NORTH

0 0.5
KILOMETRES

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LEGEND

London Borough Camden Boundary

Flood Hazard (m)

- >2.5 Extreme (Danger for all)
- 1.25 - 2.5 Significant (Danger for most)
- 0.75 - 1.25 Moderate (Danger for some)
- <0.75 Low (Caution)

Site

Revision Details	By / Check	Check Date	Suffix

Purpose of Issue: FINAL

Client: Camden

Project Title: LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title: **Hazard: 1 in 1000 Year Flood Event**

Drawn	Checked	Approved	Date
CB	EY	MT	02/07/2014

URS Internal Project No.: 47070547

Scale at A3: 1:15,000

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Drawing Number: **FIGURE 3 vi**

Rev: **Rev 1**

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NORTH

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HAMPSTEAD

CAMDEN TOWN

Site

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LEGEND

- London Borough Camden Boundary
- HACKNEY GRAVEL
- LANGLEY SILT
- LYNCH HILL GRAVEL
- STANMORE GRAVEL

Revision Details	By / Check	Check Date	Suffix

Purpose of Issue: FINAL

Client: Camden

Project Title: LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title: British Geological Society Superficial Deposits Geology

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

URS Internal Project No.: 47070547

Scale at A3: 1:40,000

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Drawing Number: FIGURE 4a

Rev: Rev 1

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LEGEND

- London Borough Camden Boundary
- Bagshot Formation
- Claygate Member
- Lambeth Group
- London Clay Formation

Site

Revision Details	By / Check	Check Date	Suffix

Purpose of Issue: FINAL

Client: Camden

Project Title: LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title: British Geological Society Bedrock Geology

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

URS Internal Project No.	Scale at A3
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Drawing Number: FIGURE4b

Rev: Rev 1

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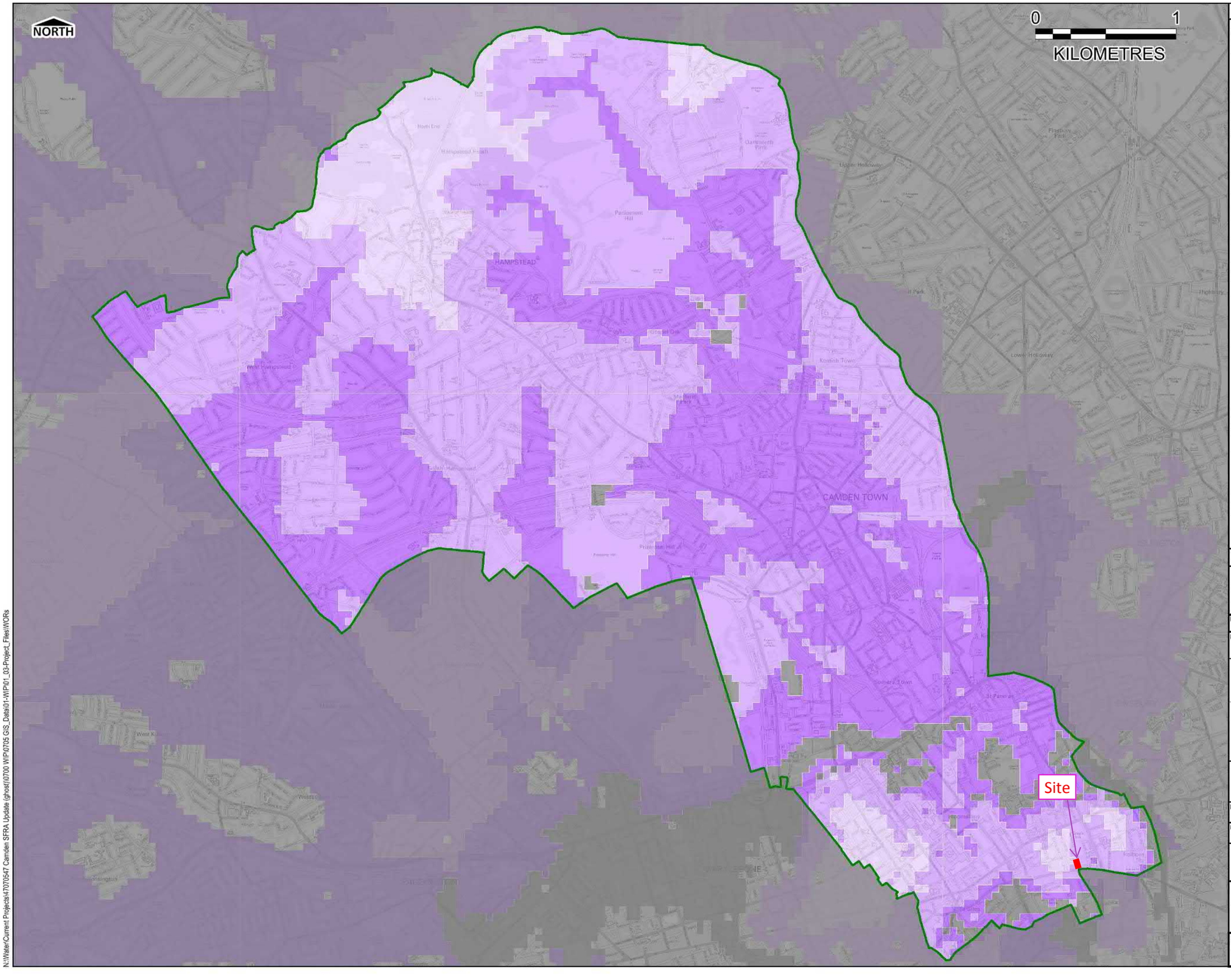

