

Flood Risk Assessment for Planning

December 2025

Prepared for:

John Kimpton Properties

Location:

Longfield House

Mortimer Street

Trowbridge

BA14 8BG

Our reference:

95040-Dzapasi-MortimerStreet_Site1



Document Issue Record

Project Details	
Project:	Flood Risk Assessment for Planning
Prepared for:	John Kimpton Properties
Application:	Change of use from storeroom / outbuilding to residential (one bedroom flat) + added dormer
Location:	Longfield House, Mortimer Street, Trowbridge, BA14 8BG
Our reference:	95040-Dzapasi-MortimerStreet_Site1
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1. Key Facts

Flood Risk Posed:

- Site is located within Flood Zone 1 according to the EA Flood Map for planning (Rivers and the Sea). Risk would appear to be fluvial and originates from River Biss located approximately 115m northeast of the site boundary.
- Modelled flood levels and extents have been requested from the Environment Agency for use in this report.
- Only undefended modelled flood levels and extents have been provided and therefore will be used for this assessment.
- The site is located entirely outside of the modelled 1:20 year, 1:100 year, 1:100 year plus 20% climate change and 1:1000 year extents.
- Flood levels have been provided from 1D in-channel nodes.
- Only a 20% increase in flows is available from the EA. As such, in line with EA guidance the Intermediate Approach is applied, where a Stage-Discharge relationship is derived from the modelled flood levels and flows provided, and then interpolated / extrapolated to estimate a flood level for a 26% increase in flows.
- Comparison of the modelled flood level for the 1:100 year plus 26% climate change event (36.02mAOD) with approximate topographic site levels (36.25mAOD to 36.40mAOD) shows the site is between 0.23m and 0.38m above the flood level for this event.
- No Flood Storage Areas located in close proximity to the site.
- The River Biss is flanked by natural high ground in the area of the site which is maintained by the Environment Agency. The site is located entirely within Flood Zone 1.
- The EA Risk of Flooding from Surface Water Map suggests that the site is located within an area at "Very Low" chance of flooding during the present day and between 2040 - 2060.
- Risk to the site from groundwater and sewer surcharge flooding would appear to be very low. No information has been provided to suggest that the site has flooded historically from these sources.
- The site is located within the maximum inundation extent on the EA Reservoir Inundation Map when there is also flooding from rivers. The EA also advise on their website that there is a risk of reservoir flooding in this area.
- The EA hold records of historic flooding having affected the site in December 1960 and January 1980 attributed to channel capacity exceedance (no raised defences).

Flood Risk Mitigation:

- The proposed application is for the change of use from storeroom / outbuilding to residential (one bedroom flat) + added dormer.
- Internal access will be provided from the ground floor to the first floor of the building.
- All sleeping accommodation will be located at first floor level.
- Post development, the site will be classified as "more vulnerable" (residential).
- Flood proofing of the development will be incorporated as appropriate.
- There will be no unacceptable loss of fluvial floodplain storage.
- Safe Escape will be provided by a formal Flood Warning and Evacuation Plan prepared in liaison with the Council's Emergency Planners.
- Due to the nature of the development, a full Surface Water Drainage Strategy is not required at this stage of planning.
- The applicant will register with the free Environment Agency Floodline Alert Direct service.
- The applicant will register with the National Severe Weather Warning Service.

Assuming accordance with these flood risk management measures, Unda Consulting Limited consider the proposed application to be suitable in flood risk terms.

2. Introduction

- 2.1. Unda Consulting Limited have been appointed by John Kimpton Properties (hereinafter referred to as “the applicant”) to undertake a Flood Risk Assessment for the proposed development at Longfield House, Mortimer Street, Trowbridge, BA14 8BG (hereinafter referred to as “the site”). The purpose of the study is to support a planning application for the proposed development.
- 2.2. This report presents our findings based on the readily available information and data relating to the site and surrounding drainage area.
- 2.3. The site appears to be located within Flood Zone 1 as defined by the Environment Agency (EA) on their Flood Map for Planning. Under the National Planning Policy Framework (NPPF), a FRA is required if a proposed development:
- Includes building or engineering works in Flood Zone 2 or 3;
 - Includes building or engineering works on land classified by the Environment Agency as having critical drainage problem;
 - Changes the use of land or buildings in a location at risk of flooding from rivers or the sea, or with critical drainage problems;
 - Changes the use of land or buildings in a way that increases the flood vulnerability of the development where it may be subject to other sources of flooding;
 - Is larger than 1 hectare.
- 2.4. The assessment should demonstrate to the Local Planning Authority (LPA) and EA how flood risk will be managed now and over the development’s lifetime, taking climate change into account, and with regard to the vulnerability of its potential users.
- Whether the proposed development is likely to be affected by current or future flooding from any source;
 - Whether it will increase flood risk elsewhere;
 - Whether the measures proposed to deal with these effects and risks are appropriate.

3. Existing Site

- 3.1. The site comprises of a storeroom.
- 3.2. The surrounding area is characterised by residential properties and commercial buildings.
- 3.3. Existing plans are provided in the report Appendix.



Figure 1: Aerial imagery of site and surrounding area (Source: Google Earth)



Figure 2: Site location plan and block plan (Source: Planning by Design Ltd)

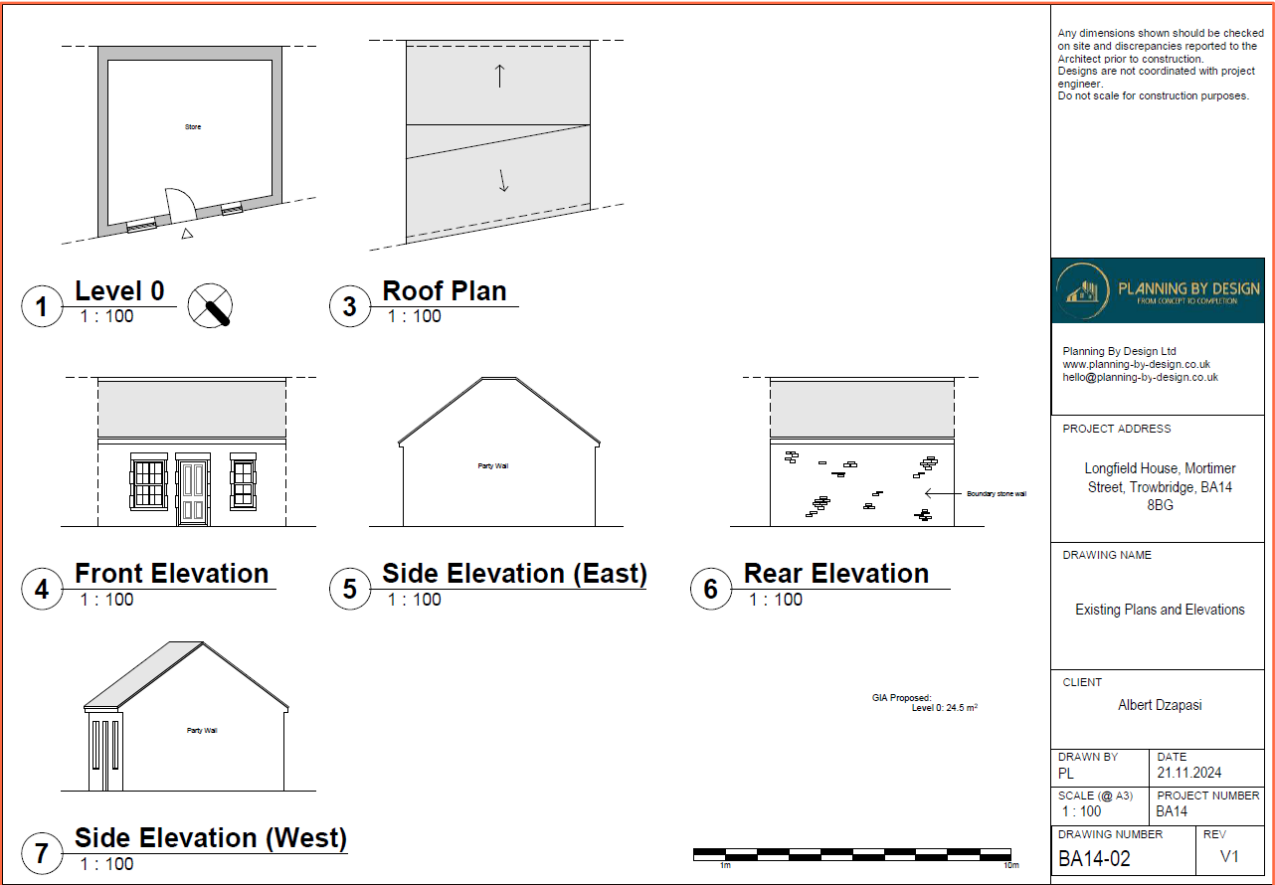


Figure 3: Existing plans and elevations (Source: Planning by Design Ltd)

Site Topography:

- 3.4. Environment Agency LiDAR has been used to assess the topography across the site and wider area. Light Detection and Ranging (LiDAR) is an airborne mapping technique, which uses a laser to measure the distance between the aircraft and the ground surface. Up to 100,000 measurements per second are made of the ground, allowing highly detailed terrain models to be generated at high spatial resolutions. The EA's LiDAR data archive contains digital elevation data derived from surveys carried out by the EA's specialist remote sensing team. Accurate elevation data is available for over 70% of England. The LiDAR technique records an elevation accurate to $\pm 5\text{cm}$ to 15cm with spatial resolutions ranging from 25cm to 2metres . This dataset is derived from a combination of the full dataset which has been merged and re-sampled to give the best possible coverage. The dataset can be supplied as a Digital Surface Model (DSM) produced from the signal returned to the LiDAR (which includes heights of objects, such as vehicles, buildings and vegetation, as well as the terrain surface) or as a Digital Terrain Model (DTM) produced by removing objects from the Digital Surface Model. 1.0m horizontal resolution DTM LiDAR data has been used for the purposes of this study.
- 3.5. LiDAR remotely sensed digital elevation data suggests that the ground topography on site ranges from approximately 36.25mAOD to 36.40mAOD .

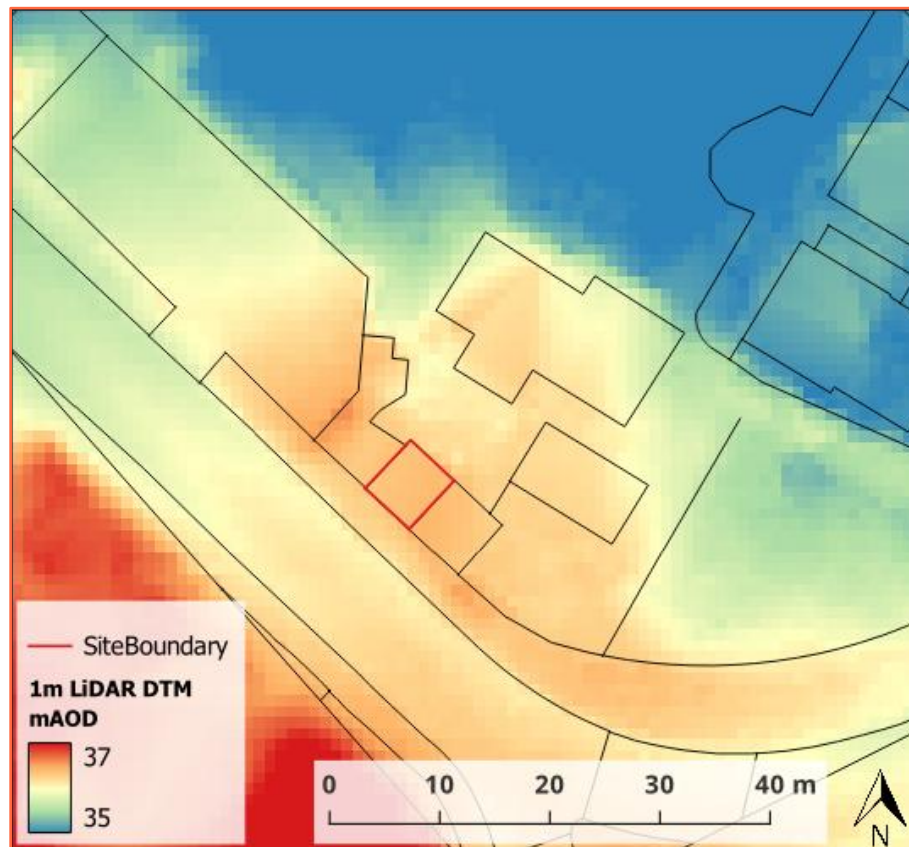


Figure 4: 1m LiDAR DTM (Source: EA, OS)

Existing Ground Conditions:

- 3.6. The 1:50,000 BGS map shows that the bedrock underlying the site is Oxford Clay Formation – Mudstone.
- 3.7. The BGS mapping shows no superficial deposits underlying the site.
- 3.8. The soil type taken from the UKSO Soil Map Viewer, shows the site to be located upon relatively deep soils of Claystone/Mudstone parent material with a soil texture of Clayey Loam to Silty Loam.

