

Development Control Gloucester City Council PO Box 3252, Gloucester, GL1 9FW 01452 396396 development.control@gloucester.gov.uk www.gloucester.gov.uk/planning

Application for Planning Permission

Town and Country Planning Act 1990 (as amended)

Publication of applications on planning authority websites

Please note that the information provided on this application form and in supporting documents may be published on the Authority's website. If you require any further clarification, please contact the Authority's planning department.

If you population will be a section to the	endations based on the answers given in the questions.
If you cannot provide a postcode, the help locate the site - for example "fiel	scription of site location must be completed. Please provide the most accurate site description you can, to the North of the Post Office".
Number	
Suffix	
Property Name	
WALKINSHAW COURT	
Address Line 1	
BLACK DOG WAY	
Address Line 2	
Address Line 3	
Town/city	
GLOUCESTER	
Postcode	
Description of site location	must be completed if postcode is not known:
Easting (x)	Northing (y)

Planning Portal Reference: PP-11083608

Gloucester. It has an address and postcode but this system has not been updated with it. The address is.
Walkinshaw Court, Black Dog Way, Gloucester GL1 3AF
Applicant Details
Name/Company
itle
iirst name
Katherine
Surname
Portman
Company Name
Rooftop Housing Group
Address
address line 1
70 High Street
address line 2
Evesham
address line 3
Worcestershire
own/City
Country
Postcode
WR11 4YD
are you an agent acting on behalf of the applicant?
Yes No
Contact Details
Primary number

2no. existing and unused commercial units at GF level of the Walkinshaw Court Development off Black Dog Way/Worcester Street,

Secondary number
Fax number
Email address
***** REDACTED ******
Agent Details
Name/Company
Title
Mr
First name
Colm
Surname
Coyle
Company Name
Quattro Design Architects Ltd
Address
Address line 1
Matthews Warehouse
Address line 2
High Orchard Street
Address line 3
Gloucester Quays
Town/City
Gloucester
Country
United Kingdom
Postcode
GL2 5QY
Contact Details
Primary number
***** REDACTED ******

Email address **********************************	Secondary number
Site Area What is the measurement of the site area? (numeric characters only). 258.00 Unit Sq. metres Description of the Proposal Please note in regard to: • Fire Statements - From 1 August 2021, planning applications for buildings of over 18 metres (or 7 stories) tall containing more than one dwelling will require a Fire Statement for the application to be considered willd. There are some exemptions, View government planning unidance on fire statements or access the fire statement benefits and outdance. • Permission in Principle - If you are applying for Technical Details Consent on a site that has been granted Permission in Principle, please include the relevant details in the description below. • Public Service Infrastructure - From 11 August 2021, applications for certain public service infrastructure developments will be eligible for faster determination timeframes. See help for further details or view government planning guidance on determination periods. Description Please describe details of the proposed development or works including any change of use Change of Use for 2no. existing and unused commercial units into 2no. Part M4(3) compliant Wheelchair User Dwelling Flats Has the work or change of use already started? ○Yes ○No Existing Use Please describe the current use of the site Current use class is commercial. Unused and unoccupied commercial space.	Fax number
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○ No	
If Yes, please describe the last use of the site	If Yes, please describe the last use of the site

Current use class is commercial. Space has never been used.
When did this use end (if known)?
Does the proposal involve any of the following? If Yes, you will need to submit an appropriate contamination assessment with your application.
Land which is known to be contaminated ○ Yes ⊙ No
Land where contamination is suspected for all or part of the site ○ Yes ⊙ No
A proposed use that would be particularly vulnerable to the presence of contamination O Yes No
Materials Does the proposed development require any materials to be used externally? Yes
○ No Please provide a description of existing and proposed materials and finishes to be used externally (including type, colour and name for each material)
Type: Walls Existing materials and finishes: Red Brick Slip - stack bonded Proposed materials and finishes: Red Brick Slip - stack bonded to match exactly
Are you supplying additional information on submitted plans, drawings or a design and access statement? ② Yes ○ No
If Yes, please state references for the plans, drawings and/or design and access statement
Please refer to planning drawing package showing Site Location Plan, Block Plan, Floor Plans & Elevations
Pedestrian and Vehicle Access, Roads and Rights of Way Is a new or altered vehicular access proposed to or from the public highway? ○ Yes ○ No

Is a new or altered pedestrian access proposed to or from the public highway? ○ Yes ⊙ No
Are there any new public roads to be provided within the site? ○ Yes ⊙ No
Are there any new public rights of way to be provided within or adjacent to the site? ○ Yes ⊙ No
Do the proposals require any diversions/extinguishments and/or creation of rights of way? ○ Yes ○ No
Vehicle Parking Does the site have any existing vehicle/cycle parking spaces or will the proposed development add/remove any parking spaces? ○ Yes ○ No
Trees and Hedges
Are there trees or hedges on the proposed development site? ○ Yes ⊙ No
And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character? ○ Yes ○ No
If Yes to either or both of the above, you may need to provide a full tree survey, at the discretion of the local planning authority. If a tree survey is required, this and the accompanying plan should be submitted alongside the application. The local planning authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to design, demolition and construction - Recommendations'.
Assessment of Flood Risk
Is the site within an area at risk of flooding? (Check the location on the Government's Flood map for planning. You should also refer to national standing advice and your local planning authority requirements for information as necessary.) ○ Yes ○ No
Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)? ○ Yes ⊙ No
Will the proposal increase the flood risk elsewhere? ○ Yes ⊙ No
How will surface water be disposed of?

✓ Sustainable drainage system
Existing water course
Soakaway
☑ Main sewer
☐ Pond/lake
Biodiversity and Geological Conservation
Is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, or on land adjacent to or near the application site?
To assist in answering this question correctly, please refer to the help text which provides guidance on determining if any important biodiversity or geological conservation features may be present or nearby; and whether they are likely to be affected by the proposals.
a) Protected and priority species
 Yes, on the development site Yes, on land adjacent to or near the proposed development No
b) Designated sites, important habitats or other biodiversity features
Yes, on the development siteYes, on land adjacent to or near the proposed developmentNo
c) Features of geological conservation importance
○ Yes, on the development site○ Yes, on land adjacent to or near the proposed development⊙ No
Supporting information requirements
Where a development proposal is likely to affect features of biodiversity or geological conservation interest, you will need to submit, with the application, sufficient information and assessments to allow the local planning authority to determine the proposal.
Failure to submit all information required will result in your application being deemed invalid. It will not be considered valid until all information required by the local planning authority has been submitted.
Your local planning authority will be able to advise on the content of any assessments that may be required.
Foul Sewage
Please state how foul sewage is to be disposed of: ☑ Mains sewer ☐ Septic tank ☐ Package treatment plant ☐ Cess pit ☐ Other ☐ Unknown Are you proposing to connect to the existing drainage system? ④ Yes ④ No ⑥ Unknown

Waste Storage and Collection
Do the plans incorporate areas to store and aid the collection of waste?
⊗ Yes
○ No
If Yes, please provide details:
Existing Waste storage areas exist within the building already.
Have arrangements been made for the separate storage and collection of recyclable waste?
○ No
If Yes, please provide details:
Existing Recyclable Waste storage areas exist within the building already.
Trade Effluent
Does the proposal involve the need to dispose of trade effluents or trade waste?
○ Yes
⊗ No
Residential/Dwelling Units
Does your proposal include the gain, loss or change of use of residential units?
○ No
Please note: This question is based on the current housing categories and types specified by government.
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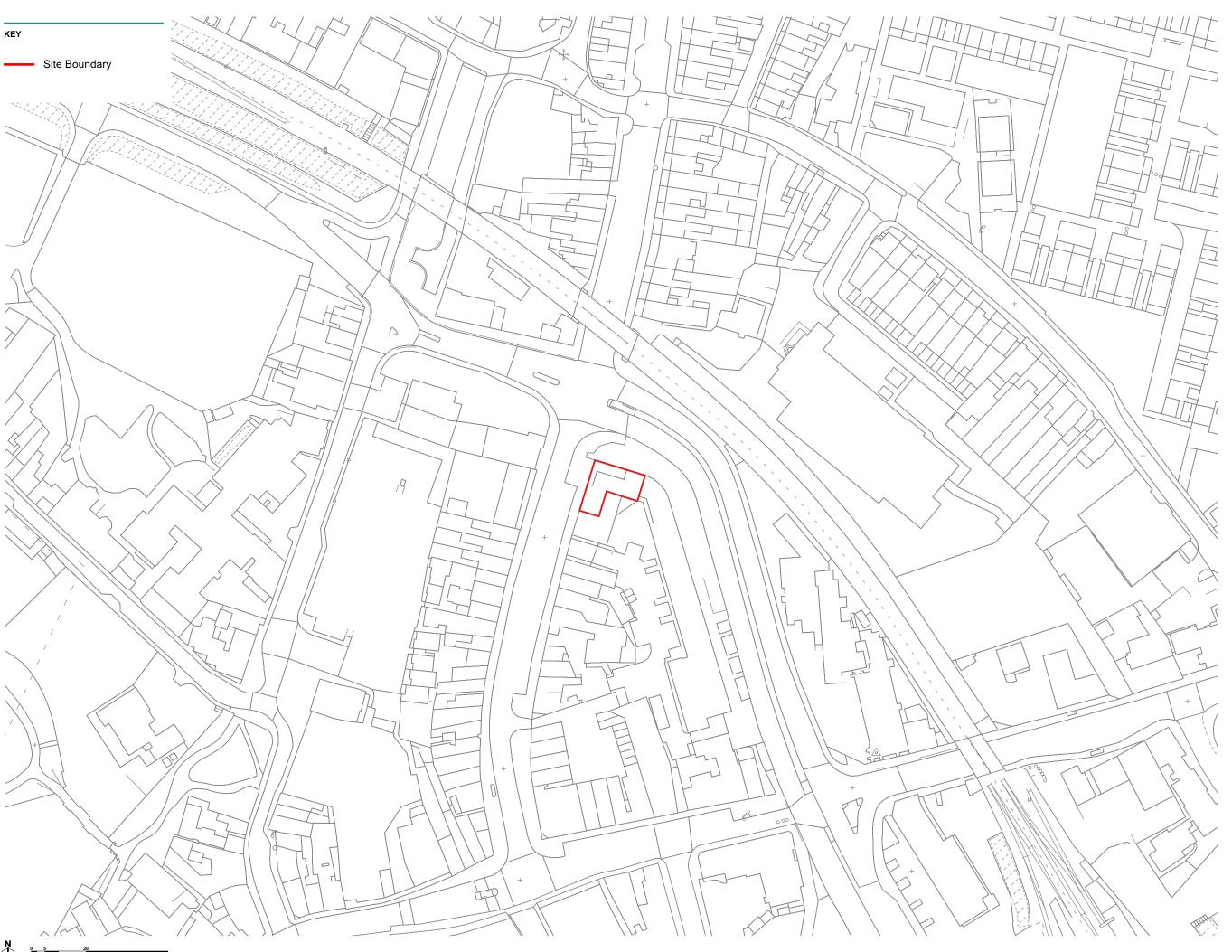
Housing Type: Flats / Maisonettes 1 Bedroom:						
1						
2 Bedroom:						
3 Bedroom:						
4+ Bedroom:						
Unknown Bedroom:						
Total:						
2						
Proposed Social, Affordable or Intermediate Rent Category Totals	1 Bedroom	2 Bedroom Total	3 Bedroom Total	4 Bedroom Total	Unknown Bedroom Total	Bedroom Total
	Total					
	1	1	0	0	0	
Starter Homes Self-build and Custom Build						
Totals						
otal proposed residential units	2					
otal existing residential units	0					
otal net gain or loss of residential units	2					
All Types of Development: I	Non-Reside	ential Floors	pace			
	n or change of us	e of non-residenti	al floorspace?	· c		
	covers all uses a		oo bwellingillouse			
lote that 'non-residential' in this context (covers all uses e	Adopt dod diddo (
ooes your proposal involve the loss, gain lote that 'non-residential' in this context of Yes No	covers all uses e	XOOPT GOO GIAGO	·			

Are there any existing employees on the site or will the proposed development increase or decrease the number of employees? ○ Yes ○ No
Hours of Opening Are Hours of Opening relevant to this proposal? ○ Yes ○ No
Industrial or Commercial Processes and Machinery Does this proposal involve the carrying out of industrial or commercial activities and processes? ○ Yes ○ No Is the proposal for a waste management development? ○ Yes ○ No
Hazardous Substances Does the proposal involve the use or storage of Hazardous Substances? ○ Yes ⊙ No
Site Visit Can the site be seen from a public road, public footpath, bridleway or other public land?
Pre-application Advice Has assistance or prior advice been sought from the local authority about this application? ○ Yes ○ No

Authority Employee/Member
With respect to the Authority, is the applicant and/or agent one of the following: (a) a member of staff (b) an elected member (c) related to a member of staff (d) related to an elected member
It is an important principle of decision-making that the process is open and transparent.
For the purposes of this question, "related to" means related, by birth or otherwise, closely enough that a fair-minded and informed observer, having considered the facts, would conclude that there was bias on the part of the decision-maker in the Local Planning Authority.
Do any of the above statements apply? ○ Yes ⊙ No
Ownership Certificates and Agricultural Land Declaration
Certificates under Article 14 - Town and Country Planning (Development Management Procedure) (England) Order 2015 (as amended)
Please answer the following questions to determine which Certificate of Ownership you need to complete: A, B, C or D.
Is the applicant the sole owner of all the land to which this application relates; and has the applicant been the sole owner for more than 21 days? Yes No
Is any of the land to which the application relates part of an Agricultural Holding? Ores No
Certificate Of Ownership - Certificate A
I certify/The applicant certifies that on the day 21 days before the date of this application nobody except myself/ the applicant was the owner* of any part of the land or building to which the application relates, and that none of the land to which the application relates is, or is part of, an agricultural holding**
* "owner" is a person with a freehold interest or leasehold interest with at least 7 years left to run.
** "agricultural holding" has the meaning given by reference to the definition of "agricultural tenant" in section 65(8) of the Act.
NOTE: You should sign Certificate B, C or D, as appropriate, if you are the sole owner of the land or building to which the application relates but the land is, or is part of, an agricultural holding.
Person Role
○ The Applicant⊙ The Agent
Title
Mr
First Name
Colm
Surname
Coyle

✓ Declaration made	
Declaration	
I / We hereby apply for Full planning permission as described in this form and accompanying plans/drawings and additional info confirm that, to the best of my/our knowledge, any facts stated are true and accurate and any opinions given are the genuine of persons giving them. I / We also accept that: Once submitted, this information will be transmitted to the Local Planning Authority validated by them, be made available as part of a public register and on the authority's website; our system will automatically go send you emails in regard to the submission of this application.	options of the y and, once
✓ I / We agree to the outlined declaration	
Signed	
Quattro Design Architects Ltd	
Date	

Declaration Date



NOTES

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REVISIONS

DATE - DRAWN - CHECKED: NO

-: 02.02.2022 - JLP - CC: Drawing created.

DRAWING TITLE

Site Location Plan

PROJECT

Black Dog Way Conversion, Gloucester

CLIENT

Rooftop Housing Group

SCALE	1:1250@A3
DATE	Feb 2022

REV

DRAWING NO.

6720-P-001



Gloucester legistered Office:

er | London | Cardiff ffice: Matthews Warehouse, High Orchard Street, Gloucester Quays, GL2 5QY

www.quattrodesign.co.uk

NOTES

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REVISIONS

-: 22.01.16 - DW - RF:

Drawing created. A: 01.02.16 - DW - DW:

Parking and cycle store moved away from boundary adjacent to no.99 Northgate Street. B: 24.03.16 - DW - RF: Roof plan updated. Retaining wall added to

western boundary (off sub station). Flat mix

western boundary (off sub station). Flat mix updated.
C: 13.05.2016 - CC - RF:
Hard landscaping/footpaths to main entrance revised to match proposed ground levels.
Railings along Black Dog Way removed.
D: 22.09.2016 - DM - RF:
Footprint of main building reduced.
E: 05.10.16 - DM:
Witth of Nutback Street block reduced.

E: 05.10.10 - DM: Width of Northgate Street block reduced. Landscaping amended following intorduction of lift shaft on Northgate Street block and reduced footprint of main block. F: 19.10.16 - DM:

Blue site ownership boundary line added. Red boundary line corrected to surround London Plane tree at Black Dog Way, Worcester Street

junction. G: 06.02.17 - DM:

G: 06.02.17 - DM:
Proposed trees omitted along Black Dog Way.
Floor areas under unit mix updated.
H: 14.03.17 - DM:
Building footprint altered to avoid culvert easement with associated alterations to landscaping. Additional electricity sus-station

added.
J: 27.03.17 - DM:
Footpath extended outside plots 6 & 7. K: 04.04.17 - DM:

Landscaping reinstated outside plots 6 & 7. L: 13.04.17 - DM:

Path omitted from Black Dog Way landscaped area. M: 10.05.17 - DM:

Sub stations repositioned. N: 12.05.17 - DM:

Latest working drawings ground floor plan imported.

