procedures

NPR 702 Using a Track Work Authority

Introduction

A Track Work Authority (TWA) allows track work on running lines between rail traffic movements. Protection Officers manage the approach of rail traffic to worksites. Rail traffic may pass through worksites only under controlled conditions.

Warning

Workers must be in safe places before rail traffic is allowed to pass the inner Handsignaller or pass through the limits of worksites.

Getting a Track Work Authority

The Protection Officer gets a TWA from the Signaller responsible for the portion of track.

Protection Officer

1. Tell the Signaller:
   - your name, and
   - your contact details, and
   - your Safeworking designation, and
   - the type of work, and
   - the intended duration.
2. Identify the worksite limits by the line names and nominate the worksite kilometres as being between:
   - two signals, or
   - a signal and the end of a terminal line.

   Signals must be identified by their numbers.
3. Identify the protection arrangements to be used. If signals are to be used for protection, nominate the signal numbers.
4. Ask the Signaller for the Train Running Information for rail traffic planned to pass through the worksite.

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Warning

Train Running Information provides only a guide to planned movements and cannot be relied upon.

Signaller

5. Confirm the TWA details including:
   - the Protection Officer's name and contact details, and
   - type of work, and
   - the duration of work, and
   - the worksite limits in kilometres, and
   - the line name, and
   - the nominated signals or end of terminal line, and
   - the protection arrangements to be used.
6. Use the nominated signals or end of terminal line provided by the Protection Officer to identify the worksite limits and make sure that:
   - the last rail traffic to enter the affected portion of track is identified and its location is known, and
   - there is no rail traffic approaching the worksite.
7. Tell the Protection Officer:
   - the Train Running Information, and
   - the identification number of the last rail traffic to enter the affected portion of track and its last known location, and
   - that there is no rail traffic approaching the worksite.

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Protection Officer

8. Confirm the information provided by the Signaller:
   - about the Train Running Information, and
   - about the identification number of the last rail traffic to enter the affected portion of track and its last known location, and
   - that there is no rail traffic approaching the worksite.

Jointly with a Track Occupancy Authority

A TWA may be authorised in an area where a Track Occupancy Authority (TOA) is current.

Signaller

1. Tell the Protection Officer seeking the TWA to confer with the Protection Officer holding the TOA. Confirm that:
   - the Protection Officers have conferred with each other, and
   - the Protection Officer holding the TOA agrees with the protection arrangements.

TWA Protection Officer

2. Confirm that the worksite will be protected:
   - for bidirectional lines, in both directions, or
   - for unidirectional lines, in the normal direction of travel.

   If the TOA is for a wrong running-direction track vehicle movement, railway track signal protection must be placed between 500m and 1000m before the worksite for the wrong running-direction.

Authorising a Track Work Authority

Signaller

1. Get authority from the Network Controller to issue the TWA.

Network Controller

2. Confirm the TWA details with the Signaller.
3. If the proposed TWA limits affect more than one Network Controller's area, the affected Network Controllers must confer and nominate a coordinating Network Controller.

4. If the proposed TWA limits affect more than one Signaller:
   - get an assurance from the affected Signallers that:
     - when required, blocking facilities have been or will be applied to prevent unauthorised entry into worksites, and
     - unsignalled movements into the TWA limits will not be authorised.
   - nominate an issuing Signaller.
5. Tell the Signaller:
   - your name and location, and
   - that the TWA is authorised.

Signaller

6. When authorised, issue the TWA.

Protection Officer

7. When authorised, put the required protection in place.

Protecting worksites

Warning

The outer Handsignaller must be put in place before the inner Handsignaller.

Protection Officer

1. Protect worksites by:
   - managing the approach of rail traffic to worksites, and
   - managing the transit of rail traffic through worksites, and
   - if necessary, managing rail traffic on other lines.
2. Make sure that all protection is correctly placed.
3. Where practicable, reduce the number of routes allowing entry to a worksite area by clipping and locking points.

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Managing signals affected by work on track

Work on track may affect signals so they display STOP. In this procedure these signals are called affected signals.

Protection Officer

1. Arrange for affected signals to be set and held at STOP.
2. Place a Handsignaller at each affected signal, in the direction of approaching rail traffic.
3. Tell the Handsignaller to display a STOP handsignal to approaching rail traffic.
4. If the affected signal is a controlled absolute signal, direct the Handsignaller to get the Signaller's authority to allow the rail traffic to pass the signal at STOP.
5. If the affected signal is an automatic signal, give the Handsignaller instructions about allowing rail traffic to pass the signal at STOP.

Handsignaller

6. If the affected signal is a controlled absolute signal, follow the Protection Officer's directions, and get the Signaller's authority to allow the rail traffic to pass the signal at STOP.
7. If the affected signal is an automatic signal, follow the Protection Officer's instructions to allow rail traffic to pass the signal at STOP.

Managing rail traffic approaches to worksites

Protection Officer

1. Decide if it is safe for rail traffic to transit the worksite.
2. Decide the appropriate speed for rail traffic to transit the worksite.
3. Tell the inner Handsignaller whether to handsignal Drivers or Track Vehicle Operators to:
   - travel through the worksite at normal speed, or
   - travel through the worksite at caution, or
   - stop and be told about special travel conditions.

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Protecting worksites using Handsignallers at protecting signals

Signals between 500m and 1000m before the worksite

Protection Officer

1. Arrange for the last signal in the direction of approaching rail traffic, between 500m and 1000m before the worksite, to be set and kept at STOP:
   - at a controlled absolute signal by asking the Signaller, or
   - at an automatic signal:
     - by making arrangements with the authorised Maintenance Representative, or
     - by operating a signal key switch, if fitted, in accordance with *NPR 754 Using a signal key switch*.
2. Place an inner Handsignaller and three railway track signals at this last signal.
3. If there are affected signals, place a Handsignaller at each affected signal.

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FIGURE 1: Example of protecting a worksite between 500m and 1000m from a controlled absolute signal that can be held at STOP.

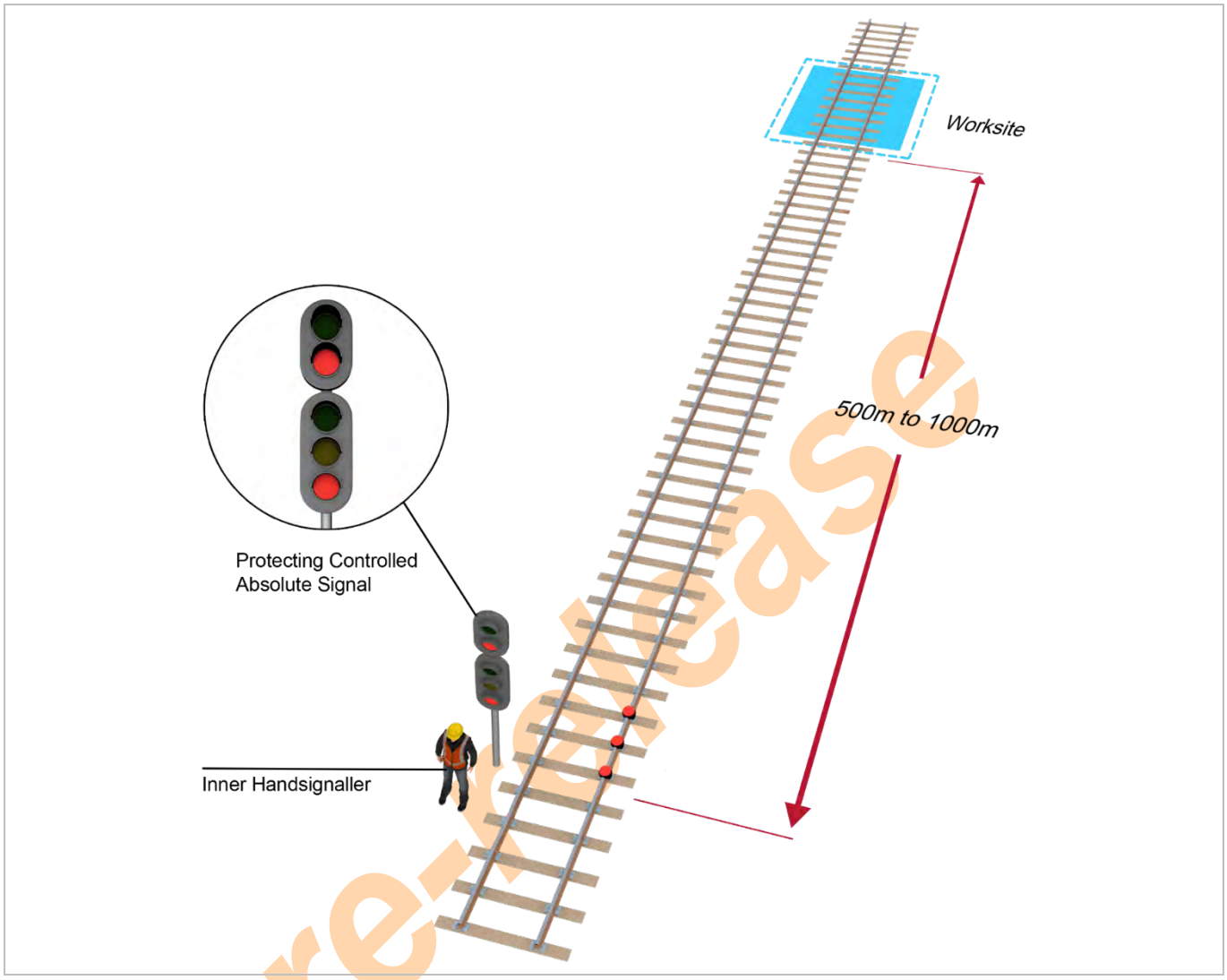

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FIGURE 2: Example of protecting a worksite between 500m and 1000m from an automatic signal that can be held at STOP.