Nearby Watercourses / Drainage Features:

- 3.9. The nearest watercourse to the site is the River Biss located approximately 115m northeast.

4. Development Proposal

- 4.1. The proposed application is for the change of use from storeroom / outbuilding to residential (one bedroom flat) + added dormer.
- 4.2. All sleeping accommodation is proposed at first floor level.
- 4.3. Proposed plans are provided in the report Appendix.

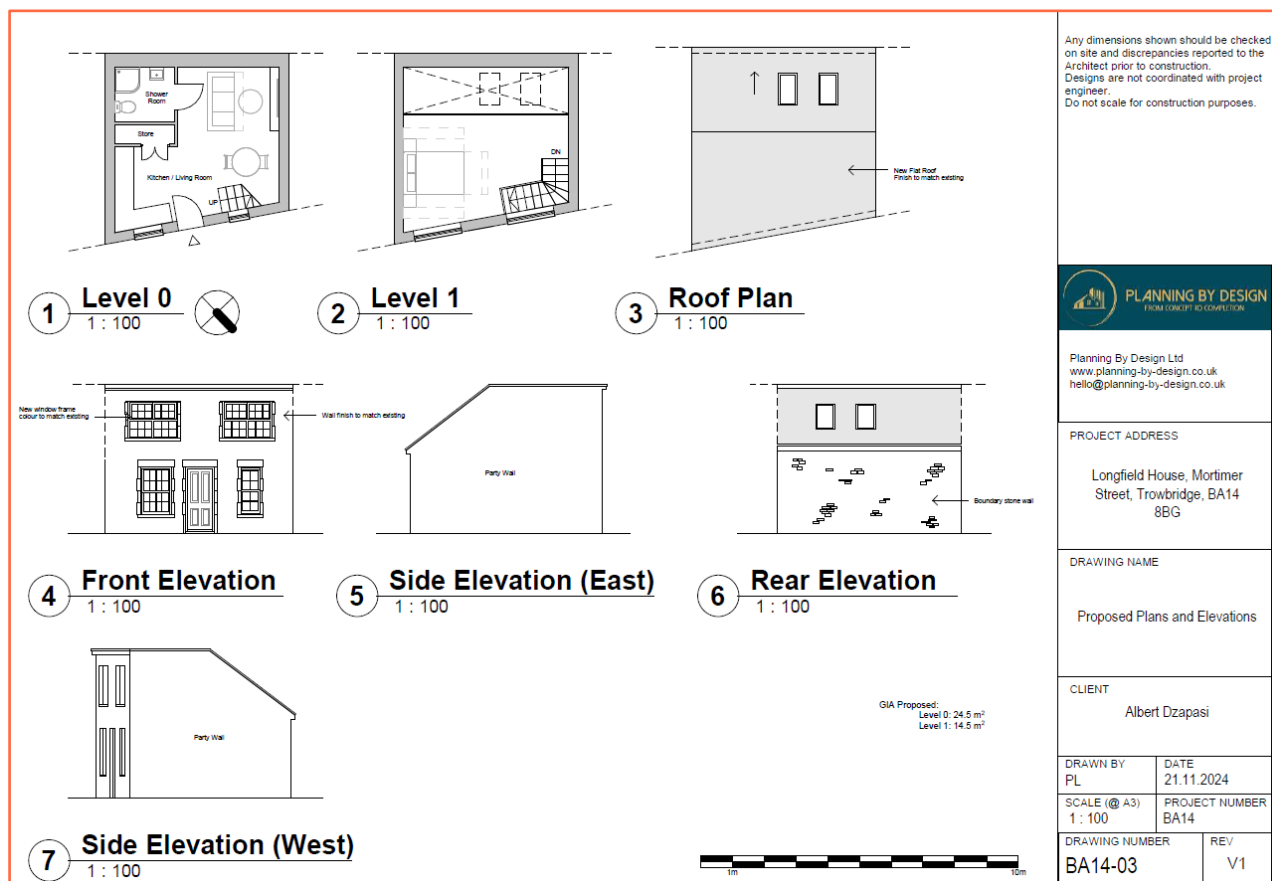


Figure 5: Proposed plans and elevations (Source: Planning by Design Ltd)

5. Flood Risk Assessment

EA Flood Zones:

- 5.1. Within planning, Flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences. They are shown on the Environment Agency's Flood Map for Planning (Rivers and Sea), available on the Environment Agency's website.

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map for Planning – all land outside Zones 2, 3a and 3b)
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% 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 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)

Table 1: Environment Agency Flood Map for Planning (Rivers and Sea) (Source: EA)

- 5.2. The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding.

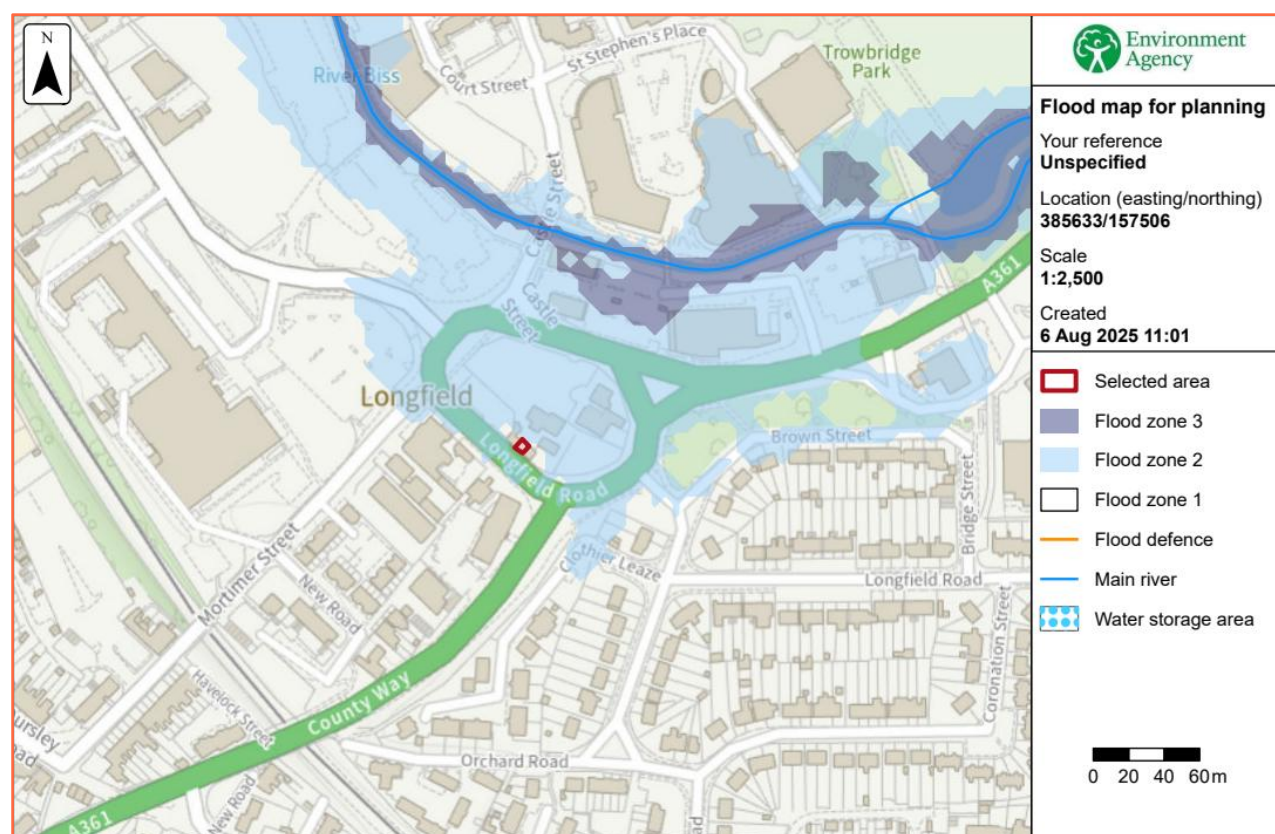


Figure 6: Environment Agency Flood Map for Planning (Rivers and Sea) (Source: EA)

- 5.3. The site is located within Flood Zone 1 (Low Probability), which means it is defined as land having a less than 1 in 1,000 annual probability of river or sea flooding.
- 5.4. The risk would appear to be fluvial and originates from River Biss located approximately 115m northeast of the site boundary.

EA Flood Zones plus Climate Change:

- 5.5. The Flood Zones plus climate change dataset shows how the combined extent of Flood Zones 2 and 3 could increase with climate change over the next century, ignoring the benefits of any existing flood defences. The EA have assumed no changes to flood defences or land-use that could occur in future. The effects of climate change on flood risk which may be seen in the future could be different to those currently considered.
- 5.6. 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.
- 5.7. The datasets shown on Flood Map for Planning are aimed at supporting planners and developers to make long-term decisions about the location and design of development and the use of land. Such decisions need to account for the full anticipated lifetime of the development being planned.
- 5.8. The EA have therefore chosen:
- The 'Central' allowance for the 2080s epoch (2070-2125) for risk of flooding from rivers
 - The 'Upper End' allowance for risk of flooding from the sea, accounting for cumulative sea level rise to 2125
- 5.9. The Flood Zones plus climate change dataset is created using local flood model outputs, recorded flood outlines and national flood model information, and by adding climate change scenarios from local and national modelling, using the maximum extents from:
- Rivers and sea with defences 3.3%, 1%/0.5% and 0.1% AEPs
 - Rivers and sea without defences 1%/0.5% and 0.1% AEPs
- 5.10. The extents are merged to create a single outline.
- 5.11. There is no EA Flood Zones plus climate change (2070 to 2125) data available for this site.

Alternative Flood Zones:

- 5.12. Within their Strategic Flood Risk Assessment (SFRA), Wiltshire Council differentiates Flood Zone 3a from Flood Zone 3b, the functional floodplain. Flood Zone 3b comprises land where water is required to flow or be stored in times of flood. The functional floodplain designation encompasses land which would flood with an annual probability of 1 in 30 or greater in any year; and includes areas of land required for water conveyance routes.
- 5.13. According to the 2024 Wiltshire Council Level 1 SFRA, the site is located within Flood Zone 1, entirely outside of the functional floodplain (Flood Zone 3b) and Flood Zone 3a proxy.



Figure 7: Wiltshire Council Flood Zones (Source: 2024 SFRA)

Fluvial (River Biss):

- 5.14. The River Biss is a small river in Wiltshire, England. It is a tributary of the Bristol Avon. The river rises on Salisbury Plain and passes through Westbury and Trowbridge, before meeting the Avon at Widbrook Wood near Staverton, north of Trowbridge.

Detailed Flood Modelling:

- 5.15. Modelled flood levels and extents have been requested from the Environment Agency.
- 5.16. The information provided was taken from the Bristol Avon SOP Trowbridge Model, completed in 2013 Black & Veatch.
- 5.17. Only undefended modelled flood levels and extents have been provided and therefore will be used for this assessment.
- 5.18. Flood levels have been provided from 1D in-channel nodes.
- 5.19. The site is located entirely outside of the modelled 1:20 year, 1:100 year, 1:100 year plus 20% climate change and 1:1000 year extents.
- 5.20. The development is classified as "More Vulnerable" and is located within Flood Zone 1 however borders Flood Zone 2. The Flood Risk Assessments: climate change allowances guidance states that for "More Vulnerable" development in Flood Zones 2 and 3, the Central allowance should be used. The site falls within the Avon Bristol and North Somerset Streams Management Catchment, where Central allowance is a 26% increase in flows.

