

APPENDIX D

CHERWELL DISTRICT COUNCIL CORRESPONDENCE

Alice Kirsz

From: Tony Brummell <Tony.Brummell@Cherwell-DC.gov.uk>
Sent: 08 November 2022 17:41
To: Alice Kirsz
Subject: Enquiry regarding Ordinary Watercourse Easements

Your enquiry has reached me as I am Cherwell's Flood Risk Manager.

We have no bye-laws covering this. However, through the Development Control and Land Drainage Act consenting processes we expect to see unobstructed maintenance strips on each side of an Ordinary Watercourse no less than 3m wide. Moreover, we also expect these to be incorporated into linear public open spaces wherever possible such that the owner of the public open space, ideally the District or Town/Parish Council, becomes the riparian owner. We will very strongly resist proposals to enclose land up to the bank of any Ordinary Watercourse.

If you have a particular site in mind I would ask that you make early contact with us so that we can jointly set out mutually agreeable details at the concept stage of any development.

Tony Brummell CEng FICE FCIWEM MCIHT
Building Control and Flood Risk Manager

Cherwell Building Control and Flood Risk Management Service
Communities Directorate
Cherwell District Council

Direct Dial: 01295 221909
tony.brummell@cherwell-dc.gov.uk
www.cherwell.gov.uk

www.facebook.com/cherwelldistrictcouncil
Twitter @Cherwellcouncil

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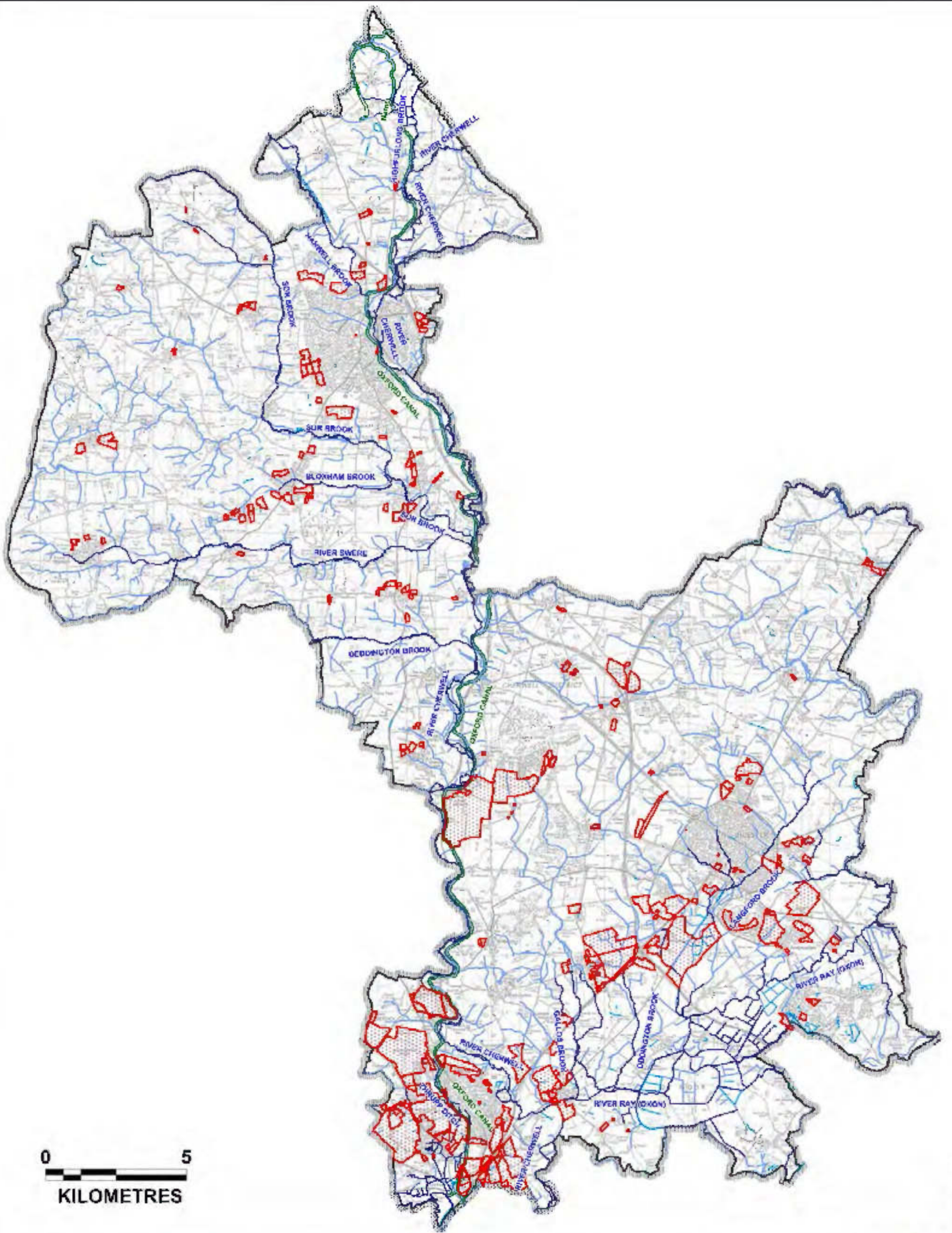
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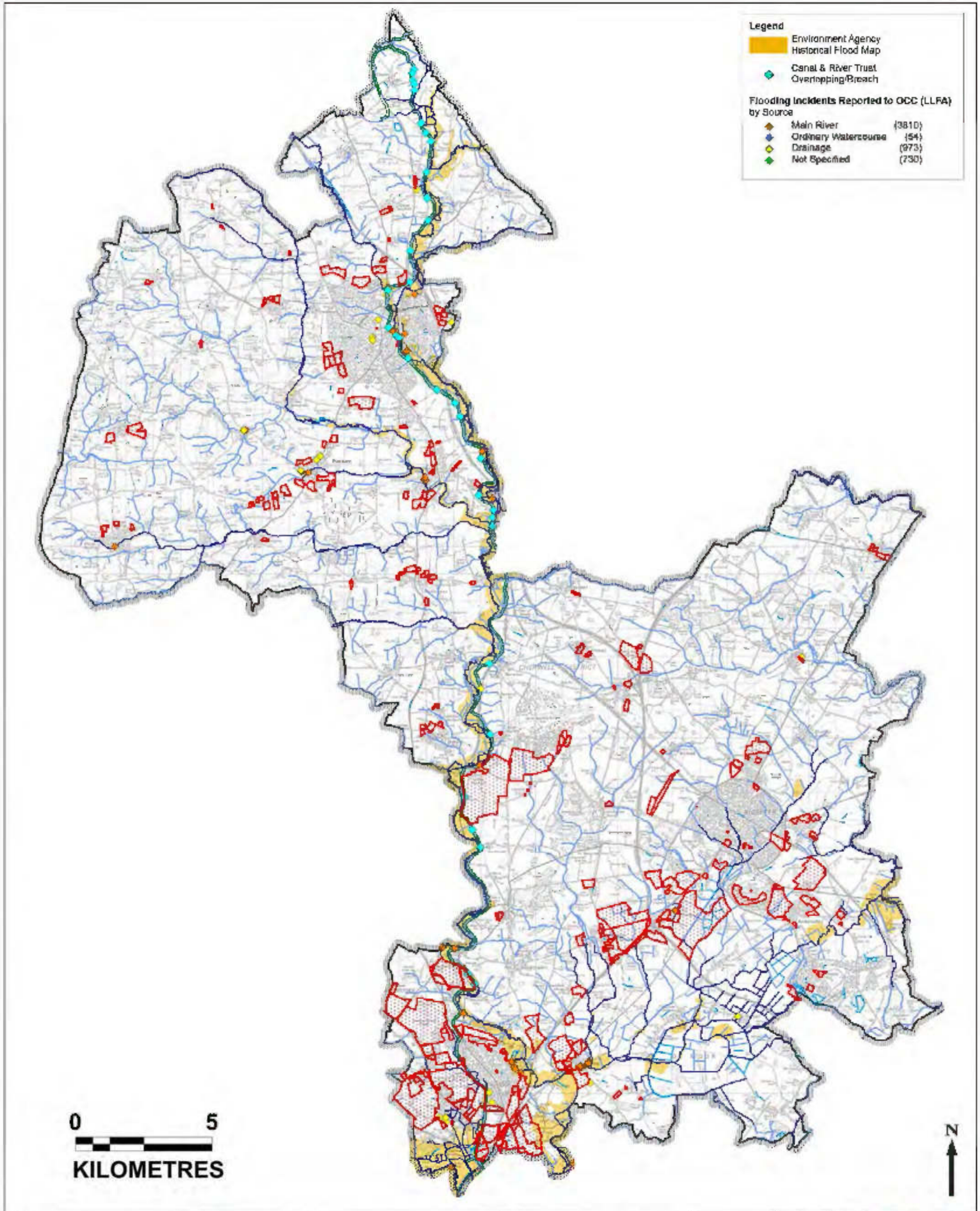
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APPENDIX E