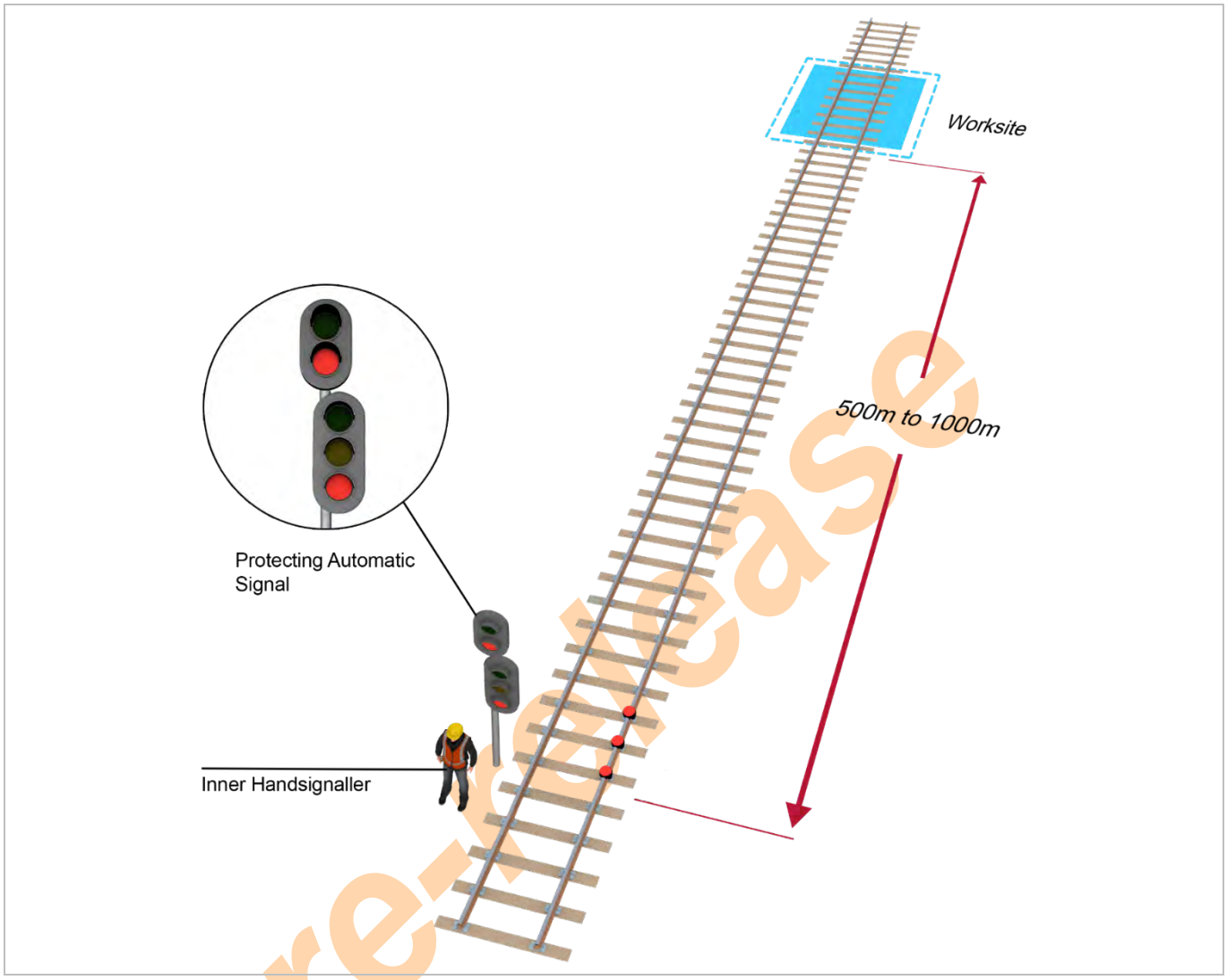

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FIGURE 3: Example of additional Handsignaller placed if work affects a signal between the worksite and the protecting controlled absolute signal.

