

Appendix D Other Documents

PBA Charlie Ratchford House Camden Proposed Foul & Storm Drainage Strategy

Microdrainage Calculations

SFRA Figures:

- Figure 2 – LB Camden Surface Waterbodies
- Figure 3ii – Updated Flood Maps for Surface Water Flooding (uFMfSW)
- Figure 4e – Increased Susceptibility to Elevated Groundwater
- Figure 5a – DG5 Internal Sewer Flooding
- Figure 5b – DG5 External Sewer Flooding
- Figure 6 – Critical Drainage Areas/ Local Flood Risk Zones

CS and DP Maps

Quick Storage Estimate

Micro Drainage

Variables

FEH Rainfall

Return Period (years)

Site Location

Cv (Summer)

Cv (Winter)

Impervious Area (ha)

Maximum Allowable Discharge (l/s)

C (1km) D3 (1km)

D1 (1km) E (1km)

D2 (1km) F (1km)

Infiltration Coefficient (m/hr)

Safety Factor

Climate Change (%)

Results

Design

Overview 2D

Overview 3D

Vt

Analyse **OK** **Cancel** **Help**

Enter Maximum Allowable Discharge between 0.0 and 999999.0

Quick Storage Estimate

Micro Drainage

Variables

FEH Rainfall

Return Period (years) 100

Site Location GB 528300 184350 TQ 28300 8435

Cv (Summer) 0.750

Cv (Winter) 0.840

Impervious Area (ha) 0.079

Maximum Allowable Discharge (l/s) 2.0

C (1km) -0.026 D3 (1km) 0.240

D1 (1km) 0.331 E (1km) 0.334

D2 (1km) 0.331 F (1km) 2.478

Infiltration Coefficient (m/hr) 0.00000

Safety Factor 2.0

Climate Change (%) 30

Analyse OK Cancel Help

Enter Maximum Allowable Discharge between 0.0 and 999999.0

Quick Storage Estimate

Micro Drainage

Results

Global Variables require approximate storage of between 41 m³ and 57 m³.

These values are estimates only and should not be used for design purposes.