- 5.21. Only a 20% increase in flows is available from the EA. As such, in line with EA guidance the Intermediate Approach is applied, where a Stage-Discharge relationship is derived from the modelled flood levels and flows provided, and then interpolated / extrapolated to estimate a flood level for a 26% increase in flows.
- 5.22. The closest upstream node to the site is node 3987.

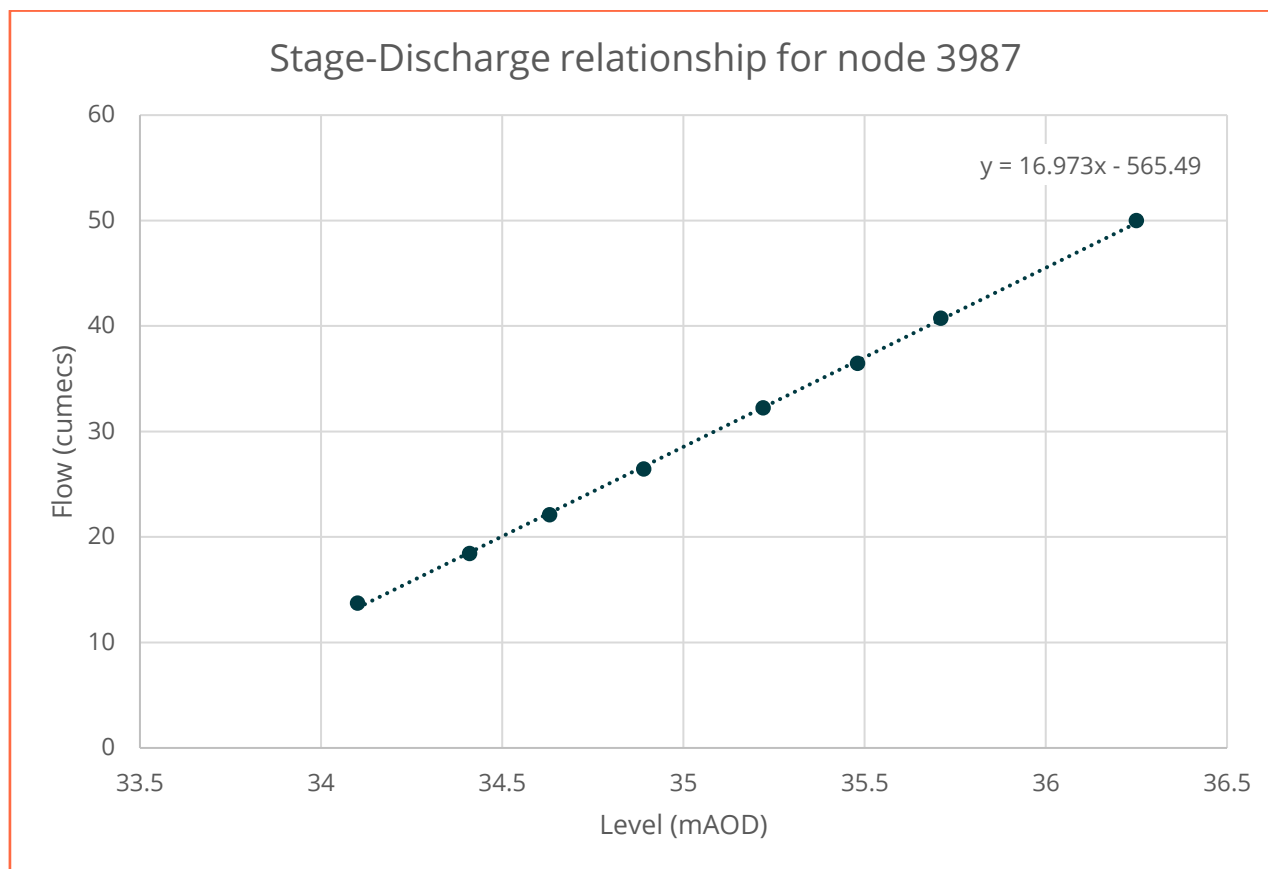


Figure 8: Stage-Discharge relationship for node 3987 (Source: EA)

- 5.23. A 1:100 year flow of 36.46m³/s has been provided by the EA. Increasing this by 26% gives a flow of 45.94m³/s. As such, the stage-discharge relationship is extrapolated to give a 1:100 year climate change (+26%) flood level of 36.02mAOD.
- 5.24. LiDAR remotely sensed digital elevation data suggests that the ground topography on site ranges from approximately 36.25mAOD to 36.40mAOD.

Return Period	Undefended
1:20 year	34.89mAOD
1:100 year	35.48mAOD
1:100 year+ 20% CC	35.80mAOD
1:100 year + 26% CC*	36.02mAOD
1:1000 year	36.25mAOD

Table 2: Modelled 1D flood levels (Source: EA)

*** calculated by stage-discharge**

- 5.25. Comparison of the modelled flood level for the 1:100 year plus 26% climate change event (36.02mAOD) with approximate topographic site levels (36.25mAOD to 36.40mAOD) shows the site is between 0.23m and 0.38m above the flood level for this event.

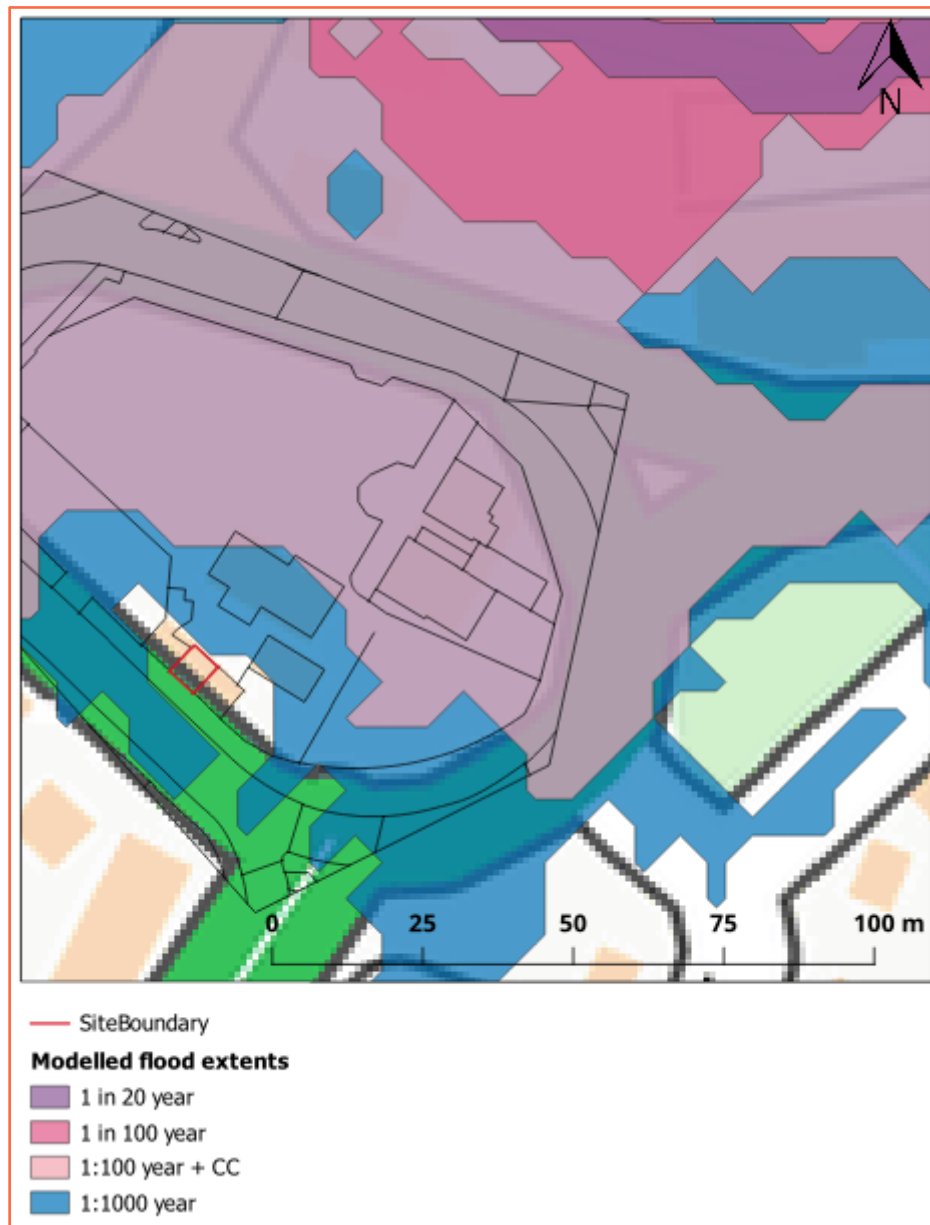


Figure 9: Modelled undefended flood extents (Source: EA)

Flood Storage Areas:

- 5.26. Flood Storage Areas are areas that act as a balancing reservoir, storage basin or balancing pond. Their purpose is to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel. It may also delay the timing of a flood peak so that its volume is discharged over a longer time interval. Flood storage areas do not completely remove the chance of flooding and can be overtopped or fail in extreme weather conditions.
- 5.27. According to EA data, there are no Flood Storage Areas located in close proximity to the site.

Flood Defences:

- 5.28. Flood defences are typically raised structures that alter natural flow patterns and prevent floodwater from entering property in times of flooding. They are generally categorised as either 'formal' or 'informal' defences. A 'formal' flood defence is a structure that was built specifically for the purpose of flood defence, and is maintained by its respective owner, which could be the EA, Local Authority, or an individual. An 'informal' flood defence is a structure that has not been specifically built to retain floodwater, and is not maintained for this specific purpose, but may afford some protection against flooding.

- 5.29. Asset inspections are undertaken on average every six months, although some critical assets are assessed on a more regular basis. It is possible that adjacent assets are inspected on different dates, which may result in two assets of a similar state of repair having different condition ratings. It is unclear when both assets were last inspected.
- 5.30. Condition ratings of assets may also be affected by the time of year the surveys are conducted, as vegetation may obscure the asset in the summer months, or accessibility may be an issue during winter months. These factors would not usually affect the recorded condition rating of an asset unless the asset is on a borderline between two ratings.
- 5.31. The River Biss is flanked by natural high ground in the area of the site which is maintained by the Environment Agency. The site is located entirely within Flood Zone 1.

Residual Risk (breach or overtopping of flood defences):

- 5.32. Breaching of flood defences can cause rapid inundation of areas behind flood defences as flow in the river channel discharges through the breach. A breach can occur with little or no warning, although they are much more likely to occur with extreme river levels or tides when the stresses on flood defences are highest. Flood water flowing through a breach will normally discharge at a high velocity, rapidly filling up the areas behind the defences, resulting in significant damage to buildings and a high risk of loss of life. Breaches are most likely to occur in soft defences such as earth embankments although poorly maintained hard defences can also be a potential source of breach.
- 5.33. Overtopping of flood defences occurs when water levels exceed the protection level of raised flood defences. The worst case occurs when the fluvial or tidal levels exceed the defence level as this can lead to prolonged flooding. Less severe overtopping can occur when flood levels are below defence levels, but wave action causes cyclic overtopping, with intermittent discharge over the crest level of the defence. Flood defences are commonly designed with a freeboard to provide protection against overtopping from waves. The risk from overtopping due to exceedance of the flood defence level is much more significant than the risk posed by wave overtopping. Exceedance of the flood defence level can lead to prolonged and rapid flooding with properties immediately behind the defences at highest risk.
- 5.34. The site is not shown to be defended by formal flood defences.

Tidal Flooding:

- 5.35. Due to the site topography and distance to the nearest coast/tidal watercourse, the risk of tidal flooding is considered to be very low.

