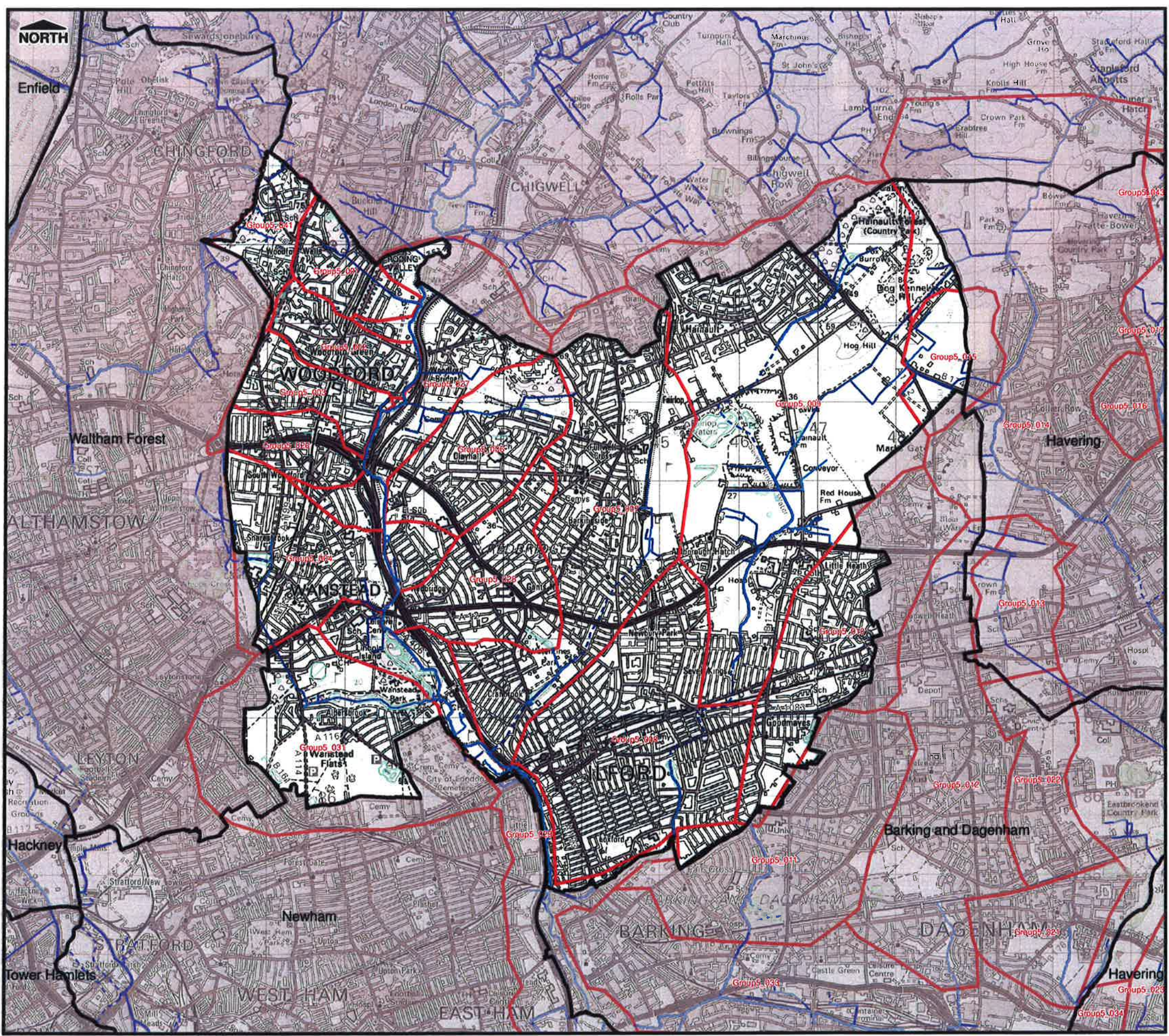


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THIS DRAWING MAY BE USED ONLY FOR THE PURPOSE INTENDED

Legend

- Culverted Watercourse
- Ordinary Watercourse
- Main River
- Permanent Water Bodies
- LB Redbridge Administrative Boundary
- Critical Drainage Area

Notes

London Borough of Redbridge



Surface Water Management Plan

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1:50,000	16/03/2011	N.Smith	P.Eccleston

Critical Drainage Areas Index Map

Consultants



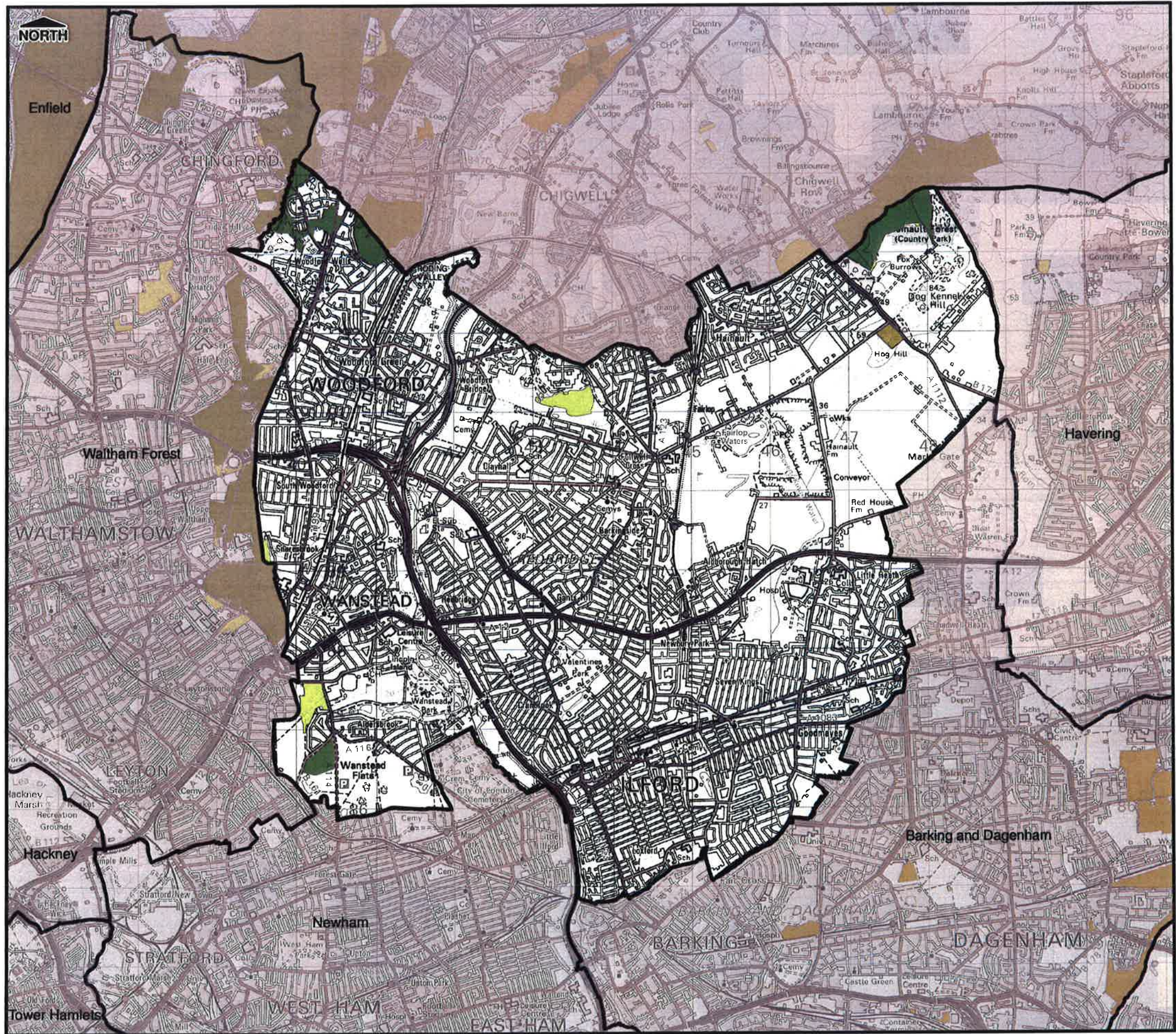
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FIGURE 0