DRAWING TITLE

Existing Site Plan

PROJECT

Black Dog Way, Gloucester

CLIENT

Rooftop Housing Group

SCALE

1:500@A3 Jan 2016

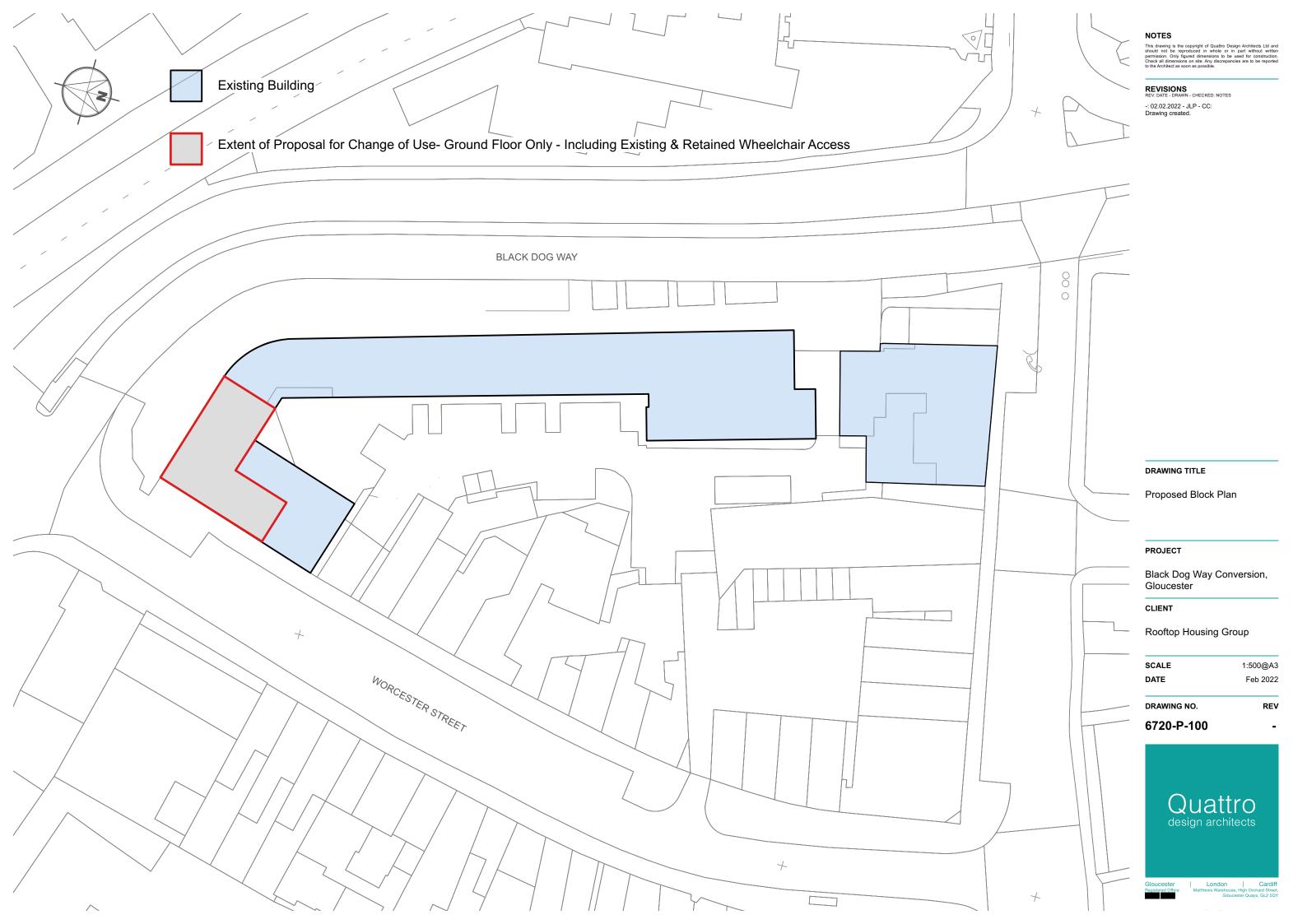
REV

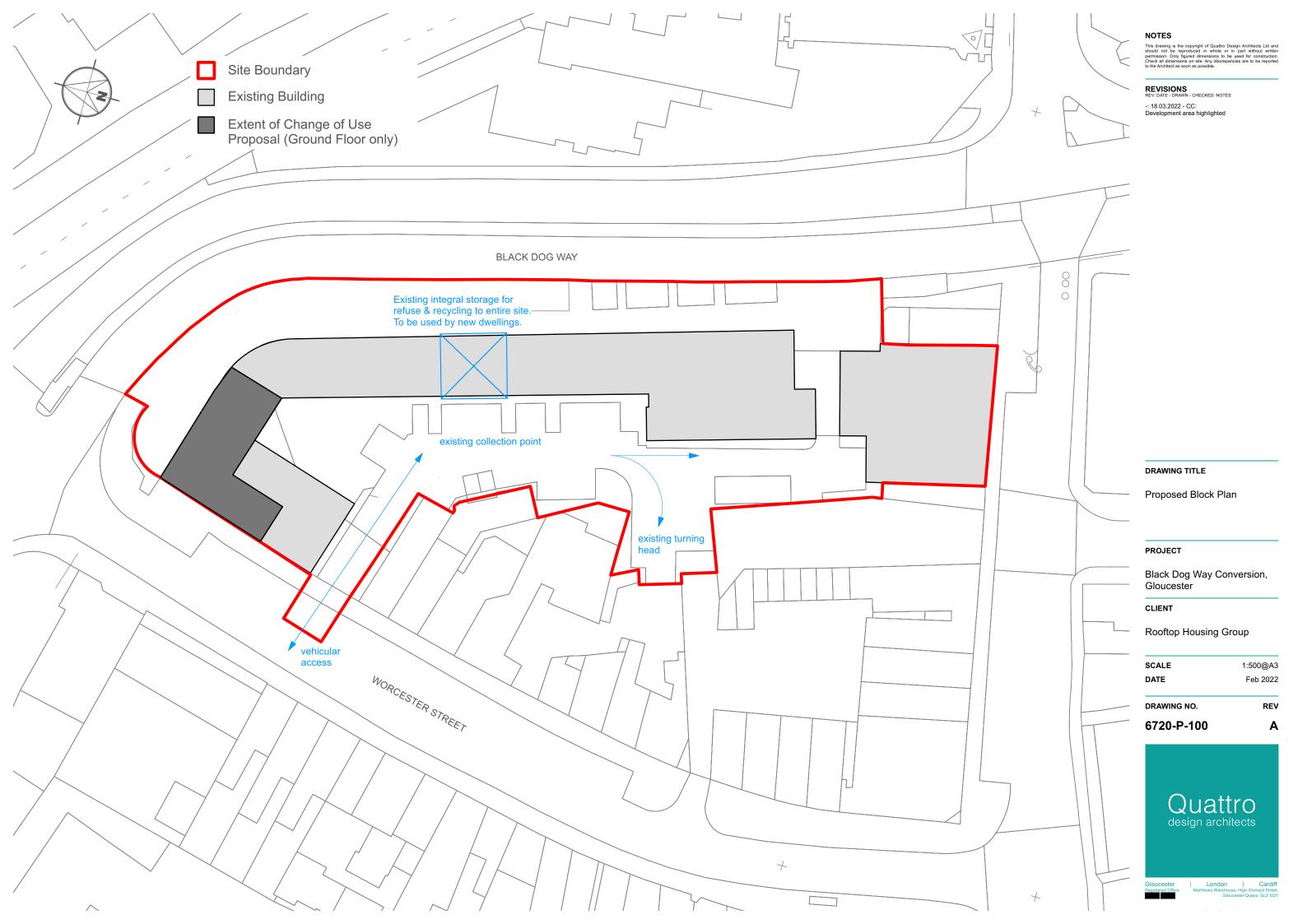


DRAWING NO.

6720-P-02

Imperial Chambers, Longsmith Street
Gloucester GL1 2HT T: (01452) 424234







Development Control 4th floor Herbert Warehouse The Docks, Gloucester GL1 2EQ

Tel: 01452 396786

Email: development.control@gloucester.gov.uk Website: www.gloucester.gov.uk/planning

APPLICATION NO: 16/00142/FUL VALIDATED ON: 19th February 2016

TO

Mr Craig MacDonald Rooftop Housing Group Ltd c/o Mr Colm Coyle Quattro Design Architects Ltd Imperial Chambers Longsmith Street Gloucester GL1 2HT

TOWN AND COUNTRY PLANNING ACT 1990 TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (ENGLAND) ORDER 2015

Location: Former Kwik Save 103 Northgate Street Gloucester

Proposal: Demolition of existing structures. Erection of 95 residential units (with associated

communal areas, storage and plant) and Use Class A1 unit, with associated

landscaping (amended description)

In exercise of its powers under the above-mentioned Act and Order the City Council as the Local Planning Authority **GRANT PERMISSION** for the development described above in accordance with the terms of the application and the plan/s submitted therewith subject to the following conditions:

STANDARD CONDITIONS

Condition 1

The development hereby permitted shall be begun before the expiration of three years from the date of this permission.

Reason

Required to be imposed by Section 91 of the Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004

Condition 2

The development hereby permitted shall be carried out in accordance with the following approved drawing numbers:

- 4918-P-001A, 4918-P-100B, 4918-P-101A, 4918-P-200B, 4918-P-201B, 4918-P-202A, 4918-P-203A, 4918-P-204A, 4918-P-205A, 4918-P-206A, 4918-P-207A, 4918-P-208A, 4918-P-250, and 4918-P-900 received on 30 March 2016
- 4198-P-600 received on 28 April 2016.
- 4198-P-601 received on 19 May 2016.
- 4198-P-700D and 4198-P-701D received on 27 May 2016.
- 4198-P-702D received on 14 June 2016.

Reason

To ensure that the development is carried out in accordance with the approved plans and in accordance with policies contained within the Second Deposit City of Gloucester Local Plan (2002).

SIGN CONDITIONS

Condition 3

Notwithstanding the submitted details, no external brick facing shall be constructed or applied unless in accordance with details and a sample panel, which shall have first been constructed on site and approved in writing by the Local Planning Authority.

The sample panel shall show the make, type, size, colour, bond, pointing, coursing, jointing, profile and texture of the external brick facing materials.

The approved sample panel shall be retained on site and made available for inspection by the Local Planning Authority for the duration of the construction works.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 4

Notwithstanding the submitted details, no external panelling shall be constructed or applied unless in accordance with details and samples, which shall have first been submitted to and approved in writing by the Local Planning Authority.

- The samples shall show the make, type, colour and texture of the render materials.
- The details shall include the size and pattern of individual panels.
- The external panelling shall be retained in accordance with the approved detail at all times.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 5

Notwithstanding the submitted details, no external render shall be constructed or applied unless in accordance with details and samples, which shall have first been submitted to and approved in writing by the Local Planning Authority.

- The samples shall show the make, type, colour and texture of the render materials.
- The external render shall be retained in accordance with the approved detail at all times.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 6

No development (other than site clearance, site preparation, demolition and the formation of foundations and trenches) shall commence on site unless the detailed design of the recessing of the building facades, external windows and doors have been submitted to and approved in writing by the Local Planning Authority. The details shall include detailed section drawings. The development shall not be carried out unless in strict accordance with the details so approved.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 7

The external facing of the window and door reveals shall be finished in the same material, finish and colour as the materials on the façade where the windows and doors are placed (i.e. brick reveals for a brick outer façade; render next to render and cladding next cladding). The external facing of the window and door reveals shall be retained in accordance with the approved detail at all times.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 8

Notwithstanding the submitted details, no external windows or doors shall be installed unless in accordance with details which shall have been submitted to and agreed in writing by the Local Planning Authority before they are installed. The details shall include scale drawings of the design and profile of the windows and doors, materials, finish and colour. The windows and doors shall be retained in accordance with the approved details at all times.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 9

The windows and doors on the north elevation of Block A (Units 1 to 81) facing towards Blackdog Way; the west elevation of Block A facing towards Worcester Street; south gable of Block A adjacent No. 22 Worcester Street; and south elevation of Block B (Units 82 to 95) facing towards Northgate Street shall be of aluminium construction as shown on drawing numbers 4198/P/700D and 4198/P/702D received on 16 August 2016.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 10

No rainwater goods shall be installed unless in accordance with details that shall have first been submitted to and approved in writing by the Local Planning Authority before they are installed.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 11

The capping material applied to the main façade parapets shall not be installed unless the colour finish of the capping material has been first submitted to and approved in writing by the Local Planning Authority prior to installation. The capping material shall not be installed unless in accordance with the approved colour finish and shall be retained as such at all times.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 12

Notwithstanding the submitted details, no external boiler flues, pipes, extract vents or meter boxes shall be erected or installed unless in accordance with details that shall have first been submitted to and approved in writing before they are erected or installed.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 13

No satellite dishes shall be installed on a chimney, wall or roof slope of the buildings hereby approved that faces onto, and is visible from, a highway, without express planning permission from the Local Planning Authority.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 14

No cable television shall be installed unless details of the external location of the cable television installation have been submitted to and agreed in writing by the Local Planning Authority. The cable television shall not be installed unless in accordance with the approved details.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 15

None of the flats hereby approved shall be occupied unless seagull prevention measures have been installed in accordance with details which shall have been submitted to and approved in writing by the Local Planning Authority.

Reason

To prevent seagulls damaging the building, in the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 16

No development (other than site clearance, site preparation, demolition and the formation of foundations and trenches) shall commence on site unless a hard and soft landscaping scheme has been submitted to and approved in writing by the Local Planning Authority. The scheme shall include details of all walls, fences, trees, hedgerows and other planting which are to be retained; details of all new walls, fences, other boundary treatment and finished ground levels; details of the hard surface treatment of open parts of the site which shall be permeable or drained to a permeable area; a planting specification to include species, size, position and method of planting of all new trees and shrubs, including new tree planting next to Blackdog Way; and a programme of implementation.

All hard and soft landscaping works shall be carried out in accordance with the approved details. The works shall be carried out prior to the occupation of any part of the development unless otherwise agreed in writing by the Local Planning Authority. Any trees or plants indicated on the approved scheme which, within a period of five years from the date of planting, die, are removed or become seriously damaged, diseased or dying shall be replaced during the next planting season with other trees or plants of a location, species and size to be first approved in writing by the Local Planning Authority. All hard landscape works shall be permanently retained in accordance with the approved details.

Reason

In the interests of the character and appearance of the Conservation Areas, having regard to Policies BE.7, BE.12 and BE.29 of the Gloucester Local Plan, Second Stage Deposit 2002. Approval is required upfront because the landscaping is an integral part of the development and its acceptability.

TREE CONDITIONS

Condition 17

Notwithstanding drawing number 4198/P/100 Revision B received on 30 March 2016 and any other drawings, the London Plane Tree (Tree 1 as identified by the Arboricultural Report received on 28 June 2016) shall be retained and shall not be felled or removed.

Reason

The London Plane Tree has important amenity value and it has been demonstrated that it can be retained, having regard to Policy B.10 of the Gloucester Local Plan, Second Stage Deposit 2002

Condition 18

No development, site clearance, site preparation, demolition or the formation of foundations and trenches shall commence on site to the north of No. 22 Worcester Street unless details of the works to the London Plane tree (Tree 1 as identified by the Arboricultural Report received on 28 June 2016) have been submitted to and approved in writing by the Local Planning Authority. The details shall include a programme for implementation of the works to the tree. No development, site clearance, site preparation, demolition or the formation of foundations and trenches shall be carried out to the north of No. 22 Worcester Street unless in full accordance with the details so approved.

Reason

To safeguard the London Plane tree at the junction of Blackdog Way and Worcester Street, which has important amenity value, having regard to Policy B.10 of the Gloucester Local Plan, Second Stage Deposit 2002

Condition 19

No development, site clearance, site preparation, demolition or the formation of foundations and trenches shall commence on site to the north of No. 22 Worcester Street unless a Tree Protection Plan ("TPP") to BS5837:2012 (or any standard that reproduces or replaces this standard) has been submitted to and approved in writing by the Local Planning Authority. The TPP shall detail the methods of tree protection and clearly detail the position and specifications for the erection of tree protective fencing and a programme for its implementation. No development, site clearance, site preparation, demolition or the formation of foundations and trenches shall commence on site to the north of No. 22 unless in accordance with the approved details and the measures specified by the TPP shall remain in place until the completion of the construction of that phase of the development.

Reason

To safeguard the London Plane tree at the junction of Blackdog Way and Worcester Street, which has important amenity value, having regard to Policy B.10 of the Gloucester Local Plan, Second Stage Deposit 2002

Condition 20

No development, site clearance, site preparation, demolition or the formation of foundations and trenches shall commence on site to the north of No. 22 Worcester Street unless details of the foundation design adjacent the London Plane tree (Tree 1 as identified by the Arboricultural Report received on 28 June 2016) have been submitted to and approved in writing by the Local Planning Authority. No development shall be carried out to the north of No. 22 Worcester Street unless in full accordance with the details so approved.

Reason

To safeguard the London Plane tree at the junction of Blackdog Way and Worcester Street, which has important amenity value, having regard to Policy B.10 of the Gloucester Local Plan, Second Stage Deposit 2002

DRAINAGE CONDITIONS

Condition 21

No development (other than site clearance, site preparation, demolition and the formation of foundations and trenches) shall commence on site unless details of a surface water drainage scheme, which shall incorporate Sustainable Urban Drainage System (SUDS) principles, has been submitted to and approved in writing by the Local Planning Authority.

The scheme shall include a programme for implementation of the works; and proposals for future maintenance and management. It shall also include an assessment of the hydrological and hydrogeological context of the development.

The development shall not be carried out unless in accordance with the approved surface water drainage scheme.

Reason

To ensure sustainable drainage of the development, having regard to Policy FRP.6 of the Gloucester Local Plan, Second Stage Deposit 2002. Approval is required upfront because the design of the drainage is an integral part of the development and its acceptability.

Condition 22

No development (other than site clearance, site preparation, demolition and the formation of foundations and trenches) shall commence on site unless details of a foul drainage scheme has been submitted to and approved in writing by the Local Planning Authority.

- The scheme shall include a programme for implementation of the works; and proposals for future maintenance and management.
- The development shall not be carried out unless in accordance with the approved surface water

drainage scheme.

Reason

To ensure appropriate drainage of the development, having regard to advice contained in the National Planning Policy Framework. Approval is required upfront because the design of the drainage is an integral part of the development and its acceptability.

Condition 23

Notwithstanding the submitted details, none of the flats hereby approved shall be occupied unless details of the boundary fencing adjacent the River Twyver culvert have been submitted to and approved in writing by the Local Planning Authority. The details shall include a programme for implementation of the erection of the boundary fencing. The development shall not be carried out unless in accordance with the details so approved.

Reason

To ensure that the Environment Agency has appropriate access to the culvert, having regard to Policy FRP.5 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 24

No development shall commence on site unless a Highways Construction Management Plan has been submitted to and approved in writing by the Local Planning Authority.

The Highways Construction Management Plan shall:

- **A.** specify the type of vehicles used during construction
- **B.** provide for the parking of vehicles of site operatives and visitors
- C. provide for the loading and unloading of plant and materials
- **D.** provide for the storage of plant and materials used in constructing the development
- E. provide for wheel washing facilities; and
- **F.** specify the access points to be used and maintained during the construction phase.

The development shall not be carried out unless in accordance with the details so approved.

Reason

In the interests of highway safety, having regard to Policy TR.31 of the Gloucester Local Plan, Second Stage Deposit 2002. Approval is required up front because highway safety could be compromised at the outset of development.

TRANSPORT CONDITIONS

Condition 25

The development hereby approved shall not be occupied until the parking and turning areas have been provided in accordance with the approved plans. Such areas shall not be used for any purpose other than the parking and turning of vehicles and shall remain free of obstruction for such use at all times.

Reason

To ensure adequate car parking within the site, having regard to the provisions of the National Planning Policy Framework.

Condition 26

Notwithstanding the submitted details, none of the flats hereby approved shall be occupied unless covered bicycle storage has been constructed in accordance with details which shall have first been submitted to and approved in writing by the Local Planning Authority. The covered bicycle storage shall at all times be retained in accordance with the approved details.

Reason

To ensure adequate provision and availability of cycle parking, having regard to Policy TR.33 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 27

Notwithstanding the submitted details, none of the flats hereby approved shall occupied unless provision for covered bin and recycling storage has been made in accordance with details that shall have first been submitted to and approved in writing by the Local Planning Authority. The bin and recycling storage shall be retained at all times in accordance with the approved details.

Reason

In the interests of sustainable waste management and recycling, having regard to Policy W36 of the Gloucestershire Waste Local Plan.

ARCHAEOLOGY CONDITIONS

Condition 28

No development or demolition below slab level shall take place within the application site until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the local planning authority.

Reason

To make provision for a programme of archaeological mitigation, so as to record and advance understanding of any heritage assets which will be lost, in accordance with paragraph 141 of the National Planning Policy Framework and Policies BE.36, BE.37 & BE.38 of the Gloucester Local Plan (2002 Second Stage Deposit).

Condition 29

No development or demolition below slab level shall commence until a detailed scheme showing the complete scope and arrangement of the foundation design and ground works of the proposed development (including drains and services) has been submitted to and approved in writing by the Local Planning Authority. Development shall only take place in accordance with the approved scheme.

Reason

The site contains significant heritage assets. The Council requires that disturbance or damage by foundations and related works is minimised, and that archaeological remains are, where appropriate, preserved in situ. This accords with Policy BE.31 and BE.36 of the Second Deposit City of Gloucester Local Plan (2002) and paragraph 141 of the NPPF.

ENVIRONMENTAL PROTECTION CONDITIONS

Condition 30

Notwithstanding the submitted details, none of the flats hereby approved shall be occupied unless design measures for mitigating the impacts of noise and vibration from the inner relief road to the east (Blackdog Way), adjacent commercial uses and other noise sources have been submitted to and approved in writing by the Local Planning Authority. The design measures shall ensure that the requirements of BS 8233:2014 (internal noise levels in all habitable rooms) can be achieved.

None of the flats shall be occupied unless the approved design measures have been implemented in full and shall be retained as such at all times.

Reason

To ensure satisfactory levels of amenity for occupants of the development in view of potential noise and vibration from the adjacent inner relief Road (Blackdog Way) and neighbouring commercial uses.

Condition 31

None of the flats hereby approved shall be occupied unless noise testing has been carried out by a professional and competent contractor in accordance with a written scheme that shall be first submitted to and approved in writing by the Local Planning Authority. The noise testing shall demonstrate whether the design measures required under condition 24 satisfy the recommendations set out in the Environmental Noise Report by Mach Acoustics dated 10th November 2015 (minor amendments). If the requirements are not satisfied then further mitigation measures shall be proposed.

