



NJUG CASE STUDY

CASE STUDY 31: Project Clearwater

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:

In 2005, Yorkshire Water and their service partners embarked on Project Clearwater, a five year programme to deliver a zero customer impacting service coupled with significant cost saving. Through the development and implementation of innovative solutions, "The Alliance" has delivered "world class" customer service, to their direct customers and the wider general public by minimising the levels of inconvenience and disruption experienced within the public highway.

The Z3S measures were developed and implemented to ensure that tangible improvements could be accurately measured and challenging targets set to maintain focus and momentum. The Z3S measures are *zero customer supply interruptions (Z1)*, *zero excavations (Z2)*, *zero notice durations (Z3)* and *significant cost savings (S)*. These are collated every month from data sets such as the Confirm noticing software suite for all excavation and notice duration information. Monthly meetings are held by the senior Alliance management team to maintain focus and to drive additional improvements for achieving these targets.

Several innovative solutions have made a significant contribution to the reduction in highway occupation times and disruption. These include the auto scheduling of specific work tasks in the back office planning phase, and the use of both static and mobile hot boxes to reduce reinstatement times whilst maintaining high quality standards and reducing the numbers of interim reinstatements.

The introduction and implementation of several industry leading innovative "no-dig" or "minimal dig" solutions into the normal "business as usual" operational environment has substantially reduced the requirement for excavations for some specific job types. In turn, this has allowed "The Alliance" to reduce the number of grab wagons and reinstatement teams on the contract, therefore reducing the carbon footprint of operations and the volume of waste material taken to recycling facilities or land fill. It has also reduced the need for recycled or virgin replacement aggregates and bitumen reinstatement products.

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:

Auto scheduling of the backfill and reinstatement planning function:

With the implementation of the new Water Services Agreement contract in June 2007 and the co-location of both Yorkshire Water and Service Partner staff under one roof, it was possible to operate on one common IT platform with one common set of data. This was further enhanced by the introduction of Tough Books and PDAs to all operational staff so that real time feedback of every stage of the operation could be recorded and used to improve levels of information and drive efficiencies into the process at all levels. Allowing the IT system to auto schedule the backfill and reinstatement phases of any task removed planning office costs, whilst ensuring grabs and reinstatement teams were planned in the most efficient manner to optimise travel time, efficiencies and the impact on the environment through reduced carbon emissions. The success of these measures is evident in the 15% reduction of the grab and reinstatement resource and the 10% reduction in site duration times.

Static and mobile hot box facilities:

The introduction of both static and mobile hot box facilities has increased the opportunity for first time permanent reinstatements to be completed and has also substantially broadened the time frame where hot reinstatement materials are now available. A measure of the success of this method is the reduction in interim reinstatements at any time from over 1500 a year ago to 400 at present. This has delivered a 73% reduction in revisits to site to carry out the permanent reinstatement and consequently significantly reduced disruption levels within the highway across all operations.

Stop Tap Adaptor:

Yorkshire Water began using a new fitting called the **Stop Tap Adaptor (STA)**, which can be installed into an existing stop tap chamber within the footpath without the need for any excavation. To date over 2000 of these units have been installed and have eliminated over 3000 tons of spoil that would normally have been taken to recycling or land fill. They have been replaced with a similar amount of recycled or virgin aggregate and bitumen reinstatement materials. The whole operation takes on average less than 1 hour so disruption times within the public highway are reduced to almost zero. This innovative solution could potentially mark a step change in the way things are likely to be done within the water industry in the future.

Hydrant Mini Line Stop:

Yorkshire Water, through their service partner, exchange up to 1500 faulty fire hydrants every year. Until recently this involved the isolation of a section of main, draining down of the pipe and an excavation to replace the faulty hydrant before recharging the pipe system. Yorkshire Water have developed an innovative solution that allows the hydrant to be replaced without the need to shut off the water main. Although an excavation is still required, there is no need to operate isolation valves at other locations on the pipe network and the customer supply is not interrupted. Benefits associated with this technique are not only in maintaining customer supply at all times but also that operations are confined to the actual location of the hydrant and need no additional notices raised for the operation of valves and drain down points on other streets that may cause disruption and interference to the public.

Safety:

It is of major significance that while these innovative solutions have been developed and implemented into the day to day "business as usual" environment, the health and safety of both the workers and the general public have been a major consideration. Morrison Utility Services were recently recognised by Yorkshire Water for completing 1.5 million RIDDOR reportable accident free hours, and have enjoyed the success of embedding a very safe culture within their workforce through a series of tool box talks presented in a cartoon format that have gained industry wide recognition and respect.

