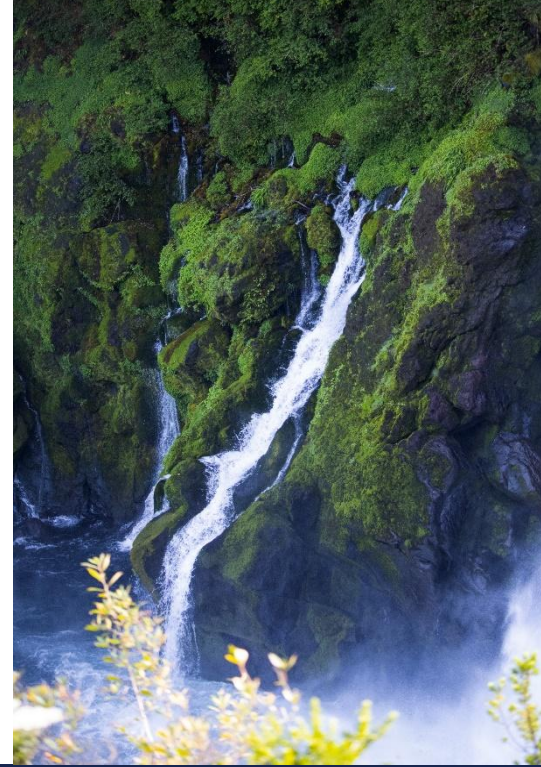




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Flood Risk Assessment AEG9339_RH15_BurgessHill_01

Site Address: 51 Faulkners Way
Burgess Hill
Mid Sussex
West Sussex
RH15 8SA

UK Experts in Flood Modelling, Flood Risk
Assessments, and Surface Water Drainage Strategies

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Document Issue Record

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Reference: AEG9339_RH15_BurgessHill_01

Site Location: 51 Faulkners Way, Burgess Hill, Mid Sussex, West Sussex, RH15 8SA

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Summary

Development Description	Existing	Proposed
Development Type	Existing residential dwelling.	The construction of a front porch, including moving the front door
EA Vulnerability Classification	More Vulnerable	More Vulnerable
Ground Floor Level	EA LiDAR data shows the ground elevation of the site varies between approximately 28.85m AOD (metres Above Ordnance Datum) and 29.52m AOD.	No change – Finished Floor Levels (FFLs) of the proposed development to be set now lower than FFLs of the existing dwelling.
Level of Sleeping Accommodation	First Floor	No change
Surface Water Drainage	N/A ¹	To drain as per existing drainage arrangements. Small scale SuDS such as rainwater planters or water butts could be included to provide a betterment over the existing situation.
Site Size	Approximately 170m ²	No change
Development Size	N/A ¹	Proposals are less than 250m ² (minor development in terms of flood risk).
Risk to Development	Summary	Comment
EA Flood Zone	Flood Zone 1 (Fluvial and Tidal)	
Flood Source	Pluvial	Mid Sussex District Council SFRA (2024) includes surface water into Flood Zone extents and therefore wider site curtilage is considered pluvial Flood Zone 3b.
SFRA Available	Level 1 Strategic Flood Risk Assessment (Mid Sussex District Council, 2024)	
Management Measures	Summary	Comment

Ground floor level above extreme flood levels	No	Proposed development is within the high likelihood extent to experience surface water flooding during the climate change scenario. Analysis of the flood depth intervals shows that the development is at low risk of flood depths exceeding 0.2m but outside all modelled likelihood extents of flood depths exceeding 0.3m.
Safe Access/Egress Route	N/A ¹	Proposal is for an extension to an existing dwelling and thus access/egress arrangements would not differ from existing situation, post-development.
Flood Resilient Design	Precautionary mitigation has been recommended.	See details in Section 5.
Site Drainage Plan	N/A ¹	To drain as per existing drainage arrangements. Small scale SuDS such as rainwater planters or water butts could be included to provide a betterment over the existing situation.
Flood Warning and Evacuation Plan	N/A ¹	Recommended that occupier monitor Met Office Weather Warnings for extreme weather events.
Offsite Impacts	Summary	Comment
Displacement of floodwater	Negligible	The proposed development is not affected by the medium and/or high risk surface water extents. As such, when considering the flood depth mapping, the proposed extension is not considered to be within Flood Zone 3a as the greatest likelihood of depths exceeding 0.2m at the

Increase in surface run-off generation		extension is low and therefore equivalent to Flood Zone 2. Thus, based on the above, Compensatory Flood Storage (CFS) is not considered a requirement for this development.
	Negligible	To drain as per existing drainage arrangements. Small scale SuDS such as rainwater planters or water butts could be included to provide a betterment over the existing situation.
Impact on hydraulic performance of channels	No	There is an unnamed tributary approximately 20m west of the site.

¹ not required for this assessment

² data not available.

1. Introduction

- 1.1. Aegaea were commissioned by Sorcha Lynch to undertake a Flood Risk Assessment (FRA) to facilitate a planning application for the proposed development. This FRA has been prepared in accordance with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance.
- 1.2. This FRA is intended to support a full planning application and as such the level of detail included is commensurate and subject to the nature of the proposals.

Site Overview

- 1.3. The site of the proposed development is 51 Faulkners Way, Burgess Hill, Mid Sussex, West Sussex, RH15 8SA (Figure 1).



Figure 1: Site Location (Base map and data from Google Satellite Imagery ©)

- 1.4. It is understood that the client is seeking planning permission for the construction of a front porch to an existing dwelling, including moving the front door. All provided plans can be found in Appendix A of this report.
- 1.5. In the absence of a topographical survey, Environment Agency Light Detection and Ranging (LiDAR) data Digital Terrain Model has been used to review the topography of the site (Figure 2). The EA LiDAR data shows the ground elevation of the site varies between approximately 28.85m AOD (metres Above Ordnance Datum) and 29.52m AOD. Analysis of topographic levels at the site and in the nearby vicinity indicate that the site generally slopes with a fall to the north-west.

