

# SHE ALERT

Ref: SHE H125 A 19 Ride on roller  
Issued by: Kier Highway SHE  
Department  
Date: 25/03/2019



## Overturned Rider on Roller



### What Happened

Whilst a piling mat was being constructed, which forms part of the permanent works for an emergency refuge area, an operative was compacting 150mm layers of materials driving a 2.5t, 12D Hamm, 120 ride on roller.

During compaction, the operator drove too close to the edge of the platform and as he reversed back to pass, the back end of the roller began to slip over the edge of the platform. The roller tipped over slowly on its right-hand side with the operator still at the wheel.

The operator was not injured in the incident, he had his seat belt on at the time and therefore did not come off the roller and no part of his body was trapped.

### Key Findings

The roller was operating too close to the edge of the platform

No Physical measures were considered or installed to prevent the roller from coming too close to the edge

Direct Instructions to keep away from the edge were not adhered to which were documented in the daily briefing

The SSoW did not mitigate key hazards associated with the work

### Action to Be Taken

Do not operate rollers too close to the edges of slopes and embankments

Ensure physical protection is provided to prevent plant from coming too close to slopes/embankments (barriers, blocks,)

Consider the use of remotely operated compactors.

Ensure all operators of ride on plant understand instructions

### Further Information:

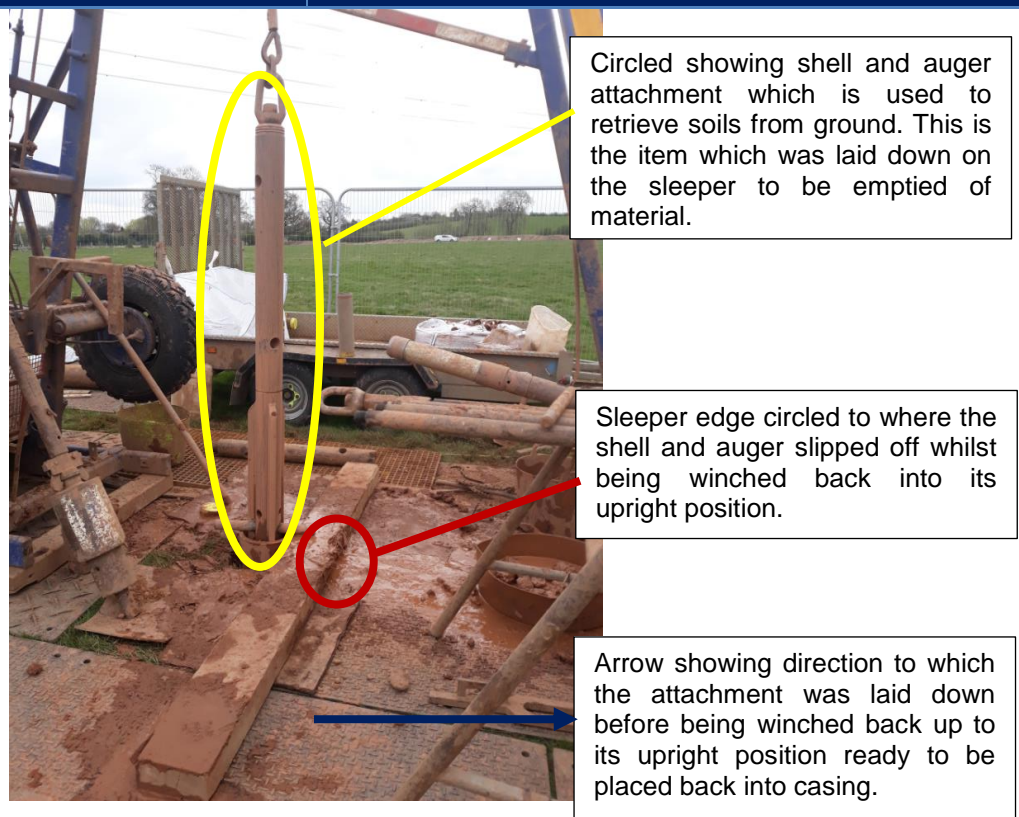
For more information about this incident please contact:

[chris.payne@kier.co.uk](mailto:chris.payne@kier.co.uk) - 07818 281335

<b>Title of the Incident</b>	<b>RIDDOR Specified Injury – Fracture to foot</b>		
<b>Date and time of incident</b>	3 <sup>rd</sup> April 2019 @ 11.30	<b>Type of Investigation</b>	Local Investigation
<b>Location of incident</b>	B11	<b>Trade/Company involved</b>	SEGL
<b>Section of works</b>	N2 Ground Investigation	<b>Potential severity</b>	Serious
<b>Reported by</b>	Craig Leech	<b>Risk/Hazard category</b>	Struck by object (moving, falling or flying)

**Outline of the incident**

Whilst undertaking GI with a cable percussive rig within area B11, the team on site were undertaking a standard practice manoeuvre of laying down the shell and auger attachment to clear it of material build up post ground sample. The process for this is to winch the attachment up and out of the casing and lay it down on the raised sleeper (used to offset centre of gravity and minimise manual handling). Once the shell had been cleared the lead driller started to winch the attachment back up to its upright position to place back into the casing. As the driller's assistant was attending this, the attachment slipped off the sleeper and landed on the bridge of the Drillers assistants' left foot. The protective wellington was removed immediately but the sock left on due to there being a sighting of blood. First aid was given by lead driller with the double bandaging of the foot. The Lead driller then took the assistant to the nearest A&E where the IP was advised he had sustained a fracture.

