

Flood Risk Assessment
AEG9481_RH15_Mid_Sussex_01

Site Address: 37 Meadow Lane
Burgess Hill
Mid Sussex
West Sussex
RH15 9HZ

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

Document Issue Record

Project: Flood Risk Assessment

Prepared for: Claire Stacey

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Site Location: 37 Meadow Lane, Burgess Hill, Mid Sussex, West Sussex, RH15 9HZ.

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Summary

Development Description	Existing	Proposed
Development Type	Existing residential dwelling.	The demolition of an existing single-storey garage to be replaced by the construction of a two-storey side extension spanning the fill depth of the main building footprint.
EA Vulnerability Classification	More Vulnerable	More Vulnerable
Ground Floor Level	EA LiDAR data shows the ground elevation of the site varies between approximately 32.31m AOD (metres Above Ordnance Datum) and 32.78m AOD.	No change – Finished Floor Levels (FFLs) of the proposed development to be set no lower than FFLs of the existing dwelling.
Level of Sleeping Accommodation	Ground Floor and First Floor	First Floor only – providing a betterment over existing.
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 270m^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 the site 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	The proposed extension is within the high likelihood extent to experience surface water flooding during the present day scenario and thus is equivalent to Flood Zone 3b. Further analysis into the flood depths show that the development is at high risk of flood depths exceeding 0.2m and at medium to high risk of flood depths exceeding 0.3m during the climate change scenario. However, the 0.6m interval shows that the proposed development is outside the modelled low, medium and high likelihood extents.
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	Mitigation measures are required.	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	Development is classified as minor development in terms of flood risk and therefore in isolation should not result in increase in flood risk elsewhere (Paragraph 051 of the PPG).
Increase in surface run-off generation	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 Claire Stacey 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 37 Meadow Lane, Burgess Hill, Mid Sussex, West Sussex, RH15 9HZ (Figure 1).

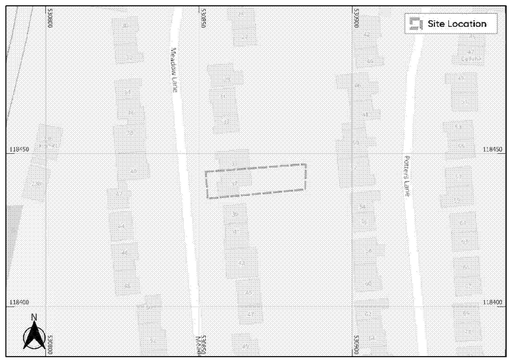


Figure 1: Site Location (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors)

1.4. It is understood that the proposed development is for the demolition of an existing single-storey garage to be replaced by the construction of a two-storey side extension spanning the full depth of the main building footprint. 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 32.31m AOD (metres Above Ordnance Datum) and 32.78m AOD. Analysis of topographic levels at the site and in the nearby vicinity indicate that the site generally slopes with a fall to the south.

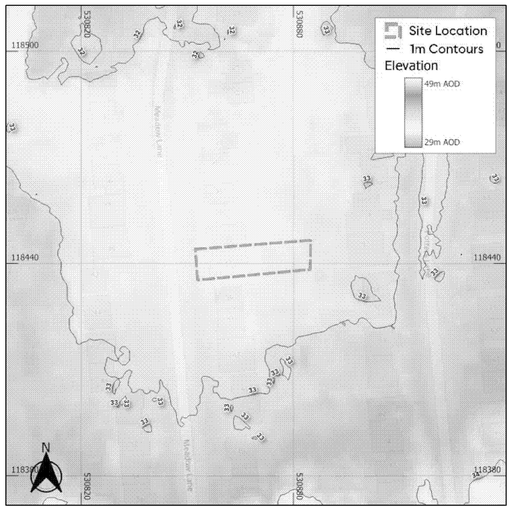


Figure 2: Site Topography (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

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 states[1] 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).*

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

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

1.9. 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 Framework[2] (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] _____, **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.* [redacted]

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 _____
- Long Term Flood Risk Information on the Environment Agency website _____
- 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 2014-2031[3] (Mid Sussex District Council, 2018)
- West Sussex Preliminary Flood Risk Assessment[4] (West Sussex County Council, 2011) and Preliminary Flood Risk Assessment Addendum[5] (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 Assessment (Mid Sussex District Council, 2015)[7]
- 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.

