

# APPENDIX D1 - FLOOD MAP

SOURCE - ENVIRONMENT AGENCY WEBSITE

[Other maps](#) [Data search](#) [Text only version](#)


## Map legend


Click on the map to see what Flood Zone (National Planning Policy Guidance definitions) the proposed development is in.

Flood Map for Planning (Rivers and Sea) ⓘ

 Flood Zone 3

 Flood Zone 2


 Flood defences (Not all may be shown\*)

 Areas benefiting from flood defences (Not all may be shown\*)

Main River ⓘ

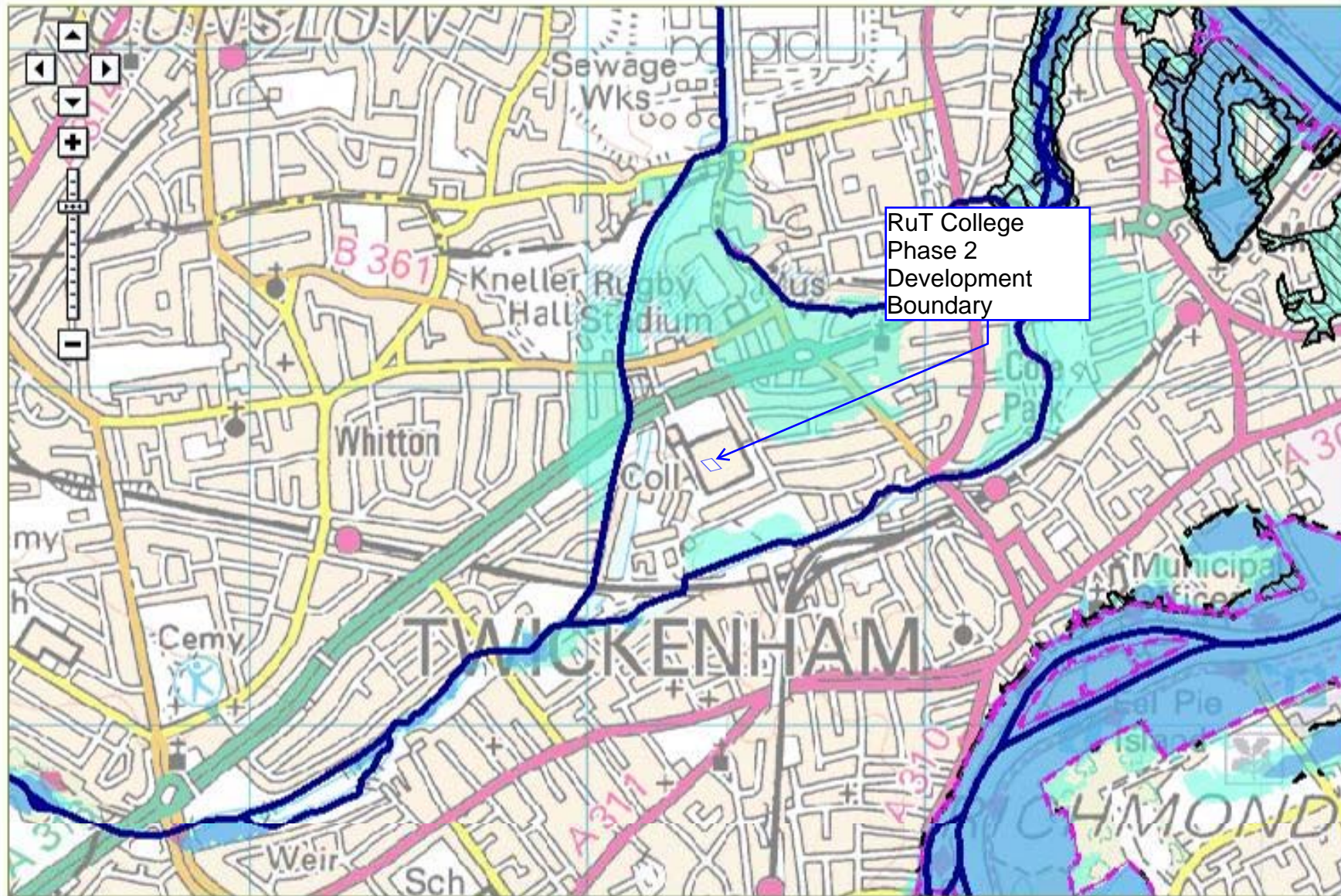
 Main River

Other national environmental organisations ⓘ

 Natural Resources Wales Area of responsibility

 Scottish Environment Protection Agency Area of responsibility

## Map of TW2 7SJ at scale 1:20,000

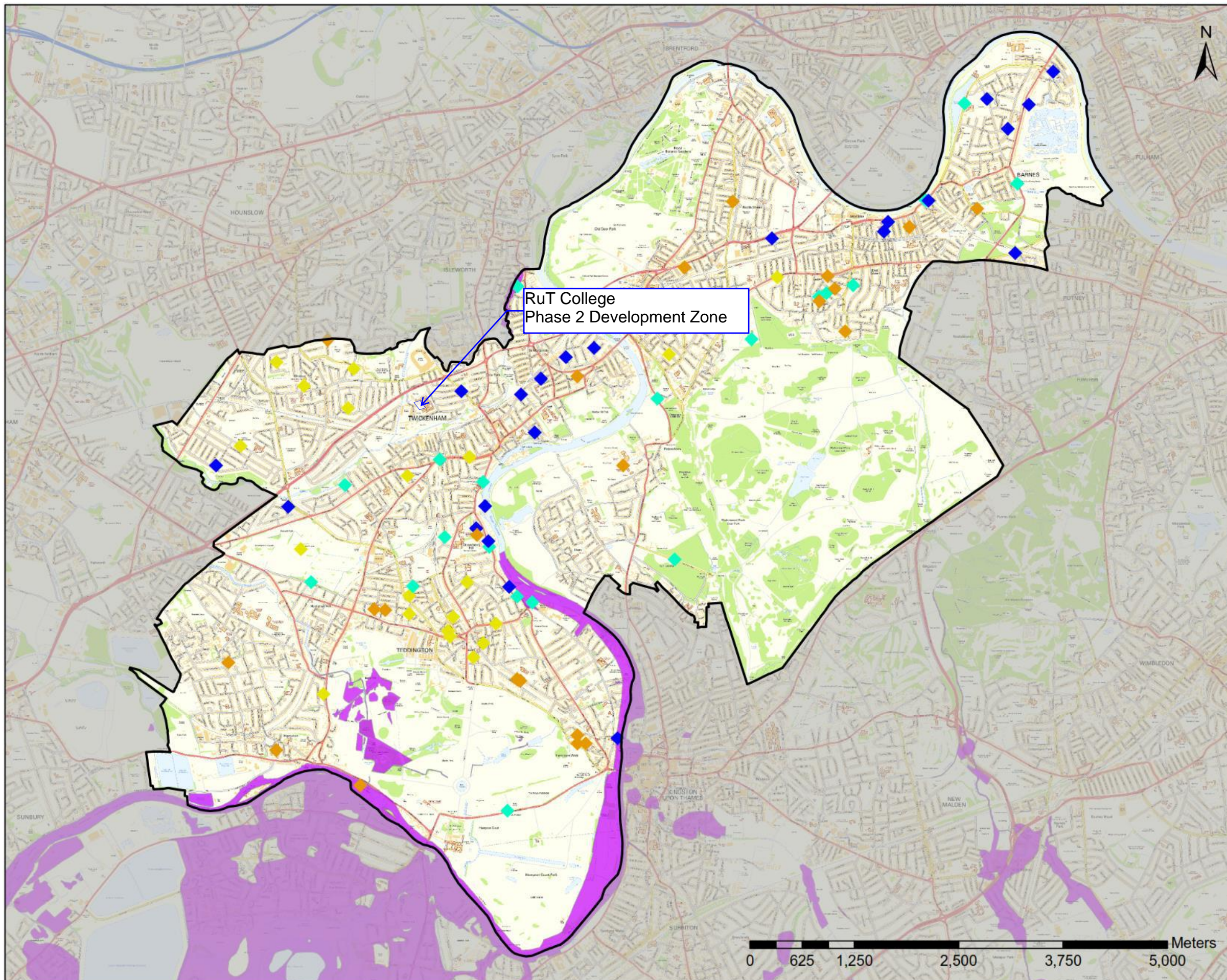


Customers in Wales - From 1 April 2013 Natural Resources Wales (NRW) has taken over the responsibilities of the Environment Agency in Wales.  
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# APPENDIX D1 - HISTORICAL FLOOD RECORD (ALL SOURCES)