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LEGEND

- London Borough Camden Boundary

BGS Infiltration SuDS Map

- Highly compatible for infiltration SuDS
- Probably compatible for infiltration SuDS
- Opportunities for bespoke infiltration SuDS
- Very significant constraints are indicated

Revision Details	By / Check	Check Date	Suffix

Purpose of issue: FINAL

Client: Camden

Project Title: LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title: British Geological Society SuDS Drainage Potential

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

URS Internal Project No.: 47070547

Scale at A3: 1:40,000

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Drawing Number: FIGURE 4c

Rev: Rev 1

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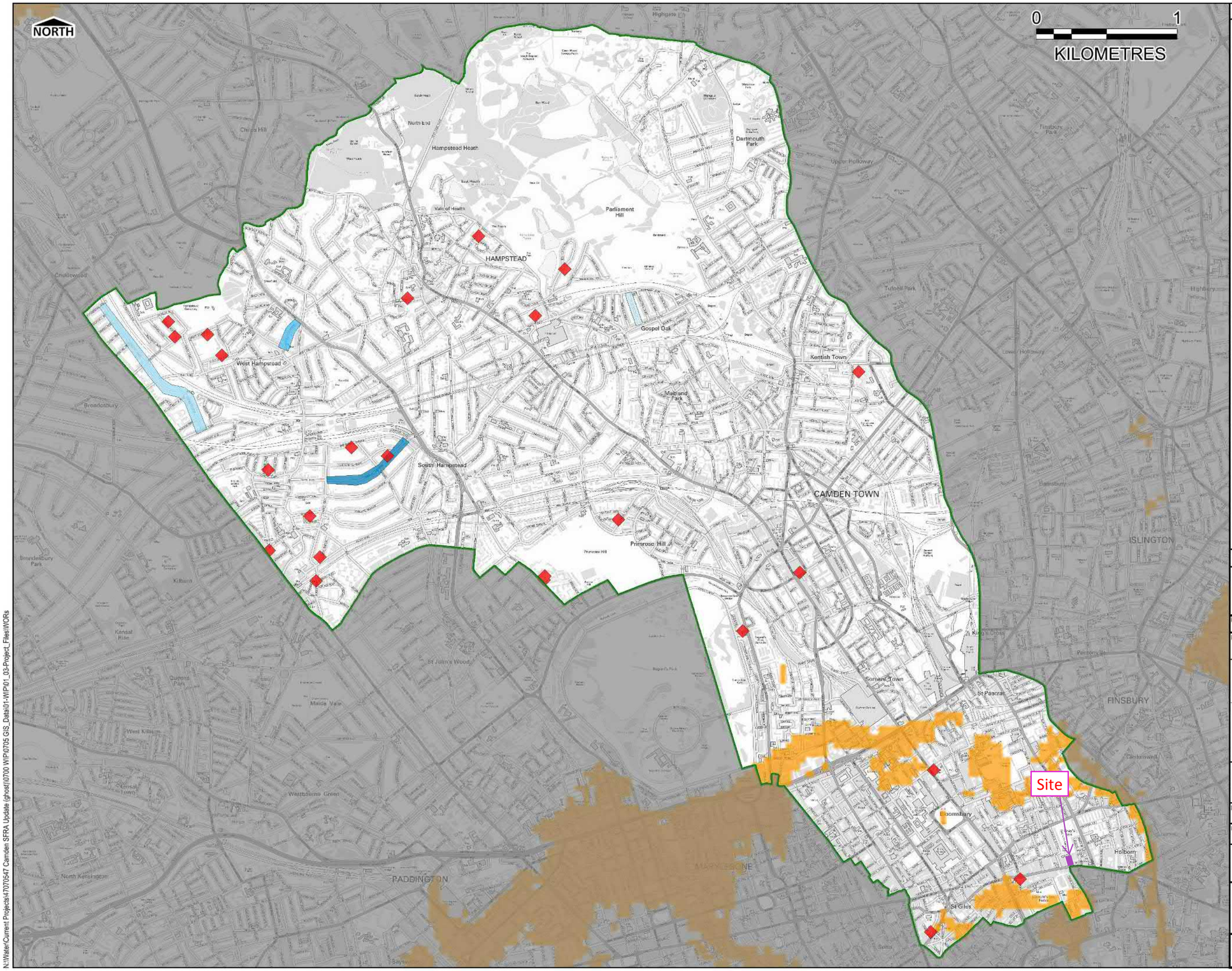