SFRA MAPPING



<p>Legend</p> <ul style="list-style-type: none"> Cherwell District Council Level 1 SFRA Sites Detailed River Network Main Rivers Ordinary Watercourse Offline Waterbody Canal 	<p>Job Title</p> <p>CHERWELL LEVEL 1 STRATEGIC FLOOD RISK ASSESSMENT UPDATE</p> <p>Copyright</p> <p>© Copyright. All rights reserved. Environment Agency 2015. © Copyright. All rights reserved. Canal & River Trust 2016.</p> <p>This map is based upon Ordnance Survey material with the permission of Her Majesty's Stationery Office. © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Cherwell District Council. License No. 10004216. 2016</p>	<p>Drawing Title</p> <p>SURFACE WATERBODIES</p> <p>THIS DOCUMENT HAS BEEN PREPARED IN ACCORDANCE WITH THE SCOPE OF AECOM'S APPOINTMENT WITH ITS CLIENT AND IS AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS CLIENT AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED. © AECOM INFRASTRUCTURE & ENVIRONMENT, UK LTD 2017</p>	<p>Revision Details</p> <table border="1"> <tr> <th>Rev</th> <th>By</th> <th>Date</th> <th>Desc</th> </tr> <tr> <td>1</td> <td>AS</td> <td>05/2017</td> <td>AS SHOWN</td> </tr> <tr> <td>2</td> <td>MT</td> <td>05/2017</td> <td>Approved</td> </tr> </table> <p>Notes</p> <p>THIS DRAWING MAY BE USED ONLY FOR THE PROJECT INTENDED</p>	Rev	By	Date	Desc	1	AS	05/2017	AS SHOWN	2	MT	05/2017	Approved	<p>Client</p> <p>Cherwell DISTRICT COUNCIL 01235 254025 (ext)</p> <p>Drawing Status</p> <p>FINAL</p> <p>AECOM Infrastructure & Environment UK Ltd</p>
Rev	By	Date	Desc													
1	AS	05/2017	AS SHOWN													
2	MT	05/2017	Approved													
<p>Job Title</p> <p>CHERWELL LEVEL 1 STRATEGIC FLOOD RISK ASSESSMENT UPDATE</p>	<p>Copyright</p> <p>© Copyright. All rights reserved. Environment Agency 2015. © Copyright. All rights reserved. Canal & River Trust 2016.</p> <p>This map is based upon Ordnance Survey material with the permission of Her Majesty's Stationery Office. © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Cherwell District Council. License No. 10004216. 2016</p>	<p>Drawing Title</p> <p>SURFACE WATERBODIES</p>	<p>Revision Details</p> <table border="1"> <tr> <th>Rev</th> <th>By</th> <th>Date</th> <th>Desc</th> </tr> <tr> <td>1</td> <td>AS</td> <td>05/2017</td> <td>AS SHOWN</td> </tr> <tr> <td>2</td> <td>MT</td> <td>05/2017</td> <td>Approved</td> </tr> </table> <p>Notes</p> <p>THIS DRAWING MAY BE USED ONLY FOR THE PROJECT INTENDED</p>	Rev	By	Date	Desc	1	AS	05/2017	AS SHOWN	2	MT	05/2017	Approved	<p>Client</p> <p>Cherwell DISTRICT COUNCIL 01235 254025 (ext)</p> <p>Drawing Status</p> <p>FINAL</p> <p>AECOM Infrastructure & Environment UK Ltd</p> <p>AECOM</p> <p>Drawn: RS Checked: MT Date: 05/2017</p> <p>Drawn: RS Checked: MT Date: 05/2017</p> <p>Notes</p> <p>THIS DRAWING MAY BE USED ONLY FOR THE PROJECT INTENDED</p> <p>Drawing Number: FIGURE B3</p>
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1	AS	05/2017	AS SHOWN													
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Legend	
	Environment Agency Historical Flood Map
	Canal & River Trust Overlapping/Breach
FLOODING INCIDENTS REPORTED TO OCC (LLFA) by Source	
	Main River (3810)
	Ordinary Watercourse (54)
	Drainage (973)
	Not Specified (730)

