

SUMMARY OF RECOMMENDATIONS			
The recommendations made in this guidance document are grouped into themes. Within each theme the recommendations are listed by priority, not the order in which they appear.			
THEME: DEFINING THE ASSET			Practical Steps
Recommendation 2	Understanding evolving duties and responsibilities	New regulations bring new obligations. These evolving responsibilities will have an effect on budgets and operations. Understand and adapt to these changes.	<ol style="list-style-type: none"> 1. Engagement with Flood & Water team <ol style="list-style-type: none"> a. Local issues b. Strategic / Partnership issues 2. Understanding responsibilities and opportunities represented by 'Highways' being flood risk management authority
Recommendation 6	Data Use	Use highway drainage asset data to focus, support and inform maintenance activities. These should be linked to the overall asset management objectives for local highways.	<ol style="list-style-type: none"> 1. Utilise gully cleansing information i.e. quarter full/half full/empty to inform future gully emptying frequency 2. We undertake drainage surveys to confirm the nature and condition of network prior to approving any structural drainage proposals these are reviewed / checked at Gateway1.

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Recommendation 3	Selection of highway drainage asset survey equipment	Before selecting equipment, have a detailed equipment requirement specification and evaluation check-list to ensure that equipment being trialled is done in an objective and consistent manner. Allow sufficient time for the trial. Ensure mobile Global Positioning System (GPS) software complies with the latest National Marine Electronics Association (NMEA) protocols.	1. Major procurement of Highway Services in 2014 enable uplifting of specification for gully emptying and drainage investigation to appropriate standards. Manage contract.
Recommendation 4	Involvement of colleagues in selecting technology	Understand your authority's information technology procurement processes, purchasing documentation requirements and get the appropriate council staff (finance, IT, Geographical Information System(GIS) etc.) involved early on.	1. Major procurement and implementation involved full range of council officers;- <ul style="list-style-type: none"> a. Highway Services in 2014 b. Highways Management System 2016 c. Repeat upon next rounds

THEME: SERVICE DELIVERY			Practical Steps
Recommendation 9	Understanding demand and service delivery requirements	Develop a clear understanding of the demand or service delivery level for the drainage asset, as this will clarify and focus activities and budgets to deliver efficient and effective service.	<ol style="list-style-type: none"> 1. Utilise gully cleansing information i.e. quarter full/half full/empty to inform future gully emptying frequency 2. Extensive survey of existing surface water drainage system prior to the design of Greater Norwich Surface Water Drainage Scheme (proposed build 2016-18), seek to capture final build in mapping format capable of being held on Arc GIS, Norfolk Mapping Browser or HMS graphical systems, a trial to determine if our drainage asset can be captured upon new build i.e. structural maintenance or new adoption 3. Survey and record existing surface Water Systems investigating issues prior to the approval of any structural repairs
Recommendation 12	Solutions	Do not let the management tool become more important than the job deliverables and recommend simple solutions that do not require a great deal of maintenance or administration.	<ol style="list-style-type: none"> 1. Utilise our Asset Data Management Strategy to scale solution appropriately

THEME: SERVICE DELIVERY			Practical Steps
Recommendation 1	Effective use of limited budgets	Adopt highway drainage asset management strategies based on information held.	1. Reviewed Cornwall Drainage Scheme Prioritisation Matrix against NCC version to create new version
Recommendation 11	Resourcing	Allocate resources and funds to routes, sections, or specific areas or assets where most needed. Monitor the maintenance of these assets and require contractors to provide details of the condition of assets; for example, gully cleansing records that details the location of the asset and amount of material removed.	<ol style="list-style-type: none"> 1. Major procurement of Highway Services in 2014 enable uplifting of specification for gully emptying (requirement on contractors to record GPS and amount of fill /debris data per gully) and drainage investigation to appropriate standards. Manage contract. 2. Review gully emptying data to inform gully emptying frequencies on a risk assessed basis
Recommendation 5	Data Integration	Link systems to maintenance activities, focus future activities and map 'hotspots'. Address the causes of problems as opposed to symptoms.	<ol style="list-style-type: none"> 1. Use of GIS systems to visualise area issues and enable analysis <ol style="list-style-type: none"> a. Norfolk Mapping Browser (NMB) b. GIS c. Highway Management System (HMS) Mapping layers

THEME: PEOPLE AND PARTNERSHIPS			Practical Steps
Recommendation 10	Use peoples knowledge	In many cases the organisation's employees are the best source of asset management information. Ensure local knowledge of drainage assets held by long service experienced staff is captured and incorporated into data records.	<ol style="list-style-type: none"> 1. Local records of investigations held at depots readily accessible for area maintenance staff 2. Section 38 records post 1974 held at County Hall 3. Capture output of Greater Norwich Surface Water Drainage Scheme (proposed build 2016-18) in mapping format capable of being held on NMB or HMS graphical systems 4. Layers displayed on Arc GIS & NMB <ol style="list-style-type: none"> a. EA storm returns b. Surface Water Management Plans maps c. Gullies d. Section 100 records (currently Arc GIS only)
Recommendation 8	Data Sharing	Drainage data must be transferable between owners and stakeholders who understand its value and make use of it.	<ol style="list-style-type: none"> 1. Drainage data i.e. gullies held in Yotta HMS, other assets and information layers can be exported via shape files

THEME: PEOPLE AND PARTNERSHIPS			Practical Steps
Recommendation 7	Partnerships	Form partnerships with all relevant bodies, such as the Environment Agency and water companies, to address water management issues and to cooperate in service delivery and information sharing.	<ol style="list-style-type: none"> 1. Norfolk Protocol already in existence 2. Norfolk Water Management Partnership (NWMP) was formed in 2009. NCC Flood & Water partnership structure reviewed 2015. <ol style="list-style-type: none"> a. Strategic Forum liaises with <ol style="list-style-type: none"> i. EDT committee (scrutiny) ii. Regional and Coastal Committees b. In addition to the Officer Group reporting to Forum there are a number of sub-groups <ol style="list-style-type: none"> i. Surface Water Management working groups for 5 district/areas: BCKLWN, NNDC, Norwich & Broadland, GYBC.