Drainage Lifecycle Plan Summary

Balfour Beatty | Herefordshire Council
Working for Herefordshire

Inventory Condition

The drainage network is composed by:

Drainage assets	Units (approx.)
Gullies	17,000
Culverts	548
Grills	54
Manholes	17
Others (inlets, weirs, flap valves, outfall, pumping station, etc.)	35

In 2015 risk-based inspections and incidents reported have identified the following:

High risk drainage assets	652 units
Blocked gullies reported	
2016	2820 units
2014	1369 units
2015	1917 units

Performance Requirements

All sections of the drainage network are to be maintained to the safety standards set out in the 'Highways Maintenance Plan'. The following key objectives are considered:

- the rapid removal of surface water from the carriageway to provide a safe highway and minimise nuisance;
- the provision of effective sub-surface drainage to maximise longevity of the pavement and its under lying layers;
- the minimisation of the impact of the runoff on the receiving environment; and
- flood risk assets to fill their intended function of reducing the risk of flooding.

Current Asset Value and Deterioration

Drainage assets are not valued separately; their value is taken into account in the calculation of highway asset value.

The budget considerations adopted for the drainage network are:

Backlog of drainage related defects	£800,000
Budget (2016/2017)	£200,000

Maintenance Strategy

The management of the County's drainage network follows risk-based principles as it is recommended in the industry 'best-practice': the *Guidance on the Management of Drainage Assets* (published by the HMEP).

Capital investment is prioritised towards issues that have high benefit-cost and includes aspects as property flooding and highway user safety. Higher use roads are prioritised over lower use areas.

Cyclical maintenance is utilised for high risk assets where failure would result in unacceptable consequences to the community. However, reactive maintenance is not restricted to high risk assets and is applied in the whole drainage network.

Recent years have seen an increase in the number of drainage assets requiring attention, as can be seen above. Additional funding is being bid for to increase the amount of cyclical preventative maintenance to address this issue.

Routine Maintenance Strategy (Revenue)

Routine drainage funding is extremely constrained due to the lack of revenue budget stemming from the rural nature and sparse population of the County. Limited resources are focused towards high risk drainage assets that have a history of problems, or where their failure would have serious consequences to the community. Examples of routine maintenance are the cleaning activities of gullies, catchpits, grips, interceptors, piped grips, kerb offlets, beany blocks, gully connections and culverts.

Structural Maintenance Strategy (Capital)

Maintenance is prioritised based on the approach detailed in the process section below. A worst first strategy is followed, which is informed by cost/benefit of schemes. This means that works defects that have the present the largest risk or potential hazard are treated first, providing that they are affordable and represent value for money.

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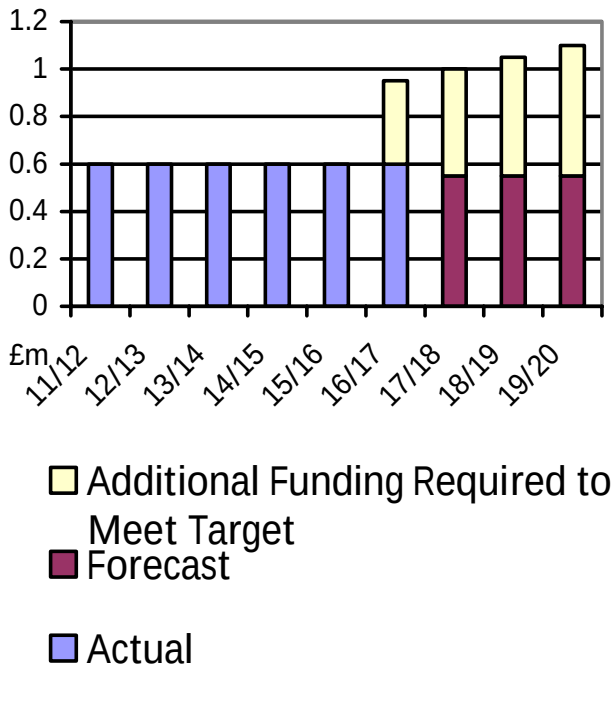
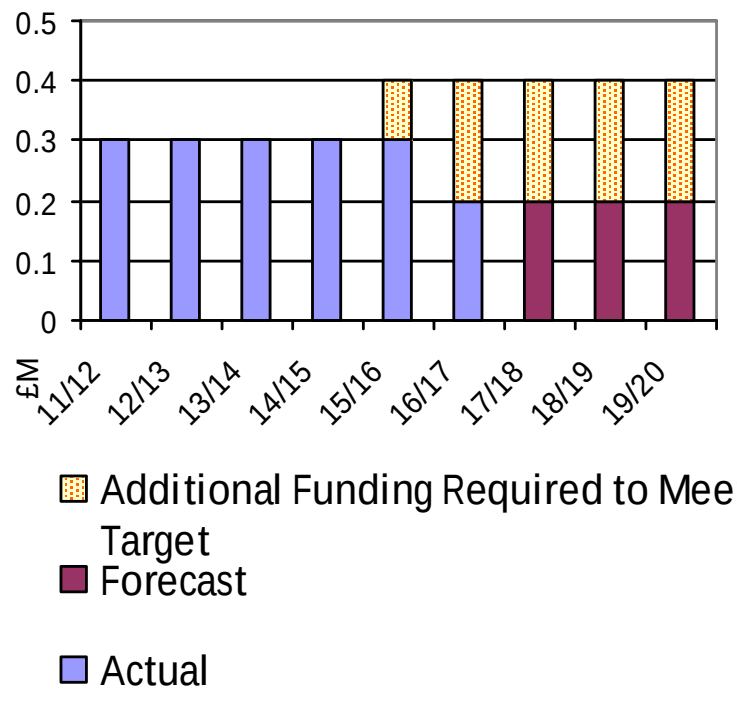
Revenue Investment



Capital Investment



Routine Maintenance Process

Routine (and reactive) works are centrally coordinated in a control centre to ensure that a productive and prompt service is provided.

Reactive maintenance needs are identified via safety and condition inspections or through enquiries from the public or police. Inspections are supported by modern technology, such as mobile computer tablets that help the Council staff to identify and record those needs; these are prioritised based on the approach detailed in the 'Highways Maintenance Plan'.

Presently, only high-risk drainage assets that need regular attention have cyclical routine maintenance carried out. All other drainage assets are maintained reactively.

Structural Maintenance Process

Programmes of work are developed with support of a set of maintenance criteria developed via consultation, based on the HMEP's guidance document. These maintenance criteria are used to prioritise maintenance needs. The criteria are social and economic factors, deliverability and whole lifecycle costs.

The highest rank defects are given immediate priority and lower ranked defects are held in a forward programme until funding is made available.