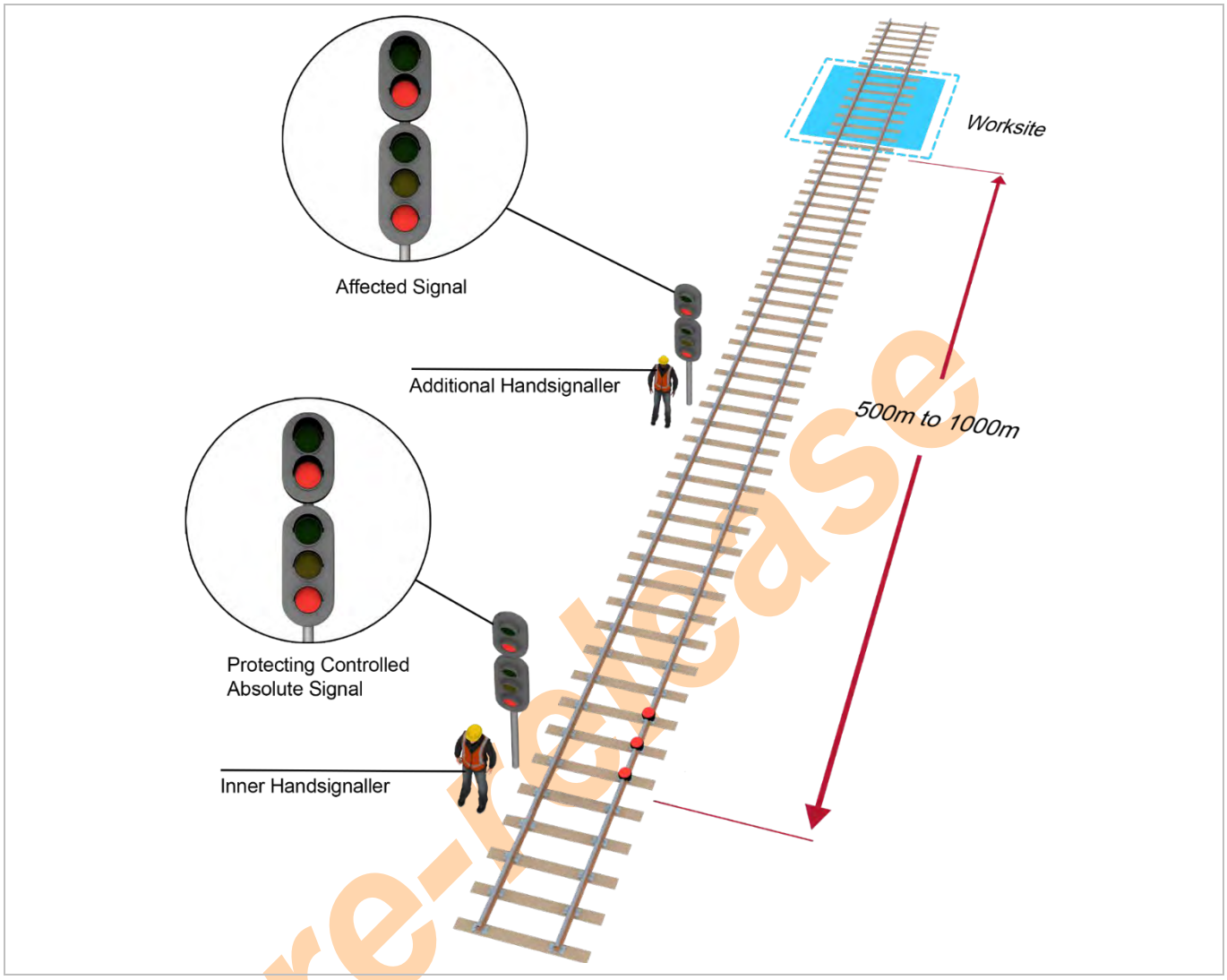

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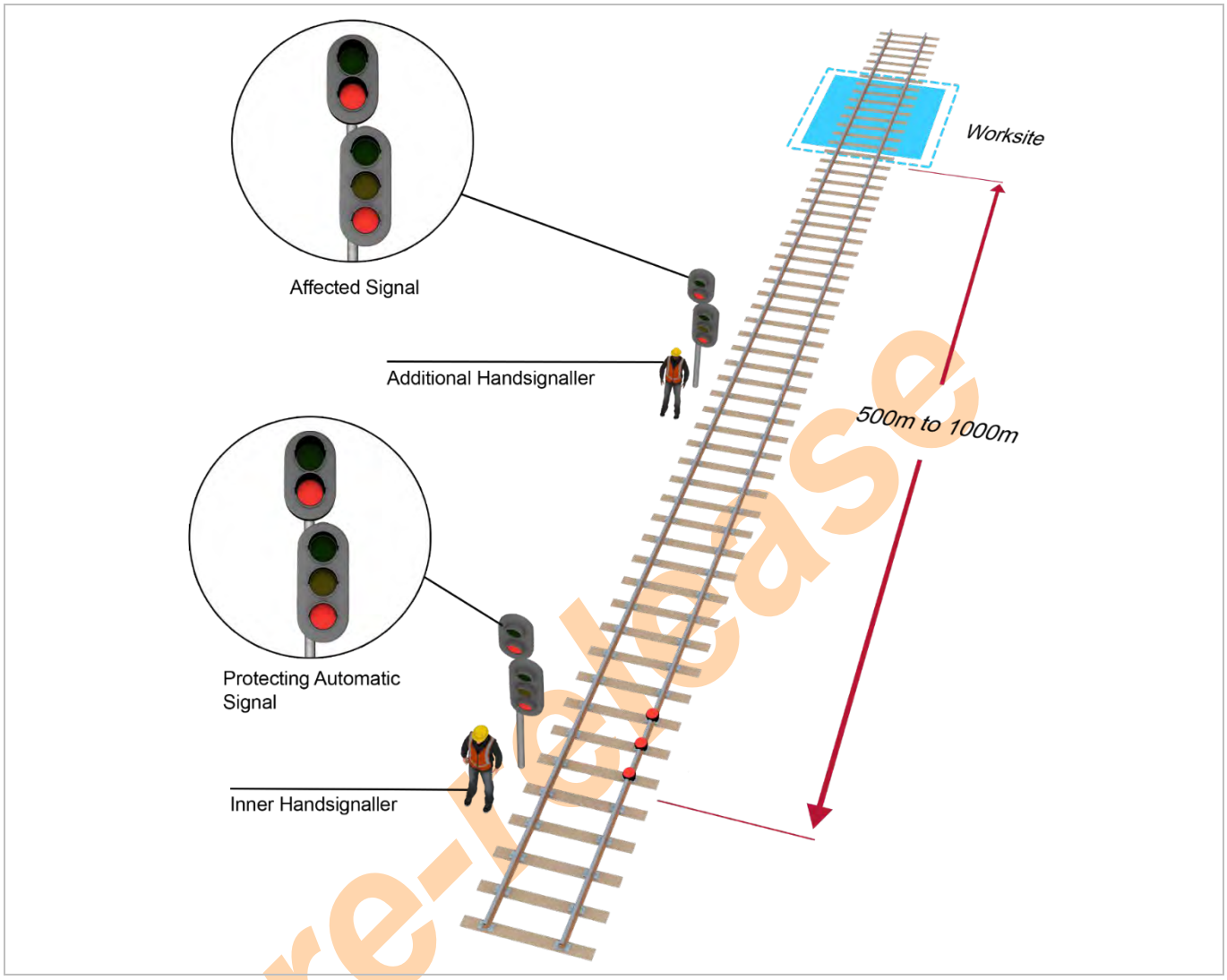
FIGURE 4: Example of additional Handsignaller placed if work affects a signal between the worksite and the protecting automatic signal.



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Signals more than 1000m and less than 3500m before the worksite

Protection Officer

1. If there are no signals between 500m and 1000m before the worksite in the direction of approaching rail traffic, arrange for the last signal within 2500m of where the inner Handsignaller will be positioned to be set and kept at STOP:
   - at a controlled absolute signal by asking the Signaller, or
   - at an automatic signal:
     - by making arrangements with the authorised Maintenance Representative, or
     - by operating a signal key switch, if fitted, in accordance with *NPR 754 Using a signal key switch*.
2. Place an outer Handsignaller and three railway track signals at this signal.
3. Place the inner Handsignaller and three railway track signals between 500m and 1000m before the worksite.
4. If the distance between the outer Handsignaller and the inner Handsignaller at the signal is less than 2500m, tell the outer Handsignaller to warn Drivers and Track Vehicle Operators about the reduced distance.

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FIGURE 5: Example of protecting a worksite with a controlled absolute signal between 1000m and less than 3500m before the worksite.