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Legend

- LB Redbridge Administrative Boundary
- International Designations
- National Designations
- Policy Designations
- Local Nature Reserves
- Miscellaneous Designations

Notes

London Borough of Redbridge



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Environmental Areas

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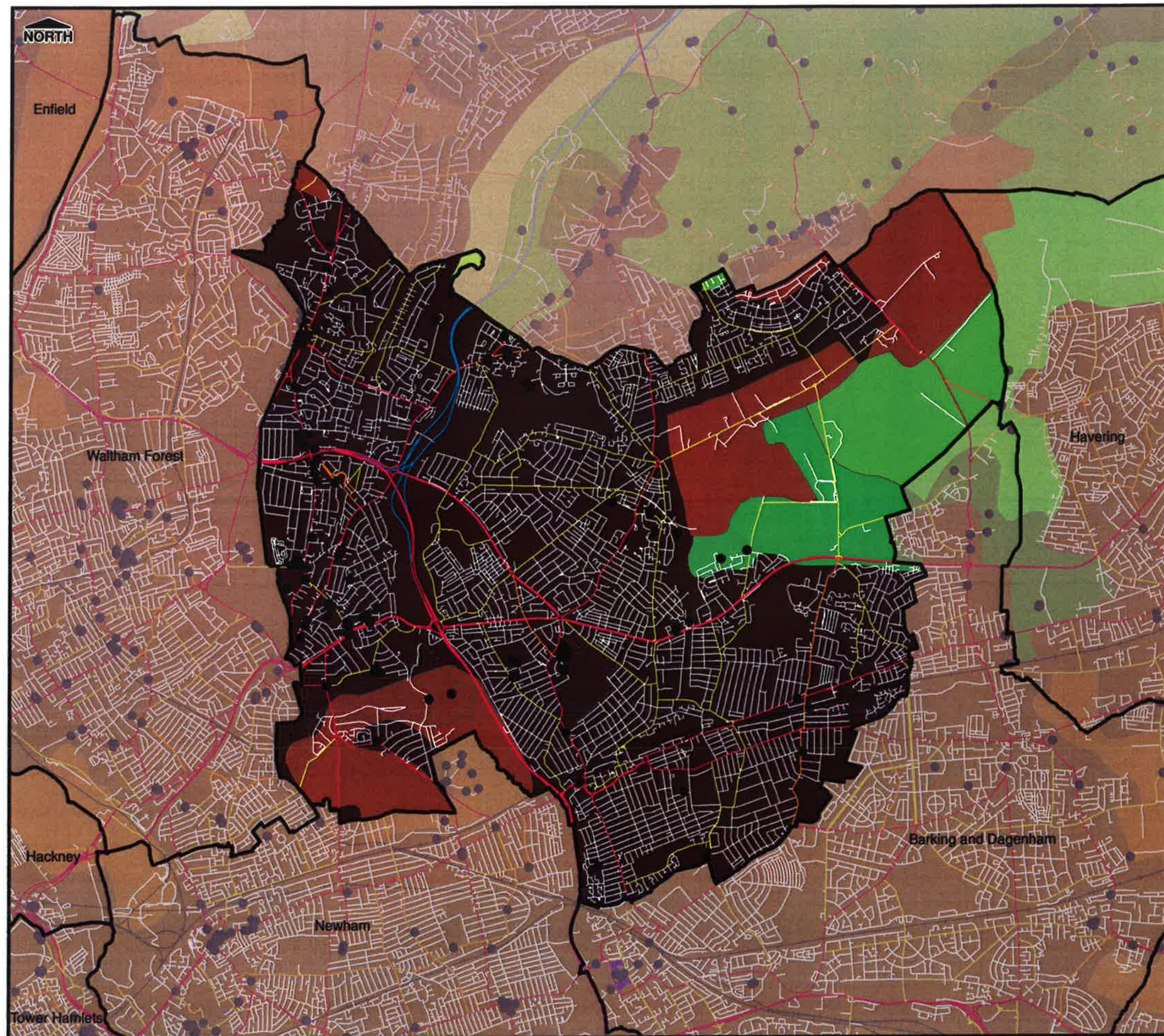
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FIGURE 1.4.3



0 0.35 0.7 1.4 2.1 2.8
Kilometres

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Legend

- LB Redbridge Administrative Boundary
- Listed Buildings
- Historic Parks and Gardens
- Scheduled Ancient Monuments
- Local roads
- A Road
- B Road
- Minor Road
- Motorway
- Railways
- Grade 1 Agricultural Land
- Grade 2 Agricultural Land
- Grade 3 Agricultural Land
- Grade 4 Agricultural Land
- Grade 5 Agricultural Land
- Non-Agricultural Land
- Urban Areas

Notes

London Borough of Redbridge



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Land Use Areas

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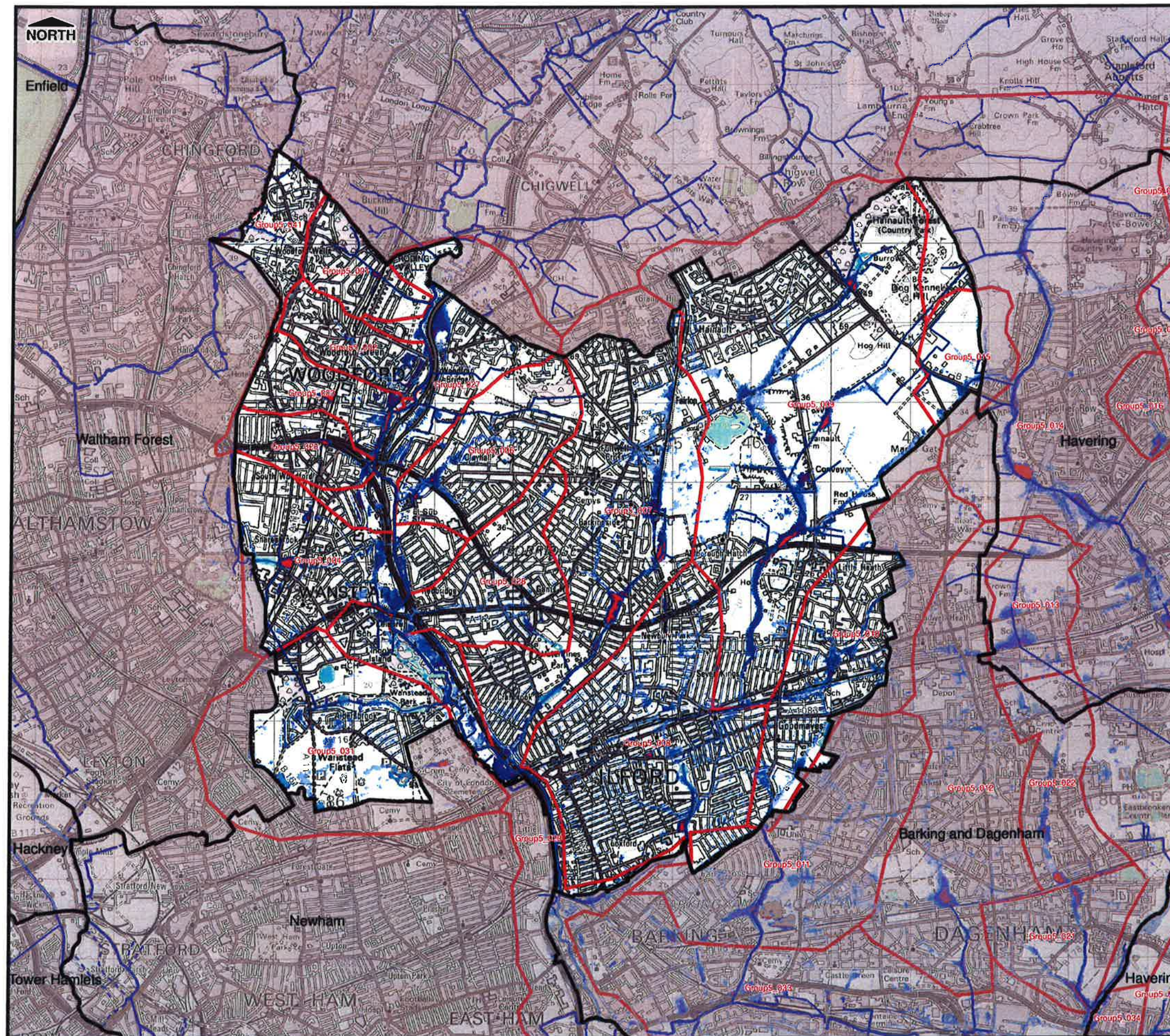
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FIGURE 1.4.2



