



## CASE STUDY

### Costain | Safe Practice working around Critical Services

## Introduction

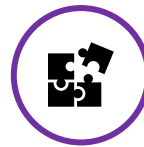
Each year, the construction industry sees around 4 million excavations, leading to frequent service strikes, ranging from minor to major. This persistent issue has long plagued contractors, including Costain. Inspired by best practices observed from statutory undertakers and utility apparatus owners, Costain implemented a 'Watching Brief' process over critical services. A critical service is any that, if struck, could result in severe harm, significant disruption, or substantial commercial impact. This initiative has successfully eliminated critical service strikes on our project.



### Overview

Our smart Permit to Dig (PtD) system maps all critical services, triggering an enhanced review process for work near these services. This leads to the implementation of additional control measures and may mandate the inclusion of a Watching Brief.

Control measures encompass prohibiting mechanical excavation within service exclusion zones, mandating non-mechanical excavation methods for service exposure, and conducting watching briefs to supervise excavation works and ensure compliance.



### Challenges

Several challenges must be considered when managing the risk of service strikes, including:

- Behavioral attitudes
- Process compliance
- Knowledge and understanding of services
- Communication

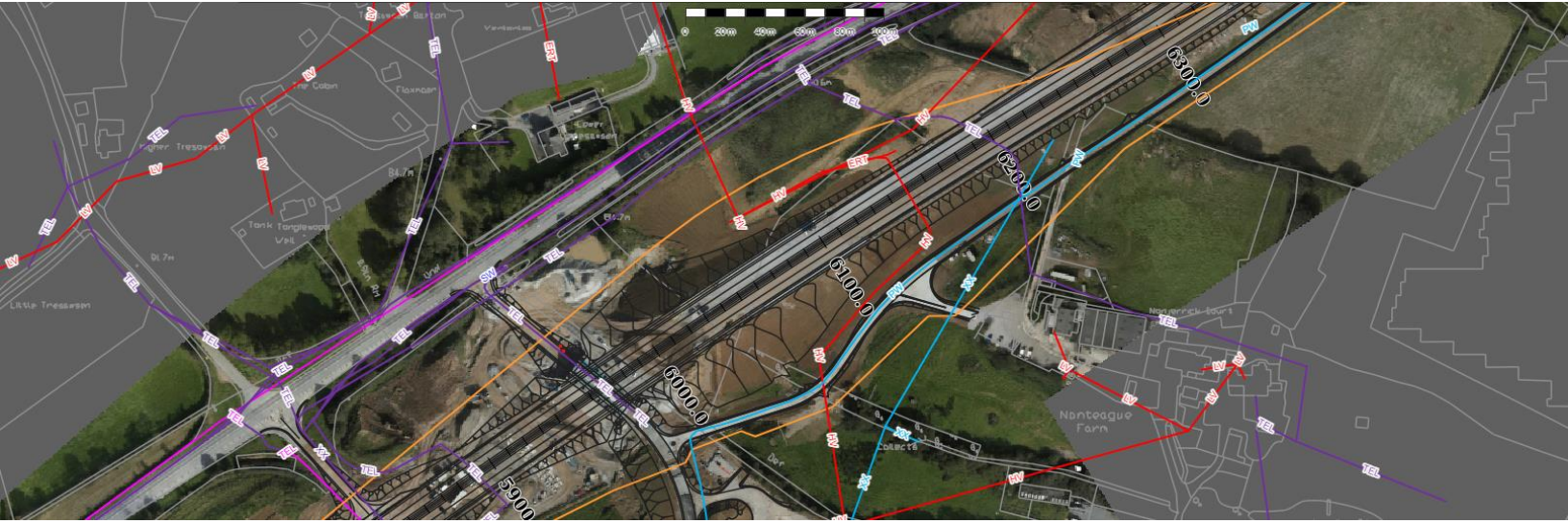
We deemed the following services as critical:

- Transatlantic Cables (Vodafone, Sky & Virgin)
- HV cables 33kV and above
- High pressure Gas & Water Mains services
- Structures added to prevent damage to structural reinforcing straps.



*"Costain have taken a different approach to protecting services on the A30 that has been very effective. The Stats team throughout the project have worked closely with us, delivering clear structured training to the work force followed up with continuous support. Teamwork, forward planning and strong communication has been key to achieving this project safely."*

Works Manager | Scheme Earthworks Contractor



## Action Taken



Costain operates a custom permit-to-dig system where the STATs team receives notifications for permits submitted within 10m of critical services. If ground disturbance is necessary within the exclusion zone of a critical service, the STATs team mandates a condition on the permit requiring their member to oversee the works (a watching brief). The permit-issuing team must then schedule a watching brief with the STATs team, ensuring that all activities within the exclusion zone are supervised directly by them to uphold safe working practices near identified services.



Our implementation of a dedicated role for watching briefs is intended to effectively tackle the challenges posed by excavating around critical services, listed on the previous slide.

## Results



Total number of permits:  
 % of permits requiring additional control measures:  
 Avg. linear meterage of utilities avoided per permit:  
 Average area of permit:  
 Average time to approve permit (raised to approved):

Critical Permits	All Permits
1707	7715
25%	15%
410m	994m
6507m <sup>2</sup>	14858m <sup>2</sup>
2:00hr	1:54hr

Through the thorough scrutiny and implementation of additional control measures for critical permits facilitated by our system there have been **zero** critical service strikes over the three years of the project. This success demonstrates effective management and mitigation of the risks posed by working near critical services.



Contact:  
 Alan Thompson  
 00447799 435745



Email:  
[alan.thompson@costain.com](mailto:alan.thompson@costain.com)

home  
 safe  
 and well

The pictures below show the use of Pink flags to mark out a critical service.

In this instance, cones demarcate the 2m exclusion zone (either side of the critical service) where the work is being monitored under a watching brief by one of the Stats team.



Our Watching Brief Observer will have the following competencies to perform their role:

- CAT Scan Training
- GS6 Training
- Briefed on roles and responsibilities in accordance with Utilities avoidance engineer role

When a 3<sup>rd</sup> party supplier is on site to watch over excavation works, our Observer would attend on the commencement of work to ensure expectations and requirements of their watching brief is in accordance with our RAMS and then frequent visits throughout the operation.