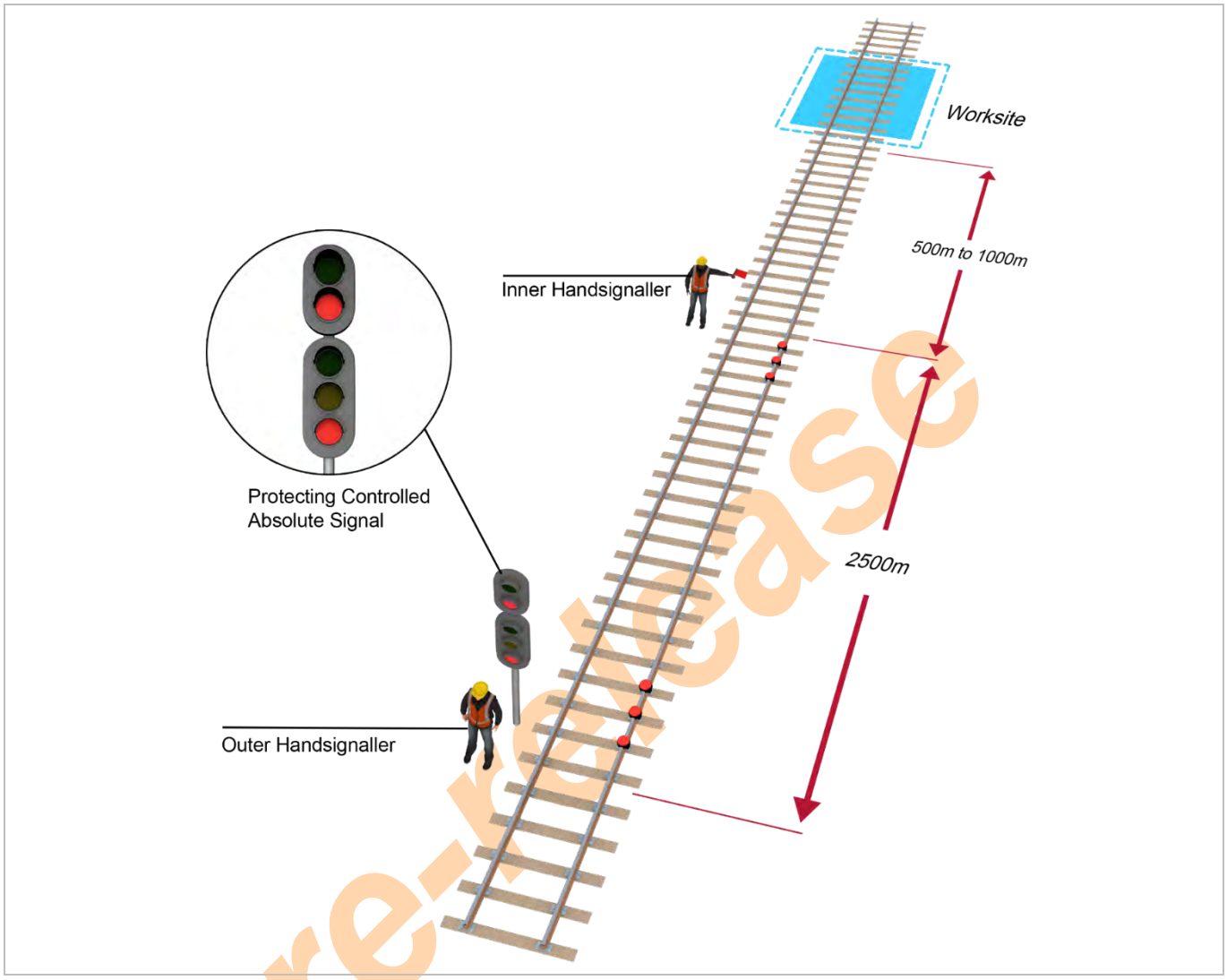

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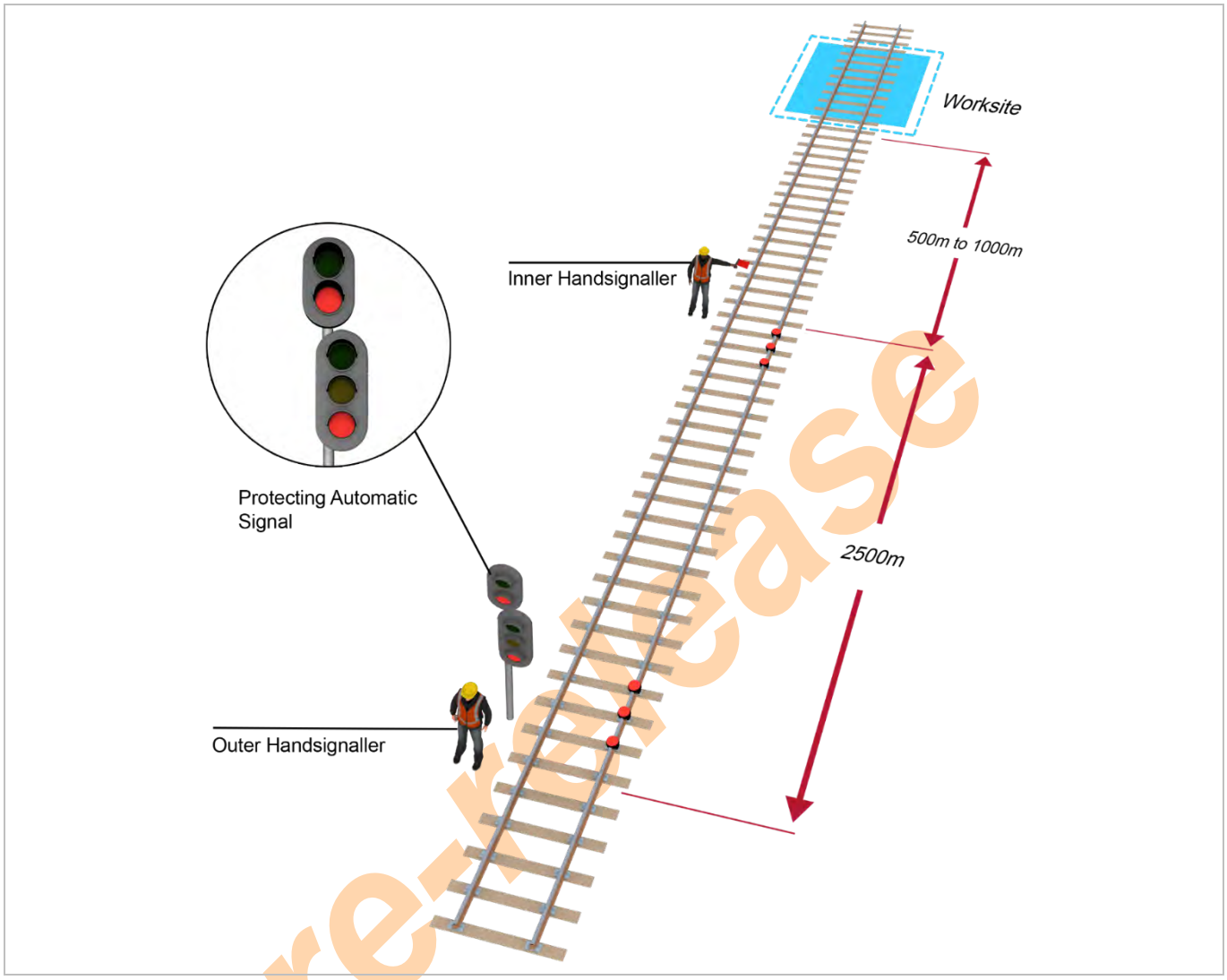
FIGURE 6: Example of protecting a worksite with an automatic signal between 1000m and less than 3500m before the worksite.



procedures

NPR 702 Using a Track Work Authority

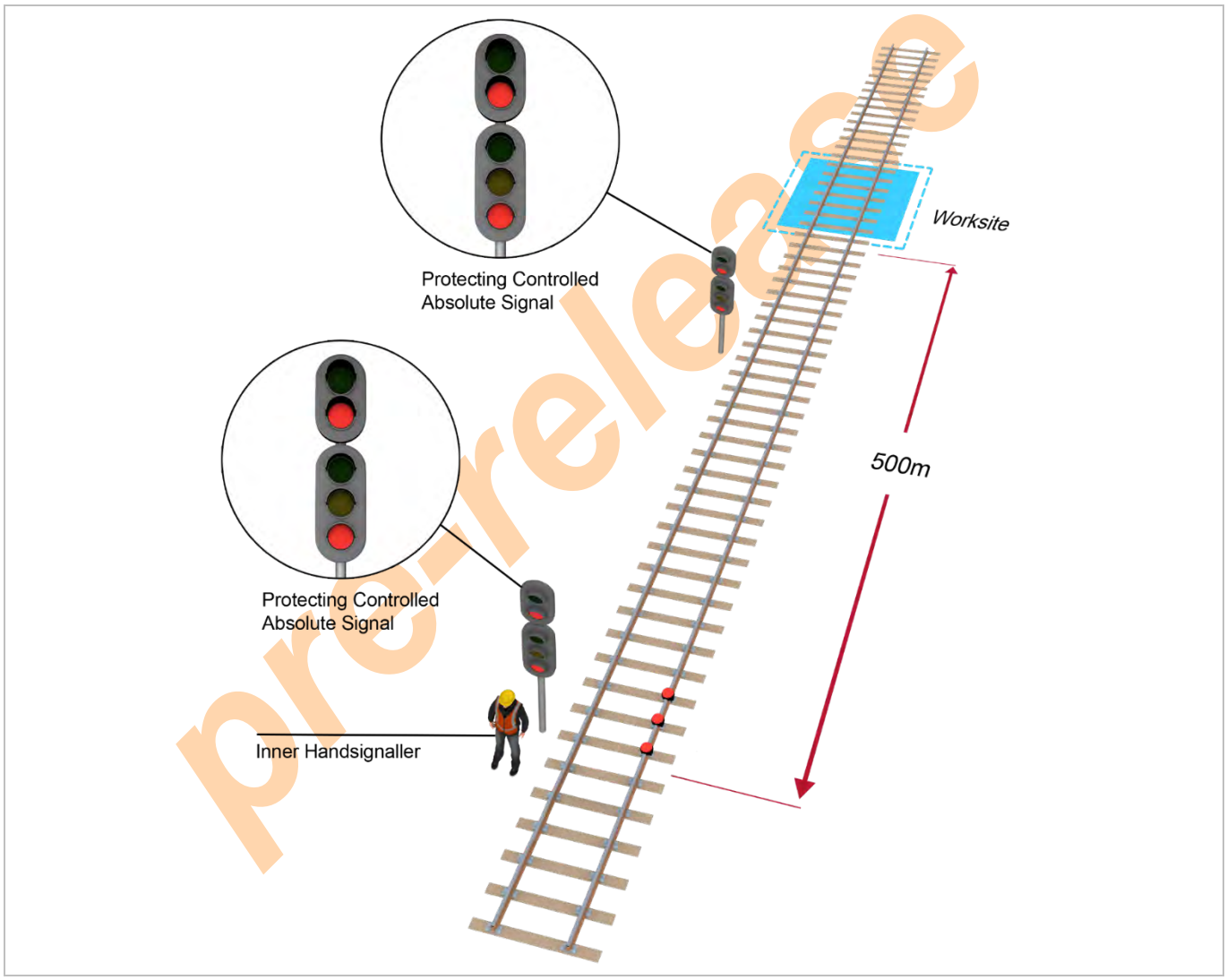
At least two controlled absolute signals within 500m of the worksite

Protection Officer

If there are at least two controlled absolute signals within 500m of the worksite.

1. Ask the Signaller to set and keep both signals at STOP.
2. Place the inner Handsignaller and three railway track signals at the first signal in the direction of approaching rail traffic.
3. If the other signals can be cleared, further Handsignallers are not necessary.

FIGURE 7: Example of protecting a worksite using two controlled absolute signals.