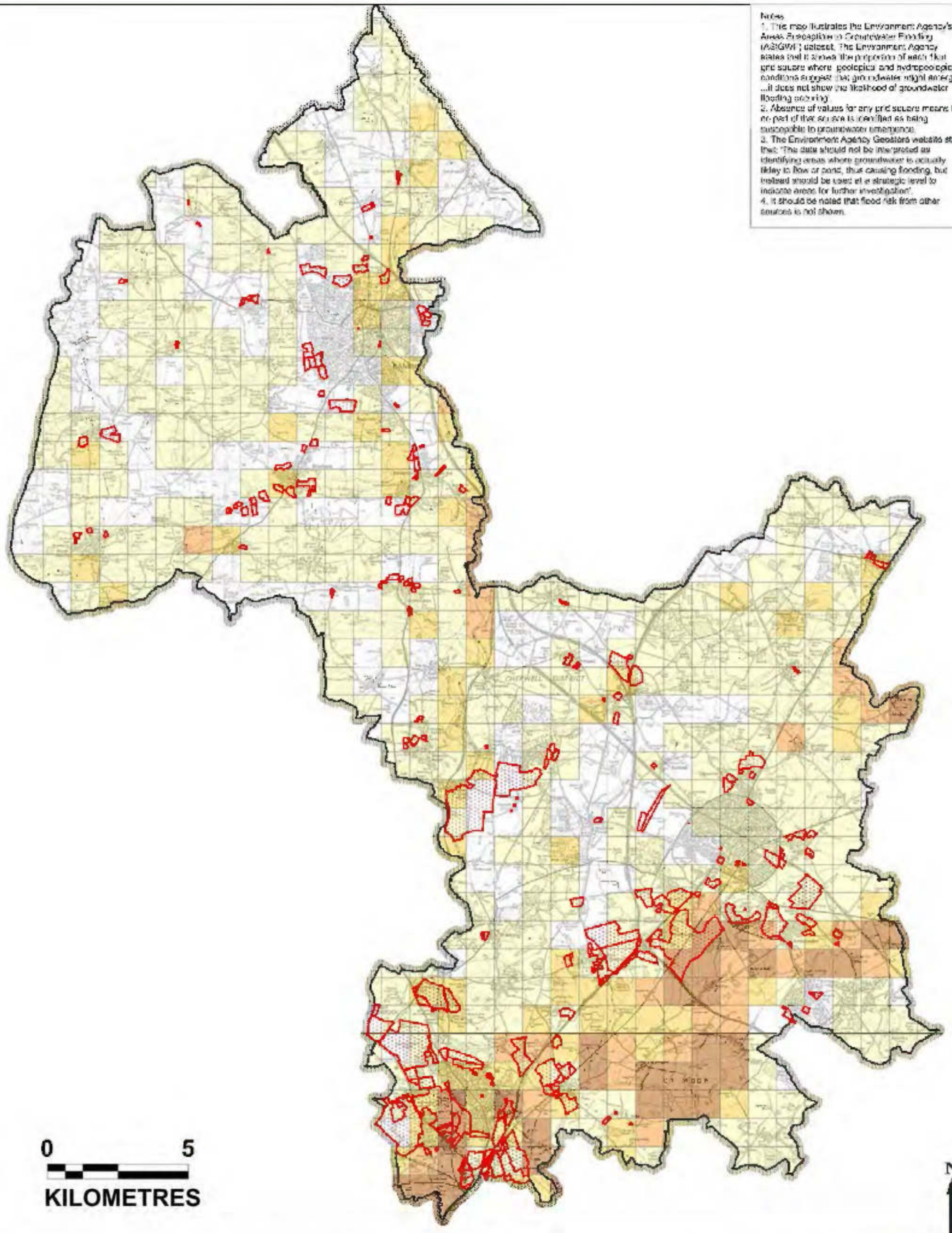
0 5
KILOMETRES



<p>Legend</p> <p> Cherwell District Boundary</p> <p> Level 1 SFRA Sites</p> <p>Detailed River Network</p> <p> Main River</p> <p> Ordinary Watercourse</p> <p> Offline Waterbody</p> <p> Oxford Canal</p>	<p>THIS DOCUMENT HAS BEEN PREPARED IN ACCORDANCE WITH THE SCOPE OF AECOM'S APPOINTMENT WITH ITS CLIENT AND IS AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS CLIENT AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.</p> <p>© AECOM INFRASTRUCTURE & ENVIRONMENT, UK LTD 2017</p>	<p>Client: Cherwell DISTRICT COUNCIL BURNING WOODS, OXFORD</p> <p>Drawing Status: FINAL</p>
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		<p>AECOM Infrastructure & Environment UK Ltd</p> <p>AECOM</p> <p>Drawing Number: FIGURE B4</p>

Notes

1. This map illustrates the Environment Agency's Areas Susceptible to Groundwater Flooding (ASTGWF) dataset. The Environment Agency states that it shows the proportion of each 1km grid square where geological and hydrogeological conditions suggest that groundwater might emerge ... it does not show the likelihood of groundwater flooding occurring.
2. Absence of values for any grid square means that no part of that square is identified as being susceptible to groundwater emergence.
3. The Environment Agency Geotitles website states that: "This data should not be interpreted as identifying areas where groundwater is actually likely to flow or pond, thus causing flooding, but instead should be used at a strategic level to indicate areas for further investigation".
4. It should be noted that flood risk from other sources is not shown.