Pluvial (Surface Water):

- 5.36. Pluvial (surface water) flooding occurs 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.
- 5.37. The mapping below shows the Risk of Flooding from Surface Water (RoFSW). Please note that the EA do not consider this information suitable to be used to identify the risk to individual properties or sites. It is useful to raise awareness in areas which may be at risk and may require additional investigation. This information tells you the flood risk of the land around a building, not the building itself.
- 5.38. The RoFSW products are an assessment of where surface water flooding may occur.
- 5.39. The mapping shows the following likelihood categories, for the present day risk of flooding from surface water, and the climate change scenarios have been produced to indicate the predicted impacts of climate change on future flood risk.

- High - greater than or equal to 1 in 30 (3.3%) chance of flooding in any year.
- Medium – Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance of flooding in any given year.
- Low – Less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) chance of flooding in any given year.

- 5.40. 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.
- 5.41. The EA Risk of Flooding from Surface Water Map suggests that the site is located within an area at “Very Low” chance of flooding from surface water.
- 5.42. The EA Risk of Flooding from Surface Water mapping shows the site to be at “Very Low” chance of flooding between 2040 and 2060.

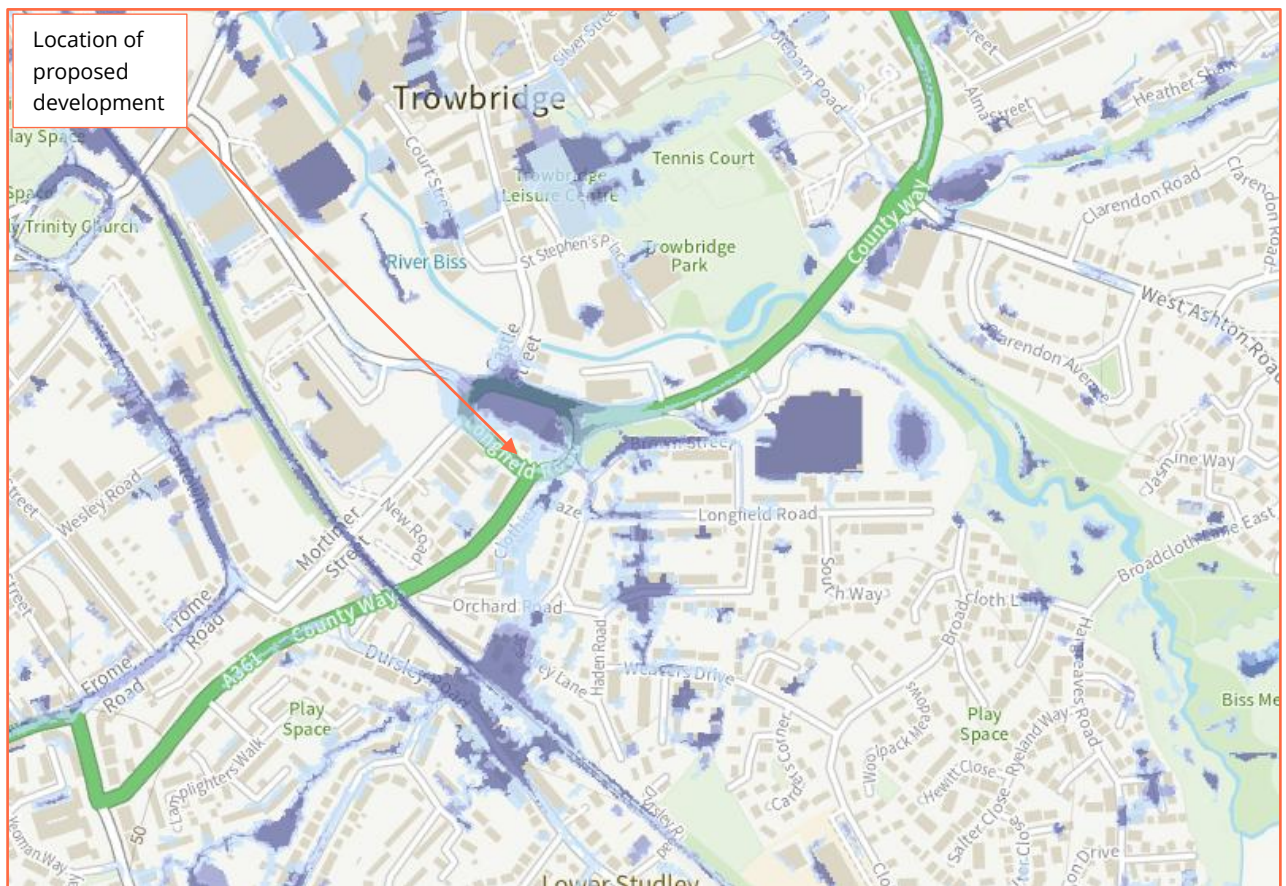


Figure 10: Extract from EA Risk of Flooding from Surface Water mapping – present day (Source: EA)

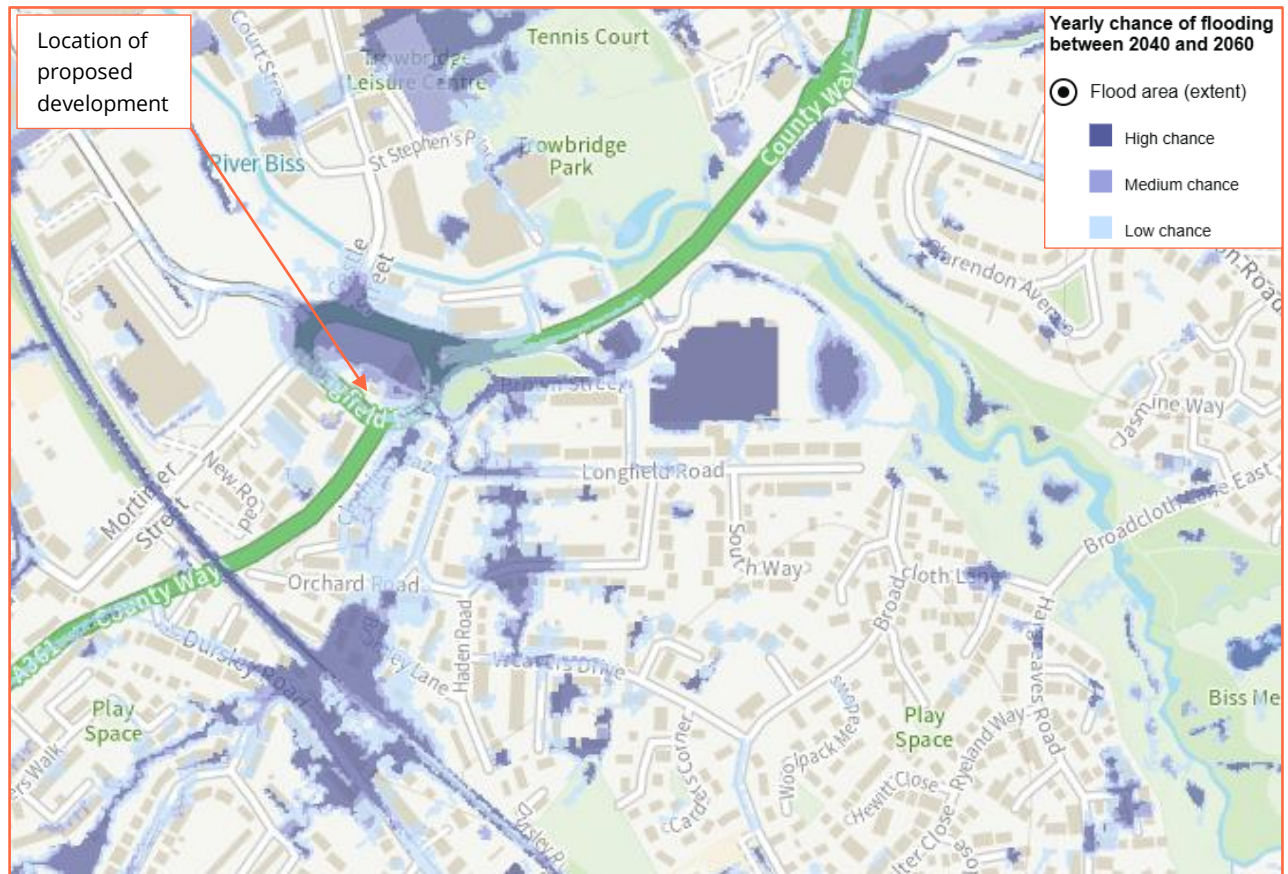


Figure 11: Extract from Environment Agency RoFSW map – between 2040 and 2060 (Source: EA)

Groundwater:

- 5.43. Groundwater flooding occurs as a result of water rising up from the underlying rocks or from water flowing from abnormal springs. This tends to occur after much longer periods of sustained high rainfall. Higher rainfall means more water will infiltrate into the ground and cause the water table to rise above normal levels. Groundwater tends to flow from areas where the ground level is high, to areas where the ground level is low. In low-lying areas the water table is usually at shallower depths anyway, but during very wet periods, with all the additional groundwater flowing towards these areas, the water table can rise up to the surface causing groundwater flooding.
- 5.44. Groundwater flooding is most likely to occur in low-lying areas underlain by permeable rocks (aquifers). These may be extensive, regional aquifers, such as chalk or sandstone, or may be localised sands or river gravels in valley bottoms underlain by less permeable rocks. Groundwater flooding takes longer to dissipate because groundwater moves much more slowly than surface water and will take time to flow away underground.
- 5.45. The 2024 Wiltshire Level 1 SFRA shows the site lies within a zone which is deemed as having a negligible risk from groundwater flooding due to the nature of the local geological deposits.
- 5.46. The EA advise that flooding from groundwater is unlikely in this area.
- 5.47. No information has been provided to suggest that the site has flooded historically due to groundwater.

Sewer:

- 5.48. Sewer flooding occurs when the sewer network cannot cope with the volume of water that is entering it. It is often experienced during times of heavy rainfall when large amounts of surface water overwhelm the sewer network

causing flooding. Temporary problems such as blockages, siltation, collapses and equipment or operational failures can also result in sewer flooding.

- 5.49. All Water Companies have a statutory obligation to maintain a register of properties/areas which have reported records of flooding from the public sewerage system, and this is shown on the DG5 Flood Register. This includes records of flooding from foul sewers, combined sewers and surface water sewers which are deemed to be public and therefore maintained by the Water Company. The DG5 register records of flood incidents resulting in both internal property flooding and external flooding incidents. Once a property is identified on the DG5 register, water companies can typically put funding in place to address the issues and hence enable the property to be removed from the register. It should be noted that flooding from land drainage, highway drainage, rivers/watercourses and private sewers is not recorded within the register.
- 5.50. According to the 2024 Wiltshire Level 1 SFRA, the site is located in an area that has not experienced from any sewer flooding incidents.
- 5.51. No information has been presented to suggest that the site itself has been affected by sewer flooding.

Other Sources:

- 5.52. Reservoirs with an impounded volume in excess of 25,000 cubic metres (measured above natural ground level) are governed by the Reservoirs Act and are listed on a register held by the Environment Agency. The site is located within the maximum inundation extent on the EA Reservoir Inundation Map when there is also flooding from rivers. The EA also advise on their website that there is a risk of reservoir flooding in this area. There has been no loss of life in the UK from reservoir flooding since 1925. All major reservoirs have to be inspected by specialist dam and reservoir Engineers. In accordance with the Reservoirs Act 1975 in England, these inspections are monitored and enforced by the EA themselves. The risk to the site from reservoir flooding is therefore minimal and is far lower than that relating to the potential for fluvial / tidal flooding to occur. The Environment Agency Reservoir Flood Map illustrated below, illustrates the largest area that might be flooded if the storage area were to fail and release the water it is designed to hold during a flood event.
- 5.53. Records of flooding from reservoirs and canals are erratic as there is no requirement for the Environment Agency to provide information on historic flooding from canals and raised reservoirs on plans. In particular, the NPPF does not require flood risk from canals and raised reservoirs to be shown on the Environment Agency flood zones.
- 5.54. Overflows from canals can be common as they are often fed by land drainage, and often do not have controlled overflow spillways. Occasionally, major bank breaches also occur, leading to rapid and deep flooding of adjacent land.
- 5.55. No information has been provided to suggest that the site is susceptible to flooding from other sources.

