

Case Study

Standedge Tunnels

The Standedge Tunnels are four parallel tunnels beneath the Pennines in northern England. One carries the TransPennine railway (North Tunnel), two are disused Railway and Canal maintenance and emergency rescue tunnels (South and Centre Tunnels) and the other carries the Huddersfield Narrow Canal (Canal Tunnel).

The four tunnels link West Yorkshire and Greater Manchester, between Marsden and Diggle.



Project Challenges



The limited space within compound and access road

Due to the narrow access track and limited space outside the Marsden Portal, managing PPI was not going to be easy.

Works within Disused Single Bore's

A JCB 540/140 Telehandler was chosen during planning stage to distribute plant and materials to various work areas up to 1.5 miles into the tunnel due to the weight of the items required.



Cross Passages

Standedge Tunnels have cross passages for access between bores meaning operatives can walk from one tunnel to the other.

As a result of the above a significant site hazard would be the People / Plant interface.

Scope of Works

- Install Bulkheads
- Installation of Ram Arch
- Removal of brickwork lining 2 rings in preparation for SCL
- Sprayed Concrete Lining (SCL) up to 2 rings deep.
- Install Rock Bolts (6m) x 408
- Install Rock Bolts (4m) x 1492
- Install Weep Holes x 196
- Grout behind the tunnel lining

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Our Solution

Site Zone PWS produces a detection zone around a vehicle, machine, or even a restricted area. When the detection zone is breached by personnel wearing a SiteZone tag, the machine operator is alerted to their presence and can take the appropriate action. The technology ultimately mitigates the risk of any tagged employee entering the exclusion zone undetected. This intelligent technology works with existing site protocols and as a result significantly enhances safety performance.

Project Outcomes

Feedback from the Operatives onsite has been positive on the equipment, how well it works and the fact the system only takes 30 minutes to install. As with any new system the site teams have to gain confidence in the equipment, however in a very short period of time there was immediate positive feedback on the effectiveness of the Site Zone.

The Site Tags are simply attached to the rear of the safety helmet, via the adjustment strap, and do not affect its comfort or performance. Since implementing the system on site, the operatives and plant operators have become conditioned to immediately react whenever the equipment issues an alert.



Feedback

Richard Purcell (Site Foreman)

This is ideal for the type of works we carry out regularly in tunnels, the system not only gives the driver 360 degree vision so to speak but also alerts operatives when they have encroached into an exclusion zone.

Steve Linford (Site Foreman)

In my opinion the site zone equipment is a very good effective system, especially in the limited area we have in the site compound area and within the confines of tunnels. The fact there maybe personnel using the links between tunnels means they would be out of view of the driver, but the system would alert both the worker and driver even though we are using dett coms and banksmen. Using this devise applies belt and braces to the PPI safety system and after a discussion with some of the plant operators, banksmen and general operatives on site they all agree they feel safer and at ease with this system in place.