None of the flats hereby approved shall be occupied until the results of the noise testing, including any further mitigation that may be required, have been submitted to and approved in writing by the Local Planning Authority. The flats may be occupied upon such approval by the Local Planning Authority or, if further mitigation is required, not until that further mitigation has been installed. The further mitigation shall be retained at all times.

Reason

To ensure satisfactory levels of amenity for occupants of the development in view of potential noise and vibration from the adjacent inner relief Road (Blackdog Way) and neighbouring commercial uses.

Condition 32

No development shall commence on site, including site clearance and demolition, until an Environmental Construction Method Statement ("ECMS") has been submitted to and approved in writing by the Local Planning Authority. The ECMS shall:

- Identify measures to control the emission of dust and dirt during demolition/construction from site clearance, demolition and construction works;
- Provide details of external lighting of site and security compounds; and
- Identify measures for the storage of waste.

The works shall not be carried out unless in accordance with the approved ECMS.

Reason

To safeguard residential amenity, having regard to Policy BE.21 of the Second Deposit City of Gloucester Local Plan (2002). Approval is required up front because construction activities have the potential to harm neighbour amenity from the outset.

Condition 33

None of the flats hereby approved shall be occupied unless an external lighting scheme has been submitted to and approved in writing by the Local Planning Authority. No external lighting shall be installed unless in accordance with the approved details.

Reason

To safeguard residential amenity, having regard to Policy BE.21 of the Second Deposit City of Gloucester Local Plan (2002).

Condition 34

No construction related activities, including deliveries to or dispatched from the development, shall be undertaken outside the following hours:

Monday to Friday 0800 to 1800 Saturdays 0830 to 1300

No such construction related activities or deliveries shall take place on Sundays or Public Holidays.

Reason

To safeguard residential amenity, having regard to Policy BE.21 of the Second Deposit City of Gloucester Local Plan (2002).

Condition 35

There shall be no burning of materials/substances at the site during the construction phase.

Reason

To safeguard residential amenity, having regard to Policy BE.21 of the Second Deposit City of Gloucester Local Plan (2002).

CONTAMINATION CONDITIONS

Condition 36

Unless otherwise first agreed by the Local Planning Authority, no development shall commence on site (other than site clearance, site preparation, demolition and the formation of foundations and trenches) until conditions 37 to 40 (inclusive) have been complied with. If unexpected contamination is found after development has begun, development must be halted on that part of the site affected by the unexpected contamination to the extent specified by the Local Planning Authority in writing until condition 34 has been complied with in relation to that contamination.

Reason

To safeguard the development from contamination, having regard to Policy FRP.15 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 37 (Site characterisation)

An investigation and risk assessment, in addition to any assessment provided with the planning application, must be completed in accordance with a scheme to assess the nature and extent of any contamination on the site, whether or not it originates on the site. The investigation and risk assessment must be undertaken by competent persons and a written report of the findings must be produced. The written report is subject to the approval in writing of the Local Planning Authority. The report of the findings must include:

- **I.** A survey of the extent, scale and nature of contamination;
- **II.** An assessment of the potential risks to:
 - human health,
 - property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes,
 - adjoining land,
 - groundwaters and surface waters,
 - ecological systems,
 - archaeological sites and ancient monuments;
- **III.** An appraisal of remedial options, and proposal of the preferred option(s).

Reason

To safeguard the development from contamination, having regard to Policy FRP.15 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 38 (Submission of remediation strategy)

A detailed remediation scheme to bring the site to a condition suitable for the intended use by removing unacceptable risks to human health, buildings and other property and the natural and historical environment must be prepared, and is subject to the approval in writing by the Local Planning Authority. The scheme must include all works to be undertaken, proposed remediation objectives and remediation criteria, timetable of works and site management procedures.

Reason

To safeguard the development from contamination, having regard to Policy FRP.15 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 39 (Implementation of approved remediation strategy)

The approved remediation scheme must be carried out in accordance with its terms prior to the commencement of development other than that required to carry out remediation, unless otherwise first agreed in writing by the Local Planning Authority. The Local Planning Authority must be given at least two weeks written notification of commencement of the remediation scheme works. Following completion of measures identified in the approved remediation scheme, a verification report that demonstrates the effectiveness of the remediation carried out must be produced, and is subject to the approval in writing of the Local Planning Authority.

Reason

To safeguard the development from contamination, having regard to Policy FRP.15 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 40 (Reporting of unexpected contamination)

In the event that contamination is found at any time when carrying out the approved development that was not previously identified it must be reported in writing immediately to the Local Planning Authority. An investigation and risk assessment must be undertaken in accordance with the requirements of condition 37, and where remediation is necessary a remediation scheme must be prepared in accordance with the requirements of condition 38, which is subject to the approval in writing of the Local Planning Authority. Following completion of measures identified in the approved remediation scheme a verification report must be prepared, which is subject to the approval in writing of the Local Planning Authority in accordance with condition 39.

Reason

To safeguard the development from contamination, having regard to Policy FRP.15 of the Gloucester Local Plan, Second Stage Deposit 2002.

Condition 41 (Long term monitoring and maintenance)

A monitoring and maintenance scheme to include monitoring the long-term effectiveness of the proposed remediation over an appropriate time period, and the provision of reports on the same must be submitted to and approved writing by the Local Planning Authority prior to occupation. The monitoring and maintenance scheme shall be implemented in accordance with the approved details. Following completion of the measures identified in that scheme and when the remediation objectives have been achieved, reports that demonstrate the effectiveness of the monitoring and maintenance carried out must be produced, and submitted to the Local Planning Authority.

Reason

To safeguard the development from contamination, having regard to Policy FRP.15 of the Gloucester Local Plan, Second Stage Deposit 2002.

ECOLOGICAL CONDITIONS

Condition 42

If development is undertaken during the bird nesting season (i.e. between March and August inclusive in any calendar year), no works shall be undertaken (including site clearance, site preparation and demolition), other than the formation of foundations and trenches, unless a scheme for ecological monitoring of the site clearance and demolition, including contingency plans for ecological impacts are identified during the monitoring, has been submitted to and approved in writing by the Local Planning Authority. No works shall be carried out unless in accordance with the approved scheme.

Reason

In the interests of safeguarding nesting birds, having regard to Policies B.7 and B.8 of the Gloucester Local Plan, Second Stage Deposit 2002. Approval is required upfront because nesting birds may be harmed at the outset of the works.

Condition 43

No works shall be undertaken (including site clearance, site preparation, demolition and the formation of foundations and trenches) unless a bat emergency survey of the buildings on the southern part of the site has been submitted to and approved in writing by the Local Planning Authority. The survey findings shall report ecological mitigation if required. No works shall be carried out unless in accordance with the approved details.

Reason

In the interests of safeguarding bats, having regard to Policies B.7 and B.8 of the Gloucester Local Plan, Second Stage Deposit 2002. Approval is required upfront because bats may be harmed at the outset of the works.

Condition 44

If development does not commence before 30 September 2016, then no development or works shall be undertaken (including site clearance, site preparation, demolition and the formation of foundations and trenches) unless an updated ecological appraisal of the site has been submitted to and approved in writing by the Local Planning Authority. No development or works shall be carried out unless in accordance with the approved details.

Reason

In the interests of safeguarding protected species, having regard to Policies B.7 and B.8 of the Gloucester Local Plan, Second Stage Deposit 2002. Approval is required upfront because nesting birds may be harmed at the outset of the works.

Note 1

This permission is subject to a legal agreement under Section 106 of the Town and Country Planning Act 1990 that secures all 95 apartments as affordable housing in perpetuity.

Note 2

A fee is payable where written confirmation is required that one or more conditions imposed on this permission have been complied with. The fee is £97 per request. The fee must be paid when the request is made.

Note 3

The applicant's attention is drawn to the requirements of the Building Regulations, which must be obtained as a separate consent to this planning decision. You are advised to contact the Gloucestershire Building Control Partnership on 01453 754871 for further information.

Note 4

The applicant is advised that any works in, under, over or within 8 metres of the River Twyver culvert may require a formal permit from the Environment Agency. Further advice can be obtained from the Environment Agency regional office.

Note 5

Severn Trent Water advises that there may be a public sewer located within the application site and they encourage the applicant to investigate this. They advise that public sewers have statutory protection and may not be built close to, directly over or be diverted without consent. If there are sewers which will come into close proximity of the works, the applicant is advised to contact Severn Trent Water to discuss the proposals and we will seek to assist with obtaining a solution which protects both the public sewer and the building.

Note 6

Severn Trent Water further advises that when submitting a Building Regulations application, the building control officer is required to check the sewer maps supplied by Severn Trent Water and advise them of any proposals located over or within 3 meters of a public sewer. In many cases under the provisions of Building Regulations 2000 Part H4, Severn Trent can direct the building control officer to refuse building regulations approval.

Note 7

In accordance with the requirements of the National Planning Policy Framework, the Local Planning Authority has worked with the applicant in a positive and proactive manner in seeking solutions to secure sustainable development which will improve the economic, social and environmental wellbeing of the area. In particular, the Local Planning Authority has negotiated issues relating to the need for the development; viability; the design of the buildings; impact on the London Plane tree; archaeology; flood risk; drainage; and highways requirements.

Date: 30th September 2016

Development Control Manager

PLEASE SEE NOTES SET OUT IN THE ENCLOSED LEAFLET





Marketing Summary

Prepared by ASH Chartered Surveyors

in respect of

New Retail Units Black Dog Way Gloucester GL1 3AF

For and on behalf of Rooftop Housing Group

Dated: 22 April 2022

Ref: SJM/18374



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1. Qualifications

This report is prepared by the sole marketing agent, Simon J McKeag, of ASH Chartered Surveyors.

I qualified as a member of the Royal Institution of Chartered Surveyors in 2003 and have practised in the Gloucestershire area since 2000, specialising in the marketing of commercial property for sale and to let.

2. Background

ASH Chartered Surveyors were instructed to offer the subject property to let in December 2018.

3. Location

Gloucester is the commercial and administrative centre of the County and supports a resident population of approximately 121,700 (2011 Census). Gloucester has a strong and established traditional industrial base together with, in recent years, a significant expansion as an office centre through the developments on the business parks close to the Motorway junctions.

Gloucester is located approximately 9 miles (14.5 km) west of Cheltenham, 35 miles (56.2 km) north of Bristol, 55 miles (88.5 km) south of Birmingham and 100 miles (161 km) west of London. Access to the motorway network is available at Junctions 11, 11A and 12 of the M5 and Junction 15 of the M4 at Swindon. The link to the M4 is via the A417/A419 trunk road.

Gloucester Railway Station provides direct services to London with journeys taking just under two hours and both Gloucester and Cheltenham share a local airport at Staverton, approximately 8 miles away.

The property is located ¼ mile north of The Cross at the centre of Gloucester city and fronts the western side of Black Dog Way (A430), northern side of Worcester Street and east of Worcester Street, which provides the primary vehicular access point to the site.

4. Description

The property was completed in the Summer 2019 and consists of 95 one- and two-bedroom residential flats in two detached blocks (81 flats in Walkinshaw Court and 14 in Carpenter Court) of steel frame construction with part brick, part composite panelling and part rendered cladding with aluminium and uPVC framed double glazed windows throughout, all beneath flat roofing.

The development comprises two retail units which are located at upper ground floor level and ramp access is provided off Worcester Street. Unit 1 fronts Black Dog Way and Unit 2, Worcester Street.

The units have been completed as a shell, with water and electric supplies but no gas. In addition, they will be connected to the domestic sprinkler system within the building which an occupier can upgrade or cap off.

The units have the ability to be let in part or as a single entity.

The approximate Gross Internal areas are as follows:

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Unit 1 188.3 sq m (950 sq ft)
Unit 2 277.1 sq m (830 sq ft)
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5. Terms

The retail units were marketed to let by way of new full repairing and insuring lease for a term to be agreed.

Occupiers would be required to contribute to the upkeep and maintenance of the communal areas by way of a service charge.

The units have consent for general retail which fell within Class A1 of the Use Classes Order 1987).

The commercial use class planning system in the UK was amended in September 2020 with the creation of two new classes including Class E Commercial, Business and Service.

The 'E' use class combines A1 (Retail), A2 (professional services) and A3 (restaurants and cafes) B1 (offices) and some elements of D1 (non-residential institutions) and D2 (Assembly and Leisure) including gyms, health clubs, clinics, and crèches/nurseries.

The amendments provided more flexibility for occupiers.

6. Marketing

In December 2018, ASH Chartered Surveyors were instructed to offer the property on the basis set out above and since that time, it has remained available on the open market.

The following marketing initiatives have been undertaken:-

<u>Particulars</u>

A brochure was prepared and forwarded to interested parties upon request. A copy is attached in Appendix I.

Mail Out

The brochure was mailed to all active applicants on the ASH database seeking an opportunity of this nature

Board

An advertising board was placed in a prominent position facing Black Dog Way, clearly identifying the opportunity available.

Advertising

The details were circulated via Social Media.

Website

Details of the property were listed on ASH's website (www.ashproperty.co.uk).

Property Registers

Details were listed with the national databases, Zoopla Commercial, EG Property Link, Realla, CoStar and locally with Punchline.

7. Enquiries, Viewings and Offers Received

General Data Protection Regulations (GDPR) prevent us from providing details of occupiers who expressed an interest in the premises.

We can confirm approximately 50 enquiries were received for a range of potential uses including estate agents, convenience stores, takeaways, gyms, yoga studios, hairdressing and beauty salons.

As stated above, details including the quoting terms were sent to a range of enquiries.

We undertook viewings with approximately 6 parties.

No offers were received for the property.

8. Market Assessment

Gloucester City Centre had suffered as a retail 'destination' and retail centres such as Cheltenham and Cribbs Causeway attracted the larger retailers/specialist retailers.

Further competition for the City Centre retail came from The Quays Designer Outlet scheme situated adjacent to the Docks to the south which had become increasingly popular following the completion of a Cineworld cinema and large Next store.

The outbreak of COVID-19 in late 2019 had a detrimental impact on the retail sector with the share of e-commerce spending reached all times highs. A significant number of well-known High Street businesses closed during the pandemic and others required Government support in the form of grants and loans to continue trading.

The future for central Gloucester as a retail destination lies in the proposed redevelopment of Kings Square and Kings Walk area which are currently in progress allied to the development of the land adjacent to the new bus terminal. In addition, the sale of the former Debenhams store to the University of Gloucester will bring additional footfall and help to revitalise the wider area.

The property occupies a remote position on the edge of the City Centre adjacent to the inner Ring Road with limited passing footfall. The upper ground floor position does not suit all occupiers and parking is restricted to pay and display on-street parking which is detrimental in comparison to other sites which benefit from free parking.

The shell finish requires occupiers to undertake substantial fit out works and a lack of confidence in the marketplace due to COVID may have resulted in occupiers being unwilling to commit to the investment required.

9. Summary

The retail sector has been impacted by the COVID pandemic with increased vacancies across the City Centre providing occupiers with more options when considering premises and secondary pitches becoming less desirable.

In our opinion, the premises have been extensively marketed using all appropriate marketing tools and details have been issued upon request and viewings undertaken as required.

The units have been available for more than 2 years and a suitable tenant has not been identified.

Bearing in mind the above, we feel that it would be in order for a change of use to be considered for the property to provide 2 fully wheelchair accessible flats.

Appendix

Marketing Particulars



TO LET

GLOUCESTER - NEW RETAIL UNITS, BLACK DOG WAY, GL1 3AF



- Brand new retail units in a prominent position in close proximity to the City Centre.
- To be finished to a shell ready for an occupier's fit out.
- Available by way of a new lease(s) for a term to be agreed.
- From 77.1 sq m (830 sq ft) to 88.3 sq m (950 sq ft).

COMMERCIAL AGENCY | LEASE CONSULTANCY | PROPERTY MANAGEMENT



LOCATION

The property is located 1/4 mile north of The Cross at the centre of Gloucester city and fronts the western side of Black Dog Way (A430), northern side of Worcester Street and east of Worcester Street, which provides the primary vehicular access point to the site, although we understand pedestrian access will be available off Northgate Street. The property is located ¼ mile north of The Cross at the centre of Gloucester city and fronts the western side of Black Dog Way (A430), northern side of Worcester Street and east of Worcester Street which provides the primary vehicular access point to the site, although we understand pedestrian access will be available off Northgate Street.

DESCRIPTION

The property, which is under construction at the present time, with completion due in the Summer 2019, will consist of 95 one and two bedroom residential flats in two detached blocks (81 flats in Walkinshaw Court and 14 in Carpenter Court) of steel frame construction with part brick, part composite panelling and part rendered cladding with aluminium and uPVC framed double glazed windows throughout, all beneath flat roofing.

The available units are based at upper ground floor level and access will be provided off Worcester Street. Should they be let in part a communal hallway will be created.

The units will be completed as a shell, with water and electric supplies but no gas. In addition they will be connected to the domestic sprinkler system as a temporary measure, which an occupier can upgrade or cap off.

ACCOMMODATION

(Approximate Gross Internal area)

950 sq ft Unit 1 88.3 sq m Unit 2 77.1 sq m 830 sq ft

ASH & Co CS LLP for themselves and for the Vendors or Lessors 4. All descriptions, dime of this property whose agents we are give notice that:

- These particulars are believed to be correct. Their accuracy is not guaranteed and they do not form part of any contract.
 No person in the employ of ASH CS LLP has authority to make or give any representation or warranty in relation to this property.
- All rents, prices and premiums are quoted exclusive of VAT. if applied.
- --- usus-upuons, amensions, references to condition and necessary permissions for use and occupation and their details are given in good faith and are believed to be correct but any intending purchasers or tenants should not rely on them as statements or representations of fact but must satisfy themselves by inspection or otherwise as to the correctness of each of them.
- None of the service installations have been tested and any occupier must satisfy themselves independently as to the state and condition of such items and the efficiency and suitability for their requirements.

PLANNING

Consent has been granted for use within Class A1 of the Use Classes Order 1987. The units may suit alternative uses subject to the necessary consent being obtained.

RATES

The property will need to be assessed for rating purposes at completion. Prospective occupiers are advised to check with the Local Authority to establish any transitional relief that may be applicable.

TERMS

The units are offered by way of a new lease(s) for a term to be agreed.

RENT

On application.

SERVICE CHARGE

A charge will be levied by the Landlord to cover the costs associated with the upkeep and maintenance of the common areas.

VAT

Under the Finance Acts 1989 and 1987, VAT may be levied on the rent. We recommend that prospective tenants establish the VAT applications before entering into any agreements.

LEGAL COSTS

Each party to bear their own costs incurred in the

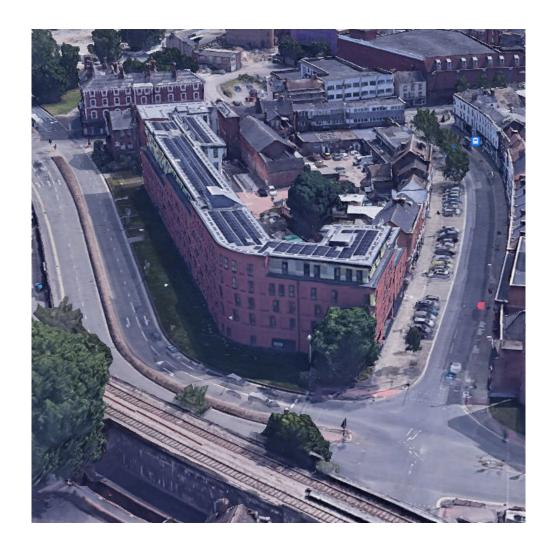
VIEWING

Occupiers are advised to make their own enquires of the relevant Local Authority to verify actual rates payable and to establish the position in respect of the inheritance of Transitional Relief.

