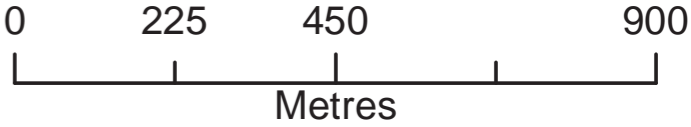


Breach Modelling Map for: Dolphin Square, Chichester Street, London, SW1V 3LX - 08/06/2021 - HNL 218971 HH



Environment Agency
 Alchemy,
 Bessemer Road,
 Welwyn Garden City,
 Hertfordshire,
 AL7 1HE



Legend

- Main Rivers
- Site location

Upstream Breach Outlines

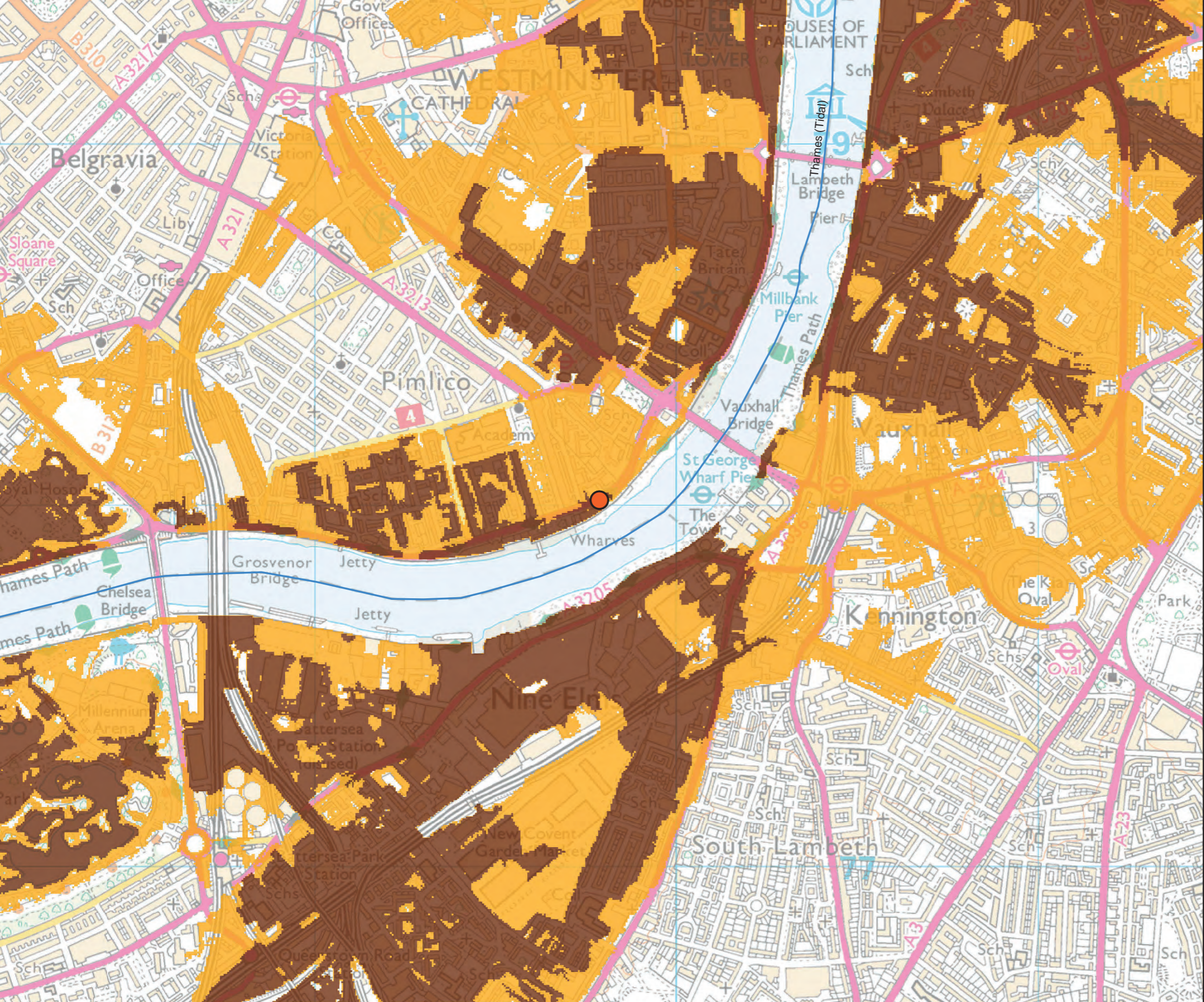
Epoch

- 2005
- 2100

Thames Tidal Upriver Breach Inundation Modelling 2017

A modelled representation of all upriver tidal breach locations along the Thames from Teddington to the Thames Barrier, based on low floodplain topography. For hard and composite defences breaches are set at 20 m wide; for soft defences, breaches are 50 m wide. In both cases, the defence breach scour distance was assumed to extend into the floodplain by the same distance as the breach width. The modelling is based on the 2008 TE2100 in-channel levels, with an allowance for climate change for epoch 2100.

Produced by:
 Partnerships & Strategic Overview,
 Hertfordshire & North London

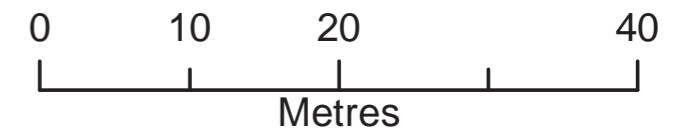


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Modelled Flood Levels For: Dolphin Square, Chichester Street, London, SW1V 3LX - 08/06/2021 - HNL 218971 HH



Environment Agency
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 Welwyn Garden City,
 Hertfordshire,
 AL7 1HE