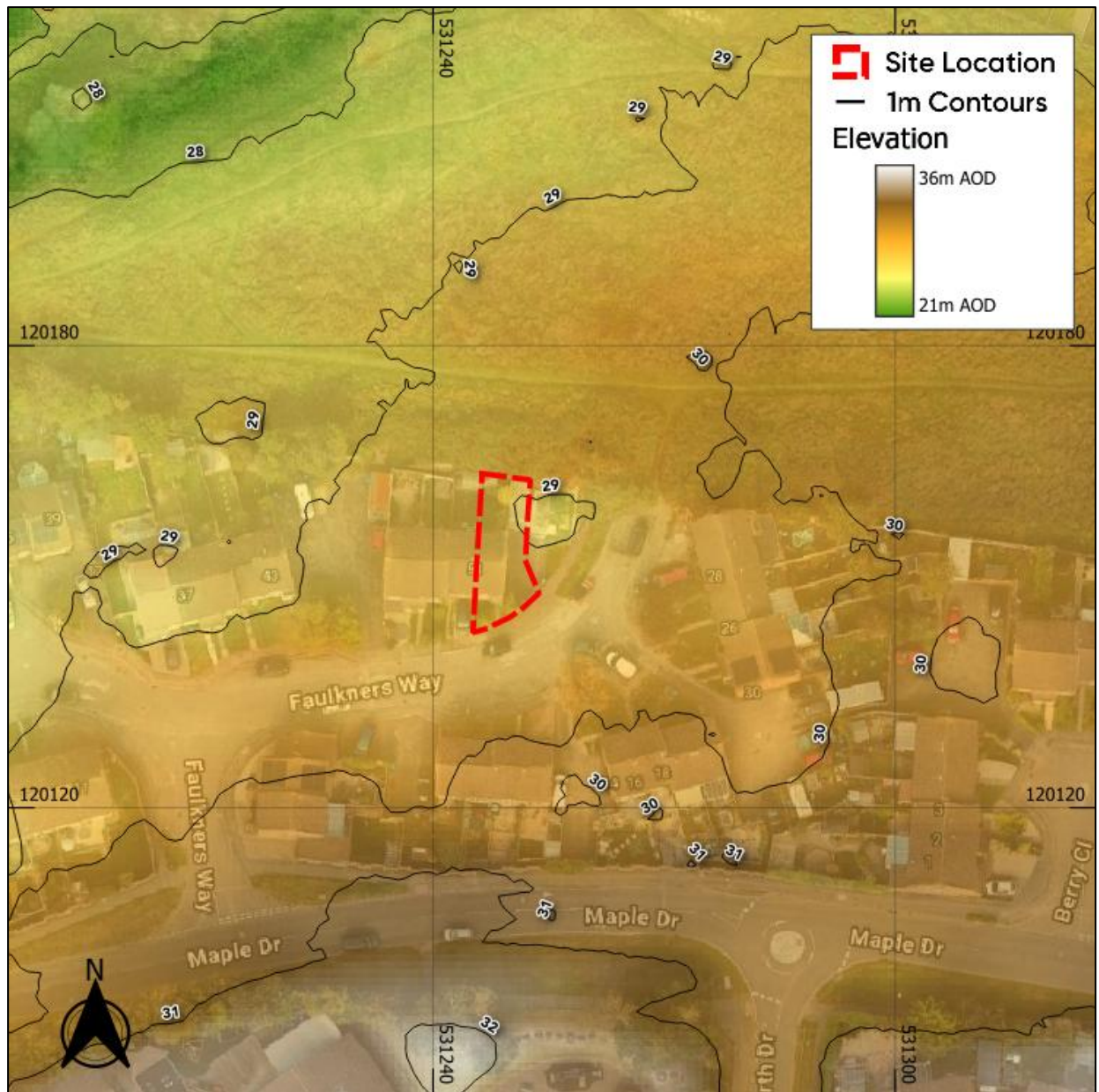


Figure 2: Site Topography (Base map and data from Google Satellite Imagery ©. Contains public sector information licensed under the Open Government Licence v3.0)

- 1.6. Mid Sussex District Council is the Local Planning Authority (LPA) for the site and West Sussex County Council is the designated Lead Local Flood Authority (LLFA). The site sits within the Environment Agency's Solent and South Downs region.

Planning Policy and Guidance

1.7. UK government planning guidance states¹ that an FRA is required for developments which are:

- *in flood zones 2 or 3 including minor development and change of use*
- *more than 1 hectare (ha) in flood zone 1*
- *less than 1 ha in flood zone 1, including a change of use in development type to a more vulnerable class (for example from commercial to residential), where they could be affected by sources of flooding other than rivers and the sea (for example surface water drains, reservoirs)*
- *in an area within flood zone 1 which has critical drainage problems as notified by the Environment Agency*

1.8. It has been identified in this FRA that the site is situated within Flood Zone 1; however, is within an area at 'high' risk of surface water flooding. The Mid Sussex District Council (MSDC) Drainage Team have outlined since the NaFRA2 outputs in January 2025:

The Planning Practice Guidance: Flood Risk and Coastal Change was updated in August 2022 and requires all sources of flood risk "to be treated consistently with river and tidal flooding in mapping probability and assessing vulnerability" (of development).

Due to the need to considered all sources of flooding consistently with river flooding, Mid Sussex District Council (in line with West Sussex Lead Local Flood Authority advice) now follow the below table when considering flood risk.

Annual exceedance	Flood Zone	Surface Water Flood Risk
Greater than 3.3% (>1:30-year)	3b	High
Between 1% and 3.3% (1:100-year and 1:30-year)	3a	Medium
Between 0.1% and 1% (1:1,000-year and 1:100-year)	2	Low
Less than 0.1% (<1:1,000-year)	1	Very Low

¹ <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications#when-you-need-an-assessment>

- 1.9. As such, with the site being situated within an area identified as at 'high' risk of surface water flooding, this would be considered equivalent to Flood Zone 3b and required an FRA, with subsequent mitigation measures.
- 1.10. The objective of this FRA is to demonstrate that the proposals are acceptable in terms of flood risk. This report summarises the findings of the study and specifically addresses the following issues in the context of the current legislative regime:
- Fluvial/tidal flood risk
 - Surface water flood risk
 - Risk of flooding from other sources

2. Planning Policy

- 2.1. Inappropriate development in a flood risk area could pose significant risk in terms of personal safety and damage to property for the occupiers of the development or for people elsewhere. The approach taken in the assessment of flood risk at the planning stage is set out in national, regional, and local planning policy and associated guidance. This section summarises the key policies and guidance relevant to the proposed development.

National Planning Policy Framework (NPPF)

- 2.2. The National Planning Policy Framework² (NPPF) (MHCLG, 2024) which includes UK Government policy on development and flood risk states:

170. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.

176. Applications for some minor development and changes of use should also not be subject to the sequential test, nor the exception test [set out below], but should still meet the requirements for site-specific flood risk assessments set out in footnote 63.

181. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

- a) 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;*

² <https://www.gov.uk/guidance/national-planning-policy-framework>, last updated Dec 2024

- b) *the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;*
- c) *it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*
- d) *any residual risk can be safely managed; and*
- e) *safe access and escape routes are included where appropriate, as part of an agreed emergency plan.*

2.3. Paragraph 051 of the Flood Risk and Coastal Change Planning Practice Guidance (PPG) states:

Minor development means:

- *minor non-residential extensions (industrial/commercial/leisure etc): extensions with a floorspace not in excess of 250 square metres.*
- *alterations: development that does not increase the size of buildings, e.g. alterations to external appearance.*
- *householder development: for example, sheds, garages, games rooms etc within the curtilage of the existing dwelling, **in addition to physical extensions to the existing dwelling itself.** This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling (e.g. subdivision of houses into flats) or any other development with a purpose not incidental to the enjoyment of the dwelling.*

2.4. As such, the proposal would be considered a Minor Development under the PPG.

2.5. Footnote 63 of the NPPF states:

A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

2.6. Flood Zones in England are defined as follows:

Table 1: Flood Zone Definitions

Flood Zone	Definition
Zone 1 Low Probability	Land having less than 1 in 1,000 annual probability of river or sea flooding (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.
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.
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). 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)

- 2.7. An FRA should be appropriate to the scale, nature, and location of the development. It should identify and assess the risk from all sources of flooding to and from the development and demonstrate how any flood risks will be managed over the lifetime of the development.
- 2.8. An assessment of hydrological impacts should be undertaken, including to surface water runoff and impacts to drainage networks in order to demonstrate how flood risk to others will be managed following development and taking climate change into account.

Local Plan

- 2.9. The Local Plan prepared by the Local Planning Authority, Mid Sussex District Council, sets out the policies for development in the local area.
- 2.10. Policy DP41 Flood Risk and Drainage outlines the requirements for new development within the area. It states:

Strategic Objectives: 1) To promote development that makes the best use of resources and increases the sustainability of communities within Mid Sussex, and its ability to adapt to climate change; and 2) To support sustainable communities which are safe, healthy and inclusive.

Evidence Base: Gatwick Sub Region Water Cycle Study; Strategic Flood Risk Assessment; Water. People. Places SuDS guidance.

