

Table 3.2: Catchment B Photographs



7. View of watercourse flowing from east to west. View looking west. Watercourse shown to take flows from ditch separating Catchments A and B. Topography sloping from east to west.



8. View looking south from north of catchment. Topography visibly sloping from south to north.



9. View of Catchment B looking north from the west of the catchment. Topography visibly sloping from south to north and east to west.



10. View of Catchment B looking west from the northeast of the catchment. Topography visibly sloping from south to north leaving localised low point in northeast of catchment.



11. View of Catchment B looking west from southeast of catchment. Topography visibly sloping from west to east in the east of the catchment.



12. View of Catchment B looking north from southeast of catchment. Topography sloping from west to east in the east of the catchment.

Catchment C

Photographs for Catchment C are presented in Table 3.3 below.

Table 3.3: Catchment C Photographs



13. View of Catchment C looking north along western boundary of site. Topography sloping from east to west and northeast to southwest.



14. View of Catchment C looking east. Topography sloping from east to west. Likelihood is that any potential swale will need to be placed further from the site boundary to ensure a massive depth is not needed.

Catchment D

Photographs for Catchment D are presented in Table 3.4 below.

Table 3.4: Catchment D Photographs



15. View of Catchment D looking west from northeast of catchment. Topography visibly sloping from west to east.



16. View of Catchment D looking north from northwest of catchment. Topography visibly sloping from north to south.



17. View of Catchment D looking northwest from the east of the catchment. Topography visibly sloping from north to south.



18. View of Catchment D looking south along the western boundary. Topography visibly sloping from north to south.

	north to south down toward existing watercourse that separates Catchments D and E.
 <p>19. View of Catchment D looking east from the southwest of the catchment. Topography visibly sloping from north to south.</p>	 <p>20. View of Catchment D looking east from the south of the catchment. Bridge over watercourse visible in top right of image. EA Surface Water Flood Risk mapping suggests a surface water flow path is present to the south of this watercourse in Catchment E. The EA mapping does not account for culverts (like the one beneath this bridge) and the indication therefore is that the surface water flow path shown to the south of the existing watercourse is the result of the EA model assuming a blockage in the watercourse at this location.</p>

Catchment E

Photographs for Catchment E are presented in Table 3.5 below.

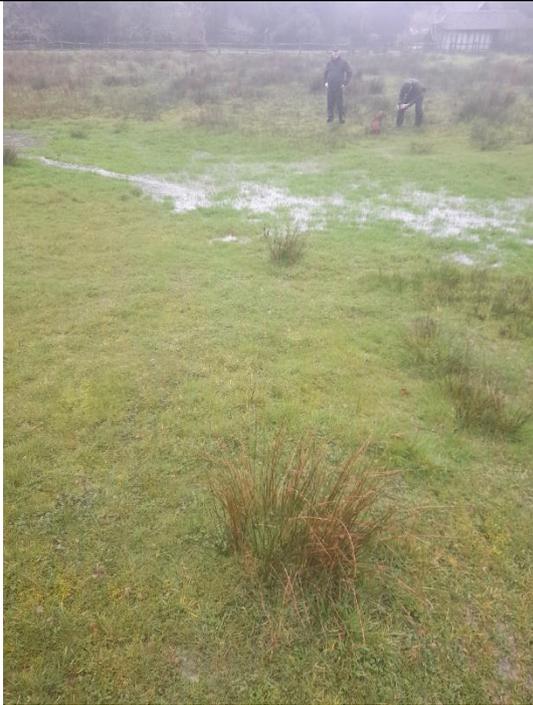
Table 3.5: Catchment E Photographs



21. View of Catchment E looking northwest from north of catchment, towards existing watercourse. Topography sloping down toward watercourse. Marshy ground ideally suited for an attenuation feature.



22. View of Catchment E looking southeast from west of catchment. Topography sloping from east to west and south to north, toward the existing watercourse.



23. Overland surface water flow path flowing from north to south toward the existing watercourse. View looking west.



24. View of Catchment E looking northwest from the south of the site. Topography sloping from east to west and southeast to northwest toward existing watercourse.



25. View of Catchment E looking east from the south of the site. Topography sloping from north to south toward the south of the site.