SOURCE - LBRUT STRATEGIC FRA



THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

**Legend**

- Administrative Boundary
- Environment Agency Historic Flood Map
- Reported Flooding Incidents**
  - River
  - Multiple
  - Surface Water
  - Groundwater

**Notes**  
 Flooding incidents have been mapped based on Council records available at the time of the production of the Local Flood Risk Management Strategy. In many cases incidents of flooding may not have been reported to the Council and will therefore not be shown on this map.

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DRAWN BY	CHECKED BY	PASSED BY	DATE
GA	LT	PH	June 2014

SCALE @ A3	ISSUING OFFICE
1:42,000	Gresham Street

**Purpose of Issue**  
 DRAFT REPORT FOR CONSULTATION

**Client**

**Project Title**  
 LONDON BOROUGH OF RICHMOND LOCAL FLOOD RISK MANAGEMENT STRATEGY

**Drawing Title**  
 HISTORIC FLOODING

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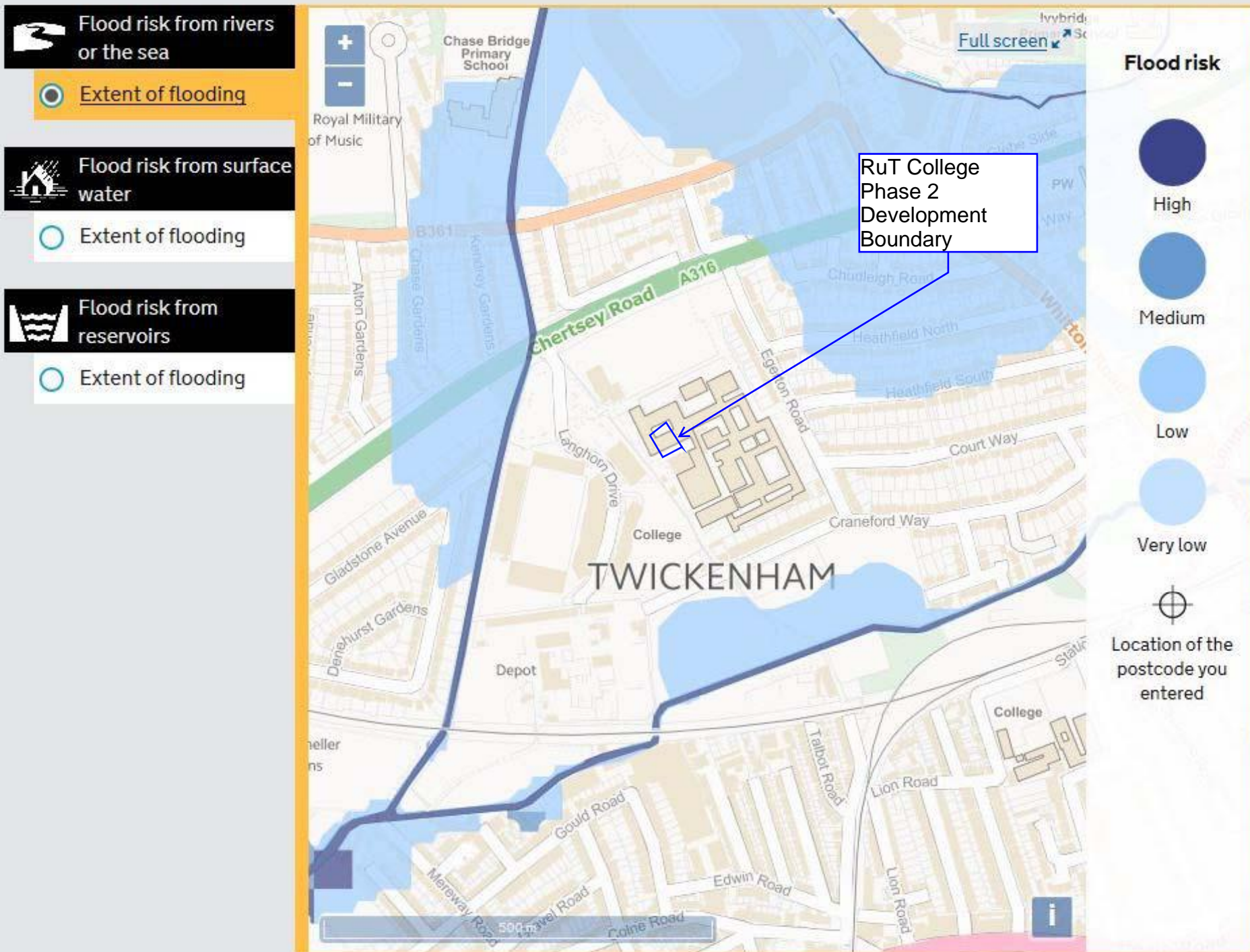
**Consultant**