Legend

- Main Rivers
- Site location

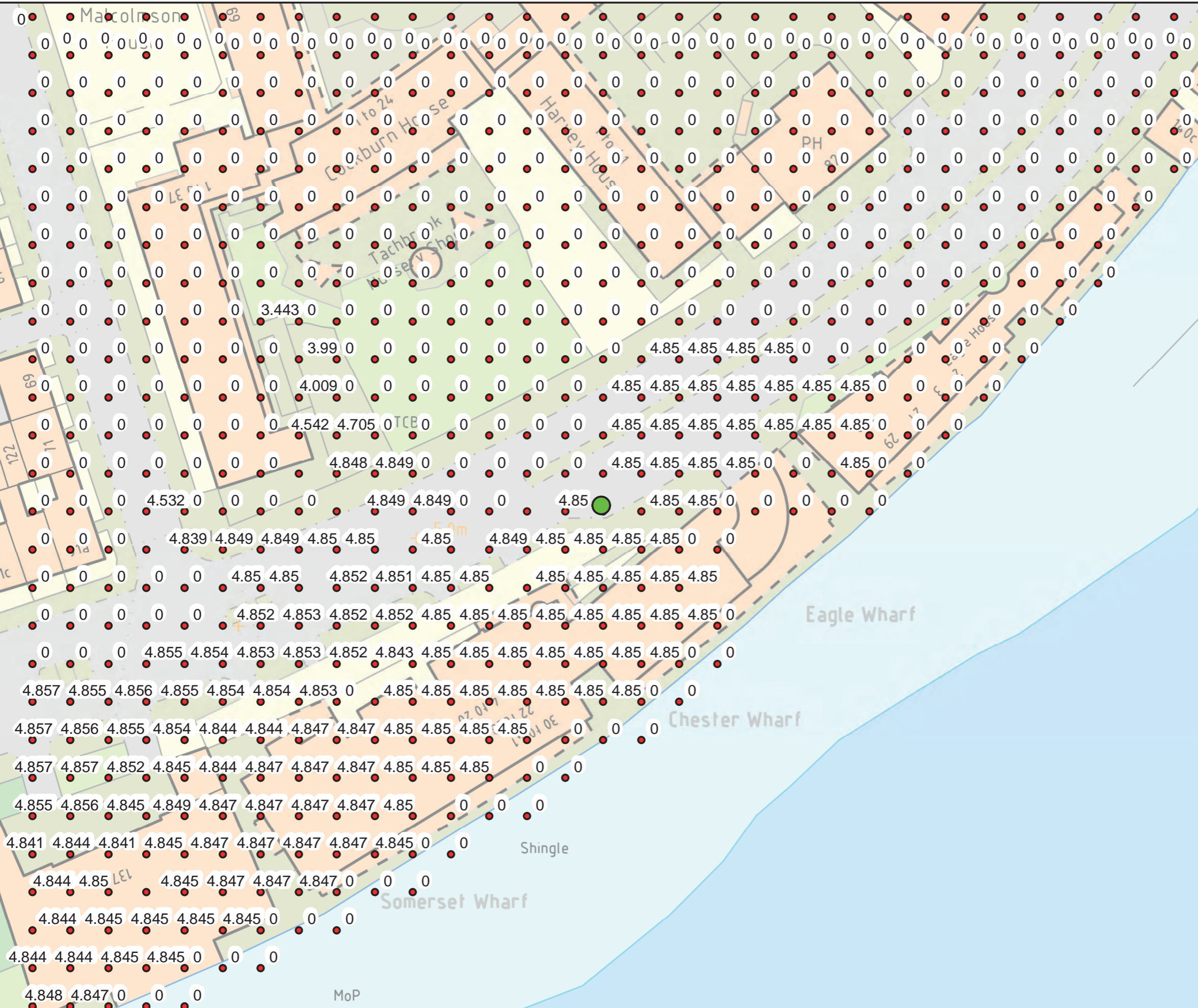
2D Node Results: Heights

- Tidal Breach Height (mAOD) 2005

Thames Tidal Upriver Breach Inundation Modelling 2017

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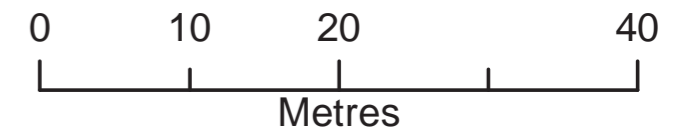


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Modelled Flood Levels For: Dolphin Square, Chichester Street, London, SW1V 3LX - 08/06/2021 - HNL 218971 HH



Environment Agency
 Alchemy,
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 AL7 1HE