26. View of Catchment E looking west from the southeast of the site. Topography shown to be sloping from east to west but is gentle at location photograph was taken.

Catchment F

Photographs for Catchment F are presented in Table 3.6 below.

Table 3.6: Catchment F Photographs



27. View of watercourse between Catchments E and F flowing from east to west. View looking west from atop existing footbridge.



28. View of Catchment F looking south from the south of the catchment. View looking toward existing watercourse. Steeply sloping toward existing watercourse apparent.



29. Existing tributary watercourse flowing from north to south along eastern boundary of site. View looking north/upstream from atop existing footbridge.



30. View of tributary watercourse flowing from northeast to southwest along eastern boundary of site. Adjacent ground very saturated. View looking south.



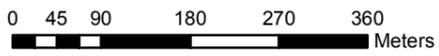
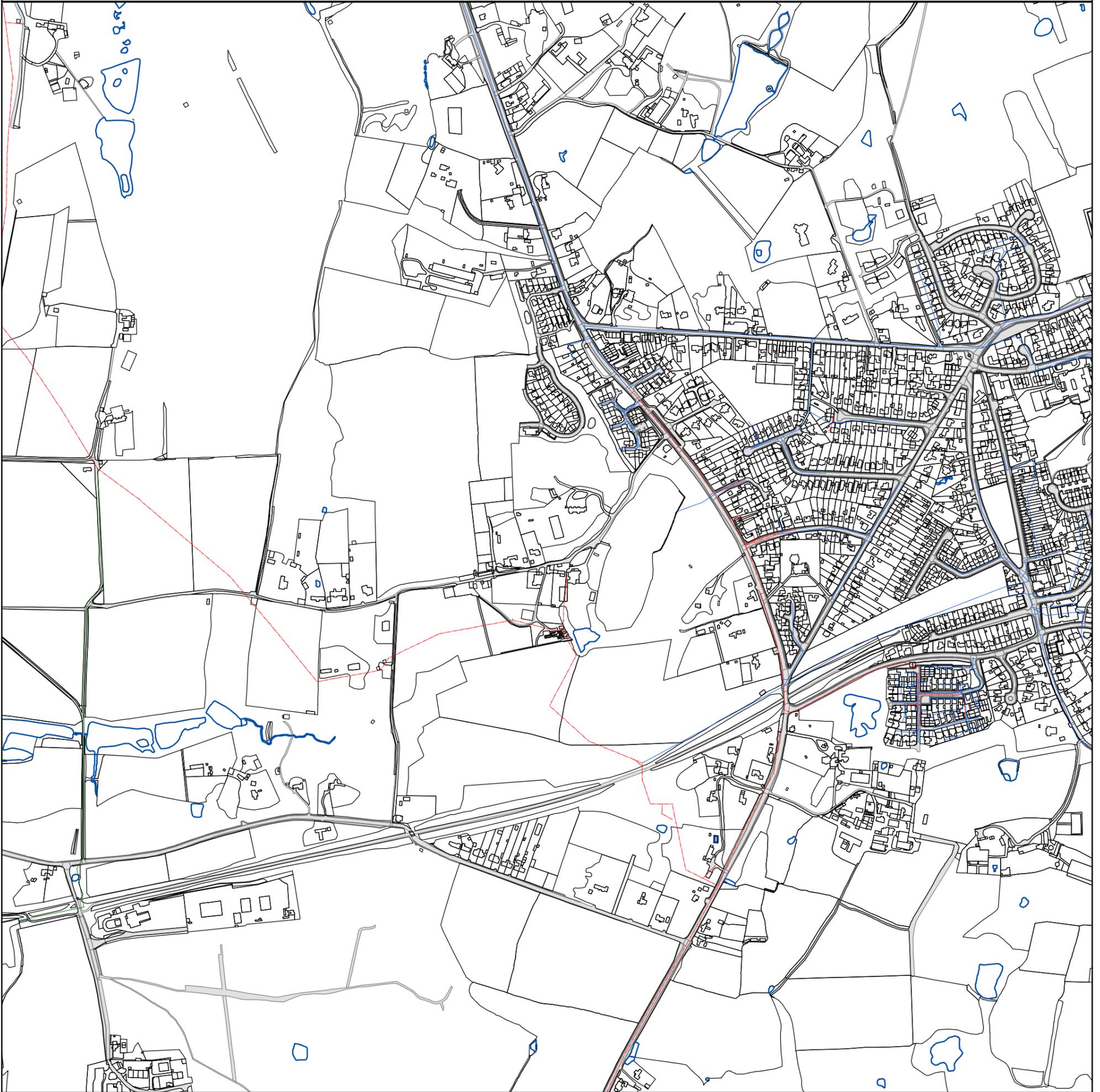
31. View of Catchment F looking northwest from east of catchment. Ground very saturated. Topography gently sloping from north to south.