DRAWING NUMBER	REV
FIGURE 1	A



# APPENDIX D2 - FLUVIAL AND TIDAL FLOOD MAP

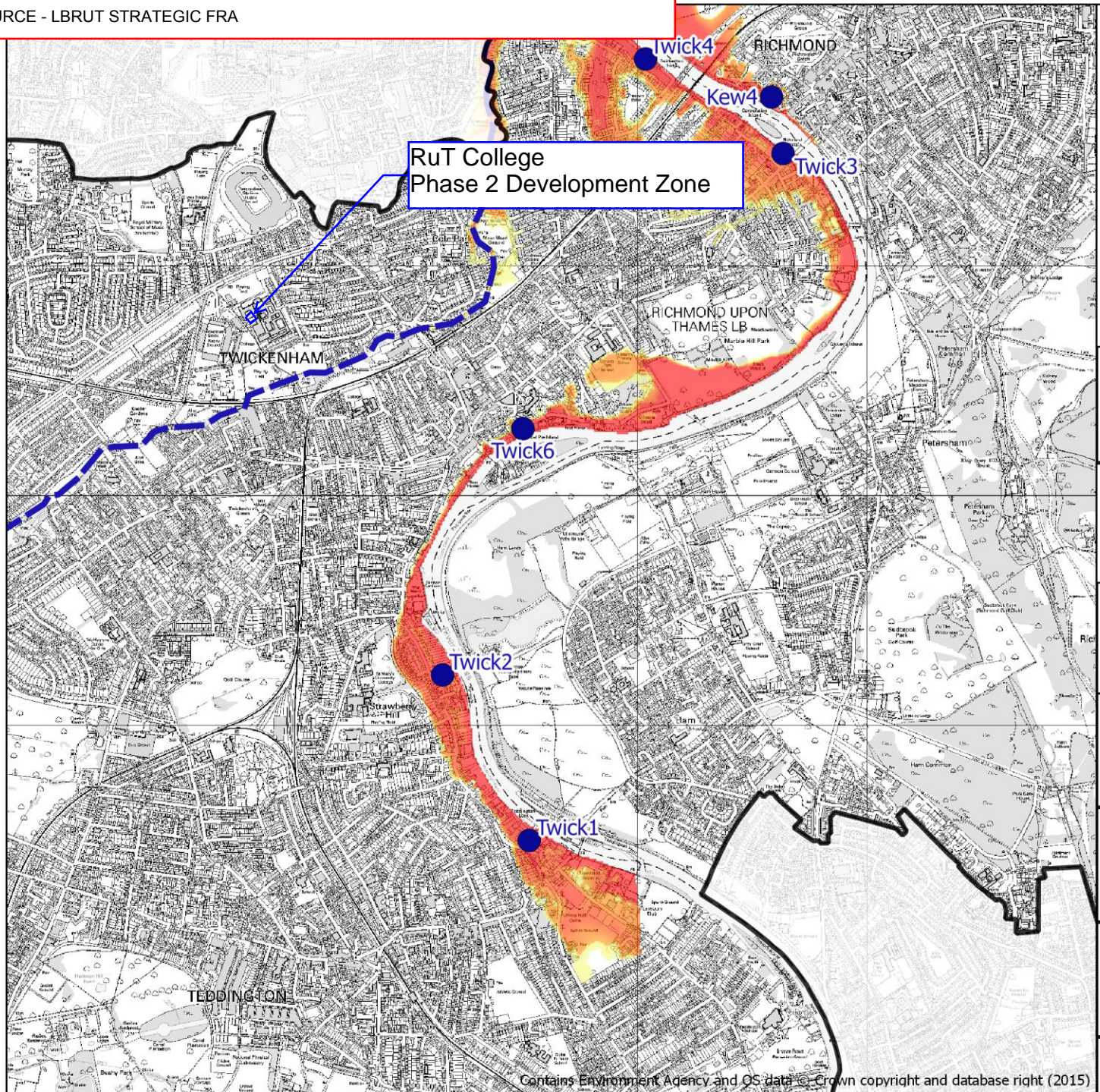
SOURCE - ENVIRONMENT AGENCY WEBSITE





# APPENDIX D2 - TIDAL FLOOD HAZARD MAP

SOURCE - LBRUT STRATEGIC FRA



### Legend

- Borough Boundary
- River Crane
- Breach Hazard Rating**
  - Low
  - Moderate
  - Significant
  - Extreme
- Modelled Defence Breach Locations

In association with



Metis Consultants Limited



Client



Project Title

London Borough of Richmond Upon Thames Strategic Flood Risk Assessment Level 1

Drawing Title

Tidal Breach Flood Hazard - River Thames and River Crane  
Maximum Likely Water Level - Year 2100 Tidal Profile  
(Twickenham)