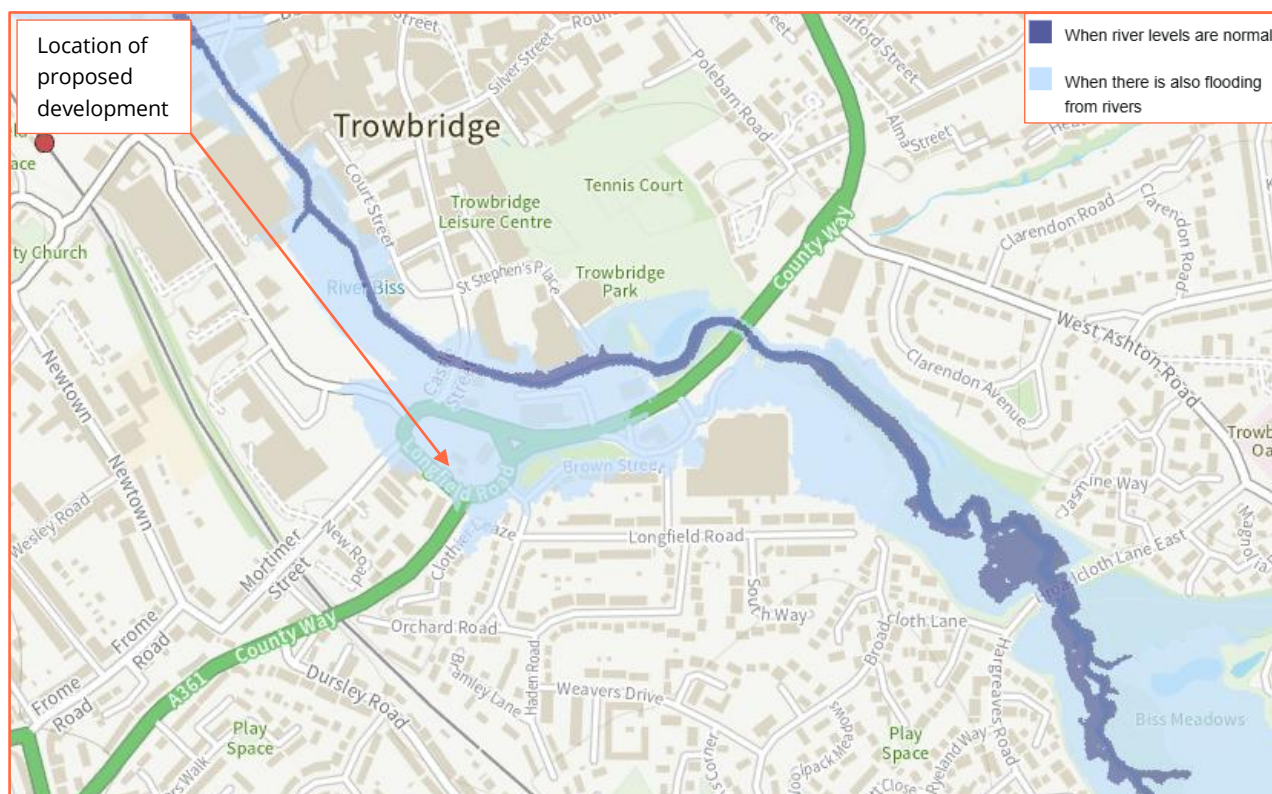


Figure 12: Extract from Environment Agency Reservoir Flood Map (Source: EA)

Historical Flood Events:

- 5.56. The EA hold records of historic flood events from rivers and the sea. The EA map flooding to land, not individual properties. Their historic flood event record outlines are an indication of the geographical extent of an observed flood event. Their historic flood event outlines do not give any indication of flood levels for individual properties. They also do not imply that any property within the outline has flooded internally.
- 5.57. The EA hold records of historic flooding having affected the site in December 1960 and January 1980 attributed to channel capacity exceedance (no raised defences).
- 5.58. The EA historical flood records are not comprehensive, and they advise that further enquiries locally are made with specific reference to flooding at the location.

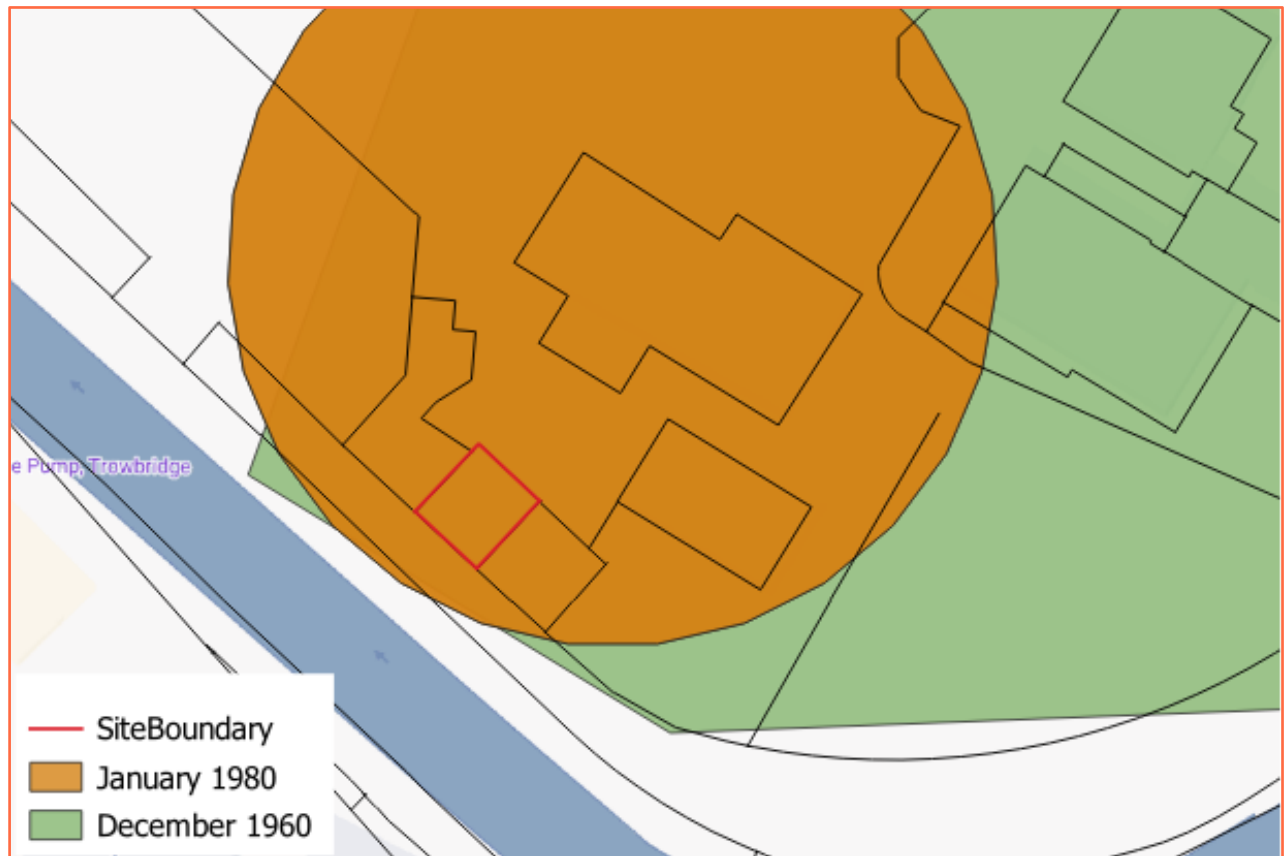


Figure 13: EA historic flood outlines (Source: EA, OS)

6. Flood Risk Management

Vulnerability to Flooding:

- 6.1. The NPPF classifies property usage by vulnerability to flooding.
- 6.2. The existing site usage is classified as “less vulnerable” (storeroom/outbuilding).
- 6.3. Post development, the site will be classified as “more vulnerable” (residential), as the application is for the change of use from storeroom / outbuilding to residential (one bedroom flat) + added dormer.
- 6.4. Accordingly, it is considered that the vulnerability of the site as a whole will increase post development.

EA Standing Advice for Minor Extensions:

- 6.5. EA Standing Advice guidance is for domestic extensions and non-domestic extensions where the additional footprint created by the development does not exceed 250m². It should not be applied if an additional dwelling is being created, e.g. a self-contained annexe or additional commercial unit.
- 6.6. The proposed application is for the change of use from storeroom / outbuilding to residential (one bedroom flat) + added dormer.

Physical Design Measures:

- 6.7. The site is located within Flood Zone 1 according to the EA Flood Map for planning (Rivers and the Sea).
- 6.8. The EA Risk of Flooding from Surface Water Map suggests that the site is located within an area at “Very Low” chance of flooding from surface water.
- 6.9. The site is located entirely outside of the modelled 1:20 year, 1:100 year, 1:100 year plus 20% climate change and 1:1000 year extents.
- 6.10. Flood levels have been provided from 1D in-channel nodes.
- 6.11. Comparison of the modelled flood level for the 1:100 year plus 26% climate change event (36.02mAOD) with approximate topographic site levels (36.25mAOD to 36.40mAOD) shows the site is between 0.23m and 0.38m above the flood level for this event.
- 6.12. All sleeping accommodation is proposed at first floor level.
- 6.13. To help protect against flooding during extreme events, the applicant has agreed to implement flood resistant design measures into the development where practical and feasible, in consultation with the Local Authority building control department. These measures can include the following:
 - Solid concrete ground floor slab, with waterproof membrane;
 - Closed-cell foam used in wall cavities;
 - Waterproof ground floor internal render;
 - Waterproof screed used on ground floors;
 - Damp proof membranes;
 - External walls rendered resistant to flooding to at least 600mm above ground floor level;
 - Exterior ventilation outlets, utility points and air bricks fitted with removable waterproof covers;
 - Raised wiring and power outlets at least 600mm above ground floor level;

- Ground floor electrical main ring run from first floor level; and on separately switched circuit from first floor;
- Electrical incomer and meter situated at least 600mm above ground floor level;
- Boilers, control and water storage / immersion installed at least 600mm above ground floor level;
- Gas meter installed at least 600mm above ground floor level;
- Plumbing insulation of closed-cell design;
- Non-return valves fitted to all drain and sewer outlets;
- Manhole covers secured;
- Kitchen units of solid, water resistant material at ground floor level;
- Use of MDF carpentry (i.e. skirting, architrave, built-in storage) avoided at ground floor level;
- Stairs of solid hardwood construction with wood faces treated to resist water penetration at ground floor level.

- 6.14. It is recommended that flood proof doors and windows are installed for all external doors and windows. Demountable flood defence barriers to 600mm to defend ground level doorways and low windows could be used if flood doors are not practical or other planning constraints prevent it.

Safe Escape:

- 6.15. The Flood Risk and Coastal Change Planning Practice Guidance (PPG) states that access considerations should include the voluntary and free movement of people during a design flood, as well as the potential for evacuation before a more extreme flood, considering the effects of climate change for the lifetime of the development. Emergency access and escape plans are needed if any part of a development is below the estimated design flood level, which connects the site to an area away from current or future flood risk.
- 6.16. The site is located within Flood Zone 1 according to the Environment Agency Flood Map for Planning (Rivers and Sea).
- 6.17. Comparison of the modelled flood level for the 1:100 year plus 26% climate change event (36.02mAOD) with approximate topographic site levels (36.25mAOD to 36.40mAOD) shows the site is between 0.23m and 0.38m above the flood level for this event.
- 6.18. All sleeping accommodation is proposed at first floor level.
- 6.19. Flood warning notices will be erected around the site to inform residents of the risk of flooding, and the flood warning and evacuation measures. In the event of a flood event without warning, residents should take refuge on the upper floors of the property. The applicant has agreed that a permanent means of internal access will be provided to the upper floor of the building, thus providing safe refuge.
- 6.20. Safe Escape will be provided by a formal Flood Warning and Evacuation Plan prepared in liaison with the Council's Emergency Planners and tied in with the existing emergency plans for the area.
- 6.21. A potential safe egress route from the site is presented below.