Proposals for development will need to follow a sequential risk-based approach, ensure development is safe across its lifetime and not increase the risk of flooding elsewhere. The District Council's Strategic Flood Risk Assessment (SFRA) should be used to identify areas at present and future flood risk from a range of sources including fluvial (rivers and streams), surface water (pluvial), groundwater, infrastructure and reservoirs.

Particular attention will be paid to those areas of the District that have experienced flooding in the past and proposals for development should seek to reduce the risk of flooding by achieving a reduction from existing run-off rates.

Sequential and Exception Tests

- 2.11. The Sequential and Exception Tests are applied in specific cases defined by UK Government policy. Their purpose is to drive development to areas of low flood risk and to support developments which improve flood risk for developments in areas at risk of flooding.
- 2.12. Under the NPPF, all new planning applications should undergo a Sequential Test in accordance with Paragraph 172. This test should be implemented by local planning authorities with a view to location; particularly vulnerable new developments outside of the floodplain.
- 2.13. However, Paragraph 176 of the NPPF states:

*176. Applications for some **minor development** and change of use should also not be subject to the sequential test, nor the exception test, but should still meet the requirements for site-specific flood risk assessments set out in footnote 63.*

- 2.14. As such, a site-specific Sequential and Exception Test for the proposed minor development is not considered necessary in line with the NPPF.

Summary

- 2.15. This flood risk assessment has been prepared with due consideration to the above local and national policy.

3. Document Review

Documents and Online Mapping

- 3.1. Local Governments and Lead Local Flood Authorities provide documents which contain data and policies on flood risk and new development in their areas. These documents are introduced and briefly summarised below. For the purposes of this FRA, these documents have been reviewed for relevant information and any relevant data is discussed within the appropriate sub heading of this report.
- 3.2. The following sources of information have been reviewed for this assessment:
- Flood Map for Planning on the Environment Agency website <https://flood-map-for-planning.service.gov.uk/>
 - Long Term Flood Risk Information on the Environment Agency website <https://www.gov.uk/check-long-term-flood-risk>
 - National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2024)
 - Planning Practice Guidance - Flood Risk and Coastal Change (Ministry of Housing, Communities and Local Government, 2022)
 - Geoindex Onshore (British Geological Survey, 2024)
 - Mid Sussex District Plan 2014-2031³ (Mid Sussex District Council, 2018)
 - West Sussex Preliminary Flood Risk Assessment⁴ (West Sussex County Council, 2011) and Preliminary Flood Risk Assessment Addendum⁵ (West Sussex County Council, 2017)

³ <https://www.midsussex.gov.uk/media/3406/mid-sussex-district-plan.pdf>

⁴ https://www.westsussex.gov.uk/media/1626/west_sussex_pfra.pdf

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/698548/PFRA_West_Sussex_County_Council_2017.pdf

- Level 1 Strategic Flood Risk Assessment (Mid Sussex District Council, 2024)⁶ and Level 1 Strategic Flood Risk Assessment⁷ (Mid Sussex District Council, 2015)
- West Sussex Local Flood Risk Management Strategy (2013-2018)⁸ (West Sussex County Council, 2014)

Preliminary Flood Risk Assessment (PFRA)

- 3.3. The PFRA, published in 2011 and 2017, is a high-level appraisal of flood risk across Lead Local Flood Authority West Sussex County Council. The flood risk from all sources, including fluvial, surface water, groundwater, and surcharged sewers is evaluated. It is the basis upon which the Local Flood Risk Management Strategy is produced.
- 3.4. The PFRA summarises historical flood incidents in West Sussex County Council. The site is not recorded as having been affected by any flood event.

Strategic Flood Risk Assessment (SFRA)

- 3.5. The SFRA, published in 2015 and 2024, provides the evidence base for the Local Planning Authority Mid Sussex District Council Local Plan and guidance for consideration when determining planning applications. The SFRA seeks to place new development into areas of lower flood risk taking into account current flood risk, future flood risk, and the effect a proposed development would have on the risk of flooding.
- 3.6. The SFRA mapping provided by Mid Sussex District Council has been used throughout production of this report as a source of information, particularly pertaining to historical flood incidents.

Local Flood Risk Management Strategy (LFRMS)

- 3.7. The Local Flood Risk Management Strategy sets out roles and responsibilities for flood risk management, assesses the risk of flooding in the area, where funding can be found to manage flood risk, and the policies, objectives, and actions of the Lead Local Flood Authority.

⁶ <https://www.midsussex.gov.uk/media/sl2jkh0z/env11-strategic-flood-risk-assessment-level-1-2024.pdf>

⁷ <https://www.midsussex.gov.uk/media/2609/strategic-flood-risk-assessment.pdf>

⁸ https://www.westsussex.gov.uk/media/1595/local_flood_risk_management_strategy.pdf

- 3.8. The West Sussex County Council LFRMS is used within this report to identify any flood management infrastructure and historical incidences of flooding.

4. Sources of Flood Risk

Fluvial / Tidal

- 4.1. Flooding from watercourses arises when flows exceed the capacity of the channel, or where a restrictive structure is encountered, resulting in water overtopping the banks into the floodplain.
- 4.2. Tidal flooding occurs when a high tide and high winds combine to elevate sea levels. An area behind coastal flood defences can still flood if waves overtop the defences or break through them. Tidal flooding can also occur a long way from the coast by raising river levels. Water may overtop the river bank or river defences when tide levels are high.

Main Rivers and Watercourses

- 4.3. Based on EA LiDAR analysis and OS mapping, there is an unnamed tributary approximately 20m west of the site. Based on EA LiDAR data, this watercourse appears to flow in the northerly direction and discharges into the Eastern Adur (EA Main River) which is approximately 460m northwest at its closest location to the site.
- 4.4. There are no other identified watercourses within the vicinity (<500m) of the site, based on OS mapping .

EA Flood Map for Planning

- 4.5. Figure 3 shows the site is situated within Flood Zone 1 (all land outside Flood Zones 2 and 3). Flood Zone 1 denotes land having less than 1 in 1,000 annual probability of river or sea flooding.



Figure 3: EA Flood Map for Planning (Base map and data from Google Satellite Imagery ©. Contains public sector information licensed under the Open Government Licence v3.0)

Historical Fluvial Flooding

- 4.6. Review of the EA Historical Flood Outline dataset shows that fluvial or tidal flooding has not occurred on or in the vicinity (<500m) of the site previously (Figure 4).