THIS DRAWING MAY BE USED ONLY FOR THE PURPOSE INTENDED

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

- Culverted Watercourse
- Ordinary Watercourse
- Main River
- Permanent Water Bodies
- LB Redbridge Administrative Boundary
- Critical Drainage Area

Notes

1. 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 defended areas, and due to the coarse nature of the source data used, are not detailed enough to account for precise addresses.
2. 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 extents shown.

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Surface Water Depth (m)
1 in 100 Chance of rainfall event occurring in any given year (1% AEP)

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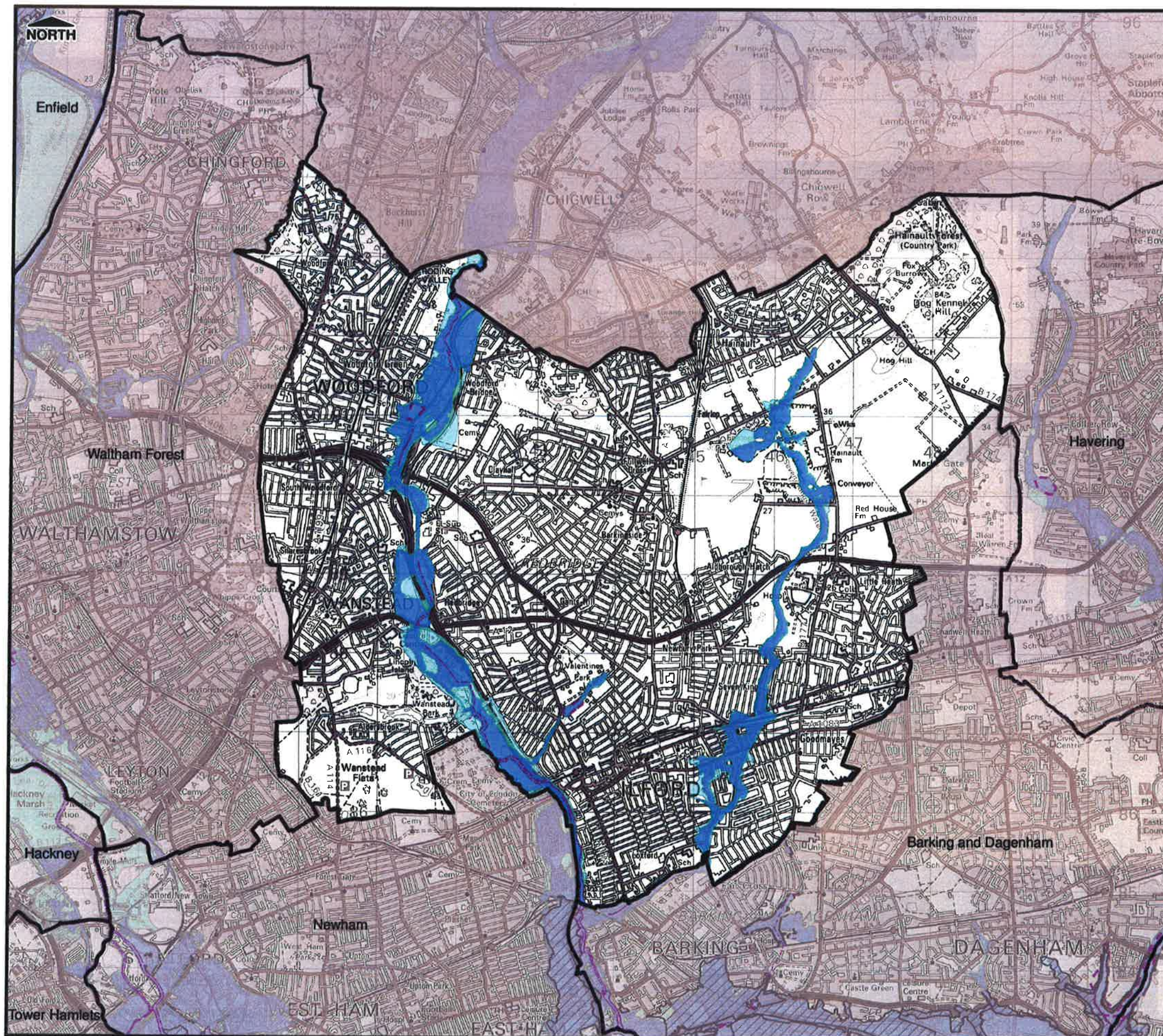
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FIGURE 3.2.2



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Legend

- LB Redbridge Administrative Boundary
- Defences
- Areas Benefiting from Flood Defences
- Flood Storage Areas
- Flood Zone 3
- Flood Zone 2

Notes

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Environment Agency Flood Map