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Drawing Number

Figure C 3

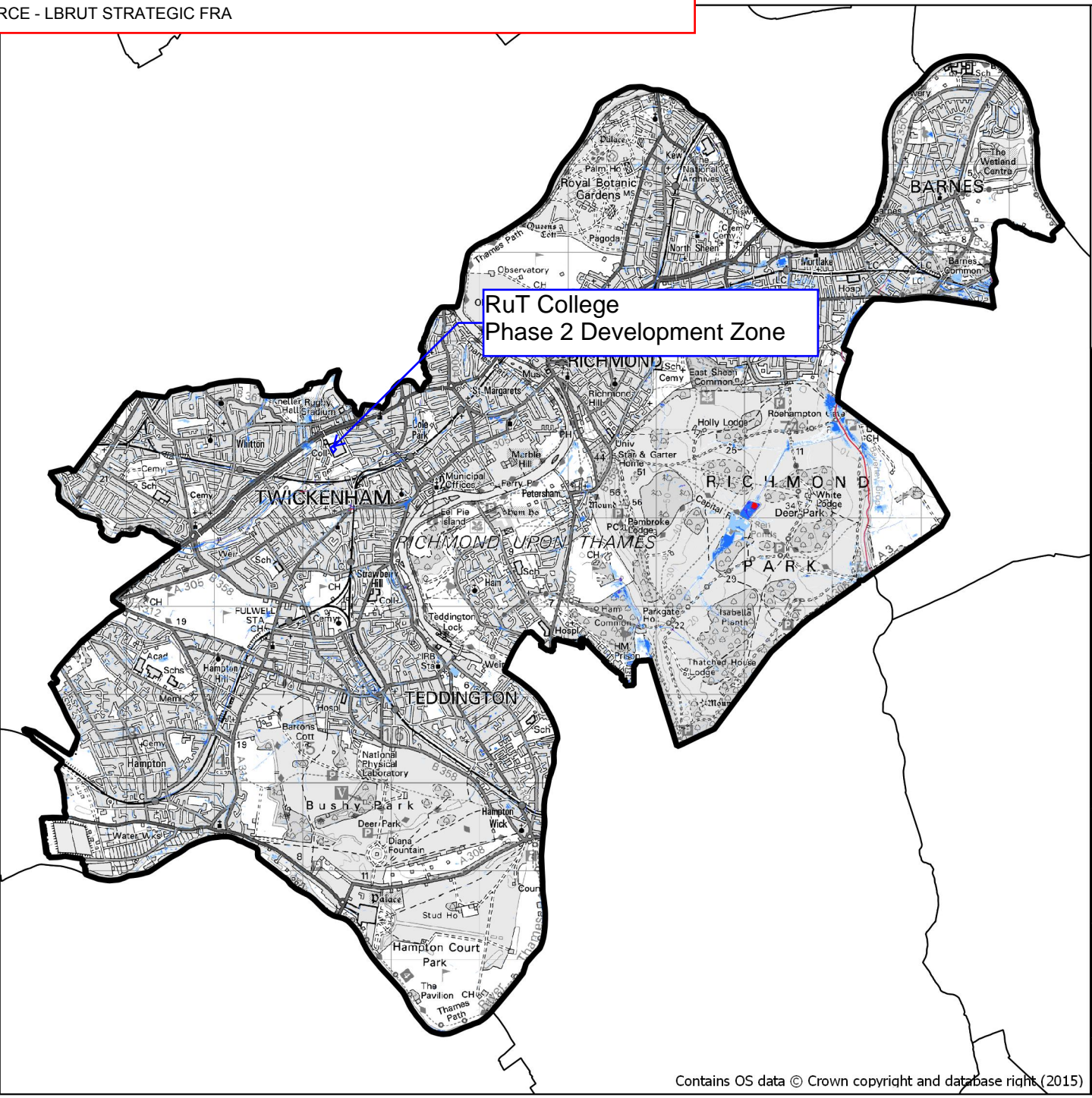
1:25,000












# APPENDIX D3 - SURFACE WATER FLOOD MAP

SOURCE - LBRUT STRATEGIC FRA



## Legend

-  Borough Boundary
- Predicted Surface Water Flood Depth (m)
  -  0.00 - 0.15
  -  0.15 - 0.30
  -  0.30 - 0.60
  -  0.60 - 0.90
  -  0.90 - 1.20
  -  > 1.20