32. View of headwall and culvert along tributary watercourse flowing from northeast to southwest along

	<p>eastern boundary of site. Further tributary ditch visible in top of image.</p>
 <p>33. View of Catchment F looking approximately west from the northeast of the catchment. Ground very saturated and topography indicative of potential surface water flow path in part due to lowered edge of small ditch ("tributary watercourse"). See Photo 34 for source of overland flow.</p>	 <p>34. View of the tributary watercourse in the northeast of the catchment, beneath tree cover. Backing up and overspill of watercourse onto main catchment area visible. Local land management and potential localised ground raising required to ensure flow remains in the tributary watercourse and is not directed through centre of catchment.</p>

APPENDIX D – THAMES WATER SEWER RECORDS AND COMMUNICATIONS



The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified before any works are undertaken. Crown copyright Reserved

Scale: 1:7161
Width: 2000m
Printed By: TSOMASUN
Print Date: 26/02/2024
Map Centre: 533768,137565
Grid Reference: TQ3337NE

Comments:



Miss Nellie Bates
Ramboll UK Limited
240 Blackfriars Road
LONDON
SE1 8NW



27 March 2024

Pre-planning enquiry: Confirmation of sufficient capacity

Site: Land West of Turners Hill Road, Crawley Down, West Sussex, RH10 4HB

Dear Miss Bates,

Thank you for Pre-planning application for the construction of 400 residential houses.

We have completed the assessment of the foul water flows based on the information submitted in your application with the purpose of assessing sewerage capacity within the existing Thames Water sewer network.

This confirmation is valid for 12 months or for the life of any planning approval that this information is used to support, to a maximum of three years.

You'll need to keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient capacity.

If your proposals progress in line with the details you've provided, we're pleased to confirm that there will be sufficient sewerage capacity in the adjacent foul water sewer network to serve your development.

Foul Water

Proposed foul water to discharge via gravity flow into an existing manhole chamber TQ3337 **7201** for approximately 200 houses the other 200 houses into existing manhole TQ3337 **5401**.

Surface Water

Site is to follow SuDS therefore no direct or indirect discharge of surface water into a Thames Water sewer.

In accordance with the Building Act 2000 Clause H3.3, positive connection of surface water 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.

Before we can consider your surface water needs, you'll need written approval from the LLFA (Lead Local Flood Authority) that you have followed the sequential approach to the disposal of surface water and considered all practical means.



The disposal hierarchy being:

1. store rainwater for later use.
2. use infiltration techniques where possible.
3. attenuate rainwater in ponds or open water features for gradual release.
4. attenuate rainwater by storing in tanks or sealed water features for gradual release.
5. discharge rainwater direct to a watercourse.
6. discharge rainwater to a surface water sewer/drain.
7. discharge rainwater to the combined sewer.
8. discharge rainwater to the foul sewer

Where connection to the public sewerage network is still required to manage surface water flows, we will accept these flows at a discharge rate in line with CIRIA's best practice guide on SuDS or that stated within the sites planning approval.

Please see the attached 'Planning your wastewater' leaflet for additional information.

Diversion

From our records we don't anticipate that any wastewater assets need to be diverted to accommodate your proposals.

Source Protection Zone

The development site boundary falls within a Source Protection Zone for groundwater abstraction. These zones may be at particular risk from polluting activities on or below the land surface. To prevent pollution, the Environment Agency and Thames Water (or other local water undertaker) will use a tiered, risk-based approach to regulate activities that may impact groundwater resources, this may potentially affect your drainage or surface water strategies where deep or infiltration systems are proposed. The applicant is encouraged to read the Environment Agency's approach to groundwater protection (available at <https://www.gov.uk/government/publications/groundwater-protection-position-statements> and may wish to discuss the full implications for their development with a suitably qualified environmental consultant.