Legend

- Main Rivers
- Site location

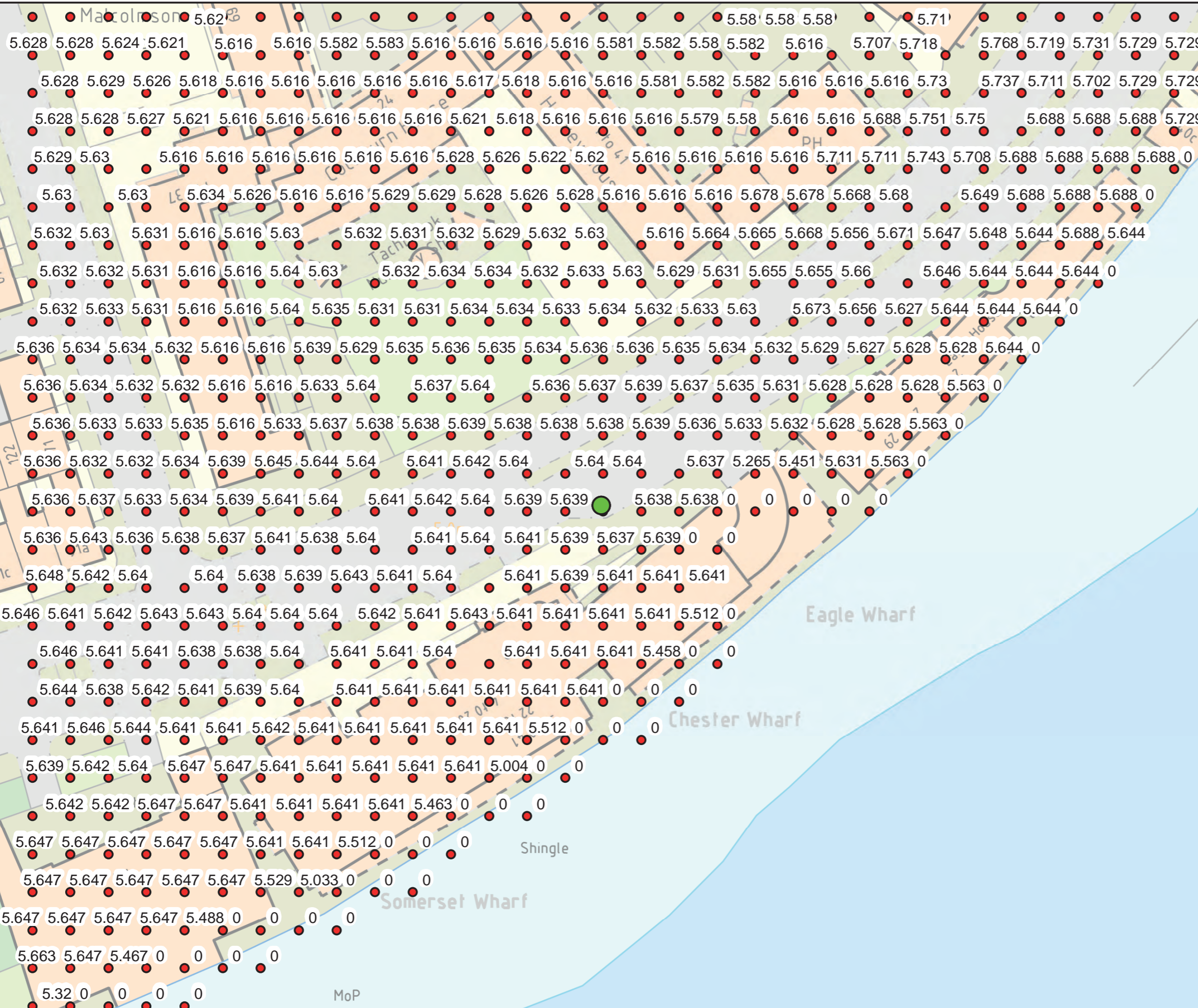
2D Node Results: Heights

- Tidal Breach Height (mAOD) 2100

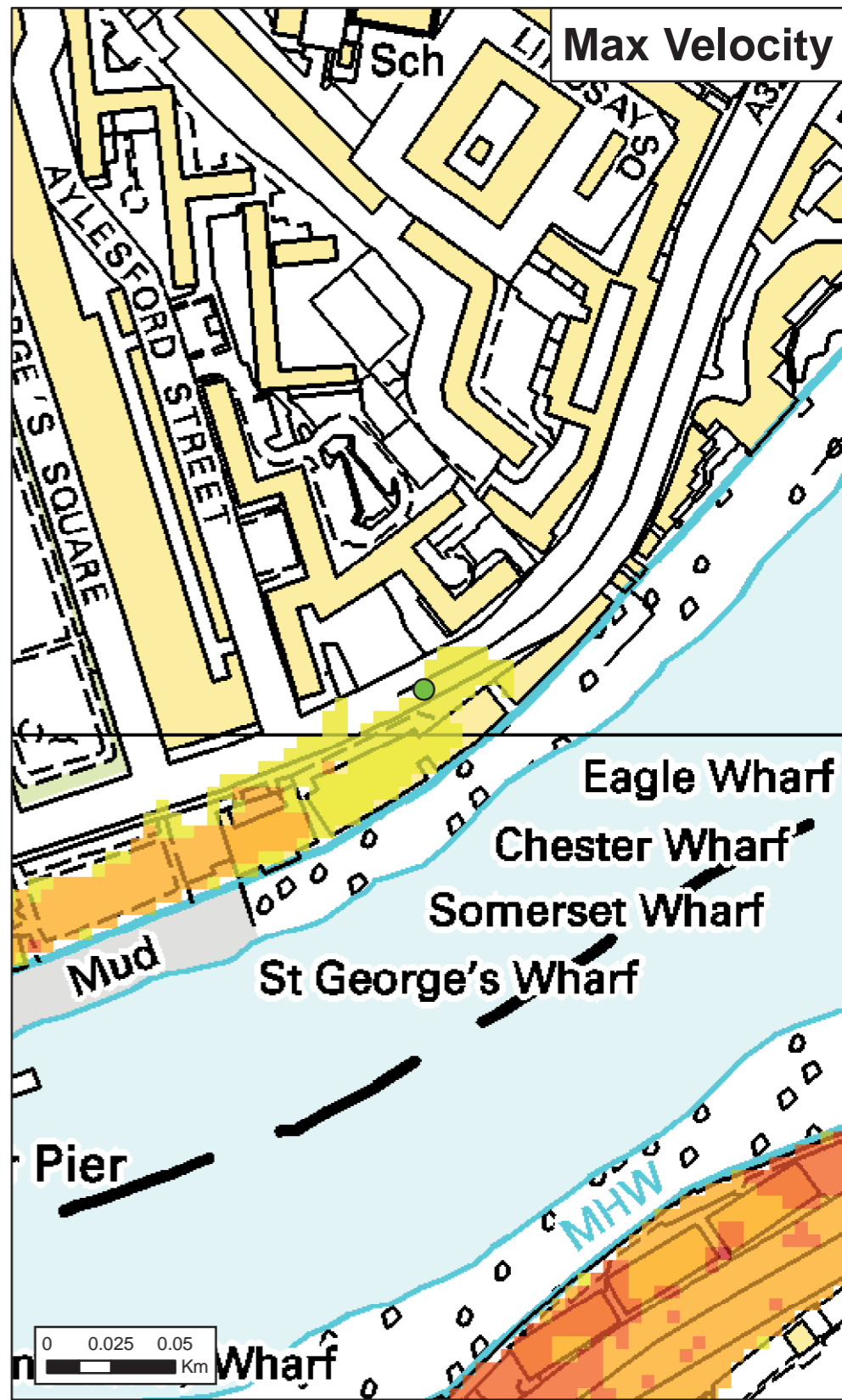
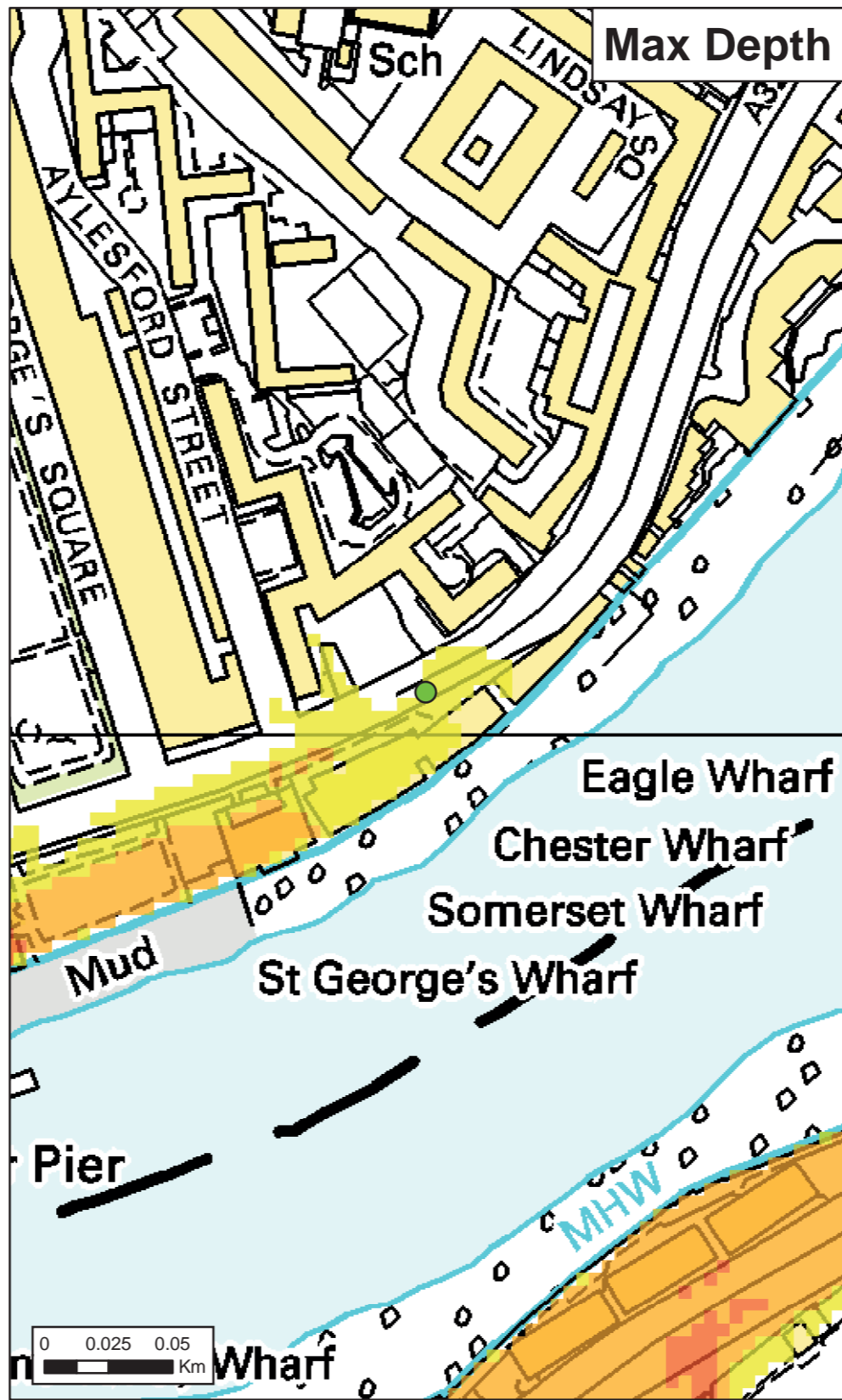
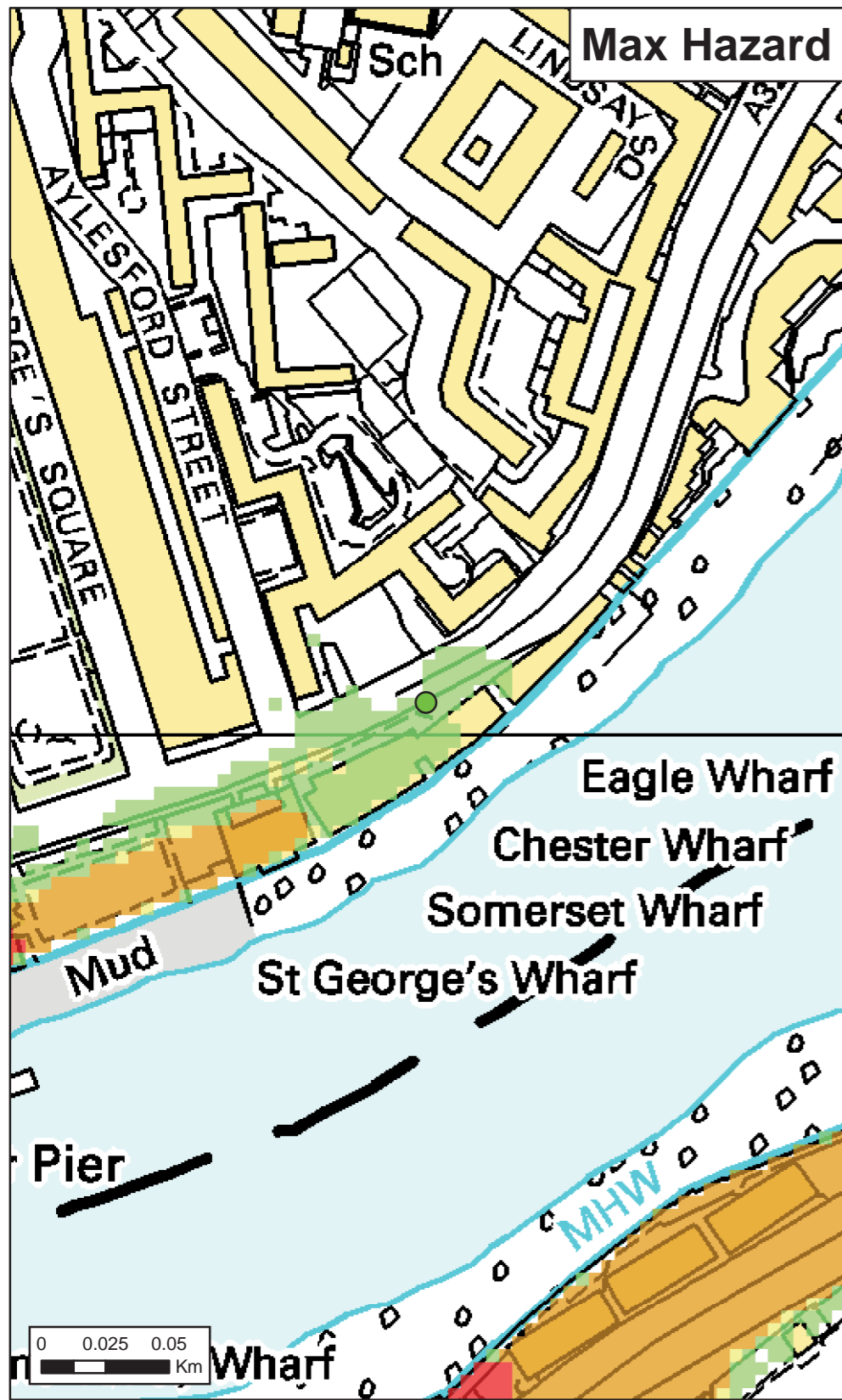
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Max Hazard		Max Depth (m)		Max Velocity (m/s)	
	Less than 0.75 (Low Hazard)		0 - 0.25		0 - 0.3
	Between 0.75 and 1.25 (Danger for Some)		0.25 - 1.00		0.3 - 1.0
	Between 1.25 and 2.00 (Danger for Most)		1.00 - 1.50		1.0 - 1.5
	Greater than 2.00 (Danger for All)		1.50 - 2.00		1.5 - 2.5
			> 2.00		> 2.5

