS sensor for <b>Down</b> direction running on the <b>Down Relief North</b> line at <b>16.292 km</b></li> <li>ATWS sensor for <b>Up</b> direction running on the <b>Up Main North</b> line at <b>18.059 km</b></li> <li>Dedicated lookout(s) at the worksite for unsignalled movements.</li> </ul> <p><b>IMPORTANT!</b></p> <ul style="list-style-type: none"> <li>This document must not be used to install or adjust the ATWS sensors</li> <li>All sensors in the plan and shown on the diagram must be connected to transmit a warning</li> </ul>
<b>PRESTART REQUIREMENTS:</b>	<ul style="list-style-type: none"> <li>Refer to D2015/45354 Wireless ATWS (Automatic Track Warning System) to install or remove sensors</li> </ul>
<b>FURTHER INFORMATION:</b>	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 <ul style="list-style-type: none"> <li>NLA 300 Strathfield - Hornsby</li> </ul>

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	8
Device Frame	Protective Frame	3

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F500-AB Junction Box	Receiver Device	4
F500-SEN Train Sensor	Sensor	4
Housing for Aerial	Housing for Telescopic Aerial	3
KF5-5 Extension Cable	Extension Cable (5m) for F500-SEN to F500-AB	2
Mobile Backpack	Harness for Device	0
Pouch	Pouch for small battery	4
Tripod	Tripod for Device	3
ZFS Radio Transmitter	Radio Transmitter Device	2
ZPW Warning Unit	Control & Warning Device	1

Protection Officer/Operator assessment checklist		
<b>Protection Officer's name:</b>		<b>Yes</b> (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: <ul style="list-style-type: none"> <li>On-site safety assessment has been completed for relevancy of works being undertaken</li> <li>The required protection details, environment and tasks are unchanged from the details of this SWI</li> <li>All boxes have been ticked if applicable and crossed if not applicable</li> <li>All fields have been completed</li> </ul>		
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.

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**Worksite Protection Pre-work Briefing**

Briefing date:

**Protection Officer details**

Work location:

Scope of work:

Worksite protection:  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
<b>Crossing live lines</b>	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
<b>Accessing Danger Zone to conduct plate test</b>	Use appropriate safety measures as validated by a PO. Refer to diagram for minimum safety assessment.	Qualified PO
<b>Electricity</b>	ATWS antennae not to encroach safe approach distance to overhead wiring	Operator
<b>Slips, trips, falls carrying ATWS equipment</b>	Use correct manual handling techniques, secure safety boots, clear obstacles for work area and agree a safe path.	All
<b>Approaching rail traffic</b>	<ul style="list-style-type: none"> <li>Lookout Working using approved ATWS as assessed in the plan &amp; diagram.</li> <li>All points of entry have been validated and ATWS safety measures (sensors and point clips) have been installed.</li> <li>On bi-directional lines the XYZ key has been removed.</li> <li>Confirm with the Operator that the ATWS has been tested and is operational.</li> <li>Workers immediately move to the designated safe place when warned.</li> <li>Provide ALL CLEAR handsignal after workers and equipment are in a safe place.</li> <li>After the warning has been cancelled, confirm there is no approaching rail traffic between the sensors and the worksite before allowing work to resume.</li> </ul>	PO
<b>Ineffective ATWS warnings / Adjoining / surrounding worksites</b>	<ul style="list-style-type: none"> <li>Test and confirm workers can see and hear the warning in the noisiest environment.</li> <li>Explain the emergency warnings.</li> <li>Workers to be within 50m of warning device.</li> <li>Workers to remain within sight and hearing of warning unit at all times.</li> <li>Radios not to be used near ATWS.</li> </ul>	PO
<b>Train warning time longer than expected (stopping points or ATWS equipment fault)</b>	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. <b>Potential stopping points: Up – RS 22 N signal</b> <b>Down – Rhodes platforms 2 &amp; 3, RS 17 HOME signal, RS 18 signal &amp; RS 19 HOME signal</b>	PO
<b>Adjacent live lines</b>	Remain within the tracks being protected by the ATWS	PO
<b>Unsignalled movements in Yard limits</b>	Position lookout(s) in safe place. Confirm minimum sighting distance can be achieved. Test effective communication and be within sight and hearing of the workers.	PO / lookouts
<b>Second train warning cancelled in error</b>	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
<b>Distraction</b>	Obtain permission from PO to use electronic devices in the Danger Zone.	All
<b>Obstructions to safe place</b>	Agree on paths to reach designated safe places from the worksite.	PO
<b>Electrical storms</b>	Stop work immediately	All