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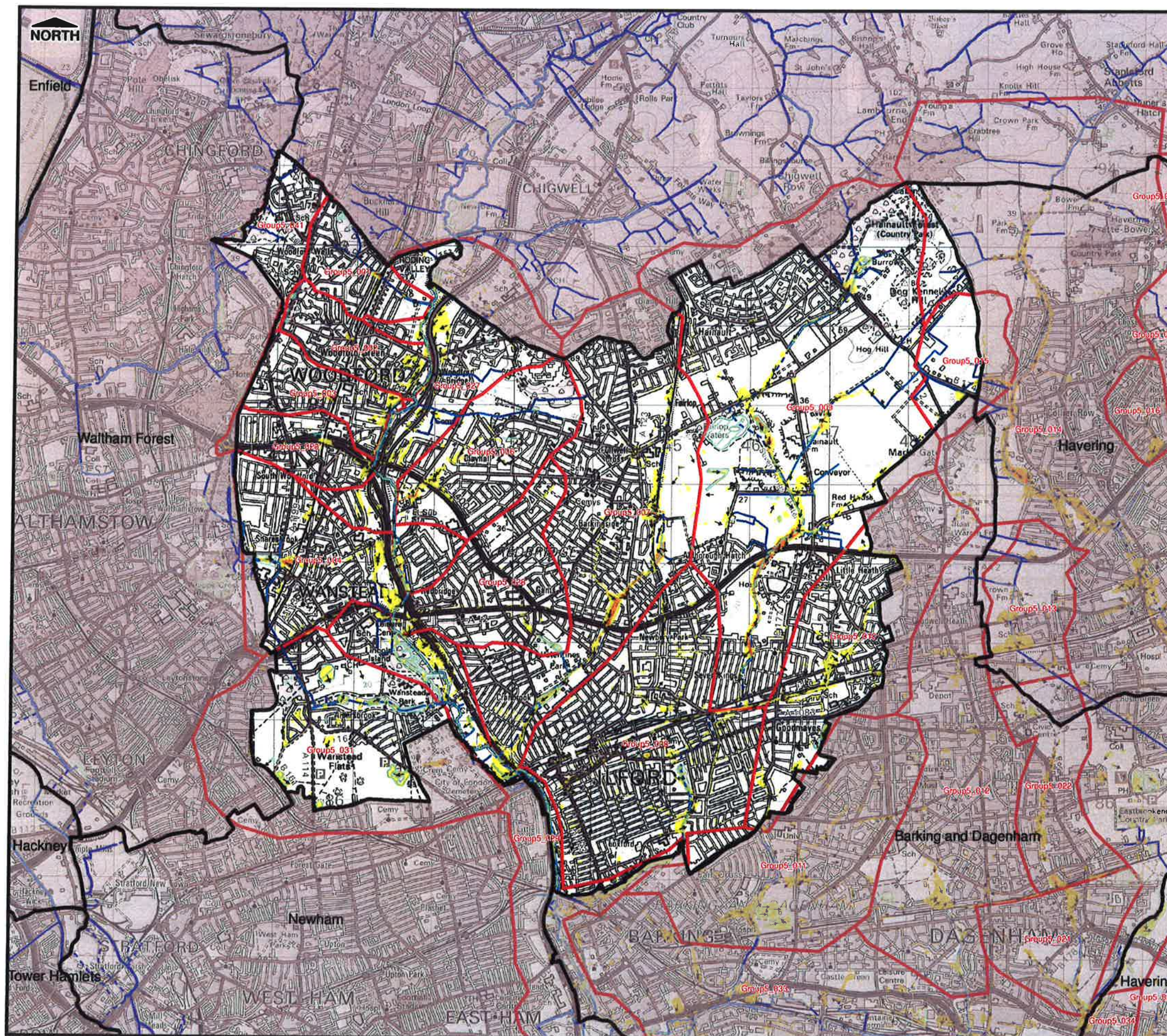


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FIGURE 3.2.1

0 0.3 0.6 1.2 1.8 2.4
Kilometres



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Legend

- Culverted Watercourse
 - Ordinary Watercourse
 - Main River
 - Permanent Water Bodies
 - LB Redbridge Administrative Boundary
 - Critical Drainage Area
 - Flow Direction
- Hazard
- Caution (Very low hazard)
 - Moderate (Danger for some)
 - Significant (Danger for most)
 - Extreme (Danger for all)

Notes

- 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 defended areas, and due to the coarse nature of the source data used, are not detailed enough to account for precise addresses.
- 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 extents shown.

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Surface Water Flood Hazard Rating
1 in 100 Chance of rainfall event occurring
in any given year (1% AEP)

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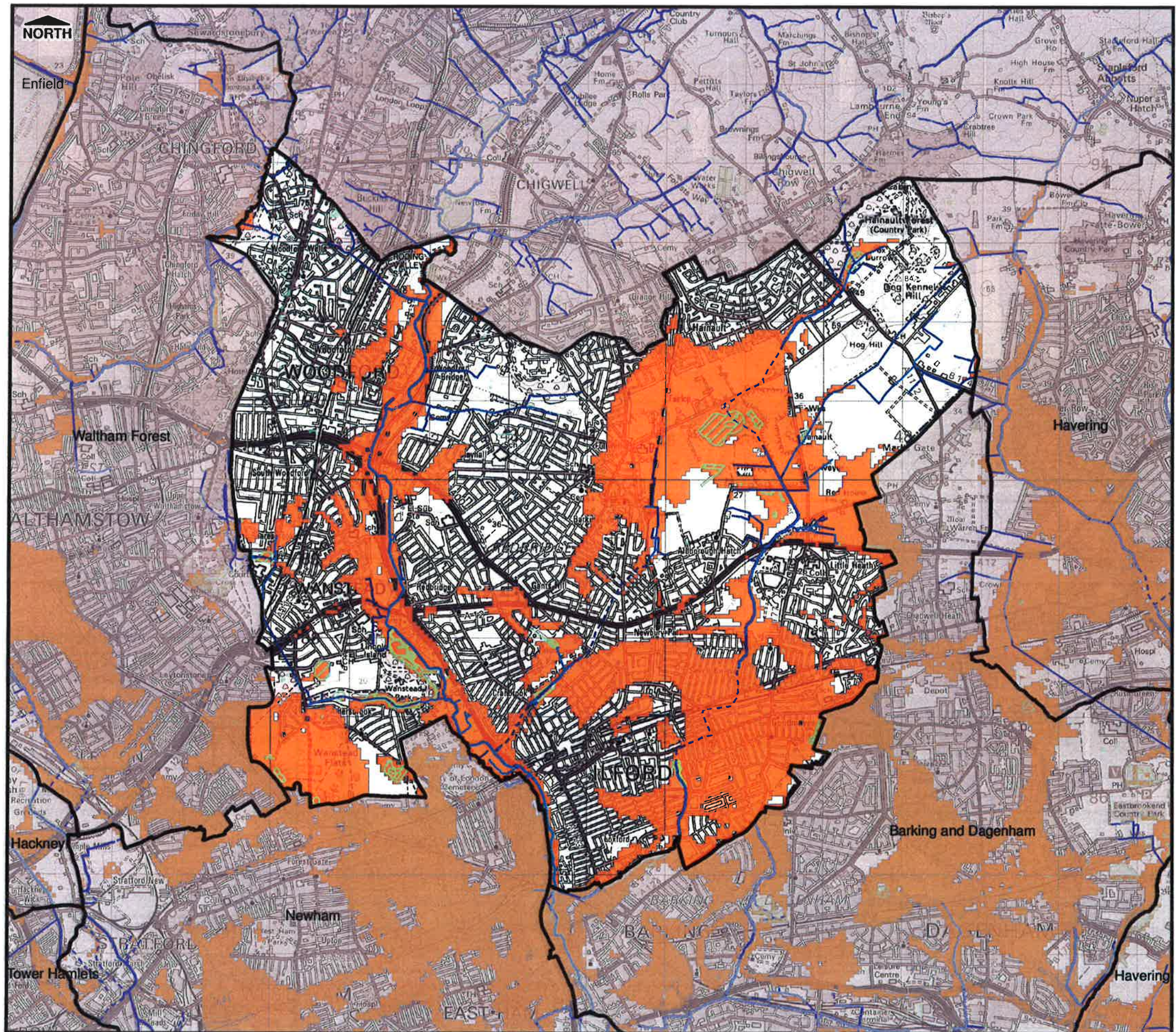


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FIGURE 3.2.4



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Legend

- Culverted Watercourse
- Ordinary Watercourse
- Main River
- Permanent Water Bodies
- LB Redbridge Administrative Boundary
- Increased Potential for Elevated Groundwater in**
 - Consolidated Aquifers
 - Permeable Superficial Deposits

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 2 m 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 2009- 2011, partially derived from data supplied by the Environment Agency

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Increased Potential for Elevated Groundwater Map

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FIGURE 3.2.3



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Legend

- LB Redbridge Administrative Boundary
- 1 in 200 year surface water depth > 0.1m
- 1 in 200 year surface water depth > 0.3m

