

Preparing for Winter within KCC Highways Drainage Team



Introduction

Kent County Council as the Highway Authority in Kent manages over a quarter of a million roadside drains across the county together with 6200km of pipework, manholes, soakaways, and other assets associated with highway drainage. **It is the second largest asset group within the highway authority.**

Highway Drains are designed to:

Remove surface water run-off from the highway to help keep roads safe and minimise problems
prevent damage and make roads last longer through effective drainage
minimise surface water from the highway affecting properties or land

Our highway drains are not usually designed to provide drainage for other areas outside of the highway boundary, such as for land drainage or privately owned property or developments.

Mitigating Flood Risk to the Public Highway

- The highway authority does not maintain public foul or surface water sewers
- Drainage serving private property
- Drainage features such as roadside ditches and watercourses.
- KCC would refer these matters to the relevant authority or landowner as appropriate but still does have a major impact to the Highway and residents.

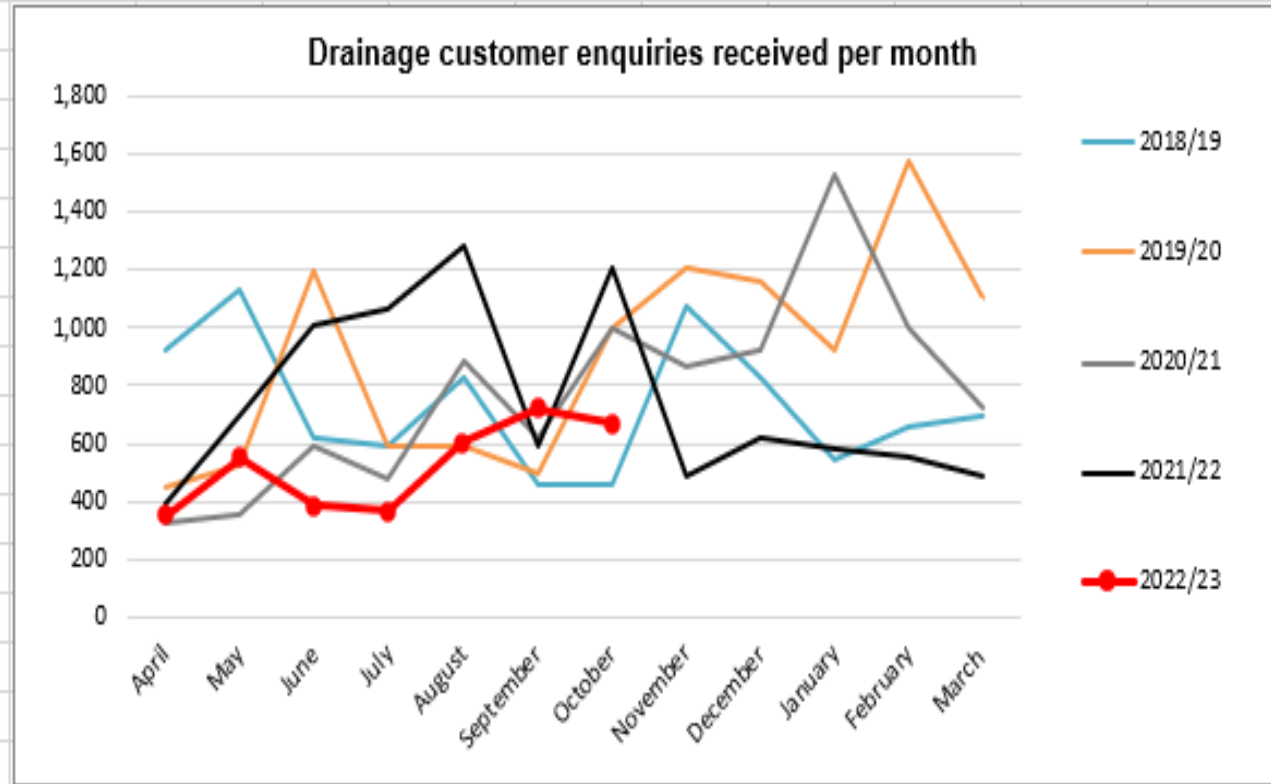
Current Situation

- Drainage demand through the Summer months remained steady numbers, and we avoided the flash flood experienced in previous years, however the last 3 months have seen a number of Met Office weather alerts issued for heavy rain.
- Last Thursday was particularly heavy in and around Maidstone, where a number of high profile areas flooded.
- The Team received over 90 Emergencies calls on the Thursday alone and overall for the week **653** flood related enquired and **260** Emergency Response enquires.
- In comparison the previous week, drainage enquires received **168** and this time last year **197**.