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LEGEND

- London Borough Camden Boundary
- LBC Historic GW Flooding Record
  No. Properties affected
  - 1
  - 6
  - 7
  - 8
- Increased Susceptibility to Elevated Groundwater
- Environment Agency groundwater flood incidents

Revision Details	By / Check	Check Date	Suffix

Purpose of Issue: FINAL

Client: Camden

Project Title: LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title: Increased Susceptibility to Elevated Groundwater

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

URS Internal Project No.	Scale at A3
47070547	1: 40,000

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Drawing Number: **FIGURE 4e** | Rev: **Rev 1**

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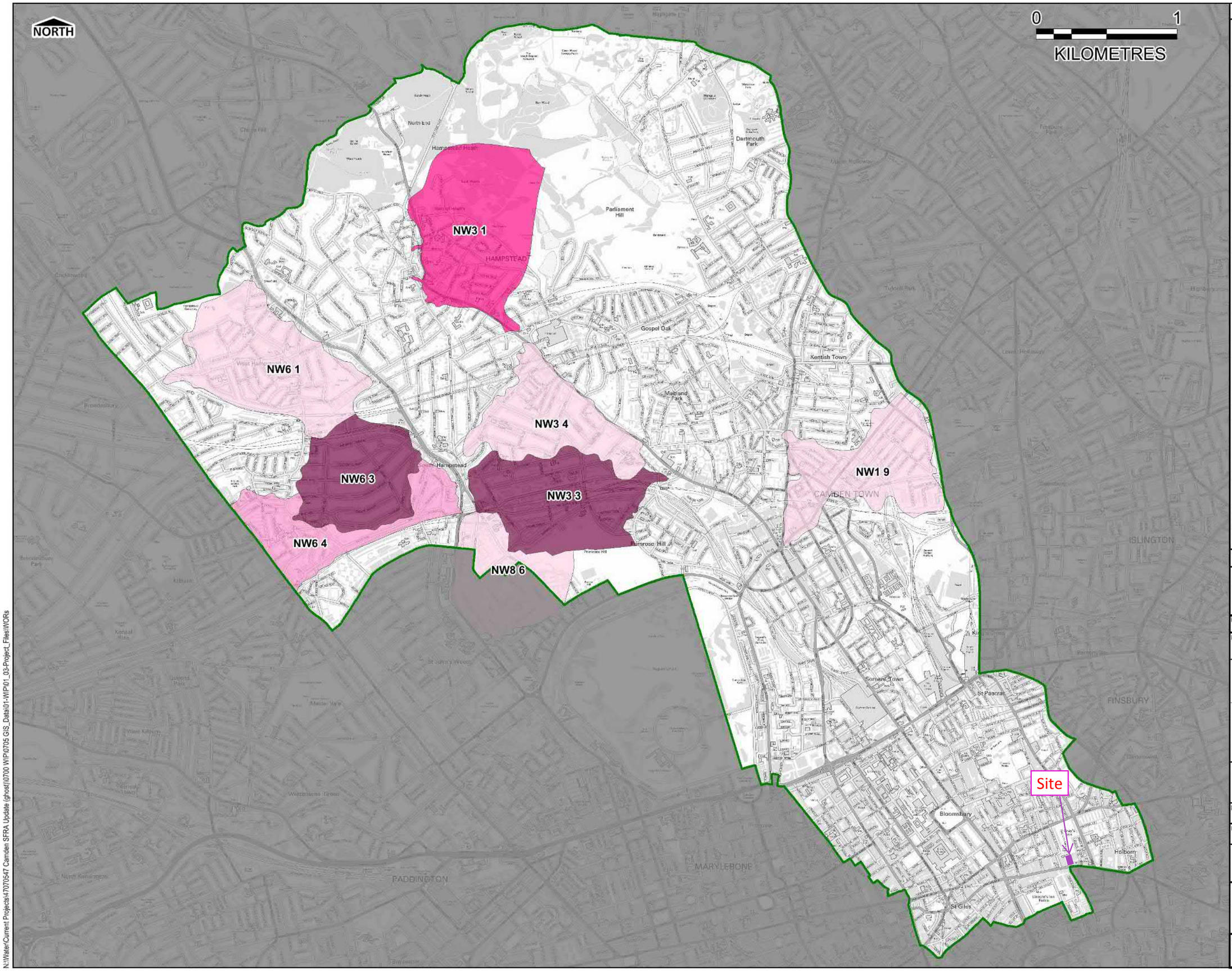