in association with



Metis Consultants Limited



Client



Project Title

London Borough of Richmond Upon Thames Strategic Flood Risk Assessment Level 1

Drawing Title

Updated Flood Map for Surface Water  
1% chance of flooding in any one year

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Drawing Number

FIGURE G


1:65,000








# APPENDIX D3 - SURFACE WATER FLOOD MAP


SOURCE - ENVIRONMENT AGENCY WEBSITE


 Flood risk from rivers or the sea

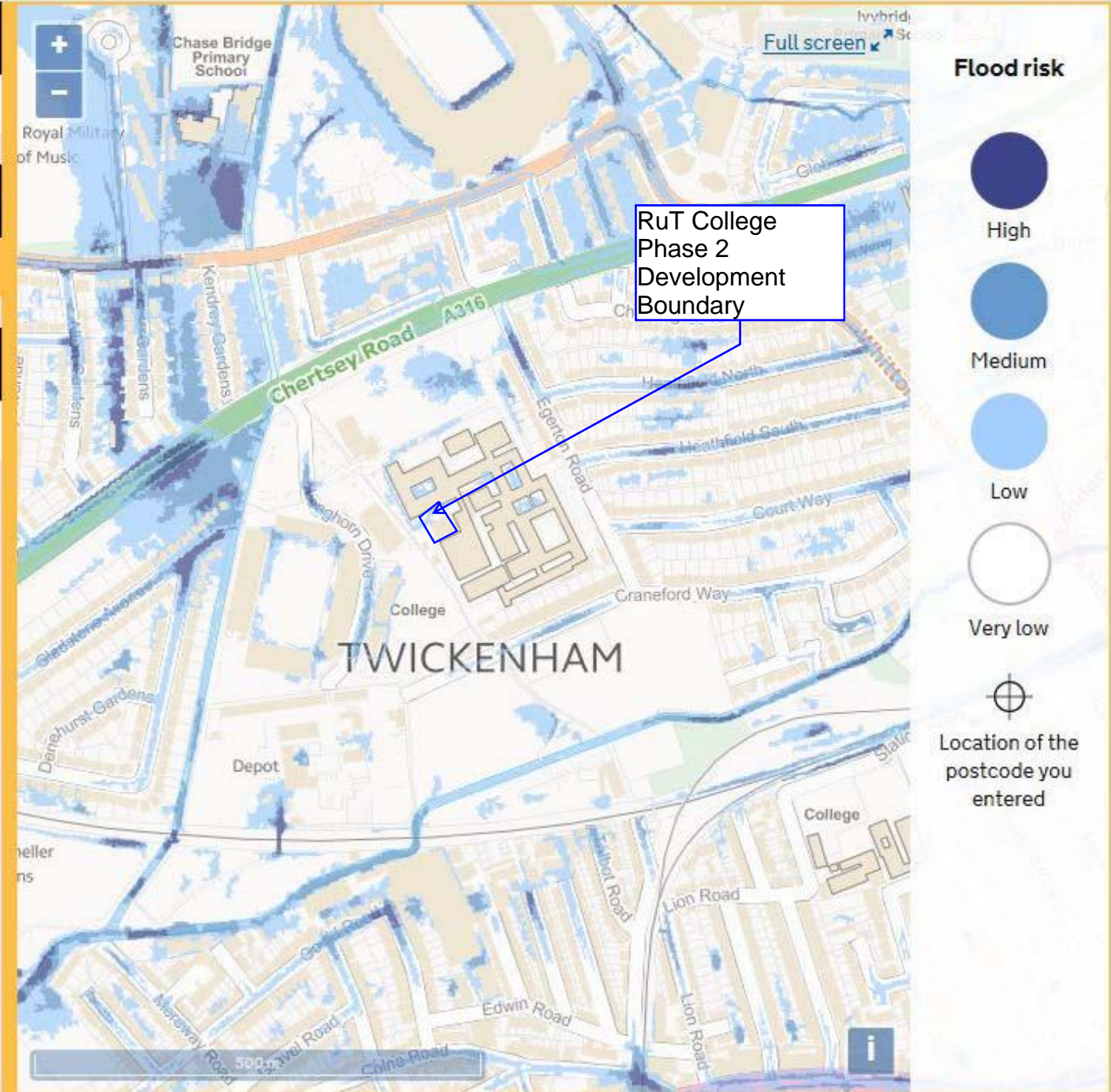
 Extent of flooding

 Flood risk from surface water

 Extent of flooding

 Flood risk from reservoirs

 Extent of flooding



**Flood risk**

 High

 Medium

 Low

 Very low

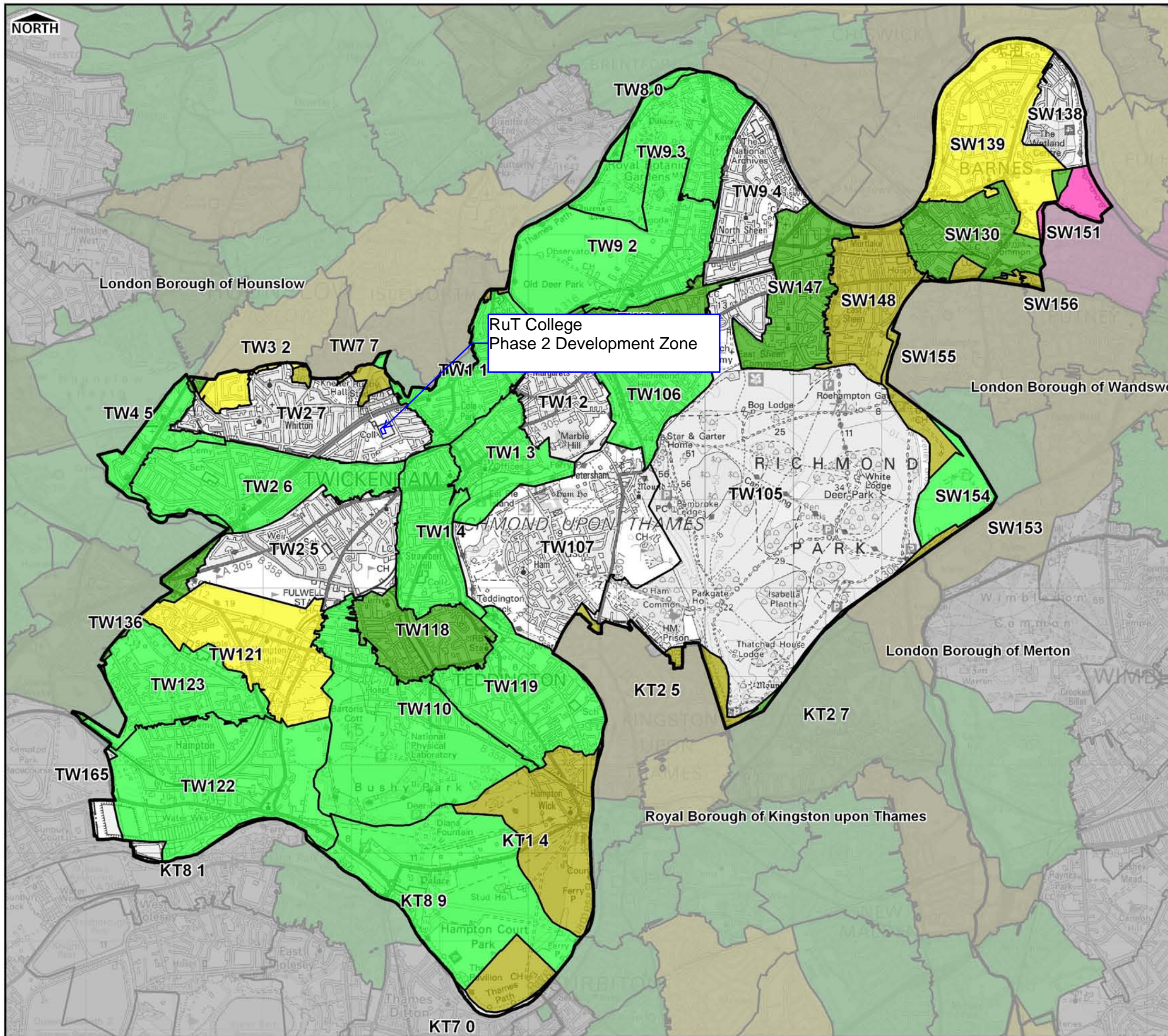
 Location of the postcode you entered



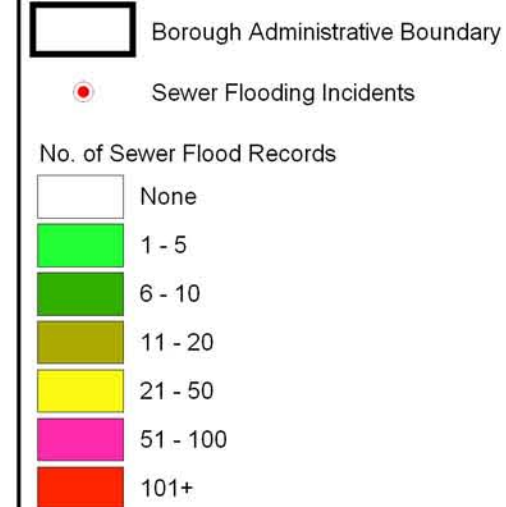
# APPENDIX D4 - SEWER FLOOD MAP (2011)

SOURCE - LBRUT STRATEGIC FRA

THIS DRAWING MAY BE USED ONLY FOR THE PURPOSE INTENDED



## Legend



## Notes

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
3. Point data supplied by Borough Council

## London Borough of Richmond



## Preliminary Flood Risk Assessment

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Scale at A3 1:45,000	Date 13/05/2011	Drawn by D.SKILTON	Approved by E.CRAVEN
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## Sewer Flooding Incidents