**Insert relevant photo(s)****Immediate Actions taken**

Once reported to BBV the scene was attended to gather facts – the IP and Lead Driller had already left the area to go to hospital, leaving the site secure - at this point, the extent of the injury was unknown.

<b>HS2 Incident Level</b>	Level 2
<b>Horace number?</b>	INC05081
<b>Report completed by:</b>	Craig Leech

# 9<sup>th</sup> March 2019: First Alert: Safe Use of Quick Hitch

## Discovery of the incorrect use of prohibited Quick Hitch equipment

### Description

Identification during routine safety tour of a HS2 prohibited semi-automatic quick hitch on 9<sup>th</sup> March 2019. The required safety pins were not correctly installed. There was no exclusion zone for the slew area of the excavator.

### Potential Consequences

Personnel working with the excavator were in imminent and severe danger due to a failure to implement safe system of work.

### Causes of incident

#### Investigation ongoing.

Communication.

Initial focus on a failure to implement suitable process for supply chain communication of plant and equipment safety requirements.

Weakness in plant arrival check procedure.



The image below shows the attachment with pins not correctly inserted on a semi-automatic Quick Hitch



Image to the right illustrates an example of an acceptable fully automatic Quick Hitch device and attachment




### Reminder of Preventative Measures

- Plant standards to clearly state requirements for direct attachment or attachment of accessories by "second generation" and later fully automatic Quick Hitches ("Double Claw"/ "Twinlocking" Lock Type)
- Plant Arrival checks to identify suitable Quick Hitch systems fitted to excavators
- Operators to be trained in specific Quick Hitch device and safe attachment routine
- Process to be in place for plant operators to check, test and record correct attachment of accessories in a safe area
- Dedicated and segregated areas to be established and used for storage, exchange and attachment testing of excavator attachments
- Exclusion zone to be in place which excludes all personnel from the area into which an excavator attachment can fall when in use (including in any accessory exchange area)



<b>Form Ref:</b> HSI-10	<b>Independent Health &amp; Safety Inspection – Blue Star Item</b>	<b>Version:</b> 3.0 Jan 2017
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	<b>Awarded for Exceptional Performance or New Initiative not widely used on other sites</b>
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<b>Project M23 SMP</b>	<b>Principal Contractor (PC)</b>	<b>Date of Inspection</b>
	Kier	
<b>Site Contact</b>	<b>Email Address</b>	<b>Telephone Number</b>
Leon Reilly	Leon.reilly@kier.co.uk	07880055559

<b>Description of Blue Star Item</b>	<p>Cable strikes form a significant safety challenge for the construction industry utility sector and such incidents can and do result in death and injury for the workforce as well as costing companies millions of pounds in associated damages and compensation costs.</p> <p>Damage to underground services can cause fatal or severe injuries (HSE2005) as well as the potential for fire and explosions and these risks are not primarily to our workforce but also members of the public.</p> <p>On the SMP M23, we have a simple yet effective way of recognising utilities and ‘signposting’ these for our workforce to identify cables and services on site.</p> <p>We have an initiative to introduce a more conspicuous visual standard which will denote the presence of underground services.</p>
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<b>Benefits of Blue Star Item</b>	<p>Colour coded for ease and in accordance with the recognised utility identification.</p> <p>All signs are made from nonconductive material and they form part of the legal requirement to mark the line of an identified service in accordance with HSG47 and Kier standards.</p> <p>The signs will work in tandem with line marker spray prior to the dig operations. In the past, these have been marked on the ground with spray paint which can be overlooked or deteriorate overtime.</p> <p>Our operatives will know that there are services present and proceed with greater caution knowing the presence of where and what type of services are present. These are currently being used by the service co-ordinators as part of their permit to dig process</p> <p>Using this new initiative, we are aiming to reduce service strikes and implement new innovative ways of working.</p> <p>The Services signs have been placed to highlight to all the workforce where the services are located. This allows the engineering team when doing pre task planning on site to identify underground services easily and if required re design. It also allows works being undertaken especially the deep drainage and ERA construction to have a physical warning sign when carrying out excavation works, this is also in addition to the stats plans they have on site as per our 10 steps to safe digging.</p> <p>The signs are all across the sites currently in locations where work is being undertaken or is planned to start, we have ordered more signs that will be established across the whole site, these include electricity, comms and water.</p> <p>The implementation of these signs have also meant that where we deem it high risk we have also erected a physical barrier to ensure that no digging/ breaking ground can occur. It also means that whilst excavation works are being undertaken the operator of the machines are able to clearly see the location of the services and allows them to be more vigilant within these areas as the reminder is always there for them.</p> <p>All signs are inspected daily by the Stats teams and where necessary are either replaced or fixed the same day.</p>
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Photograph



Photograph







# Safety Alert

## Road Bridge Crane Strike

20<sup>th</sup> March 2018

The following pages of this safety alert were issued by Highways England's supply chain partner:

**Vibro Menard**  
**working on**  
**M49 Avonmouth Junction RIP SW**

## HI-POTENTIAL NEAR MISS CRANE STRIKING ROAD BRIDGE



### Background

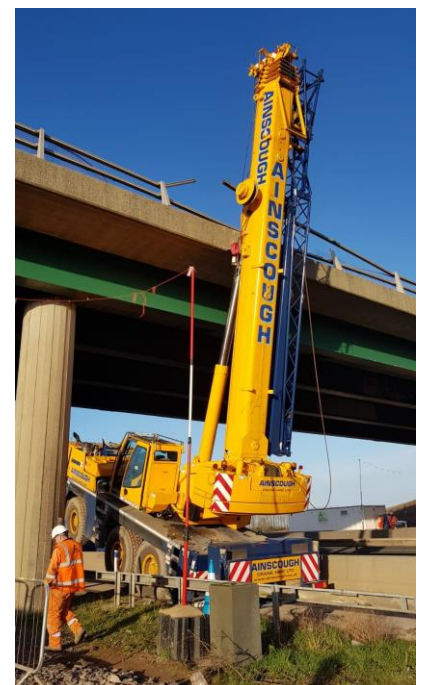
At 16:07 on the 18<sup>th</sup> February 2019 a mobile crane struck a bridge while exiting the site along the hard shoulder of the M49 Motorway.

The crane involved in the incident was a Liebherr LTM 1060-3.1 owned by Ainscough crane hire (ACH). On the date of the incident the crane had been on hire to Vibro Menard to dismantle a zone test. All lifting operations were undertaken as per the lift plan without any issues and the zone test was dismantled under the supervision of Vibro Menard's Crane Supervisor / slinger signaller (CSSS).

### Incident details

Following completion of the lifting operation, a further ACH vehicle arrived to load the navy mats. The VM CSSS assisted the crane operator to part de-rig the crane and bundle the navy mats ready for loading onto the ACH pick up. This left the crane operator to fully retract the out-riggers and lower the jib.

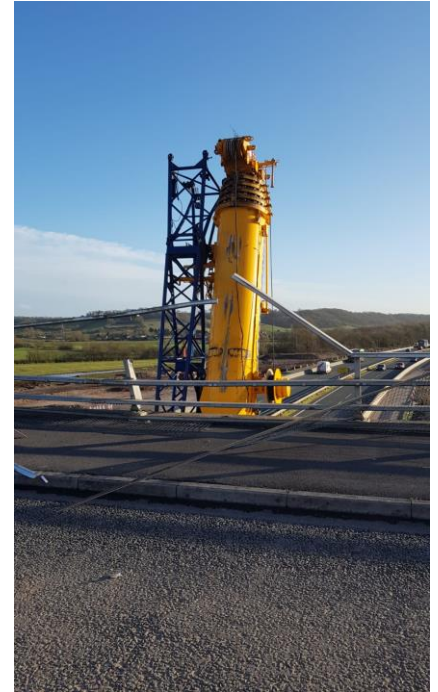
Once instructed by the crane operator he was no longer required, the CSSS left the immediate area at 15:50 to conduct other works. Immediately before the time of impact the crane was witnessed travelling along the hard shoulder of the M49 with the jib still erect. The CSSS along with other site staff tried to warn the crane operator the mast was still erect but unfortunately the driver did not respond resulting in the jib striking the bridge deck.



## Findings

Following the investigation into this near miss / incident the findings are as follows:

- If the crane operator had not inserted the slew lock it is highly likely the crane would have overturned with the mast landing on the M49 motorway potentially leading to fatal or very serious injuries to other road users or site workers.
- The crane operator had received all the necessary inductions including a briefing on the NDT RAMS and lift plan.
- The crane operator had the required competencies, experience and qualifications to operate the crane.
- Following the initial investigation, it was found that the crane did not have any warning systems fitted to the crane to indicate that the jib was still elevated while being operated from the road driving cab. This was in line with the manufacturer's instructions.
- It was reported by ACH, the crane operator was not deemed to be suffering from fatigue and tested negative for alcohol.



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## Recommendations

Following this high potential near miss / incident, the following actions have been undertaken:

- All crane supervisors must always remain with the crane whilst it is rigging/derigging or lifting.
  - The above will also apply to all haulage companies delivering/removing plant from our work sites.
  - All VM supervisors are to check with the operator/driver of subcontract plant equipment or haulage before it leaves their worksites, that they have conducted a visual inspection to ensure they have stowed and secured their equipment correctly before it leaves.
  - Debrief of all supervisors on the start of shift briefings with regards to capturing roles and responsibilities and supervision of subcontractors.
  - Other recommendations have been made to crane supplier regarding the fitting of additional alarms and post de-rigging inspections before they leave site.
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## HSE Alert 02 in 2019

### **Smartweld ACE (plant ref: 9585) – do not use manufactured by Thermit**

Date of issue: 27<sup>th</sup> March 2019

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#### Background

The Smartweld Ace is a piece of equipment that is used to accelerate the cooling down time of Aluminothermic welds.

Due to an incorrect battery being fitted in this equipment a build up of hydrogen gas caused the peli case and digital circuit board to explode outwards.