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LEGEND

- London Borough Camden Boundary

Internal Sewer Flooding
No. of Properties affected

- 1
- 2
- 4
- 8

Revision Details	By / Check	Check Date	Suffix

Purpose of issue: FINAL

Client: Camden

Project Title: LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title: DG5 Internal Sewer Flooding

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

URS Internal Project No.	Scale at A3
47070547	1:40,000

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Drawing Number	Rev
FIGURE 5a	Rev 1

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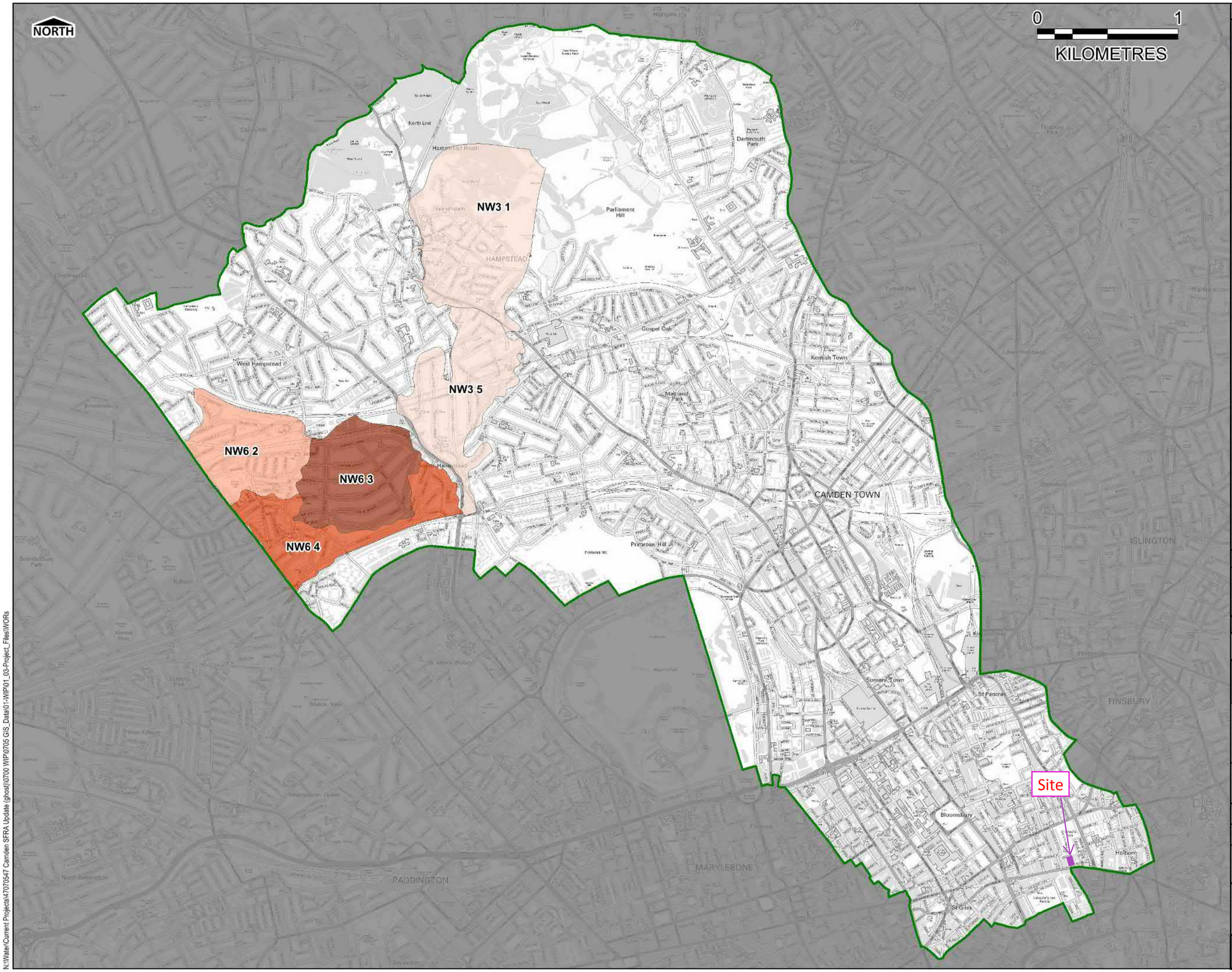