### Consultants

**CAPITA SYMONDS** URS / Scott Wilson  
 6 - 8 Greencoat Place  
 London  
 SW1P 1PL

### Drain London Programme Board Members



GREATER LONDON AUTHORITY

FIGURE 3

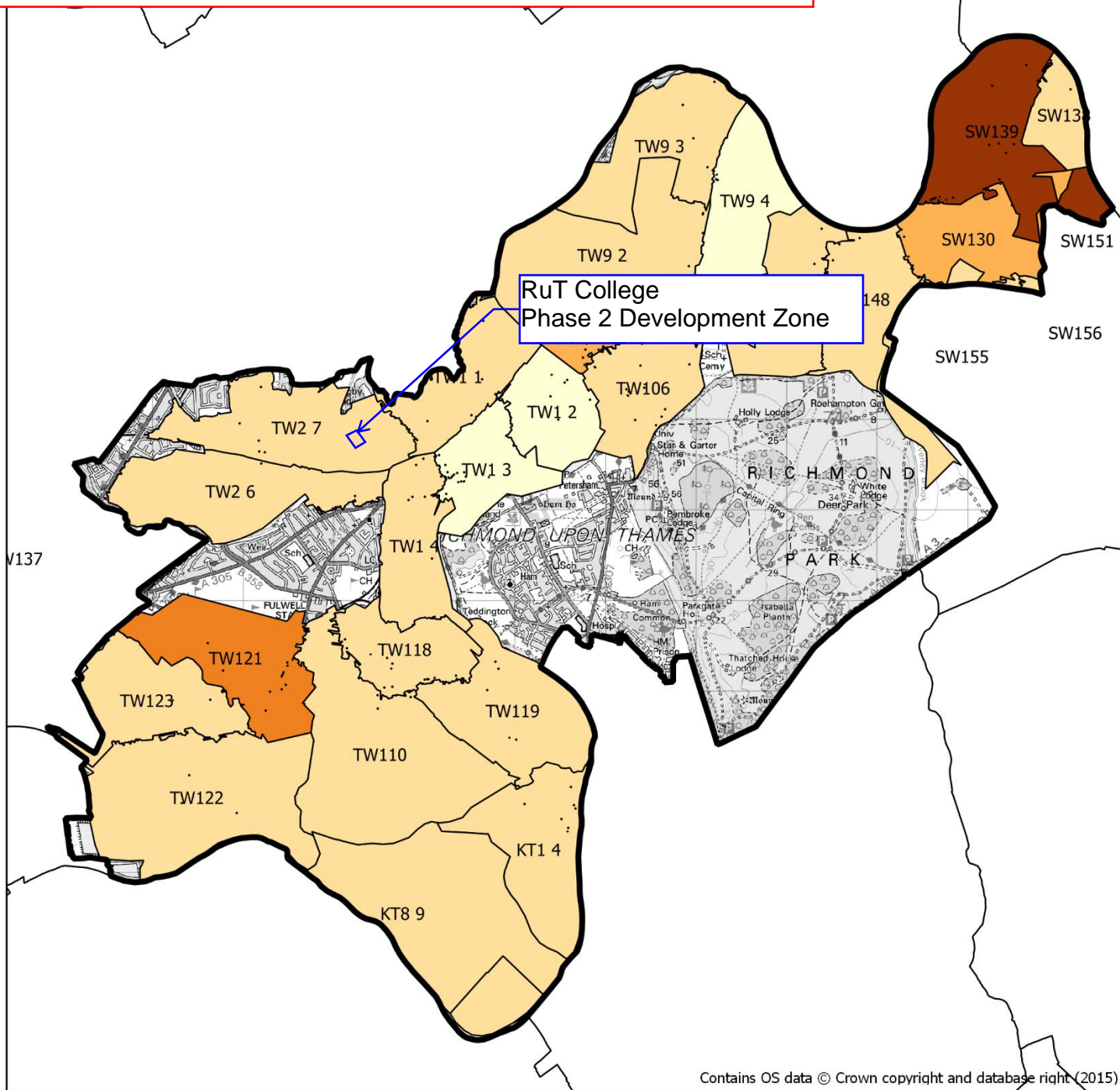


Filepath: N:\Water\Current Projects\134785 D134786 DRAIN LONDON Tier 202 Group 8 (D134786)\05 GIS



# APPENDIX D4 - SEWER FLOOD MAP (2015 UPDATE)

SOURCE - LBRUT STRATEGIC FRA



## Legend

- Borough Boundary
- Number of Sewer Flooding Incidents based on DG5 data**
- 0
- 1 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- 21 - 25



Project Title  
London Borough of Richmond Upon Thames Strategic Flood Risk Assessment Level 1

Drawing Title  
Sewer Flooding Incidents

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Drawing Number  
**FIGURE I**

