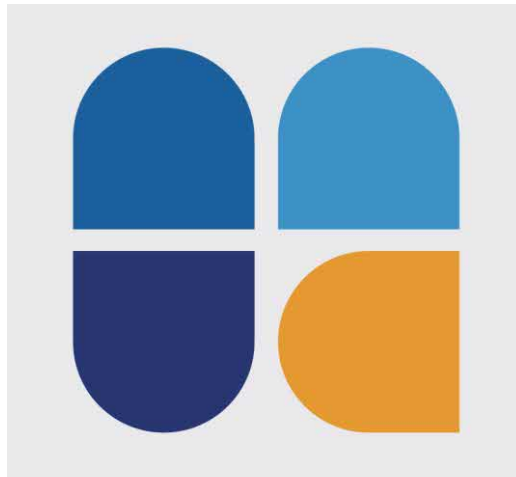




BRIGHT PLAN CIVILS

**FISCAL HOUSE, 2 HAVANT ROAD,
EMSWORTH PO10 7JE**

**CONVERSION & (FIRST FLOOR)
EXTENSION OF EXISTING OFFICES TO
RESIDENTIAL ACCOMMODATION**

**Flood Risk Assessment & Drainage Strategy
Report**

Prepared on Behalf of

Paul & Elaine Munday Property Rentals

D2229/ FRA1.0

21 December 2023

DOCUMENT CONTROL

Project: Fiscal House, 2 Havant Road, Emsworth PO10 7JE
 Conversion & (First Floor) Extension of Existing Offices to Residential Accommodation
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CONTENTS

1	INTRODUCTION	5
1.1	Background	5
1.2	Site Location and Description	5
1.3	Ground Conditions.....	6
1.4	Groundwater.....	8
1.5	Existing Drainage	9
2	PROBABILITY	11
2.1	Sources of Information	11
2.2	Flood Maps and Modelling	11
2.3	Strategic Flood Risk Assessment	15
2.4	Historic Flooding	16
2.5	Summary of Flood Risk.....	16
3	PROPOSED DEVELOPMENT.....	18
3.1	Description of Development	18
4	SEQUENTIAL AND EXCEPTION TESTS	19
4.1	Sequential Test	19
4.2	Exception Test	19
5	PROPOSED DRAINAGE STRATEGY	21
5.1	Surface Water	21
5.2	Foul Water Drainage	21
6	RESIDUAL RISK AND MITIGATION	22
6.1	Residual Risk.....	22
6.2	Mitigation.....	22
7	FLOOD RISK MANAGEMENT.....	24
7.1	Safe Access and Egress.....	24
7.2	Flood Warning	24
8	OFFSITE IMPACTS.....	25
9	SUMMARY	26

APPENDICES

- Appendix A** Preliminary Site Layout
- Appendix B** Topographic Survey
- Appendix C** Geotechnical Information
- Appendix D** LLFA & LPA Consultation and Extracts
- Appendix E** Public Sewer Records
- Appendix F** EA Flood Modelling Data
- Appendix G** Flood Evacuation Plan Template

1 INTRODUCTION

1.1 Background

- 1.1.1 Bright Plan Civils is instructed by Paul & Elaine Munday Property Rentals to prepare a Flood Risk Assessment & Preliminary Drainage Strategy Report to support a planning application for the Conversion & (First Floor) Extension of Existing Offices to Residential Accommodation at Fiscal House, 2 Havant Road, Emsworth PO10 7JE, Emsworth.
- 1.1.2 This report has been undertaken in accordance with National Planning Policy Framework (NPPF) and The Planning Practice Guidance on the use of SuDS for achieving sustainable development.
- 1.1.3 The proposed development will involve the conversion of an existing office building into a residential property, with a reduction in ground floor footprint and a first floor extension above the existing ground floor footprint - as demonstrated within the preliminary site layout, contained within **Appendix A** of this report.
- 1.1.4 This report follows the principles of the previous flood risk assessment for approved application APP/21/01120, which also proposed a change of use from offices to residential development at this site.
- 1.1.5 In preparing this report, Bright Plan Civils has referred to the following documents and information:
- Environment Agency Product 4 Response
 - Environment Agency Flood Maps for Planning
 - Long Term Flood Risk Information; Flood Risk Maps
 - Southern Water and Local Authority Drainage Records
 - Local Planning Authority and Lead Local Flood Authority Strategic Flood Risk Assessments
 - British Geological Survey & Records
- 1.1.6 This document has been prepared to propose assess drainage constraints and propose a drainage strategy that is appropriate for the design life of the development, without causing offsite impacts from runoff in a design event.
- 1.1.7 This report has been prepared for the benefit of the named Client only.

1.2 Site Location and Description

- 1.2.1 The property is in a residential area of Emsworth, within the Borough of Havant. It is bordered by residential Warblington Road to the west, approved residential property conversion (APP/21/01120) to the north, residential property to the south, and a church to the east.
- 1.2.2 A topographical survey of the site has been undertaken and provided by the client. It is included in **Appendix B** of this report. The topographical survey shows that the site levels fall from 3.87mAOD in the south west corner of the site to the north with a low point of 3.35mAOD within the courtyard.
- 1.2.3 The existing site buildings are drained by gully and pipe drainage, presumed to connect into the existing public surface water drainage system.
- 1.2.4 The nearest watercourse is the Main River (unknown name) that discharges into Slipper Mill F

apposite Bath Road from the site (approx. 20 metres from the site boundary). In addition, the River Ems which runs south into coastal Chichester Harbour approximately 275m east of the site.

- 1.2.5 The nearest surface water feature is Slipper Mill Pond which runs adjacent to the site, approximately 20m to the east.
- 1.2.6 The existing site has a total area of approximately 675m (0.068 Ha), and consists of entirely hardstanding impermeable areas – as demonstrated in the topographic survey.

1.3 Ground Conditions

- 1.3.1 In the absence of a site-specific geotechnical investigation, reference has been made to the British Geological Survey (BGS) website.

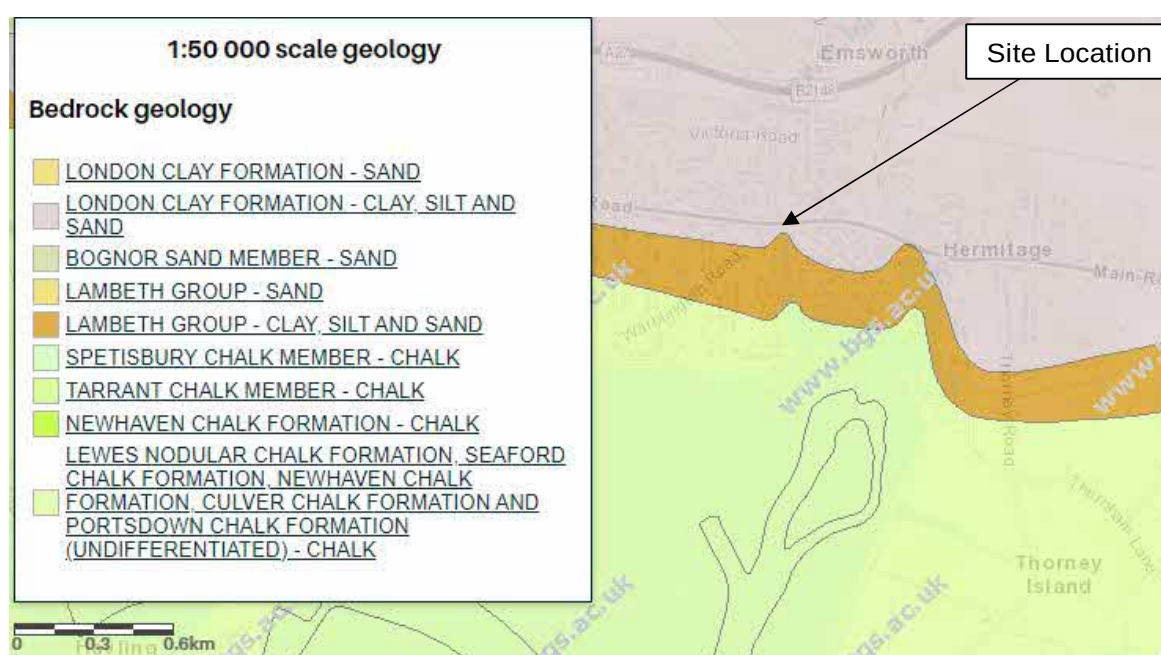


Figure 1. BGS website Bedrock geology

- 1.3.2 The BGS geology viewer states that the bedrock geology is likely to consist of 'London Clay Formation – Clay, Silt and Sand', as seen in Figure 1.

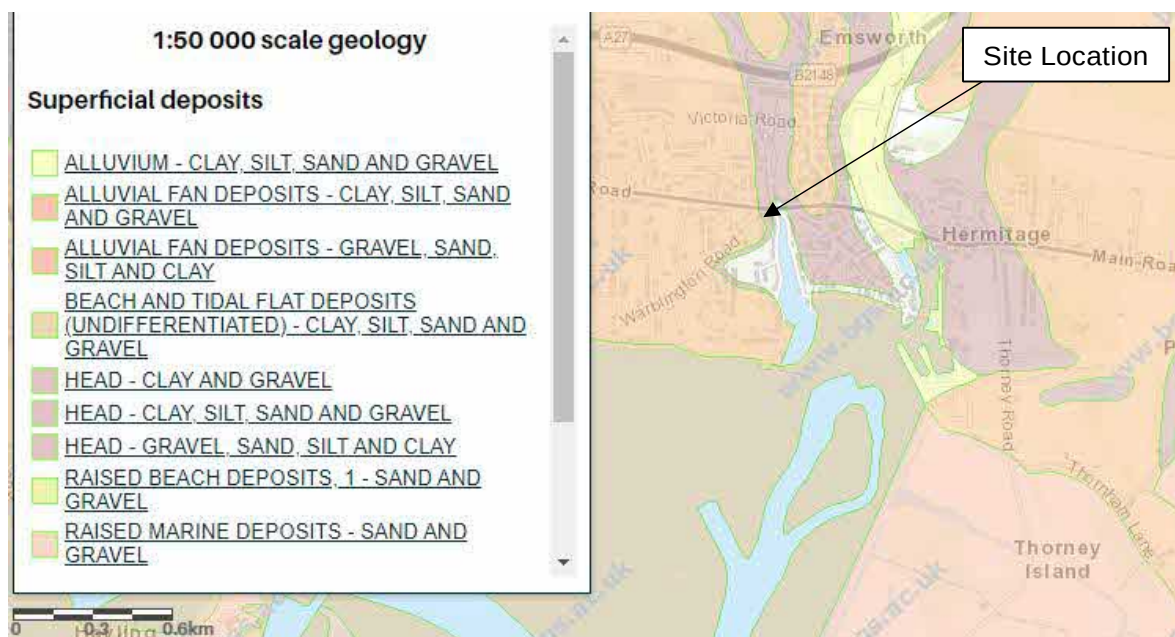


Figure 2. BGS website superficial deposits

1.3.3 Superficial Deposits are recorded as 'Head – Clay and Gravel', as seen in **Figure 2**.

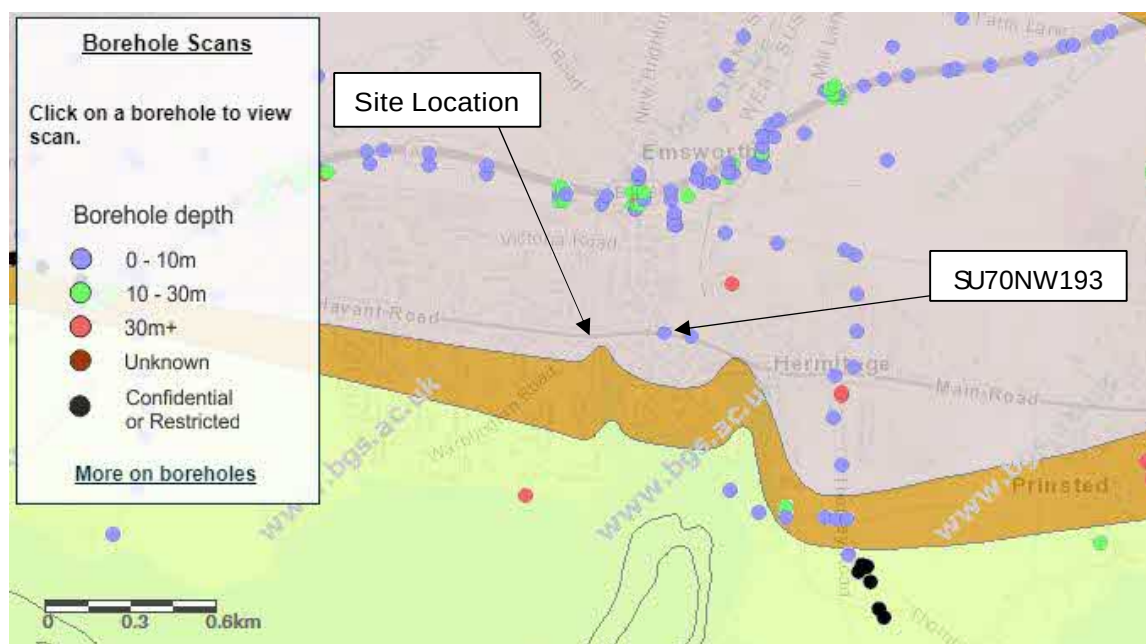


Figure 3. BGS website borehole locations

- 1.3.4 Historic borehole records from the Single Onshore Boreholes Index (SOBI) on the BGS website have also been reviewed in the absence of a site-specific geotechnical investigation, as depicted in **Figure 3**.
- 1.3.5 A borehole at the Emsworth New Bridge, 270m east of the site was assessed in comparison to the site, as seen in **Figure 3**. This borehole has similar geotechnical strata according to the
- 1.3.6 The borehole has a recorded depth of 5.9m and confirms the presence of 'stiff brown CLAY' to a depth of 4.0metres, underlain by further layers of MUDSTONE and CLAY.
- 1.3.7 A copy of the BGS records reviewed can be found within **Appendix C** of this report.