Enquires Received

2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
537	359	549	256	919	452	327	392	351
676	409	556	401	1131	529	360	695	553
481	434	1059	506	624	1198	587	1009	387
759	477	531	717	587	592	482	1066	365
891	865	407	785	825	592	883	1283	605
513	987	514	545	456	493	620	590	719
1082	580	399	409	458	995	1002	1207	671
1103	599	723	345	1070	1209	861	488	
578	421	254	586	830	1157	923	624	
1138	1401	431	1158	548	921	1531	584	
625	512	445	615	658	1578	1000	553	
524	575	416	810	692	1102	725	492	
8907	7619	6284	7133	8798	10818	9301	8983	3651



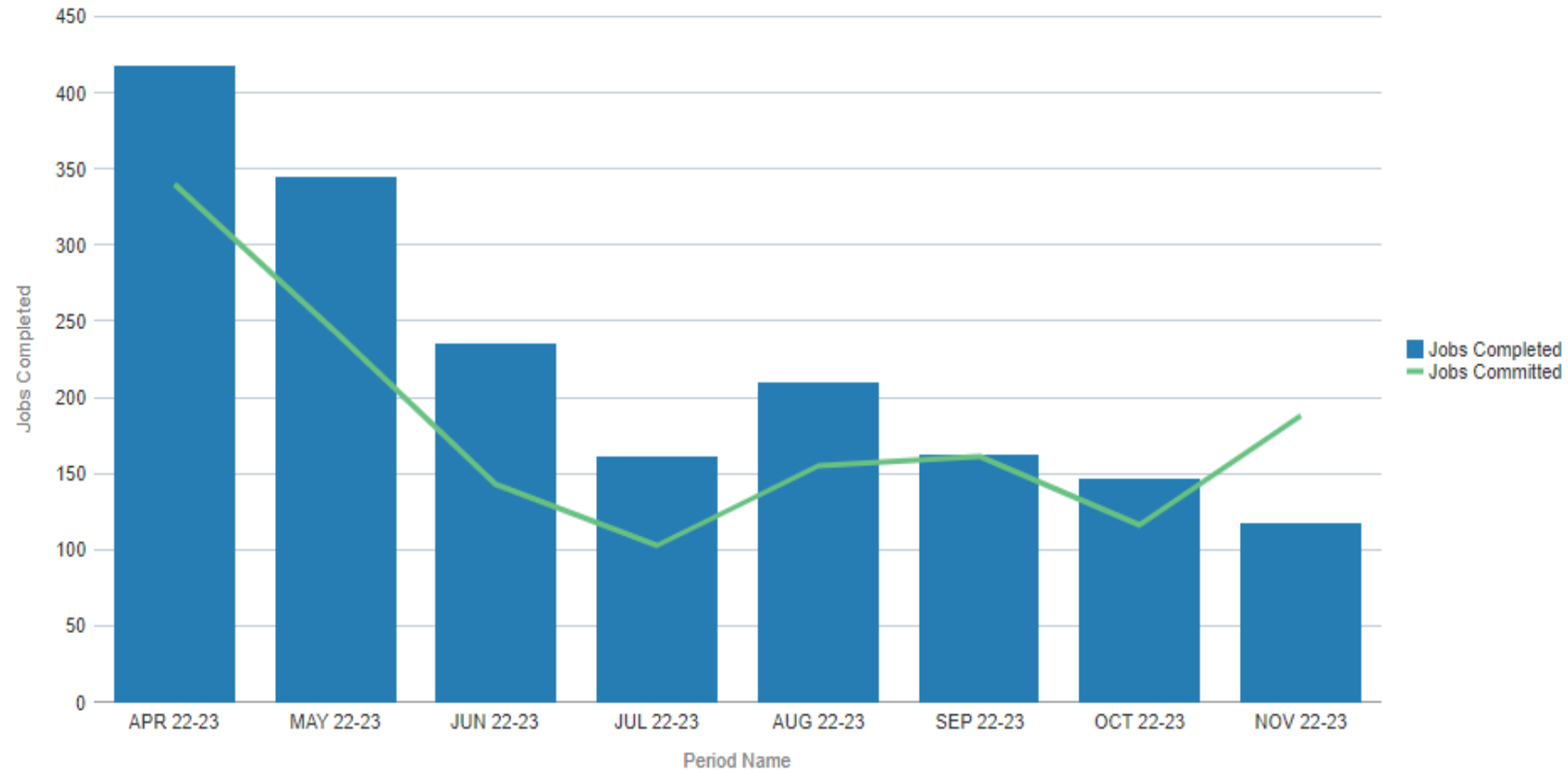
Jobs Completed

WAMS - Jobs

Home Dashboards ▼

Jobs - Current Month Job Summary **Jobs Committed and Closed**

Jobs Committed And Completed



Main issues causing ongoing flooding

- Highway and Sewer systems under capacity..
- Water run off from fields
- Urban creep
- Back log of pipe works maintenance, and defect requiring attention.
- **Example, next photos, tree roots removed from a system, land drainage problems**