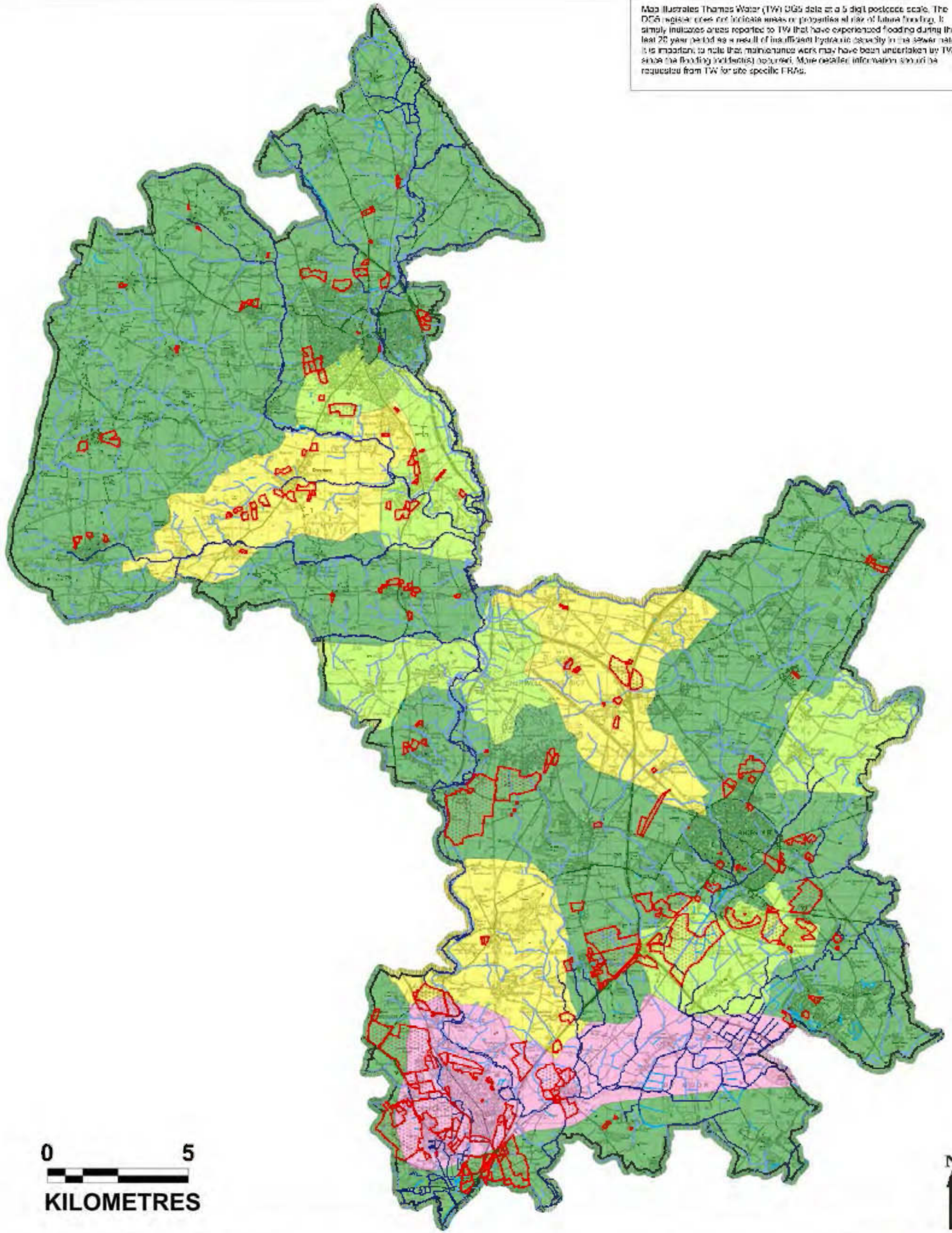


<p>Legend</p> <p>Cherwell District Boundary</p> <p>Level 1 SFRA Sites</p>	<p>Areas Susceptible to Groundwater Flooding</p> <ul style="list-style-type: none"> <25 percent >=25 percent <50 percent >=50 percent <75 percent >=75 percent 	<p>THIS DOCUMENT HAS BEEN PREPARED IN ACCORDANCE WITH THE SCOPE OF AECOM'S APPOINTMENT WITH ITS CLIENT AND IS AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS CLIENT AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.</p> <p>© AECOM INFRASTRUCTURE & ENVIRONMENT, UK LTD 2017</p>	<p>Client: Cherwell DISTRICT COUNCIL NORTH OXFORDSHIRE</p> <p>Drawing Status: FINAL</p>	<p>Scale: AS SHOWN</p> <p>Drawn: RS / Approved: MT / Date: 02/2017</p> <p>Notes: THIS DRAWING MAY BE USED ONLY FOR THE PROJECT INTENDED</p>
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<p>Legend</p> <ul style="list-style-type: none"> Cherwell District Boundary Level 1 SFRA Sites Detailed River Network <ul style="list-style-type: none"> Main River Offline Waterbody Ordinary Watercourse 	<p>Groundwater Vulnerability</p> <ul style="list-style-type: none"> Major Aquifer - High Major Aquifer - Intermediate Major Aquifer - Low Minor Aquifer - High Minor Aquifer - Intermediate Minor Aquifer - Low 	<p>THIS DOCUMENT HAS BEEN PREPARED IN ACCORDANCE WITH THE SCOPE OF AECOM'S APPOINTMENT WITH ITS CLIENT AND IS AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS CLIENT AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED. © AECOM INFRASTRUCTURE & ENVIRONMENT, UK LTD 2017</p>	<p>Client: Cherwell DISTRICT COUNCIL BURNING WOODS DRIVE</p> <p>Drawing Status: FINAL</p>	
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Map illustrates Thames Water (TW) DG5 data at a 5 digit postcode scale. The DG5 register does not indicate areas or properties at risk of future flooding. It simply indicates areas reported to TW that have experienced flooding during the last 25 year period as a result of insufficient hydraulic capacity in the sewer network. It is important to note that maintenance work may have been undertaken by TW since the flooding incidents occurred. More detailed information should be requested from TW for site specific FRAs.