What happens next?

If not already done so, please submit your **S106 Connection Application**, giving us at least 21 days' notice of the date you wish to make your new connection(s).

If you've any further questions, please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Colins Akemche".

Colins Akemche

Clean & Waste Pre-Planning Engineer
Adoption Team - Service Delivery



Miss Nellie Bates
Ramboll UK Limited
240 Blackfriars Road
LONDON
SE1 8NW



28 May 2024

Pre-planning enquiry: Confirmation of sufficient capacity

Site: Residential Development Turners Hill, Turners Hill Road, Crawley Down, Crawley, West Sussex, RH10 4HB

Dear Miss Bates,

Thank you for Pre-planning application for the construction of **44 residential house**.

We have completed the assessment of the foul water flows based on the information submitted in your application with the purpose of assessing sewerage capacity within the existing Thames Water sewer network.

This confirmation is valid for 12 months or for the life of any planning approval that this information is used to support, to a maximum of three years.

You'll need to keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient capacity.

If your proposals progress in line with the details you've provided, we're pleased to confirm that there will be sufficient sewerage capacity in the adjacent foul water sewer network to serve your development.

Foul Water discharge

Proposed foul water to discharge via pumped flow at **1.0 litres/sec** into an existing manhole chamber referenced TQ3437 **0701** on an existing 225mm foul water sewer.

Surface Water discharge

Site is to follow SuDS therefore no direct or indirect discharge of surface water into a Thames Water sewer/network.

In accordance with the Building Act 2000 Clause H3.3, positive connection of surface water 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.

Before we can consider your surface water needs, you'll need written approval from the LLFA (Lead Local Flood Authority) that you have followed the sequential approach to the disposal of surface water and considered all practical means.



The disposal hierarchy being:

1. rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
2. rainwater infiltration to ground at or close to source
3. rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)
4. rainwater discharge direct to a watercourse (unless not appropriate)
5. controlled rainwater discharge to a surface water sewer or drain
6. controlled rainwater discharge to a combined sewer.

Where connection to the public sewerage network is still required to manage surface water flows, we will accept these flows at a discharge rate in line with CIRIA's best practice guide on SuDS or that stated within the sites planning approval.

More detailed surface water hierarchies can be found within Local Planning Policies.

Diversion

From our records we don't anticipate that any wastewater assets need to be diverted to accommodate your proposals.

Please see our [FAQ's leaflet](#) for additional information.

What happens next?

If not already done so, please submit your **S106 Connection Application**, giving us at least 21 days' notice of the date you wish to make your new connection(s).

If you've any further questions, please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Colins Akemche".

Colins Akemche

Clean & Waste Pre-Planning Engineer
Adoption Team - Service Delivery

Thames Water - Developer Services - Ground Floor West - Clearwater Court - Vastern Road
Reading -Berkshire - RG1 8DB - Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk - Web: www.developerservices.co.uk

APPENDIX E – ADDITIONAL INFORMATION/FIGURES

ICP SUDS

ICP SUDS Input (FSR Method)

Return Period (Years) **Partly Urbanised Catchment (QBAR)**

Area (ha) Urban

SAAR (mm) Region

Soil Growth Curve

Results

QBAR rural (l/s)

QBAR urban (l/s)

Return Period Flood

Region	QBAR (l/s)	Q (1 yrs) (l/s)	Q (1 yrs) (l/s)	Q (30 yrs) (l/s)	Q (100 yrs) (l/s)
Region 1	86.1	73.2	73.2	162.7	213.5
Region 2	86.1	74.9	74.9	163.3	226.4
Region 3	86.1	74.0	74.0	151.3	179.1
Region 4	86.1	71.5	71.5	168.7	221.3
Region 5	86.1	74.9	74.9	206.9	306.5
Region 6/Region 7	86.1	73.2	73.2	195.1	274.7
Region 8	86.1	67.2	67.2	164.1	208.4
Region 9	86.1	75.8	75.8	151.8	187.7
Region 10	86.1	74.9	74.9	146.0	179.1

OK Cancel Help

Enter Urban between 0.000 and 0.750

Figure AE.1: Rural Runoff Calculator MicroDrainage 2020.1

Figure AE.1 presents the calculation of the rural runoff value of 73.2 L/s as stated in Table 3.1.