Variables

Results

Design

Overview 2D

Overview 3D

Vt

Analyse OK Cancel Help

Enter Climate Change between -100 and 600

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LEGEND

London Borough
Camden Boundary

Internal Sewer Flooding
No. of Properties affected

1
2
4
8

Contains Ordnance Survey data © Crown copyright and database right 2014

Revision Details

By:
 Date:
 Status:
 Approved:
 Date:
 Status:
 Final

Client: **Camden**

Project Title: **LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT**

Drawing Title: **DG5 Internal Sewer Flooding**

Drawn: CB
Checked: JS
Approved: MT
Date: 03/07/2014

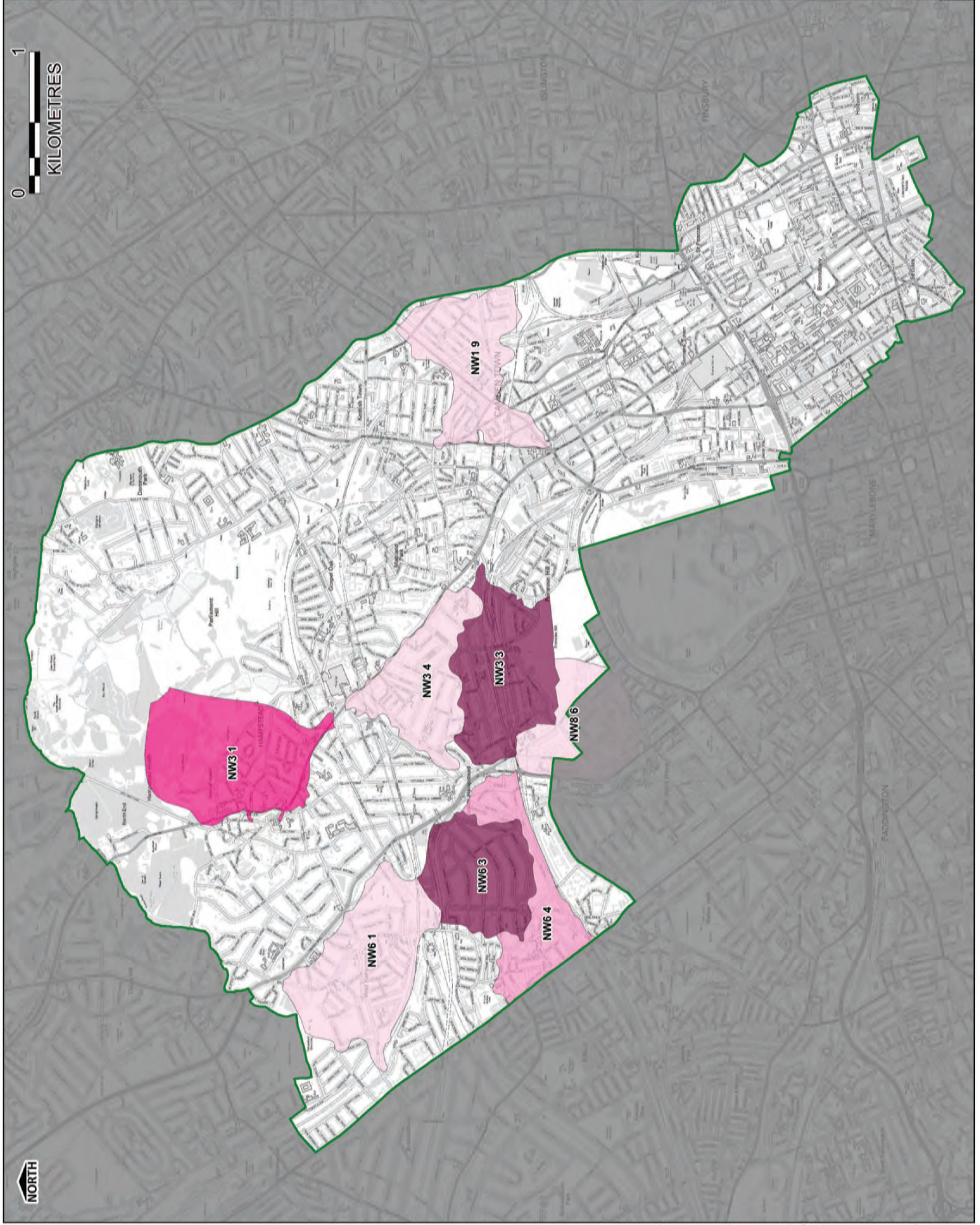
URS Internal Project No: 47070547
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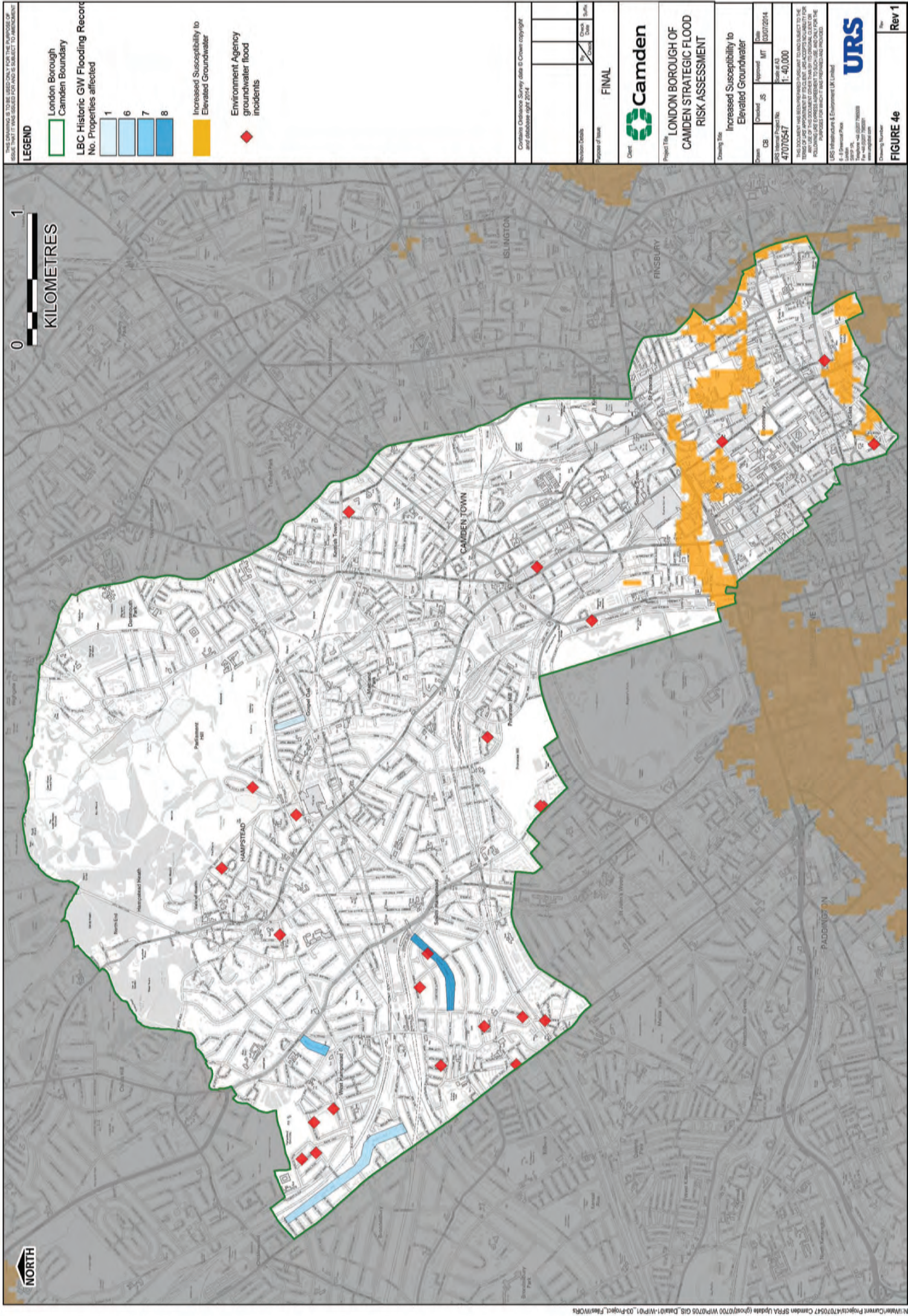
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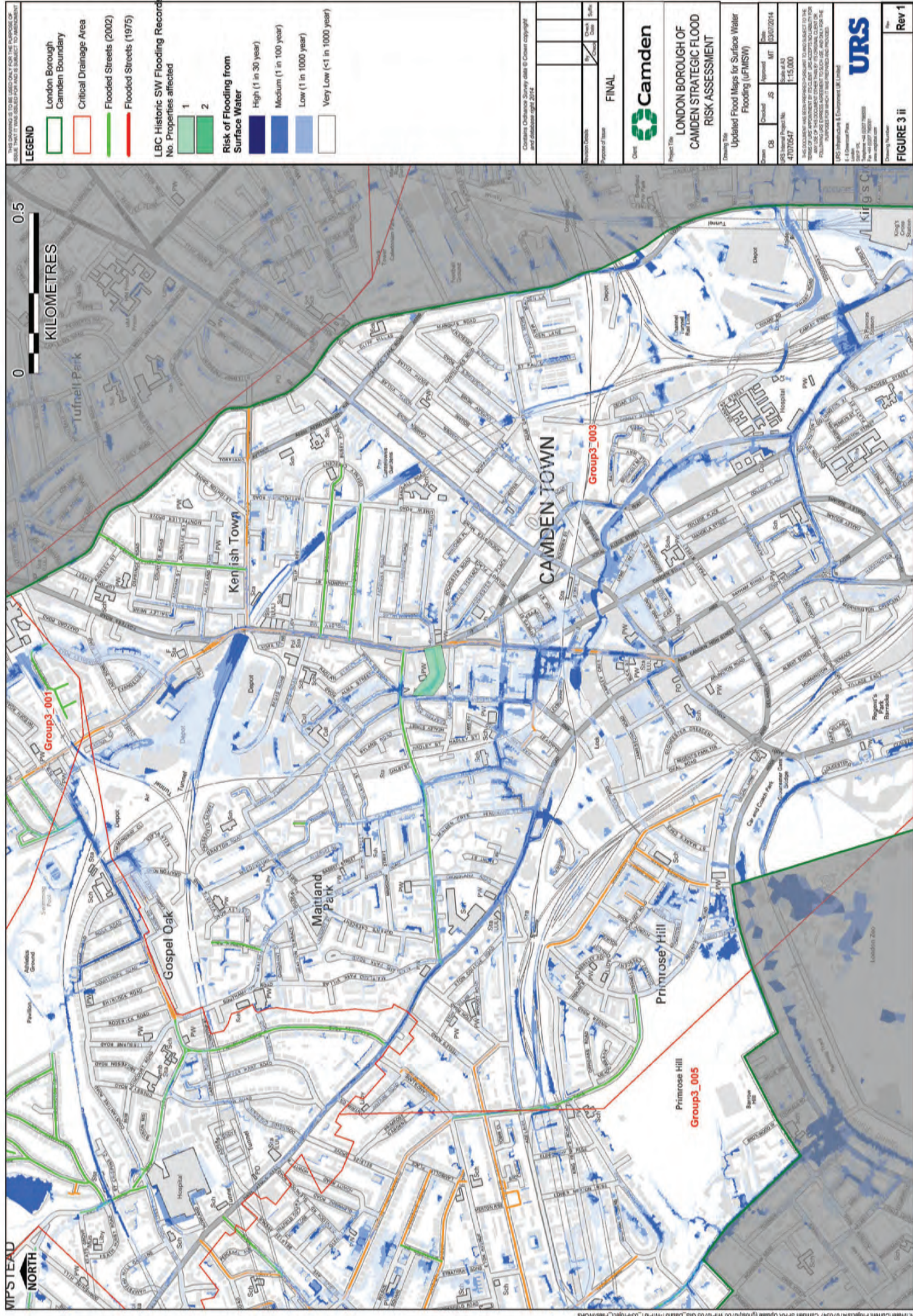
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Figure 5a

