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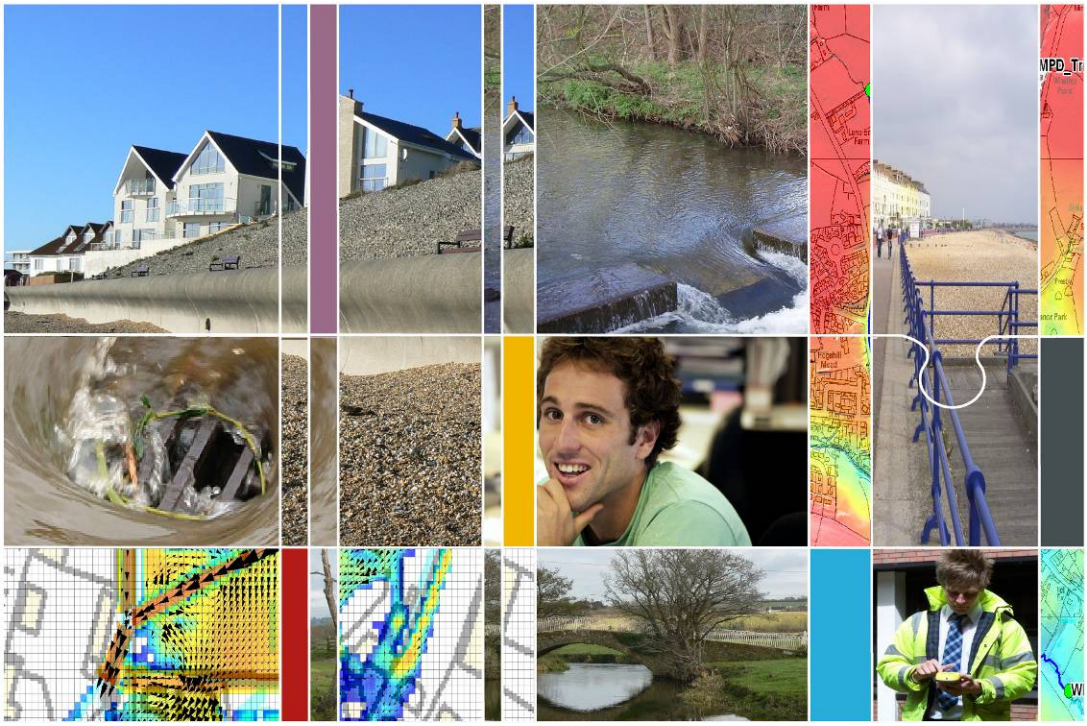
Commission reference: LA020



Medway Council Local Flood Risk Management Strategy

Technical Appendix 3: Asset Register Supporting Document

Final Report
October 2013

CAPITA SYMONDS | URS
Flood Risk Management

Document overview

Capita Symonds with URS Infrastructure and Environment UK Ltd was commissioned by Medway Council in the preparation of their Local Flood Risk Management Strategy as required under the Flood and Water Management Act 2010.

Document history

Version	Status	Issue date	Prepared by	Reviewed by	Approved by
1	Draft	Aug 2012	Edward Byers Graduate Consultant Danielle Skilton Assistant Consultant	Stephen Riley Principal Consultant Jon Robinson Technical Director	Jon Robinson Technical Director Scott Ferguson Technical Director
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1. Introduction

1.1 Overview

1.1.1 The purpose of this document is to record the activities completed in the development of an Asset Register for Medway Council.

1.1.2 Section 21 of the Flood and Water Management Act[1] (FWMA), states that Medway Council, as Lead Local Flood Authority (LLFA), has a duty to maintain a register and record of structures or features which, in the opinion of the LLFA, are considered to have a significant effect on local flood risk.

1.1.3 From the 6th April 2011 all LLFAs have had a duty to establish and maintain:

- A **register** of structures or features, which, in the opinion of the authority, are likely to have a significant effect on flood risk in its area, and
- A **record** of information about each of those structures or features, including information about ownership and state of repair.

1.1.4 The FWMA requires that the register must be available for inspection and the Secretary of State will be able to make regulations about the content of the register and records.

1.1.5 The legal characteristics of the register and record, as determined by Defra, are provided in Table 1.1.

Table 1.1 Asset Register Requirements[2]

	Register	Record
a.	Must be made available for inspection at all reasonable times.	Up to the LLFA to decide if they wish to make it available for inspection
b.	Must contain a list of structures or features which in the opinion of the authority, are likely to have a significant effect on a local flood risk.	For each structure or feature listed on the register, the record must contain information about its ownership and state of repair.
c.	s.21 (2) of the Act allows for further regulations to be made about the content of the register and record. There is currently no plan to provide such regulations therefore their content should be decided on by the LLFA depending on what information will be useful to them.	
d.	There is no legal requirement to have a separate register and record although as indicated above, only the register needs to be made available for public inspection.	

