

Refreshed Raising the Bar Guidance - Service Avoidance

When underground cables are damaged people can be killed and injured by electric shock, electric arcs causing explosion and flames. Highways England recognise underground services as a significant fatal risk and it is critical that all parties involved with working on the strategic road network plan works appropriately, locate and identify services and ensure adequate controls are in place for safe excavation.



Revised guidance has been issued and published by Highways England on service avoidance applicable to all Highways England contracts and projects, and the amended Raising the Bar 9 introduces several new best practices proven to reduce service strikes.

The significant changes in the document include:

- A requirement to use CATs (cable avoidance tools) fitted with GPS and data logging capability
- A CAT must always be used with a genny
- When investigating service strikes the USAG (Utilities Strike Avoidance Group) form must be used to ensure thorough investigation and this must be uploaded onto AIRSweb

The full guidance can be found here
<https://www.gov.uk/government/publications/health-and-safety-for-major-road-schemes-service-avoidance>

Summer working and hot weather

We are experiencing a prolonged period of hot weather and it is important that suitable precautions are taken.



Highways England Safety Alerts
HEi050 – Working at Height - Competence
HEi051 – Survey Access
HEi052 – Heatwave Advice

This and previous alerts are available through the following link:
<http://www.highwaysafetyhub.com/alerts.html>

Skin Protection

The summer season can present unique hazards for those working outdoors in the hot weather. The combination of heat, humidity and physical labour can lead to a variety of heat-related illnesses.

Taking the appropriate protection and simple precautions can often prevent these types of illnesses and save lives.

According to the HSE construction workers are at significant risk of skin cancer, with the most common causes being:

- Ultraviolet Radiation (UVR)
- Chemicals

Skin Protection from UVR:

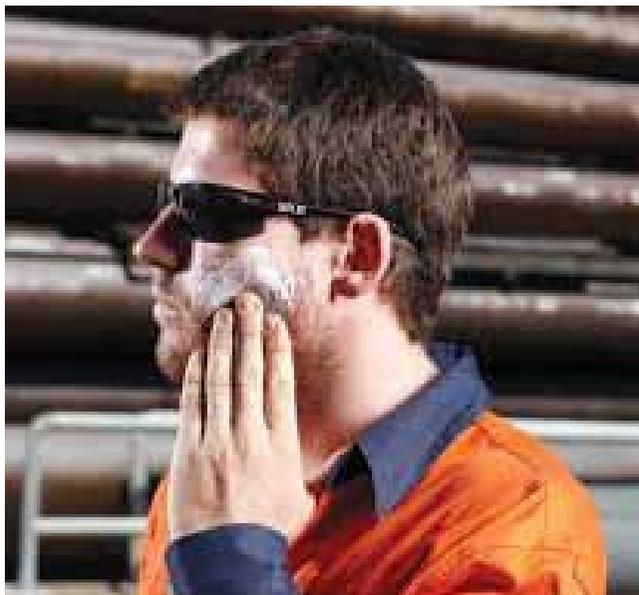
- Keep your skin covered
- Stay in the shade where possible, during breaks and especially at lunch time
- Use a high factor sunscreen, with a factor of at least SPF30 and ensure it is not past its expiry date
- Drink plenty of water to stay hydrated
- Check your skin regularly for unusual moles or spots and consult your GP if you notice any changes or symptoms
- Make sure to take regular, frequent breaks and permit less physically demanding activities during peak temperature periods. Rest periods in a cooler area can easily prevent or reduce heat-related illnesses.

Sun Exposure Can

- Blister the skin and make it peel
- Speed up ageing of the skin
- Increase your chance of developing skin cancer

Heat exhaustion can cause:

- Headaches
- Dizziness/light-headedness
- Weakness
- Fast breathing or pulse
- Mood changes (irritable, or confused or can't think straight)
- Feeling sick or vomiting
- Fainting/passing out; pale clammy skin
- Intense thirst



Keeping Hydrated

By the time you experience the sensation of the thirst, you are already dehydrated. That thirst is your body calling for re-hydration. Keeping hydrated has a huge impact on overall health. Despite how crucial water is, a significant number of people fail to consume recommended levels of fluids each day.