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

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**Worksite Protection Plan – Lookout Working**

**Signaller details**

**Protection Officer details**

Planned duration

Workplace Supervisor details:

Type of work: **Routine Maintenance Activities**

**Worksite location**

on the

between  and

on the

between  and

**Worksite assessment**

The Lookout Working Prohibited Locations Register been consulted? Yes "

Warning method

**Minimum Warning Time Calculations**

Maximum track speed

Number of ATWS Sensors used  Position of ATWS Sensors  and

Number of dedicated Lookouts used  Position of Lookouts  To

**Note** - Lookouts are relocated to positions within these KMs as workers move along the worksite.

<input type="text" value="7 sec"/>	+	<input type="text" value="3 sec"/>	+	<input type="text" value="10 sec"/>	= Minimum Warning Time (MWT)	<input type="text" value="20 sec"/>	<input type="text" value="115 km/h"/>	<input type="text" value="639 metres"/>	<input type="text" value="Up Main line"/>
<i>See Time (S)</i>		<i>Move Time (M)</i>		<i>Safe Time</i>	<i>(S+M+10 sec = MWT)</i>	<i>Track speed</i>		<i>Minimum Sighting Distance as calculated</i>	
<input type="text" value="7 sec"/>	+	<input type="text" value="3 sec"/>	+	<input type="text" value="10 sec"/>	= Minimum Warning Time (MWT)	<input type="text" value="20 sec"/>	<input type="text" value="115 km/h"/>	<input type="text" value="639 metres"/>	<input type="text" value="Down Main line"/>

<input type="text" value="2 sec"/>	+	<input type="text" value="3 sec"/>	+	<input type="text" value="10 sec"/>	= Minimum Warning Time (MWT)	<input type="text" value="15 sec"/>	<input type="text" value="25 km/h"/>	<input type="text" value="105 metres"/>
<i>See Time (S)</i>		<i>Move Time (M)</i>		<i>Safe Time</i>	<i>(S+M+10 sec = MWT)</i>	<i>Track speed</i>		<i>Minimum Sighting Distance as calculated</i>

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

Lookouts:

Workers:

Confirm mandatory first train tests were completed for all sensors  Yes

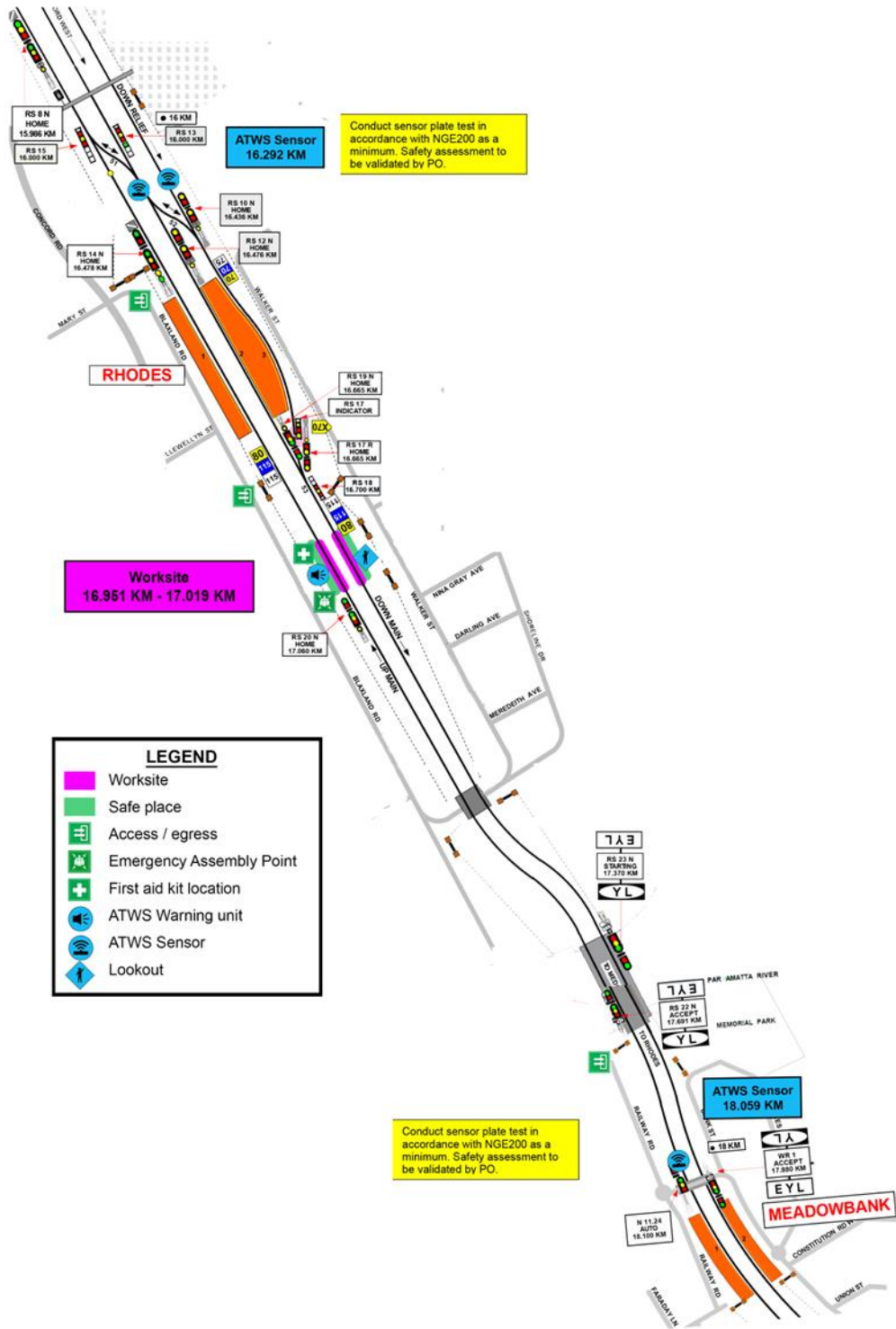
Ensure the workers have been briefed about these work details  Yes

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

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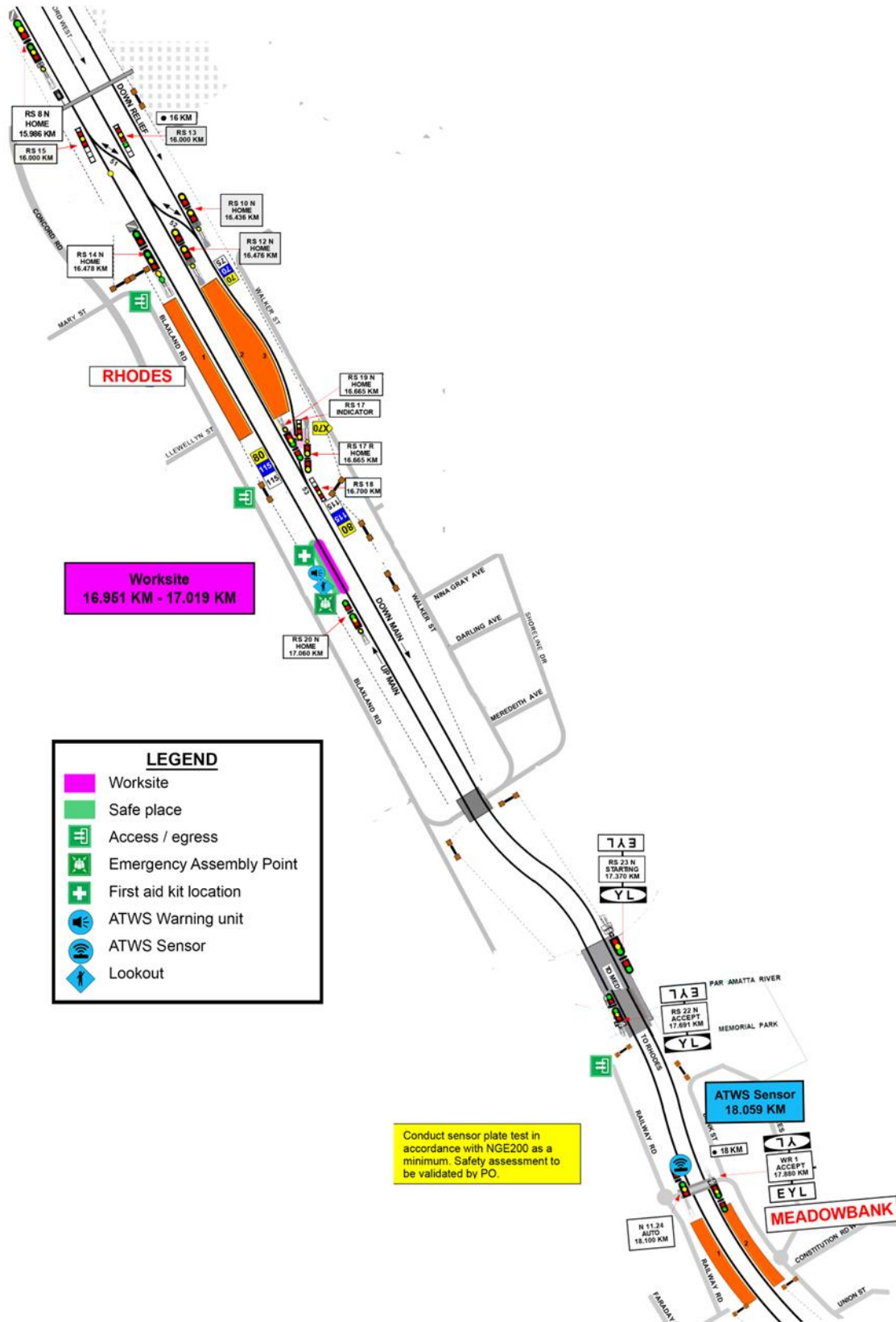