ASH is the trading name of ASH & Co CS LLP, registe in England and Wales under the number OC326084. Registered office: 10 Pullman Court, Great Western F Gloucester GLI 3ND.



Phoenix House, Phoenix Way, Cirencester Gloucestershire GL7 1QG



Black Dog Way Gloucester

Flood Risk Assessment For Change of Use to GF retail units to Residential

Revision A (first issue) August 2022

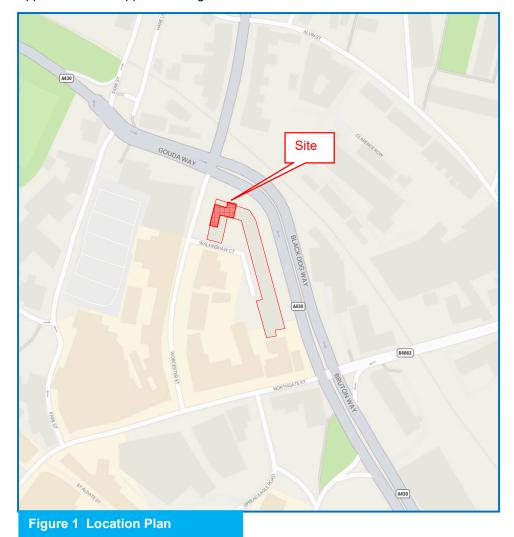


Black Dog Way, Gloucester, Change of use for Commercial ground floor unit. Flood Risk Assessment

1. Background

Commencing in 2016. significant redevelopment was undertaken for construction of predominantly residential blocks with a small amount of commercial floor space at ground floor level at the junction of Black Dog Way and Worcester Street on the former Kwik Save site. Planning reference is 16/00142/FUL.

This development as per the photo on the report cover sheet has been occupied for several years. The 2016 planning included a small commercial area on the ground floor layout fronting Worcester Street. The commercial area has not proved viable to tenants, so the purpose of this application is to support a change of use to residential units.



Page 2 of 12



The site location is as per Figure 1, with the Ground Floor area proposed for change of use in pink shade.



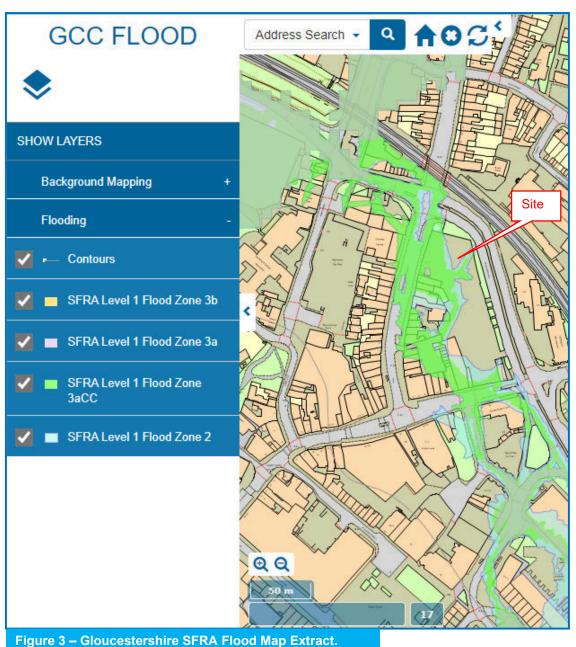
Figure 2 Existing & Proposed Floor Plan

As per Figure 2. The Change of use proposes to introduce 2 number 2 bedroom apartments.

With knowledge of the original planning application, and with reference to the Gloucestershire SFRA Strategic Risk Flood Map as shown in Figure 3, the development falls in an area where there is a degree of local flood risk due to the proximity of the identified flood zones.

Therefore, a Flood Risk Assessment is required in order to meet the requirements of the National Planning Policy Framework (NPPF). This Flood Risk Assessment is provided to accompany the Change of Use application.





In providing this FRA, review of the 2016 application has been undertaken. The 2016 FRA is provided in Appendix B.

It is noted the original 2016 FRA related to assessed flood levels based on best available data at that time. In order to calibrate/verify that data and ensure the latest flood levels are considered an application to the EA for latest flood modelling was made and the returned Product 4 flood data is Provided in Appendix A.



2. Development Vulnerability & Flood Zone Classification

The vulnerability classification of the development according to the latest Planning Practice Guidance on the Gov.uk website would be 'More Vulnerable' comprising: 'Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels'.

The development class would be 'Minor Development' based on alterations to an existing building which do not increase the size of the building.

The FRA should be appropriate to the scale, nature and location of the development and proportionate to the degree of flood risk.

Based on flood data obtained, the development relates to More Vulnerable in Flood Zone 2, and therefore Environment Agency's standing advice should be followed. Vulnerable developments should follow the advice for:

- floor levels
- extra flood resistance and resilience measures
- access and escape
- surface water management

Pertinent points relevant to this Change of Use (COU) application are referenced below.

Floor levels. You need to provide the:

- · average ground level of your site
- ground level of the access road(s) next to your building
- finished floor level of the lowest room in your building

Finished floor levels should be a minimum of whichever is higher of 300mm above the:

- average ground level of the site
- · adjacent road level to the building
- estimated river or sea flood level

You should also use construction materials that have low permeability up to at least the same height as finished floor levels.

If you cannot raise floor levels to meet the minimum requirement, you will need to:

- raise them as much as possible
- consider moving vulnerable uses to upper floors
- include extra flood resistance and resilience measures

Extra flood resistance and resilience measures:

Given the floor levels proposed, resilience measures are considered unnecessary for this COU.



Access and escape:

You need to provide details of your emergency escape plans for any parts of a building that are below the estimated flood level. Follow the Flood Risk Emergency Plans for New Development guidance.

Make sure your plans show:

that any single storey buildings or ground floors without access to upper floors can access a safe refuge above the estimated flood level that any basement rooms have clear internal access (for example a staircase) to an upper floor above the estimated flood level a safe route of access and escape which is set above the estimated flood level and connects the site to an area away from flood risk

Surface water management

You should use SuDS for all:

developments involving surface water drainage in flood risk areas. If you do not include SuDS in these circumstances, you need to provide the LPA with clear evidence of why their use would be inappropriate.

In addition to the above standing advice, the EA returned Product 4 (Appendix A) has further local data relating to Climate Change specifically in the Severn River Basin District, which needs to be considered. This is covered in the Fluvial Flood Risk section of this report.

3. Sequential Test Requirements

The Sequential Test should be applied to 'Major' and 'Non-major development' proposed in areas at risk of flooding, but it will not be required where:

- The site has been allocated for development and subject to the test at the plan making stage (provided the proposed development is consistent with the use for which the site was allocated and provided there have been no significant changes to the known level of flood risk to the site, now or in the future which would have affected the outcome of the test).
- The site is in an area at low risk from all sources of flooding, unless the Strategic Flood Risk Assessment, or other information, indicates there may be a risk of flooding in the future.
- The application is for a development type that is exempt from the test, as specified in footnote 56 of the National Planning Policy Framework.

A sequential test was provided in the 2016 application which allocated the site for residential use. Footnote 56 clarifies that Change of Use should not be subject to a sequential test.



4. Fluvial Flood Risk

With reference to the 2016 FRA, at that time based upon the Gloucestershire SFRA mapping the FZ2 level (100 - 1000 year) was estimated at 12.8m AOD. The flood mapping levels clearly indicated that the local flooding is shallow and flowing northwards overland rather than standing at a constant depth.

Our assessment is that the modelling that produced the flood outlines was based on 'bare earth' conditions and has largely ignored the effect of the various buildings and walls interrupting the flow, therefore flood levels are likely to be approximate only. A reasonable assessment of the Zone 2 flood level at the entrance to the site was considered to be 13.3m AOD.

In line with 2016 EA standing advice on development, floor levels are maintained at least 600mm above the 100 year flood level to provide adequate protection against climate change. This would set a minimum floor level of 13.9m AOD.

Due to the archaeology impact reasons, the floor was set at a minimum 14.125m therefore an approximate 825mm freeboard between the Zone 2 flood level and the proposed building floor levels.

With reference to the latest EA Product 4 data provided in Appendix A, a more detailed current assessment of FZ2 flood level can be undertaken. The EA have provided model data based on the 'Tidal Severn Model' and the 'River Twyver Model'.

Climate change should be applied as August 2021 'Climate Change Allowance for Planning (SHWG Area)'. Based on 'More Vulnerable' 'Central Allowance' peak river flows for Catchment 4 'Severn Vale' would advise a climate change river flow allowance for the lifetime of the development of 37% should be applied. To assess the 37% CC levels this may be interpolated or add a nominal allowance to the 1% event which in this case would be 600mm based on the 'Lower Severn' & 'More Vulnerable' classification.

'Tidal Severn Model'

The relevant nodes would be between 'LCR25' and 'LCR28'.

100 year and 1000 year return period events at these nodes including 50% tidal peak at 10.94 AOD and 11.27 AOD.

The site access level is 13.31 AOD, therefore site flood risk is not linked to the river Severn Flood.

'River Twyver Model'

The River Twyver runs in culvert past the site. River nodes are not available at the site and 2D flood model nodes are provided at the site with reference 2D01 & 2D02.

In reviewing the flood model data, the upstream node has a 100 year flood level of 20.85. The 2D node adjacent the site 100 year level is 13.45, and the downstream Severn Flood level is 11.27.



The 9.58m flood level difference confirms that the 2016 assessment that the local flooding is shallow and flowing northwards rather than standing at a constant depth is entirely justified.

In review of the 2D model nodes 2D01 & 2D02 vs the topographic data, the 2D flood level nodes given relate exactly to existing ground level. The flood mapping therefore identifies surface water flow rather than a static flood zone. This is substantiated by:

- Negligible raise in flood level between the 100 to 1000 year events, where node levels lift by only 10mm and 40mm, confirming a slightly deeper surface flow.
- 140 170mm difference between 2D01 & 2D02 confirming the inclined flowing surface.

It is clear in this instance that any effect of climate change to the surface water flow would be negligible and the EA 'Table of Nominal Allowances' is not relevant. Therefore given the increase from 100 to 1000 year event increases depth by 10-40mm, an allowance of say 50mm would by far exceed any climate change increase.

Freeboard may be considered and EA note for the Severn suggests 600mm to allow for modelling uncertainty and wave action. Given this is overland flow and not related to the Severn model, the EA standing advice of 300mm can be considered.

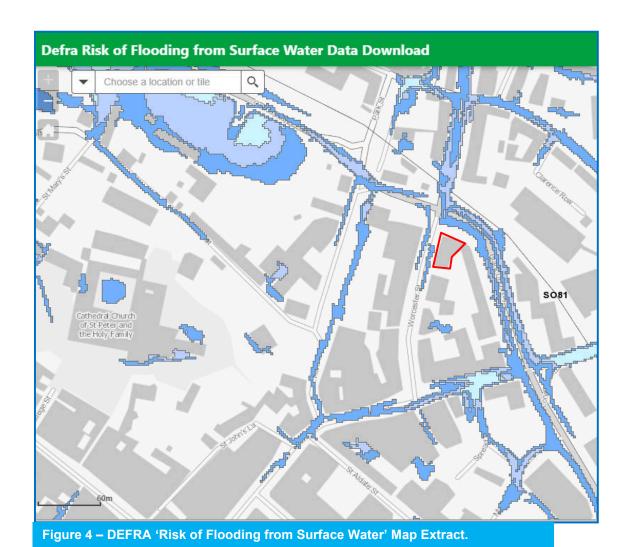
Therefore a design flood level of 13.45 + 50mm CC = 13.50m OAD. Any floor allowing for Freeboard must therefore be a minimum 13.80m AOD.

The existing floor level is 14.125m AOD, so therefore risk of fluvial flooding is LOW.

5. Surface Water Flood Risk

In addition to fluvial flooding, surface water flooding is to be considered. With reference to the DEFRA 'Risk of Flooding from Surface Water' mapping shown in figure 4, there is no flooding on the site for a 100 yr. return period event. All overland surface flows are retained within the local carriageways. Risk of surface water flooding is therefore **LOW**.





6. Site Run-off & Drainage Strategy

This application is for change of use to an existing fully developed site. It is therefore neither new build nor brownfield development so will utilise the existing building fabric and drainage regime.

With reference to the 2016 planning application (FRA). It is highlighted that at that time the introduction of permeable surfacing in addition to the soft landscaping and attenuation reduced pre development run off by up to 48% including an allowance for Climate Change.



7. Post Development Residual Flood Risk Summary

- Fluvial Flood Risk LOW
- Risk of local drainage exceedance flows and flooding from land LOW
- Increase in downstream flood risk due to site run-off Flood Risk reduced based on 2016 planning application implementation.

8. Management of Residual Flood Risk

Maintenance of drainage elements of the proposed scheme will ensure they are functioning correctly for the lifetime of the development. Matters relating to drainage are covered in the ongoing maintenance regime for the full existing residential development provided under the original 2016 application.



APPENDIX A

EA Product 4 Data



Product 4 (Detailed Flood Risk Data) for Black Dog Way,

Gloucester, GL1 3AF

Reference number: 260864 Date of issue: 17 May 2022

Model Information

The following information and attached maps contain a summary of the modelled information relevant to the area of interest. The information provided is based on the best available data as of the date of issue.

Model Name	Release Date
River Severn	2007
Tidal Severn Climate Change Re-run	2020
River Twyver	2006

Flood Map for Planning (Rivers and Sea)

The Flood Map for Planning (Rivers and Sea) indicates the area at risk of flooding, **assuming no flood defences exist**, for a flood event with a 0.5% chance of occurring in any year for flooding from the sea, or a 1% chance of occurring in any year for fluvial (river) flooding (Flood Zone 3). It also shows the extent of the Extreme Flood Outlines (Flood Zone 2) which represents the extent of a flood event with a 0.1% chance of occurring in any year, or the highest recorded historic extent if greater. The Flood Zones refer to the land at risk of flooding and **do not** refer to individual properties. It is possible for properties to be built at a level above the floodplain but still fall within the risk area.

The Flood Map only indicates the extent and likelihood of flooding from rivers or the sea. It should also be remembered that flooding may occur from other sources such as surface water, sewers, road drainage, etc.

To find out which flood zone a location is in please use: https://flood-map-for-planning.service.gov.uk/

Definition of flood zones

- **Zone 1** The area is within the lowest probability of flooding from rivers and the sea, where the chance of flooding in any one year is less than 0.1% (i.e. a 1000 to 1 chance).
- **Zone 2** The area which falls between the extent of a flood with an annual probability of 0.1% (i.e. a 1000 to 1 chance) fluvial and tidal, or greatest recorded historic flood, whichever is greater, and the extent of a flood with an annual probability of 1% (i.e. a 100 to 1 chance) fluvial / 0.5% (i.e. a 200 to 1 chance) tidal. (Land shown in light blue on the Flood Map).



• Zone 3 - The chance of flooding in any one year is greater than or equal to 1% (i.e. a 100 to 1 chance) for river flooding and greater than or equal to 0.5% (i.e. a 200 to 1 chance) for coastal and tidal flooding.

Note: The Flood Zones shown on the Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the Strategic Flood Risk Assessment when considering location and potential future flood risks to developments and land uses.

Areas Benefitting From Defences

Where possible we show the areas that benefit from the flood defences, in the event of flooding:

- from rivers with a 1% (1 in 100) chance in any given year, or;
- from the sea with a 0.5% (1 in 200) chance in any given year.

If the defences were not there, these areas would flood. Please note that we do not show all areas that benefit from flood defences.

The associated Dataset is available here: https://data.gov.uk/dataset/flood-map-for-planning-rivers-and-sea-areas-benefiting-from-defences



Node Data / Modelled Levels

The attached map will show a selection of 1D & 2D model node points near to your site, the fluvial levels for these node points on the River Twyver are shown below.

Fluvial Flood Levels (m AOD)

The modelled levels are given in m AOD (N), m AOD indicates metres Above Ordnance Datum (Newlyn).

The information is taken from the model referenced above and does not include the updated climate change figures.

			Annual Exceedance Probability - Maximum Water Levels (m AOD)								
Node Label	Easting	Northing	20% (1 in 5)	10% (1 in 10)	4% (1 in 25)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc. 20% increase in inflows	0.1% (1 in 1000)	
C028D	384264	217761	21.66	21.71	21.89	21.94	21.96	21.98	22.00	22.14	
C026U	384235	217808	21.58	21.57	21.68	21.75	21.79	21.85	21.88	22.04	
C024U	384182	217978	21.48	21.43	21.50	21.54	21.56	21.62	21.62	21.74	
C023	384138	218022	20.46	20.39	20.41	20.47	20.51	20.60	20.61	20.86	
C020	384108	218039	20.46	20.39	20.41	20.47	20.51	20.59	20.61	20.86	
C016	384053	218066	20.45	20.37	20.39	20.45	20.49	20.54	20.59	20.85	
2D 01	383436	218839	-	-	-	-	-	-	13.41	13.45	
2D 02	383415	218865	-	-	-	-	-	-	13.27	13.28	



A second map will show a selection of 1D model node points near to your site for the River Severn, the tidal & fluvial levels for these node points are shown below.

Flood Levels (m AOD)

The modelled levels are given in m AOD (N), m AOD indicates metres Above Ordnance Datum (Newlyn).

The information is taken from the model referenced above and may not include the updated climate change figures.

					Annual Exce	edance Proba	bility - Maxir	num Water L	evels (m AOI	D) (defended)		
Node Label	Easting	Northing	20% Fluvial, 1.33% Tidal	20% Fluvial, 1% Tidal	20% Fluvial, 0.5% Tidal	20% Fluvial, 0.5% inc. 20% increase in inflows	20% Fluvial, 0.1% Tidal	1.33% Fluvial, 50% Tidal	1% Fluvial, 50% Tidal	1% Fluvial, 50% Tidal inc. 20% increase in inflows	0.5% Fluvial, 50% Tidal	0.1% Fluvial, 50% Tidal
LCR09	382915	220679	10.58	10.59	10.61	10.93	10.65	11.13	11.19	11.59	11.33	12.11
LCR12	382632	220430	10.57	10.58	10.59	10.93	10.64	11.14	11.20	11.55	11.31	12.00
LCR14	382219	220230	10.57	10.58	10.60	10.90	10.64	11.08	11.13	11.48	11.26	11.96
LCR16	382074	219913	10.55	10.56	10.57	10.88	10.61	11.07	11.13	11.49	11.25	11.95
PUMPUS	382396	219418	10.47	10.48	10.50	10.83	10.56	10.94	11.00	11.36	11.12	11.84
PUMPDS	382383	219328	10.40	10.42	10.44	10.75	10.50	10.79	10.84	11.15	10.95	11.51
WESTUS	382427	219096	10.39	10.40	10.43	10.72	10.49	10.73	10.77	11.08	10.87	11.45
WESTDS	382400	219010	10.34	10.36	10.38	10.66	10.44	10.60	10.64	10.92	10.72	11.23
LCR25	382480	218879	10.34	10.36	10.38	10.66	10.44	10.61	10.65	10.94	10.73	11.27
LCR28	382691	218629	10.33	10.35	10.37	10.65	10.44	10.57	10.61	10.89	10.68	11.21



Climate Change Scenarios – Maximum Water Levels (m AOD) (defended)

Node Label	Easting	Northing	Fluvial 2020 HC	Tidal 2020 HC	Fluvial 2020 UE	Tidal 2020 UE	Fluvial 2040 HC	Tidal 2040 HC	Fluvial 2040 UE	Tidal 2040 UE
LCR09	382915	220679	11.45	10.62	11.64	10.63	11.64	10.66	11.90	10.67
LCR12	382632	220430	11.42	10.61	11.59	10.62	11.59	10.64	11.82	10.66
LCR14	382219	220230	11.36	10.61	11.53	10.62	11.53	10.65	11.77	10.66
LCR16	382074	219913	11.36	10.62	11.53	10.62	11.53	10.65	11.77	10.66
PUMPUS	382396	219418	11.23	10.52	11.39	10.53	11.39	10.56	11.64	10.58
PUMPDS	382383	219328	11.04	10.46	11.18	10.47	11.18	10.50	11.37	10.52
WESTUS	382427	219096	10.95	10.45	11.09	10.46	11.09	10.49	11.30	10.51
WESTDS	382400	219010	10.79	10.41	10.91	10.41	10.91	10.45	11.10	10.47
LCR25	382480	218879	10.80	10.41	10.93	10.41	10.93	10.45	11.13	10.47
LCR28	382691	218629	10.75	10.40	10.87	10.41	10.87	10.44	11.05	10.46



			Climate Change Scenarios – Maximum Water Levels (m AOD) (defended)							
Node Label	Easting	Northing	Fluvial 2070 HC	Tidal 2070 HC	Fluvial 2070 UE	Tidal 2070 UE	Fluvial 2125 HC	Tidal 2125 HC	Fluvial 2125 UE	Tidal 2125 UE
LCR09	382915	220679	11.82	10.73	12.40	10.77	11.82	10.92	12.40	11.06
LCR12	382632	220430	11.75	10.72	12.27	10.76	11.75	10.92	12.27	11.07
LCR14	382219	220230	11.69	10.72	12.22	10.76	11.69	10.91	12.22	11.06
LCR16	382074	219913	11.69	10.72	12.22	10.76	11.69	10.91	12.22	11.06
PUMPUS	382396	219418	11.56	10.65	12.09	10.70	11.56	10.88	12.09	11.04
PUMPDS	382383	219328	11.31	10.59	11.67	10.65	11.31	10.83	11.67	11.01
WESTUS	382427	219096	11.23	10.58	11.61	10.64	11.23	10.83	11.61	11.00
WESTDS	382400	219010	11.04	1054	11.36	10.60	11.04	10.79	11.36	10.98
LCR25	382480	218879	11.07	10.55	11.39	10.60	11.07	10.79	11.39	10.98
LCR28	382691	218629	11.00	10.54	11.38	10.59	11.00	10.79	11.38	10.97

Note;

All Climate Change levels detailed above represent respective high risk events in each instance (i.e. a 1% or 1 in 100 year for fluvial, 0.5% or 1 in 200 year for tidal).