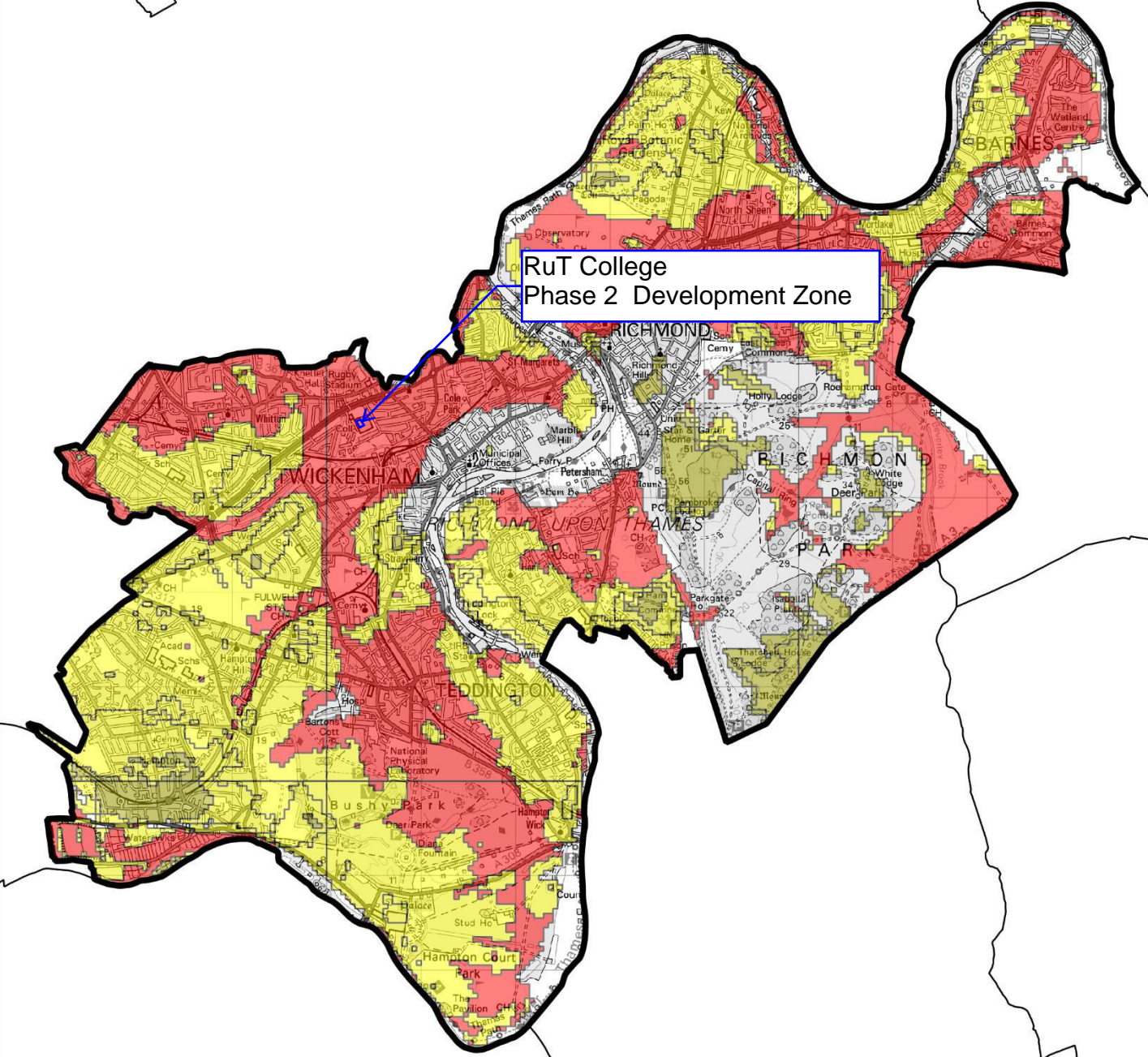
Scale: **1:65,000**

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

# APPENDIX D5 - GROUNDWATER FLOOD MAP

SOURCE - LBRUT STRATEGIC FRA



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## Legend

-  Borough Boundary
- BGS Susceptibility to Groundwater Flooding**
-  Limited potential for groundwater flooding to occur
-  Potential for groundwater flooding of property situated below ground level
-  Potential for groundwater flooding to occur at surface

in association with



Metis Consultants Limited



Client



Project Title

London Borough of Richmond Upon Thames Strategic Flood Risk Assessment Level 1

Drawing Title

BGS Susceptibility to Groundwater Flooding

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Drawing Number

FIGURE E

1:65,000





# APPENDIX D5 - GROUNDWATER FLOOD MAP

SOURCE - ENVIRONMENT AGENCY WEBSITE

## Map legend

Groundwater source protection zones

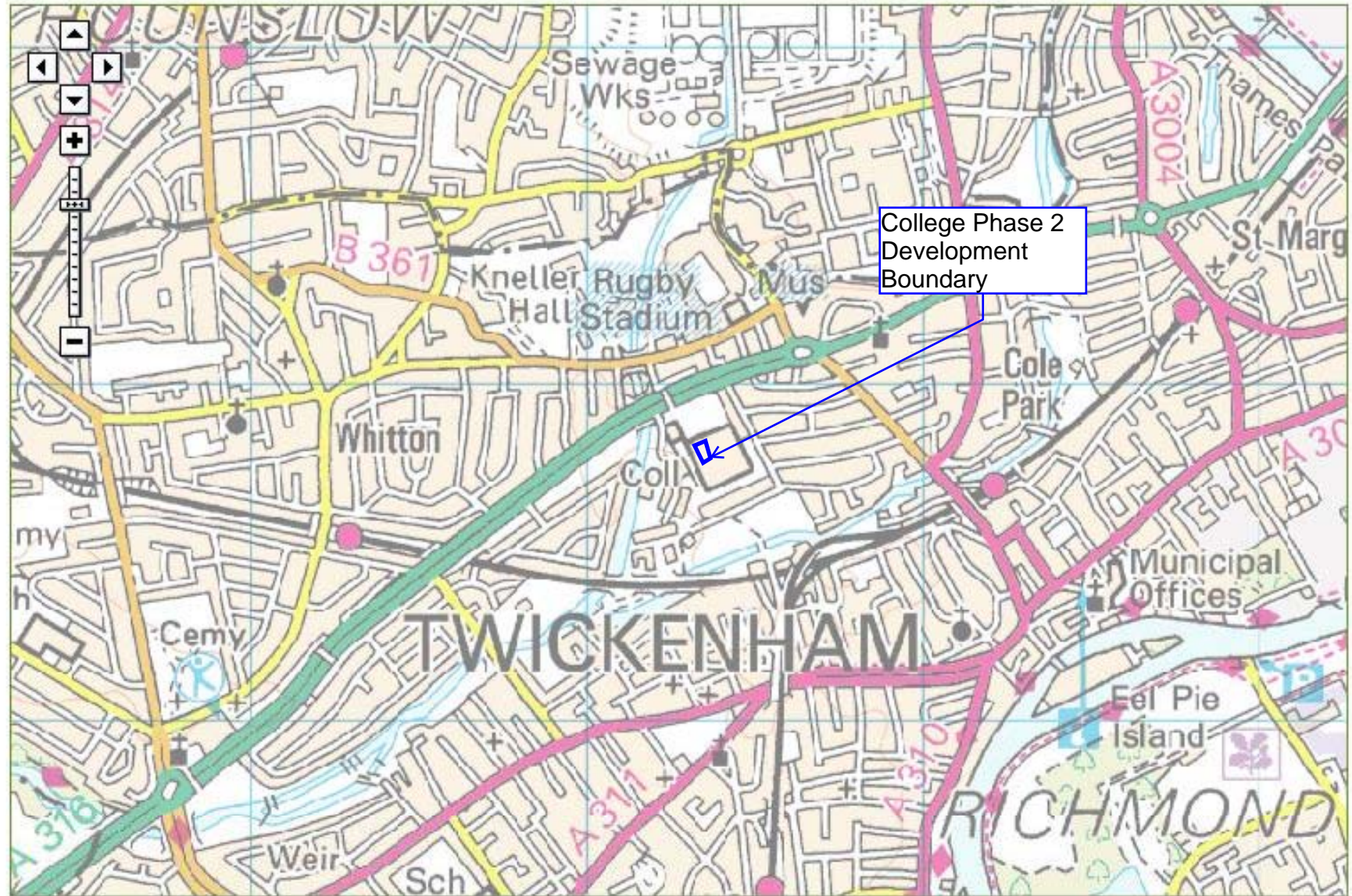
- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

BGS Aquifer Maps - Superficial Deposits Designation

- Principal
- Secondary A
- Secondary B
- Secondary (undifferentiated)
- Unknown (lakes and landslip)

Map of X: 515,279; Y: 173,797 at scale 1:20,000

Other maps Data search Text only version




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# APPENDIX D6 - RESERVOIR FLOOD MAP