[1] HMSO and the Queen's Printer of Acts of Parliament (2010) Flood and Water Management Act
[2] Defra (2011) Lead Local Flood Authority Duty to Maintain a Register

1.2 Objectives

1.2.1 The aim of the scope of works described in this document is to provide Medway Council with a register of assets within their administrative area that are likely to have a significant effect on a local flood risk.

1.2.2 The aim of the scope of works has been achieved through the following objectives:

(1) Liaise with relevant departments within Medway Council to establish details of existing datasets
(2) Review these datasets to determine where additional asset information may need to be obtained
(3) Undertake site walkover surveys within predetermined areas across the Council's administrative area to collect additional asset data where appropriate
(4) Process recorded asset data and prepare a register of the assets
(5) Establish a procedure for when and how the Asset Register should be updated

2. Data Review

2.1 Existing datasets

2.1.1 The Highways Responsive Maintenance team within Medway Council confirmed that they hold data with respect to the following assets:

- highways drainage ditches held in CONFIRM
- culverts
- digitised records of foul water and combined sewer records
- records of historical drainage held in Cadcorp GIS software

2.1.2 In addition, a sub-contractor for Volka was scheduled to carry out cyclic cleansing of gullies from (*Medway Council to insert date*) to (*Medway Council to insert date*). As a result, Volka will be reporting and providing data of the location, asset condition and expected ongoing maintenance of all culverts across the administrative area.

2.1.3 Details regarding the location and condition of soakaways and beanie block paving throughout the administrative area is not well known and Medway Council are planning to undertake an exercise during this financial year 2012/13 to locate these assets in order to be able to establish an annual contract for their maintenance.

2.2 Software compatibility

2.2.1 Datasets held by Medway Council are predominantly held in CONFIRM software or GIS software Cadcorp.

2.2.2 It was agreed with Medway Council that the deliverables from the scope of works completed to develop a register of assets would be provided in a GIS format compatible with CONFIRM.

3. Methodology

3.1 Assets to be recorded

3.1.1 As stated in the FWMA, the Asset Register must contain features and structures both underground and over ground that are likely to have a significant effect on flood risk.

3.1.2 It was agreed with Medway Council that features and structures that could potentially have a significant effect on flood risk will be ones which, if compromised in any way, may contribute to a risk of:

- Internal flooding to one or more residential or commercial properties
- External flooding of five or more residential or commercial properties
- Flooding of roads or rail to an extent that they become impassable
- Flooding of or flooding near locally important services or infrastructure, for example health centres and electricity substations, to an extent that they cannot function normally

3.1.3 The following provides a breakdown of the assets that are included on the Asset Register for Medway Council to comply with the requirements of the FWMA:

- All assets from the Environment Agency (EA) Detailed River Network (DRN) datasets that relate to Ordinary Watercourses (i.e. not Main River) and meet the requirements of 'significant' as defined above
- Roadside drainage ditches from the Medway Council Highways dataset that meet the requirements of 'significant'
- Additional ditches and any associated assets that were not been identified above that meet the requirements of potentially significant

3.1.4 The collection of asset information was focused in areas that contain receptors, namely residential and commercial buildings, or access roads, and where one or more of the following were identified in an initial desk based study:

- Close proximity to an ordinary watercourse identified in the EA's DRN network
- Close proximity to drains/watercourses marked on OS mapping
- Assets within areas where the pluvial modelling identifies substantial depths of surface water flooding
- Assets located near to areas of historical flooding, identified from the Council's historic flood records

3.2 Data collection

3.2.1 Data was collected using the TerraSync software on the Juno Trimble device. This is a hand held device that captures the position (GPS coordinates) of the feature, and enables the manual entry of relevant details of the features.

3.2.2 Where possible, for each asset, the following data attributes were recorded to state the condition of the asset at the time of inspection:

	Point Feature	Line Feature
• Feature Type:	- Inlet - Outlet - Trash Screen - Weir - Headwall - Pumping Station - Other	- Open channel - Culvert - Flood Defence (informal) - Flood Defence Wall - Other
• Owner & Maintainer	- Local Authority - Environment Agency - Riparian Owner - Anglian Water - Unknown	- Local Authority - Environment Agency - Riparian Owner - Anglian Water - Unknown
• State of Repair[3]	1 - Very Good 2 - Good 3 - Fair 4 - Poor 5 - Very Poor	1 - Very Good 2 - Good 3 - Fair 4 - Poor 5 - Very Poor
• Dimensions (approximate dimensions)		
• Comment (on present condition to support state of repair conclusion)		
• Photograph		
• Date & Time of inspection		
• Latitude & Longitude		

3.2.3 The site walk over was focussed on areas initially identified as meeting the requirements listed in paragraph 3.1.4. This included, but was not limited to the developed areas of:

- Rochester
- Cliffe Woods
- Noke Street
- Hoo St Werburgh
- Cuxton
- High Halstow
- Lower Stoke

3.3 Data processing and output

3.3.1 Following the collection of asset data, some processing was required using Pathfinder Office and Geographic Information System (GIS) MapInfo. A differential correction of the GPS locations was undertaken to improve the precision of the points.