1.4 Groundwater

- 1.4.1 The recorded BGS borehole at Emsworth New Bridge recorded groundwater at 1.2mbgl.
- 1.4.2 The Urban South Hampshire PUSH SFRA indicates that areas at risk of groundwater flooding are north of the borough where highly permeable geology meets lower permeability geology and is reflective of historical incident records. The PUSH SFRA Flood Mapping indicated no recorded groundwater flood incidents in the vicinity of the site. Extracts from the SFRA can be found within **Appendix D**.
- 1.4.3 Mapping managed by MAGIC (magic.defra.gov.uk) provides geographic information concerning the natural environment from across government. This mapping tool has been referred to in order to confirm whether the site is located within either any groundwater source protection zones or groundwater vulnerability zones.
- 1.4.4 The site is situated within an 'Unproductive' Aquifer for Bedrock stratum and a 'Secondary A' Aquifer for Superficial Drift stratum, as seen in **Figure 4**. This refers to drift deposits only that exhibit variable permeability and may provide groundwater storage or supply at a local or strategic level.

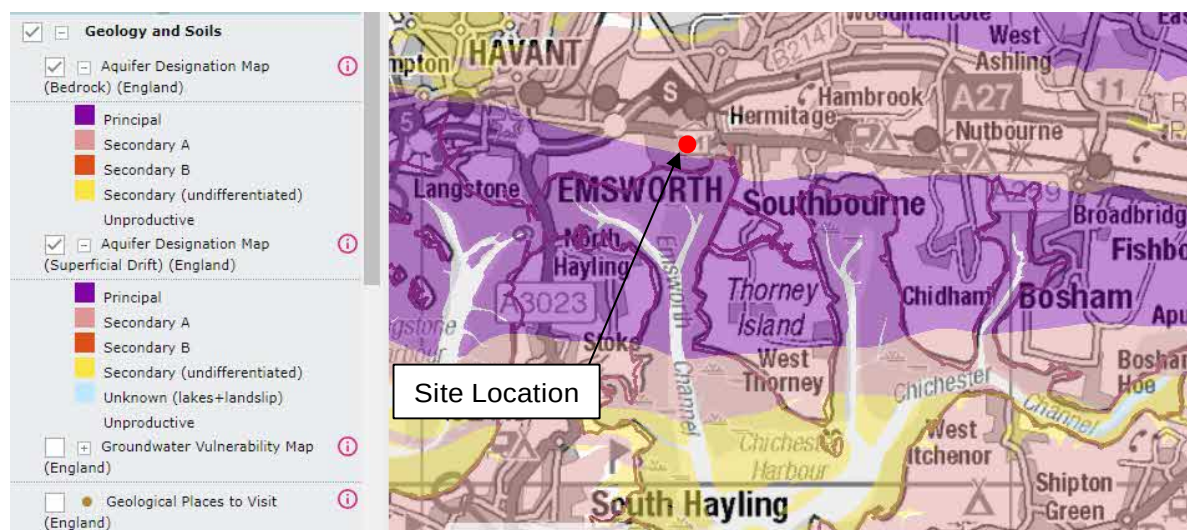


Figure 4. DEFRA Aquifer Designation Map

- 1.4.5 The Groundwater Vulnerability Map (**Figure 5**) confirms that the site falls within a 'Medium-High' and 'Medium-Low' groundwater vulnerability zone with Soluble Rock Risk.

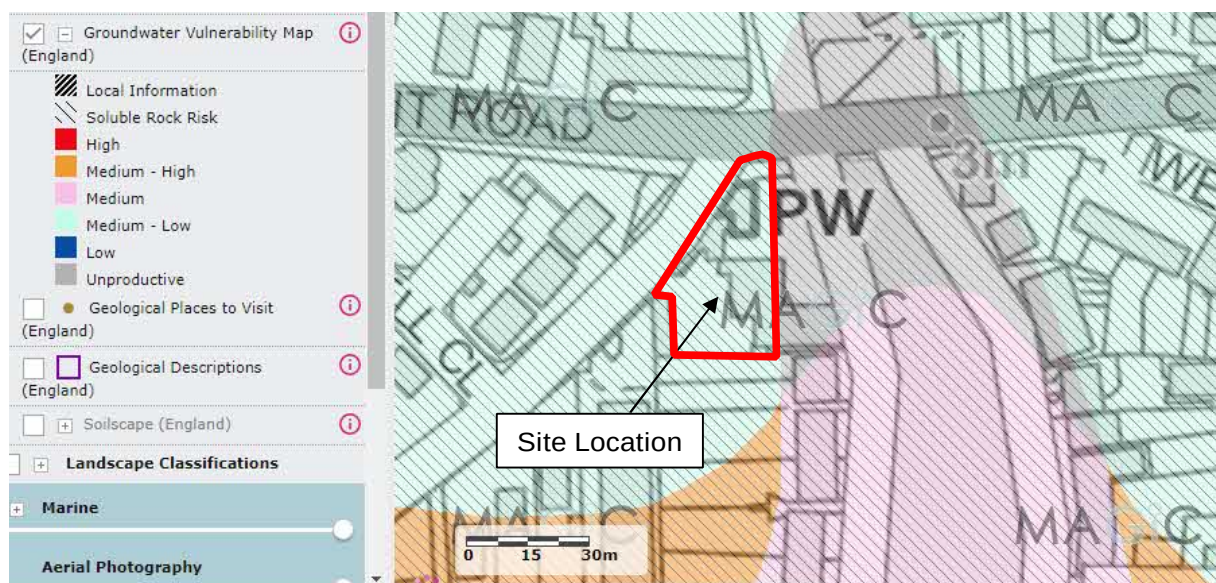


Figure 5. DEFRA Groundwater Vulnerability Map

1.4.6 The site is not indicated as within or in the vicinity of any Drinking Water Safeguard Zone or a Source Protection Zone.

1.5 Existing Drainage

1.5.1 The local Water Authority is Southern Water, who provide sewerage services within the area. Public sewer records have been obtained from Southern Water, as contained within this report in **Appendix E**

1.5.2 Surface Water:

- (a) The Southern Water public sewer records (**Appendix E**) show public surface water sewers along Warblington Road adjacent to the site.
- (b) An existing public surface water manhole (6851) on Warblington Road is adjacent to the site frontage, and demonstrates cover level as 4.28m AOD.
- (c) The existing building is drained by rainwater pipes. The connection route of this drainage is not confirmed.
- (d) The nearest surface water feature is Slipper Mill Pond which runs adjacent to the site, approximately 20m to the east.
- (e) The nearest watercourse appears to be an ordinary watercourse 330m northwest of the site, the River Ems which runs south into coastal Chichester Harbour 400m southeast of the site.

1.5.3 Foul Water:

The Southern Water public sewer records (**Appendix E**) show public foul water sewers along Warblington Road adjacent to the site

It is expected that there is an existing connection into the foul water sewer network adjacer to the site.

1.5.4 Highway Drainage:

- (f) Warblington Road appears to be drained by highway gullies.

2 PRO BABILITY

2.1 Sources of Information

2.1.1 The NPPF requires that all sources of flooding are considered being Tidal, Fluvial, Pluvial, Groundwater Sewers and Man-made reservoirs/canals.

2.1.2 The likelihood of the site flooding has been established by reviewing the following information:

Environment Agency Flood Maps for Planning

Long Term Flood Risk Assessment Surface Water Flood Risk Maps

Long Term Flood Risk Assessment Reservoir Flood Risk Maps

Local Authorities Strategic Flood Risk Assessment

Consultation with Local Authority/Lead Local Flood Authority

2.2 Flood Maps and Modelling

2.2.1 The Environment Agency's Product 4 Response provided flood maps for rivers, sea and surface water as seen in **Appendix F**. The Product 4 shows the site location within Flood Zones 1 and 2.

2.2.2 Flood levels for 3 No. nodes on the site have been taken from the Fluvial Levels Map, completed by The Environment Agency. It states there is no fluvial data regarding 1% AEP (1 in 100 year), however fluvial levels for the 0.1% (1 in 1000 year) event are shown, with a maximum level of **3.25mAOD in a 2023 0.1% AEP fluvial flood event**.

Point	Water Surface Level (mAOD*)		Ground Level	Water Depth (metres)	
	1% Annual Probability/1 in 100 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)		1% Annual Probability/1 in 100 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)
1	No Data	3.25	3.08	No Data	0.17
2	No Data	3.25	3.18	No Data	0.07
3	No Data	3.15	3.13	No Data	0.02

2.2.3 The minimum site level is 3.35mAOD, therefore when the modelled flood fluvial levels are considered in comparison with the topographic survey, the site is elevated above fluvial flood levels.

2.2.4 In addition, Tidal flood levels for the site have been taken from the Tidal Levels Map, completed by The Environment Agency. Three of these within the site have been provided in the table below.

Point	Water Surface Level (mAOD*)		Ground Level	Water Depth (metres)	
	0.5% Annual Probability/1 in 200 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)		0.5% Annual Probability/1 in 200 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)
1	No Data	3.69	3.69	No Data	0.00
4	No Data	3.70	3.67	No Data	0.03
6	3.50	3.68	3.21	0.29	0.47

2.2.5 Of the information provided by the Environment Agency, as detailed above, Node 1 is located in the southeast corner, Node 4 is on the northwest boundary at the vehicular access, and Node 7 is north of the site.

2.2.6 Based on the above table, the existing flood levels are considered as a maximum of **3.50mAOD in a 2023 0.5% AEP tidal flood event**, and **3.70mAOD for a 2023 0.1% tidal flood event**.

2.2.7 When the modelled tidal flood levels are considered in comparison with the existing site levels from the topographic survey, there is potential for flooding of up to 150mm at the site in a 2 in 100 year (0.5% AEP) storm event, and up to 350mm flooding in a 1 in 1000 year event (0.1% AEP) storm event.

2.2.8 The Product 4 Response does not include an allowance for climate change, and 1 allowance needs to be factored in to allow for an assessment of flood risk for the lifetime of the development (100 years).

2.2.9 Climate change allowances are set out for the following:

peak river flow

peak rainfall intensity

sea level rise

offshore wind speed and extreme wave height

2.2.10 The site is located within the Arun and Western Streams Management Catchment, and the following peak river flow climate change allowances are provided by the Environment Agency for the catchment.

Epoch (period of time)	Central Allowance	Higher Allowance	Upper Allowance
2020s	11%	16%	27%
2050s	13%	19%	36%
2080s	25%	36%	64%

2.2.11 As per the Environment Agency guidance for more vulnerable development in flood zones 2 and 3a, the central allowance should be utilised. This represents a 25% increase in peak river flow for the lifetime of the development, and while it is not possible to quantify the potential increase in fluvial flood

the building as a result of climate change without extensive 2D hydraulic modelling (unreasonable scope of development), it is clear that there is an increased risk of fluvial flooding as a result of climate change.

- 2.2.12 As a result, it is recommended that a 300mm conservative allowance is considered above maximum fluvial flood levels – assuming a maximum level of **3.55mAOD in a 2123 0.1% AEP fluvial flood event**.
- 2.2.13 The Environment Agency provide sea level allowances by river basin district for each epoch (with a calculation made using the per year allowance for a 2022 baseline). The table below demonstrates the the total sea level rise in the South East river basin district, per epoch, in metres.