Photograph shows damaged Peli case and circuit board

#### Instruction

The plant approval certificate Plant/9585 is now withdrawn and this equipment must not be used.

Users of this piece of plant must place it in quarantine until the TfL Plant Engineering team have investigated and resolved the issues.

For any future incidents involving faulty or damaged plant please action the following:

1. The plant must be quarantined and removed from the work site.
2. The Plant Engineering Team must be notified of the incident. Please E-Mail: [PlantEngineeringTeam@tfl.gov.uk](mailto:PlantEngineeringTeam@tfl.gov.uk)
3. The plant should not be returned to the manufacturer until the Plant Team have investigated the problem and agreed the release of the plant to the manufacturer.

For more information contact	John Rose – Senior Plant Engineer
Approved by :	Paul Cooper – HSE Senior Manager

# RD8100™

OPTIMUM PRECISION FOR DAMAGE PREVENTION





Since Radiodetection launched the first commercial, twin antenna, cable and pipe locators over 40 years ago, we have pioneered many technologies that are used widely in the location industry today. Behind developments such as depth measurement, StrikeAlert® and Current Direction® is a drive to protect utilities from damage, making excavation easier and safer.



RD8100, our most advanced precision locator range, is built on this pedigree for performance, quality and durability. Containing a unique arrangement of 5 antennas, it allows you to choose the optimum level of precision for the job in hand. Integrated GPS and usage-logging options automatically generate data for customer reports, or in-house quality and safety audits to promote best working practices.



High contrast screen provides clarity even in bright sunlight

Simultaneous display of depth and current gives more confidence you are following the target line

### Custom Frequencies

Program up to 5 extra frequencies to customize the RD8100 to signals found on your network

### Survey Measurements with Bluetooth® Connectivity

Store up to 1000 records and send wirelessly to a mobile device or PC using Bluetooth.

Optional integrated GPS adds positional data without requiring an external device

### Locate over longer distances

90V signal output and automatic impedance matching

4 kHz frequency with Current Direction for locating and tracing higher impedance cables over longer distances

Base tray for accessories

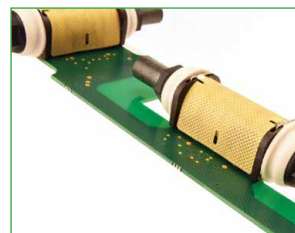
High visibility reflective design helps protect operators and equipment

Light weight and ergonomic design for comfortable use



### Built for on-site use – IP65

Shock resistant, ingress protected casing protects against knocks, drops, water and dust



### Precision by design

A unique arrangement of five custom manufactured, precision ground antennas deliver locate accuracy and repeatability

**3 YEAR WARRANTY ON REGISTRATION  
AND A GLOBAL SERVICE NETWORK  
PROVIDE PEACE OF MIND**

### Upgrade to get more from your locator system:



#### Li-Ion Battery Pack

Lithium-Ion rechargeable battery options for both locator and transmitter provide extended runtime with reduced running costs.



#### GPS and Usage-Logging

Integrated GPS and automatic usage-logging allow managers to review locate history to ensure compliance with best practice.



#### iLOC

Save time on site by controlling your transmitter from distances of up to 1400 feet / 450 meters.

## Tools for difficult locates

### **SIMULTANEOUS DEPTH AND CURRENT READOUT**

Consistency of depth and current measurements gives confidence the correct line is being followed.



### **DYNAMIC OVERLOAD PROTECTION**

Filters out interference, enabling use in electrically noisy environments such as near substations or overhead power lines.



### **SIDESTEP™ INTERFERENCE EVASION**

Adjusts frequency slightly enabling locates in areas prone to interference or where more than one operator is working.

### **RESPONSIVE BY DESIGN**

Sophisticated circuitry enables operators to detect and react to the weak signals associated with difficult to locate utilities.

## Making complex locates simpler

With utility infrastructures becoming more complex, locate professionals require more powerful tools to simplify the task of distinguishing between and tracing different utilities.

### **CD (CURRENT DIRECTION)**

Identify your target amongst a number of parallel utilities by applying a specialized CD signal from the Tx-10 transmitter. CD arrows displayed on the locator confirm you are tracing your target.

### **TRACE HIGH-IMPEDANCE UTILITIES WITH 4 kHz**

The 4 kHz locate frequency enables lines such as twisted pair telecoms or street lighting to be traced over longer distances. Since such utilities are often found in areas of dense infrastructure, you can combine 4 kHz with CD to improve trace accuracy.

### **USE POWER FILTERS™ TO PINPOINT AND DISCRIMINATE BETWEEN POWER CABLES**

When a signal transmitter can't be connected, tracing individual power lines through dense networks can be a real challenge. Conflicting or powerful signals confuse or combine to create a wash of signal.

A single key press uses the harmonic properties of power signals to establish if a signal comes from one source, or from multiple cables which you can then trace and mark.

### **SPEED COMBINED WITH ACCURACY – PEAK+ MODE**

Peak+ mode allows you to add either Guidance or Null locating to the accuracy of Peak mode.

- Adding Guidance gets you to the Peak position faster.
- Adding Null to Peak lets you check for the distortion caused by other utilities, spurs or interference.