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LEGEND

- London Borough Camden Boundary

Exterior Sewer Flooding
No. of Properties affected

- 1
- 2
- 4
- 18

Revision Details	By / Check	Check Date	Suffix

Purpose of issue: FINAL

Client: Camden

Project Title: LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title: DG5 External Sewer Flooding

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

URS Internal Project No.	Scale at A3
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Drawing Number: FIGURE 5b

Rev: Rev 1

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KILOMETRES

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LEGEND

- London Borough Camden Boundary
- Critical Drainage Area
- Local Flood Risk Zone

Group3_001
Group3_010
Group3_005
Group3_003
Group3_011
Site

Frognal Lane
Cannon Hill
Sumatra Road
Kingsgate
Goldhurst
Maitland Park
Primrose Hill
King's Cross
North Swinton Street
South East Regent's Park
Farringdon

HAMPSTEAD
CAMDEN TOWN
Gospel Oak
Kentish Town
Parliament Hill
Dartmouth Park
North End
Hampstead Heath
Bloomsbury
Holborn
FINSBURY
SLINGTON
MARYLEBONE
PADDINGTON

Revision Details	By / Check	Check Date	Suffix

Purpose of Issue: FINAL

Client: Camden

Project Title: LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title: Critical Drainage Areas / Local Flood Risk Zones

Drawn	Checked	Approved	Date
CB/EB	EY	MT	04/06/2014

URS Internal Project No.: 47070547

Scale at A3: 1:40,000

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Drawing Number: FIGURE 6

Rev: Rev 2

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Appendix D

Surface Water Calculations

Greenfield Runoff Volume

FSR Data

Return Period (years)	30
Storm Duration (mins)	360
Region	England and Wales
M5-60 (mm)	20.700
Ratio R	0.442
Areal Reduction Factor	1.00
Area (ha)	0.045
SAAR (mm)	600
CWI	87.000
Urban	0.000
SPR	30.000

Results

Percentage Runoff (%)	22.38
Greenfield Runoff Volume (m³)	4.806

Greenfield Runoff Volume

FSR Data

Return Period (years)	100
Storm Duration (mins)	360
Region	England and Wales
M5-60 (mm)	20.700
Ratio R	0.442
Areal Reduction Factor	1.00
Area (ha)	0.045
SAAR (mm)	600
CWI	87.000
Urban	0.000
SPR	30.000