South East	2022 to 2035	2036 to 2065	2066 to 2095	2096 to 2122	Cumulative risk from 2022 to 2122
Higher Central	0.075m	0.261m	0.348m	0.354m	1.04m
Upper End	0.090m	0.339m	0.474m	0.491m	1.39m

- 2.2.14 This indicates an increase in maximum tidal flood levels of between 1.04m and 1.39m over the next 100 years. This would represent an increase in the tidal flood levels to between 4.55mAOD and 4.9mAOD for a 0.5% AEP tidal flood event.
- 2.2.15 The PUSH Strategic Flood Risk Assessment (SFRA), produced by Atkins in 2007, also indicated extreme water levels for Chichester Harbour as **4.5mAOD for a 2123 0.5% AEP tidal flood event**.
- 2.2.16 As agreed by the Environment Agency for the flood risk assessment for the previous application at this site (APP/21/01120), the design flood level for future flood risk an allowance for climate change is 4.50mAOD. A copy of the Environment Agency's previous response is included in **Appendix D**.
- 2.2.17 Although there are also wind and wave allowances for climate change, the site is located within an estuary that it is not considered these would have a significant effect on the site location.
- 2.2.18 The Environment Agency's on-line Flood Maps for Planning (rivers and sea) show that the site is located within Flood Zones 2 and 3a. The flood zones are also confirmed by information and mapping obtained from The Environment Agency following consultation, which is consistent with other flood risk mapping reviewed.

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 can be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessment: areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency

	Agency. (Not separately distinguished from Zon on the Flood Map)
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2.2.19 **Figure 6** also shows that the site is at 'low' to 'high' risk of flooding from rivers or sea.



Figure 6. Long Term Flood Risk Map; Flood risk from rivers or the sea

2.2.20 **Figure 7** shows that the north of the site is at low risk of surface water flooding, with much of the rest of the site at very low risk of surface water flooding. There is however medium to high risk of surface water flooding within the adjacent highways, although this would appear to be less than 300mm in a low risk flood scenario, which would not inhibit access or egress from the site.



Figure 7. Long Term Flood Risk Map; Flood risk from surface water

2.2.21 Figure 8 shows that the site is not at risk of flooding from reservoirs.



Figure 8. Long Term Flood Risk Map; Flood risk from reservoirs

2.3 Strategic Flood Risk Assessment

2.3.1 The Urban South Hampshire PUSH SFRA identified the site location as at high susceptible

groundwater, located within Flood Zones 1 and 2, and located wholly within a Flood Warning Area.

2.3.2 The site is shown to have a 'low risk' rating for Flood Zone 2 Undefined Hazards, at very low risk of surface water flooding (small isolated area at low risk within the site, low to high risk within the adjacent highway), outside of the Climate Change (Year 2115) Fluvial Flood Zone 3 but within the Climate Change (Year 2115) Tidal Flood Zones 2 & 3.

2.3.3 Extracts are included in **Appendix D**.

2.3.4 As this development is only for a change of use, a Sequential Test and Exception Test would be required.

2.4 Historic Flooding

2.4.1 The Environment Agency were consulted regarding historic flooding at the site, and online information from Department for Environment, Food & Rural Affairs (DEFRA), Hampshire County Council and Havant Borough Council was investigated for details of historic flooding in the vicinity of the site.

2.4.2 The DEFRA recorded flood outlines on environment.data.gov.uk demonstrate a recorded flood outfall along the watercourse corridor of the main river to the east of the site, including along the length of Bridge Road to the north and Bath Road to the east, and across the adjacent Havant Road where the watercourse passes under the road. This was shown to affect the site frontage, however the extents do not indicate flooding within the site area.

2.4.3 The PUSH SFRA Flood Mapping indicated no records of Southern Water observed flooding in the vicinity of the site, and no recorded groundwater flood incidents in the vicinity of the site.

2.4.4 Extracts are included in **Appendix D**.

2.5 Summary of Flood Risk

2.5.1 The potential sources of flooding are:

Source of Flooding	Level of Risk
Rivers and Coastal	High The site is within Flood Zones 1 and 2, and is shown to be at increased risk of tidal flooding for the lifetime of the development as a result of climate change and rising extreme tidal levels.
Surface Water	Low-Very low The long-term flood risk for surface water is classified as 'Low' to the north of the site with much of the rest at 'very low' risk. Surface water flooding within the adjacent highway is 'high'.
Groundwater	Medium BGS records found the site to be situated above variable permeability strata. Nearby borehole logs found presence of groundwater 1.2mbgl. The PUSH SFRA did not indicate the site area is susceptible to groundwater flooding.
Sewers	Medium There are surface water sewers within the area and no reports of sewer flooding found. The high risk of surface water flooding within the adjacent highway could indicate areas of highway drainage at risk of being surcharged, however.
Artificial Sources	None The site is not shown to be at risk due to artificial sources.

3 PROPOSED DEVELOPMENT

3.1 Description of Development

- 3.1.1 The proposed development will involve the conversion of an existing office building into a residential property, with a reduction in ground floor footprint and floor extension above the existing ground floor footprint as demonstrated within **Appendix A**.
- 3.1.2 The existing use of 'Building used for financial, professional, offices etc' is classified as 'less vulnerable' development whilst 'Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels' is classified as 'more vulnerable' development to the classification (Flood Risk and Coastal Change Table 2) and is appropriate within Flood Zones 1 and 2 (Flood Risk and Coastal Change Table 3).
- 3.1.3 When including an allowance for climate change to assess Sequential requirements, the site is liable an Exception Test. However, as the proposals are for a change of use and first floor extension, a Sequential test is not required. This Flood Risk Assessment will provide flood mitigation measures to address the future flood risk to the development.

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Flood Zone 1	✓	✓	✓	✓	✓
Flood Zone 2	✓	Exception Test Required	✓	✓	✓
Flood Zone 3a †	Exception Test Required †	✗	Exception Test Required	✓	✓
Flood Zone 3b*	Exceptions Test Required *	✗	✗	✗	✓*
✓ = Development is appropriate ✗ = Development should not be permitted					

- 3.1.4 The extension is at first floor only, elevated above all existing and future flood levels.
- 3.1.5 The proposed development will decrease the hardstanding area of the site; reducing the rate of run-off generated by the site, with an area of existing building and hardstanding converted into soft landscaping garden areas. The surface water drainage of the site will follow existing principles as the proposals are only for a change of use and first floor extension to the existing buildings.

4 SEQUENTIAL AND EXCEPTION TESTS

4.1 Sequential Test

- 4.1.1 The Flood Maps for Planning show that the development area is within Flood Zones 1 and 2, however is at increased risk of flooding as a result of climate change. Exception Test assessment is therefore made in the context of future flood risk.
- 4.1.2 The local planning authority will however consider what changes of use are acceptable with regards to the National Planning Policy Framework and taking into account the Strategic Flood Assessment. This is likely to depend on whether development can be designed to be safe and that there is safe access and egress.

4.2 Exception Test

- 4.2.1 Although the proposals are only for Change Of Use and First Floor Extension and do not require an Exception Test, the principles of NPPF have been considered with respect to safe site use, access and egress.
- 4.2.2 Table 3 within Paragraph 067 of Flood Risk and Coastal Change confirms that developments classified as "More Vulnerable" require an Exception Test for Flood Zone 3a. The proposed development is in Flood Zone 3a due to the risk of flooding from the culverted river.
- 4.2.3 In order to demonstrate the requirements are met with reference to Paragraphs 102 & 103 of Flood Risk and Coastal Change we summarise as follows:
- 4.2.4 Paragraph 102 quotes 'If, following application of the Sequential Test, it is not possible, consistent with wider sustainability objectives, for the development to be located in zones with a lower probability of flooding, the Exception Test can be applied if appropriate. For the Exception Test to be passed:

it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared

- 4.2.5 The proposals will not increase flood risk to or from the development, and mitigation measures will reduce flood risk to occupants. The development will benefit the community by providing housing at a disused former office space. On review the local area would appear to be predominantly residential and so the proposals would match the existing character.

a site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall

- 4.2.6 The Flood Risk Assessment demonstrates that the proposed development will reduce the site impermeable area and does not increase the rate or volume of run off generated by the site. It ensures that the development has a beneficial impact on surface water flood risk to and from the proposals. There is no proposed construction that would impact on fluvial or tidal flood risk to or from the development.
- 4.2.7 Flood Mitigation measures will be proposed to ensure that the Change of Use is safe for its lifetime for the proposed residential occupants.

- 4.2.8 Paragraph 103 states 'When determining planning applications, local planning authorities should ensure flood risk is not increased elsewhere and only consider development appropriate in areas at a lower risk of flooding where, informed by a site-specific flood risk assessment following the Sequential Test, and if required the Exception Test, it can be demonstrated that:'

within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location.

- 4.2.9 The proposals are for a Change of use to an existing building and therefore this will not increase flood risk elsewhere, and is not subject to sequential assessment.

development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and it gives priority to the use of sustainable drainage systems'

- 4.2.10 As discussed in **Section 6**, Flood Mitigation measures will be proposed that reduce risk to users and ensure the development is appropriately flood resilient. In addition, safe access and egress routes will be provided where necessary so that any residual risk to future residents can be safely managed. A Flood Evacuation Plan (FEP) template is provided in **Appendix G**.
- 4.2.11 As the development is partially within Zone 2, it is therefore recommended that the occupants of the development are subscribed to the Environment Agency's flood warning scheme and there is provision of a Flood Evacuation Plan to determine what actions occupants should take leading up to and during a nearby flood event. The Flood Plan would consider further the specific requirements with regard to access and egress.
- 4.2.12 The development does not consider use of sustainable drainage systems, as there is only a Change of Use of an existing building and no new hardstanding areas. The proposals will reduce site runoff however by proposing new areas of soft landscaping.

5 PROPOSED DRAINAGE STRATEGY

5.1 Surface Water

- 5.1.1 The proposed Change of Use will not introduce any new buildings or areas of hardstanding, so no new surface water drainage proposals are required.
- 5.1.2 The site will continue to utilise the existing surface water drainage infrastructure, which is understood to be conventional gully and pipe drainage to the public surface water sewer network.
- 5.1.3 It is worth noting that the proposals will reduce site runoff by introducing a new area of soft landscaping where an area of building and hardstanding currently exists.
- 5.1.4 First floor extension areas, above areas of existing ground floor office space, will utilise the same drainage connections and will not introduce new areas of runoff.

5.2 Foul Water Drainage

- 5.2.1 The proposed foul drainage will utilise the existing site foul infrastructure, and as such there are no proposed changes to the foul drainage strategy.
- 5.2.2 Post development, there will be an estimated increase in peak foul water flows as a result of the Change in Use, with 0.05 l/s from the proposed residential unit (based on Design & Construction Guidance). This is likely to be offset by the reduction in surface water runoff from the site.
- 5.2.3 It is not expected that any marginal increase in foul discharge will impact the foul sewer network capacity, however, the infrastructure and connection charges (OFWAT Charging Rules) place the onus on the sewerage undertaker to reinforce their network should there no longer be sufficient capacity to serve the new development. Funding for this is provided by revised charging arrangements for infrastructure and connection charges for each dwelling constructed comprising a Network Reinforcement Charge and Site-Specific Charges. The revised charging arrangement (funded by the developer) covers alterations to the Existing Sewer Network and the sewerage undertaker is responsible for the cost of reinforcing their Strategic Assets. The developer is responsible for connecting the development to the public sewer network.

6 RESIDUAL RISK AND MITIGATION

6.1 Residual Risk

6.1.1 The following residual risks have been identified in relation to the proposed development:

- i. Flooding of buildings within flood zone.
- ii. Increased flood risk as a result of climate change.

6.2 Mitigation

6.2.1 Consideration has been taken to the residual risks stated in Section 6.1, and the following mitigation measures are proposed:

- i. Proposed building access and egress to be via higher ground. Accordingly, the proposed building access is to the south, with existing external elevation of 3.80mAOD, above existing modelled flood levels. Safe access and egress is set out in Section 5.
- ii. The Environment Agency Product 4 response indicates the site is subject to 1 in 200 year flood levels 3.50mAOD (Flood Zone 3) and 1 in 1000 year flood levels of 3.70mAOD. The existing floor levels are approximately 3.35 to 3.65mAOD. The architect has confirmed that these can be altered within the Change of Use development, and it is recommended that **ground floor finished floor levels are raised to 3.70mAOD**.
- iii. The impact of climate change is predicted to result in an increase to design flood levels over the lifetime of the development, to 4.5mAOD. This could result in flooding to the property of up to 0.80m. Further mitigation measures are required to ensure that the site is safe for use for the lifetime of the development. In accordance with "Improving the Flood Performance of New Buildings – Flood Resilient Construction", produced for Communities and Local Government by the Environment Agency, May 2007, as well as in accordance with standing advice and Flood Resilient Construction guidance (<https://www.gov.uk/government/publications/flood-resilient-construction-of-new-buildings>) (<https://www.gov.uk/guidance/flood-risk-assessment-standing-advice#extra-flood-resistance-and-resilience-measures>), the following mitigation measures are proposed accordingly:
 - a. Flood resistance measures; which look to keep water out of the building when flood depths are up to 300mm. This includes tanking and waterproof construction, to be considered as retrofit measures to the building as part of the Change of Use, as well as the use of impermeable building materials to at least 300mm. This will look to keep water out of the building in a 1-in-200 year event, and would result in minimal damage or deformation. People could also leave their house and follow the evacuation plan in this scenario.
 - b. Flood resistance measures; in addition, use of floodgates across doors could prevent flood ingress to entrances.
 - c. Flood resilience measures; where flood depths exceed 300mm, impacts could be minimised by use of flood resilient materials such as lime plaster, raising air bricks, positioning NRVs and services at 1.0m height from FFL, raising potential hazards and/or damage above modelled flood levels, and design of the proposed building layout to allow access to all spaces to

permit drying and cleaning. This would minimise damage to building in an extreme flood event above a 1-in-200 year scenario.