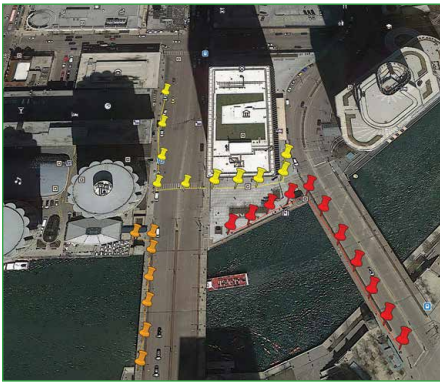
## Supporting your business

Every locating operation needs to meet the continuing challenges of delivering on-time, high quality work and increasing value to customers.

### AUTOMATIC USAGE-LOGGING WITH GPS POSITIONING

When equipped with GPS, RD8100 locators automatically capture key locate parameters every second, providing a comprehensive picture of individual locates and allowing you to assess usage patterns over extended periods.

The data generated can be used to ensure adherence to best-practice, or to identify training needs before poor work habits develop.



Additionally, the information can be used for internal audits or shared with partners or clients to evidence task completion, or compliance to service requirements.

Usage data can be exported in multiple file formats – for example KML for Google Maps to confirm where and when work was performed.

### ECERT™ – REMOTE CALIBRATION WITHOUT DOWNTIME

Verify and certify the calibration of your locator over the internet using the RD Manager™ PC software package without returning the unit to a service center. Have confidence that the RD8100 is ready for action whenever you are.

### CALSAFE™

Choose to automatically enforce maintenance or lease schedules by providing a 30 day countdown before the calibration certificate expires.

### SUPPORT WHEN YOU NEED IT

The RD8100 is backed with an industry leading 3 year warranty on registration. Our global sales and service network delivers comprehensive technical support and training tailored to your needs.



## Operator Confidence on-site

### ENHANCED SELF-TEST

The integrity of the measurement system can be confirmed on-site. Self-test applies signals to the locating circuitry as well as checking display and power functions.



### STRIKEALERT™ IN ACTIVE AND PASSIVE LOCATING MODES

Visual and audio warnings of shallow cables reduces the risk of accidents.



### TRUDEPTH™

As depth readings are only given when the RD8100 is correctly oriented, you can be confident in the result.

### HIGH SENSITIVITY

Sophisticated circuitry enables operators to detect and react to the weak signals associated with difficult to locate utilities.

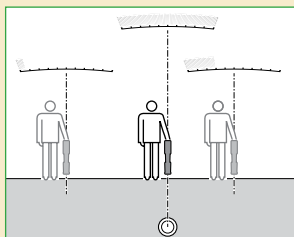


The RD8100 offers a choice of locate modes, each of which is optimized for specific tasks

### Peak

Displays the strongest response when directly above a cable. Depth and current measurements are also shown.

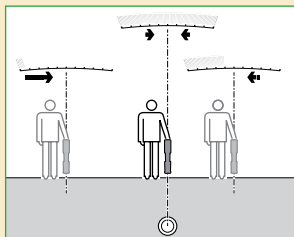
**Use for:** Precise locating prior to and during excavation. Many professionals have trained in this mode and appreciate the simplicity of the display.



### Peak+

Add Guidance or Null modes to Peak and alternate between them.

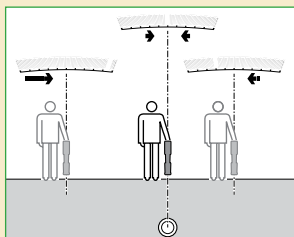
**Use for:** Finding Peak response quickly while checking for the presence of multiple lines or other features which may require extra vigilance.



### Guidance

Proportional guidance arrows and differentiated audio tones indicate if utility is to left or right of user.

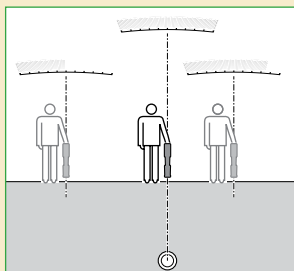
**Use for:** Checking general direction of utilities as part of a pre-locating sweep. Better for congested areas than null mode alone.



### Broad Peak

Operating similarly to Peak mode but more suited to locating weaker signals.

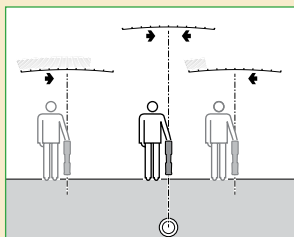
**Use for:** Locating deep lines, or when weak signal levels or interference makes conventional peak locating difficult.



### Null

Arrows and audio signals indicate where the cable is relative to the operator. A null response is displayed above the cable.

**Use for:** Long distance marking of single utilities in non-congested areas. Audio response allows users to rely on sound rather than the screen.



## Getting more from your RD8100 system...

### CUSTOMIZE THE LOCATOR TO YOUR NETWORK FREQUENCIES

Up to 5 additional frequencies can be programmed into all RD8100 locators to match it to the signals found on your target telecoms networks.