Tick if used  Worksite on the Up & Down Main lines



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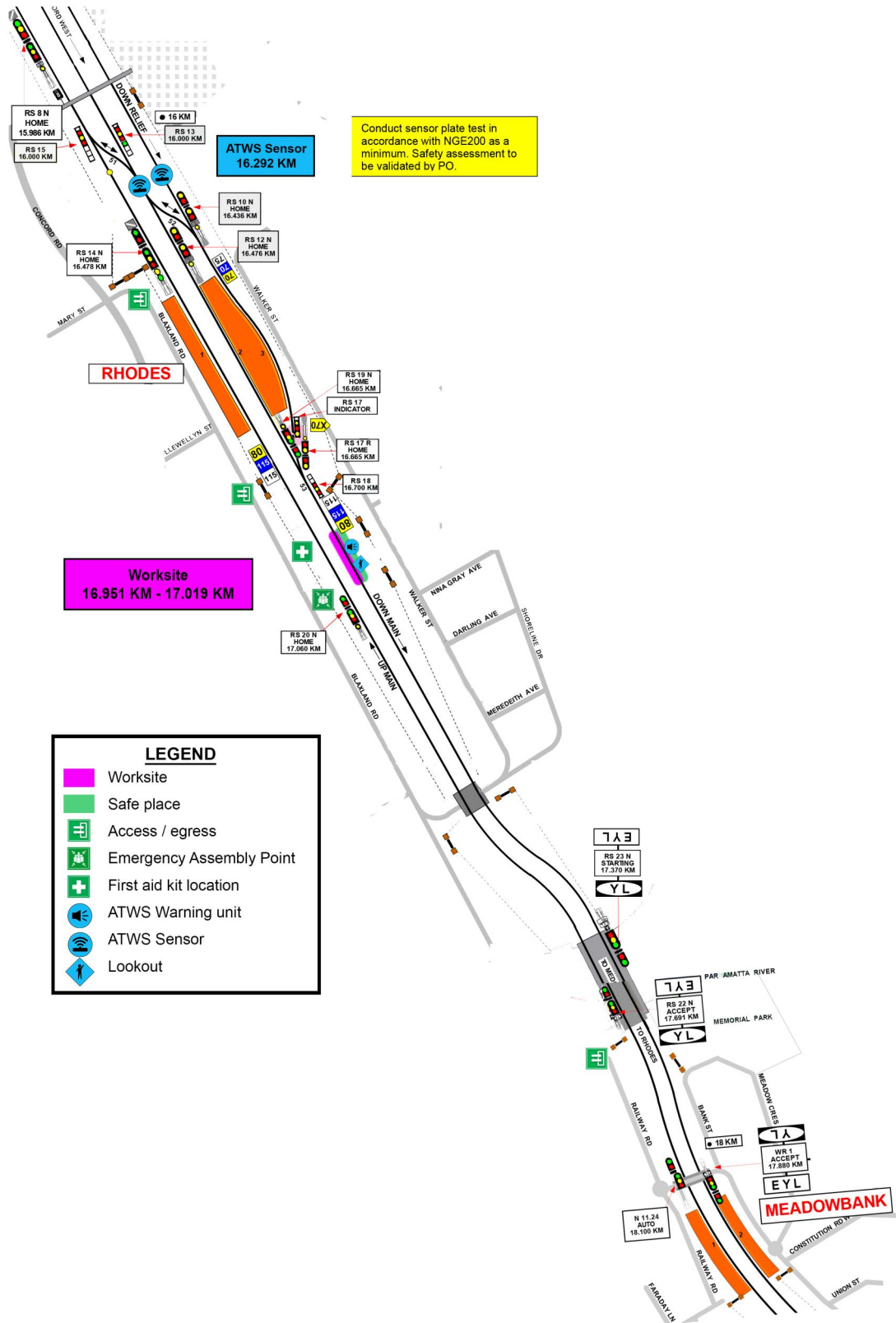
Tick if used  Worksite on the **Up Main** line