- d. Installation of a sump and pump, to allow draining away of internal flooding in coordination with flood gates.
- e. All proposed bedrooms to be located on the higher floors of the property, within the first floor extension of the proposed development.
- f. Installation of non-return valves of all soil pipes to prevent back-flow.
- g. Development of an emergency escape plan, inclusive of recommendations on seeking refuge at higher levels and of when and how to utilise a safe route of access and escape to ground above the estimated flood level, which connects the site to an area away from flood risk. This is to include provision of a Flood Warning and Flood Alert System. A Flood Evacuation Plan (FEP) template is provided in **Appendix G**.

7 FLOOD RISK MANAGEMENT

7.1 Safe Access and Egress

- 7.1.1 The proposed site development falls within Flood Zones 1 and 2, however the access to the site is from Warblington Road, which is within Flood Zone 1. Access to the proposed development is via the south of the building, with external levels of 3.80mAOD, above existing modelled flood levels.
- 7.1.2 Due to the potential of increased flood levels, access and egress to the site could continue via the existing access point on Warblington Road, which is elevated at 3.8mAOD – above existing modelled flood levels. Access to higher ground, should climate change flood levels exceed this, is available by leaving the site via the Warblington Road access and headed due southwest, where levels quickly exceed the predicted future flood level of 4.5mAOD.
- 7.1.3 Should residents need to seek refuge within the property, the upper storeys of the building will remain elevated above all predicted flood levels for the lifetime of the development.

7.2 Flood Warning

- 7.2.1 The site is at risk of fluvial and tidal flooding therefore there is a need for a Flood Evacuation Plan (FEP). This should consider the provision of a Flood Warning and Flood Alert System. A Flood Evacuation Plan (FEP) template is provided in **Appendix G**.

8 OFFSITE IMPACTS

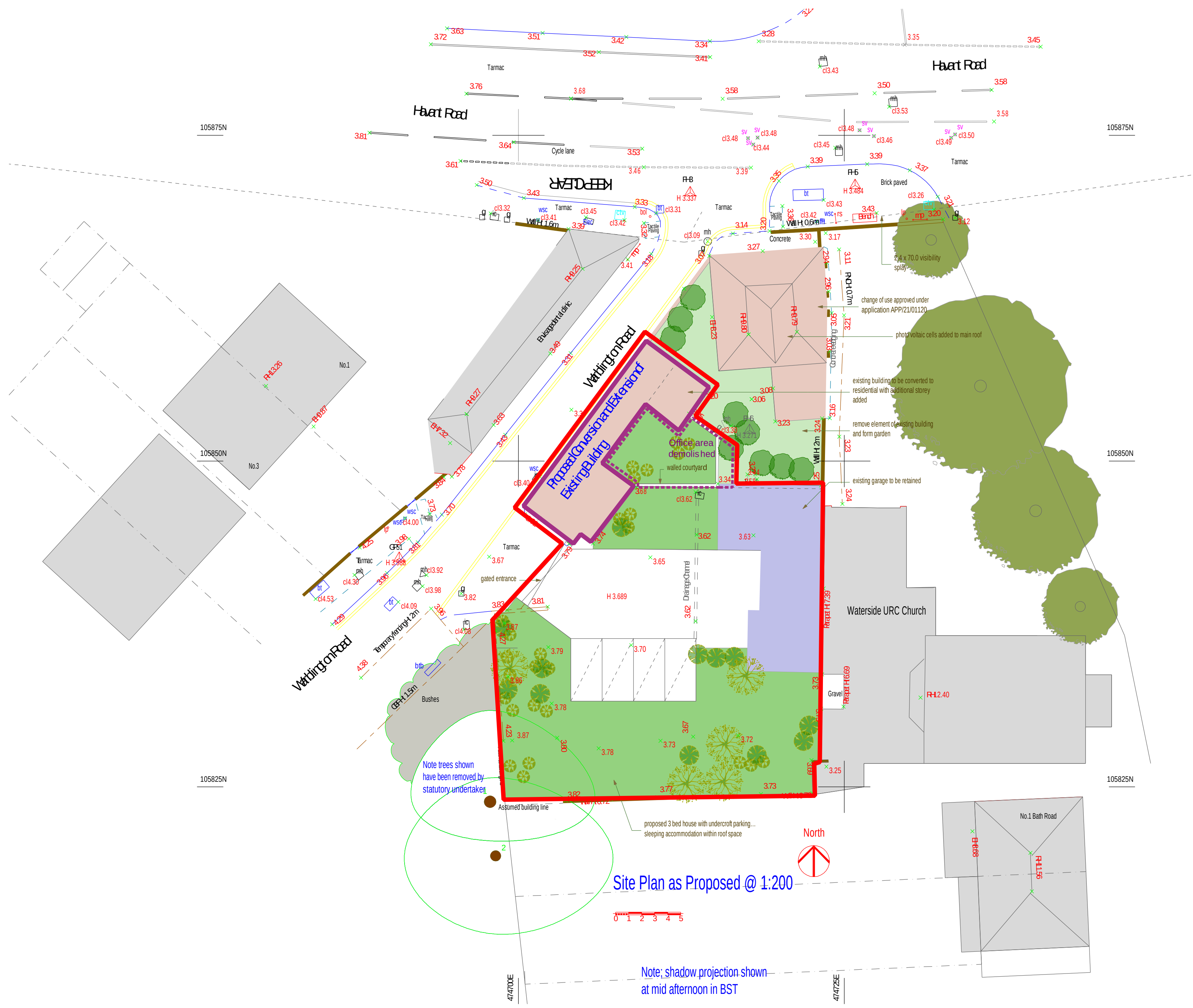
- 8.1.1 The proposed development will not result in any increase in runoff from the site, and therefore will not cause an increase in flood risk offsite.
- 8.1.2 Post development foul water flows will contribute a negligible increase to the sewer network compared to the previous use – it is expected that the foul sewer flow from the proposed residential property will be 0.05l/s.

9 SUMMARY

- 9.1.1 This site-specific report is based on the EA Product 4 Response, Flood Maps, Public Sewer Records, BGS records, and the local SFRA mapping and guidance.
- 9.1.2 The existing site consists of residential offices.
- 9.1.3 The topographical survey shows that the existing site levels fall from 3.87mAOD in the south west corner of the site to the north with a low point of 3.35mAOD within the courtyard.
- 9.1.4 The existing site buildings are drained by gully and pipe drainage, presumed to connect into the existing public surface water drainage system.
- 9.1.5 The nearest watercourse is the Main River (unknown name) that discharges into Slipper M apposite Bath Road from the site (approx. 20 metres from the site boundary). In addition, the River E which runs south into coastal Chichester Harbour approximately 275m east of the site.
- 9.1.6 The proposed development comprises the Change of Use of an office building into a residential property, as well as demolition of areas of existing ground floor development, and a first floor extension above other areas of existing ground floor development.
- 9.1.7 The development lies within Flood Zones 1 and 2. Proposed internal development levels will be raised to a minimum of 3.70mAOD, above existing modelled flood levels. The site is subject to increased future tidal flood risk. Flood mitigation measures and the consideration of safe access and egress have been considered in order to address the safe use of the development for its lifetime. A Flood Evacuation Plan (FEP) template is provided within the appendices.
- 9.1.8 The wastewater from the proposed development will discharge to the public foul sewer network connection arrangement to be confirmed subject to site investigation.
- 9.1.9 The completion of the development will not increase flood risk on or off the site, and appropriate flood mitigation has been proposed to ensure the site is safe for use, access and egress for the lifetime of the development.

APPENDICES

Appendix A Preliminary Site Layout



NOTES:
This drawing is the copyright of
EDWARD CAUSH + ASSOCIATES
All dimensions must be checked on site prior to the commencement of construction
and the Architect notified of any discrepancy. Figured dimensions are to be used in
preference to scaled dimensions. The Local Planning Authority may scale from this
drawing as the only exception. No deviation from the drawing will be permitted without
the written consent of the Architect.

Transm	Revision	Charge Name	Date
al Set	ID		
ID			

PURPOSE OF ISSUE
INFORMATION
DESIGN
TENDER
CONSTRUCTION

EDWARD CAUSH + ASSOCIATES
ARCHITECTS
11 SOUTHDOWN ROAD COSHAM PORTSMOUTH
PO6 2EB
phone 023 92 384477
fax 023 92 361582
email: eca@south-down.demon.co.uk

CLIENT
Mr & Mrs P A Munday

JOB TITLE
Fiscal House
2 Havant Road
Emsworth
Hampshire
PO10 7JE

DRAWING TITLE
Site Plan as Proposed

SCALE	DATE	
1:200 @ A2	11:10:2023	
DRAWN BY	CHECKED BY	
EC		
DRAWING NUMBER	LAYOUT ISSUE	DRWG REVISION
12:1089:L(2)-401	11	



Ground Floor Plan as Proposed @ 1:100



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and the Architect notified of any discrepancy. Figured dimensions are to be used in
preference to scaled dimensions. The Local Planning Authority may scale from this
drawing as the only exception. No deviation from the drawing will be permitted without
the written consent of the Architect.

REVISIONS

Transmittal Set ID	Revision ID	Change Name	Date

EDWARD CAUSH + ASSOCIATES
ARCHITECTS
11 SOUTHDOWN ROAD COSHAM PORTSMOUTH
PO6 2EB
phone 023 92 384477
fax 023 92 361582
email: eca@south-down.demon.co.uk

CLIENT
Mr & Mrs P A Munday

JOB TITLE
Fiscal House
2 Havant Road
Emsworth
Hampshire
PO10 7JE

DRAWING TITLE
Ground Floor Plan as Proposed

SCALE
1:100 @ A2

DATE
11:10:2023

DRAWN BY
EC

CHECKED BY

DRAWING NUMBER	LAYOUT/ISSUE	DRWG REVISION
12:1089:L(2-) 402	12	

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REVISIONS				
Transmittal Set ID	Revision ID	Change Name	Date	



PURPOSE OF ISSUE

- INFORMATION
- DESIGN
- TENDER
- CONSTRUCTION

EDWARD CAUSH + ASSOCIATES
ARCHITECTS

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CLIENT
Mr & Mrs P A Munday

JOB TITLE
Fiscal House
2 Havant Road
Emsworth
Hampshire
PO10 7JE

DRAWING TITLE
First Floor & Roof Plans as
Proposed

SCALE
1:100 @ A2

DATE
11:10:2023

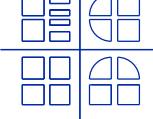
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EC

