Drainage

Highways drainage assets form a critical role in removing standing water from the highway and if maintained effectively require minimal capital investment.

However reduced revenue budgets mean that many drainage maintenance activities have either ceased or been reduced significantly.

This reduced drainage maintenance could be attributed to a reduction in material life and deterioration in parts of the road network.

The removal of water from the highway is also critical in the winter months when it will otherwise freeze and cause a safety hazard.

Objectives

To promote network resilience
To prevent property flooding associated with highway flooding
To reduce incidents of flooding on the highway to promote safer travel and ensure network accessibility
To protect capital investments from the damaging effects of flooding

Strategies

Target gullies on the resilient network for planned cleansing
All other gullies emptied on a reactive basis
To include a drainage survey including maintenance of all drainage assets linked to capital surfacing schemes to the nearest outfall.
To continue to liaise with Flood Risk Management colleagues to identify priority sites for investment
To implement a grip cutting programme across the rural network
To use data sets including recently collected inventory, recorded drainage defects, flooding sites, Environment Agency flood risk maps, with a weighting towards the resilient road network, to inform programmes of drainage maintenance / improvement.
Continue to invest in area officer ‘dig downs’ on blocked systems to remove local flooding issues

Performance

Recent targeted maintenance and investment in flooding hotspots, focussing on protecting the resilient road network, through collaborative working with our Flood Risk Management colleagues, has identified priority sites. This approach has seen a reduction in the incidence of reported flooding being reported or recorded.

Data Strategy

A number of data sets are being pulled together to 'score' sites for priority interventions, forming a risk based approach to maintenance and interventions, based on protecting network resilience and the risk of property flooding, arising from highway flooding.

The risk factors used to identify/prioritise sites are:

- Recorded flooding enquiries
- Recorded drainage enquiries
- Resilient network
- EA Flood risk maps
- Silt levels

We are also assessing data collected at the point of emptying over the past three years to identified high risk gullies, where an increased level of maintenance is required, at the expense of lower risk gullies that don't require annual maintenance. This data will form part of a targeted, risk based approach to gully maintenance.

Investment Strategy

Capital

A £600K (6% of total capital budget) allocation from the capital budget will be invested in:

- Risk based priority sites

- Local 'dig down' sites on blocked drainage infrastructure where highway flooding occurs

A full drainage survey of all capital resurfacing schemes will be implemented ahead of construction, to include maintenance to the nearest outfall. These costs will be absorbed into the cost of each scheme.

A grip cutting exercise is scheduled on a bi-annual basis across the rural network.

Revenue

Cyclic gully emptying on the resilient network only.

Ad hoc emptying of gullies not on the resilient network, will only when flooding occurs and is either reported or identified during inspection.

There is no provision for planned maintenance of all other drainage assets, to include ditches, grips, manholes, catchpits, soakaways. Maintenance of these assets will only occur during incidents of flooding instigated by a report or planned inspection.

Risk

The decision not to invest in routine revenue gully emptying to the non-resilient network has risks both in terms of safety and the potential damage to road construction and the risk of accelerated deterioration.

Failure to invest in planned cyclic drainage activities linked to ditches, catchpits, soakaways carries a risk across the network, in terms of standing water on the carriageway (ice in the winter months), and accelerated deterioration of the road construction.