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



**LEGEND**

- Worksite
- Safe place
- + Access / egress
- + Emergency Assembly Point
- + First aid kit location
- 🔊 ATWS Warning unit
- 📡 ATWS Sensor
- ➔ Lookout

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<b>INSTRUCTIONS:</b>	<ol style="list-style-type: none"> <li>1. Workers enter the rail corridor via access gate <b>N00 16.795 U</b>.</li> <li>2. Use assets to validate worksite location on the <b>Up Main</b> and <b>Down Main</b> lines between <b>16.951</b> km to <b>17.019</b> km</li> <li>3. Conduct WP Pre-work briefing to set-up ATWS.</li> <li>4. Tell Signaller at <b>Epping</b> Panel about the use of lookout working with ATWS.</li> </ol>
Tick if used <input type="checkbox"/>	<ol style="list-style-type: none"> <li>5. Access Up Cess <b>18.059</b> km, verify sensor label &amp; connect to sensor cable, calibrate with test plate, connect and turn on the transmitter.</li> </ol>
Tick if used <input type="checkbox"/>	<ol style="list-style-type: none"> <li>6. Access Down Cess <b>16.292</b> km, verify sensor label, connect to sensor cable, calibrate with test plate, connect &amp; turn on transmitter.</li> </ol>
	<ol style="list-style-type: none"> <li>7. Place warning system on same side of tracks if working on one track only within sight &amp; hearing of workers, conduct siren &amp; light self test, &amp; connect to transmitter(s).</li> <li>8. Record first rail traffic movement test for each sensor on ATWS Check-sheet.</li> <li>9. Conduct WP Pre-work briefing for lookout working with ATWS and confirm workers have seen and heard the warning.</li> <li>10. Start work when advised by the PO and move to the designated safe place when warned.</li> <li>11. When work is complete, and workers and equipment are in a safe place, turn off and pack up warning unit</li> </ol>
Tick if used <input type="checkbox"/>	<ol style="list-style-type: none"> <li>12. Access Up Cess to turn off and pack up transmitter unit(s).</li> </ol>
Tick if used <input type="checkbox"/>	<ol style="list-style-type: none"> <li>13. Access Up Cess to turn off and pack up transmitter unit(s).</li> </ol>
	<ol style="list-style-type: none"> <li>14. Access <b>Up</b> Cess for all workers to leave the rail corridor via access gate <b>N00 16.795 U</b>.</li> <li>15. Tell Signaller at <b>Epping</b> Panel when work is completed and the workers and their equipment are clear of the Danger Zone.</li> </ol>

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Tick if used  Position of ATWS transmitter and sensor on **the Down Main & Down Relief North line at 16.292 KM**



Image 1: Transmitter and sensor installation location



Image 2: Sensor access using access gate N00 16.482 U

Tick if used  Position of ATWS transmitter and sensor on **Up Main North line at 18.059 KM**



Image 1: Transmitter and sensor installation location



Image 2: Sensor access using access gate N00 17.748 U

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