Pearsons Green Road Junction with Churn







What have we been doing since April

Implemented Our Risk based approach cleansing

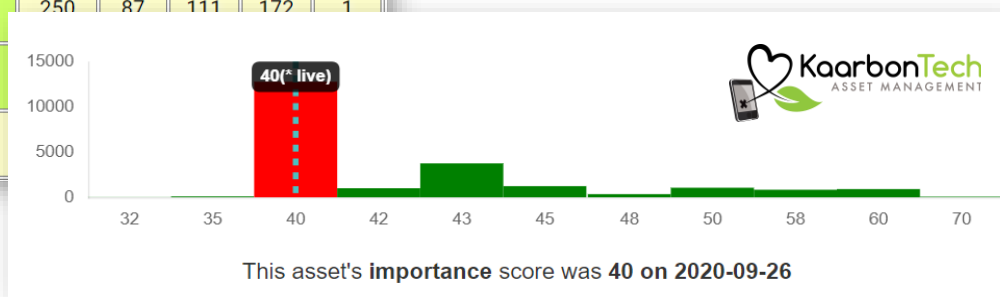
- The risk scores that are produced for each individual asset will influence the frequency in which drains are cleaned, these frequencies being 6 monthly, yearly or every 2 years.
- Our new approach will see circa 12,500 drains cleansed per month.
- Customer enquiries will be risk assessed following a criteria set in place. Reactive works will still be carried out on an ad hoc basis where this meets intervention
- We will still respond to emergencies, carry out CCTV surveys and maintain other vital assets such as soakaways.
- Customers will soon be able to check when their gully is due to be cleaned via our online fault reporting tool which should improve customer satisfaction.



Importance ->

	32 - 40	42 - 43	45	48 - 50	58 - 60	70
90 - 112	892	305	75	74	54	4
114 - 122	1,193	332	98	95	102	3
123 - 127	1,028	257	101	145	173	7
128 - 131	482	138	125	185	211	4
132 - 133	7,024	2,860	385	342	383	31
134 - 137	814	329	169	227	378	27
138 - 147	742	250	87	111	172	1
148 - 167	537					
168 - 195	194					

<- Vulnerability

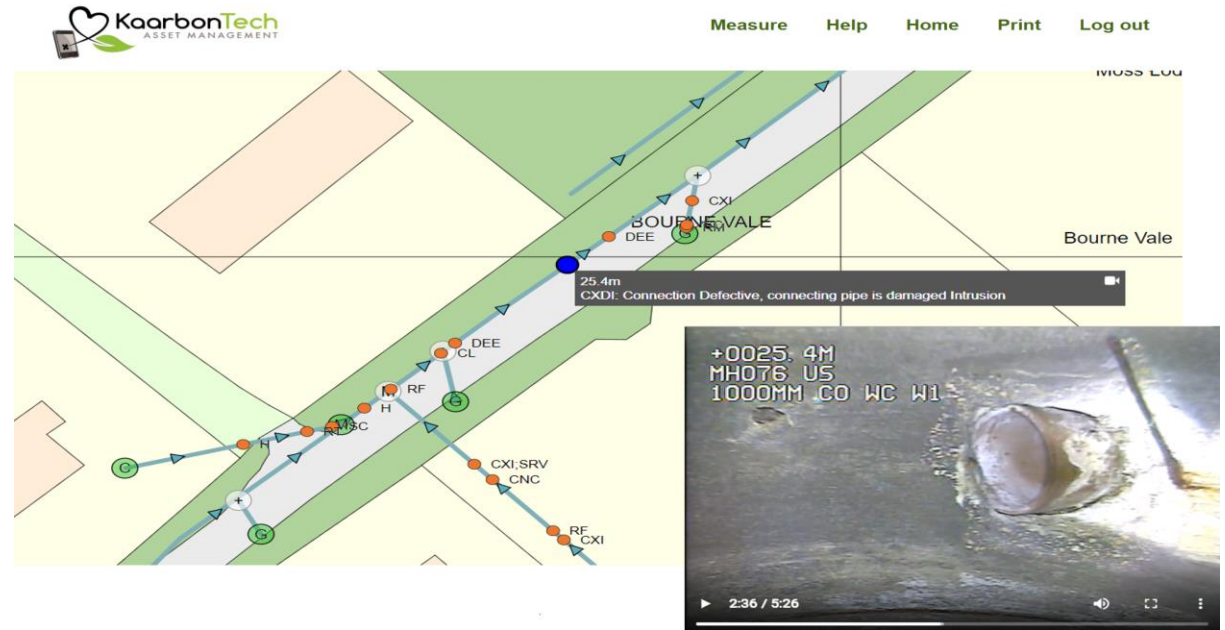
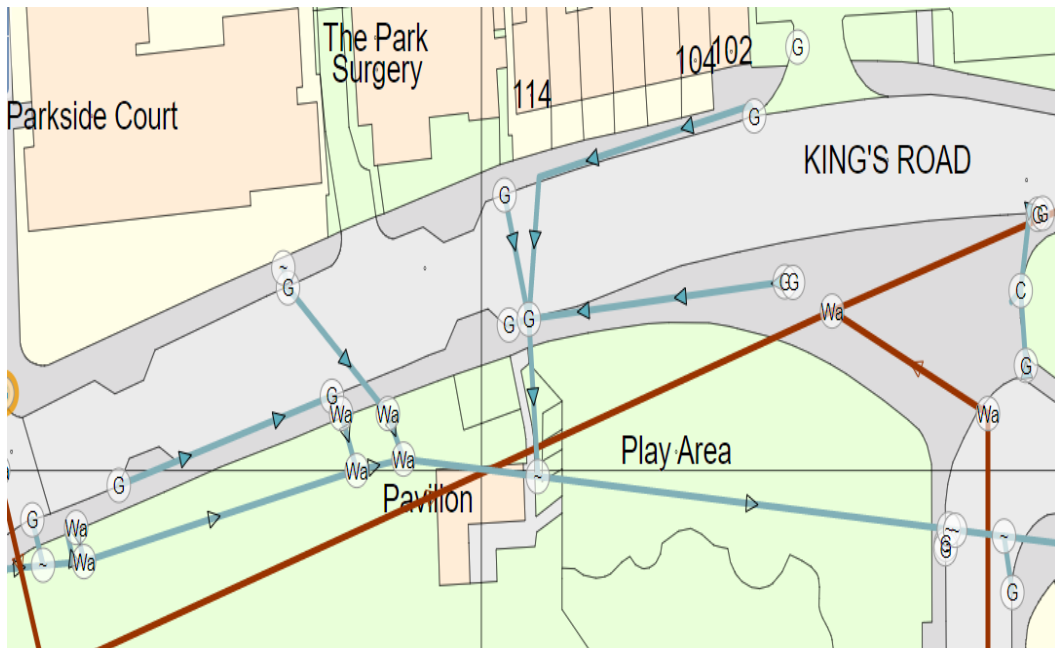