[3] Environment Agency. Managing Flood Risk: Condition Assessment Manual. (Doc Ref: 166_03_SD01). 2006.

3.3.2 Where it was not possible to accurately record the locations of features, for example due to the access constraints, features were digitised using OS base mapping. The OS base mapping was also used to verify the locations of some features, which did not have a high level of spatial accuracy.

3.3.3 The final dataset includes the assets collected as part of the site walkover, as well as the highways drainage ditches previously collected by the Council's Highway department.

3.3.4 The format of the asset dataset is compatible with CONFIRM i.e. the assets are presented in a GIS format as either lines or points.

4. Update and Review

4.1 Updating the Asset Register

4.1.1 It should be noted that the Asset Register is a working register that should be modified and added to as Medway Council develop in their role as LLFA. It is therefore necessary that Medway Council continues to add features to the Asset Register as they execute their duties under the FWMA and wider planning and development control responsibilities.

4.1.2 The following table sets out the procedure adopted by Medway Council to determine when and how the Asset Register will be updated.

Table 4.1 Process for updating the Asset Register

The Asset Register will be updated based on the following activities	Asset Register entries will be updated with the following essential / basic information	Where available the Asset Register entry may include the following
Planning Application Review by SuDS Approver and/or highways Engineer	Location State of repair Owner Maintainer Comments on condition Photo	Design Standard Consequence of Failure Maintenance dates / frequency Maintenance activities Refurbishment / replacement programme Capital expenditure estimate for refurbishment / replacement
Where a Flood Incident Report references an asset already listed in the Asset Register.	State of repair Owner Maintainer Comments on condition Photo	Design Standard Consequence of Failure Maintenance dates / frequency Maintenance activities Refurbishment / replacement programme Capital expenditure estimate for refurbishment / replacement
Where a Flood Incident Report identifies a new asset, such as Watercourse, trash screen, culvert, flood defences (formal & informal), pumping stations, SuDS, Ponds, Lakes & Reservoirs	Location State of repair Owner Maintainer Comments on condition Photo	Design Standard Consequence of Failure Maintenance dates / frequency Maintenance activities Refurbishment / replacement programme Capital expenditure estimate for refurbishment / replacement

4.2 Regular Review

4.2.1 In addition to the ongoing update of the Asset Register as set out in Table 4.1, Medway Council propose to undertake a full review of the Asset Register every two years to ensure that all entries are still of relevance. This will also afford an opportunity to assess the consistency of the entries and make amendments to the methodology as appropriate.

4.3 Recommendations

4.3.1 It is recommended that Medway Council approach the Environment Agency, Southern Water and the Lower Medway Internal Drainage Board to request the following information for inclusion in the Asset Register:

- Key Southern Water pumping stations
- Details of flap valves and/or sluice gates along the River Medway that could be tide-locked resulting in surface water flooding. This information may need to be requested from the EA
- Drainage ditches and features considered to have a significant effect on local flood risk and which are under the ownership and management of the Lower Medway Internal Drainage Board.

Glossary

Asset Register

As defined by the FWMA, a register and record of structures or features which, in the opinion of the LLFA, are considered to have a significant effect on local flood risk.

CONFIRM

Confirm is a modular software solution for the maintenance and management of public infrastructure assets and services including Highways, Lights, Structures, Street Works, Property Maintenance, Grounds, Trees, Cleansing and Waste.

Culvert

A channel or pipe that carries water below the level of the ground.

Detailed River Network

The Detailed River Network (DRN) is a digital river centreline covering England and Wales. The DRN is partially captured from the water features theme of the OS Master Map Topographic layer and built into a network using automated rules and supplemented with EA field surveys.

Flood and Water Management Act (FWMA)

Part of the UK Government's response to Sir Michael Pitt's Report on the Summer 2007 floods, the aim of which is to clarify the legislative framework for managing surface water flood risk in England.

Geographic Information System

A geographic information system (GIS) integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information.

IDB

Internal Drainage Board

Lead Local Flood Authority (LLFA)

Lead Local Flood Authority in relation to an area in England means the unitary authority for the area, or if there is no unitary authority, the county council for the area (as defined by the FWMA).

National Receptor Database (NRD)

A collection of risk receptors produced and maintained by the Environment Agency.

Ordinary Watercourse

All watercourses that are not designated Main River, and which are the responsibility of Local Authorities or, where they exist, IDBs

Pluvial modelling

Flooding from water flowing over the surface of the ground; often occurs when the soil is saturated and natural drainage channels or artificial drainage systems have insufficient capacity to cope with additional flow.