Notes

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Environment Agency Flood Map for Surface Water 1 in 200 Chance of rainfall event occurring in any given year (0.5% AEP)

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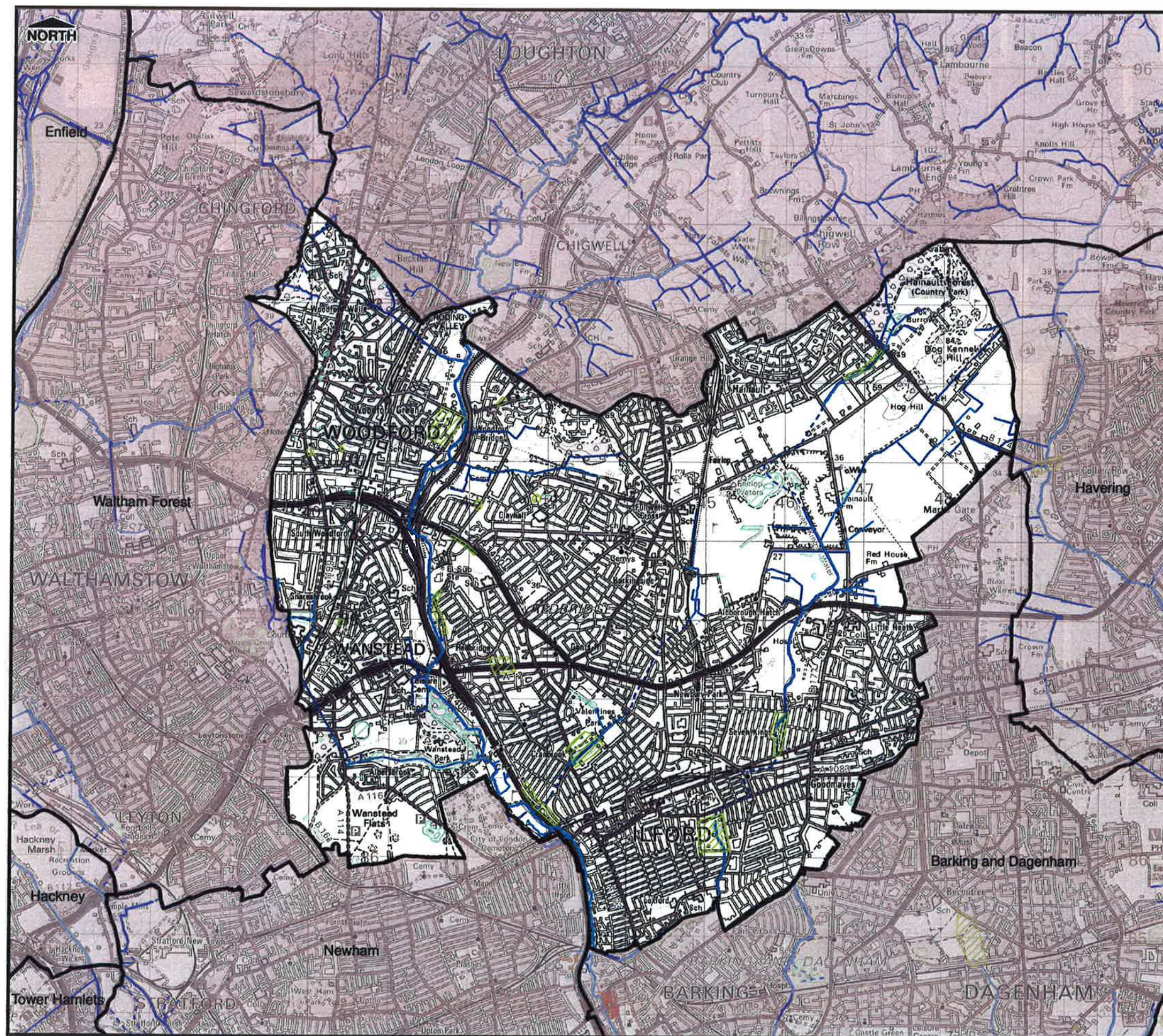
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FIGURE D.2



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Legend

- LB Redbridge Administrative Boundary
- Culverted Watercourse
- Ordinary Watercourse
- Main River
- Permanent Water Bodies
- Local Information - Historic Flood Outlines

National Information - Flood Event Outlines - Source:

- Drainage
- Ordinary watercourse
- Other
- Unknown

Note: No historic flood event outlines for these sources are recorded in this data set for the Borough

Notes

London Borough of Redbridge



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Summary Map of Past Floods Surface Water Incidents

