

# LAPV

Local Authority Plant & Vehicles

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## More Impact on Productivity, Less Impact on the Environment



# Resourceful with draining



Walsall Council evaluated its gully cleaning policy, and found that the cost of reactive response was more than ten times higher than a preventative clean. With flooding and budget reductions being at the forefront of the Council's mind, proactive steps needed to be taken. Kaarbontech provided the technology solution.

contractor, identified that this data presented an opportunity for improvement and, in particular, a change in focus from the costly and reactive approach of emergency gully cleaning, to a more focused proactive regime.

It was agreed, in early 2013, to pursue an innovative technology based solution offered by Dorset-based firm KaarbonTech. The company's approach is different because collection of data is only the start, it is the use of information to change work practices that is crucial to delivering outcomes. The company uses GIS technology to map and monitor drainage networks along with other local authority assets. Handheld android devices are used to harvest the data and the information is used to create targeted work programmes based on individual needs.

So far this winter is proving memorable to say the least for the volume of rain that has fallen, causing rivers to burst their banks and leaving gullies, serving residential roads and high streets, struggling to handle the volume of water.

Within just half an hour a blocked gully can be causing problems for officers, elected members and general public. It is also a good bet that flooding and drainage problems will happen out-of-office hours and, therefore, be more costly and time-consuming to resolve.

Analysis by Walsall Council in early 2013 revealed that at £124 the cost of each reactive gully clean was more than ten times higher than the cost of a planned clean. A breakdown of emergency reactive cleaning costs found that over 50% of the bill was absorbed by travel costs to and from the site.

The evaluation also found that whilst gully-cleaning costs had remained broadly the same over recent years, the gully network had actually been cleaned less due to this reactive approach.

As in many council areas this data was viewed within the challenging context of the likelihood of budget reductions of between 20-30% for highways over the next few years.

Lafarge Tarmac, the Council's



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## GULLEY CLEANSING

Leaves can often block an otherwise silt-free drain and cause localised flooding problems. Intelligence on localised flooding hot spots was recorded on the KaarbonTech system and specific gullies scheduled to receive specific attention when heavy rain was predicted.



### Engineer's perspective

Significantly the KaarbonTech system is built from an engineer's perspective and has been developed by a team with first-hand drainage maintenance experience. 'Don't just focus on providing a tool to collect data, focus on getting something out of the data you collect' is a phrase that sums up the company's approach.

A web-based mapping system enables daily achievements and status of the network to be easily seen by Lafarge Tarmac and Walsall Council. The ease of exporting and viewing data has management time whilst maximising the productivity of teams in the field.

Data can be captured using voice, video and photo, and GIS is used to ensure accuracy of location. The complete inspection history of assets across the authority's network can be downloaded within 15-30 seconds. The system can also be viewed and used offline whilst being easily updated once reconnected.

Collected data can be laid over an OS Mastermap and/or aerial imaging to both provide perspective and aid analysis. The use of GIS means that vulnerabilities such as Environment Agency flood zones can be automatically displayed. Ward boundaries, street names are automatically populated and the gullies identified for attention are clearly visible on the handheld Android (& IOS) devices.

Using the KaarbonTech system to work more strategically, staff in Walsall cleared the equivalent of 43 double decker buses (516 tonnes) full of debris from gullies during 2013. The collected debris has revealed a range of unexpected items in the past few months including a frog, a tennis racket and a traffic cone.

### Accuracy

The intelligence gathered has identified gullies that are unable to be cleared due to collapsed pipework or blocked sewers. Recording of this information enables other agencies to be alerted and problems to be addressed.

Richard Pohribnyj, Highway Asset Manager, at Walsall Council said: 'I am really impressed with the level of spatial accuracy with which the system maps out the gully locations. The data captured over a two-year period will enable us to adopt a range of cleansing

frequencies across the highway network, allowing us to make best use of limited budgets.'

For example, leaves can often block an otherwise silt-free drain and cause localised flooding problems. Intelligence on localised flooding hot spots was recorded on the KaarbonTech system and specific gullies scheduled to receive specific attention when heavy rain was predicted. Sharing this information with colleagues responsible for street cleaning led to tree-lined roads with a flooding history being prioritised for road sweeping in the autumn months.

Mr John Roseblade, Walsall Council Group Manager Highways and Environment, explains: 'The Gullies across the borough are receiving more attention than at any time in recent history. The intelligence being gathered using the KaarbonTech system enables us to prioritise areas of greatest need in the future allowing us to make the most of our limited resources.'

Reflecting on the first year Mark Entwistle, Managing Director of KaarbonTech, said: 'Our first year of working with Walsall Council and Lafarge Tarmac has delivered real benefits for Walsall residents. Our technology is now being used across highways networks in Surrey, Croydon and Suffolk.'

There are an estimated 33,000 gullies across the borough of Walsall – and according to a report produced by the Council – 66% had been cleared by the end of 2013 and work on the remaining 34% is well underway.

It is projected that by 2015/16 the use of Kaarbon Tech technology will have reduced the number of emergency call outs across Walsall by 50%. John Roseblade, Group Manager Highways & Environment, Walsall Council summed up the approach: 'This is exactly the type of innovation we have needed. The intelligence that is being gained enables us to objectively reduce the frequency of cleaning where it is not needed and prioritise problem areas.'

Flexible and targeted work programmes based on clear strategy are the way forward to local authorities facing budgetary pressures. The news headlines of 2014 have shown the misery that flooding can bring and all measures to reduce the risk are likely to be of interest to authorities and the public alike.