CHECKED BY

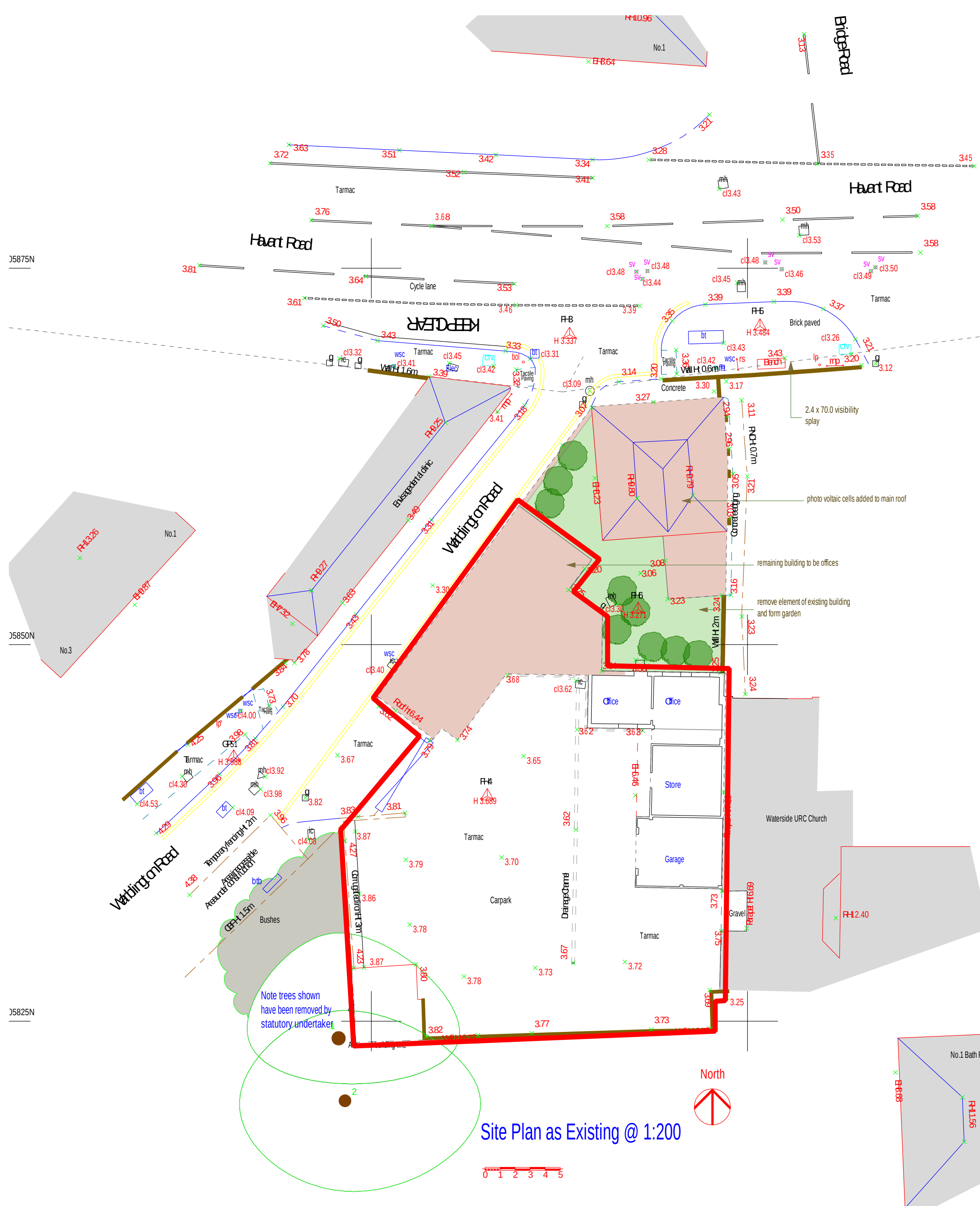
DRAWING NUMBER	LAYOUT/ISSUE	DRWG REVISION
12:1089:L(2-) 403	13	

Appendix B Topographic Survey

[illegible]

- 
- EDWARD CAUSH & ASSOCIATES
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email: eca@south-down.demon.co.uk

DRAWING NUMBER	LAYOUT ISSUE	DRWG REVISION
12:1089:L(2-) 301	06	A



Appendix C Geotechnical Information

BOPEHOLE RECORD

SU 70NW/193
7499 0589

CONTRACT No. 4277

CONTRACT EMSWORTH.

BOREHOLE No. 1

DATE STARTED 2/1/68 FINISHED 5/1/68

OPERATOR C. Nesbitt

ORDNANCE DATUM LEVEL 22.74

TYPE OF BORING Shell & Auger

TYPE OF PENETRATION TEST -

DIAMETER OF BORING 6"

WEIGHT - DROP -

STANDING WATER LEVEL 4'0"

REMARKS

Depth Feet	O.D. Level	Type & No. of Sample	Boring Details			Legend	Description of Material and Observations
			Penetration	Lining	Water		
							Full material with tarmac surface
							Stiff brown clay.
5.					S.W.L. -		
		U4/5'0"					Stiff brown sandy clay.
10		U4/10'0"					
							Hard grey mudstone
15							
		U4/18'0"					Hard grey clay.
20							
			Borehole terminated.				
							mapping suggests some Drift over

Mo
0.8m

LC

5.9m

R.T.V

2.10.82

Appendix D LLFA & LPA Consultation and Extracts

Havant Borough Council
Development Control
Civic Offices Civic Centre Road
Havant
Hampshire
PO9 2AX

Our ref: HA/2021/123668/02-L01
Your ref: APP/21/01120

Date: 16 March 2022

Dear Planning Team,

AMENDED FLOOD RISK ASSESSMENT - CHANGE OF USE FROM EXISTING TWO STOREY BUILDING FROM B1A TO RESIDENTIAL INCLUDING PART DEMOLITION OF EXISTING BUILDING AND FORMATION OF A NEW RESIDENTIAL GARDEN, RE-ALLOCATION OF PARKING.

FISCAL HOUSE, 2 HAVANT ROAD, EMSWORTH, PO10 7JE

Thank you for consulting the Environment Agency on the above application.

Environment Agency position

We have reviewed the amended Flood Risk Assessment (FLOOD_RISK_ASSESSMENT_FRA-1576623, dated 23 February 2022) and consider that it satisfactorily addresses our earlier concerns.

The proposed development will only meet the National Planning Policy Framework's requirements if the following planning condition is included. Without this condition, the proposed development on this site poses an unacceptable risk and we would object to the application.

Condition

The development permitted by this planning permission shall be carried out in accordance with the amended Flood Risk Assessment (FLOOD_RISK_ASSESSMENT_FRA-1576623) dated 23 February 2022 and the measures it details, including the following conditions:

- 1. As proposed in Section 6 Mitigation subsection 6.2.1 ii. b. - all proposed bedrooms to be located on the higher floors of the property. Therefore, no sleeping accommodation should be allowed on the ground floor due to the severe risk of flooding.**
- 2. As proposed in Section 6 Mitigation subsections 6.2.1 i. and 6.2.1 ii. – as the existing ground floor levels can't be changed, all flood resistance and resilient measures proposed must be installed prior to occupation for the 1 in 200-year tidal flood levels including climate change for the lifetime of the development of 4.5mAOD.**
- 3. As proposed in Section 6 Mitigation subsections 6.2.1 ii. d. – a Flood Evacuation Plan must be developed and agreed by the LPA. The occupants**

must also sign up to the Environment Agency's Flood Warning System.

Reason

To reduce the risk of flooding to the proposed development and future occupants.

The condition is in line with the Planning Practice Guidance (PPG) to the National Planning Policy Framework (NPPF) for Flood Risk and Coastal Change.

Advice to Local Planning Authority

The following issues are not within our direct remit or expertise, but nevertheless are important considerations for managing flood risk for this development. Prior to deciding this application, we recommend that consideration is given to the issues below. Where necessary, the advice of relevant experts should be sought.

- Details and adequacy of flood proofing and other building level resistance and resilience measures
- Ensure flood risk mitigation measures for the lifetime of the development are adequate and resilient to all extreme flood levels
- Safe access and egress routes have been shown in the FRA, but we would recommend the occupants sign up to the Environment Agency Flood Warning System.
- Details and adequacy of an emergency plan
- Provision of and adequacy of a temporary refuge
- Details and calculations relating to the structural stability of buildings during a flood
- Whether insurance can be gained or not

Advice to Applicant

Environmental Permit

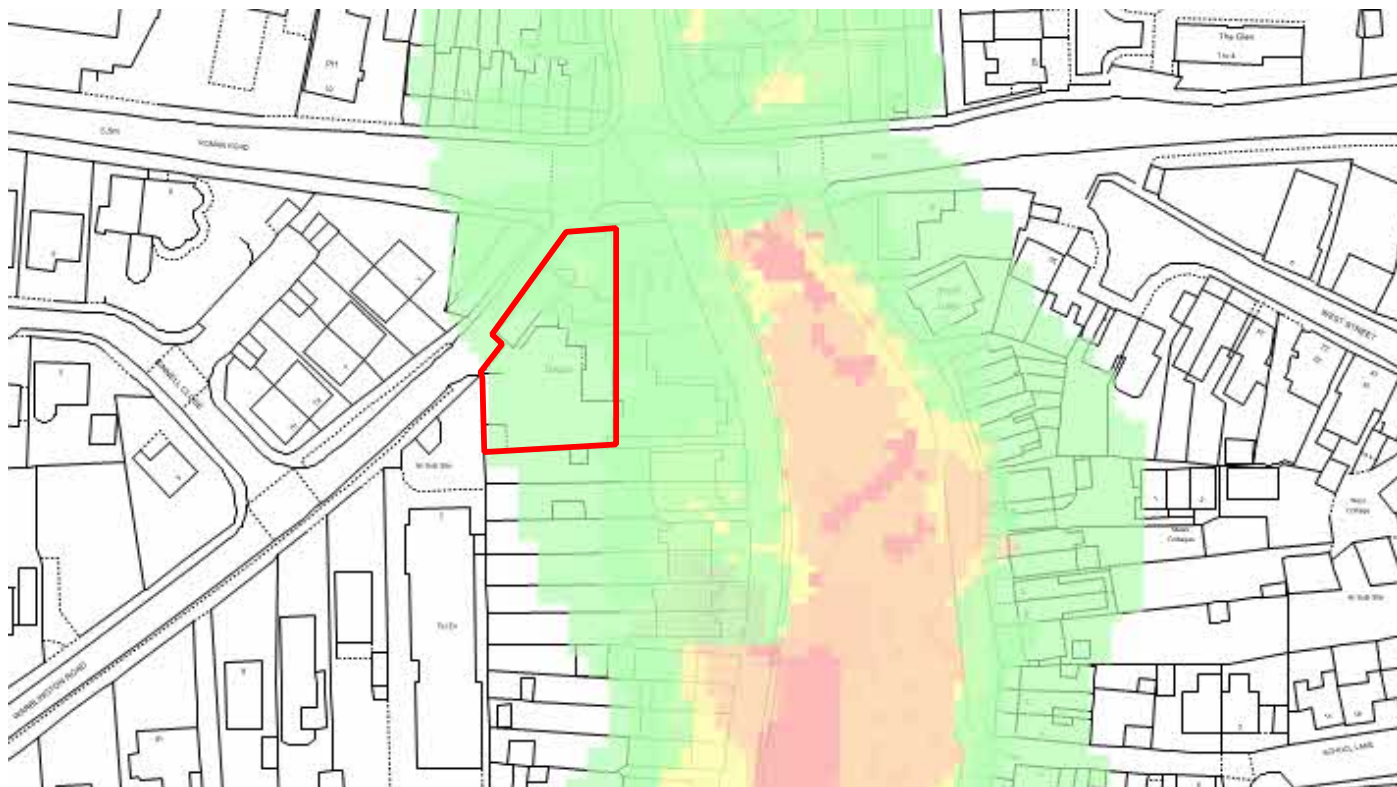
The Environmental Permitting (England and Wales) Regulations 2016 require a permit to be obtained for any activities which will take place:

- on or within 8 metres of a main river (16 metres if tidal)
- on or within 8 metres of a flood defence structure or culvert (16 metres if tidal)
- on or within 16 metres of a sea defence
- involving quarrying or excavation within 16 metres of any main river, flood defence (including a remote defence) or culvert
- in a floodplain more than 8 metres from the river bank, culvert or flood defence structure (16 metres if it's a tidal main river) and you don't already have planning permission.