HC = Higher Central Allowance

UE = Upper End Allowance

There are no modelled figures available for the Central Allowance.



Modelled Flood Extents

Available modelled flood outlines produced as part of the detailed modelling have been provided to you in GIS format, these show modelled flood extents. Climate change will increase flood risk due to overtopping of defences.

Please note; there are currently no available GIS layers for the respective Tidal Severn Model Climate Change scenarios.

River Severn: https://ea.sharefile.com/d-s2ddc3732be964a878604dfc6012fb8e3
River Twyver: https://ea.sharefile.com/d-s917e2a2511bc4bf29f7ff8eab2980b26

Climate Change

The 'Flood Risk Assessments: Climate Change Allowances' are published on gov.uk. This is in replacement of previous climate change allowances for planning applications. The data provided in this product does not include the new allowances. You will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding. The climate change factors are now more complex and a single uplift percentage across England cannot be justified.

The Environment Agency will incorporate the new allowances into future modelling studies. For now it remains the applicant's responsibility to demonstrate through their proposal and flood risk assessments that new developments will be safe in flood risk terms for its lifetime.

Recorded Flood Outlines

Please find tabulated information below for records of historic flood events.

Flood Event Date	Source of Flooding	Cause of Flooding
March 1947	Main River	Channel capacity exceeded (no raised defences)
July 2007	Main River	Channel capacity exceeded (no raised defences)

The corresponding recorded flood outline/s can be accessed here: https://data.gov.uk/dataset/recorded-flood-outlines1

Please note; the records of flooding from between October 2019 and March 2020 and beyond are still being reviewed, the outcomes of which have not yet been published or reflected within this request for information.

The Recorded Flood Outlines take into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding. It includes flood extents that may have been affected by overtopping, breaches or blockages. Any flood extents shown do not necessarily indicate that properties were flooded internally. It is also possible that the pattern of flooding in this area has changed and that this area would now flood or not flood under different circumstances.



Please note that our records are not comprehensive and that the map is an indicative outline of areas which have previously flooded, not all properties within this area will have flooded. It is possible that other flooding may have occurred that we do not have records for.

You may also wish to contact your Local Authority or Internal Drainage Board (where relevant), to see if they have other relevant local flood information.

Defence Data

Flood defences do not completely remove the chance of flooding. They can be overtopped by water levels which exceed the capacity of the defences.

If flood defences are located in your area, you can access this data here: https://data.gov.uk/dataset/spatial-flood-defences-including-standardised-attributes

Supporting Information

River modelling: technical standards and assessment guidance

The link below contains standards for the flood risk management industry on how to build and review hydraulic models and provide evidence for flood risk management decisions.

https://www.gov.uk/government/publications/river-modelling-technical-standards-and-assessment

Surface Water

Managing the risk of flooding from surface water is the responsibility of Lead Local Flood Authorities. The 'risk of flooding from surface water' map has been produced by the Environment Agency on behalf of government, using Lead Local Flood Authority surface water information.

You may wish to contact your Local Authority who may be able to provide information on surface water.

It is not possible to say for certain what the flood risk is but we use the best information available to provide an indication so that people can make informed choices about living with or managing the risks. The information we supply does not provide an indicator of flood risk at an individual site level. Further information can be found on the Agency's website:

https://flood-warning-information.service.gov.uk/long-term-flood-risk/map

Additional Details

Further details about the Environment Agency information supplied can be found on the GOV.UK website:

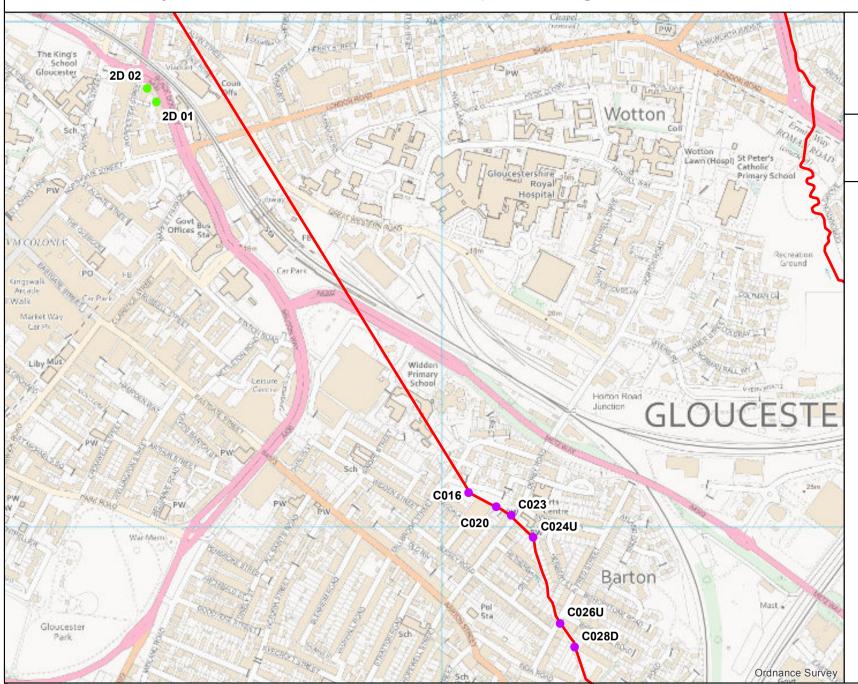
https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather

If you have requested this information to help inform a development proposal, then you should note the information on GOV.UK on the use of Environment Agency Information for Flood Risk Assessments:

https://www.gov.uk/planning-applications-assessing-flood-risk

https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion

River Twyver Model Node Location Map including GL1 3AF - created 16/05/2022 [260864]





Scale 1: 7500

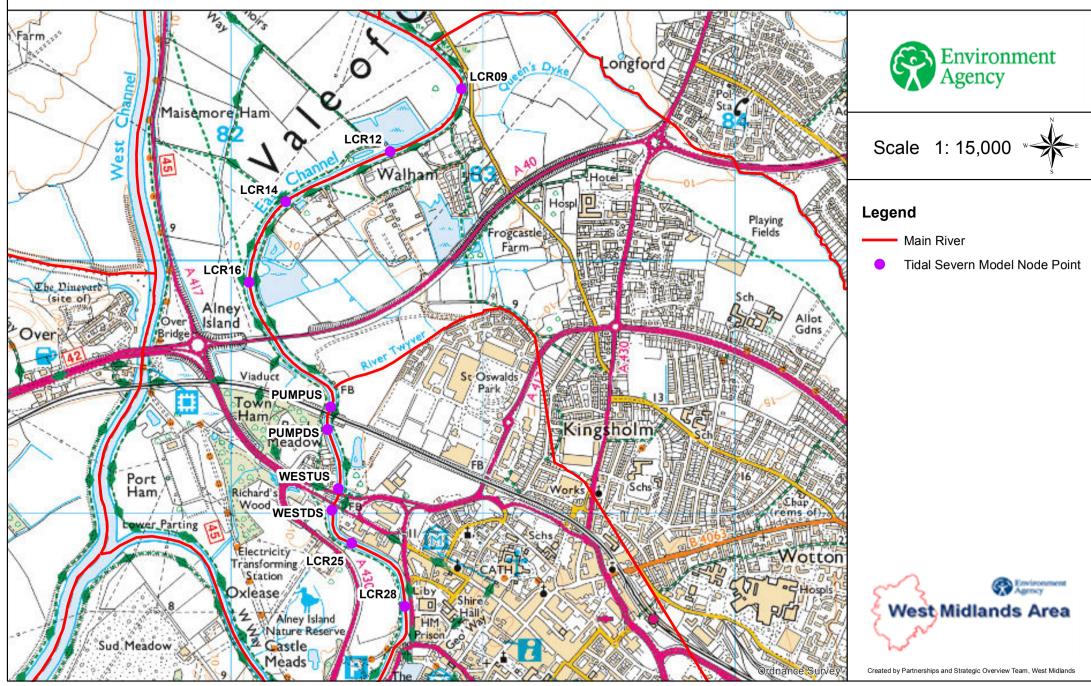


Legend

- Main River
- River Twyver Model Node Point
- 2D Twyver Model Node Point



Tidal Severn Model Node Location Map including GL1 3AF - created 16/05/2022 [260864]





Climate Change allowances for planning (SHWG area)

August 2021

The National Planning Practice Guidance refers to Environment Agency guidance on considering climate change in planning decisions which is available online: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances

This has been updated and replaces the March 2016 guidance.

It should be used to help planners, developers and advisors implement the National Planning Policy Framework (NPPF)'s policies and practice guidance on flood risk. It will help inform Flood Risk Assessments (FRA's) for planning applications, local plans, neighbourhood plans and other projects.

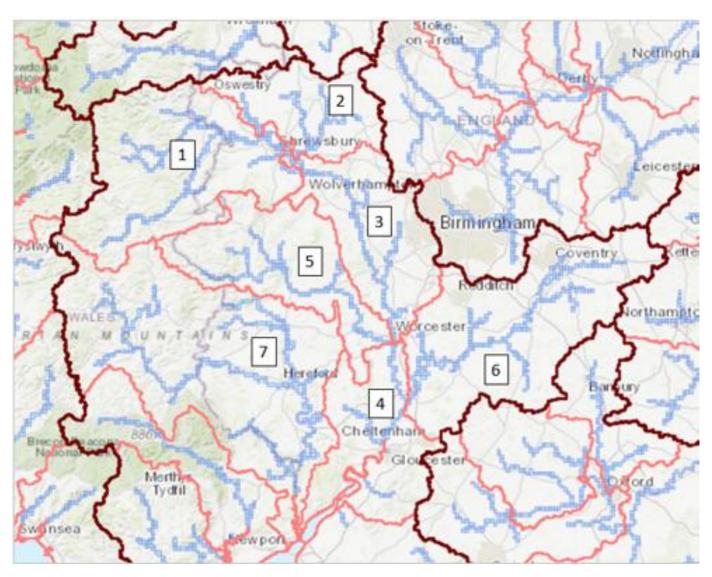
Fluvial flooding - peak river flows

NPPG advises that an allowance should be added to 'peak river flows' to account for 'climate change' which should be specific to a 'management catchment' and development type (vulnerability). To work out which management catchment allowances to use, you need to: access the climate change allowances for peak river flow map

In Shropshire, Herefordshire, Worcestershire and Gloucestershire area, we would refer you to the map extract on page 2 below. This outlines the 'peak river flows' within the specific 'Management catchments' for the Severn River Basin District, and specifies the range of percentage allowances to reflect individual development's vulnerability and lifetime. The following allowances should be used:

Development Vulnerability	Allowance (lifetime)
Essential Infrastructure	Higher Central - 2080's
Highly Vulnerable and More Vulnerable (residential)	Central - 2080's
Less Vulnerable and Water Compatible	Central - 2050's





1. Severn UplandsPeak River Flows	2020's	2050's	2080's	5. Teme Peak River Flows	2020's	2050's	2080's
Higher Central	17%	24%	43%	Higher Central	21%	33%	60%
Central	13%	18%	33%	Central	16%	24%	45%
2. Severn Middle Shrops Peak River Flows	2020's	2050's	2080's	6. Avon Peak River Flows	2020's	2050's	2080's
Higher Central	20%	25%	44%	Higher Central	12%	14%	32%
Central	15%	18%	33%	Central	7%	8%	21%
3. Severn Middle Worcs River Flows	2020's	2050's	2080's	7. Wye Peak River Flows	2020's	2050's	2080's
Higher Central	16%	21%	40%	Higher Central	19%	27%	49%
Central	12%	15%	30%	Central	14%	20%	37%
4. Severn Vale Peak River Flows	2020's	2050's	2080's				
Higher Central	20%	28%	53%				
Central	14%	19%	37%				

Extract: Management Catchments within the Severn River Basin District – refer to interactive <u>peak</u> river flow map for more detail. The Environment Agency also provide these allowances in the <u>peak river</u> flow climate change allowances by management catchment table – you have to know your management catchment to get the information you need. (Allowances reflect the latest projections in UKCP18 and subsequent research that models how the latest rainfall projections are likely to affect peak river flows).

Sea Level rise allowances

Table 3 of the guidance (extract below) indicates that net sea level risk is as follows (updated from the 2013 version).

Area of England	Allowance		2036 to 2065	2066 to 2095		Cumulative rise
		(mm)	(mm)	(mm)	(mm)	2000 to 2125
						(metres)
South West	Higher central	5.8 (203)	8.8 (264)	11.7 (351)	13.1 (393)	1.21
South West	Upper end	7 (245)	11.4 (342)	16 (480)	18.4 (552)	1.62

Note - For sites utilising the Severn tidal model the above allowances should be considered and applied. As of August 2020, specific updated flood level data is now available for the 2096 to 2125 epoch based upon the Environment Agency's Tidal Severn model within the West Midlands area and will be provided where relevant as part of our Request For Information service; contact Enquiries_Westmids@environment-agency.gov.uk

Flood Risk Assessment considerations:

The design flood (1% flood level fluvial, or 0.5% tidal, plus climate change allowance) should be used to inform the sequential test, including appropriate location of built development; consideration of flood risk impacts, mitigation/enhancement and ensure 'safe' development.

Vulnerability classification

- Development classed as 'Essential Infrastructure' (as defined within Table 2 Flood Risk Vulnerability Classification, Paragraph: 066 Reference ID: 7-066-20140306 of the NPPG) should be designed to the 'higher central' climate change allowance (2080).
- For highly vulnerable or more vulnerable development e.g. housing, the FRA should use the 'central' climate change allowance (2080), as a minimum, to inform built in resilience.
- For water compatible or less vulnerable development e.g. commercial, the FRA should use the 'central' climate change allowance (2050), as a minimum, to inform built in resilience.

Assessing off-site impacts and calculating floodplain storage compensation

The appropriate allowance to assess off-site impacts and calculate floodplain storage compensation depends on land uses in affected areas. Use the central 2080 allowance for most cases (including where more vulnerable or highly vulnerable is affected) but apply the higher central allowance when the affected area contains essential infrastructure.

Modelling approach

Major Development:

For 'major' development (as defined within The Town and Country Planning Development Management Procedure (England) Order 2015)*, see definition note below, we would expect a detailed FRA to provide an appropriate assessment (hydraulic model) of the 1% with relevant climate change ranges. There are two options:

Scenario 1 - Produce a model and incorporate relevant climate change allowances within your Management catchment area location.

Scenario 2 - Re-run an existing model and incorporate relevant climate change allowances as specified in the Management catchment area data.

Non Major Development:

For 'non major' development, we would advise that a model is produced or existing model is re-run, similar to the above approach (Scenario 1 and 2). This would give a greater degree of certainty on the design flood extent to inform a safe development.

However, for 'non major' development only, in the absence of modelled climate change information it may be reasonable to utilise an alternative approach. To assist applicants and Local Planning Authorities we have provided some 'nominal' climate change allowances within the 'Table of nominal allowances' below. These should be considered as appropriate within any FRA. There are three additional options:

Scenario 3 - Where previous modelled data (for a variety of return periods) is available, you could interpolate your own climate change figure (see note iv below).

Scenario 4 - Where the 1% level is available from an existing model add on the relevant 'nominal climate change allowance' provided in the 'Table of nominal allowances' below.

Scenario 5 - Establish the 1% level, for example using topographical levels (including LiDAR) and assessment of watercourse flow and nature and then add on the relevant 'nominal climate change allowances' provided in the 'Table of nominal allowances' below.

 *Note: For definitions of 'major' development see 'Interpretation 2.—(1)', on page 5, at: www.legislation.gov.uk/uksi/2015/595/pdfs/uksi_20150595_en.pdf

Table of Nominal Allowances

Watercourse	Central allowance (2050) Water compatible and Less Vulnerable.	Central allowance (2080)		
Upper Severn River Wye	600mm	850mm		
River Teme	-			
River Avon	200mm	400mm		
Lower Severn	400mm	600mm		
Tributaries and 'ordinary watercourses'	200mm	300mm		

Notes to above:-

(i) Watercourse definition:

The "Upper Severn"/"Lower Severn" boundary is taken as Bevere Weir, North of Worcester, (national grid reference SO8376859428). These do not directly relate to management catchments.

Use of the Avon nominal is only valid upstream of the M5 crossing and downstream of that point the Lower Severn nominals should be used.

An 'Ordinary Watercourse' is a watercourse that does not form part of a main river. Main Rivers are indicated on our Flood Map. You can also check the classification of the watercourse with the LLFA, some of which have produced Drainage and Flooding Interactive Maps.

- (ii) Where a site is near the confluence of two, or more, watercourses, the FRA should use the larger river climate change allowances.
- (iii) We may hold more precise information for some of the "tributaries". We would recommend that you seek this information from us via a 'pre-planning enquiry/data request', to the email address below.
- (iv) We would also recommend that you contact us for our modelled '20%' allowances and associated flow data. This is available for some rivers. This data may help inform a more detailed climate change analysis (where necessary), including any interpolation of levels or flow to create a 'stage discharge rating' in order to estimate the required percentage; or be of assistance to inform 'less vulnerable' or 'water compatible' development proposals.

IMPORTANT NOTE

Please note the nominal climate change allowances are provided as a pragmatic approach, for consideration, in the absence of a modelled flood level and the applicant undertaking a detailed model of the watercourse. Use of nominal climate change allowances are not provided/ recommended as a preference to detailed modelling and historical data.

The Local Planning Authority may hold data within their Strategic Flood Risk Assessment (SFRA), or any future updates, which may help inform the above.

FREEBOARD NOTE

It is advised that Finished Floor Levels should be set no lower than '600mm' above the 1% river flood level plus climate change. Flood proofing techniques might be considered where floor levels cannot be raised (where appropriate). This 600mm freeboard takes into account any uncertainties in modelling/flood levels and wave action (or storm surge effects).