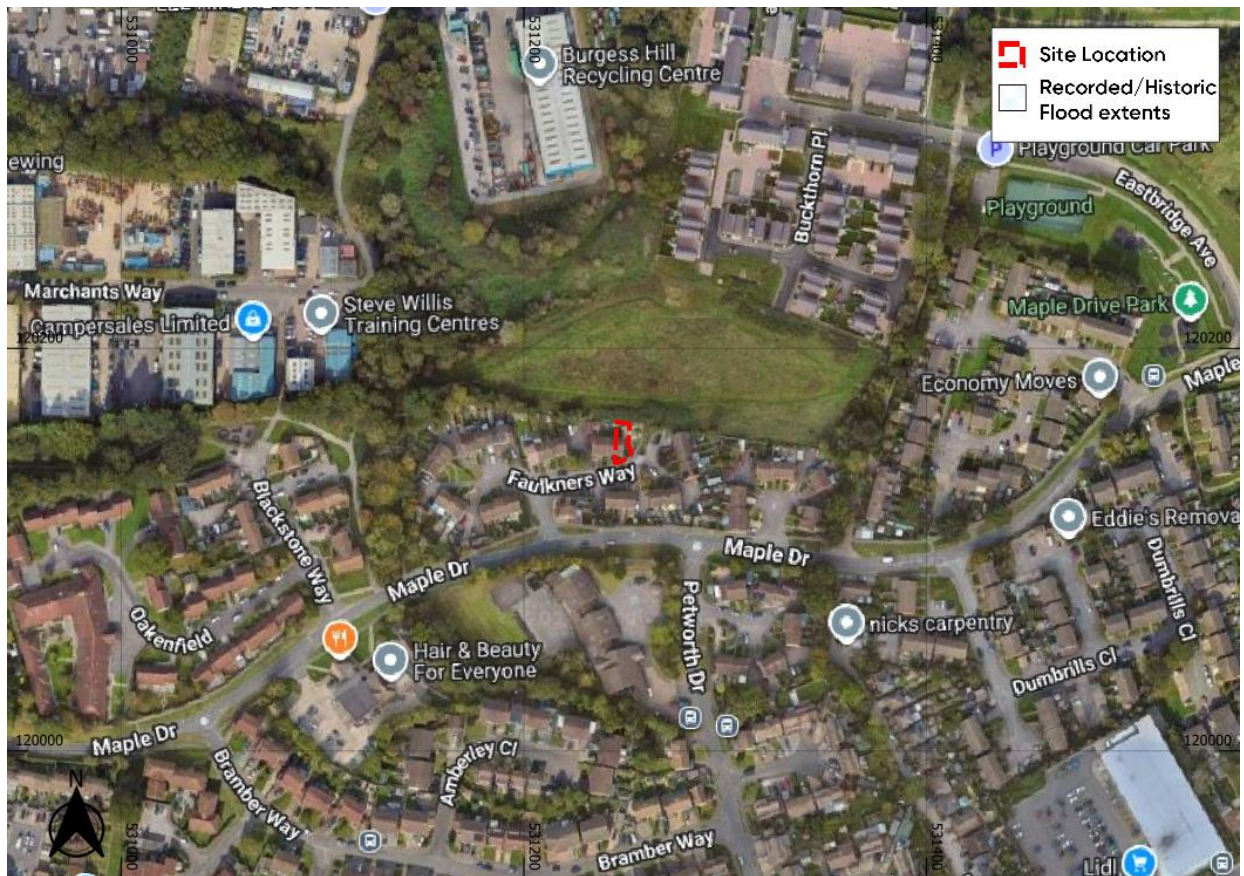


Figure 4: EA Historic Flood Mapping (Base map and data from Google Satellite Imagery ©. Contains public sector information licensed under the Open Government Licence v3.0)

Fluvial/Tidal Flood Risk Summary

- 4.7. Based on the analysis above, the fluvial and tidal flood risk to the site and proposed development is considered low.

Canals

- 4.8. The Canal and River Trust (CRT) generally maintains canal levels using reservoirs, feeders, and boreholes and manages water levels by transferring it within the canal system.
- 4.9. No CRT maintained canals were identified within 1km of the site according to the UK CRT Network mapping⁹.

⁹ <https://canalrivertrust.org.uk/canals-and-rivers>

4.10. The risk of flooding to this site from canals is considered to be low.

Pluvial

4.11. Pluvial flooding can occur during prolonged or intense storm events when the infiltration potential of soils, or the capacity of drainage infrastructure is overwhelmed leading to the accumulation of surface water and the generation of overland flow routes.

RoFSW Data Analysis

4.12. The National Flood Risk Assessment (NaFRA2) has updated the Risk of Flooding from Surface Water (RoFSW) products which show the chance of flooding from surface water to areas of land.

4.13. The RoFSW products are an assessment of where surface water flooding may occur when rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. It includes information about flooding extents and depths including the potential impact of climate change on flood risk, based on the latest UK Climate Projections (UKCP18).

4.14. Risk is displayed as one of three likelihood categories:

- 'High Risk'; >3.3% AEP (annual probability greater than 1 in 30).
- 'Medium Risk'; 1.1% to 3.3% AEP (annual probability between 1 in 100 and 1 in 30).
- 'Low Risk'; 0.1% to 1% AEP (annual probability between 1 in 1000 and 1 in 100).

4.15. The RoFSW depth mapping shows the annual chance of flooding (based on the three risk categories listed above) beyond a specific depth, for depths at the following intervals from 20cm to 120cm (i.e. 0.2m, 0.3m, 0.6m, 0.9m, and 1.20m).

4.16. As well as present day risk of flooding from surface water, climate change scenarios have been produced to indicate the predicted impacts of climate change on future flood risk. The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5. A near-term epoch (2040 – 2060 “2050s” epoch) and central allowances are being used initially, to support short and medium-term decisions informed by the highest flood likelihood projections.

Present Day Scenario

- 4.17. The EA Online 'Flood Risk from Surface Water' map indicates that the proposed development is at medium risk of experiencing surface water flooding in the present day scenario (Figure 5).
- 4.18. In terms of the site, approximately 60% of the site is considered to be within the high likelihood category (which would equate to Flood Zone 3b) which is confined to the rear garden; rear and side of the existing property and areas to the east of the site. A further circa (c.) 25% of the site is situated in the medium likelihood (including the proposed development area), equivalent to Flood Zone 3a, and the remaining areas (c. 15%) are considered to be at low likelihood.



Figure 5: EA Present Day Surface Water Flood Risk Mapping (Base map and data from Google Satellite Imagery ©. Contains public sector information licensed under the Open Government Licence v3.0)

- 4.19. Analysis of 0.2m depth interval shows that part of the proposed development is within the low likelihood extent of experiencing surface water flood depths greater than 0.2m with the remaining outside all likelihood categories (Figure 6).

4.20. It is also noted that the site is within the medium and high likelihood extents. These areas appear to encroach on site from the eastern site boundary where there is a ground depression. However, the medium and high extents do not affect the proposed development.



Figure 6: RoFSW Present Day Likelihood of Flood Depths Exceeding 0.2m (Base map and data from Google Satellite Imagery ©. Contains public sector information licensed under the Open Government Licence v3.0)

4.21. Analysis of the 0.3m depth interval shows that the proposed development is outside all modelled likelihood categories and is therefore not considered likely to experience surface water flood depths greater than 0.3m in the present day scenario (Figure 7).



Figure 7: RoFSW Present Day Likelihood of Flood Depths Exceeding 0.3m (Base map and data from Google Satellite Imagery ©. Contains public sector information licensed under the Open Government Licence v3.0)

RoFSW Climate Change Scenario

- 4.22. The EA Online 'Flood Risk from Surface Water – Climate Change' map indicates that the majority of the site is within the high likelihood category of experience surface water flooding during the climate change scenario.



Figure 8: EA Climate Change Surface Water Flood Risk Mapping (Base map and data from Google Satellite Imagery ©. Contains public sector information licensed under the Open Government Licence v3.0)

- 4.23. However, when assessing the 0.2m depth interval, the proposed development is within the low likelihood category to experience flood depths greater than 0.2m even when considering the effects of climate change (Figure 9).
- 4.24. It is also noted that the site is within the medium and high likelihood extents. These areas appear to encroach on site from the eastern site boundary where there is a ground depression. However, the medium and high extents do not affect the proposed development. As such, when considering the flood depth mapping, the proposed extension is not considered to be in Flood Zone 3a as the greatest likelihood of depths exceeding 0.2m at the extension is low – equivalent to Flood Zone 2.



Figure 9: RoFSW Climate Change Likelihood of Flood Depths Exceeding 0.2m (Base map and data from Google Satellite Imagery ©. Contains public sector information licensed under the Open Government Licence v3.0)

- 4.25. Analysis of the 0.3m depth interval shows that the proposed development is outside all modelled likelihood categories and is therefore not considered likely to experience surface water flood depths greater than 0.3m in the climate change scenario (Figure 10).