4. If there are affected signals, place a Handsignaller at each affected signal.

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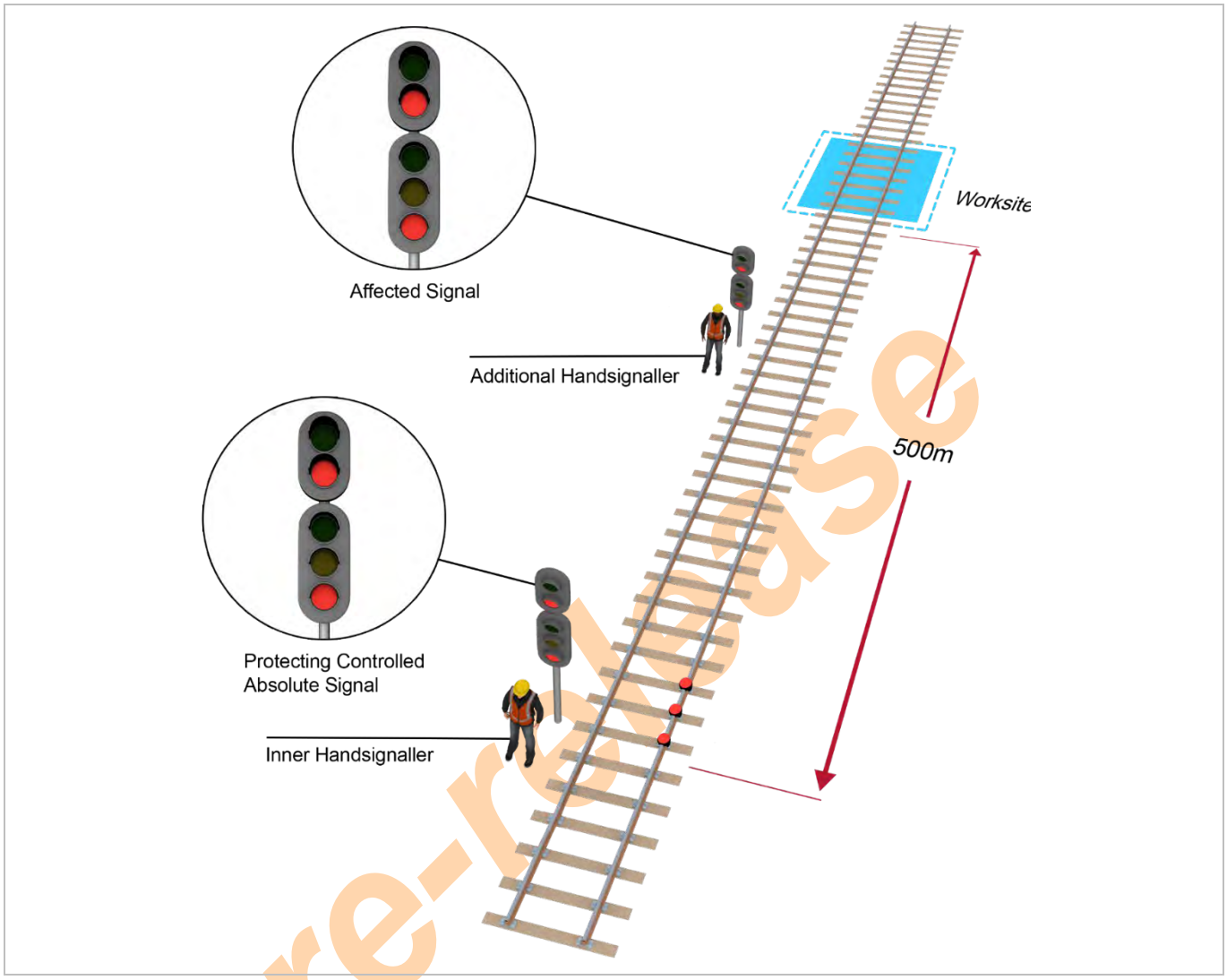
FIGURE 8: Example of additional Handsignaller placed when the signal between the worksite and the protecting signal cannot be cleared.



Protecting worksites using Handsignallers only

Protection Officer

1. Choose locations where Handsignallers, Drivers and Track Vehicle Operators can see each other clearly.
2. Place an outer Handsignaller and two railway track signals 2500m from where the inner Handsignaller will be positioned in the direction of approaching rail traffic.
3. Tell the outer Handsignaller to display a CAUTION handsignal to approaching rail traffic.
4. Place an inner Handsignaller and three railway track signals between 500m and 1000m before the worksite in the direction of approaching rail traffic.

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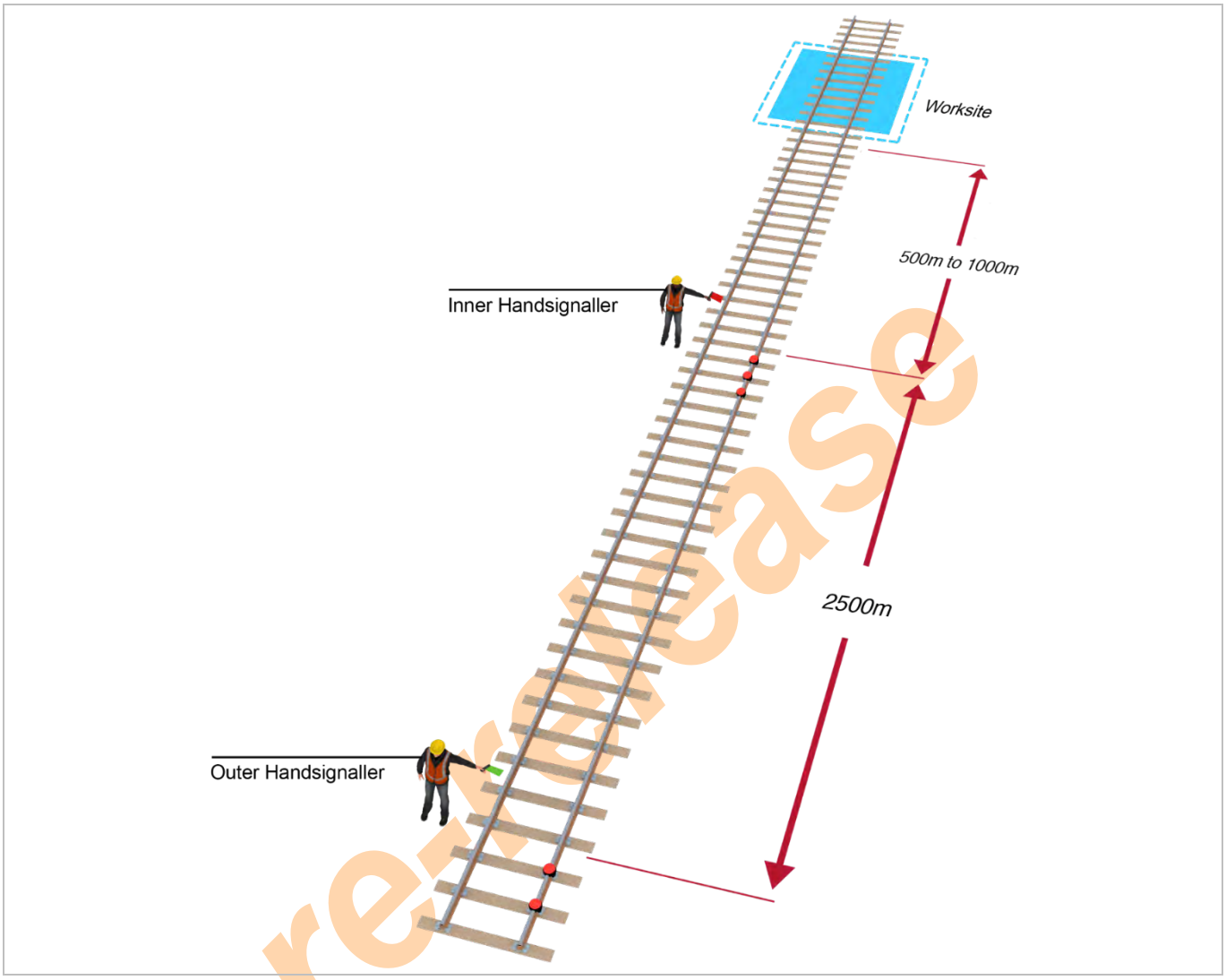
5. Tell the inner Handsignaller to display a STOP handsignal to approaching rail traffic.

FIGURE 9: Example of protecting a worksite using Handsignallers only.