Date Printed	08/06/2021	Scenario year	2005	Scenario Annual Chance	0.5% (1 in 200)
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This map shows the level of flood hazard to people (called a hazard rating) if our flood defences are breached at certain locations, for a range of scenarios. The hazard rating depends on the depth and velocity of floodwater, and maximum values of these are also mapped.

The map is based on computer modelling of simulated breaches at specific locations. Each breach has been modelled individually and the results combined to create this map. Multiple breaches, other combinations of breaches, different sized tidal surges or flood flows may all give different results.

The map only considers the consequences of a breach, it does not make any assumption about the likelihood of a breach occurring. The likelihood of a breach occurring will depend on a number of different factors, including the construction and condition of the defences in the area. A breach is less likely where defences are of a good standard, but a risk of breaching remains.

Please contact the Environment Agency for further information on emergency planning associated with flood risk in this area.

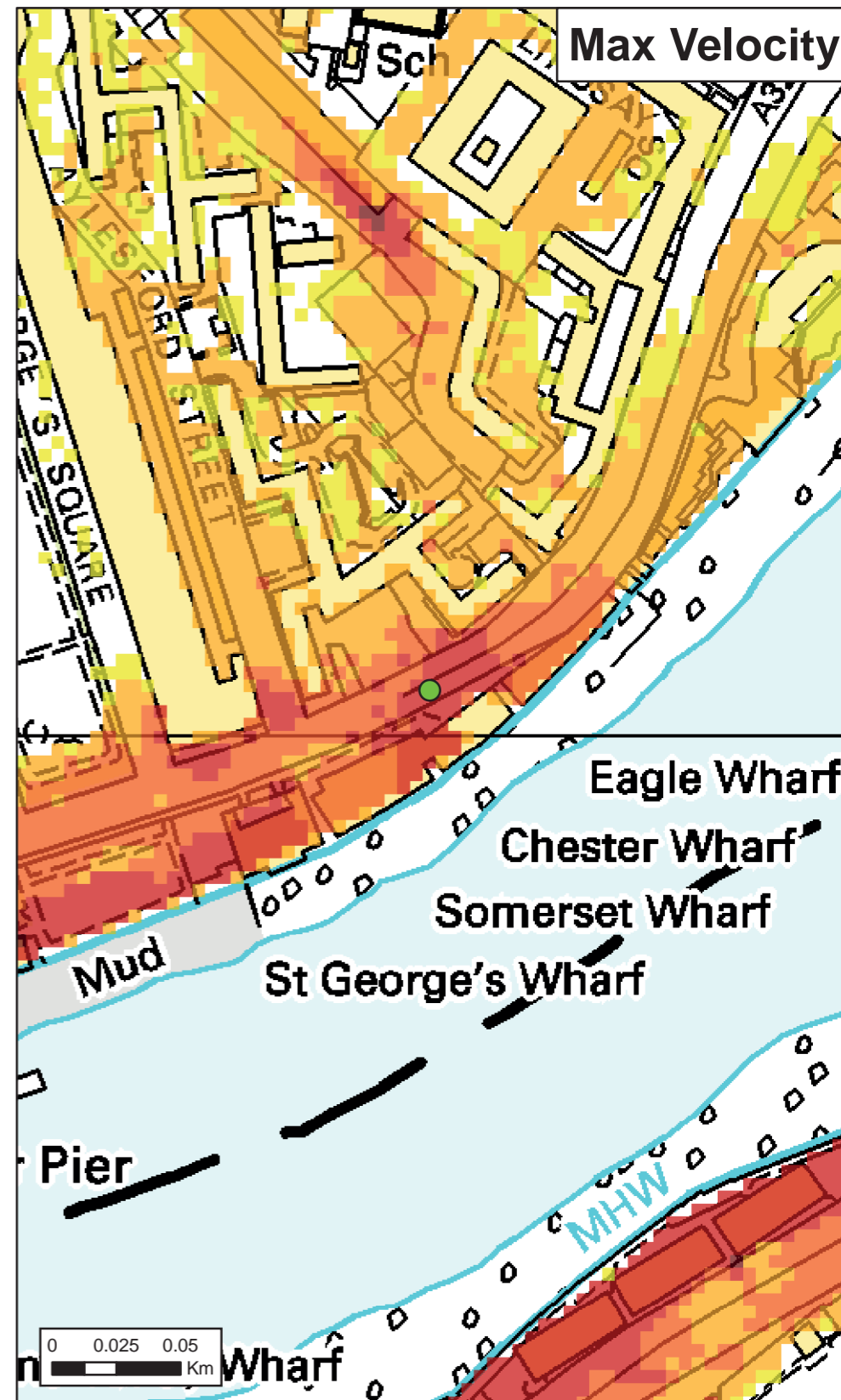
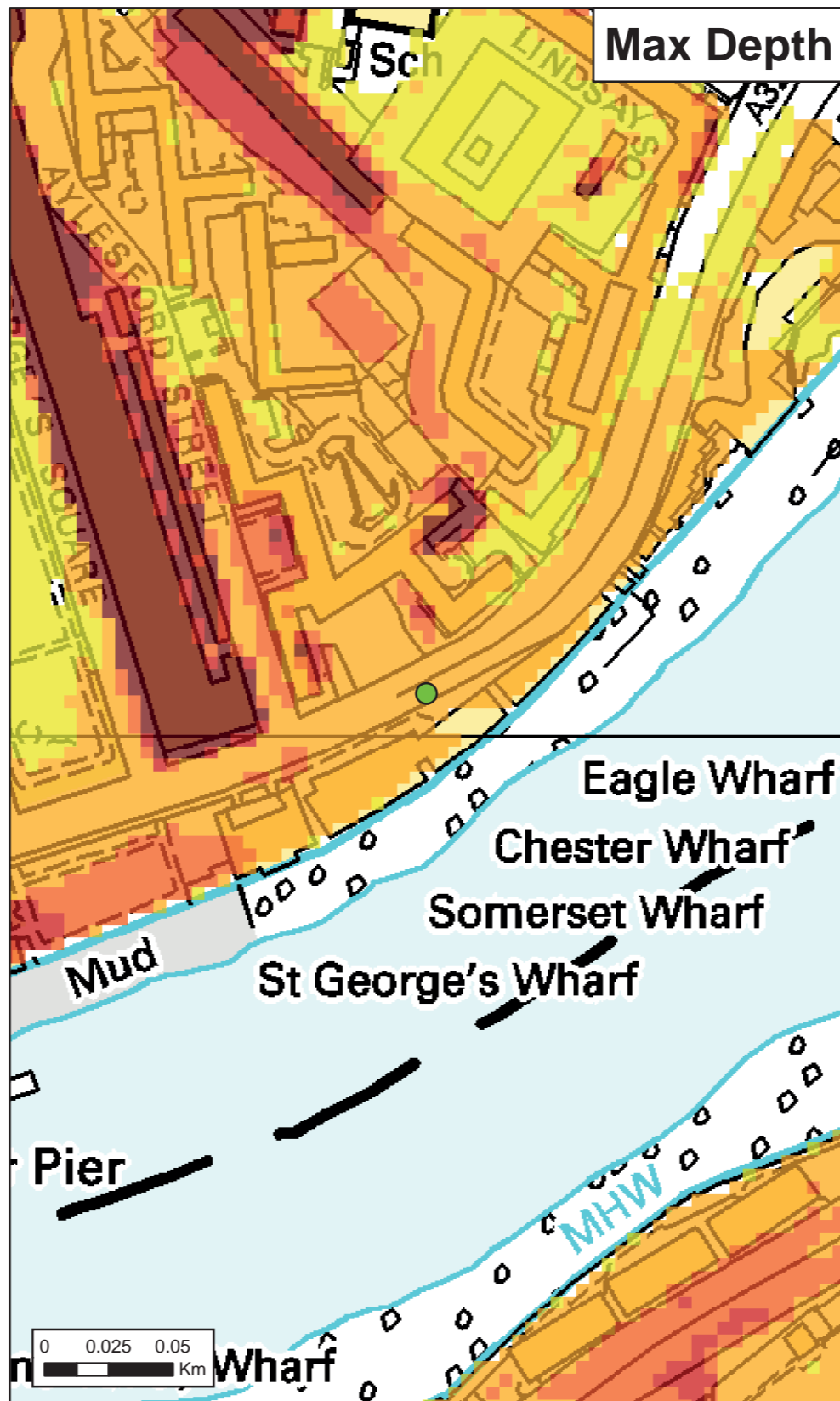
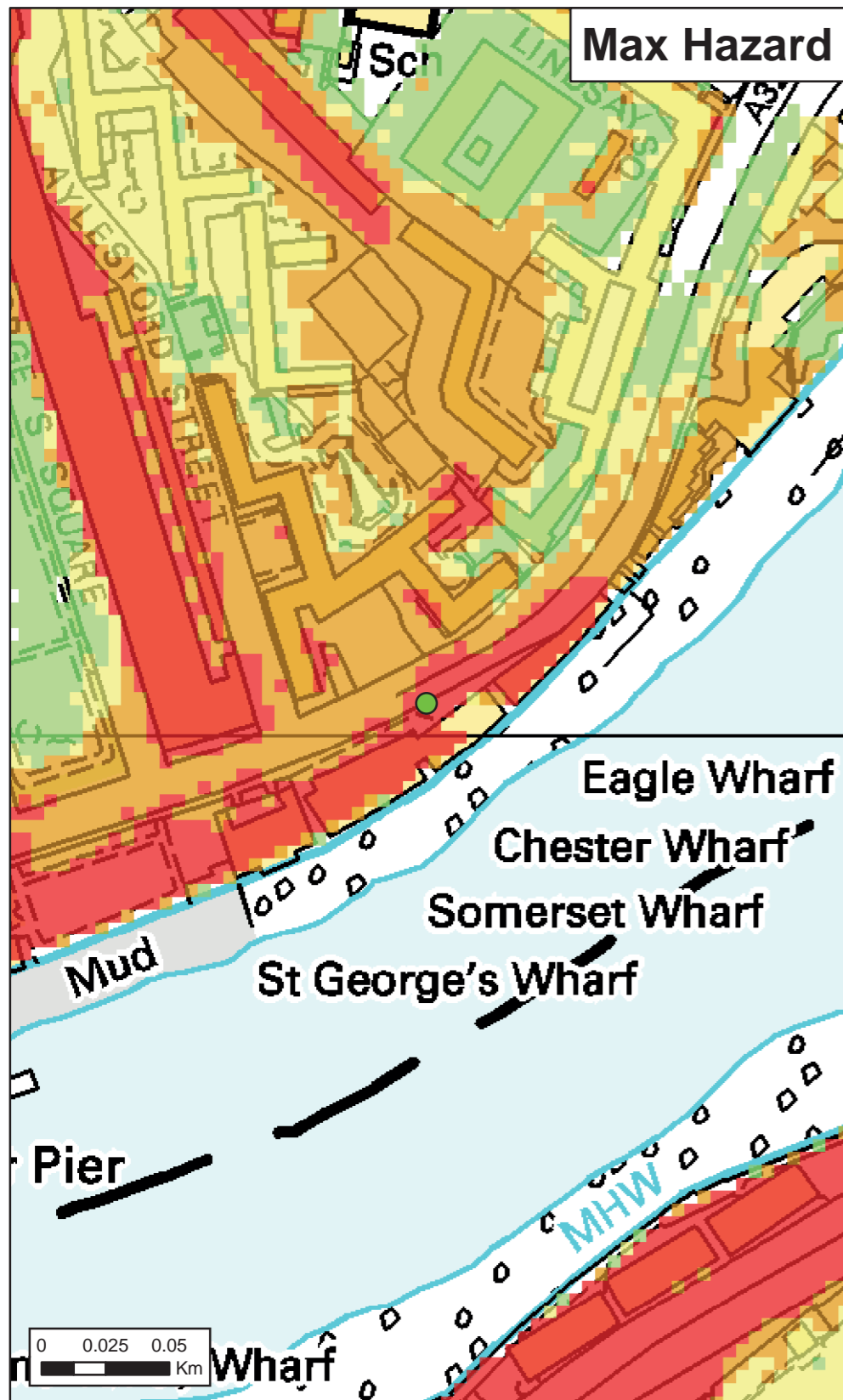
General Enquiries No: 03708 506 506. Weekday Daytime calls cost 5p plus up to 6p per minute from BT Weekend Unlimited. Mobile and other providers' charges may vary