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[6] **https://www.midsussex.gov.uk/media/sl2jhk0z/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 OS mapping, there are no identified watercourses within the vicinity (<500m) of the site.

EA Flood Map for Planning

4.4. 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 OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

Historical Fluvial Flooding

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

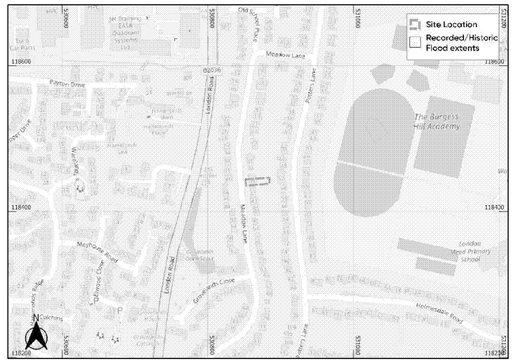


Figure 4: EA Historic Flood Mapping (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

Fluvial/Tidal Flood Risk Summary

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

Canals

4.7. 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.

4.8. No CRT maintained canals were identified within 1km of the site according to the UK CRT Network mapping[9].

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

Pluvial

4.10. 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

4.11. 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.

4.12. 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).

4.13. 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).

4.14. 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).

4.15. 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

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[9] **https://canalrivertrust.org.uk/canals-and-rivers**

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

4.16. The EA Online 'Flood Risk from Surface Water' map indicates that the proposed development and the majority of the site is at high risk of experiencing surface water flooding in the present day scenario (which would equate to Flood Zone 3b) (Figure 5).



Figure 5: EA Present Day Surface Water Flood Risk Mapping (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

4.17. Analysis of 0.2m depth interval shows that part of the proposed development is within the high likelihood extent of experiencing surface water flood depths greater than 0.2m with the site being within the low, medium and high likelihood categories (Figure 6).

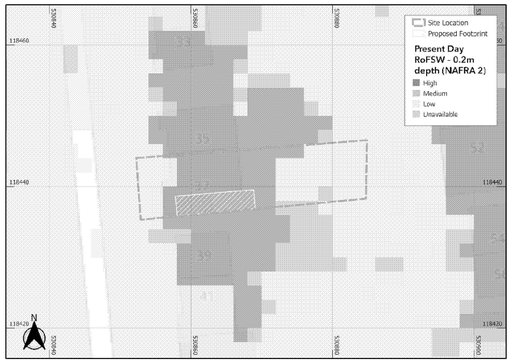


Figure 6: RoFSW Present Day Likelihood of Flood Depths Exceeding 0.2m (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

4.18. Analysis of the 0.3m depth interval shows that the proposed development is within the low likelihood category with the south and east boundaries at high likelihood of flood depths exceeding 0.3m (Figure 7).

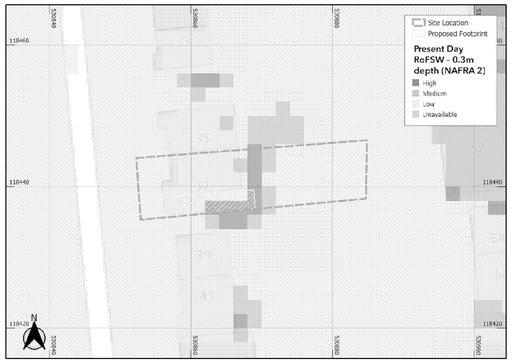


Figure 7: RoFSW Present Day Likelihood of Flood Depths Exceeding 0.3m (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

4.19. The entirety of the site is outside the low, medium and high likelihood extents of surface water flood depths exceeding 0.6m.

RoFSW Climate Change Scenario

4.20. The EA Online 'Flood Risk from Surface Water' map indicates that the proposed development and the majority of the site is at high risk of experiencing surface water flooding in the climate change scenario (which would equate to Flood Zone 3b) (Figure 8).



Figure 8: EA Climate Change Surface Water Flood Risk Mapping (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

4.21. Analysis of 0.2m depth interval shows that part of the proposed development is within the high likelihood extent of experiencing surface water flood depths greater than 0.2m with the site being within the low, medium and high likelihood categories (Figure 9).