### ACCURATE SURVEYING WITH INTEGRATED OR EXTERNAL GPS

Save up to 1,000 survey measurements, capturing utility depth, and send to a mobile device using Bluetooth. Add positional data with the integrated GPS option, or combine with external GNSS device using the wireless Bluetooth link to get the accuracy that you need.

### FAULT FIND

Combine the RD8100 locator with an accessory A-frame to identify and pinpoint insulation sheath faults to within 4" (10cm).

### RD MANAGER PC SOFTWARE

Set-up, calibrate and update your locator from a PC. Download usage logging and survey measurement data for analysis.

### PASSIVE AVOIDANCE

Rapidly check an area before excavation using simultaneous detection of the Passive Power and Radio signals carried on underground cables or pipes.

### 90V TRANSMITTER OUTPUT

More locate signal on high impedance target lines – detect deeper and further.

### MULTIMETER FUNCTION

Assess the target utility using your transmitter – quickly measure line voltage, current and impedance.



## CHOOSE THE OPTIMUM MODE FOR YOUR LOCATE

Our unique arrangement of 5 antennas allows you to optimize your RD8100 for different tasks. Each mode uses a different combination of antennas. At the heart of each of our locating antennas is a custom manufactured, precision-ground ferrite to ensure the accuracy and precision of our measurements.

### ILOC

iLOC is an advanced Bluetooth link between the RD8100 locator and Bluetooth enabled transmitter, which allows you to control the locate signal's power and frequency from up to 1400' / 450m away. Spend less time walking and more time locating.

### ACCESSORIES TO OPTIMIZE THE SYSTEM TO YOUR NEEDS

Whether you are locating telephone cables in a bundle or underwater power cables, Radiodetection's accessory range extends the precision locate capabilities of the RD8100 and transmitters to your application. Visit [www.radiodetection.com/accessories](http://www.radiodetection.com/accessories) for more information.



#### RD8100 range options:

	RD8100 LOCATORS					
	PXL	PXLG	PDL	PDLG	PTL	PTLG
Locate Frequencies	13	13	18	18	22	22
Sonde Frequencies	4	4	4	4	4	4
Passive Modes	2	2	5	5	5	5
On-board GPS		✓		✓		✓
Power Filters	✓	✓	✓	✓	✓	✓
Usage-Logging		✓		✓		✓
CALSafe™		■		■		■
4 kHz	✓	✓	4k+CD	4k+CD	4k+CD	4k+CD
Current Direction			✓	✓	✓	✓
Fault Find			✓	✓	✓	✓
Depth in Power			✓	✓	✓	✓
Passive Avoidance			✓	✓	✓	✓
iLOC	✓	✓	✓	✓	✓	✓
Lithium-Ion Battery	●	●	●	●	●	●

	TRANSMITTERS				
	Tx-1	Tx-5	Tx-5B	Tx-10	Tx-10B
Max. Output Power	1W	5W	5W	10W	10W
Active Frequencies	16	16	16	16	36
Induction frequencies	8	8	8	8	8
Current Direction Frequencies				6	14
iLOC remote control			✓		✓
Fault Find		✓	✓	✓	✓
Induction field strength	0.7	0.85	0.85	1	1
Eco Mode		■	■	■	■

Other features described are standard on the RD8100 Locators and Tx transmitters unless otherwise noted

✓ Available, enabled by default ● Option ■ Available, disabled by default

Download the full Product Specifications at [www.radiodetection.com/RD8100](http://www.radiodetection.com/RD8100)



RD8100

**OPTIMUM PRECISION  
FOR DAMAGE PREVENTION**

## Global locations

### USA

#### **SPX Global Headquarters**

13320 Ballantyne Corporate Place  
Charlotte, NC 28277, USA  
Tel: +1 704 752 4400  
[www.spx.com](http://www.spx.com)

#### **Radiodetection**

28 Tower Road, Raymond, Maine 04071, USA  
Tel: +1 (207) 655 8525  
Toll Free: +1 (877) 247 3797  
Fax: +1 (207) 655 8535  
[rd.sales.us@spx.com](mailto:rd.sales.us@spx.com)  
[www.radiodetection.com](http://www.radiodetection.com)

#### **Pearpoint**

39-740 Garand Lane, Unit B  
Palm Desert, CA 92211, USA  
Tel: +1 800 688 8094  
Tel: +1 760 343 7350  
Fax: +1 760 343 7351  
[pearpoint.sales.us@spx.com](mailto:pearpoint.sales.us@spx.com)  
[www.radiodetection.com](http://www.radiodetection.com)

#### **Radiodetection (Canada)**

344 Edgeley Boulevard, Unit 34  
Concord, Ontario L4K 4B7, Canada  
Tel: +1 (905) 660 9995  
Toll Free: +1 (800) 665 7953  
Fax: +1 (905) 660 9579  
[rd.sales.ca@spx.com](mailto:rd.sales.ca@spx.com)  
[www.radiodetection.com](http://www.radiodetection.com)

### EUROPE

#### **Radiodetection Ltd. (UK)**

Western Drive, Bristol BS14 0AF, UK  
Tel: +44 (0) 117 976 7776  
Fax: +44 (0) 117 976 7775  
[rd.sales.uk@spx.com](mailto:rd.sales.uk@spx.com)  
[www.radiodetection.com](http://www.radiodetection.com)