Figure 10: RoFSW Climate Change Likelihood of Flood Depths Exceeding 0.3m (Base map and data from Google Satellite Imagery ©. Contains public sector information licensed under the Open Government Licence v3.0)

Pluvial Flood Risk Summary

- 4.26. Given the proposed extension is outside the modelled low, medium and high likelihood categories to experience flood depths greater than 0.3m and is within the low likelihood extent of flood depths exceeding 0.2m, the pluvial flood risk to the development is considered low.
- 4.27. However, mitigation measures are recommended in Section 5 as a precautionary approach.

Reservoirs

- 4.28. Large waterbodies or reservoirs that have walls built above the surrounding ground level pose a risk of flooding. Walls could fail due to old age, accident, or because excess flood water has been added to the reservoir. Although a breach is unlikely the consequences would be significant, leading to rapid inundation of the downstream floodplain.

- 4.29. According to the EA's Flood Risk from Reservoirs mapping the site is outside modelled flood extents in the event of reservoir flooding (Figure 11).

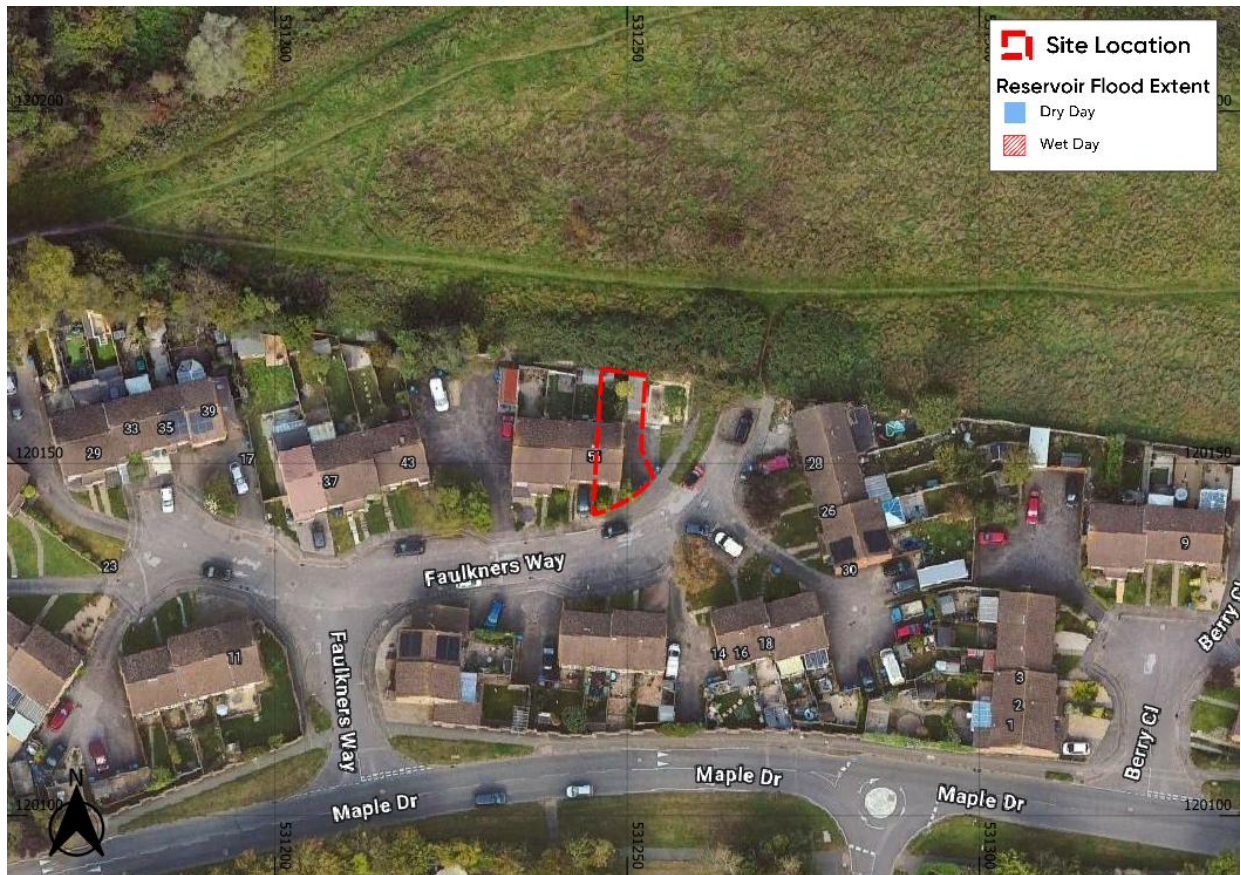


Figure 11: EA Reservoir Flood Risk Mapping (Base map and data from Google Satellite Imagery ©. Contains public sector information licensed under the Open Government Licence v3.0)

- 4.30. Therefore, the site and proposed development is considered low risk from reservoir flooding.

Groundwater

- 4.31. Groundwater flooding occurs in areas where underlying geology is permeable and water can rise within the strata sufficiently to breach the surface.
- 4.32. The British Geological Survey's (BGS) mapping shows no superficial deposits underlying the site. However, the bedrock geology underlying the site is mapped as Weald Clay Formation comprised of mudstone along with Weald Clay Formation comprised of clay and ironstone.
- 4.33. There are no identified BGS boreholes within a 200m radius of the site.
- 4.34. The Mid Sussex District Council SFRA (2015) details the following on groundwater flooding.

- *Area affected by groundwater flooding: 0.164km², 0.049% of Total Area.*
- *The majority of the district is considered to have medium potential for groundwater flooding.*
- *The West Sussex Strategic Flood Risk Assessment (2010), produced by Capita Symonds on behalf of West Sussex County Council, identified a single groundwater flooding event at Cuckfield.*

4.35. Furthermore, the updated SFRA (2024) states:

It is evident that majority of Mid Sussex is considered to have a low potential for groundwater flooding as a result of the underlying geology.

4.36. Considering the information above from the 2015 and 2024 SFRAs, coupled with the fact that the development proposals do not include any proposed basements, the risk from groundwater flooding to the development is considered to be low.

Sewers

4.37. Foul or surface water sewers can be a cause of flooding if the drainage network becomes overwhelmed, either by blockage or due to local development beyond the designed capabilities of the drainage system.

4.38. It is noted that limited information was provided in the 2024 SFRA and therefore information from the predated 2015 SFRA has been used.

4.39. The SFRA (2015) includes mapping of internal and external sewer incidents provided by Southern Water DG5 database. The site is not located within areas identified as being impacted by historical internal or external sewer incidents (Figure 12).