Surface Water

Table 2 of the guidance also indicates the relevant increases that surface water FRA should consider for an increase in peak rainfall intensity.

The following table is for 'peak rainfall intensity' allowance in small and urban catchments. Please note that surface water (peak rainfall intensity) climate change allowances should be discussed with the Lead Local Flood Authority (LLFA).

Peak Rainfall Intensity -	Total potential	Total potential	Total potential
Applies across all of England	change anticipated	change anticipated	change anticipated
	for 2010-2039	for 2040-2069	for 2070-2115
Upper end	10%	20%	40%
Central	5%	10%	20%

Note to above:-

For river catchments around or over 5 square kilometres, the peak river flow allowances are appropriate.

Produced by: WestMidsPlanning@environment-agency.gov.uk

West Midlands Area -

Shropshire, Herefordshire, Worcestershire and Gloucestershire Sustainable Places Team.



APPENDIX B

2016 Flood Risk Assessment



31 Dyer Street Cirencester Gloucestershire GL7 2PP



Black Dog Way Gloucester

Flood Risk Assessment & Drainage Strategy

Revision B 27 May 2016



Redevelopment at Black Dog Way, Gloucester Flood Risk Assessment

1. Background

A development of predominantly residential properties with a small amount of commercial floor space at ground floor level is proposed at the junction of Black Dog Way and Worcester Street on the former Kwik Save site. The proposed development is designed to provide 94 accommodation units within a multi-storey building. The development includes associated access routes, parking areas, gardens and hard landscaping - see Figure 1.

On the assumption that there is a degree of local flood risk due to the proximity of the identified flood zones on the Environment Agency (EA) & GCC Strategic Flood Risk Assessment (SFRA) mapping, a Flood Risk Assessment has been requested by Gloucester City Council (GCC) in order to meet the Requirements of the National Planning Policy Framework (NPPF).

Limitations on the accessibility of the site due to asbestos and very shallow archaeology has restricted the amount of background information on, for example, soil porosity values and presence of sensitive archaeological features. The drainage strategy and the drainage scheme layout should therefore be considered preliminary and subject to further investigations once the asbestos has been cleared, buildings demolished and further assessment has taken place.

2. Development Vulnerability & Flood Zone Classification

The vulnerability classification of the development according to the latest Planning Practice Guidance on the Gov.uk website would be 'More Vulnerable' comprising: 'Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels'. Table 3 extracted from the NPPF guidance is shown below and confirms that 'More Vulnerable' development would be acceptable in Zones 1& 2, requires an exception test if in Flood Zone 3a and would be unsuitable for Flood Zone 3b

Table 2 extracted from NPPF guidance on gov.uk website

Flood Zones	Flood Risk Vulnerability Classification									
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible					
Zone 1	1	1	1	1	1					
Zone 2	/	Exception Test required	1	1	1					
Zone 3a †	Exception Test required †	x	Exception Test required	1	1					
Zone 3b *	Exception Test required *	x	x	×	/*					
	opment is approp									

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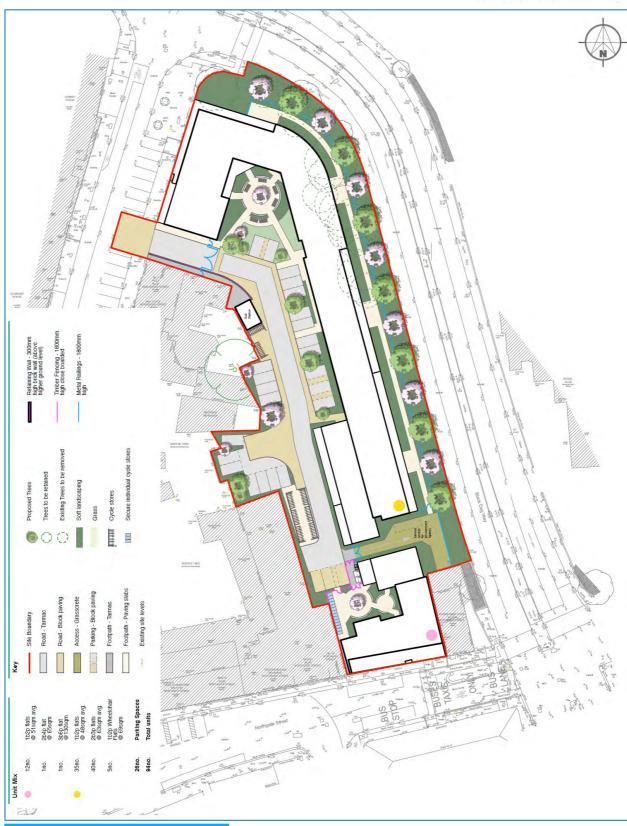


Figure 1 Proposed Site Layout

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Flood zones are indicated on EA national flood mapping and in local authority Strategic Flood Risk Assessments. Table 2 extracted from the latest Government planning guidance is shown below and defines the various flood zones shown on the EA maps. It will be noted that the guidance recommends that site specific flood risk assessments should review the local strategic flood risk assessment as the EA versions published on the web do not include for the potential effects of climate change.

These Flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences. They are shown on the Environment Agency's Flood Map for Planning (Rivers and Sea), available on the Environment Agency's web site, as indicated in the table below.

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3)
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

Note: The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the Strategic Flood Risk Assessment when considering location and potential future flood risks to developments and land uses.

Table 3 extracted from NPPF guidance on gov.uk website

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3. Sequential Test Requirements

The following text is extracted from the Gov.uk DEFRA web pages and explains the requirements for sequential testing:

Developments that need a sequential test

You need to do a sequential test if both of the following apply:

•your development is in flood zone 2 or 3 - find out what flood zone you're in

•a sequential test hasn't already been done for a development of the type you plan to carry out on your proposed site - check with your local planning authority

Developments that don't need a sequential test

You don't need to do a sequential test if one has already been carried out for a development of the type you're planning (eg a residential development) for your site.

In this case, you need to ask your local planning authority for the site allocation reference in their local plan and include it in your planning application. If the local plan hasn't been adopted, check the draft local plan.

You also don't need to do a sequential test if either of the following apply:

- •your development is a minor development
- •your development involves a change of use (e.g. from commercial to residential) unless your development is a caravan, camping chalet, mobile home or park home site

You also don't need to do a sequential test for a development in flood zone 1 unless there are flooding issues in the area of your development. You can check this in your local planning authority's strategic flood risk assessment.

Section 4 below illustrates that part of the site encroaches into Flood Zone 2 as indicated on the Gloucestershire County Council SFRA flood mapping therefore a sequential test is required.

A sequential test has been carried out by Quattro Design Architects and this is included in Appendix 1. The conclusion is that from the land available in Gloucester City Centre the Black Dog Way site is the only viable location for accommodating 94 residential units. This is supported by the fact that three previous residential development applications have been successful on this site.

4. Fluvial Flood Risk

The Gloucestershire SFRA mapping (Figure 2) suggests part of the site is in Flood Zone 2, indicating an annual flood probability of between 1% and 0.1% (1:100 and 1:1000 year return period). The remainder of the site is in Flood Zone 1. Fluvial flooding at this location would be generated by the River Twyver, which runs in a culvert along the north eastern boundary of the proposed development. The Zone 2 flood outline is not coincident with the line of the culvert but follows slightly lower ground levels to the west of the culvert alignment. The shape of the flood zone is indicative that the amount of built development in this area of Gloucester has a significant

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effect on the routing and depth of the flooding, which makes the modelling less reliable than would be the case in a rural watercourse setting.

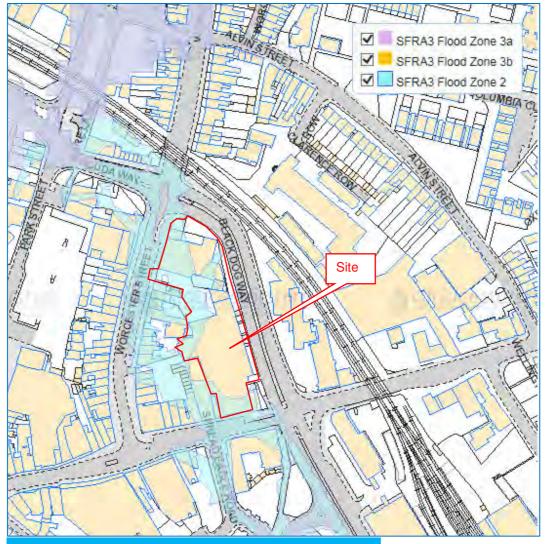


Figure 2 - Gloucestershire SFRA Flood Map Extract.

Using the Zone 2 flood extent as it crosses the western end of Black Dog Way and comparing this with topographic levels surveyed for the development, the Zone 2 flood level at this point is estimated to be 12.8m AOD. Existing surface levels upstream of this point along the line of the flood zone are considerably higher. For instance where the flood extent emerges onto Worcester Street at the southern extent of the flood zone the ground level is 14.00m AOD. This suggests that the flooding is shallow and flowing northwards rather than standing at a constant depth. Our assessment is that the modelling that produced the flood outlines has been based on 'bare earth' conditions and has largely ignored the effect of the various buildings and walls interrupting the flow, therefore flood levels are likely to be approximate only. Interpolating between the upper and lower bounds of the flood zone we consider that a reasonable assessment of the Zone 2 flood level at the entrance to the site would be 13.3m AOD.

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In addition to the above we have reviewed the Gloucester City Surface Water Management Plan (SWMP) – See Figure 3, which demonstrates there is no flooding on the site for a 100 yr. return period event.

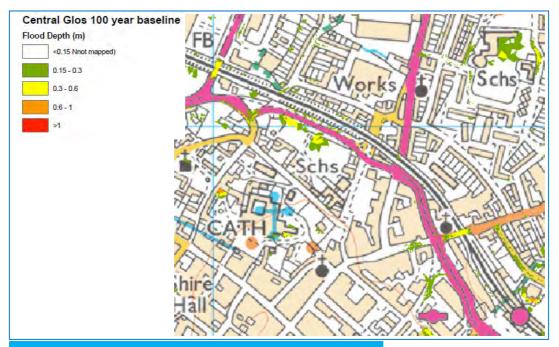


Figure 3 - Gloucestershire SFRA Flood Map Extract.

The EA 's current standing advice on development is to ensure that floor levels are maintained at least 600mm above the 100 year flood level to provide adequate protection against climate change. Due to the need to avoid impacts on Roman archaeology beneath the site there will be no reduced level excavation prior to construction and the ground floor levels of the building will be set on a layer of fill material. The structural form of the buildings will be suspended floor slabs on piled foundations resulting in a minimum ground floor level of 14.1m AOD. The access road level at the junction with Worcester Street would be 13.31m AOD, which is coincident with our assessment of the Zone 2 flood level and therefore well above the 100 year flood level. External pavings and landscaping will vary in level from 13.9m AOD in the north to 14.6m AOD in the south, both of which are well above the Zone 2 flood level.

Bearing in mind the approximate 800mm freeboard available between the Zone 2 flood level and the proposed building floor levels and the availability of access during all but the rarest flood events, we consider that the fluvial flood risk to the development is **low** and therefore meets the requirements of the NPPF.

5. Other Sources of Flooding

Local drainage exceedance flows and flooding from land – Figure 4 is extracted from the Environment Agency web site and shows the extent of theoretical flooding based on 'bare earth' surface water modelling carried out using Lidar based topographical data. We have also interrogated the EA maps to check surface water flooding depths and velocities. There are small areas of 'low' risk flooding shown along Black Dog Way itself suggesting that there could be

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standing surface water up to 300mm in depth but with low flow velocity (less than 0.25m/s). From interrogation of the depth/velocity data, any low risk surface flow adjacent to the site is contained entirely within the road corridor and therefore does not impact the site directly.

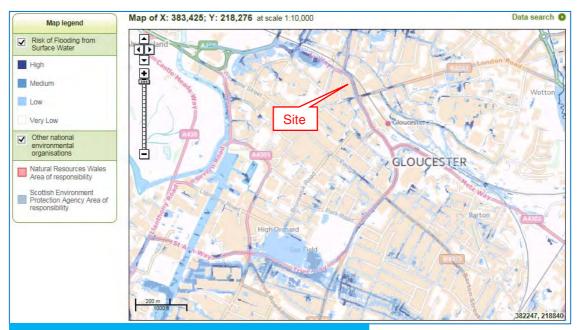


Figure 4 - Surface Water Flood Map Extract.

The local combined sewers are of reasonably small diameter and therefore not likely to generate significant depths of overland flow when surcharged. There are large diameter, deep sewers in the vicinity installed as part of Severn Trent Water's recent flood relief scheme, however these are known to have capacity for 40yr return period storm flows so their impact is considered to be overridden by the SFRA and SWMP flood zone mapping.

The raised ground floor levels within the proposed development would protect against any shallow flooding generated by drainage surcharges. No topographic features are identified that would concentrate overland flows directly into the site. With these provisions in place, flood risk from this source is considered to be **low**.

Groundwater – Geotechnical surveys carried out on the site show it to consist of various depths of clay and gravel 'made ground' intermingled with former building remains. Highest standing groundwater level was recorded at about 2.6m below ground. Given the reasonably impermeable soil conditions, the low water table level and the raised ground floor level of the proposed buildings, the risk of groundwater emerging or flowing in any quantity at surface level sufficient to cause damage or to raise safety concerns is considered to be **very low**.

Artificial Sources – there are no known artificial water bodies, reservoirs or other water sources local to the site that could be considered a flood risk. The EA's reservoir beach flood mapping does not show any flood risk close to the site. Flood risk from this source is considered to be **very low.**

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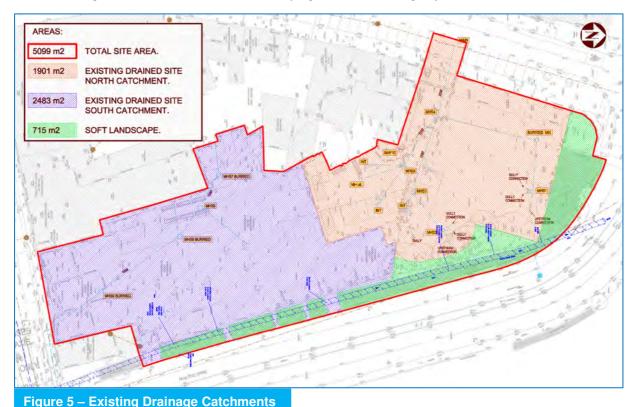


6. Site Run-off & Drainage Strategy

Methods of dealing with stormwater discharge from the site will be determined through agreement with GCC, Gloucestershire Lead Local Flood Authority and the Environment Agency through the planning process (the River Twyver is defined as Main River where it passes through the site). In addition, Severn Trent Water will need to approve any discharges to their combined sewers through a Section 106 (of the Water Act) sewer connection application.

All of the above bodies will be seeking confirmation that a hierarchical approach has been taken to the selection of Sustainable Drainage systems and/or discharge proposals in order to meet part H of the Building Regulations and overarching government targets for SuDS issued by DEFRA in March 2015. In April 2015 Glos. County Council published their initial 'Gloucestershire SuDS Design & Maintenance Guide', which adds further weight to the need for a considered SuDS approach.

The design hierarchy these regulations and guidance notes all promote is essentially to minimise the introduction of impermeable areas, use infiltration and recycling to reduce run-off where practicable, to discharge to a watercourse where infiltration is non-viable and only as a last resort discharge to a surface water or combined sewer. The existing site drainage was investigated as illustrated in Figure 5. The purple hatched area currently drains into the River Twyver Culvert on the east side of the site. The orange hatched area drains to the combined sewer in Worcester Street. The green hatched area is soft landscaping without a drainage system.



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GCC standing advice for flow rates and volumes from existing developed sites is shown below:

Peak flow control

For developments which were previously developed, the peak runoff rate from the development to any drain, sewer or surface water body up to the 1 in 100 year rainfall event + 30% for climate change should reduce the surface water discharge by 40% of that existing or be as close as is reasonably practicable to the greenfield runoff rate from the development for the same rainfall event, but in any event should never exceed the rate of discharge from the development prior to redevelopment for that event.

Volume control

Where reasonably practicable, for developments which have been previously developed, the runoff volume from the development to any highway drain, sewer or surface water body in the 1 in 100 year, 6 hour rainfall event + 30% for climate change should reduce the surface water discharge by 40% of that existing or must be constrained to a value as close as is reasonably practicable to the greenfield runoff volume for the same event, but should never exceed the runoff volume from the development site prior to redevelopment for that event.

The current STW standing advice obtained for a recent project in Gloucester is shown below:

Brown field development site:

If storm runoff from the existing development is connected to the public sewerage system, then peak storm flows from the proposed development up to that generated from the previous connected impermeable area may be connected to the network subject to the details of the existing storm connection arrangements being submitted to Severn Trent Water.

Existing flows should be assessed as the lower of Q=2.78x50xAimp I/s (Aimp in ha), based on a 2 year storm return period, and the unsurcharged capacity of the outfall pipets).

In addition to this restriction, for Brownfield developments, the Company would also request a reduction in surface water flow to the public sewerage systems of 30% in line with current Environment Agency practice. For existing storm connections to the public foul sewerage system, any new storm connection to the public storm sewerage system (if available) should be limited to 2 to 5 litres/second/hectare depending on scale of development, to be agreed (option A) OR a peak flow to be determined by the Company from its developer funded hydraulic modelling of the public storm sewerage system (option B). The developer may choose either option.

There are some differences between the two policies, which will hopefully be reconciled once the emerging Flood & Water Management Act becomes fully implemented. In the meantime we have interpreted the design parameters as follows:

The site is brownfield. Historically the site was occupied by numerous commercial enterprises with large areas of roofing and hardstandings (4384m2) amounting to approximately 86% of the site area.

The proposed site design (with porous paving) reduces the impermeable site area to 2308m2 (45.2%) as Figure 6. Conventional soakaways are not viable given the contamination of the soil, as any concentrated soakaway infiltration would be likely to mobilise contaminants. The introduction of permeable surfacing in addition to the soft landscaping may be possible. This would allow rainfall over these areas to infiltrate naturally into the ground without concentration, however the incorporation of porous paving is subject to more soils testing as discussed below. If infiltration is viable and permeable paving can be introduced, this would reduce the overall

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volume of run-off discharging to the River Twyver and/or the STW combined sewer by 47%, i.e. greater than 40% in compliance with the GCC policy.



Figure 6 - Proposed Drainage Catchments

The provision of permeable paving is pending further testing and may be ruled out on the grounds of archaeology, contamination, or simply lack of sufficient infiltration rate.

Therefore a design has been undertaken on the worst case of no infiltration and using attenuation storage with restricted discharge rate. The calculations for the attenuation and flow rates and attenuation are provided in appendix 2.

Due to the shallow archaeology and contamination, the attenuation needs to be at a shallow depth to minimise excavation depth. It has therefore been proposed to utilise the paved area sub-base for attenuation storage. Calculations have shown that a gravel storage media would not have insufficient volume so a cellular storage has been proposed in the form of Permavoid or equal sub-base replacement system with 95% void ratio. A depth of storage of 500mm has been used in the scheme calculations with a plan area of 86.4m2. This has been calculated to attenuate the 100 year + 30% climate change storm event. A summary of the storm discharge rates is given in table 4 below.

It should be noted that this storage volume is based on scheme calculations and when a full simulation model of the proposed network is undertaken at detailed design stage the storage volume suggested will likely decrease a little.

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	Peak run-off. 1yr. l/s	Peak run-off. 30yr.	Peak run-off. 100yr. I/s
Existing Site Run-off	23.94	69.83	102.04
Max Allowable Design Runoff. (40% reduction)	14.36	41.90	61.22
Runoff from Proposed Northern Area	5.73	16.72	24.43
Runoff from Attenuated Central/Southern Area incl 30% CC allowance	8.60	22.70	28.40
Total Proposed Site run-Off.	14.33	39.42	52.83
Percentage Reduction Achieved.	40.10%	43.50%	48.20%

Table 4 - Discharge Rates

With a view to achieving significantly better than a 40% reduction, further measures from the SUDS hierarchy including green roofs and recycling and attenuation have been considered. An overarching issue is that the site is only marginally commercially viable due to the asbestos issues, soil contamination and archaeological constraints that are having to be overcome. Thus any sustainable drainage elements that have a significant cost implication may push the project beyond the economic viability tipping point.