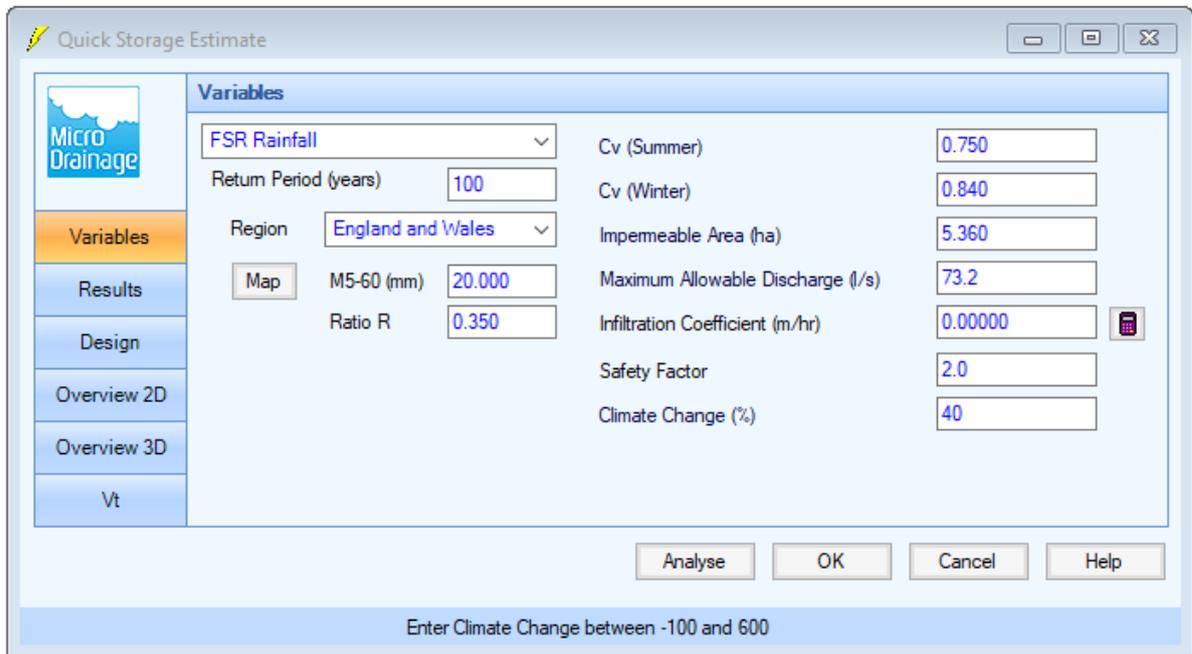


Figure AE.2: MicroDrainage 2020.1 Quick Storage Estimate

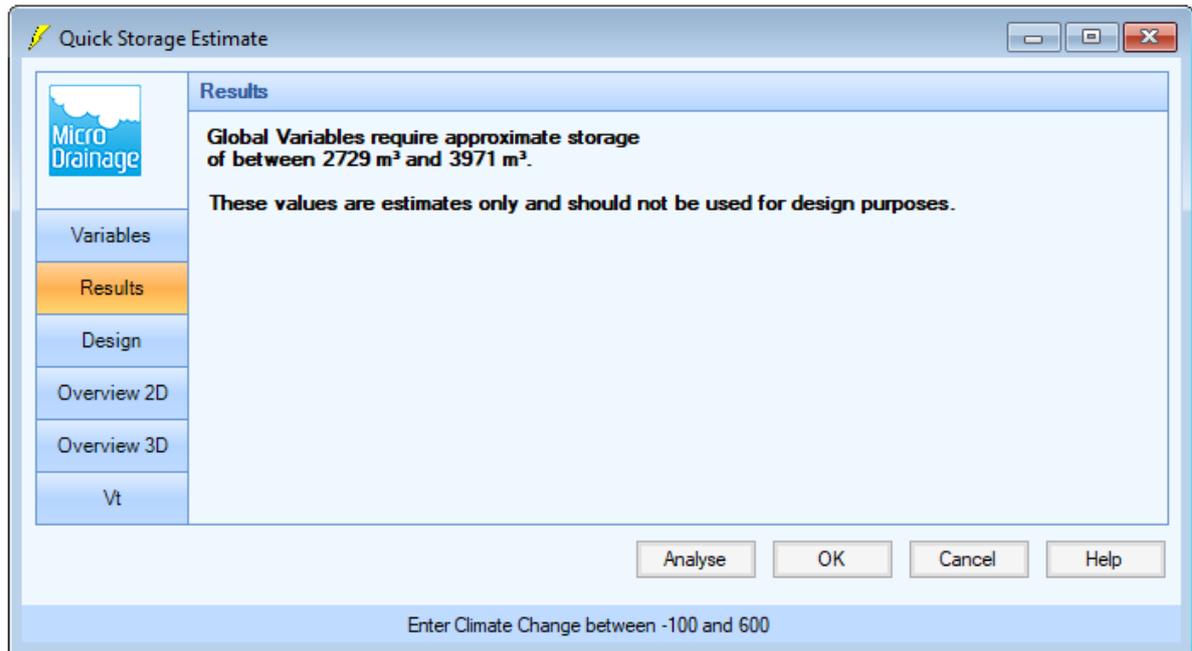


Figure AE.3: MicroDrainage 2020.1 Quick Storage Estimate Results

Figures AE.2 and AE.3 present the storage calculations of 3,971 m³ as stated in Table 3.2.

Figure AE.4 below provides a screenshot from the Environment Agency Climate Change Allowances mapping²⁴ which confirms the upper end allowance for the 1% annual exceedance rainfall event should be 40%.

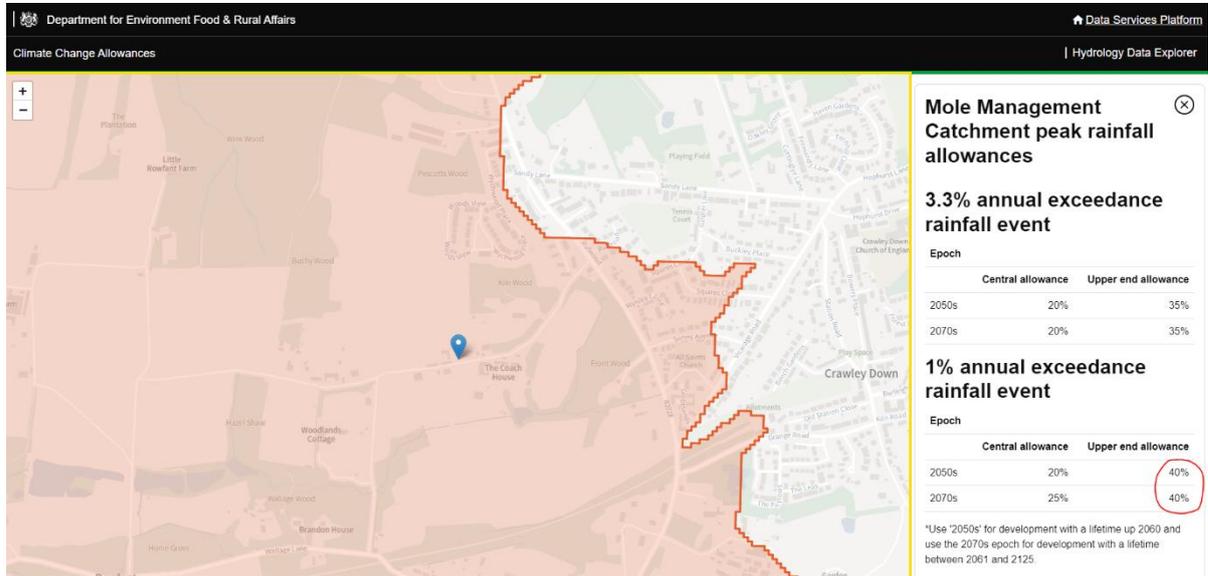


Figure AE.4: Climate Change Allowances Mapping

²⁴ Department for Environment Food & Rural Affairs, Climate Change Allowances [online]. Available at: <https://environment.data.gov.uk/hydrology/climate-change-allowances/rainfall?mgmtcatid=3058>. Accessed December 2024.