Thames Tidal Breach Hazard Mapping

Map Centred on 529,792 178,011

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Max Hazard		Max Depth (m)		Max Velocity (m/s)	
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	Greater than 2.00 (Danger for All)		1.50 - 2.00		1.5 - 2.5
			> 2.00		> 2.5
Date Printed	08/06/2021	Scenario year	2100	Scenario Annual Chance	0.5% (1 in 200)

This map shows the level of flood hazard to people (called a hazard rating) if our flood defences are breached at certain locations, for a range of scenarios. The hazard rating depends on the depth and velocity of floodwater, and maximum values of these are also mapped.

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General Enquiries No: 03708 506 506. Weekday Daytime calls cost 5p plus up to 6p per minute from BT Weekend Unlimited. Mobile and other providers' charges may vary



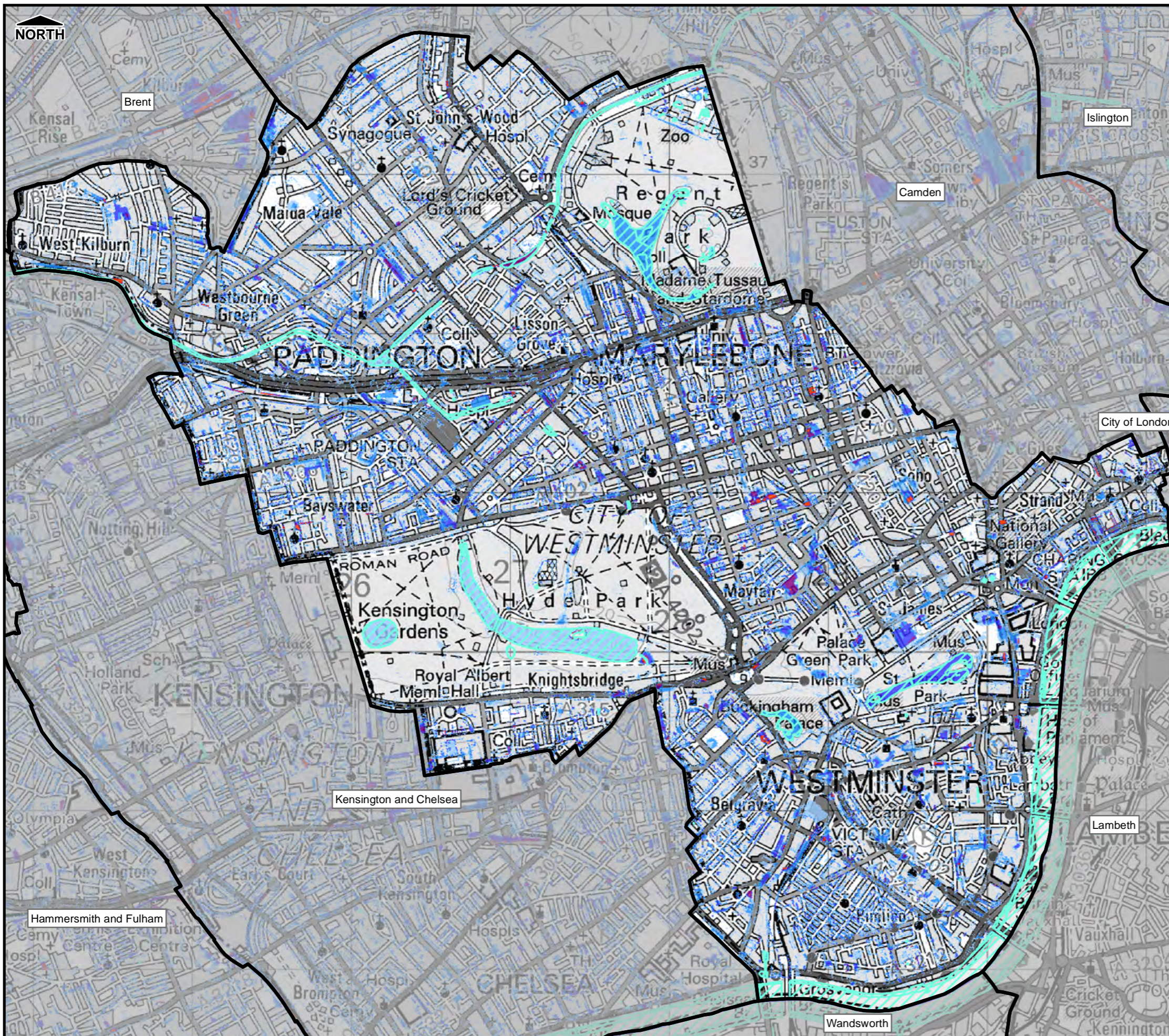
Thames Tidal Breach Hazard Mapping

Map Centred on 529,792 178,011

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Appendix C

City of Westminster Surface Water Flood Map



Legend

Flood Depth

- <0.1m
- 0.1m to 0.25m
- 0.25m to 0.5m
- 0.5m to 1.0m
- 1.0m to 1.5m
- >1.5m
- Main River
- Permanent Water Bodies
- LB City of Westminster Administrative Boundary

Notes

1. This map provides a strategic overview of surface water flood risk and may be subject to further analysis in the future.
2. This map only shows the predicted likelihood of surface water flooding (this includes flooding from sewers, drains, small watercourses and ditches that occurs in heavy rainfall) for defined areas, and due to the coarse nature of the source data used, are not detailed enough to account for precise addresses
3. Users of this map should refer to Section 3.2 of the Surface Water Management Plan for a complete description of limitations and accuracy of the flood / hazard extents shown.

London Borough of City of Westminster



City of Westminster

Preliminary Flood Risk Assessment

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Scale at A3 1:25,000	Date 18/04/2011	Drawn by H.Winter	Approved by I.Felstead
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**Surface Water Depth (m)
 1 in 200 chance of rainfall event occurring
 in any given year (0.5% AEP)**

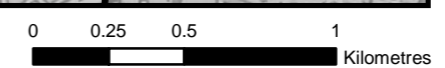
Consultants

Halcrow Group Limited
 Elms House
 43 Brook Green
 Hammersmith
 London
 W6 7EF

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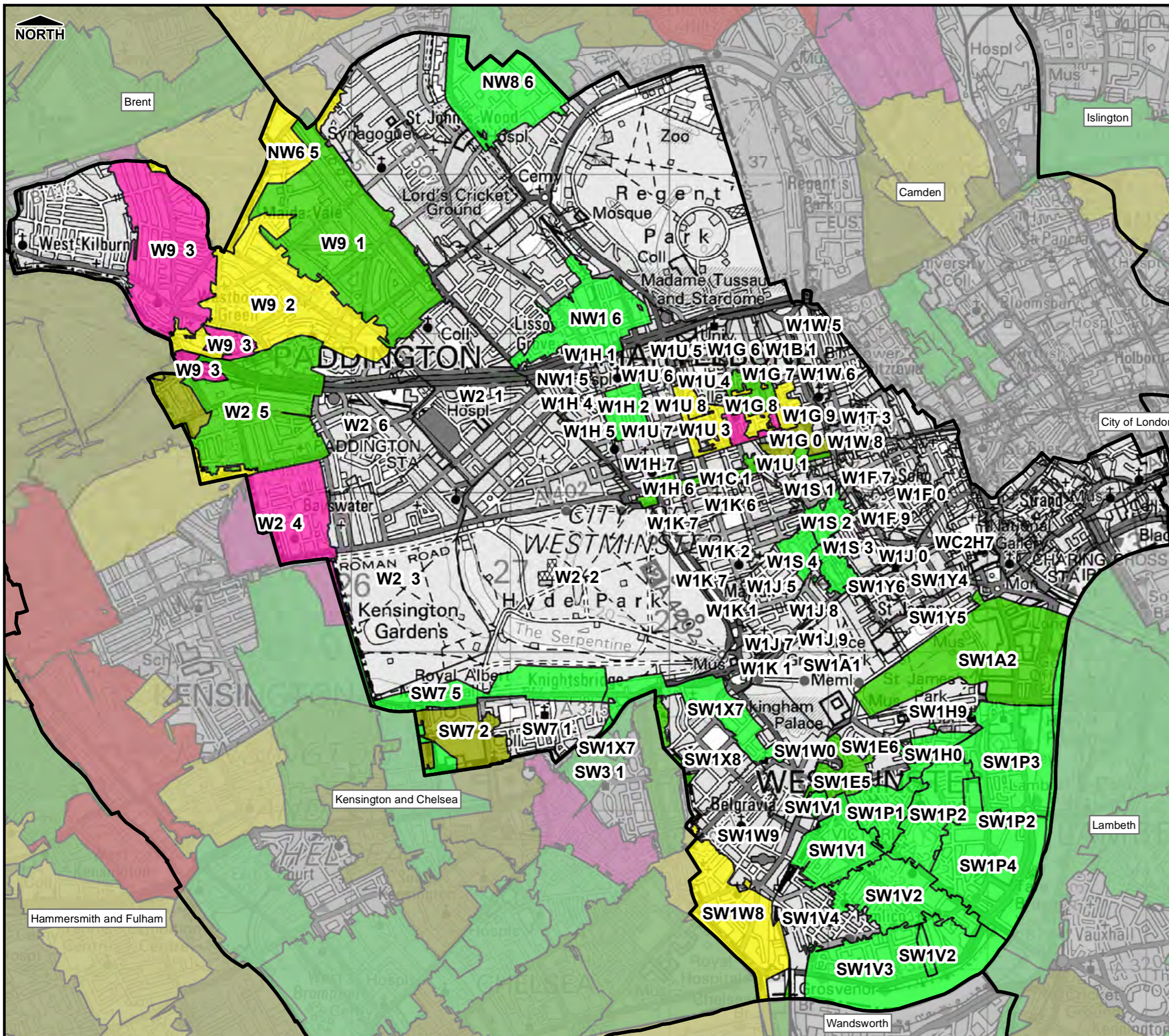
MAP 5.1