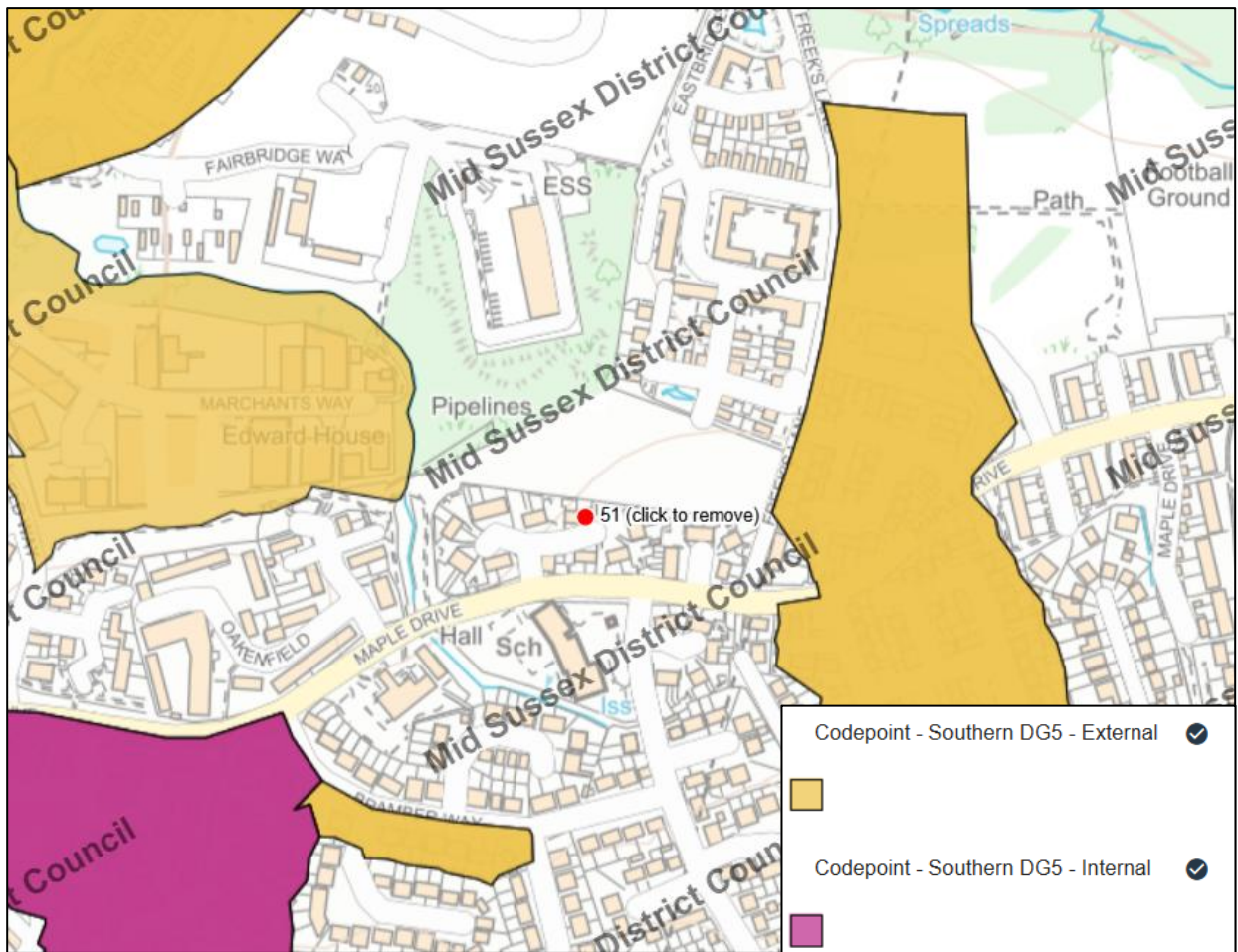


Figure 12: Southern Water Internal and External Flooding Incidents (Mid Sussex District Council SFRA, 2015). Site represented by red circle labelled '58 (click to remove)'

4.40. Therefore, the site is considered to be at a low risk from sewer flooding.

5. Flood Risk Mitigation

All Analysed Sources of Flooding

- 5.1. Based on the data reviewed above and analysis in Section 4 of this report, flood risk to the proposed development from fluvial, tidal, canal, pluvial, reservoir, groundwater and sewer flood sources are considered to be low.
- 5.2. By assessing the NaFRA2 data, it has been demonstrated that the proposed development is within the low likelihood extent for surface water depths to exceed 0.2m and outside all modelled low, medium and high likelihood categories for flood depths to exceed 0.3m. Thus, it is considered that the pluvial flood risk to the development is low.
- 5.3. However, the wider site is within the pluvial Flood Zone 3b extent (based on the SFRA).
- 5.4. Thus, a precautionary approach should be taken to reduce the flood risk to the site.
- 5.5. Therefore, it is recommended that the extension incorporates flood resistance and resilience measures in accordance with *Improving the Flood Performance of New Buildings – Flood Resilient Construction*¹⁰. The following measures are recommended, but are not limited to, to be incorporated into the design where possible:

- *Air brick covers to be installed.*
- *Engineering bricks to be used to at least 300mm to act as a freeboard; this will increase resistance to water penetration.*
- *External renders are effective barriers to water penetration and should be used with blocks (or bricks) to at least 300mm for a freeboard. External cement renders with lime content (in addition to cement) can induce faster surface drying.*
- *All new plumbing insulation to be a closed cell design.*

¹⁰ https://assets.publishing.service.gov.uk/media/5a797ab2ed915d07d35b5da4/flood_performance.pdf

- *Cavity insulation should preferably incorporate rigid closed cell materials as these retain integrity and have low moisture take-up.*
- *Non-return valves should be installed on the new drainage systems throughout the new development. It is also recommended that these valves are retrofitted on to any reused existing sewer connections to prevent backflow of diluted sewage. Maintenance of these valves is important to ensure their continued effectiveness so should be maintained in line with manufactures recommendations.*
- *Electrical sockets and components should be raised 300mm above ground level.*

- 5.6. Residents of the residential dwelling should also monitor Met Office Weather Warnings to be prepared for extreme weather events.
- 5.7. The Met Office issues weather warnings up to 5 days in advance, through the National Severe Weather Warning Service, when severe weather has the potential to bring impacts to the UK. It is also possible to stay up to date with weather warnings through the Met Office app (available on Apple and Android devices), social media e.g. X (formerly Twitter) and Facebook or email alerts.
- 5.8. It is also noted that access and egress will remain as per existing. In the unlikely event that it is needed, safe refuge can be sought at first floor level within the existing residential dwelling.

Increase to Flood Risk Elsewhere

- 5.9. The MSDC Guidance states:

MSDC categorises areas of high and medium surface water flood risk as being equivalent of Flood Zone 3 and areas of low surface water flood risk as being the equivalent of Flood Zones 2 in terms of flood risk.

- 5.10. It is further noted that Compensatory Flood Storage (CFS) is needed if the proposed development is situated within a pluvial Flood Zone 3a equivalent to the medium risk of surface water flooding.
- 5.11. Based on the NaFRA2 data, the proposed extension is within the high likelihood of experience surface water flooding during the climate change scenario.

- 5.12. However, the proposed development is not affected by the medium and/or high risk surface water extents. As such, when considering the flood depth mapping, the proposed extension is not considered to be within Flood Zone 3a as the greatest likelihood of depths exceeding 0.2m at the extension is low and therefore equivalent to Flood Zone 2.
- 5.13. Thus, the proposed extension is considered to be within the pluvial Flood Zone 2 (based on EA NaFRA2 data) and CFS is not considered to be a requirement for this development.
- 5.14. The proposal constitutes a Minor Development under the NPPF and Paragraph 051 of the Flood Risk and Coastal Change Planning Practice Guidance (PPG) states:

Minor developments are unlikely to raise significant flood issues unless:

- *they would have an adverse effect on a watercourse, floodplain or its flood defences;*
- *they would impede access to flood defence and management facilities, or;*
- *where the cumulative impact of such developments would have a significant effect on local flood storage capacity or flood flows.*

- 5.15. As such, given the proposals are identified as a minor development, the proposed development in isolation should have a negligible impact on flood risk elsewhere.
- 5.16. In addition, small scale SuDS such as rainwater planters and water butts should be incorporated into the rear garden and front areas of the residential dwelling to provide betterment over the existing scenario.