Results

Percentage Runoff (%)	24.41
Greenfield Runoff Volume (m³)	6.799

Summary of Results for 1 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	0.008	0.008	0.7	2.5	Flood Risk
30 min Summer	0.010	0.010	0.8	2.9	Flood Risk
60 min Summer	0.010	0.010	0.8	3.1	Flood Risk
120 min Summer	0.011	0.011	0.9	3.2	Flood Risk
180 min Summer	0.010	0.010	0.8	3.0	Flood Risk
240 min Summer	0.010	0.010	0.8	2.9	Flood Risk
360 min Summer	0.009	0.009	0.7	2.6	Flood Risk
480 min Summer	0.008	0.008	0.6	2.4	Flood Risk
600 min Summer	0.007	0.007	0.6	2.2	Flood Risk
720 min Summer	0.007	0.007	0.5	2.0	Flood Risk
960 min Summer	0.006	0.006	0.5	1.8	Flood Risk
1440 min Summer	0.005	0.005	0.4	1.4	Flood Risk
2160 min Summer	0.004	0.004	0.3	1.1	Flood Risk
2880 min Summer	0.003	0.003	0.3	0.9	Flood Risk
4320 min Summer	0.002	0.002	0.2	0.7	Flood Risk
5760 min Summer	0.002	0.002	0.2	0.6	Flood Risk
7200 min Summer	0.002	0.002	0.1	0.5	Flood Risk
8640 min Summer	0.002	0.002	0.1	0.5	Flood Risk
10080 min Summer	0.001	0.001	0.1	0.4	Flood Risk
15 min Winter	0.009	0.009	0.7	2.8	Flood Risk
30 min Winter	0.011	0.011	0.9	3.2	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	33.399	0.0	2.8	17
30 min Summer	21.511	0.0	3.6	28
60 min Summer	13.379	0.0	4.5	44
120 min Summer	8.141	0.0	5.3	78
180 min Summer	6.055	0.0	6.0	112
240 min Summer	4.901	0.0	6.5	144
360 min Summer	3.617	0.0	7.2	210
480 min Summer	2.907	0.0	7.7	274
600 min Summer	2.454	0.0	8.1	334
720 min Summer	2.137	0.0	8.5	396
960 min Summer	1.717	0.0	9.1	520
1440 min Summer	1.262	0.0	10.1	764
2160 min Summer	0.928	0.0	11.1	1124
2880 min Summer	0.746	0.0	12.1	1472
4320 min Summer	0.548	0.0	13.3	2248
5760 min Summer	0.440	0.0	14.3	2976
7200 min Summer	0.372	0.0	15.0	3552
8640 min Summer	0.324	0.0	15.7	4440
10080 min Summer	0.288	0.0	16.3	5144
15 min Winter	33.399	0.0	3.2	17
30 min Winter	21.511	0.0	4.1	29

Summary of Results for 1 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
60 min Winter	0.012	0.012	0.9	3.5	Flood Risk
120 min Winter	0.011	0.011	0.9	3.4	Flood Risk
180 min Winter	0.011	0.011	0.9	3.2	Flood Risk
240 min Winter	0.010	0.010	0.8	3.0	Flood Risk
360 min Winter	0.009	0.009	0.7	2.6	Flood Risk
480 min Winter	0.008	0.008	0.6	2.3	Flood Risk
600 min Winter	0.007	0.007	0.5	2.0	Flood Risk
720 min Winter	0.006	0.006	0.5	1.8	Flood Risk
960 min Winter	0.005	0.005	0.4	1.5	Flood Risk
1440 min Winter	0.004	0.004	0.3	1.2	Flood Risk
2160 min Winter	0.003	0.003	0.3	0.9	Flood Risk
2880 min Winter	0.003	0.003	0.2	0.8	Flood Risk
4320 min Winter	0.002	0.002	0.1	0.5	Flood Risk
5760 min Winter	0.002	0.002	0.1	0.5	Flood Risk
7200 min Winter	0.001	0.001	0.1	0.3	Flood Risk
8640 min Winter	0.001	0.001	0.1	0.3	Flood Risk
10080 min Winter	0.001	0.001	0.1	0.3	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
60 min Winter	13.379	0.0	4.9	46
120 min Winter	8.141	0.0	6.0	84
180 min Winter	6.055	0.0	6.7	118
240 min Winter	4.901	0.0	7.3	154
360 min Winter	3.617	0.0	8.1	218
480 min Winter	2.907	0.0	8.6	280
600 min Winter	2.454	0.0	9.1	344
720 min Winter	2.137	0.0	9.5	404
960 min Winter	1.717	0.0	10.2	522
1440 min Winter	1.262	0.0	11.3	790
2160 min Winter	0.928	0.0	12.6	1112
2880 min Winter	0.746	0.0	13.5	1584
4320 min Winter	0.548	0.0	14.9	2288
5760 min Winter	0.440	0.0	16.0	3072
7200 min Winter	0.372	0.0	16.9	3592
8640 min Winter	0.324	0.0	17.6	4216
10080 min Winter	0.288	0.0	18.3	5856

1yr storm

6hr volume = 8.1 m³

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.800	Shortest Storm (mins)	15
Ratio R	0.443	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.045

Time (mins) From:	To:	Area (ha)
0	4	0.045

Model Details

Storage is Online Cover Level (m) 0.200

Tank or Pond Structure

Invert Level (m) 0.000

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	300.0	0.100	300.0	0.101	0.0

Pump Outflow Control

Invert Level (m) 0.000

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.050	4.0000	0.100	4.0000	0.150	4.0000