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Appendix D

Thames Water Sewer Flooding Incident Map



Legend

Thames Water DG5 Records

No. of Sewer Flood Records

- None
- 1 - 5
- 6 - 10
- 11 - 20
- 21 - 50
- 51 - 100
- 101+

LB City of Westminster Administrative Boundary

Notes

- Sewer flood records relate to internal and external flooding of properties
- Data supplied by Thames Water Ltd and is correct as at June 2010

London Borough of City of Westminster

City of Westminster
Preliminary Flood Risk Assessment

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Scale at A3 1:25,000	Date 18/04/2011	Drawn by H.Winter	Approved by I.Felstead
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Summary Map of Past Floods – Recorded Incidents of Sewer Flooding (Thames Water DG5 Data)

Consultants

Halcrow Group Limited
 Elms House
 43 Brook Green
 Hammersmith
 London
 W6 7EF

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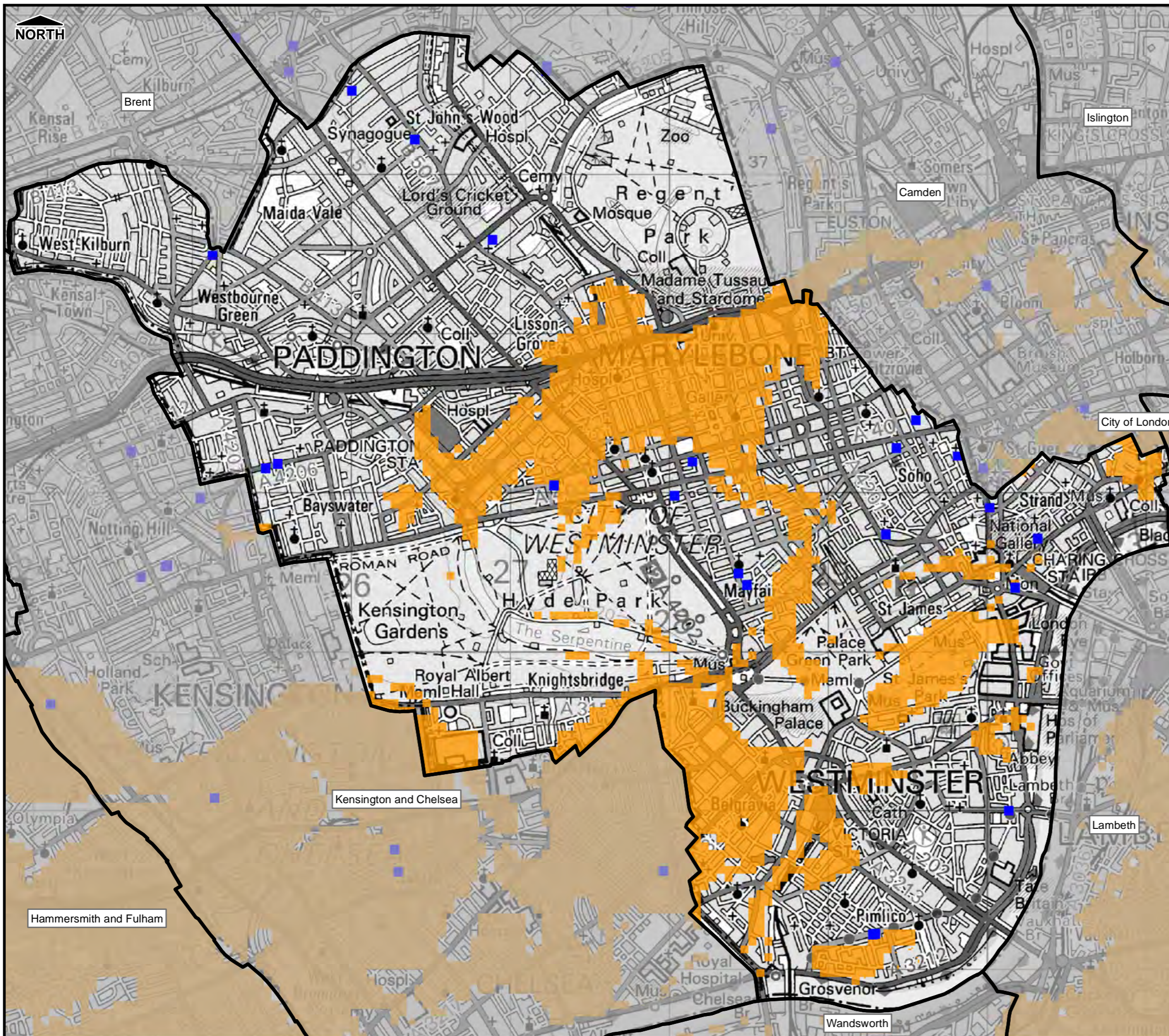


MAP 4.1a

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Appendix E

Elevated Groundwater Emergence Maps



Legend

Increased Potential for Elevated Groundwater

- Consolidated Aquifers
- Permeable Superficial Deposits
- Groundwater Flooding Incident (EA Records)
- LB City of Westminster Administrative Boundary

Notes

1. The increased Potential for Elevated Groundwater map shows those areas within the London Boroughs where there is an increased potential for groundwater to rise sufficiently to interact with the ground surface or be within 2m of the ground surface. Such groundwater rise could lead to the following consequences:
 - flooding of basements of buildings below ground level;
 - flooding of buried services or other assets below ground level;
 - inundation of farmland, roads, commercial, residential and amenity areas;
 - flooding of ground floors of buildings above ground level; and
 - overflowing of sewers and drains
2. Incident records shown are generally unconfirmed and may include issues such as water main bursts or non-groundwater related problems.
3. Areas not shown to have increased potential for elevated groundwater should be considered to have a low potential for elevated groundwater
 - Lack of information does not imply 'no potential' of elevated groundwater in that area.
4. Includes groundwater flood mapping provided by JBA Consulting, Copyright Jeremy Benn Associates Limited 2008-2011, partially derived from data supplied by the Environment Agency.

London Borough of City of Westminster



City of Westminster

Preliminary Flood Risk Assessment

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Scale at A3 1:25,000	Date 18/04/2011	Drawn by H.Winter	Approved by I.Felstead
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Increased Potential for Elevated Groundwater Map

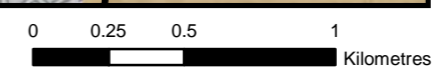
Consultants

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Hammersmith
London
W6 7EF

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MAP 5.3



Filepath: \\lond-fs-07\water\Geospatial\Projects\WUD\SW\Documents\PFRA\Group_3\Mapping\CityOfWestminster\DLGP3_Westminster_PFRA_Groundwater.mxd