6. Conclusions

- 6.1. This FRA has been undertaken with reference to the requirements of NPPF and Planning Practice Guidance with respect to the development at 51 Faulkners Way, Burgess Hill, Mid Sussex, West Sussex, RH15 8SA. It has been written to support a planning application and prepared with due consideration to the nature of the proposed development to provide the appropriate level of detail.
- 6.2. An assessment of the risk of flooding from all sources has been undertaken and is summarised in the table below:

Source of Flooding	Flood Risk Summary
Pluvial	Assessment of the NaFRA2 data has been demonstrated that the proposed development is within the low likelihood extent for surface water depths to exceed 0.2m and outside all modelled low, medium and high likelihood categories for flood depths to exceed 0.3m. Thus, it is considered that the pluvial flood risk to the development is low. However, the wider site is considered to be within the pluvial Flood Zone 3b extent (based on the SFRA). Thus, as a precautionary approach, the proposed development should incorporate flood resilience and resistance measures.
Fluvial Tidal Reservoirs Groundwater Sewers Canals	The site and proposed development are considered to be at low risk from other analysed sources of flooding.

- 6.3. The FRA supports the planning application and demonstrates that there is an acceptable level of flood risk to the site if the mitigation strategies recommended are implemented in the scheme. The development does not increase flood risk off site or to the wider area.
- 6.4. This Flood Risk Assessment should be submitted as part of the planning application to satisfy the requirements under NPPF.

Appendix A - Development Proposals

LOCATION PLAN - 1-1250



Client - Harry and Sorcha
Sambrook

Address - 51 Falkners Way,
Burgess Hill,
RH15 8SA



SITE PLAN



Client - Harry and Sorcha
Sambrook

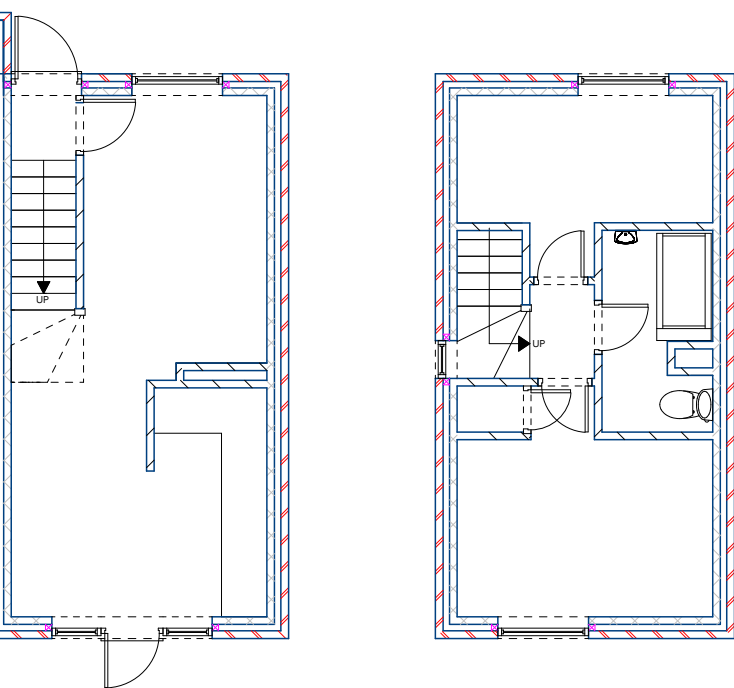
Address - 51 Falkners Way,
Burgess Hill,
RH15 8SA