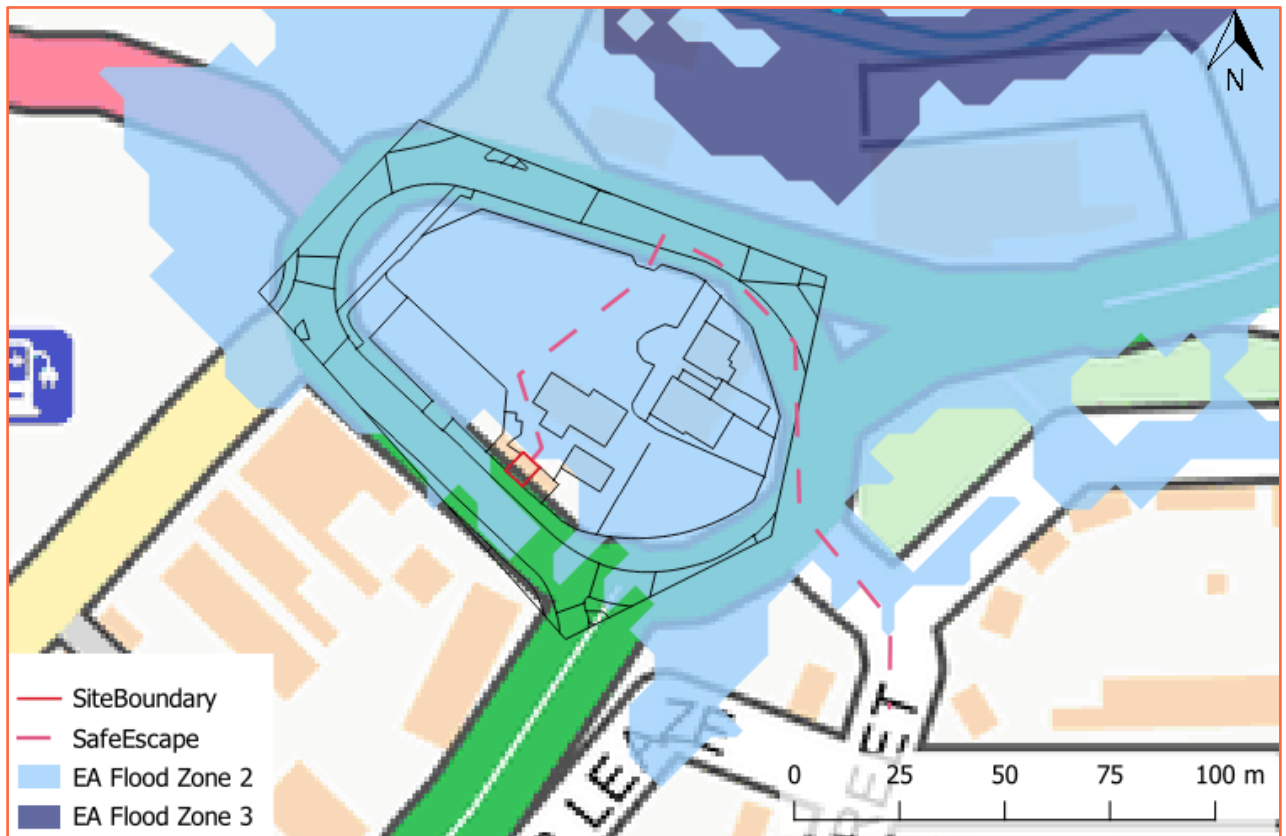


Figure 14: Potential route of safe access and egress from the site (Source: EA)

Flood Warning:

- 6.22. The EA is responsible for issuing flood warnings. Flood warnings are issued to the emergency services and local authorities. Both private individuals and organisations can sign-up to receive warnings via phone, text or email. This system of receiving warnings is currently voluntary.
- 6.23. Advice regarding severe flood warnings will generally be given during weather forecasts on local radio and TV. In the case of extreme events, warnings can also be disseminated via door to door visits by the police or locally appointed flood wardens.
- 6.24. The applicant has agreed to subscribe to the EA's flood warning service.
- 6.25. The EA issue flood warnings/alerts to specific areas when flooding is expected. The site lies adjacent to the River Biss at Trowbridge Flood Warning Area.

Flood Warning	Flood Alert		Flood Warning		Severe Flood Warning	
						
What it means?	Flooding is possible. Be prepared.		Flooding is expected. Immediate action required.		Severe flooding. Danger to life.	
When it's used?	Two hours to two days in advance of flooding.		Half an hour to one day in advance of flooding.		When flooding poses a significant threat to life.	
What to do?	Be prepared to act on your flood plan. Prepare a flood kit of essential items. Monitor local water levels and the flood forecast on our website.		Move family, pets and valuables to a safe place. Turn off gas, electricity and water supplies if safe to do so. Put flood protection equipment in place.		Stay in a safe place with a means of escape. Be ready should you need to evacuate from your home. Co-operate with the emergency services. Call 999 if you are in immediate danger.	

Table 3: EA Flood Warning Service

- 6.26. As the UK's official weather service, the Met Office is responsible for issuing weather warnings, which warn of impacts caused by severe weather. The Met Office provide warnings up to seven days ahead for rain, thunderstorms, wind, snow, lightning, ice and fog.
- 6.27. Met Office weather warnings are available in a number of ways, which make it easy to get the very latest information wherever you are. These include the Met Office app and website, social media, email alerts, TV, radio and RSS.
- 6.28. It is recommended that the site owner sign up to the National Severe Weather Warning Service. More information can be found here: <https://www.metoffice.gov.uk/weather/guides/warnings>.
- 6.29. The Met Office issues weather warnings, through the National Severe Weather Warning Service, when severe weather has the potential to bring impacts to the UK. These warnings are given a colour (yellow, amber or red) depending on a combination of both the impact the weather may have and the likelihood of those impacts occurring.

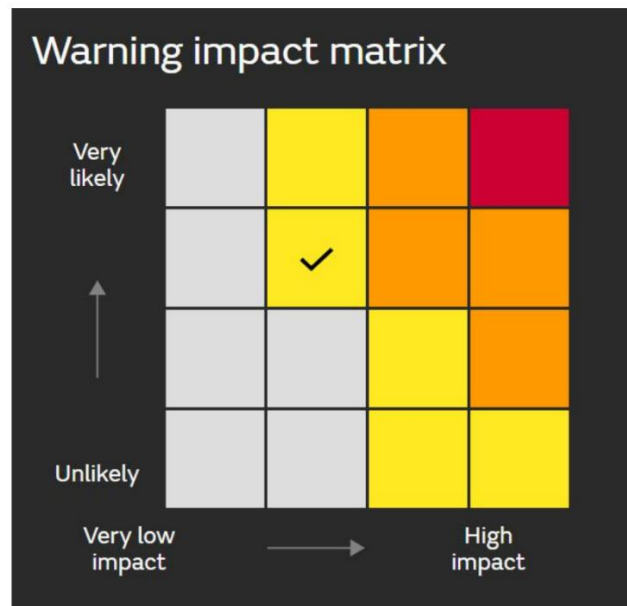


Figure 15: Met Office Weather Warning Impact Matrix (Source: Met Office)

- 6.30. **Yellow Warning:** Yellow warnings can be issued for a range of weather situations. Many are issued when it is likely that the weather will cause some low level impacts, including some disruption to travel in a few places. Many people may be able to continue with their daily routine, but there will be some that will be directly impacted and so it is important to assess if you could be affected. Other yellow warnings are issued when the weather could bring much more severe impacts to the majority of people but the certainty of those impacts occurring is much lower. It is important to read the content of yellow warnings to determine which weather situation is being covered by the yellow warning.
- 6.31. **Amber Warning:** There is an increased likelihood of impacts from severe weather, which could potentially disrupt your plans. This means there is the possibility of travel delays, road and rail closures, power cuts and the potential risk to life and property. You should think about changing your plans and taking action to protect yourself and your property. You may want to consider the impact of the weather on your family and your community and whether there is anything you need to do ahead of the severe weather to minimise the impact.
- 6.32. **Red Warning:** Dangerous weather is expected and, if you haven't already done so, you should take action now to keep yourself and others safe from the impact of the severe weather. It is very likely that there will be a risk to life, with substantial disruption to travel, energy supplies and possibly widespread damage to property and infrastructure. You should avoid travelling, where possible, and follow the advice of the emergency services and local authorities.

Flood Plan:

- 6.33. It is recommended that the applicant and future owners, occupiers and Landlords of the property prepare a flood plan to protect life and property during a flood event:

Action	
Before a flood	- Find out if you are at risk of flooding. - Find out if you can receive flood warnings. - Prepare and keep a list of all your important contacts to hand or save them on your mobile phone. - Think about what items you can move now and what you would want to move to safety during a flood such as pets, cars, furniture, and electrical equipment. - Know how to turn off gas, electricity and water supplies. - Prepare a flood kit of essential items and keep it handy. It can include copies of important documents, a torch, a battery-powered or wind-up radio, blankets and warm clothing, waterproofs, rubber gloves and a first aid kit including all essential medication. - Consider buying flood protection products such as flood boards and airbrick covers to help reduce flood water getting into your property.
During a flood	- Tune into your local radio station on a battery or wind-up radio. - Fill jugs and saucepans with water. - Grab your flood kit - if you have prepared one. - Collect blankets, torch, first aid kit, medication and food. - Move important documents, personal items, valuables, and lightweight belongings upstairs or to high shelves. - Raise large items of furniture, or put them in large bags if you have them. - Move people, outdoor belongings, cars and pets to higher ground. - Switch off water, gas and electricity at mains when water is about to enter your home. Do not touch sources of electricity when standing in water. - Fit flood protection products, if you have them, for example flood boards, airbrick covers, sandbags. - Put plugs in sinks and baths. Weigh them down with a pillowcase or plastic bag filled with soil. - If you do not have non-return valves fitted, plug water inlet pipes with towels or cloths. - Move your family and pets upstairs or to a high place with a means of escape. - Listen to the advice of the emergency service and evacuate if told to do so. - Avoid walking or driving through flood water. Six inches of fast-flowing water can knock over an adult and two feet of water can move a car.
After a flood	- If you have flooded, contact your insurance company as soon as possible. - Take photographs and videos of your damaged property as a record for your insurance company. - If you don't have insurance, contact your local authority for information on grants and charities that may help you. - Flood water can contain sewage, chemicals and animal waste. Always wear waterproof outerwear, including gloves, wellington boots and a face mask. - Have your electrics, central heating and water checked by qualified engineers before switching them back on.

Table 4: Flood plan**Off Site Impacts:****Fluvial Floodplain Storage:**

- 6.34. The NPPF requires that where development is proposed in undefended areas of floodplain, which lie outside of the functional floodplain, the implications of ground raising operations for flood risk elsewhere needs to be considered. Raising existing ground levels may reduce the capacity of the floodplain to accommodate floodwater and increase the risk of flooding by either increasing the depth of flooding to existing properties at risk or by extending the floodplain to cover properties normally outside of the floodplain. Flood storage capacity can be maintained by lowering ground levels either within the curtilage of the development or elsewhere in the floodplain, in order to maintain at least the same volume of flood storage capacity within the floodplain.
- 6.35. In undefended tidal areas, raising ground levels is unlikely to impact on maximum tidal levels so the provision of compensatory storage should not be necessary.

- 6.36. For development in a defended flood risk area, the impact on residual flood risk to other properties needs to be considered. New development behind flood defences can increase the residual risk of flooding if the flood defences are breached or overtopped by changing the conveyance of the flow paths or by displacing flood water elsewhere. If the potential impact on residual risk is unacceptable then mitigation should be provided.
- 6.37. The site is located within Flood Zone 1 according to the Environment Agency Flood Map for Planning (Rivers and Sea). However, the proposed development is for the change of use from storeroom / outbuilding to residential (one bedroom flat) + added dormer and therefore there will be no loss of floodplain storage.