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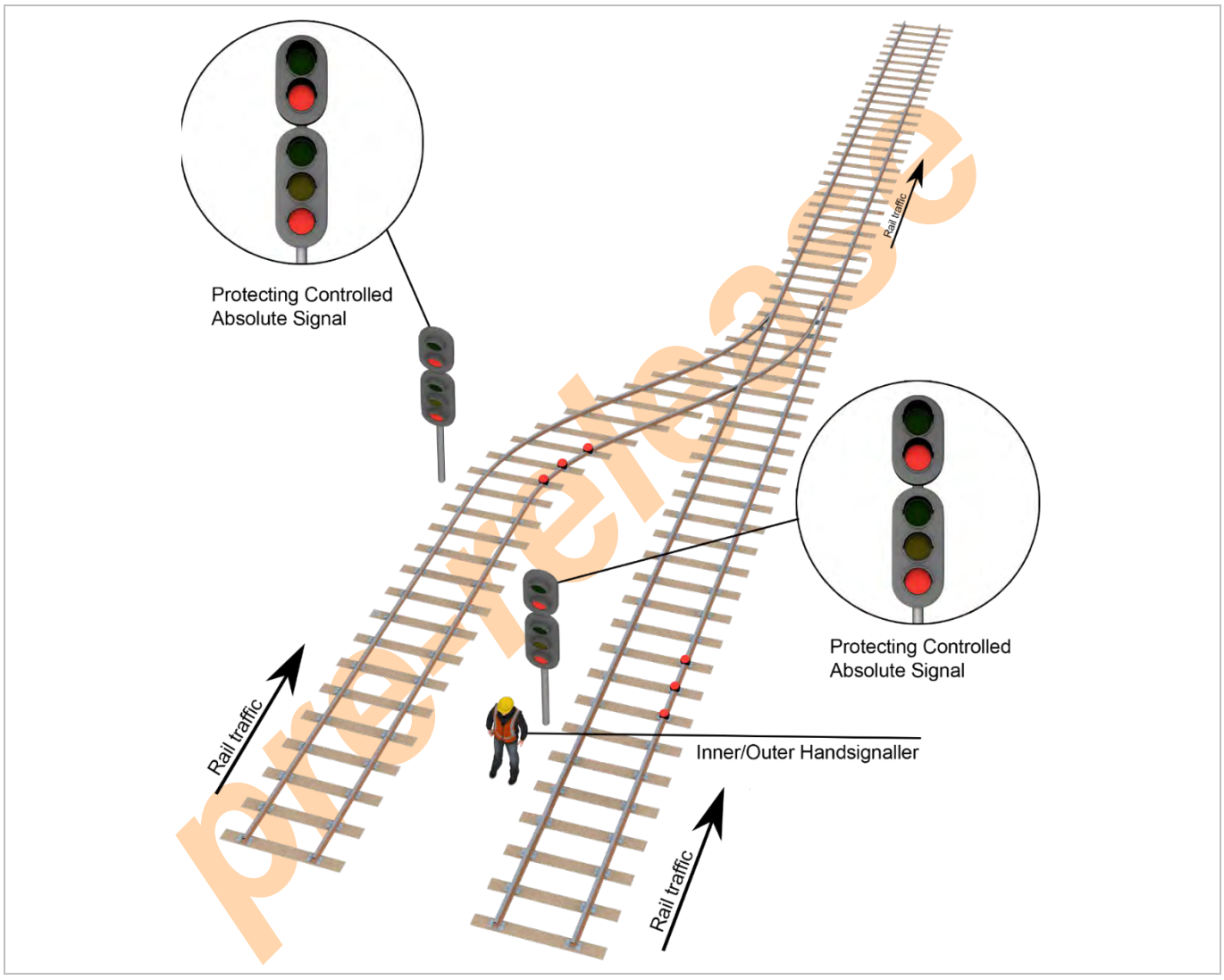
Placing protection for converging lines

Placing railway track signals at each signal

Protection Officer

1. Place three railway track signals at each signal. Place the Handsignaller in a safe place, where approaching rail traffic on either line can be seen.

FIGURE 10: Example of using a single Handsignaller and placing protection at each signal.



Placing railway track signals beyond crossovers

Protection Officer

1. Place a Handsignaller in a safe place, where approaching rail traffic on either line can be seen.
2. Place three railway track signals within 20m beyond the crossovers in the direction of travel.

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3. If it safe for rail traffic to pass the Handsignaller tell the Handsignaller the appropriate actions to follow.
4. If necessary, place an additional Handsignaller responsible for placing and removing railway track signals and make sure that effective communication is maintained between the Handsignallers.

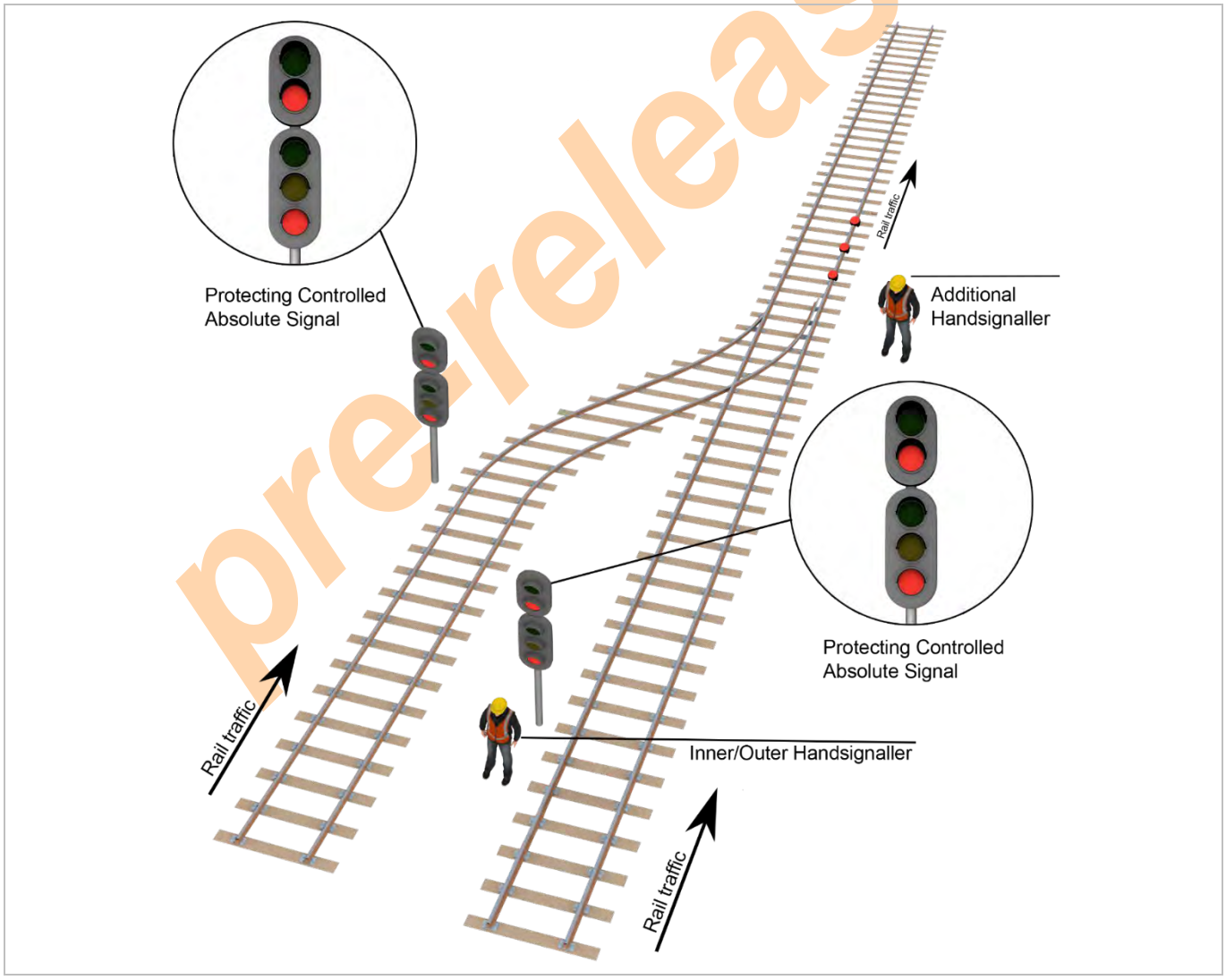
Handsignaller

5. If necessary, ask the additional Handsignaller to remove and replace the railway track signals as instructed by the Protection Officer.

Additional Handsignaller

6. If it is safe to do so, remove railway track signals when instructed by the Handsignaller.
7. Replace railway track signals after each rail traffic movement.

FIGURE 11: Example of placing railway track signals beyond the crossovers.



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Placing protection near a platform

Protection Officer

1. If a platform prevents railway track signals from being placed within 20m beyond the protecting signal, place a Handsignaller at the signal.
2. Place three railway track signals beyond the platform in the direction of travel.
3. If it safe for rail traffic to pass the Handsignaller tell the Handsignaller the appropriate actions to follow.
4. Place an additional Handsignaller responsible for placing and removing railway track signals and make sure that effective communication is maintained between the Handsignallers.

Handsignaller

5. If necessary, ask the additional Handsignaller to remove and replace the railway track signals as instructed by the Protection Officer.

Additional Handsignaller

6. If it is safe to do so, remove railway track signals when instructed by the Handsignaller.
7. Replace railway track signals after each rail traffic movement.