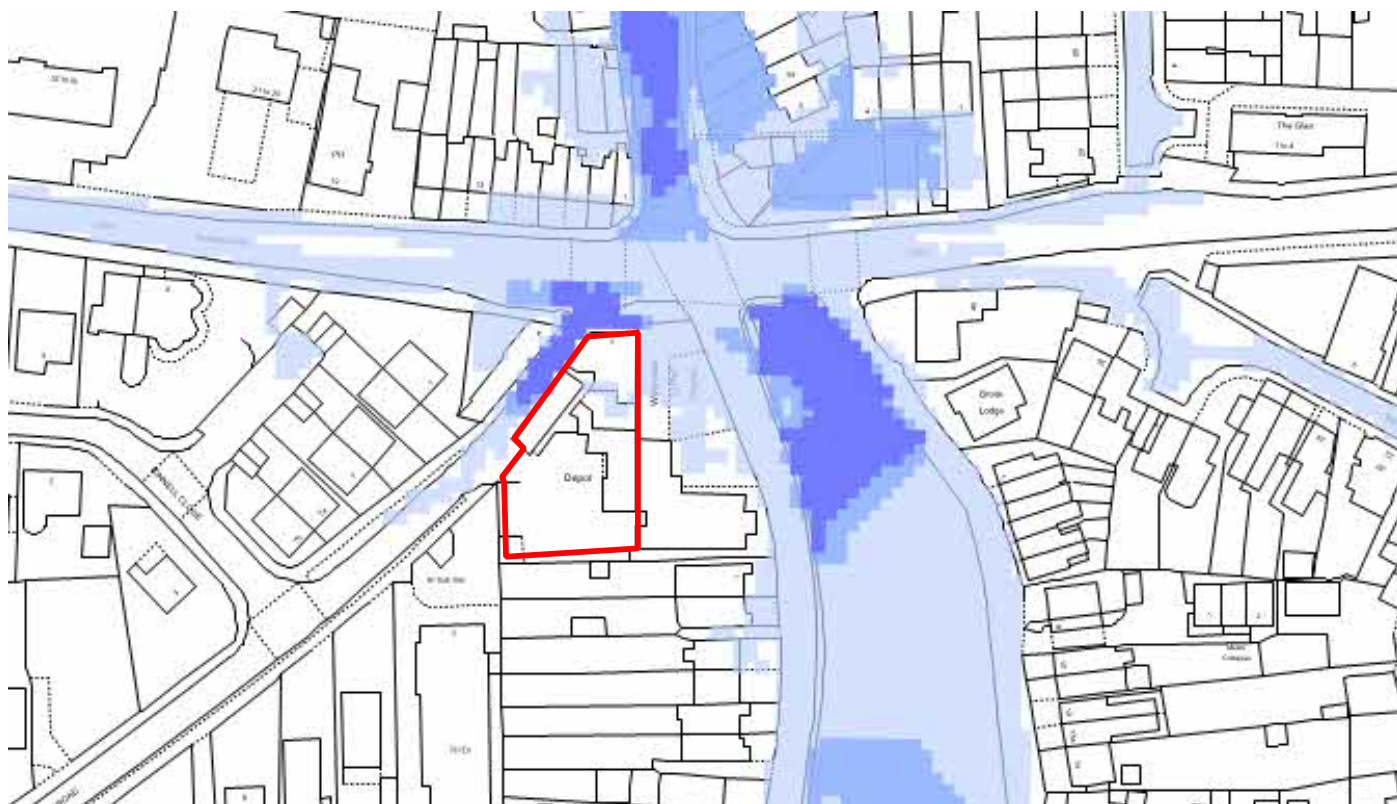
For further guidance please visit <https://www.gov.uk/guidance/flood-risk-activities-environmental-permits> or contact our National Customer Contact Centre on 03702 422 549. The applicant should not assume that a permit will automatically be forthcoming once planning permission has been granted, and we advise them to consult with us at the earliest opportunity.

Please do not hesitate to contact me using the contact details shown below should you have any queries regarding the above information.

Yours faithfully,



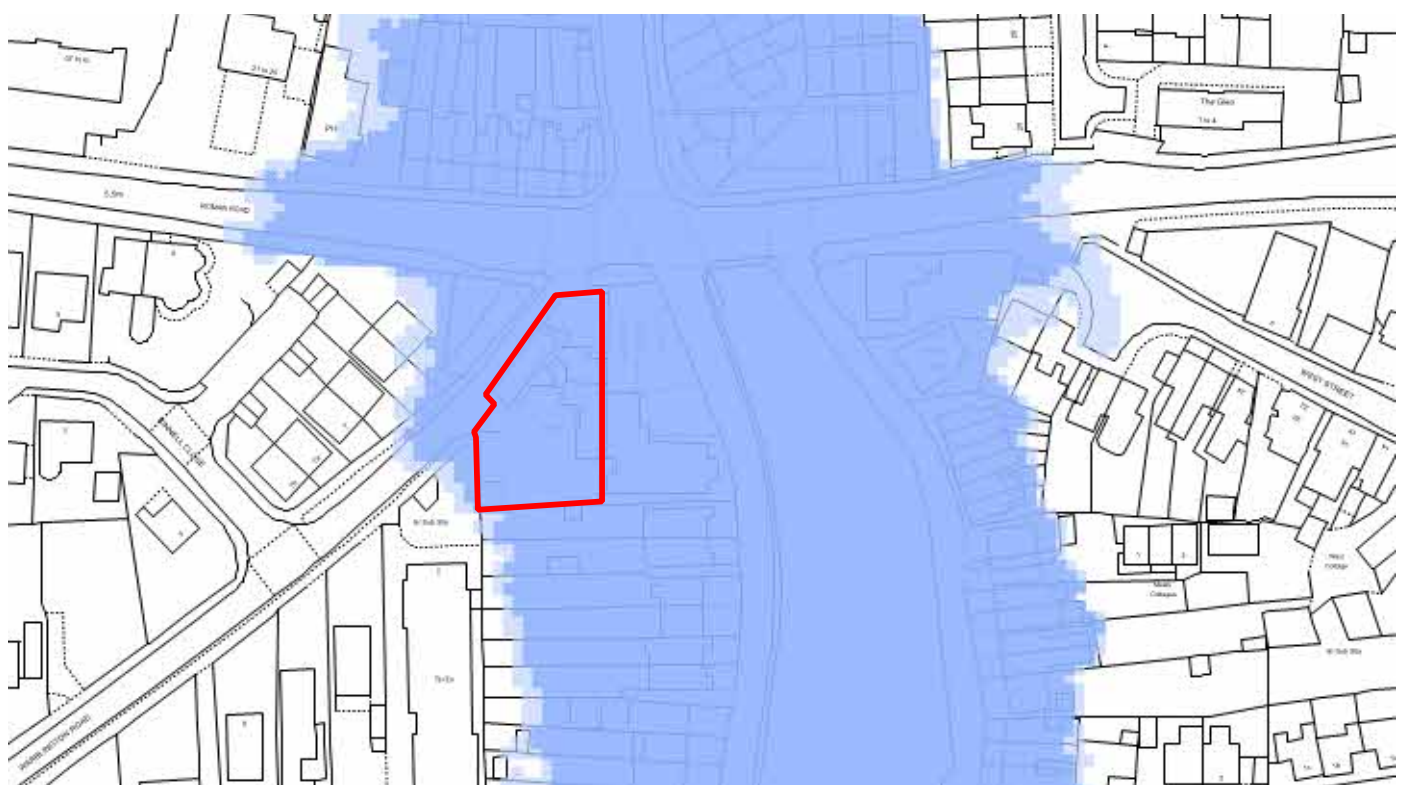
Flood Hazard Map (Low)



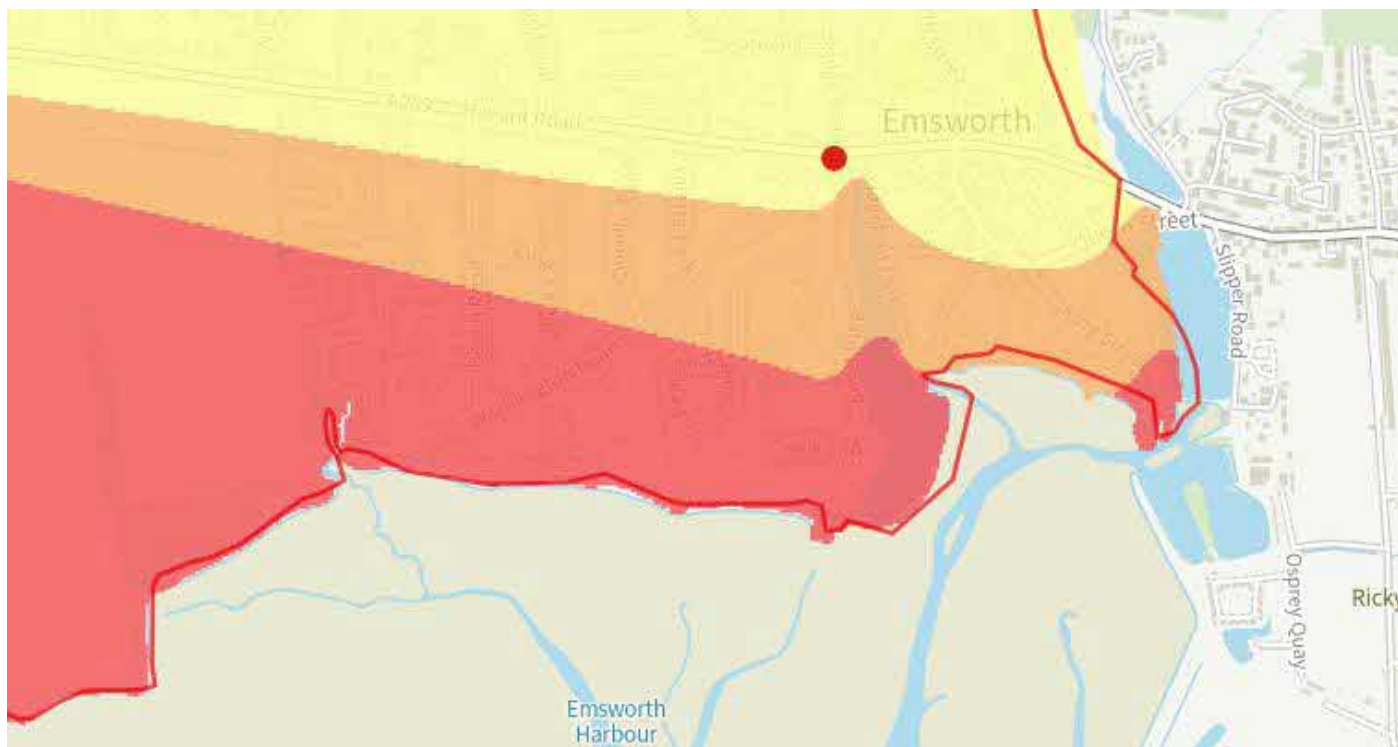
Surface Water Flood Risk (very Low to Low)



Fluvial Flood Zone 3 – year 2115



Tidal Flood Zones 2 & 3 – year 2115

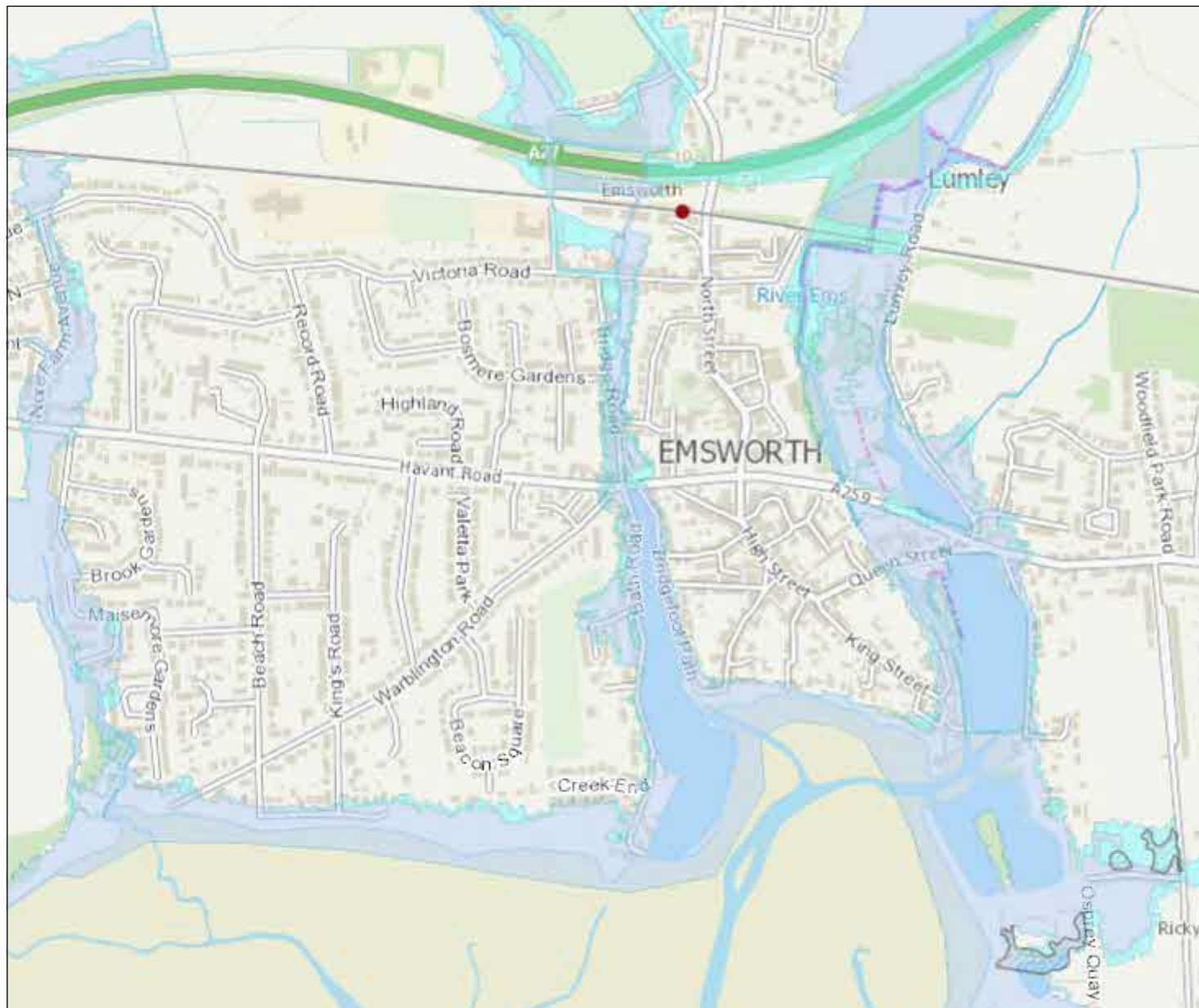


Bedrock Permeability (Low)

