NJUG CASE STUDY

CASE STUDY 41: Recycled plastic products

The National Joint Utilities Group (NJUG) is the UK industry association representing utilities on street works issues. The 37 companies[1] 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 dedicated to generating new, innovative ways of working, which will allow the company to work with the most advanced and least disruptive techniques. The BBUS Innovation and Development (I&D) team works closely with its clients and operations teams to deliver three core objectives:

- Improve safety and productivity
- Reduce disruption
- Minimise its environmental impact

The I&D team develops all its solutions in-house, analysing and refining ideas to deliver completely bespoke and unique ways of working across all areas. The team aim to develop practical solutions and implement them to become business as usual.

One of the main activities of any utility organisation is replacing infrastructure and inevitably, a percentage of material will be classified as waste. During operations, traditional gas and water pipes are replaced with plastic (polyethylene) pipes. Leftover plastic pipe or 'cut-offs' are placed in plastic recycling skips for reclamation, therefore a project was undertaken by BBUS to look at the uses of its own waste products. As a result of this, BBUS launched two recycled plastic products, which successfully delivered the three core objectives detailed above.

Case study:

Plastic Footway Boards (trench covers)

The BBUS recycled plastic footway boards are a new excavation cover manufactured from recycled polyethylene. They will replace the glass fibre composite pathboards used today, which are subject to failure on site. With over 1000 already out on BBUS sites, their unique secure locking mechanism also restricts lateral movement and secures the board.

[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 Utilities, 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.

Due to its composite strength, the plastic footway boards will last significantly longer than any of its fibreglass counterparts and will not distort, which eliminates failure under prescribed loads. The designed cover is lighter and easier to handle than traditional excavation covers, reducing the risk of injury and allowing for improved manual handling. On the underside of the plastic trench cover are ten keyholes designed to secure the cover for utility excavations.

The key benefits of using the BBUS plastic footway boards have been:

- Produced from recycled plastic
- Can also be recycled again in the future
- Easier to install, lift and handle than traditional covers
- Unique secure locking mechanism
- Strong and durable construction
- High visibility
- Allows pedestrian access over excavation
- Anti-slip surface

"The plastic trench cover is a real step forward in protecting members of the public in and around open excavations. The Rowan Tree award is issued by National Grid to recognise environmental initiatives and best practice. The plastic trench cover more then meets the criteria and as such won this award in 2006." *Neil Johnson, National Grid*

Drain Cover Seal (gully cover)

BBUS I&D Team also designed a drain cover to seal drains when there is potential for an environmental incident. By sealing the drain off it allows time to deal with accidental spillage or the removal of site spoil before it can enter a watercourse.

The Drain Cover Seal has been designed to reduce the potential for pollution events. It is very easy to install and can be fixed in place in less than one minute. If there is accidental spillage or a flooding incident that could cause an environmental incident, or circumstances where spoil is deposited in close proximity to gullies with a possibility of contamination to a water course, then the drain cover can be used. The key benefits for using the Drain Cover Seal include:

- Produced from recycled plastic
- Can also be recycled again in the future
- Simple installation procedure
- Cost effective, durable, and high visibility
- Offers protection of watercourses
- Reduce potential for prosecution
- Anti-slip surface and chamfered edges

"In 30 years of working in the utility industry this is the best product I have seen to eliminate the possibility of contaminating watercourses." *Tony Webb, Health & Safety Officer, North West Gas Alliance*

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