Surface Water Drainage:

- 6.38. The development will utilise Sustainable drainage systems (SuDS) design in accordance with the NPPF for Planning Applications and the drainage hierarchy as follows:
1. Store rainwater for later use;
 2. Infiltration techniques;
 3. Attenuate rainwater by storing in tanks for gradual release;
 4. Discharge rainwater direct into watercourse;
 5. Discharge rainwater into surface water sewer;
 6. Discharge rainwater into a combined sewer.
- 6.39. Due to the nature of the development (change of use of existing building), there will be no increase to the built footprint, no change to the impermeable coverage, and therefore no increase to surface water runoff generation. The existing surface water drainage arrangements for the site will continue to be utilised.

7. Sequential and Exception Test

- 7.1. The Sequential Test aims to ensure that development does not take place in areas at high risk of flooding when appropriate areas of lower risk are reasonably available.
- 7.2. The Sequential Test is applied to developments in areas identified as being at risk of any source of flooding now or in the future. The Sequential Test ensures that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account.
- 7.3. The sequential approach is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. This means avoiding, so far as possible, development in current and future medium and high flood risk areas considering all sources of flooding including areas at risk of surface water flooding. Other forms of flooding need to be treated consistently with river and tidal flooding in mapping probability and assessing vulnerability, so that the sequential approach can be applied across all areas of flood risk.
- 7.4. The site is located within Flood Zone 1 according to the EA Flood Map for planning (Rivers and the Sea) and within an area of “Very Low” chance of flooding from surface water. Post development, the site will become “more vulnerable”, as the application is for the change of use from storeroom / outbuilding to residential (one bedroom flat) + added dormer.

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a	Exception Test required	X	Exception Test required	✓	✓
Zone 3b	Exception Test required	X	X	X	✓

Table 5: Flood risk vulnerability and flood zone ‘compatibility’ (Source: NPPF Table 3 Technical Guidance)

- 7.5. Using the table above, the proposed application (“more vulnerable”) is considered to be suitable within Flood Zone 1.
- 7.6. The Sequential Test does not need to be applied for minor developments and changes of use – this application is for the change of use from storeroom / outbuilding to residential (one bedroom flat) + added dormer.

8. Discussion and Conclusion

- 8.1. Unda Consulting Limited have been appointed by John Kimpton Properties to undertake a Flood Risk Assessment for the proposed development at Longfield House, Mortimer Street, Trowbridge, BA14 8BG. The purpose of the study is to support a planning application for the proposed development.
- 8.2. The existing site comprises of a storeroom / outbuilding. The surrounding area is characterised by residential properties and commercial buildings.
- 8.3. The proposed application is for the change of use from storeroom / outbuilding to residential (one bedroom flat) + added dormer.
- 8.4. The existing site usage is classified as “less vulnerable” (storeroom/outbuilding). Post development, the site will be classified as “more vulnerable” (residential). Accordingly, it is considered that the vulnerability of the site as a whole will increase post development.
- 8.5. The site is located within Flood Zone 1 (Low Probability), which means it is defined as land having a less than 1 in 1,000 annual probability of river or sea flooding. The risk would appear to be fluvial and originates from River Biss located approximately 115m northeast of the site boundary.
- 8.6. Modelled flood levels and extents have been requested from the Environment Agency for use in this report.
- 8.7. Only undefended modelled flood levels and extents have been provided and therefore will be used for this assessment.
- 8.8. The site is located entirely outside of the modelled 1:20 year, 1:100 year, 1:100 year plus 20% climate change and 1:1000 year extents.
- 8.9. Flood levels have been provided from 1D in-channel nodes.
- 8.10. Only a 20% increase in flows is available from the EA. As such, in line with EA guidance the Intermediate Approach is applied, where a Stage-Discharge relationship is derived from the modelled flood levels and flows provided, and then interpolated / extrapolated to estimate a flood level for a 26% increase in flows.
- 8.11. Comparison of the modelled flood level for the 1:100 year plus 26% climate change event (36.02mAOD) with approximate topographic site levels (36.25mAOD to 36.40mAOD) shows the site is between 0.23m and 0.38m above the flood level for this event.
- 8.12. According to EA data, there are no Flood Storage Areas located in close proximity to the site.
- 8.13. The River Biss is flanked by natural high ground in the area of the site which is maintained by the Environment Agency. The site is located entirely within Flood Zone 1.
- 8.14. The EA Risk of Flooding from Surface Water Map suggests that the site is located within an area at “Very Low” chance of flooding during the present day and between 2040 - 2060.
- 8.15. The 2024 Wiltshire Level 1 SFRA shows the site lies within a zone which is deemed as having a negligible risk from groundwater flooding due to the nature of the local geological deposits. The EA advise that flooding from groundwater is unlikely in this area.
- 8.16. According to the 2024 Wiltshire Level 1 SFRA, the site is located in an area that has not experienced any sewer flooding incidents.

- 8.17. The site is located within the maximum inundation extent on the EA Reservoir Inundation Map when there is also flooding from rivers. The EA also advise on their website that there is a risk of reservoir flooding in this area.
- 8.18. The EA hold records of historic flooding having affected the site in December 1960 and January 1980 attributed to channel capacity exceedance (no raised defences).

In Summary:

- The proposed application is for the change of use from storeroom / outbuilding to residential (one bedroom flat) + added dormer.
- Internal access will be provided from the ground floor to the first floor of the building.
- All sleeping accommodation will be located at first floor level.
- Post development, the site will be classified as “more vulnerable” (residential).
- Flood proofing of the development will be incorporated as appropriate.
- There will be no unacceptable loss of fluvial floodplain storage.
- Safe Escape will be provided by a formal Flood Warning and Evacuation Plan prepared in liaison with the Council's Emergency Planners.
- Due to the nature of the development, a full Surface Water Drainage Strategy is not required at this stage of planning.
- The applicant will register with the free Environment Agency Floodline Alert Direct service.
- The applicant will register with the National Severe Weather Warning Service.

Assuming accordance with these flood risk management measures, Unda Consulting Limited consider the proposed application to be suitable in flood risk terms.

**Unda Consulting Limited
December 2025**

Appendix

A – Development Plans:

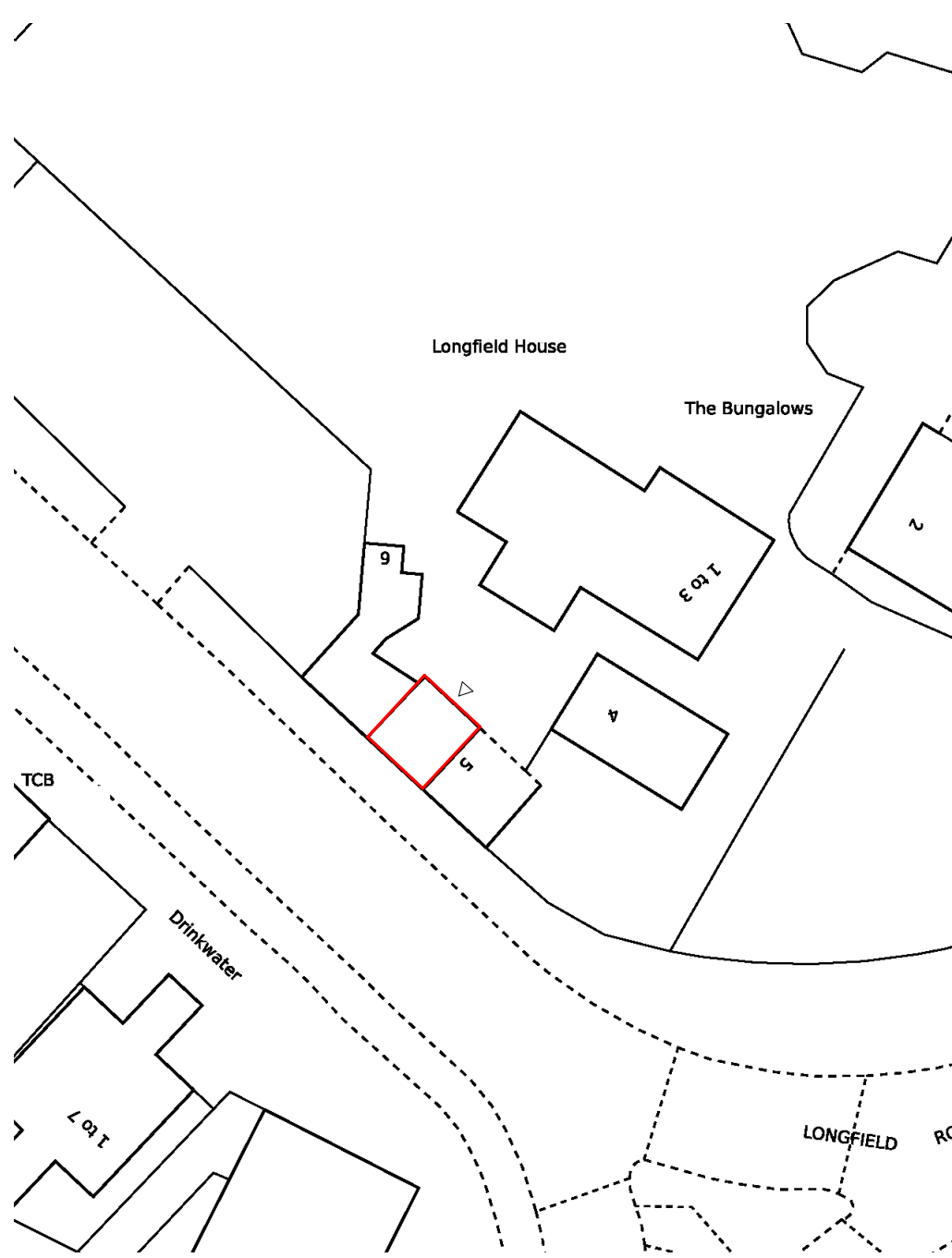
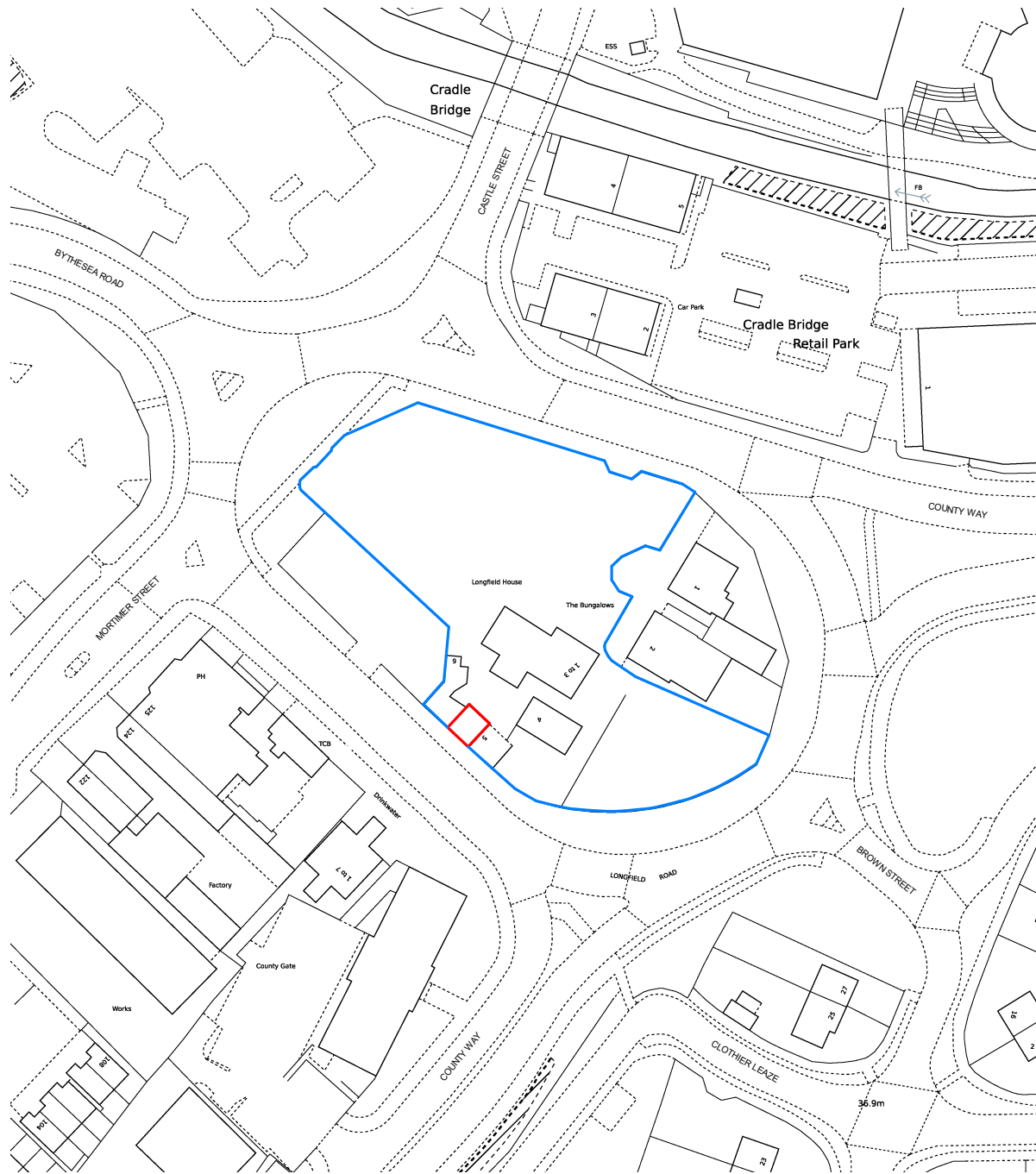
- Site location, existing and proposed plans – Applicant.

