



NJUG CASE STUDY

CASE STUDY 30 - DEPTH GAUGE MEASURING SYSTEM

The National Joint Utilities Group (NJUG) is the UK industry association representing utilities on street works issues. The 37 companies¹ we represent work to deliver gas, electricity, water and telecommunications to both individual consumers and UK plc.

NJUG members need to continue to drive forward further improvements. We have therefore developed the NJUG Vision for Street Works, which revolves around six main principles:

1. Safety is the number one priority
2. Damage to underground assets is avoided
3. Utilities work together and in partnership with local authorities to minimise disruption
4. Utilities deliver consistent high quality
5. Utilities maximize use of sustainable methods and materials
6. Street works in the UK are regarded as world class

This case study is an example of NJUG delivering on these principles and turning the vision into reality.

Overview:

Balfour Beatty Utility Solutions (BBUS) is one of the UK's leading utility solutions providers in the UK, and is dedicated to working in partnership with its clients to provide the best service in the industry. Partnering with blue chip clients, BBUS works across the power, water, waste water and gas sectors, providing a range of services which contribute to the maintenance and provision of essential utility assets.

As a core company value, integrity of its completed work is of paramount importance to BBUS and its clients. The BBUS Street Works team provides essential support to the operations teams to drive improvements in the quality and compliance of activities in the public highway.

Working closely with BBUS's Innovation and Development team, the Street Works team developed a simple measuring mechanism that would allow operatives to quickly measure levels of reinstatement, to ensure correct depths are achieved in compliance with Specification for the Reinstatement of Openings in the Highway (SROH).

The BBUS Depth Gauge, launched in Autumn 2008, is a simple innovation to raise the quality of its compliance of reinstatement after backfill activities are completed. Manufactured from polyethylene plastic for durability, it is an efficient, easy to use product that has pre-determined engraved depths for carriageways and footpaths.

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¹ NJUG's current members are Energy Networks Association (representing electricity and gas), Water UK (representing all water and wastewater companies), National Grid, Openreach, and Virgin Media. Our associate members are Clancy Docwra, Skanska McNicholas, Balfour Beatty, Morrison Utility Services, Morgan Est, NACAP, PJ Keary, First Intervention, Carillion, Enterprise, Laing O'Rourke and AMEC. Including members through trade associations, NJUG represents thirty-seven utility companies, and twelve utility contractors.

Case Study:

As each classification of carriageway has a predetermined depth of blacktop, the BBUS Depth Gauge incorporates these measurements into a stepped system that allows the operative to measure against backfill to ensure that reinstatement is correct.

Historically these measurements would be obtained through the use of a retractable tape measure. As utility works are conducted in all climatic conditions BBUS required a product that its operatives could rely on for accuracy and compliance and had a consistent approach throughout all BBUS contracts with no variations.

Other issues regarding open excavations and the compliance of using trench covers and road plates as coverings have also been considered in the design of this product.

Industry standards ensure that coverings for open excavations must be stress loaded over a given measurement to comply with current legislation. Point stress analysis shows how a product can withstand vehicle and pedestrian loads and is therefore fit for purpose.

To ensure pedestrian safety trench covers are measured against 500kg over a 700mm trench. Each trench cover must also contact the surrounding surface to a measurement of 150mm either side of the excavation. Roadplate should be able to withstand a point stress load of 6.5 tons over the same given trench width with a contact area of 250mm surface contact.

The BBUS Depth Gauge has also taken these measurements into account to ensure compliance.

BBUS operatives can now ensure that street furniture such as road plates and trench covers have been placed correctly over open excavations and that sites are safe for pedestrian and vehicle movement.

BBUS has introduced the Depth Gauge to highways authorities, its clients and alliance partners in recent HAUC events. All parties were unanimous in their acceptance that such a simple initiative could be introduced to reduce reinstatement defects and set a new standard for compliance.

Key benefits of the BBUS Depth Gauge:

- Recyclable – made from polyethylene plastic which can be placed with plastic waste for reclamation.
- Durable – therefore it can be used in all weather conditions with no degradation.
- Compliant – it meets required standards for SROH.
- Reduces waste - limits the use of excessive materials.
- Reduction in defects - correct reinstatement depths for footpaths and carriageways.
- Multi utility use – it can be used by all utility companies involved in reinstatement.

All street works innovation throughout BBUS is driven by the need to improve safety and compliance as well as raising standards in the utility sector. The delivery of consistent high quality supports NJUG's *Vision for Street Works*.

