



## Asset Management Case Study

Local Authority	Dorset County Council
Region	South West
Sector	Highways
Theme	Highways Asset Management
Benefits	A known drainage system, both in terms of ownership and inventory is essential to apply asset management principals and effectively manage the drainage asset into the future.
Publication Date	November 2010

### Key Lessons

- Partnership arrangements between the many drainage system owners are central to address the various liabilities and interests associated with drainage apparatus under public highways.
- The starting point to implement an effective drainage management regime is to identify and quantify all drainage apparatus that exists within the bounds of public highways.
- Underground drainage inventory is expensive to collect so needs to be prioritised to areas which are more likely to experience flooding.
- Collection of drainage inventory requires all available data sources to be utilised including historical paper records, planned surveys and Interviews with experienced maintenance workers. The latter source can yield much useful information on underground drainage systems.
- Good drainage inventory, including ownership and liability data, is fundamental to establishing a sustainable capital investment programme. Without the inventory excessive revenue repair cost is being incurred and there is no framework on which maintenance records can be stored.

### Summary

**Dorset identified drainage as a major element in its asset management plan; it being the third largest asset group behind roads and bridges. It recognised shortcomings in its drainage inventory and wished to confirm this supposition to enable service levels to be established and an investment strategy to be considered.**

**The drainage system in the county is owned by various bodies and there was insufficient information, especially on underground assets. A partnership of interested parties was formed to manage the collection and recording of available drainage inventory and data. The project adopted a two phase**

**approach where the first phase was a desk top exercise collecting what records the various parties had and the second is the commissioning of a survey to capture data on an area by area basis.**

**A major aspect of the project was establishing a computer based system to store, view and access the drainage record in conjunction with the Authority's other asset inventory items. This system is now in place under the name of 'Dorset Explorer'. This is a web based system which is accessible by all participating interests.**

## **Background**

Drainage is complex in that a number of public and private bodies are involved as owners and managers of parts of the drainage system in the county. Ownership of some drainage assets was unclear and there was insufficient inventory, although a provisional assessment suggests that it is the third largest highway asset group. The advent of the Flood & Water Management Act 2010 empowered County Councils to co-ordinate other authorities to address flooding and water management issues. In addition to collecting essential asset management information, this project provides an important element of work to deliver and build on the Authority's duties under the new legislation.

## **Drivers for Change**

Dorset has been working with elected members to develop aspired service levels, needs based budgets and cost transparency for all aspects of its highway asset. Drainage expenditure was identified as a significant element of spend that needed to be accounted for and monitored more precisely.

Drainage maintenance in Dorset has previously been mainly reactive as there has been insufficient information to do otherwise and revenue spend on drainage repair was too high relative to capital spend on drainage replenishment. This situation was unsustainable and it was necessary to make a significant change. Also, during local flooding Dorset CC sometimes came under pressure to carry out work on drainage systems where the liability and responsibility could not easily be identified.

## **Improvement Action**

Dorset's 'Element 2' submission to DfT in December 2008 describes proposals to improve drainage information, link to ownership and responsibility, and for Dorset to be able to move towards a planned maintenance regime, see [www.helg.org/asset\\_management](http://www.helg.org/asset_management). Reward funding of £500,000 was awarded.

Dorset established a partnership of the main organisations involved in drainage, ie Dorset County Council, the four district councils, two borough councils, the local water companies and the Environment Agency. The project is coordinated by a project board, chaired by the project manager.

The reward funding was combined with the formula based Element 1 funding from DfT into a single fund of approx £865,000 to support inventory collection and provision of asset management information

systems. The extent of the work and number of organisations involved meant that work would be complex and required the appointment of a project manager.

Phase 1 of the project, now complete, involved recovering data from paper records and scheme drawings from the various organisations. A GIS product was developed to enable the collected information to be displayed to all parties and for them to be able to update their data in real time.

Phase 2 of the project, being carried out during 2010/11 and 2011/12, is to fill many of the gaps in the information assimilated during phase 1 and to develop a public information system. Although Dorset has good data on drainage gullies and other surface features, it had virtually no information in a recoverable and accessible form on under surface drainage apparatus. A source of 'untapped' data was road maintenance workers and parish council personnel who are being interviewed to supplement the surveyed information. Specialist drainage maintenance teams are also being involved in the data collection process. The visual survey usually involves lifting covers, observing the underground system and entering the data directly onto the GIS system using hand held data collection devices. At this stage it has not been possible to produce a survey programme for the whole County and inventory collection is being prioritised on a parish by parish, town by town basis depending on known and likely flooding problems.

Drainage inventory is being collected regardless of ownership. If ownership is clear the inventory will be easy to mark up, but if ownership is unclear it is regarded as important to collect it and to seek to establish ownership at a later stage. It has been an approach of the project not to let issues about ownership and maintenance responsibility to prejudice the collection of inventory data.

The project is working towards making the information available to the public via Dorset CC's 'Dorset Explorer' internet map based information system. In a change from the bid, it is no longer intended to charge for the information which will now sit alongside other highways information.

## **Barriers**

Dorset's maintenance management system is difficult to use without technical expertise, which makes it unsuitable for exposure to the public via the internet. An intermediate software package is being considered to improve the public interface.

There are concerns amongst the partners over the potential to add to their known maintenance liabilities though identification of historic and previously uncharted drainage systems, but the overall benefits are felt to outweigh this risk.

Ownership uncertainties could have prejudiced inventory collection, but the partnership agreed to collect inventory regardless of ownership and to resolve issues afterwards if possible.

It has not yet proved possible to persuade the sewerage authority to include the foul and surface water sewer record in the project. Discussions are underway to seek to make the information available in a digitised form suitable for inclusion in the data.

## **Outcomes**

The main outcome will be a known drainage asset, both in terms of inventory and ownership, such that it will be possible to develop a planned maintenance regime.

An early benefit for Dorset CC is that highway maintenance technicians, together with gully emptying and specialist drainage jetting teams can call up the data base when attending and/or resolving flooding problems. They can obtain information about the underground system, potentially saving both investigatory time and cost. The teams also update the inventory if necessary when on site.

Further efficiencies are expected in the longer term if a case can be made for capital investment, possibly through prudential borrowing, to improve the drainage system and reduce reactive maintenance.

The project has similarities to the Gloucestershire Element 2 project and it is intended to compare and learn between the two.

Dorset is a member of the SE highway asset management group (although in the SW region) and will be sharing the project in detail with the SE group. Dorset presented at the SW-based asset management conference in April and will consider other similar opportunities.

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