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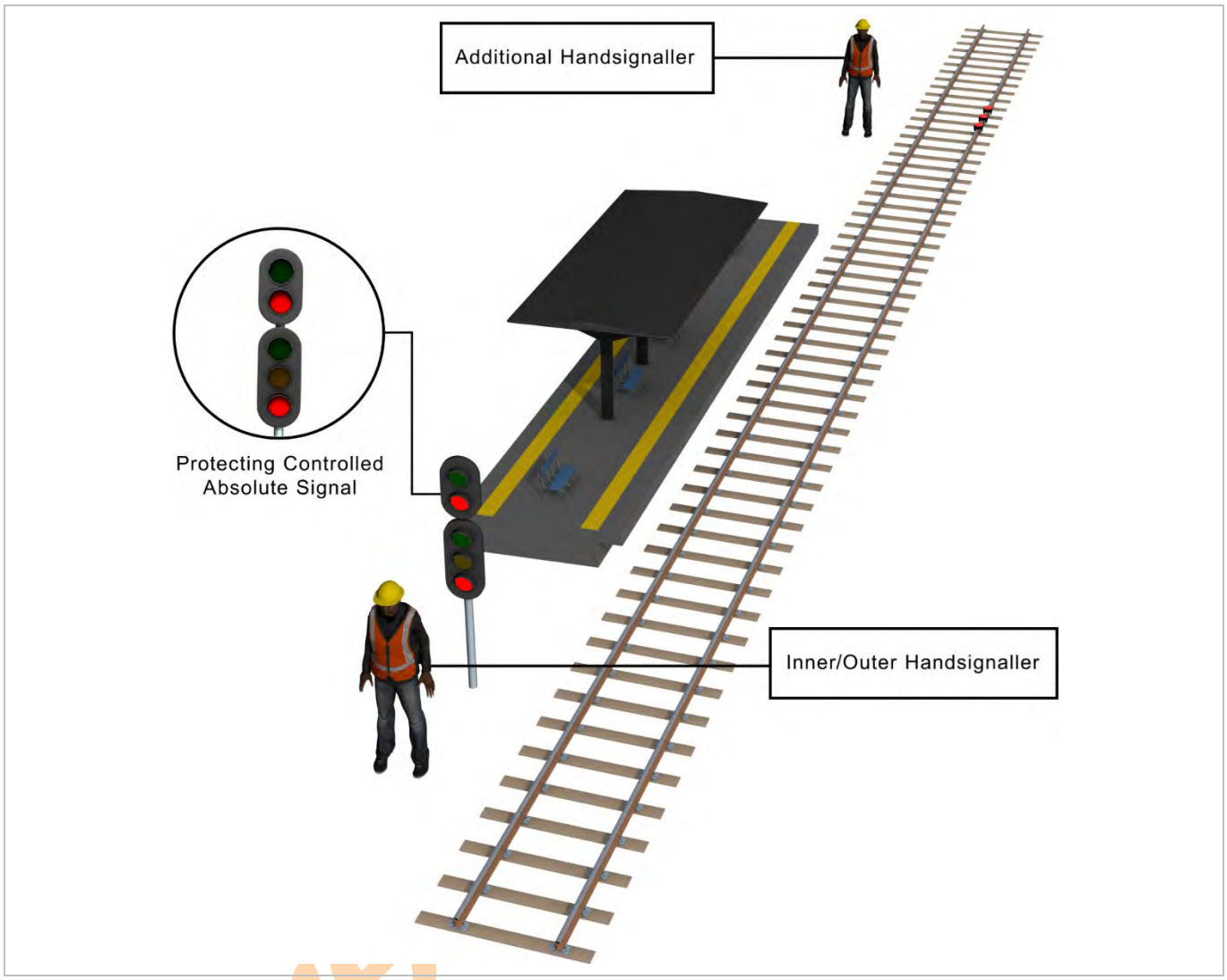
FIGURE 12: Example of placing railway track signals beyond the end of the platform.



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Managing rail traffic transits through worksites

Protection Officer

1. Before authorising the inner Handsignaller to signal rail traffic to approach and pass through a worksite, make sure that:
   - workers have gone to the designated safe places, and
   - the line is clear of workers and equipment between the worksite and the inner Handsignaller's location, and
   - the line is clear and safe for the passage of rail traffic through the worksite, and
   - if an automatic signal is being kept at STOP to protect a worksite, the line is clear to the first signal beyond the worksite.
2. If it is safe for rail traffic to pass the outer Handsignaller at a controlled absolute signal, tell the Handsignaller to take the following actions:

Movement allowed	outer Handsignaller action
Rail traffic is to proceed at caution	(a) After rail traffic has stopped remove the railway track signals from the line. (b) If required, tell the Driver or Track Vehicle Operator about the reduced distance to the inner Handsignaller. (c) Ask the Signaller to: • clear the controlled absolute signal held at STOP, or • give authority to allow rail traffic to proceed past the signal at STOP. (d) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (e) Replace railway track signals on the line immediately after each rail traffic has passed.

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3. If it is safe for rail traffic to pass the inner Handsignaller at a controlled absolute signal, and pass through the worksite, tell the Handsignaller to take the following actions:

Movement allowed	inner Handsignaller action
Rail traffic is to proceed at normal speed	(a) Remove the railway track signals from the line: • if there is time to do it safely, or • after rail traffic has stopped. Ask the Signaller to clear the controlled absolute signal held at STOP. (b) Replace railway track signals on the line immediately after each rail traffic has passed.
Rail traffic is to proceed at caution	(a) After rail traffic has stopped, remove the railway track signals from the line. (b) Ask the Signaller to: • clear the controlled absolute signal held at STOP, or • give authority to allow rail traffic to proceed past the signal at STOP. (c) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (d) Replace railway track signals on the line immediately after each rail traffic has passed.
Rail traffic is to proceed under special conditions	(a) After rail traffic has stopped, tell the Driver or Track Vehicle Operator: • the maximum speed allowed • about further Handsignallers ahead • in writing, about multiple worksites ahead. (b) Remove the railway track signals from the line. (c) Ask the Signaller to: • clear the controlled absolute signal held at STOP, or • give authority to allow rail traffic to proceed past the signal at STOP. (d) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (e) Replace railway track signals on the line immediately after each rail traffic has passed.

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4. If it is safe for rail traffic to pass the outer Handsignaller at an automatic signal, tell the Handsignaller to take the following actions:

Movement allowed	outer Handsignaller action
Rail traffic is to proceed at caution	(a) After rail traffic has stopped, remove the railway track signals from the line. (b) If required, tell the Driver or Track Vehicle Operator about the reduced distance to the inner Handsignaller. (c) Give authority to allow rail traffic to proceed past the signal at STOP. (d) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (e) Replace railway track signals on the line immediately after each rail traffic has passed.

5. If it is safe for rail traffic to pass the inner Handsignaller at an automatic signal, and pass through the worksite, tell the Handsignaller to take the following actions:

Movement allowed	inner Handsignaller action
Rail traffic is to proceed at caution	(a) After rail traffic has stopped, remove the railway track signals from the line. (b) Give authority to proceed past the STOP signal. (c) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (d) Replace railway track signals on the line immediately after each rail traffic has passed.
Rail traffic is to proceed under special conditions	(a) After rail traffic has stopped, tell the Driver or Track Vehicle Operator: • the maximum speed allowed • about further Handsignallers ahead, and • in writing, about multiple worksites ahead. (b) Remove the railway track signals from the line. (c) Give authority to proceed past the STOP signal. (d) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (e) Replace railway track signals on the line immediately after each rail traffic has passed.

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6. If it is safe for rail traffic to pass the outer Handsignaller at an automatic signal fitted with a signal key switch, tell the Handsignaller to take the following actions:

Movement allowed	outer Handsignaller action
Rail traffic is to proceed at caution	(a) After rail traffic has stopped, remove the railway track signals from the line. (b) If required, tell the Driver or Track Vehicle Operator about the reduced distance to the inner Handsignaller. (c) Restore the key to the switch. (d) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (e) When the leading vehicle has completely passed the signal, immediately remove the key from the switch. (f) Replace railway track signals on the line immediately after each rail traffic has passed.

7. When rail traffic has cleared the worksite, confirm with the Handsignaller:
   - that the key was removed immediately after the leading vehicle completely passed the signal, and
   - that the signal is displaying a STOP indication.