In addition to the considerable capital cost, roofwater recycling has a number of shortcomings for a multi storey, multi occupancy development. There is very little irrigation demand and for domestic usage there are issues with:

- Responsibility and charging structure of metered water supply for top up.
- Responsibility and charging structure of metered electrical supplies.
- Unsuitability for clothes washing due to staining of clothes.
- Considerable costs and resources associated with maintenance of the storage itself together with separate power, separate drainage and separate water supply systems.

The Applicant's design team has experience of recently installed recycling systems quickly becoming redundant and compared to centrally processed water from the Water Utility the sustainability credentials are at best questionable.

Green roofs have been considered but through discussions with the architectural team it is clear that the building has been viewed by GCC conservation officers as very sensitive in terms of aesthetics concerns and architectural treatment of the roof profiles and the façade. Thus the introduction of raised parapets or safety restraint systems would conflict with these requirements. Increased structural loadings of a green roof system could be accommodated in the design but would have a not insignificant cost implication to add to the cost of the roof system itself. Viewing

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these issues in addition to the health and safety and access requirements for roof maintenance at 4-5 storey level has led to the decision to utilise a conventional roof system.

The proposed drainage system is shown in Figure 7. Salient points of the drainage system are as follows:

- Foul drainage will connect to the existing sewer in Worcester Street
- The majority of roof drainage will be discharged to the River Twyver culvert
- Storm drainage design will be for a 2yr storm and will be modelled to ensure there is no surface flooding during storms up to a 100 year return period storm with 30% climate change allowance
- A small area of the access road and an area of roof near the Worcester Street entrance will continue to discharge to the combined sewer – this enables the remaining drainage on the site to be laid at shallow depth therefore avoiding disturbance of archaeology
- The porous paved area and central/southern area of the site will be attenuated in cellular storage. It will be designed such that 100yr storms including 30% climate change allowance can be accommodated in the attenuation
- Infiltration for porous paving into the subgrade below will be considered pending confirmation of soil permeability once buildings have been demolished and any contamination & archaeological issues dealt with.
- Exceedance flow routes are indicated on the drainage layout. These would only occur in storms of greater than 100 year return period.

Should planning permission be obtained, a drainage contractor will be appointed and a final submission made to Severn Trent Water for a Section 106 drainage connection to the Public Sewer in Worcester Street. This connection will utilise the existing 225 diameter branch. At the time of application any requirements for non-return valves and foul air traps can be reviewed/discussed and approved with STW. Concurrently, consent would be sought from the EA for the stormwater connections into the River Twyver culvert.

7. Post Development Residual Flood Risk Summary

- Fluvial Flood Risk Low
- Risk of local drainage exceedance flows and flooding from land Low
- Risk of groundwater flooding Very Low
- Risk of flooding from artificial sources Very Low
- Increase in downstream flood risk due to site run-off Flood Risk reduced as far as reasonably practicable in accordance with current guidance.

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8. Management of Residual Flood Risk

The Applicant will be responsible for maintaining the drainage elements of the proposed scheme to ensure they are functioning correctly for the lifetime of the development. This will entail:

- Occasional renewal and repair of porous paved areas that may have become waterlogged or contaminated with organic material.
- Reasonably frequent inspection and clearance of gullies, channels and piped drainage systems using CCTV where appropriate to check for damage or blockages.
- Regular checking and any necessary clearance of gutters to minimise carry-over of roof detritus into the below ground drainage system.

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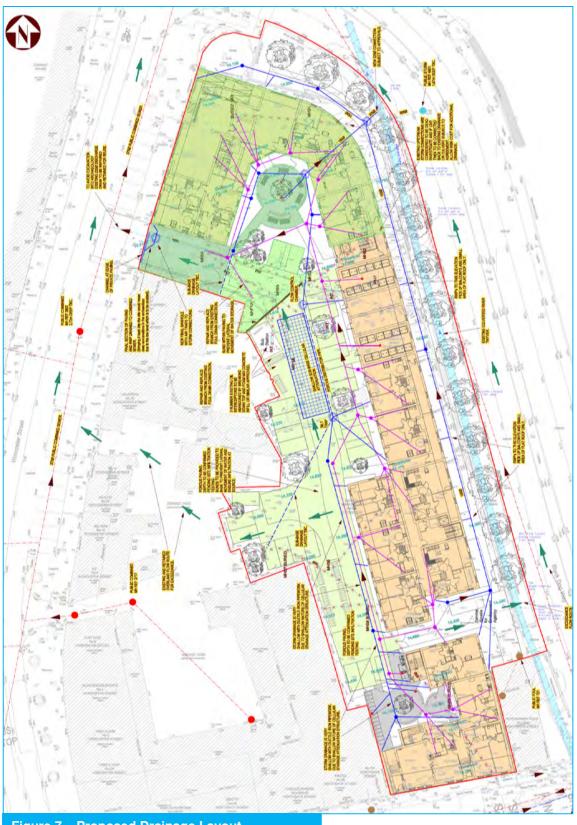


Figure 7 – Proposed Drainage Layout

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APPENDIX 1
Quattro Architects
Sequential Test

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Sequential Test

We have used the SALA to identify potential development sites. We are unaware of any further sites on the market within the area (not identified within the SALA) that could fulfil 94no, residential units.

We have assumed that the potential of bringing a number of different site together to provide the 94no. units is not a viable comparison due to the lack of financial viability and the inability to ensure Homes & Communities Agency funding deadlines for delivery.

Having undertaken an assessment of the SALA, we have split the sites into different categories; sites in flood zones 3b, 3a and 2, sites too small to accommodate 94 units, sites far too big for 94 units (potential for 500 units or more), and sites that are in Flood Zone 1 and can achieve 94 units. An analysis of the sites within Flood Zone 1 which can achieve 94 units is given below.

There are 14 sites that meet the above requirements. To assess them against our site, we will take the following into consideration:

- Location. Our proposal provides housing for over 55's and vulnerable young persons, who will have access by foot to the city centre, all bus routes and the train station.
- Availability of land. Our site has been derelict for over 10 years and the land owner is actively involved in developing the site, making the site available for development.

Sequential Test - Location.

Location is the key item in understanding whether the remaining sites offer a suitable alternative. The following sites are all outside of the city centre and therefore cannot offer the same service for over 55's and young persons:

SUB13, SUB21, SUB30, SUB33, SUB36, SUB40, SUB43, SUB50 and P-G-002.

Sequential Test - Availability of Land.

The following sites are already being pursued and are therefore not available for our development: HA05, HA16, SUB03

Complications over availability of land due to ownership and potential for different types of development: HA20, SUB45

Summary.

The above indicates that the site at Black Dog Way is the most suitable site available for the proposed development.

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APPENDIX 2 Storm Water Run-off Calculations.

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Infrastructure Design Studio Design Studio

Black Dog Way

Storm Drainage run-off Calcs.

The Following are calculations to assess the existing and proposed storm discharge from the site.

The site OS is 383430, 218820

Site overall site area for development is 5099m2 4384m2 is impervious drained surface

715m2 is soft landscape.

Site overall site area for development is 5099m2 Post development Areas:

3397m2 is drained surface 1702m2 is soft landscape

2347m2 is discharged via attenuation and flow control Site overall site area for development is 5099m2 Post development attenuation design areas 1050m2 is direct discharge.

1702m2 is soft landscape.

To establish the existing and proposed discharge rates and volumes from the site the Wallingford Procedure has been undertaken which will give like for like comparison.

Wallingford Method: Calculation of Pre development run-off rates

Qp=CiA (formula 7.18 Wallingford Procedure Vol. 1) The Rational Formula:

Where Qp = discharge rate
C = Coefficient where C = Cv x Cr (Cv=volumetric run-off coefficient & Cr=routing coefficient) (formula 7.19)
I = rainfall intensity mm/hr
I = mean rainfall intensity mm/hr
A = Area (fra).

For Qp in litres per second the formula becomes Qp=CiA+0.36

Determination of C:

From Wallingford Procedure Vol.1 Cv = 0.9 for full urbanised catchment and Cr = 1.3. \therefore C= 1.17

The storm duration will be taken as 30 minutes as standard practice

1 year 30 min. rainfall depth = 8.4mm mean rainfall for design = 16.8mm/hr 1 year 360 min. rainfall depth = 19.8mm 30 year 30 min. rainfall depth = 24.5mm mean rainfall for design = 49.0mm/hr 30 year 300 min. rainfall depth = 45.8mm mean rainfall for design = 71.6mm/hr 100 year 300 min. rainfall depth = 85.8mm Determination of i from FEH CD ROM

The following table shows the existing run off rates based on Wallingford Procedure Total site area is 5099m2,

Drained area is 4384m2,

0 0	%imp.	area m2	Discharge	Discharge discharge	100yr 30min. discharge l/s
	86	4385	23.94	69.83	102.04

The minimum aim for the proposed design is to achieve a 40% reduction over the existing flow Therefore the peak allowable discharge rates are as the table below: rates.

	Peak run-off. 1yr. I/s	Peak run-off. Peak run-off. Peak run-off. 19r. l/s 30yr. 100yr. l/s	Peak run-of 100yr. I/s
Existing Runoff	23.94	69.83	102.04
Minimum Reduction Required.	40.00%	40.00%	40.00%
Max Allowable Design Runoff.	14.36	41.90	61.22

The following table shows the <u>proposed</u> run off rates based on Wallingford Procedure without any attenuation.
Total site area is 5099m2,
Drained area is 5397m2,
% drained = 66.6%

As can be seen, whilst these rates are a reduction on the existing run-off due to the increase in soft area, they are all above the maximum allowed rate

100yr 30min. discharge I/s	79.02
Discharge discharge	54.08
1 yr 30min. Discharge I/s	18.54
Imp. area m2	3396
Area % imp. m2 area	9.99
Area m2	5099
Plot	<

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Black Dog Way

Storm Drainage run-off Calcs.

To reduce the run-off rate, attenuation needs to be introduced. The area to the North of the site is too low in elevation to achieve attenuation. Therefore the northern area must drain direct (unattenuated). And all attenuation will be provided for the central/southern area. The following table shows the proposed run off rates based on Wallingford Procedure for the northern area of direct

volume.

drainage. Total site area is 1050m2, Drained area is 1050m2,

Area m2	Area %imp. m2 area	area m2	1 yr 30min. Discharge I/s	1 yr 30min. 30 yr 30min. Discharge discharge I/s	100yr 30min. discharge Vs
1050	100	1050	5.73	16.72	24.43

The table below shows the maximum allowable design discharge rates for the central/southern area which is to be attenuated

	Peak run-off. 1yr. I/s	Peak run-off. Peak run-off. Peak run-off. 19r. I/s 30yr. 190yr. I/s	Peak run-off 100yr. I/s
Max Allowable Design Runoff.	14.36	41.90	61.22
Runoff from Proposed Northern Area	5.73	16.72	24.43
Max Allowable Design Runoff for Central/Southern Area.	8.63	25.18	36.79

Therefore the Central/Southern areas must be designed with attenuation to reduce the flow rates to These events will be run with an 8.6 l/s, 25.1 l/s & 36.7 l/s for the 1, 30 & 100 year storm events. increase to allow for a 30% climate change allowance

potential contamination. Therefore it is proposed to utilize a porous aggregate beneath a porous The attenuation must be provided in a shallow blanket To avoid the archaeological horizon and paving construction as shown on the scheme plan.

simulated and this will have allowance for storage in pipes and porous pavings, it will also allow for catchment requiring attenuation is 2347m2. In detailed design a full network will be developed and losses in the porous construction and the extended time/area calculations this produces. However Given 1050m2 of drained area discharges directly, the remaining central/southern area of drained

volume to confirm viability and in reality the detailed design calculations will reduce this attenuation This calculation is provided below, and we highlight that this is a worst case storage for scheme design to ensure the design viability we will undertake a simple worst case storage calculation.

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A complex control has been provided to provide a vortex flow controller at low level to limit flow to the 1 year storm and above this storage level an orifice is provided to pass the additional flow for the 30 & 100 yea4r events. The overall site flow rates are summarized in the table below.

	Peak run-off. 1yr. I/s	Peak run-off. 30yr.	Peak run-off. 100yr. I/s
Existing Site Run-off	23.94	69.83	102.04
Max Allowable Design Runoff.	14.36	41.90	61.22
Runoff from Proposed Northern Area	5.73	16.72	24.43
Runoff from Attenuated Central/Southern Area incl 30% CC allowance	8.60	22.70	28.40
Total Proposed Site run-Off.	14.33	39.42	52.83
Percentage Reduction Achieved.	40.10%	43.50%	48.20%

The following calculations show the central and southern catchment attenuation based on Windes storage calculations

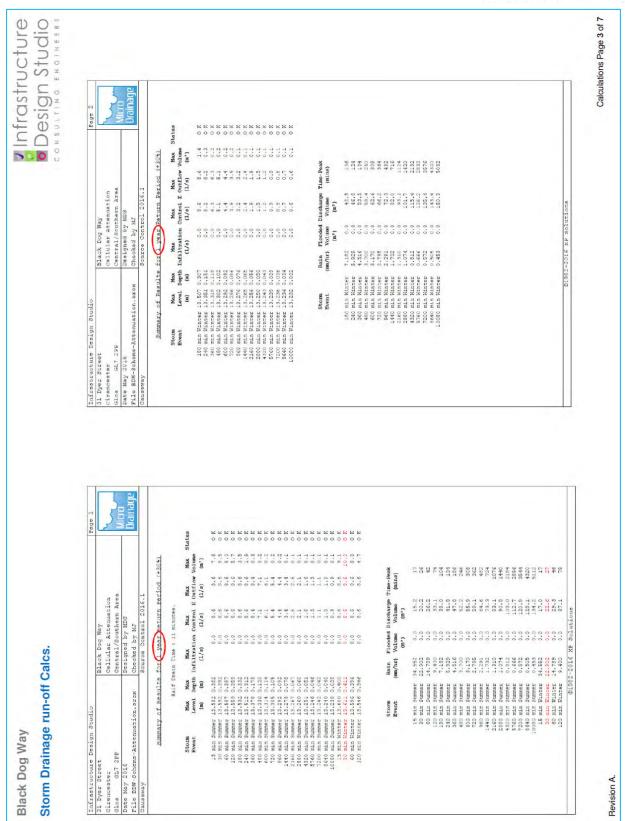
Fotal drained site area is 2347m2, Parameters for scheme design.

Hydrobrake for 1 year design at = 13.200 Orifice for storms in excess of 1 year at = 13.61 Lowest Ground level = 14,100 Ground Level at Storage = 14,500 Base of Granular Storage = 13,500 Top of storage = 14,000 Control Hydrochake for 1 year

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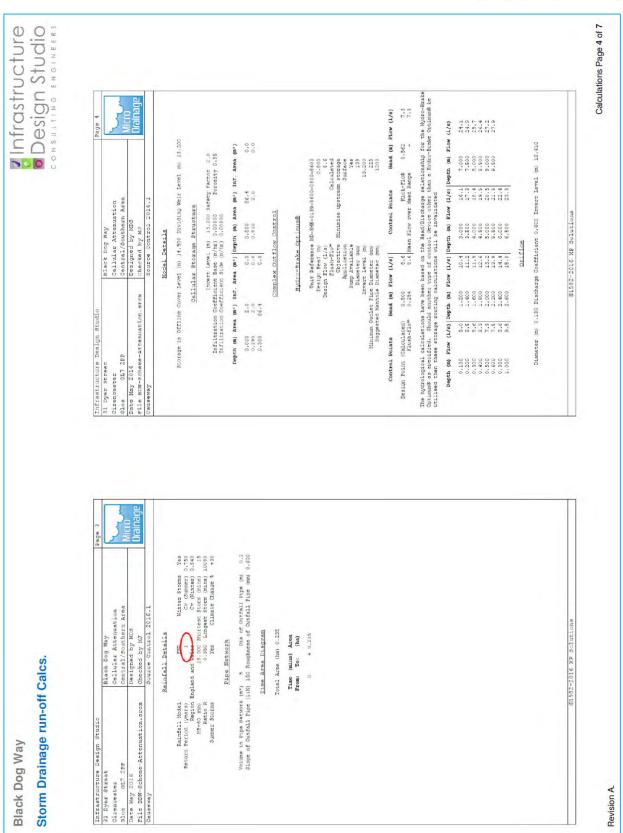
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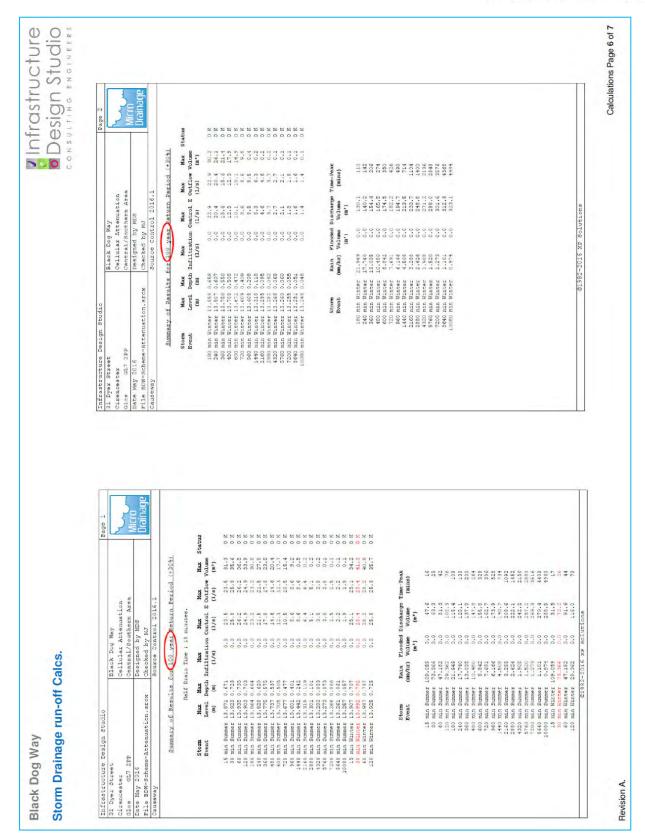
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Volume

Rainfall i

Total

Area

PR

Climate

duration

Return

154.65 48.92

19.80 46.40 62.60 81.38

19.80 46.40 62.60 62.60

5099 5099 5099

48.45 48.45 48.45

0 0 8

360

100

69.18 69.18 69.18

360



Calculations Page 7 of 7

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Pre development PR = $(0.829 \times 86) + (25.0 \times 0.55) + (0.078 \times 62) - 20.7 = 69.18 \%$ & Post development PR = $(0.829 \times 61) + (25.0 \times 0.55) + (0.078 \times 62) - 20.7 = 48.45\%$

Black Dog Way

Storm Drainage run-off Calcs.

Discharge Volume Calculations.

Given that infiltration is likely not to be available due to archaeological and contamination issues, it is not possible to reduce the discharge volume using source control infiltration methods. However paving is being introduced (which has significant losses). There will be a considerable reduction in given the overall site impermeable areas are reducing (increased soft landscape) and porous discharge volume off site.

Discharge volumes are assessed below using Wallingford Procedure.

Existing areas: Site overall site area for development is 5099m2 4384m2 is impervious drained surface 715m2 is soft landscape.