Appendix E Public Sewer Records

Appendix F EA Flood Modelling Data

Flood Map for Planning (Rivers and Sea) - Centred on Fiscal House - Created 10 February 2022



1: 10,000

0 Metres 250



Flood Map for Planning (Rivers & Sea)

- Defences
- Flood Storage Areas
- Areas benefiting from flood defences
- Flood Zone 3
- Flood Zone 2

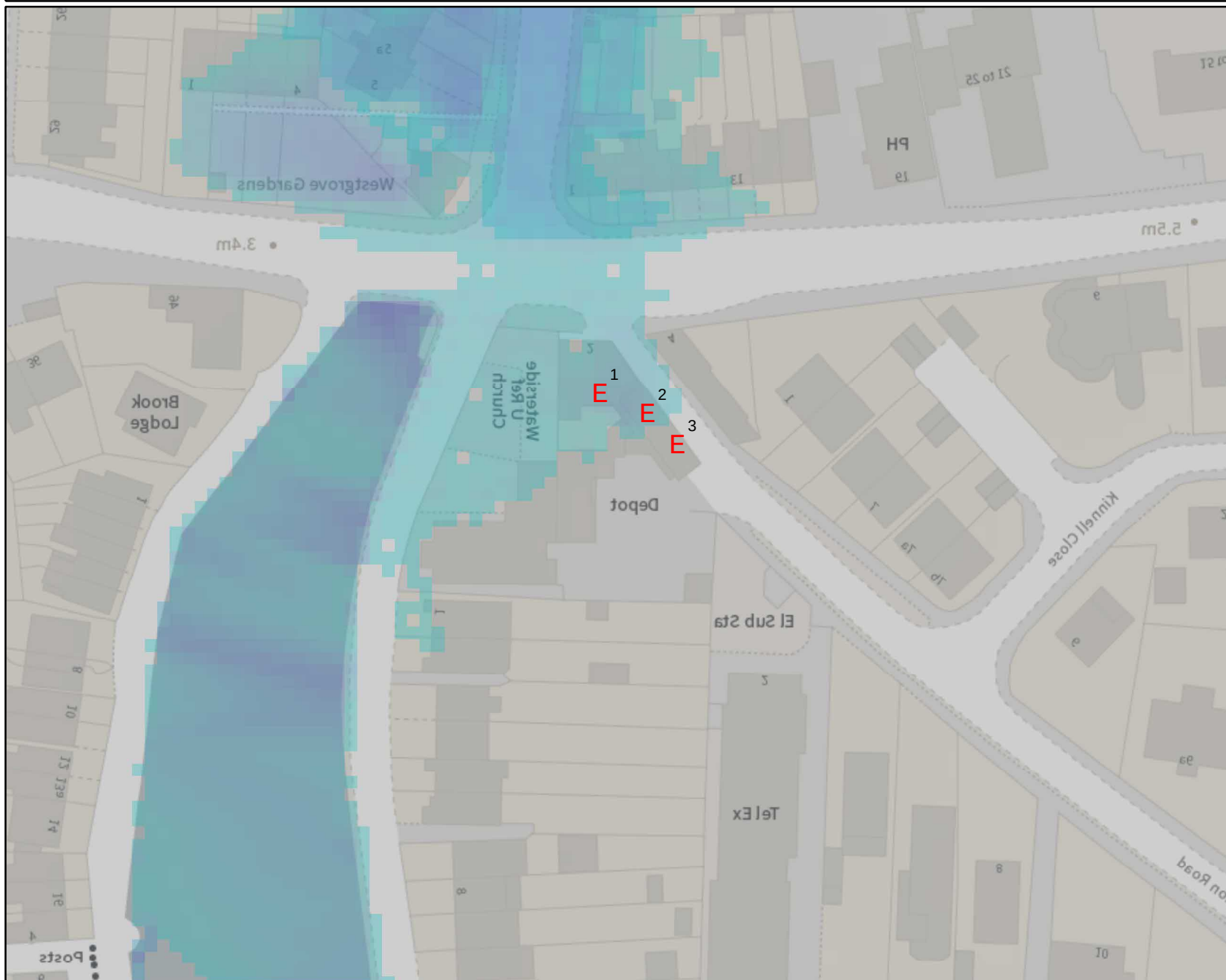
Flood Map Areas (assuming no defences)

Flood Zone 3 shows the area that could be affected by flooding:

- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

Flood Zone 2 shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.

JFLOW 2016 Levels (Fluvial) Map Centred on Fiscal House - Created 4 February 2022



Legend

E Location_Point

Water Depth

Value

High : 6.2658

Low : 0

Ground Level

Value

High : 200.075

Low : -13.7875

1:898 *

*when printed at A4.

0 10 20
Metres

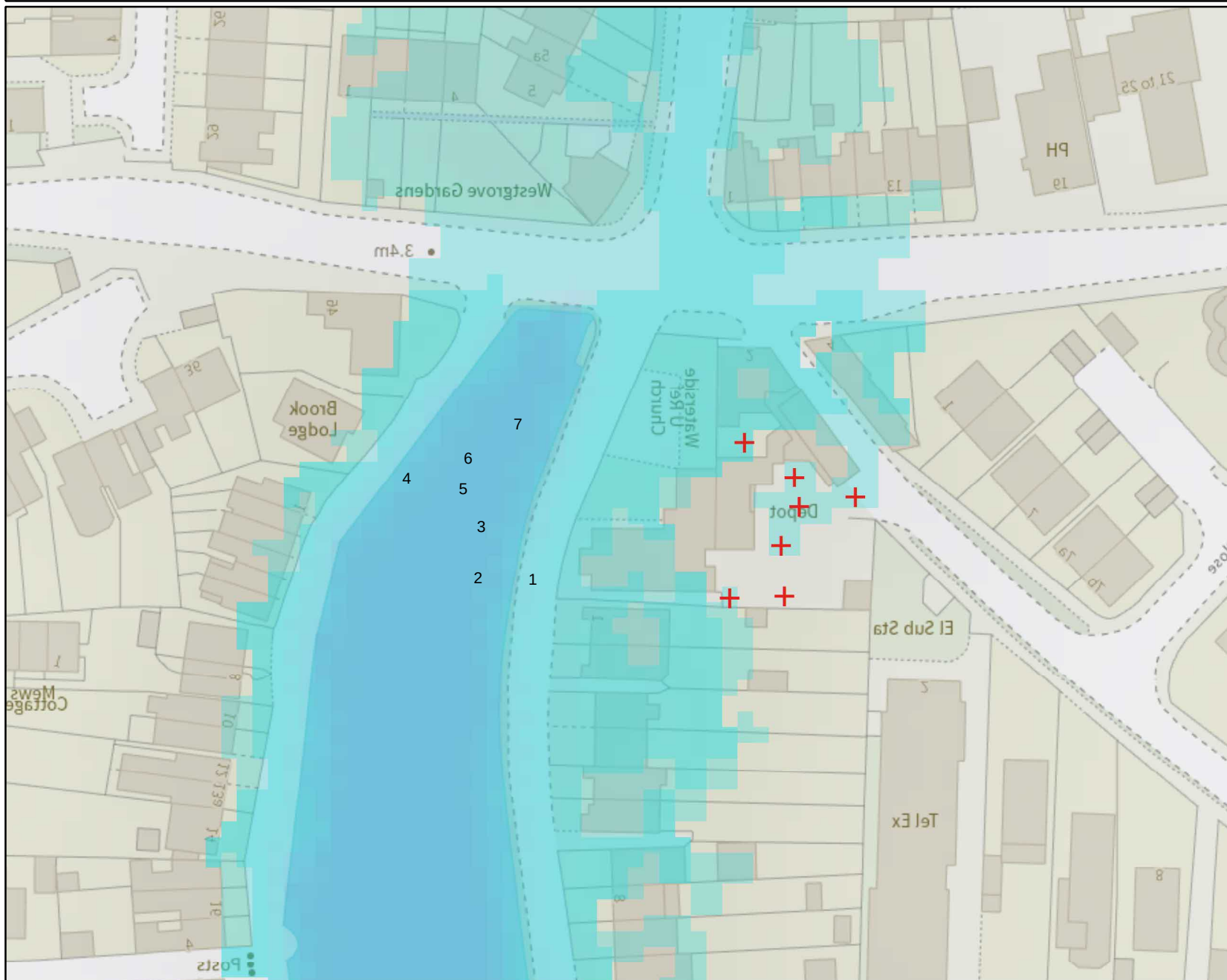


Water Depths & Levels for Fiscal House

Point	Water Surface Level (mAOD*)		Ground Level	Water Depth (metres)	
	1% Annual Probability/1 in 100 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)		1% Annual Probability/1 in 100 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)
1	No Data	3.25	3.08	No Data	0.17
2	No Data	3.25	3.18	No Data	0.07
3	No Data	3.15	3.13	No Data	0.02

* Levels in metres above Ordnance Datum Newlyn

Levels (Tidal) Map Centred on Fiscal House - Created 10 February 2022



Legend

E Location_Point

Water Depth

Value

High : 26.817

Low : 1.93721e-006

Ground Level

Value

High : 18.1244

Low : -23.2942

1:898 *

*when printed at A4.

0 10 20
Metres

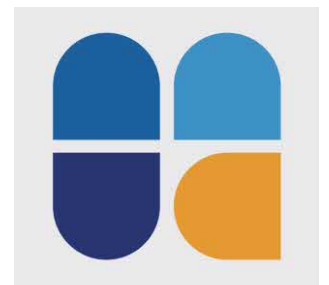


Water Depths & Levels for Fiscal House

	Water Surface Level (mAOD*)			Water Depth (metres)	
Point	0.5% Annual Probability/1 in 200 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)	Ground Level	0.5% Annual Probability/1 in 200 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)
1	No Data	3.69	3.69	No Data	0.001
2	No Data	No Data	3.66	No Data	No Data
3	No Data	3.62	3.62	No Data	0.001
4	No Data	3.70	3.67	No Data	0.029
5	No Data	3.63	3.63	No Data	0.003
6	No Data	3.63	3.61	No Data	0.022
7	3.50	3.68	3.21	0.29	0.466

* Levels in metres above Ordnance Datum Newlyn

Appendix G Flood Evacuation Plan Template



BRIGHT PLAN CIVILS

Flood Evacuation Plan

This is a template produced by Bright Plan Civils for consideration and completion by the Developer and/or Occupant

The proposals by Bright Plan Civils are not legally binding and are only intended as guidance based on Environment Agency Data & National Planning Policy Framework (NPPF).