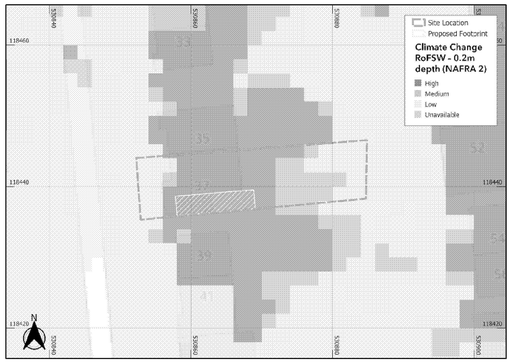


Figure 9: RoFSW Climate Change Likelihood of Flood Depths Exceeding 0.2m (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

4.22. Analysis of the 0.3m depth interval shows that the proposed development is within the medium likelihood category with the south and east boundaries at high risk / likelihood of flood depths exceeding 0.3m (Figure 10).

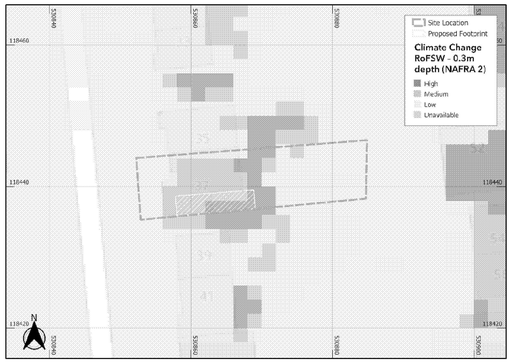


Figure 10: RoFSW Climate Change Likelihood of Flood Depths Exceeding 0.3m (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

4.23. The entirety of the site is outside the low, medium and high likelihood extents of surface water flood depths exceeding 0.6m.

Pluvial Flood Risk Summary

4.24. Given the proposed extension is within the high likelihood extent to experience surface water flooding during the present day scenario and thus is equivalent to Flood Zone 3b.

4.25. Further analysis into the flood depths show that the development is at high risk of flood depths exceeding 0.2m and at medium to high risk of flood depths exceeding 0.3m during the climate change scenario. However, when assessing the likelihood of flood depths exceeding 0.6m, the proposed development is outside the modelled low, medium and high likelihood extents.

4.26. Thus, by considering the NaFRA2 flood depth mapping, the pluvial (surface water) flood risk is considered to be moderate and mitigation measures are recommended in Section 5 of this report.

Reservoirs

4.27. 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.

4.28. 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).

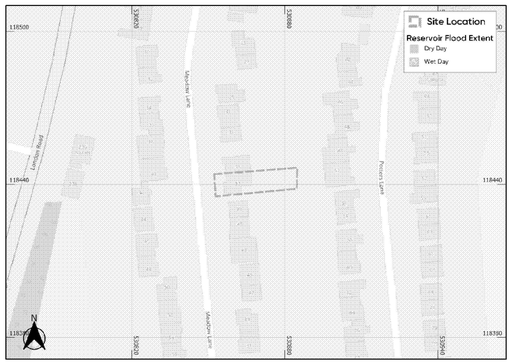


Figure 11: EA Reservoir Flood Risk Mapping (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © https://www.openstreetmap.org and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

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

Groundwater

4.30. Groundwater flooding occurs in areas where underlying geology is permeable and water can rise within the strata sufficiently to breach the surface.

4.31. 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.

4.32. There are no identified BGS boreholes within a 200m radius of the site.

4.33. 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.*

4.34. 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.*

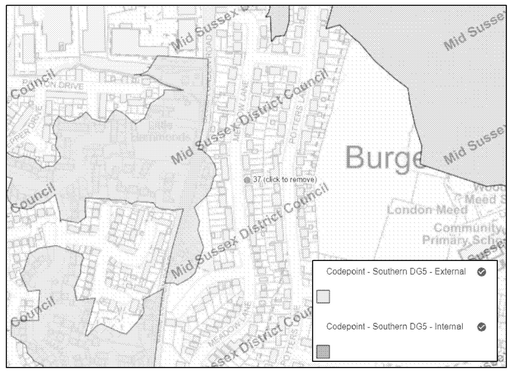
4.35. Considering the information above from the 2015 and 2024 SFRAs, coupled with the fact that the development proposals do not include any proposed basements, the risk from groundwater flooding to the development is considered to be low.

Sewers

4.36. 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.

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

4.38. 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).