SOURCE - ENVIRONMENT AGENCY WEBSITE

 Flood risk from rivers or the sea

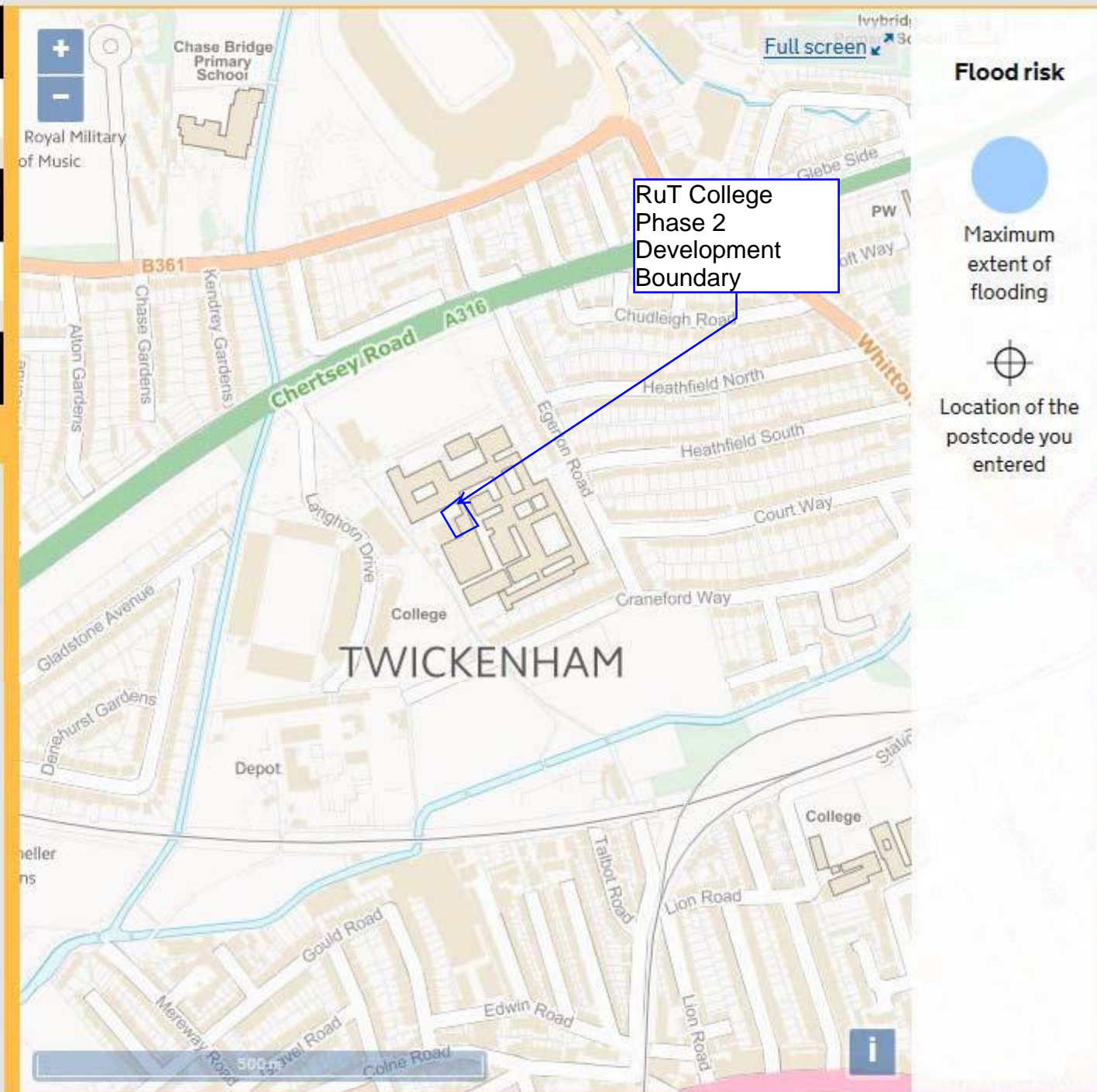
 Extent of flooding

 Flood risk from surface water

 Extent of flooding

 Flood risk from reservoirs

 Extent of flooding





# Appendix E. Thames Water Drainage Acceptance Letter





Jessica Taylor  
Atkins  
Euston Tower  
286 Euston Road  
London  
NW1 3AT



Your account number  
DS4007616



[thameswater.co.uk](http://thameswater.co.uk)



0800 009 3921  
Mon – Fri 9am-5pm,  
05<sup>th</sup> May 2016

## Pre Development Enquiry

**Site Address: Richmond College, Twickenham, Middlesex, TW2 7SQ**

**Development Details: New Campus with occupancy of 3300 (including staff), Residential Development comprising 179 properties and Haymarket group technical hub with occupancy of 100**

Dear Miss Taylor

I write in relation to the above site regarding the proposed development here.

Please note: your initial fee of £398+ VAT covers the expense of our asset planners reviewing your proposed discharges in relation to the capacity in our existing network. They also carry out flood risk assessments. At this stage if your proposal is accepted, we issue an approval letter for you to progress with your development.

### Foul Water

In this instance we have notified our Catchment Planners for the area and they have made comment regarding the capacity of the public sewers. The proposed discharge rates are acceptable providing that the flow rate from the Nuffield St Health Centre as shown in submitted calculations. If the flows proves to be higher than the rate allowed in the calculations provided following flow testing, Thames Water should be consulted.

### Surface Water

Please note that discharging surface water to the public sewer network should only be considered after all other methods of disposal have been investigated and proven to be not viable. In accordance with the Building Act 2000 Clause H3.3, positive connection to a public sewer will only be consented when it can be demonstrated that the hierarchy of disposal methods have been examined and proven to be impracticable. The disposal hierarchy being: 1<sup>st</sup> Store rain water for Later Use; 2<sup>nd</sup> Use infiltration techniques, such as porous surfaces in non-clay area; 3<sup>rd</sup> Attenuate rainwater in ponds or open water features for gradual release to a watercourse; 4<sup>th</sup> Attenuate rainwater by storing in tanks or sealed water features for gradual release to a watercourse; 5<sup>th</sup> Discharge rainwater direct to a watercourse; 6<sup>th</sup> Discharge rainwater to a surface water drain; 7<sup>th</sup> Discharge rainwater to the combined sewer.



You should be aware that in the public sewer system will be unable to accommodate any storm greater than a 1 in 20 year event. You should assume this level of storm when calculating the current discharge rate. Please ensure that storm flows are attenuated or regulated into the receiving public network through on or off site storage.

Only when it can be proven that soakage into the ground or a connection into the adjacent watercourse is not possible would we consider a restricted discharge into the public surface water sewer network. A reduction of at least 50% on existing flows from the same site area would be sought for a range of storm conditions.

#### **Please Note**

All connection requests are subject to a full Section 106 (Water Industry Act 1991) application before the Company can confirm approval to the connection itself. Please also note that capacity in the public sewerage system cannot be reserved.

The views expressed by Thames Water in this letter are in response to this pre development enquiry at this time and do not represent our final views on any future planning applications made in relation to this site.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Natalya Collins', with a long horizontal flourish extending to the right.

Natalya Collins  
Development Engineer



**Jessica Taylor**  
Atkins  
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NW1 3AT

[jessica.taylor@atkinsglobal.com](mailto:jessica.taylor@atkinsglobal.com)

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