86% impervious

reduced between 50% and 90%. CIRIA guidance advises only 11% to 45% of rainfall flows out from For the proposed site, a large are of surfacing is installed as porous construction which has losses This offers significant benefits in terms of overall discharge rates/ volumes and also provides water permeable pavements during a rainfall event with the remainder discharging over the 2 to 4 days after an event. For the volumes it will therefore be considered that 75% of the volume discharges with the remaining 25% lost. pavements for rainfall events up to 5mm with overall flow out of permeable pavements generally quality improvement. Trials have proven that typically runoff does not occur from permeable

Post development Areas: Site overall site area for development is **5099m2** 2308m2 is impervious drained surface.

1089 m2 is porous paving, at a 75% runoff rate this equates to 817m2 normal catchment. Therefore total imperious contributing area is 3125m2

1702m2 is soft landscape.

61% impervious.

From Wallingford Procedure: PR=0.829PIMP + 25.0 SOIL + 0.078 UCWI - 20.7 (formula 7.3)

PR = percentage run-off
PR = percentage of catchment area covered by impervious surfacing (in this case 86% pre development and 61% post development).

SOIL = soil type from FSR (0.55 in this case)
LOM1 = tuban catchment wetness index (62 from figure 9.7 for SAAR = 638 in this case)
NB if formula 7.3 indicates PR = less than 40% of PIMP. PR must be made equal to 40% of PIMP.

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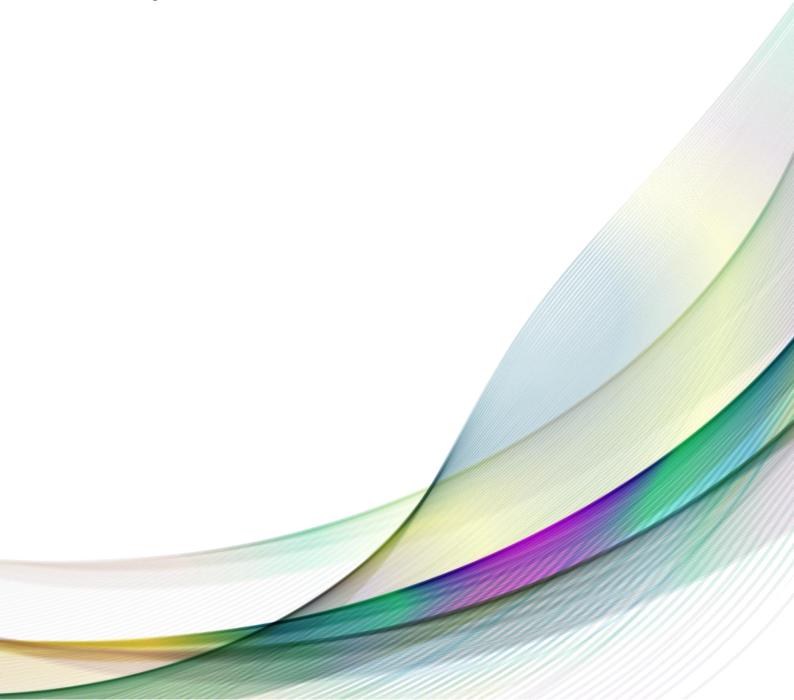
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BLACK DOG WAY

Environmental Noise Assessment

Quattro Design





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1.0 INTRODUCTION

MACH Acoustics has been appointed by Quattro Design to carry out an environmental noise assessment for the proposed conversion of two existing commercial units on the ground floor into two new flats at Black Dog Way, Gloucester. The purpose of the assessment is to determine appropriate noise control measures to protect the future occupants against noise ingress from the local environment.

In line with standard planning guidance, MACH has stipulated the acoustic performance criteria applicable to this development. Internal noise levels are to comply with the criteria of BS8233: 2014 for sources of transportation noise – i.e., road traffic.

1.1 Internal Ambient Noise Levels - BS 8233: 2014

Based on the results of the environmental noise survey, MACH has established facade noise levels affecting the proposed development. The façade noise levels are summarised in Section 5.0. Based on the façade noise levels, MACH has undertaken a noise break-in assessment of the proposed dwellings. Specifications for building envelope constructions have been provided, such that the internal noise criteria of BS 8233: 2014 are achieved within dwellings. These specifications are provided in Section 6.0. The internal noise criteria of BS 8233 will be applicable when windows are closed and means of background ventilation is enabled.



2.0 LEGISLATION FOR NOISE

2.1 National Planning Policy Framework (NPPF)

In March 2014 the Government published the National Planning Policy Framework (NPPF) for noise which sets out the Government's planning policies for England and how these are expected to be applied.

The NPPF provides a framework within which local people and their council can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.

With regards to noise, the Framework states that 'Plan-making and decision making need to take account of the acoustic environment and in doing so consider:

- whether or not a significant adverse effect is occurring or likely to occur;
- whether or not an adverse effect is occurring or likely to occur; and
- whether or not a good standard of amenity can be achieved."

It also states that:

"The subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation."

2.2 Noise Policy Statement for England (NPSE)

The aim of the Noise Policy Statement for England (NPSE) is to provide clarity regarding current policies and practices to enable noise management decisions to be made within the wider context, at the most appropriate level, in a cost-effective manner and in a timely fashion. The NPSE applies to all forms of noise including environmental noise, neighbour noise and neighbourhood noise.

Noise Policy Vision: Promote good health and good quality of life through the effective management of noise within the context of Government policy on sustainable development.

Noise Policy Aims: Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and minimise adverse impacts on health and quality of life; and
- Where possible, contribute to the improvement of health and quality of life



2.3 National Planning Policy Guidance - Noise

Guidance on the interpretation of the policy aims contained within the NPPF is contained within National Planning Policy Guidance (NPPG). The NPPG introduces the concept of a noise exposure hierarchy based on likely average responses. The current guidance contained in the NPPG is summarised in the table below. This advice has not changed since the introduction of the 2018 version of the NPPF.

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not noticeable	No Effect	No Observed Effect	No specific measures required
Noticeable and not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Obser	ved Adverse Effect Level		
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g., turning up the volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Ob	served Adverse Effect Level		
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g., avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to changes in the acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate the effect of noise leading to psychological stress or physiological effects, e.g., regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g., auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Table 2.1: Noise exposure hierarchy



3.0 OVERVIEW OF RELEVANT GUIDANCE DOCUMENTS

3.1 Internal Ambient Noise Limits - Residential - BS8233: 2014 & WHO

The standard design guide for internal noise levels for residential developments is within BS8233: 2014 'Guidance on sound insulation and noise reduction for buildings'. BS8233 states that to achieve adequate sleeping and living conditions, background noise levels should be 30 dB L_{Aeq} or less within bedrooms at night, and 35 dB L_{Aeq} or less within bedrooms and living rooms during the day. The advised levels are tabulated below.

Activity	Location	Day (07:00-23:00)	Night (23:00-07:00)
Resting	Living Room	35 dB LAeq, 16 Hour	-
Dining	Dining Room	40 dB LAeq, 16 Hour	-
Sleeping	Bedroom	35 dB LAeq, 16 Hour	30 dB Laeq, 8 Hour

Table 3.1: BS8233 Internal Noise Levels

BS 8233:2014 provides no definitive methodology for the assessment of L_{Amax} levels. The WHO Community Noise Guidelines 1998 states that to avoid sleep disturbance within bedrooms during the night, the internal sound pressure level should not exceed 45 dB L_{Amax} . It is widely accepted that noise events should not exceed 45 dB L_{Amax} more than 10-15 times during the night-time period (23:00-07:00).



4.0 ENVIRONMENTAL NOISE SURVEY

To establish environmental noise levels on-site, continuous 5-minute samples of the acoustic parameters $L_{Aeq, T}$, $L_{A90, T}$, and $L_{Amax,T}$ was measured between 11:00 on the 14/06/2022 and 14:55 on the 15/06/2022, at a fixed microphone position (designated "F") on site.

Data has been gathered over a typical 24 hour period during the week - to provide L_{Aeq} and L_{Amax} levels for road traffic noise from the nearby road traffic. This is therefore seen to constitute a worst-case in terms of noise affecting the proposed development.

Figure 4.1 below provides the location of the fixed measurement position (F). The microphone was placed at the ground-floor level. The results of the noise survey are presented in Section 5.0

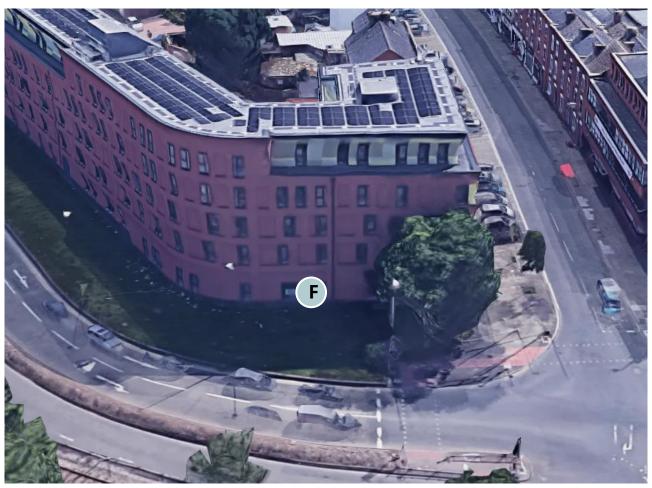


Figure 4.1: Fixed Measurement Location



5.0 NOISE SURVEY RESULTS

5.1 Fixed Measurement Results

The following graph presents the noise levels recorded over the measurement period at the fixed location (F1).

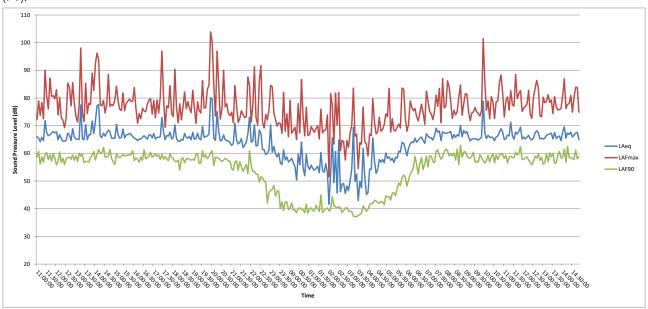


Figure 5.1: Sound Pressure Level at Fixed Location (F1)

5.1.1 Summary of L_{Aeq,16hour/8hour} and L_{Amax}

The table below presents the noise parameters recorded at the fixed microphone position for the ambient (L_{Aeq}) and maximum (L_{Amax}) noise levels.

Date	Location	Period, T	L _{Aeq,T} (dB)	L _{Amax} (dB)
03/12/20 – 04/12/20	Fixed Desition 1	Day	68	-
03/12/20 - 04/12/20	Fixed Position 1	Night	60	82

Table 5.1: Summary of Fixed Position Measurement

Measurements have been taken within 1 meter from a solid façade and will be corrected before use in the calculation.

Note: The 10th highest L_{Amax} recorded between 2300-0700 has been presented.



5.2 Assessment Noise Levels

Based on the results of the noise survey, spectral data has been derived for the $L_{Aeq,16hour}$ and $L_{Aeq,8hour}$ and L_{Amax} , which has formed the basis for the break-in calculations. The noise levels used in the assessment are shown below.

Time Period	Sound Pressure Level, dB (Octave Band Centre Frequency, Hz)							
	63	125	250	500	1000	2000	4000	dB(A)
Laeq, 16 Hour (day)	49	55	59	60	65	62	55	68
L _{Aeq} , 8 HOUR (night)	43	47	51	54	57	48	48	60
Lamax	58	61	66	71	71	67	80	82

Table 5.2: Assessment Noise Levels



6.0 FAÇADE NOISE BREAK-IN

6.1 Glazing

Table 6-1 and Table 6-2 below provide the minimum sound reduction indices for windows and trickle vents to meet the BS8233 internal noise level requirements. Note that the values presented are representative of the entire window including frames and other elements. The acoustic performance of the chosen systems should be verified via a laboratory test certificate. Tables showing these calculations can be found in Appendix A.

Element		Weighted, dB					
	125	250	500	1000	2000	4000	5 ,
Windows	24	25	31	42	44	49	36

Table 6-1 Minimum Sound Reduction Indices (SRI) for Windows

It is anticipated that the glazing requirements outlined in the table above can be achieved with a double-glazed system

6.2 Trickle Ventilation

Element		D _{n,ew} + 10Log ₁₀ (N)					
	125	250	500	1000	2000	4000	, and the second
Trickle Vents	34	29	38	42	40	40	39*

Table 6-2 Sound reduction for Trickle Vents

The above sound reduction spectrum for different elements is indicative.

*The calculations assume one trickle vent/MVHR system is required for background ventilation in each room on the external façade. Should more than one trickle vent be required, the D_{ne} spectrum of the element should be increased by using the formula $D_{n.e} + 10Log_{10}(N)$, where N is the number of ventilators required to provide background ventilation. If this is not clear, please contact MACH Acoustics with any queries.

6.3 Wall Construction

MACH has undertaken a feasibility study on suitable external wall constructions which can be used with the minimum sound insulation performance. MACH has not provided specific build-ups for the façade, such that there can be flexibility in the design of the new build aspects of the scheme.

Element		Weighted, dB					
	125	250	500	1000	2000	4000	
External Wall	43	42	41	49	54	55	48 R _w

Table 6-3 Minimum Sound Reduction Indices (SRI) for External wall

Wall build-up for existing walls is not confirmed, however, the existing walls are anticipated to provide a very high acoustic performance. A conservative estimate of R_w 48dB has been used within the calculations.



7.0 CONCLUSION

MACH Group has been appointed by Quattro Design to undertake an environmental noise assessment for the proposed development scheme at Black Dog Way, Gloucester. Based on the noise break-in assessment, this report has the following conclusions.

- Based on the results of the noise survey, MACH has established façade noise levels across the development.
- It has been determined that flats facing Black Dog Way may be ventilated through trickle vents.
- A full specification for improving the sound insulation of windows, trickle vents and walls has been provided. The specifications will enable compliance with the internal noise criteria of BS 8233: 2014.



APPENDIX A - ENVIRONMENTAL NOISE SURVEY

To establish the existing environmental noise levels on site, a noise survey was conducted between 11:00 on the 14/06/2022 and 14:55 on the 15/06/2022.

This site assessment was undertaken by James Dennis of MACH Group.

A.1 Site Description

The site is located at Walkinshaw Court, Worcester St, Gloucester GL1 3EZ and is situated in a dense urban area. The site is located on the corner of a busy roundabout and very close to a raised railway leading to Gloucester Station.

A.1.1 Subjective Noise Climate (On-site)

Noise Type	Noise Characteristics	Sources
Dominant	A primary contributor of noise levels on the	Traffic
	site.	Passing Trains
	Site.	Sirens
Other Noise Contributions	Contributors to the remainder of the noise	Pedestrians
	climate on site.	Birdsong

Table A.1.1 - Subjective Summary of the Noise Sources

A.1.2 Non-Representative Noise Sources

During the survey, no noise events occurred which would be deemed as atypical of the site location.



A.2 All Measurement Locations

To help with the understanding of the site and measurement locations all the measurement positions are presented on the map below. Photos of the locations in situ are in the following sections.



Figure A.2 - All Measurement Locations on a Map



A.3 Fixed Measurement

A fixed microphone position was used to record noise levels 11:00 on the 14/06/2022 and 14:55 on the 15/06/2022, where the fixed long-term meter was set to measure consecutive 'A' weighted 5-minute time samples. Measurements have been taken within 2 meters from a solid façade and will be corrected before use in the calculation.

To help with the understanding of the site and the measurement locations, the figures below present the location of the microphone position(s) in situ. The results of the environmental noise survey are provided within section A.3.2.

A.3.1 Fixed measurement Location – F1









A.3.1 Fixed Measurement location in situ



A.3.2 Fixed Measurement Results

The following graph presents the noise levels recorded over the measurement period at the fixed location (F1).

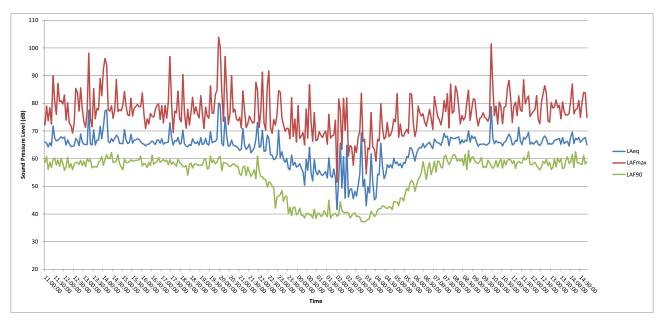


Figure A.3.2 - Sound Pressure Level at fixed location, F1



A.4 Measurement Equipment

Item	Serial No.	Last Calibration	Certificate No.	Calibration Due
NTI Precision Sound Analyser XL2 TA	A2A-13174-E0	Sep-21	UK-21-073	Sep-23
NTI Pre-amplifier MA220	8073	Sep-21	UK-21-073	Sep-23
NTI Microphone Capsule MC230A	A14429	Sep-21	UK-21-073	Sep-23
Svantek Acoustic Calibrator SV31	32527	Dec-21	167864	Dec-22

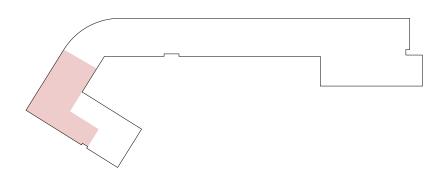
Table A.4 - Measurement Equipment

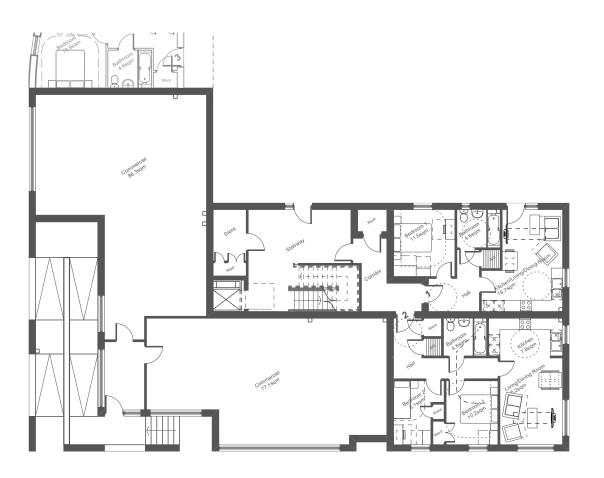
A.5 Meteorological Conditions

Data Taken from: https://www.timeanddate.com/weather/

Date	Time (hh:mm)	Temperature (High / Low) (°C)	Humidity (%)	Pressure (hPa)	Wind Speed (m/s)	Wind Direction	Conditions
	06:00	19/16	56	1022	0.8	NNE	Scattered Clouds
14//06/2022	12:00	23/20	46	1019	1.4	W	Passing Clouds
	18:00	22/22	44	1018	1.7	N	Sunny
	00:00	N/A	N/A	N/A	N/A	N/A	N/A
15/06/2022	06:00	22/18	55	1018	0.8	WSW	Passing Clouds
	12:00	24/23	38	1018	1.9	S	Scattered Clouds

Table A.5 - Meteorological Conditions







Existing Ground Floor Plan

Proposed Ground Floor Plan

NOTES

REVISIONS REV: DATE - DRAWN - CHECKED: NOTES

-: 02.02.2022 - JLP - CC: Drawing created. 21.02.22 - CC: New flats revised to comply with M4(3)

DRAWING TITLE

Proposed Conversion Ground Floor Plans

PROJECT

Black Dog Way Conversion, Gloucester

CLIENT

Rooftop Housing Group

SCALE 1:200@A3 DATE Feb 2022

DRAWING NO. REV

Α

6720-P-200



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REVISIONS

REV: DATE - DRAWN - CHECKED: NOTES

-: 02.02.2022 - JLP - CC: Drawing created.

DRAWING TITLE

Proposed Coversion Elevations

PROJECT

Black Dog Way Conversion, Gloucester

CLIENT

Rooftop Housing Group

1:200@A1 **SCALE** DATE Feb 2022

DRAWING NO. REV

6720-P-700