4.39. 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

Pluvial

5.1. Based on the NaFRA2 data analysed in Section 4, the proposed extension is within the high likelihood extent to experience surface water flooding during the present day scenario and thus is equivalent to Flood Zone 3b.

5.2. Further analysis into the flood depths show that the development is at high risk of flood depths exceeding 0.2m and at medium to high risk of flood depths exceeding 0.3m during the climate change scenario. However, when assessing the likelihood of flood depths exceeding 0.6m, the proposed development is outside the modelled low, medium and high likelihood extents.

5.3. Thus, by considering the NaFRA2 flood depth mapping, the pluvial (surface water) flood risk is considered to be moderate.

5.4. It is noted that there is a bedroom at the ground floor as existing but in the proposed scenario all bedrooms are at the first floor. As such, the proposed development represents a betterment in terms of sleeping accommodation on 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:

- *FFLs of the proposed extension to be set no lower than the FFLs of the existing residential dwelling.*
- *Raised wiring and power outlets at ground floor level should be raised as high as possible above FFLs of the proposed development.*
- *Units within the proposed development to be raised on legs above plinth and not sit directly onto the flooring.*

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

Non-return valves should be installed on all new drainage. Maintenance of these valves is important to ensure their continued effectiveness so should be maintained in line with manufactures recommendations.

All new plumbing insulation to be of closed cell design.

Windows and patio doors are vulnerable to flood water and similar measures to those used for doors should be taken. Particular care should be taken to ensure adequate sealing of any PVC window/door sills to the fabric of the house. Of concern would be excessive water pressure on the glazing of patio doors. Double glazing conforming to the relevant standards would, in principle, adequately resist the pressures generated by flood waters.

Finish shall be water resistant render with lime-based plaster finish, hydraulic lime coating or ceramic tiles. Plasterboard placed horizontally as a sacrificial material, not vertically.

Insulation to be low adsorption board or semi rigid self-draining wool bats.

Flood doors provided at entrances/exits to both buildings on site.

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.

Other Analysed Sources of Flooding

5.9. Based on the data reviewed above and analysis in Section 4 of this report, flood risk to the proposed development from fluvial, tidal, canal, reservoir, groundwater and sewer flood sources are considered to be low.

Increase to Flood Risk Elsewhere

5.10. 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.*

5.11. 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.

5.12. 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 37 Meadow Lane, Burgess Hill, Mid Sussex, West Sussex, RH15 9HZ. 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.

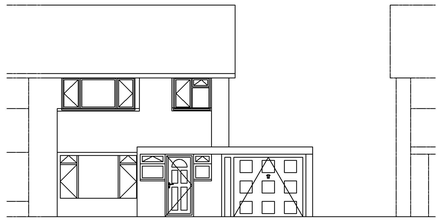
6.2. An assessment of the risk of flooding from all sources has been undertaken and is summarised in the table below:

Source of Flooding	Flood Risk Summary
Pluvial	Based on the NaFRA2 data analysed in Section 4, the proposed extension is within the high likelihood extent to experience surface water flooding during the present day scenario and thus is equivalent to Flood Zone 3b. Further analysis into the flood depths show that the development is at high risk of flood depths exceeding 0.2m and at medium to high risk of flood depths exceeding 0.3m during the climate change scenario. However, when assessing the likelihood of flood depths exceeding 0.6m, the proposed development is outside the modelled low, medium and high likelihood extents. Thus, by considering the NaFRA2 flood depth mapping, the pluvial (surface water) flood risk is considered to be moderate.
Fluvial Tidal Reservoirs Groundwater Sewers Canals	The site and proposed development are considered to be at low risk from other analysed sources of flooding.

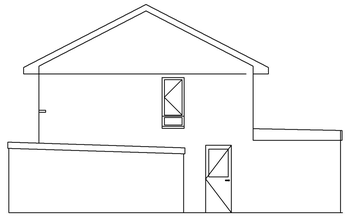
6.3. The FRA supports the planning application and demonstrates that there is an acceptable level of flood risk to the site if the mitigation strategies recommended are implemented in the scheme. The development does not increase flood risk off site or to the wider area.

6.4. This Flood Risk Assessment should be submitted as part of the planning application to satisfy the requirements under NPPF.