Planning Drawings

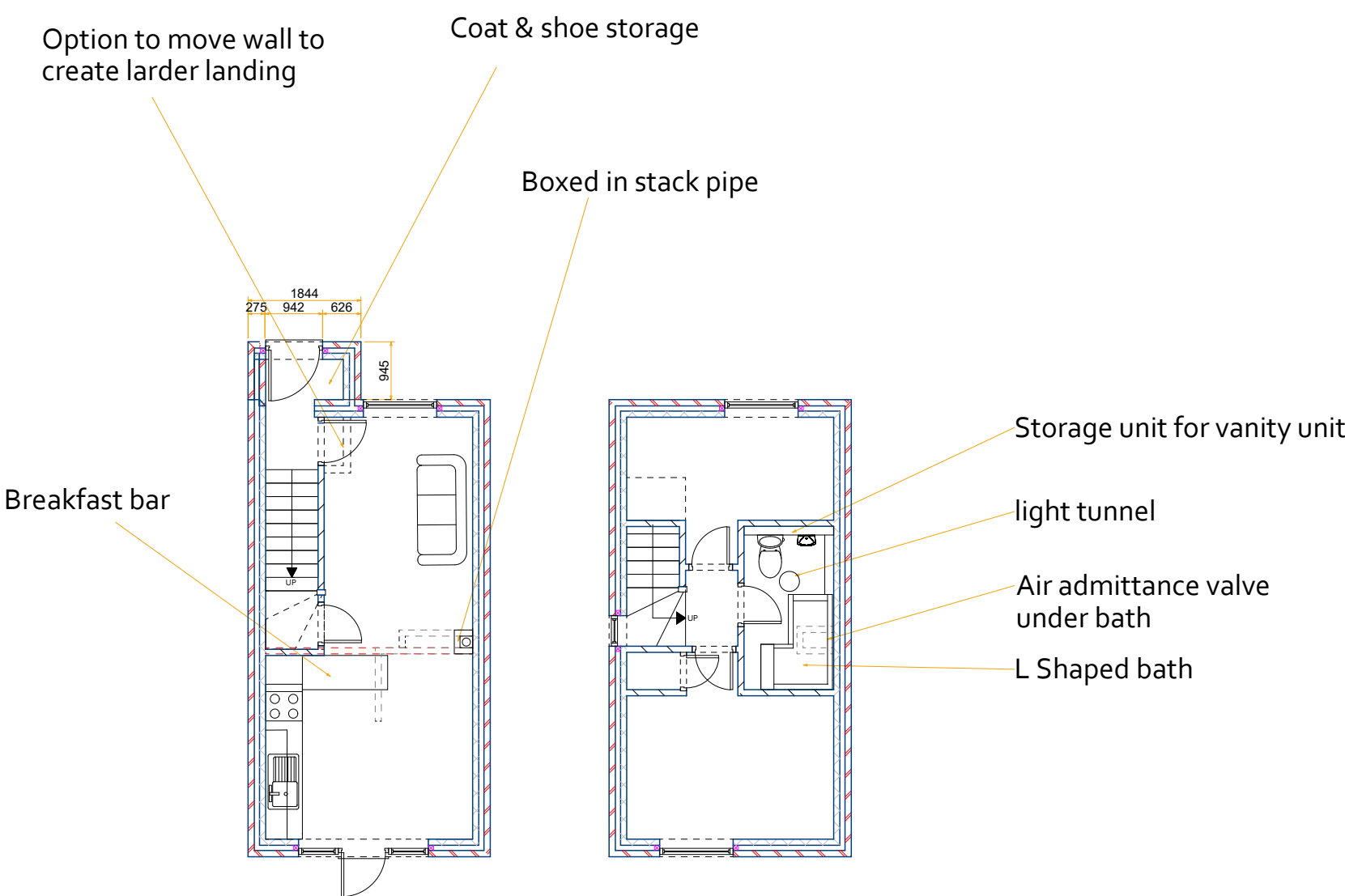
Existing Layout

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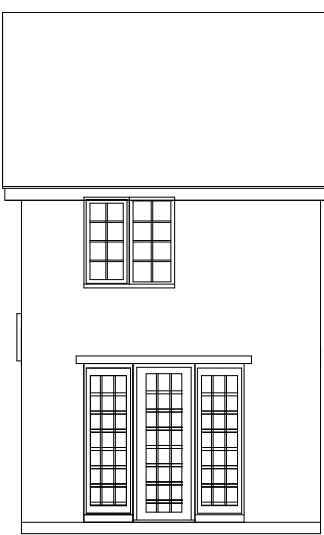
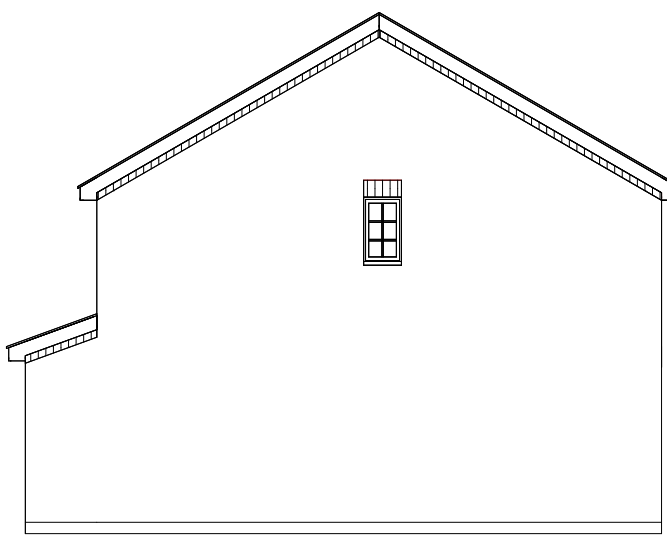
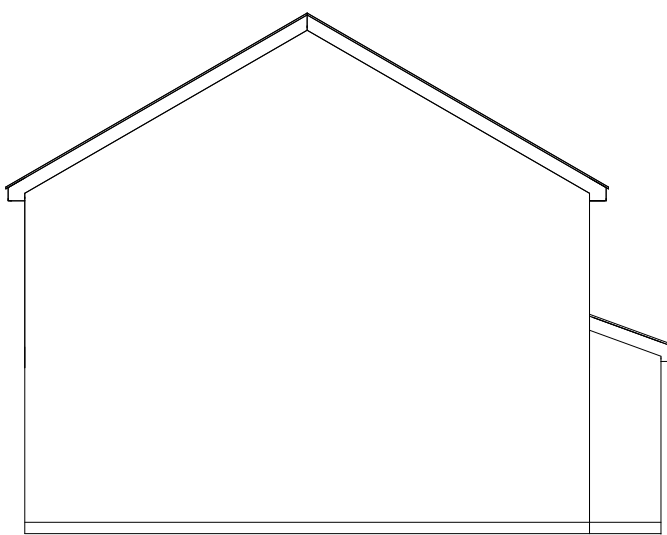
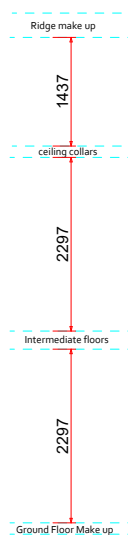
Proposed Layout

Scale 1 : 100



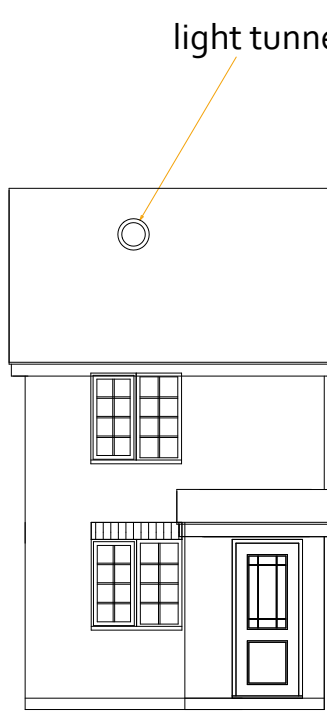
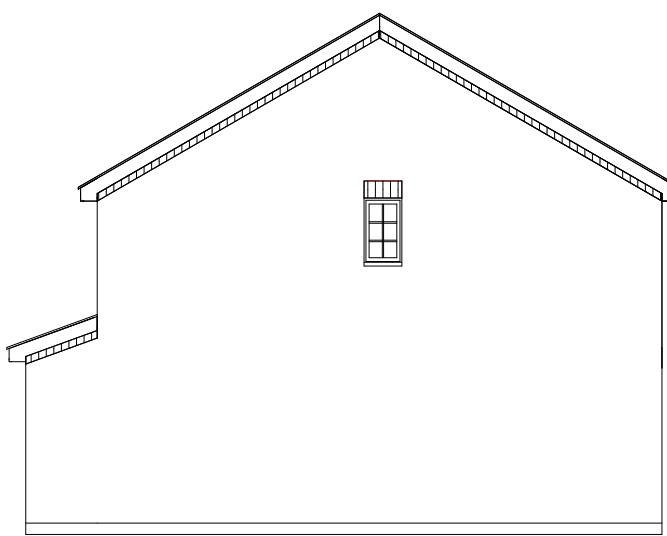
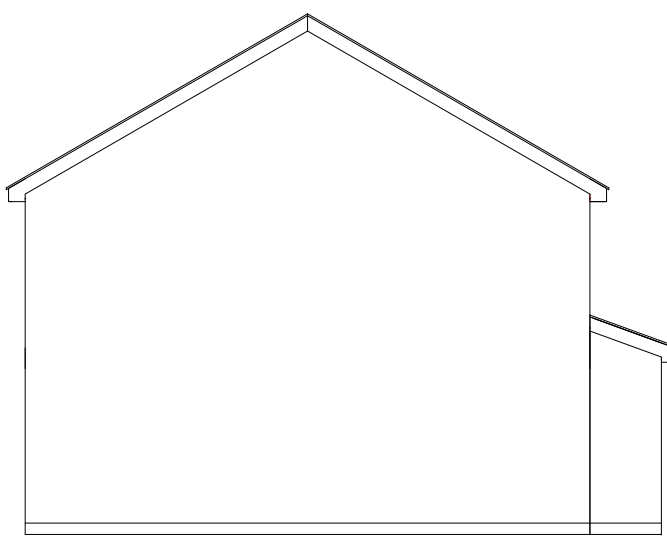
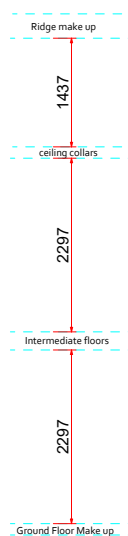
Elevations Existing

Scale 1 : 100



Elevations Proposed

Scale 1 : 100



Photographic Survey



THIS IS NOT A WORKING DRAWING.

The information provided is either for client information, planning consideration or shows compliance under the building regulations. It does not purport to provide all the information necessary to carry out construction works and could be subject to variation in detail.

ALL MEASUREMENTS TO BE CHECKED ON SITENOTE. FITMENT SUPPLIERS SHOULD TAKE SITE MEASUREMENTS

Prior to commencement of work on site, dimensions and particulars should be checked and any discrepancies reported immediately to Jones projects Architectural. DO NOT SCALE.

Client - Harry and Sorcha Sambrook

Address - 51 Falkners Way, Burgess Hill, RH15 8SA

Page Size - A1

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- 1. All Dimensions In Millimetres Unless Otherwise Stated
- 2. New Roof Tiles to match existing in type ,colour & face
- 3. New facing brickwork to match existing
- 4. The requirements of the party wall act should be observed
- 5.No part of the existing extension ,including Foundations and gutters, should encroach the property boundary