To function properly, all the cells and organs of the body need water. It is also used to lubricate the joints, protect the spinal cord and other sensitive tissues, regulate body temperature, and assist the passage of food through the intestines. During every day functioning, water is lost by the body, and this needs to be replaced. It is noticeable that we lose water through sweating and urination, but water is even lost when breathing.

Your body needs water or other fluids to work properly and to avoid dehydration. That's why it's important to drink enough fluids, especially in the summer months.

In climates such as the UK's, we should drink about 1.2 litres (six to eight glasses) of fluid every day to stop us getting dehydrated. In hotter climates, the body needs more than this.

Some additional benefits of drinking H2O

- Increases energy & relieves fatigue
- Promotes weight loss
- Flushes out toxins
- Improves skin complexion
- Maintains regularity
- Boosts immune system
- Prevents cramps & sprains
- Puts you in a good mood
- Natural headache remedy

M6 j16-19 Overhead structure and service good practice

Since a previous incident, the project has put significant efforts in improving overhead structure and service awareness and protection, many of which fall under 'exemplar' in Raising the Bar 7 <https://www.gov.uk/government/publications/health-and-safety-for-major-road-schemes-overhead-structure-protection>

Overhead service and structures have been identified as a key risk to the project and is included in the site induction. Communication with energy suppliers has been encouraged; two site visits have been undertaken by the energy suppliers, led by the project

Section Manager. The site visit consisted of talking through newly implemented control measures and measuring cable heights as part of a validation exercise. The project has negotiated with the energy providers to potentially re-direct overhead services via underground routes for future schemes; this is a method to eliminate the hazard in this scenario. Blue cones are used within the works leading up to any overhead structure or service. White sleeves are used around blue cones leading to structures and fluorescent green sleeves are used around blue cones leading to services. Every



other cone is lamped for improved visibility during night works. A permit to work near overhead services is in place to disable any regular operations taking place in those areas when it can be undertaken elsewhere. A member of staff from the Principal Contractor is within the safety action group is leading a proactive working group on overhead structure and service protection.

White lining has been used on the ground prior to overhead services reading 'OH CABLE' for increased notification to plant operators and workers about to pass underneath it. White lining has also been used to create rumble strips underneath

some GS6 goal posts. This causes plant and vehicles to vibrate whilst driving over them, encouraging deceleration and further notification to the driver that they are underneath an overhead service. Safety lights have been attached to GS6 goal posts at an eye level for workers and plant operatives to have increased visibility during evening and night works.

As well as auditing overhead service and structure protection during site safety inspections, there is a team who consistently travel around the works inspecting GS6 goal posts and other overhead protection controls.



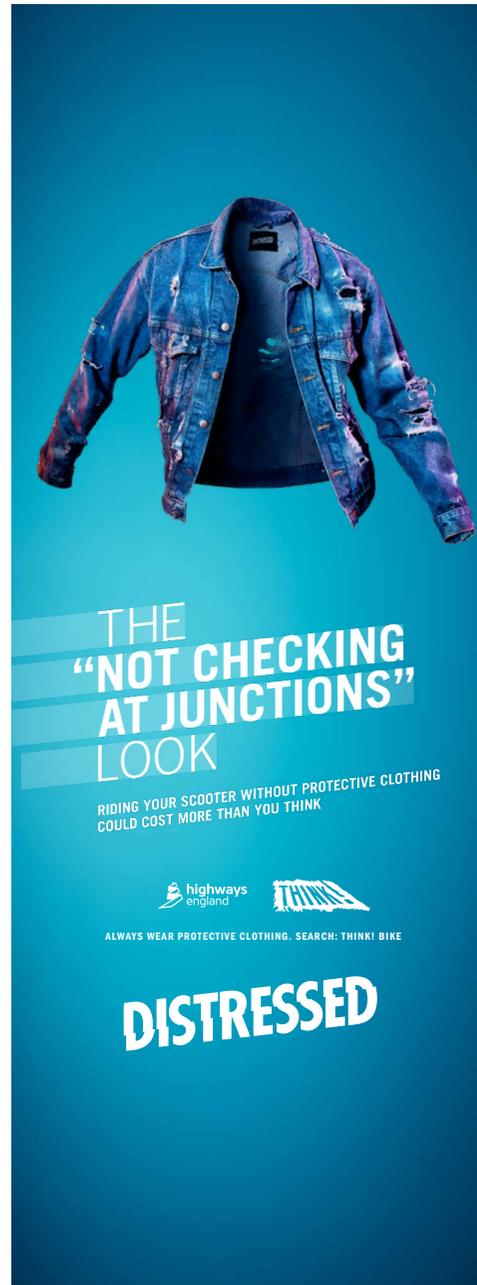
New signs have been made and placed on site, they state whether it is cables or structure above, outlines the minimum safe clearance height, identifies the marker post location, and emergency contact 'DIAL 105'.