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FIGURE 4.1

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

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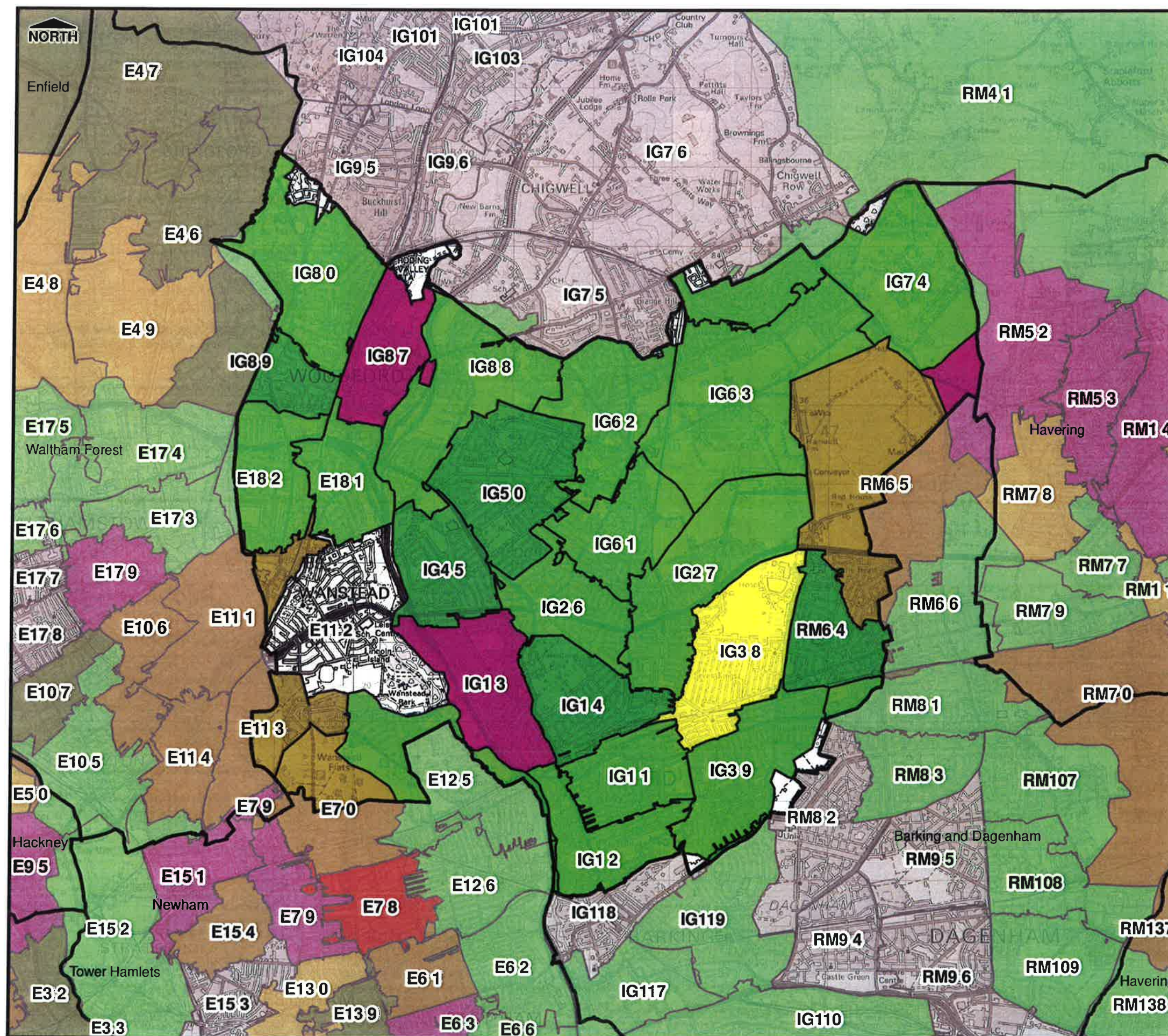
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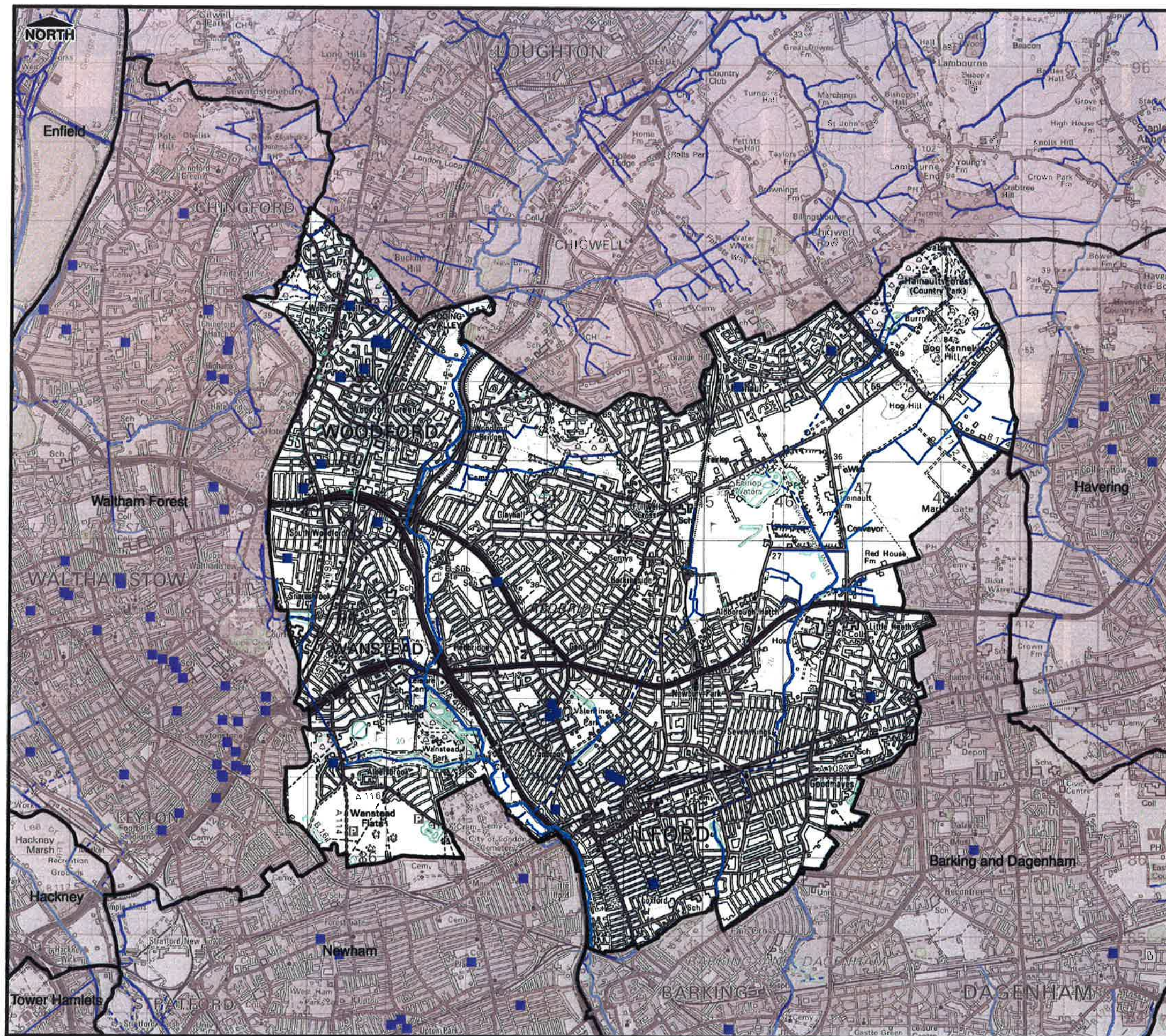


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0 0.375 0.75 1.5 2.25 3 Kilometres





THIS DRAWING MAY BE USED ONLY FOR
THE PURPOSE INTENDED

Legend

- LB Redbridge Administrative Boundary
- Culverted Watercourse
- Ordinary Watercourse
- Main River
- Permanent Water Bodies
- Groundwater Flood Incident (EA Records)

Notes

London Borough of Redbridge



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Summary Map of Past Floods Groundwater Incidents

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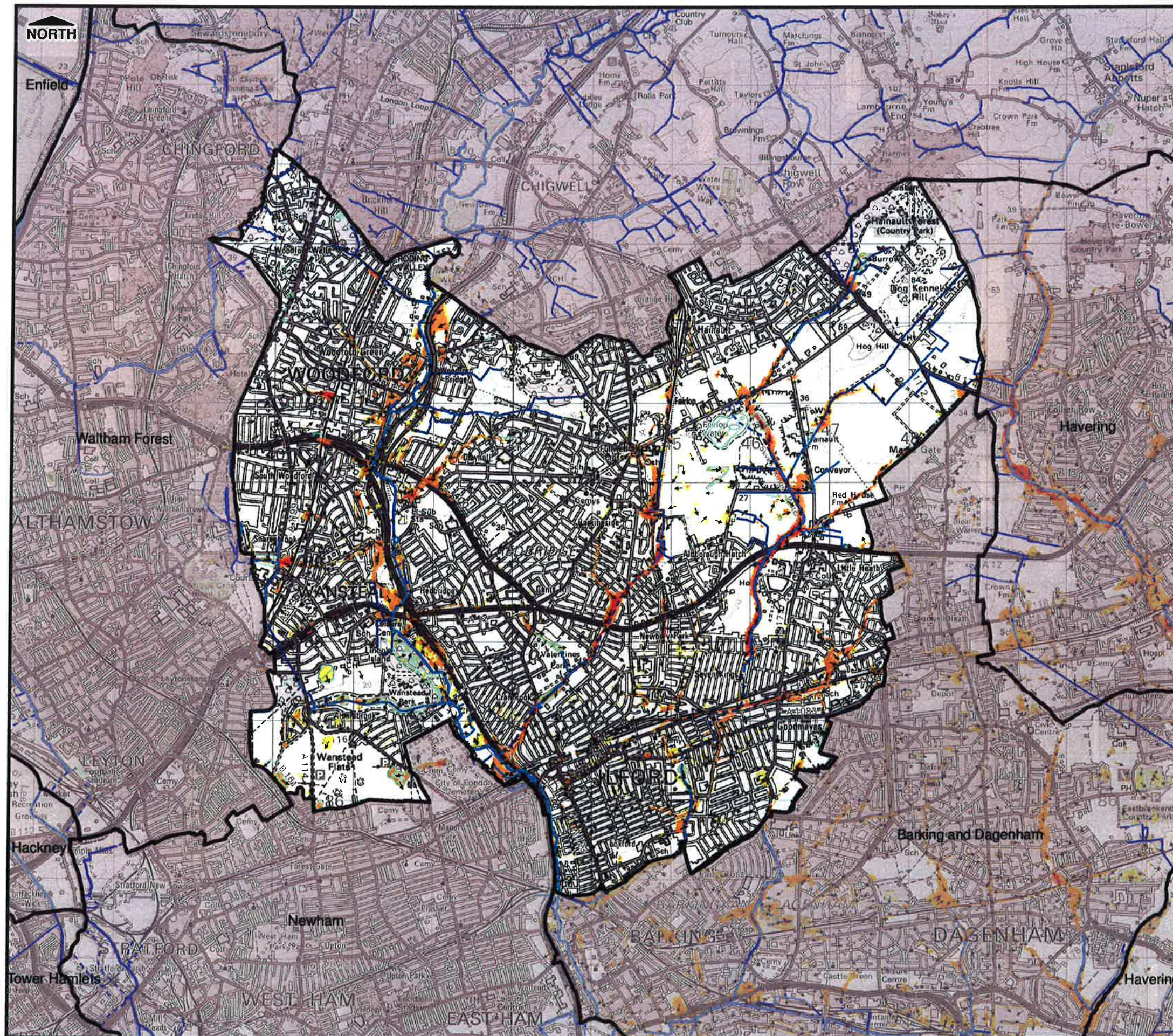
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FIGURE 4.3