Introduction

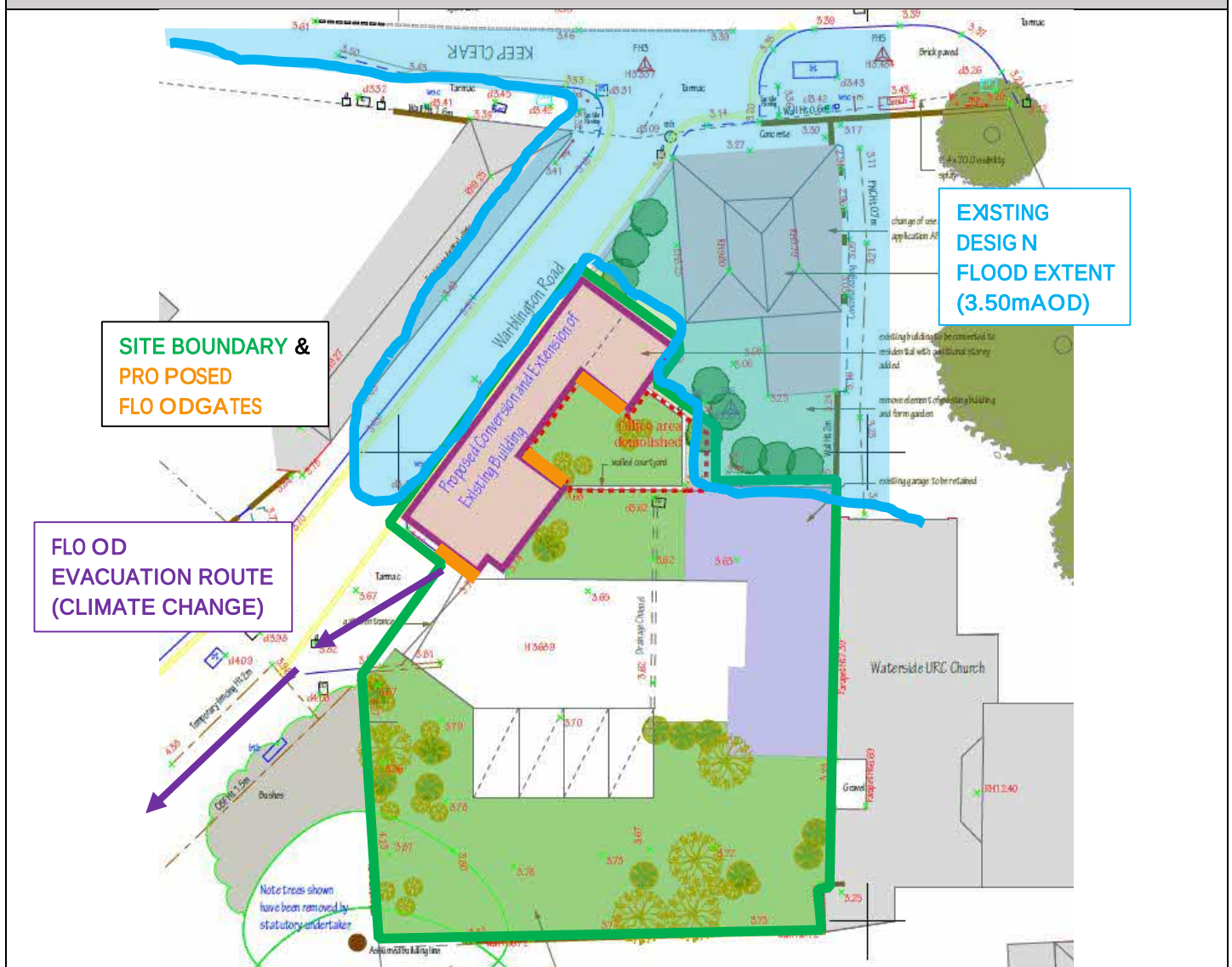
This plan is to ensure the effective flood mitigation and evacuation of the residential property at 2 Havant Road, Emsworth PO10 7JE.

This plan is to be followed to ensure the site is evacuated in sufficiently quickly and safely.

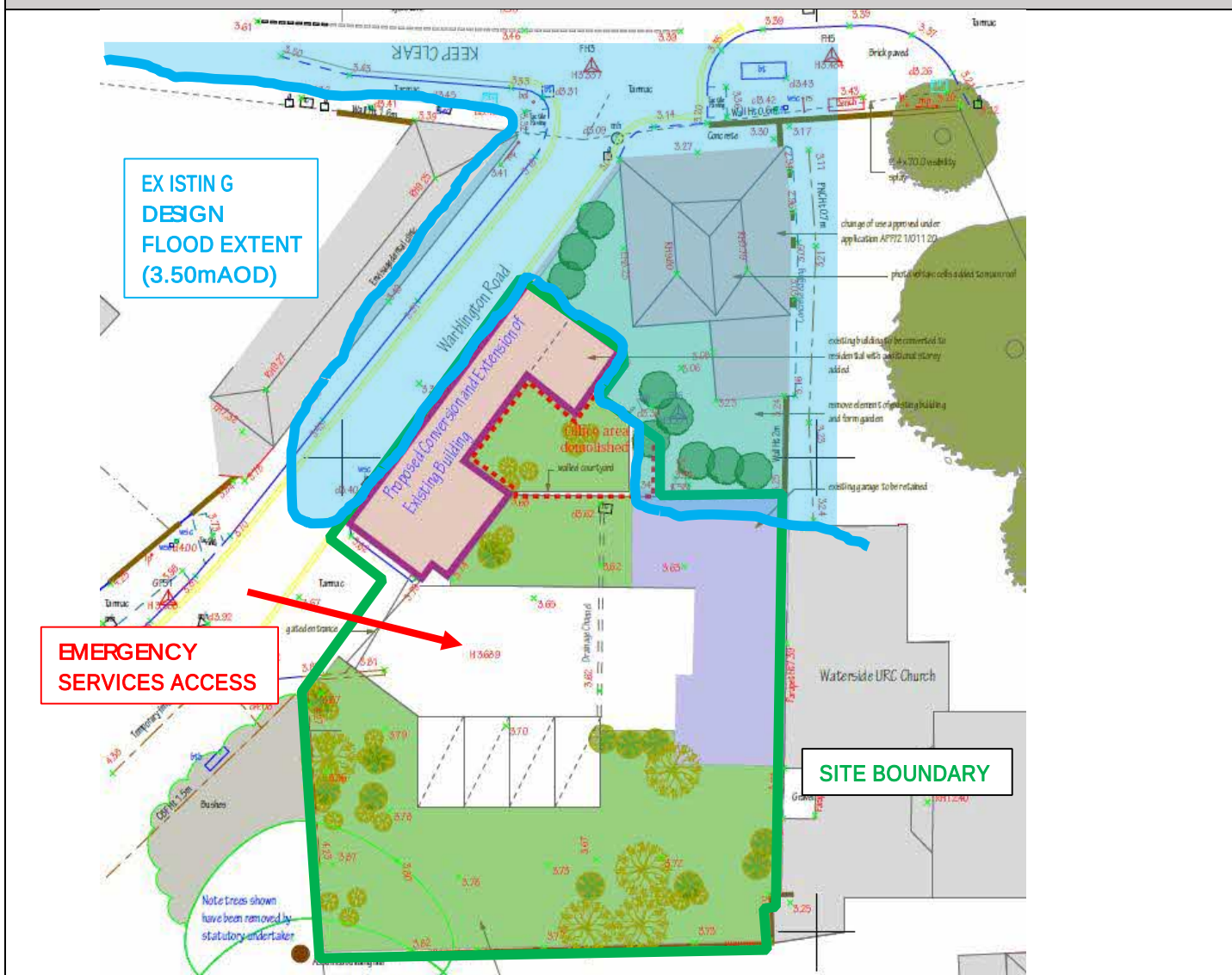
Situation

This plan is intended to provide users with the knowledge and preparedness for actions whenever there is an Environment Agency Flood Alert, Flood Warning, or otherwise knowledge of expected flood risk to the site.

Proposed Site Location & Evacuation Route



Predicted Flood Extents & Emergency Services Access



Flood Risk Assessment & Flood Preparation

The site lies within Flood Zones 1 and 2. Mitigation measures raise the finished floor levels above modelled flood levels, however the site is also at potential increased flood risk as a result of climate change.

The proposed upper floor extension of the building will be above future flood levels, however ground levels are liable to future flood risk. Access and egress is viable from the southern building entrance, to the south of the site or off site via Warblington road.

During a future flood event, access and egress could be restricted and it is recommended that evacuation were to be followed prior to flood levels reaching unsafe levels.

It is recommended that evacuation of the building takes place prior to a predicted flood event but should you find yourself in the building, on the upper floors, during a flood event you should decide if it is safe for you to enter the flood water. It may be more appropriate for you to remain in the building.

It is also recommended that the ground floor benefits from a flood warning alarm attached to a drain within a ground floor well – this would inform evacuation or other necessary actions such as contact of emergency services.

Protection: Flood barriers are to be installed on the buildings at risk from flooding to allow some protection, intended to prevent internal flooding in some events, and allow extra time for evacuation in an extreme flood scenario. Although flood barriers should be installed at all times of flood warning or expected flooding, the site should also be evacuated as a precaution whenever it is apparent that flooding is imminent (i.e. seen on the lower Havant Road adjacent the proposed residential property).

Preparation: Subscription to the EA Flood Warning & Flood Alert Service will allow occupants to be aware of possible expected flood events, in order to have flood barriers ready for deployment and be prepared in advance for any necessary evacuation.

Flood Warnings

The Environment agency flood risk early warning system contacts the primary designated number. Should they be unavailable, the secondary number is contacted.

Contact Name (1st): _____ Number: _____
Contact Name (2nd): _____ Number: _____

The property can be signed up the Environment Agency Flood Warning Scheme (<https://fwd.environment-agency.gov.uk/app/olr/home>) 0845 988 1188.

Warning	Message	Timing	Action on Alert
 FLOOD ALERT	Flooding is possible. Be prepared.	2 hours to 2 days in advance of flooding.	Be prepared for flooding. Prepare a flood kit. Check flood barriers are ready for deployment.
 FLOOD WARNING	Flooding is expected. Immediate action required.	Half an hour to 1 day in advance of flooding.	Act now to protect your property. Block doors with flood barriers, and cover airbricks and other ventilation holes. Move pets and valuables to a safe place. Keep a flood kit ready. Move any critical equipment and information to a safe location.
 SEVERE FLOOD WARNING	Severe flooding. Danger to life.	When flooding poses a significant threat to life and different actions are required.	Be ready should you need to evacuate from the property. Co-operate with the emergency services and call 999 if you are in immediate danger.

Warning Removed	No further flooding is currently expected for your area.	Issued when a flood warning is no longer in force.	Flood water may still be around and could be contaminated. If you've been flooded, ring your buildings and contents insurance company as soon as possible.
Action On Alert			
Flood Alert	Person(s) responsible for receiving flood warnings to keep up to date with the situation by watching local television news or tuning in to your local radio station on a portable radio Decide how flood alerts and the decision to evacuate will be communicated and obtain help and equipment to do this if required Keep a list of important contacts to hand or store them on your mobile phone Consider who will need extra support during a flood event Think about if there is anything that you want to keep particularly safe (high value) that you can move now to a safer location (as high as possible in your property) Know how to turn off the gas, water and electricity Prepare a Flood Kit, which could contain warm and waterproof clothing, a torch, a portable radio (battery or wind up), rubber gloves, a first aid kit (containing all important medication), food, bottled water and blankets together with a copy of important documents		
Flood Warning	Keep up to date with the situation by tuning in to your local radio station on a portable radio Keep your Flood Kit close to hand Move important items to a safe place (high shelf if possible) Move people and vehicles to higher ground and Fit flood protection items (door barriers) Do not assume that the emergency services will be able to assist, they may be helping more vulnerable people Switch of gas, water and electricity supplies (do not touch electrical item if they are wet or if you are standing in water) Listen to and act upon the advice given by Emergency Services and evacuate if instructed Avoid walking or driving through floodwater. 150mm (6 inches) depth of fast flowing water is enough to knock over an adult and 600mm (2 foot) of water can move a car		
Warning Removed	Make sure it is safe to re-enter your property. Wait for the Environment Agency to state that no flood warning is in force and for the Emergency Services to confirm that it is safe to re-enter.		

	Floodwater can contain bacteria and harmful substances including sewage so protect yourself by wearing rubber gloves, eye protection, waterproof boots and waterproof over-clothes before entering any areas affected by floodwater. If your property was damaged by floodwater, contact your insurance company. You may be covered if you incur accommodation costs due to not being able to stay in your property Take photographs to record any damage to pass on to your insurance company Get a qualified electrician to check your electrics and a qualified engineer to check your heating system before switching them back on
--	--

Utilities Contacts				
Company/Type	Contact No.	Account No.	Switched Off (Y/N)	Notes (e.g. location of cut-off)
Electricity				
Gas				
Water				
Southern Water				
Telephone				
Insurance				
Landlord				

Documentation Control					
This document is to be completed and kept up-to-date by the building owner and provided to all occupants for consideration, further completion and guidance. This document is to be reviewed on January 1st every three years					

Version Control					
Version No.		Issued on (Date)		Valid Until (Date)	
Version No.		Issued on (Date)		Valid Until (Date)	
Version No.		Issued on (Date)		Valid Until (Date)	
Version No.		Issued on (Date)		Valid Until (Date)	
Version No.		Issued on (Date)		Valid Until (Date)	

Conditions and Limitations

1. This report does not constitute a design document. It is the duty of the project designers, to confirm the content of this report and to design the scheme in accordance with their own research and other extraneous parameters.
2. This report is produced for the named Client and must not be relied upon by any third parties, without the express prior written permission of Bright Plan Civils.
3. The copyright of this report remains the property of Bright Plan Civils.
4. Unless specifically stated otherwise in the report, any recommendations for works given in the report are to be confirmed or modified as appropriate at design stage.
5. Under the Construction (Design & Management) Regulations, latest edition, the Client has obligations for ensuring the Health & Safety arising from any construction work. If it is proposed to proceed with construction works, based upon information or recommendations contained in this report, these regulations probably apply. Further details of any issues arising from our report or the client's obligations generally are available on request