Recognition for **DISTRESSED** Campaign

Against stiff competition from the likes of Paddington 2, Highways England has been highly commended for its safety campaign 'Distressed'.

The Distressed campaign was entered under the 'Best social campaign' category in the Drum Awards which celebrate the best marketers and campaigns internationally and is one of the most respected and sought-after accolades in the industry.

A significant amount of the Highways England marketing budget goes on social media advertising. The social media spend on 'Distressed' exceeded the cost of conventional media for the first time in any Highways England campaign – almost 54% of the paid-for advertising budget was for Instagram, Facebook and Snapchat. The planning and delivery of this advertising is managed by the government media buyers CARAT who behind the scenes ensure that we most effectively reach our intended audience and get value for money in doing so.



3D Machine Control (3DMC)

3DMC in the general term, is when the position a piece of plant bulldozer/excavator once up loaded with a Digital Terrain Model (DTM) can build to that design without traditional setting out or other physical dimension control and the people to install, use, check and recover those items. Profiles pins, and batter rails are shown in the images below (Historic image) Fig 1&2.

3DMC comes in various forms fitted a variety of equipment with accuracy ruling the methods of use Sub 1cm accuracy normally optical Fig3 and 1cm+ Global Navigation Satellite System methods Fig 2.

Where 3DMC has been adopted this has eradicated the need for Profiles Pins, and batter rails and for the A14 that is a large proportion of the works. We use DTM'S to conduct the works however some subcontractors do not use this technology and their people plant interface still remains consistent with traditional practices. The A14 is running a 3DMC connected worksite with large proportions of work undertaken using 3DMC, vastly reducing the people plant interface.

Figure 1



Figure 2



Raising the bar for 3DMC is similar to a seat belt analogy. We all know it makes sense to wear a seat belt and those that think it is a good idea do daily, however the few that do not follow this mentality follow the law and wear a seat belt. Those that do not adopt good practice need rules to keep them safe.

Raising the bar for 3DMC should be considered for all operations, 3DMC is now 22 years old and the industry is ready for change. Once people adopt 3DMC they do not go back.

For more information please contact the A14 team

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Figure 3

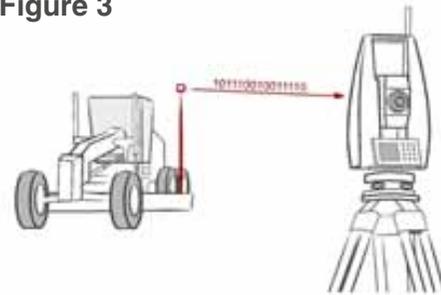
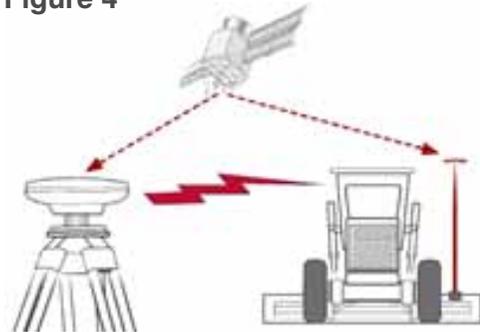


Figure 4



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