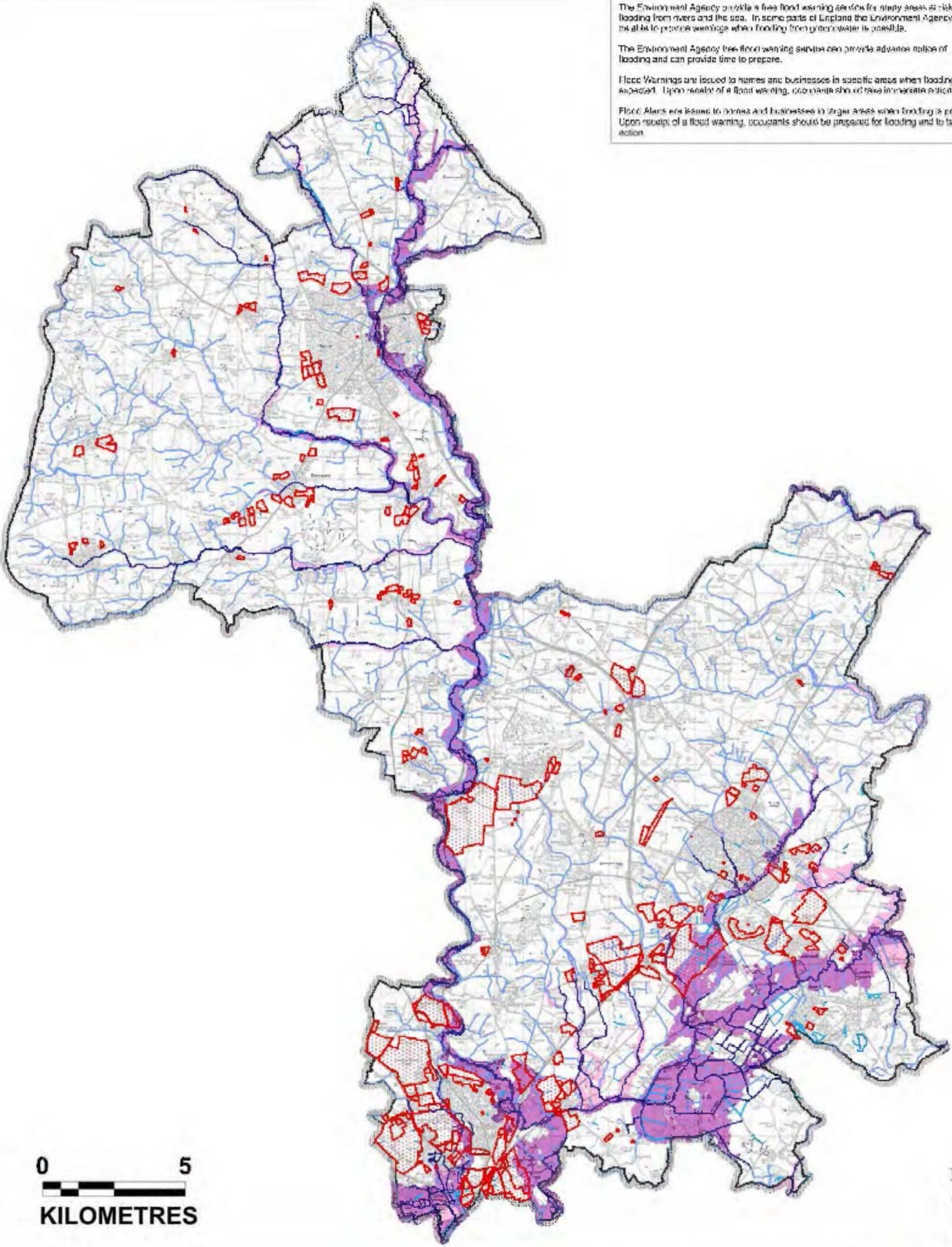
<p>Legend</p> <ul style="list-style-type: none"> Cherwell District Council Level 1 SFRA Sites 	<p>Detailed River Network</p> <ul style="list-style-type: none"> Main River Ordinary Watercourse Offine Waterbody 	<p>TW DG5 Sewer Flooding Incident Register (reported per postcode region)</p> <ul style="list-style-type: none"> 0 to 5 5 to 10 10 to 15 20 to 25 	<p>THIS DOCUMENT HAS BEEN PREPARED IN ACCORDANCE WITH THE SCOPE OF AECOM'S APPOINTMENT WITH ITS CLIENT AND IS AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS CLIENT AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED. © AECOM INFRASTRUCTURE & ENVIRONMENT, UK LTD 2017</p>	<p>Client: Cherwell DISTRICT COUNCIL NORTH OXFORDSHIRE Drawing Status: FINAL</p>
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The Environment Agency provides a free flood warning service for study areas at risk of flooding from rivers and the sea. In some parts of England the Environment Agency may be able to provide warnings when flooding from ground water is possible.

The Environment Agency free flood warning service can provide advance notice of flooding and can provide time to prepare.

Flood Warnings are issued to homes and businesses in specific areas when flooding is expected. Upon receipt of a flood warning, occupants should take immediate action.


Flood Alerts are issued to homes and businesses in larger areas when flooding is possible. Upon receipt of a flood warning, occupants should be prepared for flooding and to take action.



<p>Legend</p> <ul style="list-style-type: none"> Cherwell District Boundary Level 1 SFRA Sites Detailed River Network <ul style="list-style-type: none"> Main River Ordinary Watercourse Offline Waterbody Environment Agency Flood Warning Area Environment Agency Flood Alert Area 	<p>THIS DOCUMENT HAS BEEN PREPARED IN ACCORDANCE WITH THE SCOPE OF AECOM'S APPOINTMENT WITH ITS CLIENT AND IS AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS CLIENT AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.</p> <p>© AECOM INFRASTRUCTURE & ENVIRONMENT, UK LTD 2017</p>	<p>Client: Cherwell DISTRICT COUNCIL BURNING WOODS DRIVE</p> <p>Drawing Status: FINAL</p>	
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APPENDIX F

GREENFIELD RUNOFF ESTIMATES

ADC Infrastructure Ltd		Page 1
4th Floor, City Buildings 34-36 Carrington Street Nottingham NG1 7FG	Bloxham Road Banbury Greenfield estimates	
Date 18/11/2022 File	Designed by Alice Kirsz Checked by Richard Winn	
Innovyze	Source Control 2020.1	

ICP SUDS Mean Annual Flood

Input

Return Period (years) 100 SAAR (mm) 700 Urban 0.000
Area (ha) 1.910 Soil 0.400 Region Number Region 4

Results 1/s


QBAR Rural 6.5
QBAR Urban 6.5

Q100 years 16.7

Q1 year 5.4
Q30 years 12.7
Q100 years 16.7

APPENDIX G


SURFACE WATER STORAGE CALCULATIONS

ADC Infrastructure Ltd		Page 1
4th Floor, City Buildings 34-36 Carrington Street Nottingham NG1 7FG	Bloxham Road Banbury Basin 100+40	
Date 04/11/2022 File basin v2.SRCX	Designed by Alice Kirsz Checked by Richard Winn	
Innovyze	Source Control 2020.1	