#### **Radiodetection (France)**

13 Grande Rue, 76220, Neuf Marché, France  
Tel: +33 (0) 2 32 89 93 60  
Fax: +33 (0) 2 35 90 95 58  
[rd.sales.fr@spx.com](mailto:rd.sales.fr@spx.com)  
<http://fr.radiodetection.com>

#### **Radiodetection (Benelux)**

Industriestraat 11  
7041 GD 's-Heerenberg, Netherlands  
Tel: +31 (0) 314 66 47 00  
Fax: +31 (0) 314 66 41 30  
[rd.sales.nl@spx.com](mailto:rd.sales.nl@spx.com)  
<http://nl.radiodetection.com>

#### **Radiodetection (Germany)**

Groendahlscher Weg 118  
46446 Emmerich am Rhein, Germany  
Tel: +49 (0) 28 51 92 37 20  
Fax: +49 (0) 28 51 92 37 520  
[rd.sales.de@spx.com](mailto:rd.sales.de@spx.com)  
<http://de.radiodetection.com>

### ASIA-PACIFIC

#### **Radiodetection (Asia-Pacific)**

Room 708, CC Wu Building  
302-308 Hennessy Road, Wan Chai  
Hong Kong SAR, China  
Tel: +852 2110 8160  
Fax: +852 2110 9681  
[rd.sales.asiapacific@spx.com](mailto:rd.sales.asiapacific@spx.com)  
[www.radiodetection.com](http://www.radiodetection.com)

#### **Radiodetection (China)**

Room 5-10, Workshop 4  
No. 10 Zhenggezhuang Village  
Beiqijia Town, Changping District  
Beijing 102209, China  
Tel: +86 (0) 10 8178 5652  
Fax: +86 (0) 10 8178 5662  
[rd.service.cn@spx.com](mailto:rd.service.cn@spx.com)  
<http://cn.radiodetection.com>

#### **Radiodetection (Australia)**

Unit H1, 101 Rookwood Road,  
Yagoona NSW 2199, Australia  
Tel: +61 (0) 2 9707 3222  
Fax: +61 (0) 2 9707 3788  
[rd.sales.au@spx.com](mailto:rd.sales.au@spx.com)  
[www.radiodetection.com](http://www.radiodetection.com)

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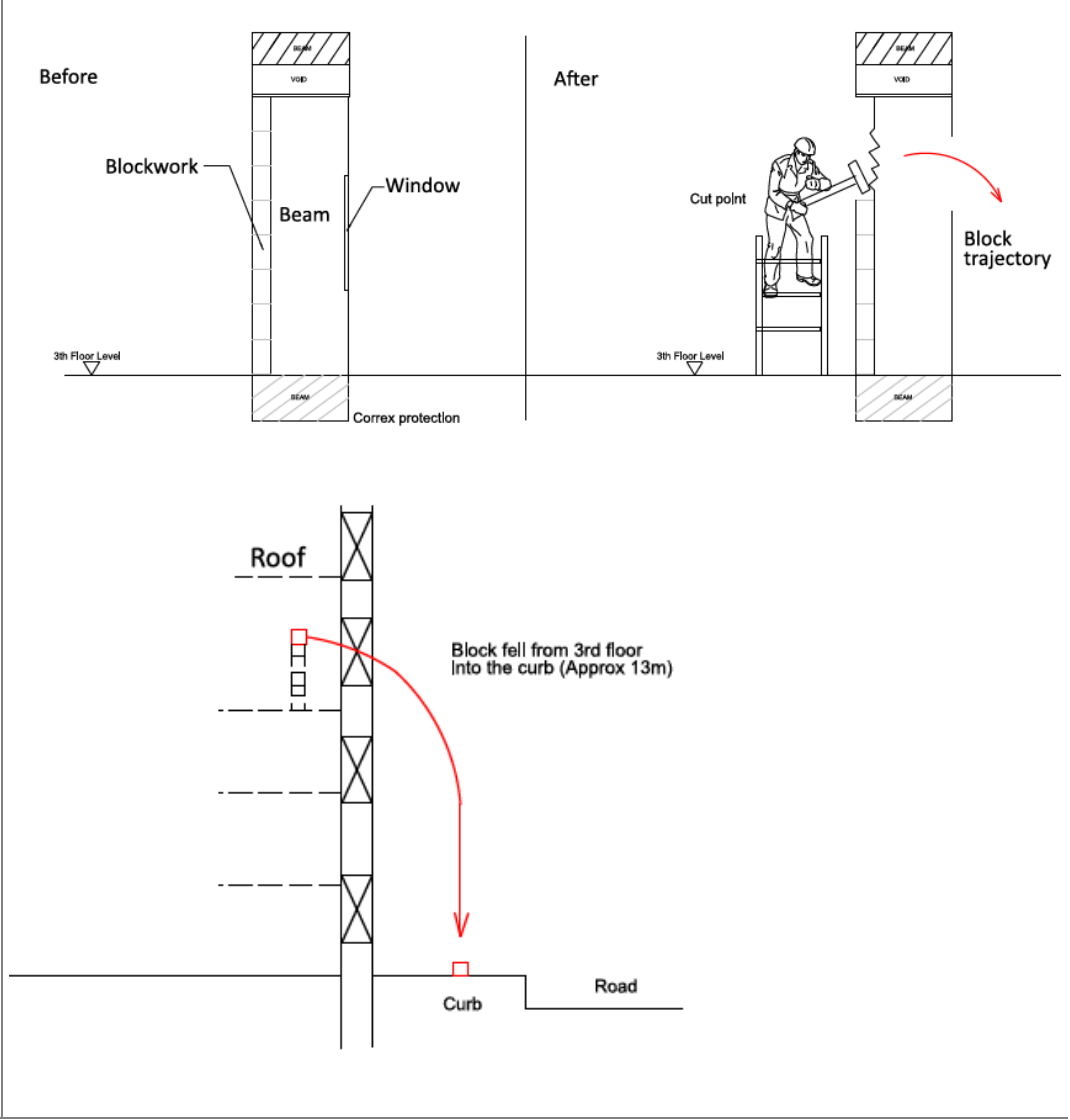
# HS2 SHARED LEARNING