Cleansing decision and cycle length was made using 20+ vulnerability and importance factors:

- Historic confirm defect activity
- Silt levels over multiple years
- Flood zone status 30, 100, 1000 year
- Local Knowledge priority zone status 1-3
- Surface Water Management Plan zones
- Reliance on Water Authority
- Urban / Rural
- Speed Limit
- Road Hierarchy (Strategic, Local Access etc)
- Road Classification (A,B,C U etc)
- Road Form (Roundabout, dual carriageway etc)

What have we been doing since April

- Continue to plot our Asset by Liner, CCTV surveys, Development plans via the Kaarontech Asset Management system:



Not just Proactive and Reactive
Cleansing, we continue to deliver
our Capital Schemes Programme





Drainage Civils Framework Contract Thornden ClCose, Herne Bay

- Thornden Close near Herne Bay had suffered from flooding and carriageway damage due to the poor condition of a ditch at the road edge.
- In order to make safe and prevent future flooding, a small scheme was developed and undertaken using our powers under s.101 HA 1980.
- The ditch was cleared, and a perforated pipe and filter gravel installed. This meant it retained its drainage function but made the highway safe.
- The work was delivered by G&J Steele and completed in August 2020. There have been no flooding or safety issues at this site since.



Drainage Civils Framework Contract School Lane, Higham

- School Lane in Higham had been suffering with surface water flooding during heavy rainfall. Due to climate change the frequency of occurrences have been increasing.
- There were no defects within the existing drainage, however modelling of the system showed it was under capacity compared with modern standards.
- Rather than replace the drainage, an offline attenuation system was constructed using two new pipes within the adjacent road, avoiding the need for a closure of the main through route through the village.
- The work was delivered by O'Rourke Contracting in August 2021. There have been no reported instances of flooding since.



Drainage Civils Framework Contract Lakeside, Snodland

- Lakeside, Snodland had been suffering from surface water flooding periodically during heavy rainfall. Severe flooding occurred in June 2019 internally flooding property in the area.
- An existing low area is present to the side of the road (with highway land) which presented an opportunity to store water temporarily during heavy rainfall.
- A proposal was developed by Waterman on behalf of KCC to formalise this by landscaping the area and providing an overflow pipe from the existing drainage. It was then turfed with a Sustainable Drainage compatible wildflower and grass mix for quick establishment.
- The work was delivered by T. Loughman & Co in August / September 2022.

Future concerns

Budgets

Assist condition

Developments

Climate Change

Questions ?