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m ³)	Status
15 min Summer	133.012	0.262	6.4	393.9	O K
30 min Summer	133.089	0.339	6.5	515.5	O K
60 min Summer	133.167	0.417	6.5	641.9	O K
120 min Summer	133.231	0.481	6.5	746.3	O K
180 min Summer	133.269	0.519	6.5	810.9	O K
240 min Summer	133.296	0.546	6.5	855.7	O K
360 min Summer	133.329	0.579	6.5	912.0	O K
480 min Summer	133.347	0.597	6.5	941.9	O K
600 min Summer	133.355	0.605	6.5	956.0	O K
720 min Summer	133.357	0.607	6.5	960.2	O K
960 min Summer	133.351	0.601	6.5	949.2	O K
1440 min Summer	133.321	0.571	6.5	898.9	O K
2160 min Summer	133.280	0.530	6.5	828.3	O K
2880 min Summer	133.243	0.493	6.5	767.7	O K
4320 min Summer	133.184	0.434	6.5	669.0	O K
5760 min Summer	133.136	0.386	6.5	591.3	O K
15 min Winter	133.042	0.292	6.4	441.7	O K
30 min Winter	133.128	0.378	6.5	578.3	O K
60 min Winter	133.215	0.465	6.5	720.7	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	149.128	0.0	340.2	27
30 min Summer	97.944	0.0	440.1	41
60 min Summer	61.488	0.0	625.2	70
120 min Summer	36.351	0.0	737.5	130
180 min Summer	26.749	0.0	810.4	190
240 min Summer	21.490	0.0	863.3	248
360 min Summer	15.717	0.0	933.9	368
480 min Summer	12.523	0.0	974.5	486
600 min Summer	10.461	0.0	995.4	606
720 min Summer	9.008	0.0	1002.4	724
960 min Summer	7.080	0.0	992.5	962
1440 min Summer	4.997	0.0	950.6	1212
2160 min Summer	3.506	0.0	1327.1	1556
2880 min Summer	2.732	0.0	1374.8	1944
4320 min Summer	1.942	0.0	1448.8	2732
5760 min Summer	1.541	0.0	1577.0	3520
15 min Winter	149.128	0.0	380.4	26
30 min Winter	97.944	0.0	482.5	41
60 min Winter	61.488	0.0	699.8	70

ADC Infrastructure Ltd		Page 2
4th Floor, City Buildings 34-36 Carrington Street Nottingham NG1 7FG	Bloxham Road Banbury Basin 100+40	
Date 04/11/2022 File basin v2.SRCX	Designed by Alice Kirsz Checked by Richard Winn	
Innovyze	Source Control 2020.1	

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m ³)	Status
120 min Winter	133.286	0.536	6.5	839.3	O K
180 min Winter	133.330	0.580	6.5	913.5	O K
240 min Winter	133.360	0.610	6.5	965.5	O K
360 min Winter	133.399	0.649	6.5	1032.7	O K
480 min Winter	133.421	0.671	6.5	1070.3	O K
600 min Winter	133.432	0.682	6.5	1090.5	O K
720 min Winter	133.438	0.688	6.5	1099.4	O K
960 min Winter	133.435	0.685	6.5	1095.8	O K
1440 min Winter	133.406	0.656	6.5	1045.1	O K
2160 min Winter	133.350	0.600	6.5	947.2	O K
2880 min Winter	133.301	0.551	6.5	864.9	O K
4320 min Winter	133.215	0.465	6.5	720.9	O K
5760 min Winter	133.143	0.393	6.5	603.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
120 min Winter	36.351	0.0	822.5	128
180 min Winter	26.749	0.0	899.9	186
240 min Winter	21.490	0.0	953.0	244
360 min Winter	15.717	0.0	1012.5	362
480 min Winter	12.523	0.0	1029.4	478
600 min Winter	10.461	0.0	1024.6	594
720 min Winter	9.008	0.0	1015.1	710
960 min Winter	7.080	0.0	993.8	936
1440 min Winter	4.997	0.0	951.8	1370
2160 min Winter	3.506	0.0	1483.9	1688
2880 min Winter	2.732	0.0	1536.2	2132
4320 min Winter	1.942	0.0	1611.8	2988
5760 min Winter	1.541	0.0	1767.0	3808

ADC Infrastructure Ltd		Page 3
4th Floor, City Buildings 34-36 Carrington Street Nottingham NG1 7FG	Bloxham Road Banbury Basin 100+40	
Date 04/11/2022 File basin v2.SRCX	Designed by Alice Kirsz Checked by Richard Winn	
Innovyze	Source Control 2020.1	


Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 443880 238719 SP 43880 38719
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	5760
Climate Change %	+40

Time Area Diagram

Total Area (ha) 1.430

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From: To: (ha)		From: To: (ha)		From: To: (ha)	
0	4 0.430	4	8 0.500	8	12 0.500

ADC Infrastructure Ltd		Page 4
4th Floor, City Buildings 34-36 Carrington Street Nottingham NG1 7FG	Bloxham Road Banbury Basin 100+40	
Date 04/11/2022 File basin v2.SRCX	Designed by Alice Kirsz Checked by Richard Winn	
Innovyze	Source Control 2020.1	

Model Details

Storage is Online Cover Level (m) 133.750

Tank or Pond Structure

Invert Level (m) 132.750

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	1450.0	1.000	1900.0

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0116-6500-1200-6500
Design Head (m)	1.200
Design Flow (l/s)	6.5
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	116
Invert Level (m)	132.750
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.200	6.5	Kick-Flo®	0.754	5.2
Flush-Flo™	0.353	6.5	Mean Flow over Head Range	-	5.7

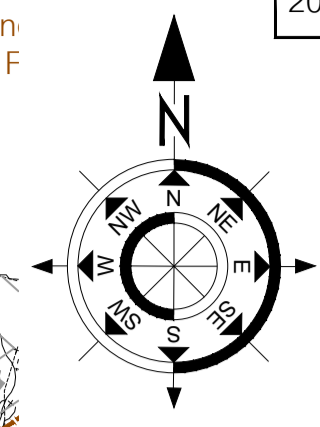
The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	4.1	1.200	6.5	3.000	10.0	7.000	15.0
0.200	6.1	1.400	7.0	3.500	10.8	7.500	15.5
0.300	6.5	1.600	7.4	4.000	11.5	8.000	16.0
0.400	6.5	1.800	7.9	4.500	12.1	8.500	16.4
0.500	6.4	2.000	8.3	5.000	12.7	9.000	16.9
0.600	6.1	2.200	8.6	5.500	13.3	9.500	17.3
0.800	5.4	2.400	9.0	6.000	13.9		
1.000	6.0	2.600	9.3	6.500	14.4		