## Shared Learning details

<b>Title</b>	Fallen Blockwork (HiPO)
<b>Ref No.</b>	ICN004739
<b>Alert Ref No.</b>	-
<b>Bulletin Ref No.</b>	-
<b>Location</b>	Euston Area
<b>Primary contact</b>	Rhaynukaa Soni
<b>Issued by</b>	HS2
<b>Publication date</b>	07/03/19
<b>Originating company or contact name</b>	Jarrad Williams - Enabling Works Contract - South
<b>Function</b> e.g. Health, Safety, Security, Environment	Safety

## Incident details

<b>Background to the incident</b>	<p>On the 23rd January 2019, in the building formerly known as the Thistle hotel, soft-strip demolition was being undertaken on all floors to allow “Top Down” hard demolition to proceed.</p> <p>As the bathroom suites were being soft-stripped on the 3rd floor, the internal non-structural bathroom wall was to be demolished. An Operative used a sledge hammer to expose the top right hand corner of the wall. The force fractured part of the thermalite block which sent it through the top section of a hidden window pane behind, which then fell 12mtrs into the footway of the asbestos transit route. The transit route was not in use that day.</p>
<b>Action taken</b> Include action taken both at and after the incident.	Work was stopped immediately, appropriate notifications made. Area made safe within building and drop zone in Cardington Street.

<p><b>Key findings</b></p>	<p>As a result of the historical and largely undocumented structural changes, there was a lack of information available to the site team to identify accurately, the layout and construction methodology of the structure, including the bathroom wall being demolished.</p> <p>The pre-soft strip survey did not identify the difference in fabrication of the walls blocking the windows. This resulted in a failure to identify wall construction and thus the incorrect selection of the most appropriate method of demolition.</p> <p>As insufficient structural information was available, the RAMS did not identify different wall construction methods and that there were windows in close proximity to walls that were to be demolished. This feed into the Task Briefings, SoS and Cascade briefings not identifying the risk of falling objects.</p> <p>The operatives had previously encountered stud walls and assumed that this wall was the same.</p>
<p><b>Photos / Diagrammes</b></p>	<p style="text-align: center;"><b>Sequence of the Incident</b></p>  <p>The diagrams illustrate the sequence of the incident. The top section shows a 'Before' state with a wall structure consisting of 'Blockwork', a 'Beam', and a 'Window'. The '3th Floor Level' is indicated. The 'After' state shows a worker on a ladder at the 'Cut point' on the blockwork, with a red arrow indicating the 'Block trajectory' falling from the window. The bottom section is a vertical cross-section showing the 'Roof' and '3th Floor Level'. A red arrow shows a block falling from the 3rd floor into the 'Curb' on the 'Road'. Text indicates 'Block fell from 3rd floor into the curb (Approx 13m)'. Other labels include 'Correx protection' and 'Beam'.</p>

External view of building



## Recommendations and learning

<b>Recommendations and key points to be discussed in team talks or meetings</b>	<p>Permit to Demolish to include a check to ensure that the structure has been surveyed both internally and externally prior to sign off.</p> <p>Changes to the building make up may require hold points to be included in the methodology and supervisors approval to check the correct methodology prior to continuing.</p> <p>Knocking down internal blockwork was perceived by the operatives and supervisor as straightforward and relatively routine. Knocking down internal blockwork across three previous floors had been incident-free and reinforced the perception of 'straightforwardness' and low-risk potential. Potentially leading to behaviours of simply 'getting on with it' without assessing risks.</p>
<b>Learnings and considerations</b>	<p>Demolition "Gate" to be produced to record why the proposed method of demolition has been selected – this is to be completed and signed off by TWC and Director prior to demolition contract being signed. This "gate" would be similar to AIP, CDS or NR Form 1</p>



<b>Relevant links</b> Give links to any further shared learning or to documents that provide more information.	
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## Action and next steps

<b>What you need to do</b> Include next steps to follow or communicate to others.	To discuss this shared learning with your teams and review if this could happen in your area of responsibility.
<b>Date to be actioned by</b> Give the date of any actions that are especially urgent to mitigate any risks.	06/03/19
<b>Display until</b>	30/04/2019
<b>For distribution to</b>	All HS2 projects