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8. If it is safe for rail traffic to pass the inner Handsignaller at an automatic signal fitted with a signal key switch, tell the Handsignaller to take the following actions:

Movement allowed	inner Handsignaller action
Rail traffic is to proceed at normal speed	(a) Remove the railway track signals from the line: • if there is time to do it safely, or • after rail traffic has stopped. (b) Restore the key to the switch. (c) When the leading vehicle has completely passed the signal, immediately remove the key from the switch. (d) Replace railway track signals on the line immediately after each rail traffic has passed.
Rail traffic is to proceed at caution	(a) After rail traffic has stopped, remove the railway track signals from the line. (b) Restore the key to the switch. (c) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (d) When the leading vehicle has completely passed the signal, immediately remove the key from the switch. (e) Replace railway track signals on the line immediately after each rail traffic has passed.
Rail traffic is to proceed under special conditions	(a) After rail traffic has stopped, tell the Driver or Track Vehicle Operator: • the maximum speed allowed • about further Handsignallers ahead • in writing, about multiple worksites ahead. (b) Remove the railway track signals from the line. (c) Restore the key to the switch. (d) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (e) When the leading vehicle has completely passed the signal, immediately remove the key from the switch. (f) Replace railway track signals on the line immediately after each rail traffic has passed.

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9. When rail traffic has cleared the worksite, confirm with the Handsignaller:
   - that the key was removed immediately after the leading vehicle completely passed the signal, and
   - that the signal is displaying a STOP indication.
10. If it is safe for rail traffic to pass the outer Handsignaller not at a signal, tell the Handsignaller to take the following actions:

Movement allowed	outer Handsignaller action
Rail traffic is to proceed at caution	(a) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (b) Replace railway track signals on the line immediately after each rail traffic has passed.

11. If it is safe for rail traffic to pass the inner Handsignaller not at a signal, and pass through the worksite, tell the Handsignaller to take the following actions:

Movement allowed	inner Handsignaller action
Rail traffic is to proceed at normal speed	(a) Remove the railway track signals from the line if there is time to do it safely. (b) Signal PROCEED to the Driver or Track Vehicle Operator. (c) Replace railway track signals on the line immediately after each rail traffic has passed.
Rail traffic is to proceed at caution	(a) Remove one railway track signal from the line if there is time to do it safely. (b) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (c) Replace railway track signals on the line immediately after each rail traffic has passed.

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Movement allowed	inner Handsignaller action
Rail traffic is to proceed under special conditions	(a) Signal the Driver or Track Vehicle Operator to STOP. (b) After rail traffic has stopped, tell the Driver or Track Vehicle Operator: • the maximum speed allowed • about further Handsignallers ahead • in writing, about multiple worksites ahead. (c) Signal PROCEED AT CAUTION to the Driver or Track Vehicle Operator. (d) Replace railway track signals on the line immediately after each rail traffic has passed.

Warning

If there is not enough time to remove the railway track signals safely, leave them on the track and signal STOP to the approaching rail traffic.

12. Make sure the inner and outer Handsignallers have replaced the railway track signals immediately after each rail traffic movement has passed.

Rail traffic clearing multiple worksites

Protection Officer

1. Place a CLEARANCE sign or Handsignaller at least 50m beyond the last worksite.

Drivers and Track Vehicle Operators

2. Resume normal speed only after the rear of the last vehicle has passed the CLEARANCE sign or the Handsignaller.

Using clearance Handsignallers if protecting signals cannot be cleared

Protection Officer

1. Place a clearance Handsignaller at the first signal beyond the worksite that can display a STOP indication.

Clearance Handsignaller

2. Make sure that the line is clear for rail traffic to approach.

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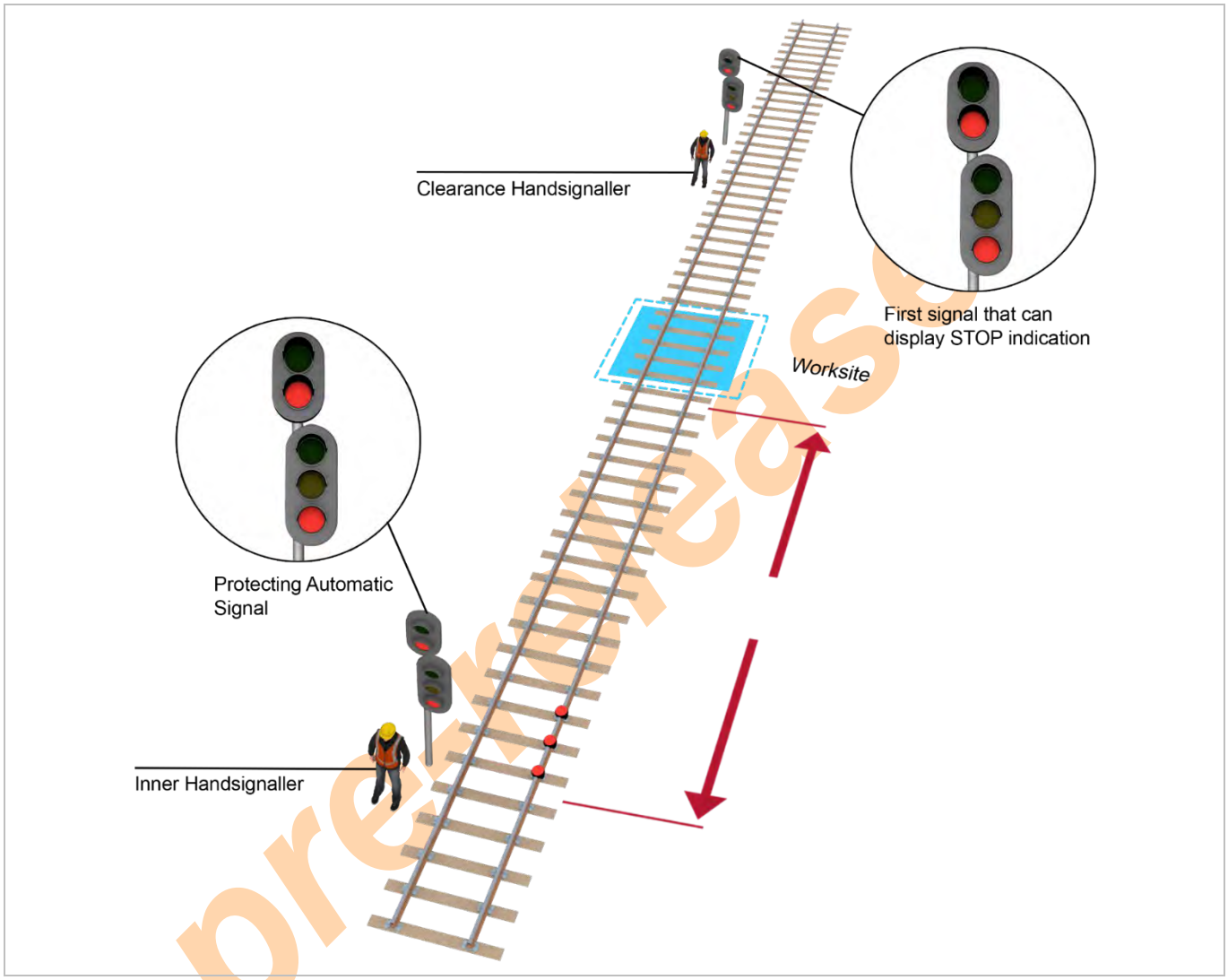
3. Tell the Protection Officer when rail traffic has passed complete beyond the signal and that the line is clear.

FIGURE 13: Example of placement of a clearance Handsignaller at the first signal beyond a worksite that can display a STOP indication, to tell the Protection Officer when the line is clear for rail traffic to approach.



Using clearance Handsignallers if tonnage signals are affected

Protection Officer

1. If a tonnage signal is affected by work on track or is being used to control rail traffic approaching the worksite, a clearance Handsignaller must be placed at the signal controlling the tonnage signal.

Clearance Handsignaller

2. Tell the Protection Officer when the line is clear for rail traffic as far as that signal.

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Returning the track to service

Protection Officer

1. Make sure that all equipment is clear of the Danger Zone.
2. Make sure that all workers have cleared the worksites.
3. Make sure that:
   - protection has been removed, and
   - if necessary, signals have been restored to normal use, and
   - the track is safe for use.
4. If removed, the signal key switch key is restored.
5. Tell the Signaller that the work is complete, and about any restrictions on track use.
6. Fulfil the TWA.

Signaller

7. Confirm with the Protection Officer:
   - their name, and
   - the worksite limits, and
   - that workers and equipment are clear of the Danger Zone, and
   - that, if used, the signal key switch key has been restored, and
   - that the work is complete, and about any restrictions on track use, and
   - that the TWA is fulfilled.
8. If applied, remove blocking facilities.
9. Tell the Network Controller that the TWA is fulfilled, and about any restrictions on track use.

Keeping records

Network Controllers, Signallers and the Protection Officer must record, in permanent form, the TWA details, including protection arrangements.

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Related Documents

NPR 704 *Using Infrastructure Booking Authorities*

NPR 707 *Clipping points*

NPR 708 *Using X, Y and Z keys*

NPR 709 *Using railway track signals*

NPR 712 *Protecting work from rail traffic on adjacent lines*

NPR 754 *Using a signal key switch*