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Legend

- Culverted Watercourse
- Ordinary Watercourse
- Main River
- Permanent Water Bodies
- LB Redbridge Administrative Boundary
- Flow Direction
- Flood hazard**
 - Caution (Very low hazard)
 - Moderate (Danger for some)
 - Significant (Danger for most)
 - Extreme (Danger for all)

Notes

- 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 defended areas, and due to the coarse nature of the source data used, are not detailed enough to account for precise addresses.
- 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 extents shown.

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Water Flood Hazard Rating
1 in 200 Chance of rainfall event occurring
in any given year (0.5% AEP)

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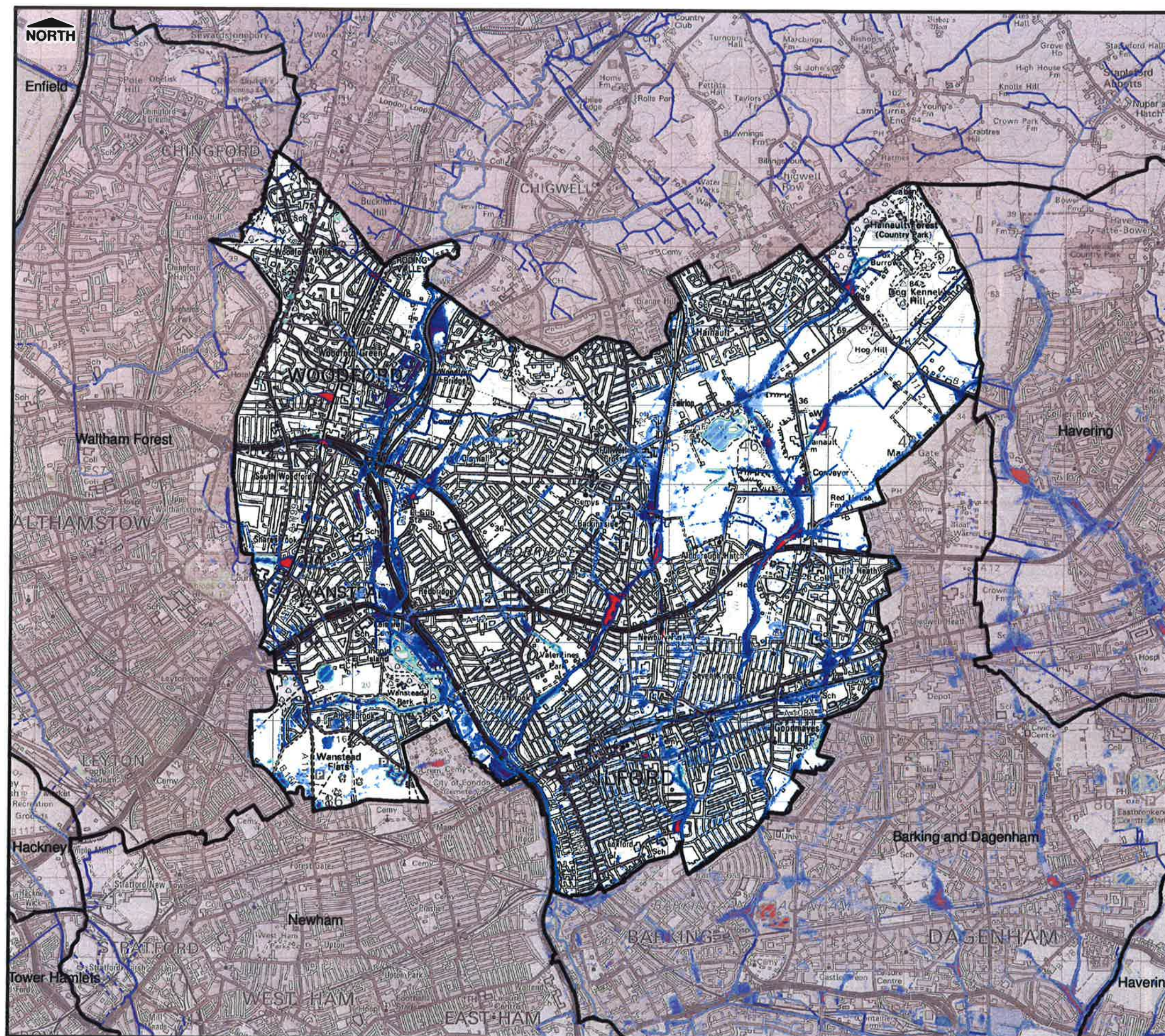
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FIGURE 5.2



THIS DRAWING MAY BE USED ONLY FOR
THE PURPOSE INTENDED

Legend

- Culverted Watercourse
- Ordinary Watercourse
- Main River
- Permanent Water Bodies
- LB Redbridge Administrative Boundary

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

Notes

1. 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 defended areas, and due to the coarse nature of the source data used, are not detailed enough to account for precise addresses.
2. 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 extents shown.

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Surface Water Depth (m)
1 in 200 Chance of rainfall event occurring
in any given year (0.5% AEP)