APPENDIX H


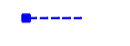

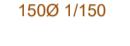


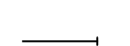







PHASE 2 DRAINAGE LAYOUT

Gravity conn
Thames Water F



Outfall to existing Thames Water
foul water manhole ref: 4001,
located at the junction of
Bloxham Road and Waller Drive

Key

-  Proposed Foul Water Rising Main
-  Proposed Trapped Gully and connection
-  2250 1/100 Proposed Surface Water Sewer
-  1500 1/150 Proposed Foul Water Sewer
-  Proposed 45 Degree backdrops
-  Proposed Highway Drain
-  Proposed Stub Connection
-  Proposed Sewer Easement
-  Proposed Bagwork Headwall
-  Proposed FP McCann Precast Concrete Headwall - Large (up to 900mm diameter pipe)
-  Proposed FP McCann Precast Concrete Headwall - Medium (up to 450mm diameter pipe)
-  Proposed FP McCann Precast Concrete Headwall - Small (up to 300mm diameter pipe)
-  Proposed Balancing Pond
-  Proposed 1.2m Post & Rail Fence

Rev	Description	Date	Drawn By	Checked By
C	Amended to suit revised layout	18.08.17	LGH	TJB
B	Amended to suit revised layout	10.08.17	LGH	TJW
A	Foul and Surface Water sewer rerouted	06.04.17	LGH	TJW

Drawing Approval Status:-

- Section 104 Section 38 Section 278

FOR PLANNING



Wormald Burrows Partnership Limited
Civil Engineering Consultants
12a - 18a Hitchin Street, Biggleswade, SG18 8AX
Tel: (01767) 317244 Fax: (01767) 315434
Web: www.wormburp.com
Email: engineer@wormburp.com

Project:
Land to West of Bloxham Road, Banbury

Drawing Description:
Drainage Strategy Plan - Sheet 1 of 3

Client:

Redrow Homes
Redrow House
6 Waterside Way
The Lakes
Northampton NN4 7XD

Drawing Number:
E3535/500/C

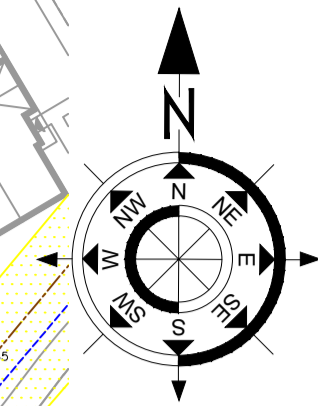
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Drawn By:
JMW
Date:
10.02.17














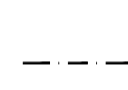
Checked By:
TJW
Date:
13.02.17




Certified by Afnor UK



Key

-  Proposed Foul Water Rising Main
-  Proposed Trapped Gully and connection
-  Proposed Surface Water Sewer
-  Proposed Foul Water Sewer
-  Proposed 45 Degree backdrops
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Drawing Approval Status:-

Section 104 Section 38 Section 278

FOR PLANNING


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 Civil Engineering Consultants
12a-18a Hitchin Street, Biggleswade, SG18 8AX
 Tel: (01767) 317244 Fax: (01767) 315434
 Web: www.wormburp.com
 Email: engineer@wormburp.com


Project:

Land to West of Bloxham Road, Banbury

Drawing Description:

Drainage Strategy Plan - Sheet 2 of 3

Client:


REDROW HOMES
Redrow Homes
 Redrow House
 6 Waterside Way
 The Lakes
 Northampton NN4 7XD

Drawing Number:

E3535/501/C

Scale:

1:500 @ A1
1:1000 @ A3

Drawn By:

JMW

Date:

10.02.17

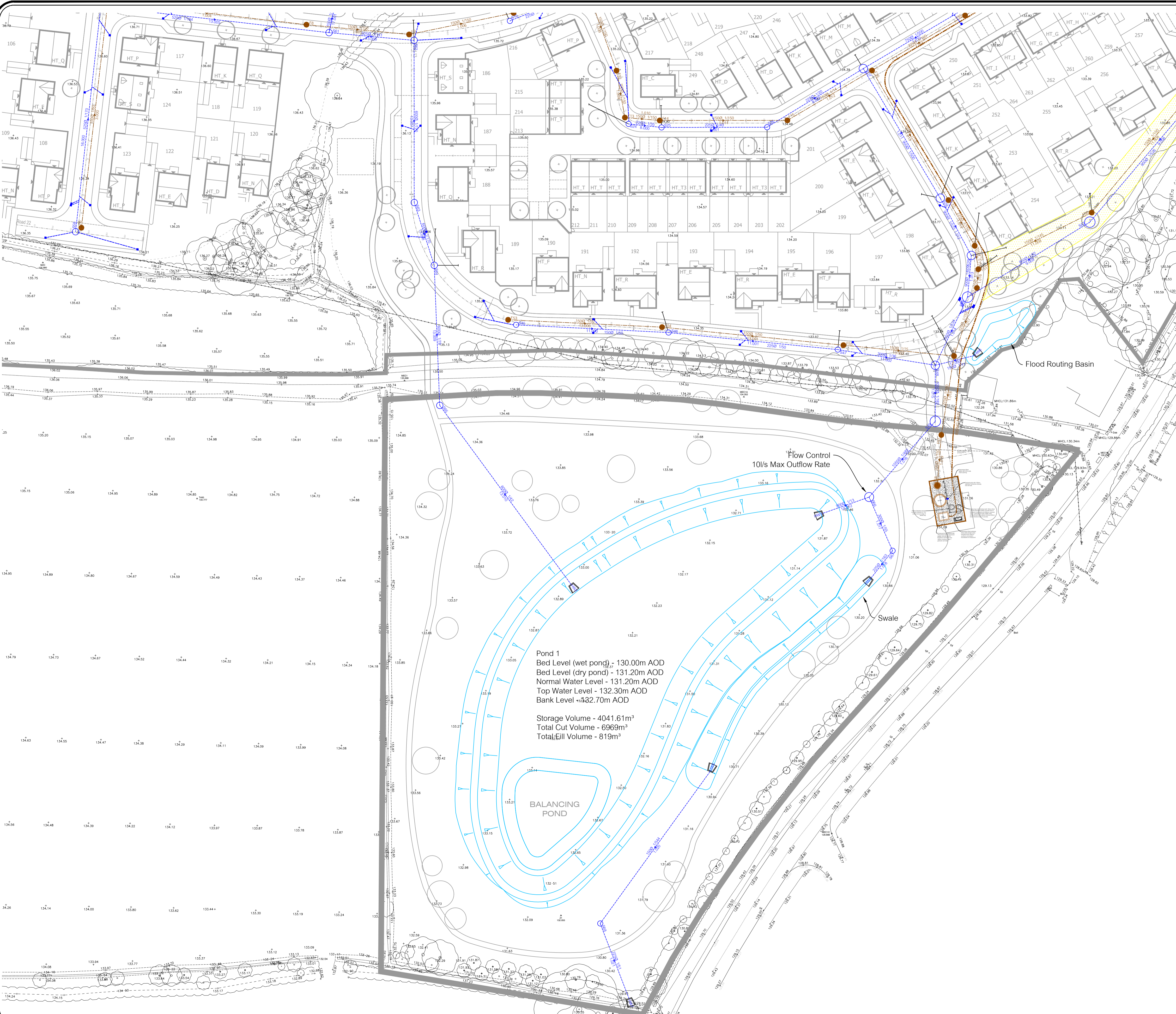
Checked By:

TJW

Date:

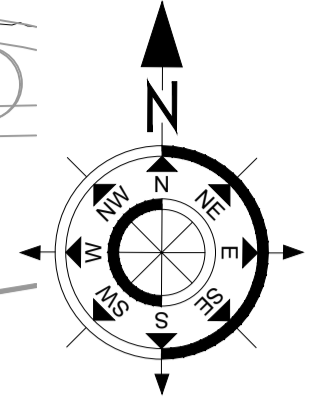
13.02.17



Pond 1
 Bed Level (wet pond) - 130.00m AOD
 Bed Level (dry pond) - 131.20m AOD
 Normal Water Level - 131.20m AOD
 Top Water Level - 132.30m AOD
 Bank Level - 132.70m AOD

Storage Volume - 4041.61m³
 Total Cut Volume - 6969m³
 Total Fill Volume - 819m³



Key

- Proposed Foul Water Rising Main
- Proposed Trapped Gully and connection
- Proposed Surface Water Sewer
- Proposed Foul Water Sewer
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 Section 104 Section 38 Section 278

FOR PLANNING

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 Tel: (01767) 317244 Fax: (01767) 315434
 Web: www.wormburp.com
 Email: engineer@wormburp.com

Project:
 Land to West of Bloxham Road, Banbury

Drawing Description:
 Drainage Strategy Plan - Sheet 3 of 3

Client:
REDROW HOMES

Redrow Homes
 Redrow House
 6 Waterside Way
 The Lakes
 Northampton NN4 7XD

Drawing Number:
E3535/502/C

Scale:
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 1:1000 @ A3

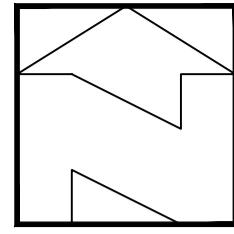
Drawn By:
 JMW
 Date:
 10.02.17

Checked By:
 TJW
 Date:
 13.02.17



APPENDIX I

DRAINAGE LAYOUT (ADC3114-DR-050)



IMPORTANT NOTE: THIS LAYOUT IS INDICATIVE AND IS SUBJECT TO DETAILED DESIGN



Potential location for a swale feature, within landscaped strip

Rising main to pump foul flows offsite to the existing Thames Water public foul water network; discharge location to be confirmed as planning proposals progress

Indicative location for street trees, adjacent to internal spine road

Embankment extent of detention basin to be confirmed

Indicative permanently wet area to provide additional surface water treatment, as per LLFA guidance

Indicative pond/basin
CL = 134.00m AOD
IL = 133.00m AOD
Depth = 1.0m (inclusive of a 0.3m freeboard)
Storage volume = 1100cum

Rising main to pump foul flows to public foul water network

3m easements from the top of bank of each ditch length to allow for maintenance

15m offset from pumping station wetwell to any habitable dwelling

Foul pumping station- vehicular access and turning head for a tanker required

Flow control restricting discharge to QBAR rate of 6.5l/s, as per LLFA guidance

Ditch IL = 132.92m AOD

Key

- Proposed pond/basin
- Proposed surface water drainage
- Proposed foul water drainage
- Proposed rising main
- Proposed pumping station
- Ditch maintenance easements

- Drainage Notes**
1. All adoptable surface and foul water drainage works to be carried out in accordance with 'Sewers for Adoption 8th edition' and any specific requirements of the adopting authority/sewage undertaker.
 2. All adoptable highway drainage works to be carried out in accordance with the Local Highway Authority requirements and the DfT MCHW specification for highway works.
 3. All private drainage works are to be carried out in accordance with Building Regulations Part H, BS EN 752, the Civil Engineering Specification for the Water Industry.
 4. Where applicable the contractor shall allow free and full access to the drainage works for the local highway authority, drainage authority or the overseeing organisation.
 5. The exact position, level, line, size and use of existing drainage is to be confirmed on site. Any discrepancies to be reported to the engineer prior to the commencement of works.
 6. All temporary works associated with the construction of the drainage works shall be the responsibility of the contractor, including the protection of any uncovered/shallow pipework against construction traffic.
 7. The Contractor is responsible for obtaining and paying for all necessary permissions to enable construction of the works to be undertaken, including but not limited to licences for street works and connections to existing sewers. This includes Section 106 applications when connecting directly or indirectly to the public sewerage network (complete application to be made at least 3 weeks prior to the planned outfall construction works).
 8. All proposed chamber covers are to be marked permanently with 'SWS' (or equiv.) on surface water sewers and 'FWS' (or equiv.) on foul sewers. all covers to be in accordance with BS EN 124.
 9. Finished floor levels shown are indicative and subject to detailed design and co-ordination with site levels design.
 10. Works in proximity to the watercourse will be subject to gaining the necessary consent and approval from the Lead Local Flood Authority.

P1	First issue	19/12/22
Rev	Description	Date

Client:
Barwood Development Securities Limited

Project:
Bloxham Road, Banbury

Title:
Drainage Strategy Layout



Drg Size:	Scale:	Date:
A1	1:500	19/12/2022

Drg No:	Rev:
ADC3114-DR-050	P1