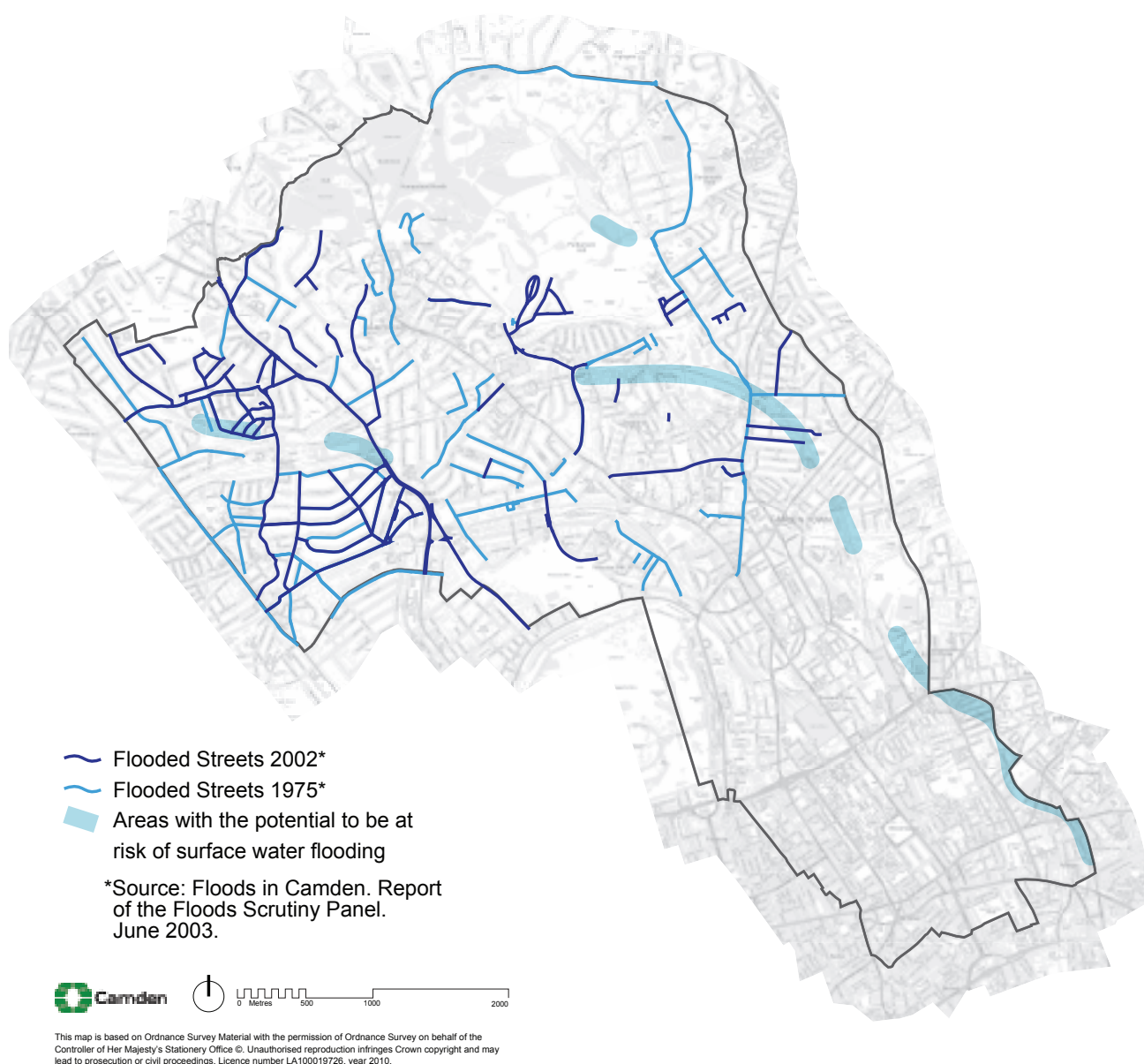
Rev 1





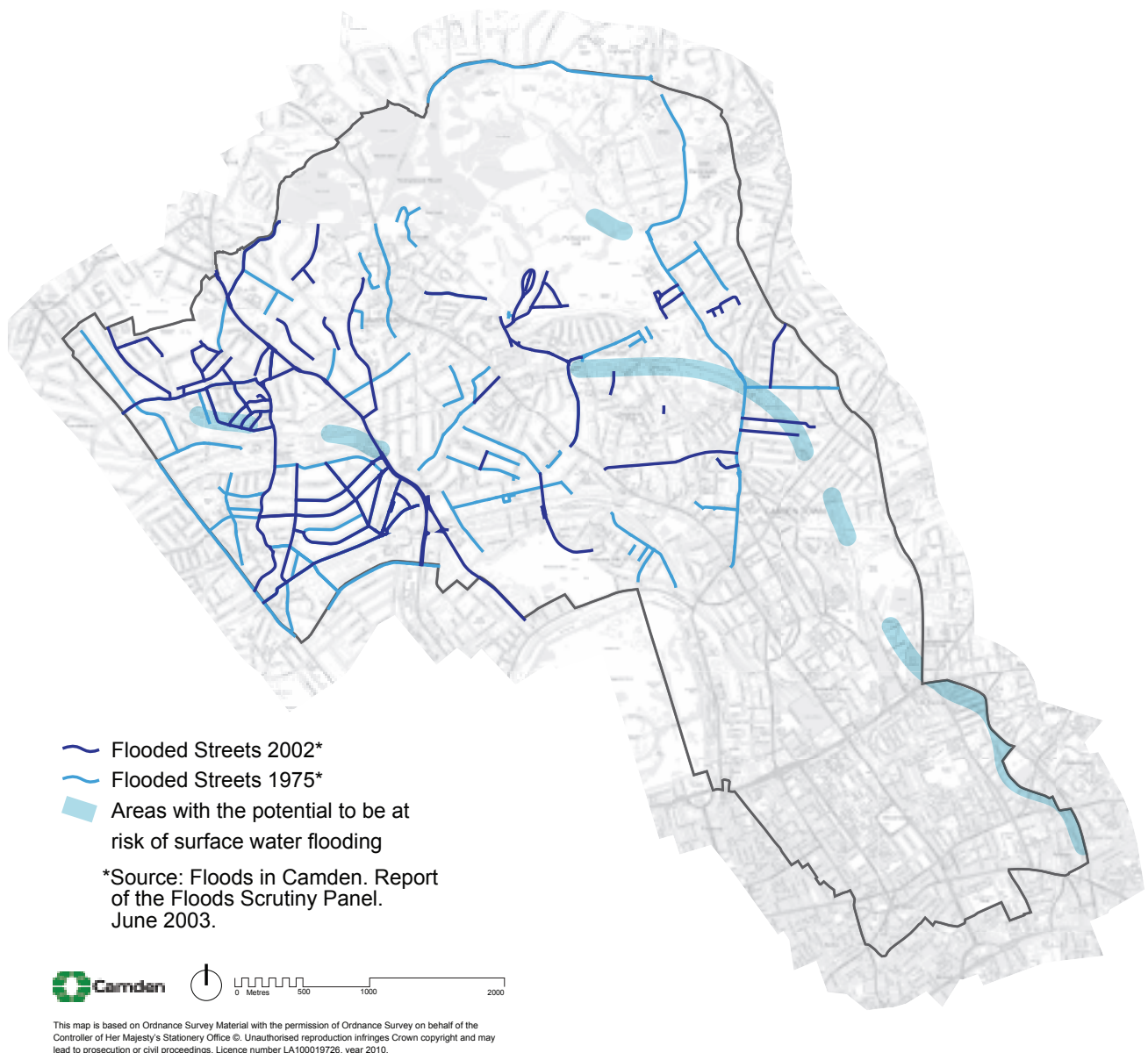


Map 5: Surface Water Flood Risk Potential



- 13.26 Thames Water's initial modelling indicates that local infrastructure improvements are likely to be required for Camden's growth areas, specifically King's Cross and Euston. As the combined sewer across the borough is a network, it will be important that all developments release as little foul and grey water (water from sinks, showers and washing machines) into the combined sewer system as possible by minimising the amount of water used on site and maximising re-use of grey water. British Waterways has identified the Regent's Canal as a source of grey water. Larger developments in areas already suffering from surface water flooding can provide the opportunity for improvements to be made to local infrastructure. Thames Water has advised the Council that the existing strategic, 'trunk' infrastructure is likely to be able to accommodate growth levels. In addition, it is building the Thames Tideway Scheme to improve the capacity of London's combined sewer network. Further information on planned sewerage/waste water infrastructure and sustainable urban drainage systems is provided in Appendix 1 – *Key infrastructure programmes and projects* (items 60 and 61).
- 13.27 The Council's detailed approach to water use and management within developments is set out in Camden Development Policies (policy DP23 – *Water*).

Map 2: Flood Risk



- 23.5 We only consume a small proportion of water that enters a building. Most of the water we use is for washing and flushing the toilet and therefore leaves the site again. The pumping and cleaning of water to drinking level consumes energy. In order to save energy and drinking water, water should be consumed efficiently and, where possible, treated and consumed close to source. Most of the water we do not consume, including rainfall, ends up in the combined storm water and sewer system. Our increased use of water, along with a growing population and increasing use of impervious surfaces, means more waste water is entering the combined storm water and sewer system, putting pressure on it.

Efficient use of water

- 23.6 Developments must be designed to be water efficient to minimise the need for further water infrastructure. This can be through the installation of water efficient appliances and by capturing and re-using rain water and grey water on-site. Rainwater harvesting systems are discussed in paragraph 23.8 below. Grey water use captures water from sinks, showers and washing machines for its re-use. Major developments and high or intense water use developments, such as hotels, hostels and student housing, should include a grey water harvesting system. Where such a system is not feasible or practical, developers must demonstrate to the Council's satisfaction that this is the