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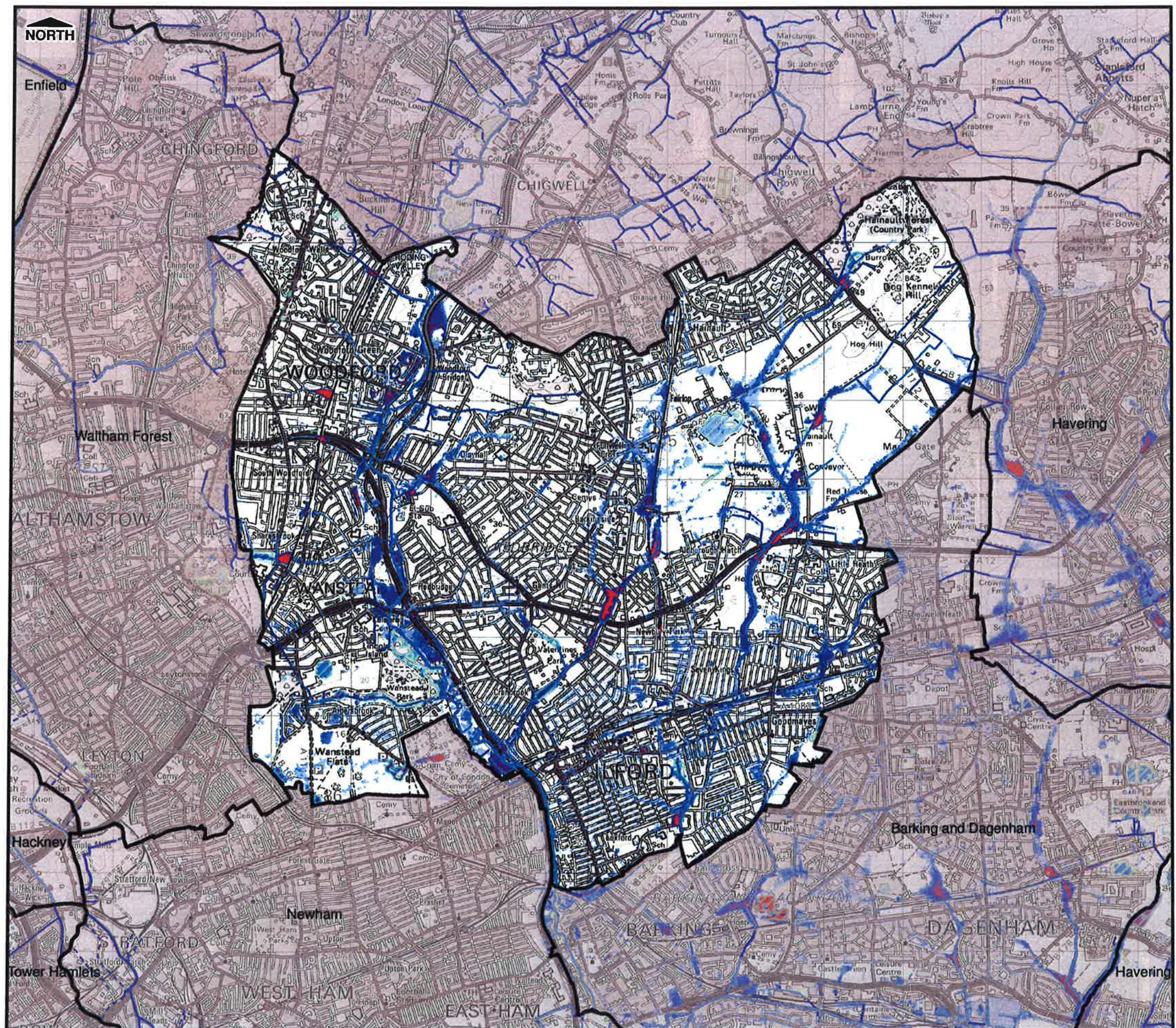
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FIGURE 5.1



THIS DRAWING MAY BE USED ONLY FOR
THE PURPOSE INTENDED

Legend

- Culverted Watercourse
 - Ordinary Watercourse
 - Main River
 - Permanent Water Bodies
 - LB Redbridge Administrative Boundary
- 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

Notes

- 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 defended areas, and due to the coarse nature of the source data used, are not detailed enough to account for precise addresses.
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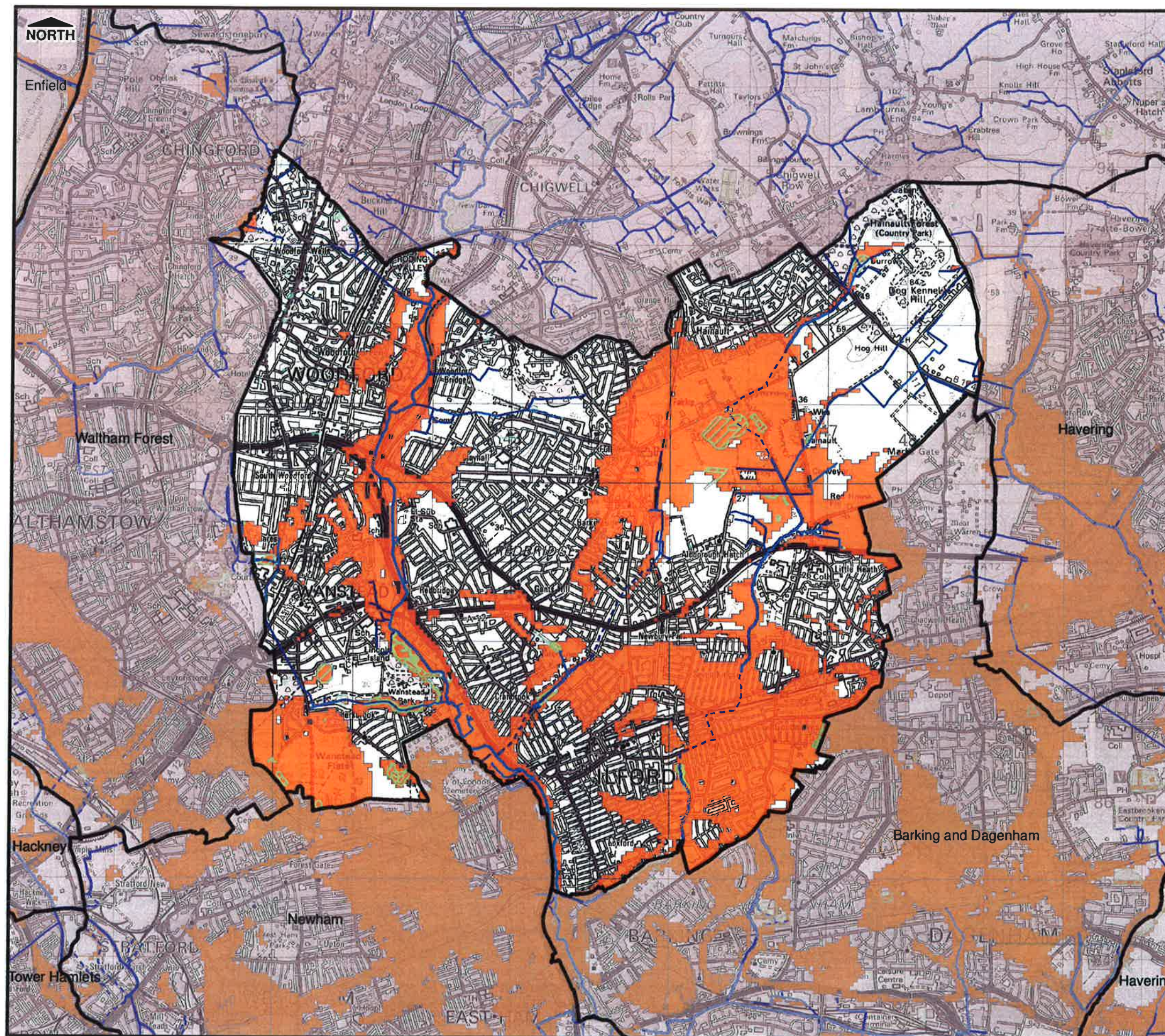
Scale at A3	Date	Drawn by	Approved by
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Surface Water Depth (m)
**1 in 100 Chance of rainfall event occurring in any
given year plus an allowance for climate change**

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JBA consulting	JACOBS
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FIGURE 5.5



THIS DRAWING MAY BE USED ONLY FOR
THE PURPOSE INTENDED

Legend

- Culverted Watercourse
- Ordinary Watercourse
- Main River
- Permanent Water Bodies
- LB Redbridge Administrative Boundary
- Increased Potential for Elevated Groundwater in**
 - Consolidated Aquifers
 - Permeable Superficial Deposits

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 2 m of the ground surface. Such groundwater rise could lead to the following consequences:
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 - 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.
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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

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Increased Potential for Elevated Groundwater Map

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FIGURE 5.4