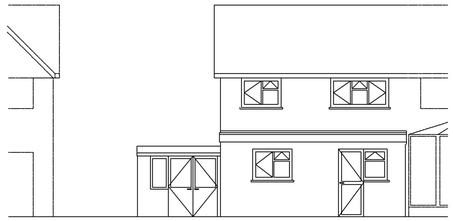
Appendix A - Development Proposals



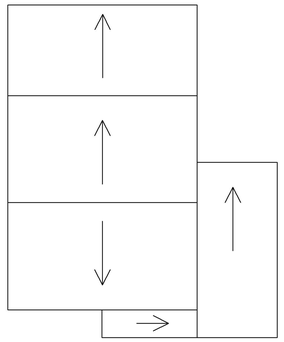
CURRENT FRONT ELEVATION



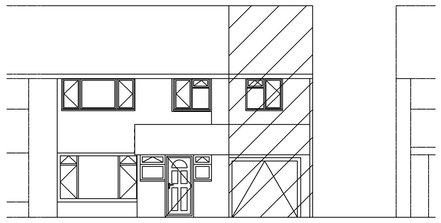
CURRENT SIDE ELEVATION



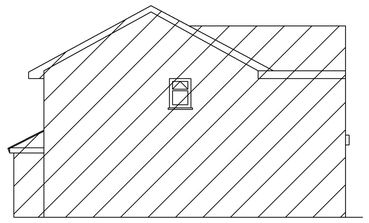
CURRENT REAR ELEVATION



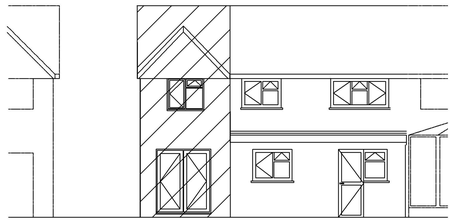
EXISTING ROOF PLAN



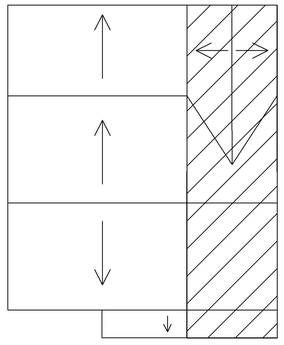
PROPOSED FRONT ELEVATION



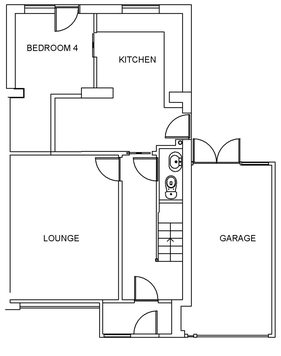
PROPOSED SIDE ELEVATION



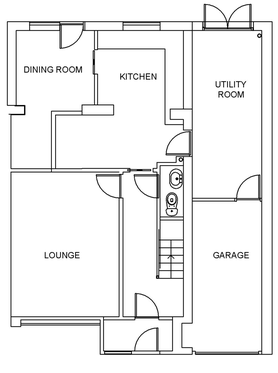
PROPOSED REAR ELEVATION



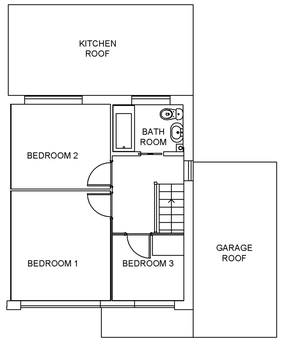
PROPOSED ROOF PLAN



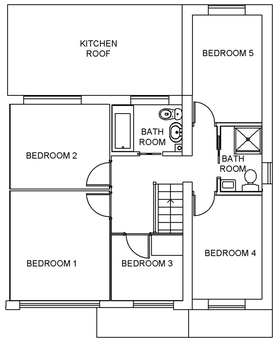
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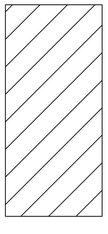
PROPOSED GF PLAN



EXISTING FF PLAN



PROPOSED FF PLAN



PROPOSED CONSTRUCTION

MATERIALS:
FACING BRICKWORK TO MATCH EXISTING
CONCRETE INTERLOCKING TILES TO MATCH EXISTING

37 MEADOW LANE BURGESS HILL WEAST SUSSEX RH15 9HZ	SCALE :	1:100 @ A1
	DATE :	25/10/2025
	DRAWN :	P.STACEY
	SHEET No	1/1
EXISTING AND PROPOSED PLANS	DAWING NUMBER	37_EP
	REVISION	B