B – EA Flood Map for Planning:

- Flood Map for Planning – Environment Agency.

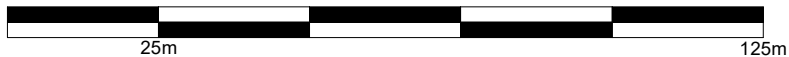
C – NPPF Annex 3:

- NPPF Annex 3: Flood risk vulnerability classification table

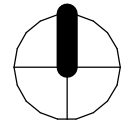
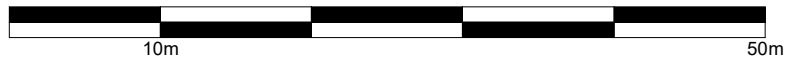


Site Area: 3352 m²

1 Site Location Plan
1 : 1250



2 Block Plan
1 : 500



Any dimensions shown should be checked on site and discrepancies reported to the Architect prior to construction.
Designs are not coordinated with project engineer.
Do not scale for construction purposes.



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hello@planning-by-design.co.uk

PROJECT ADDRESS

Longfield House, Mortimer
Street, Trowbridge, BA14
8BG

DRAWING NAME

Site Location Plan and Block Plan

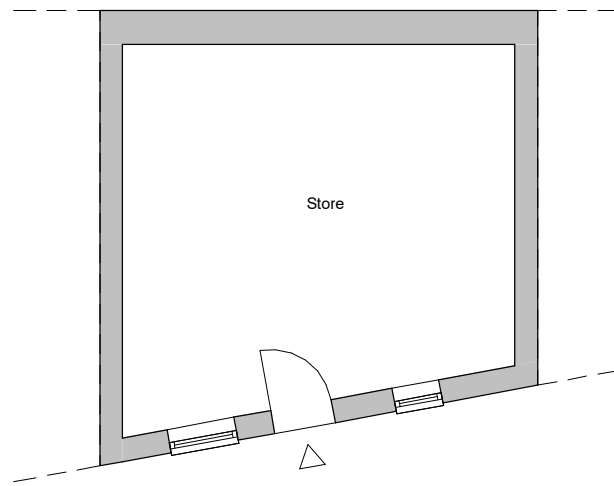
CLIENT

Albert Dzapasi

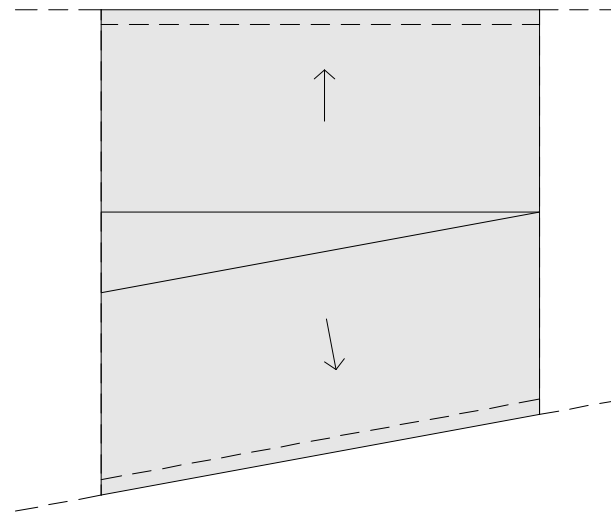
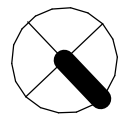
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SCALE (@ A3) As indicated	PROJECT NUMBER BA14
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DRAWING NUMBER BA14-01	REV V1
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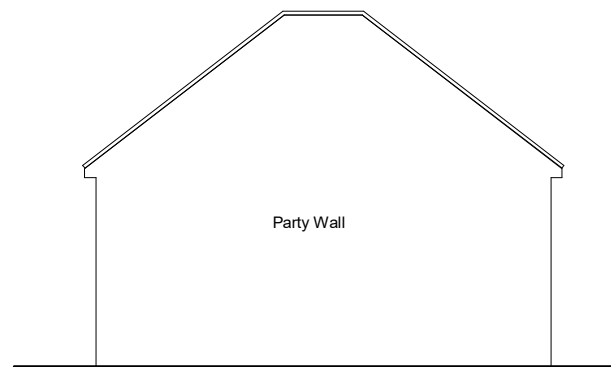
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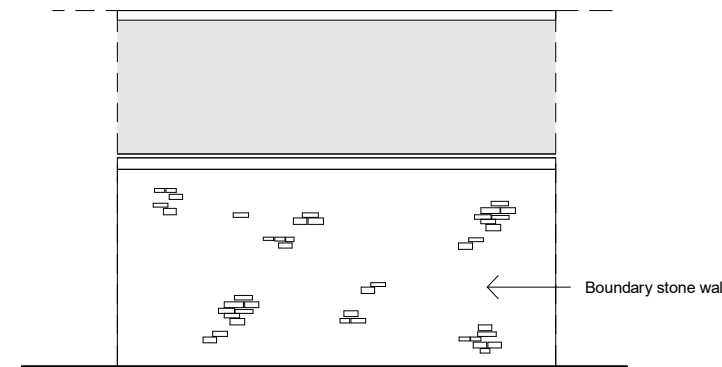
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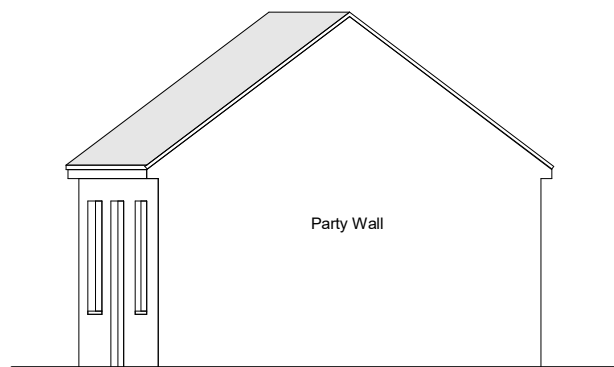
4 **Front Elevation**
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5 **Side Elevation (East)**
1 : 100



6 **Rear Elevation**
1 : 100



7 **Side Elevation (West)**
1 : 100

GIA Proposed:
Level 0: 24.5 m²



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PROJECT ADDRESS

Longfield House, Mortimer
Street, Trowbridge, BA14
8BG

DRAWING NAME

Existing Plans and Elevations

CLIENT

Albert Dzapasi

DRAWN BY
PL

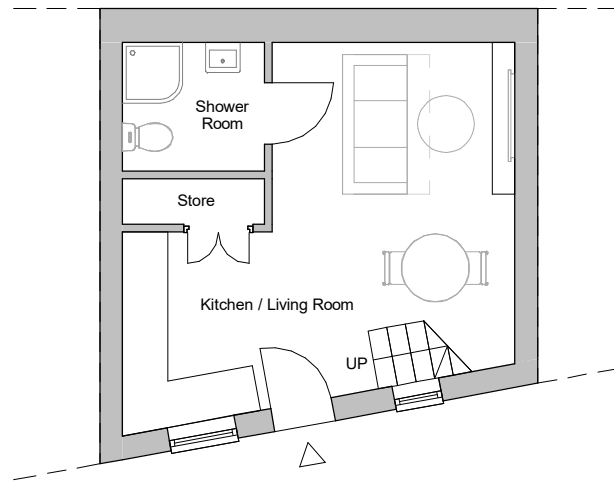
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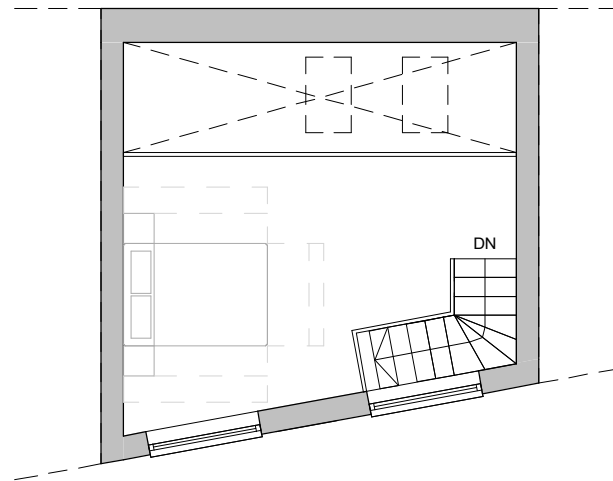
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BA14

DRAWING NUMBER
BA14-02

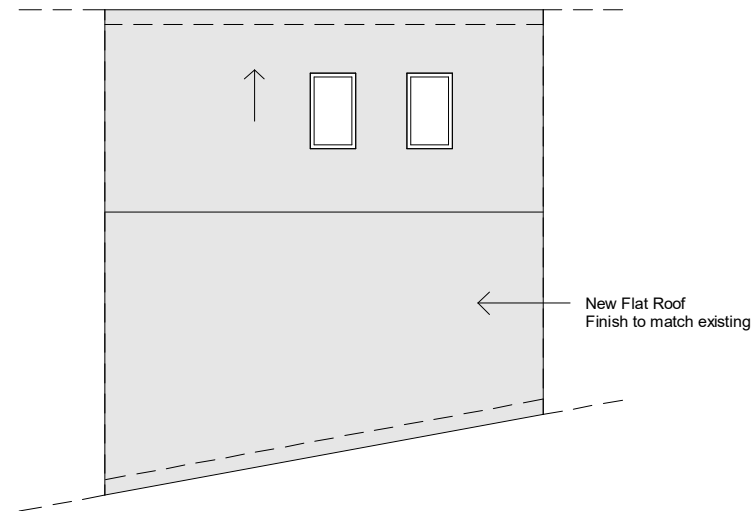
REV
V1



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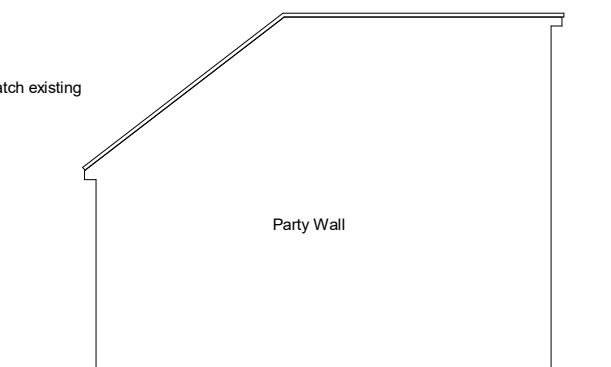
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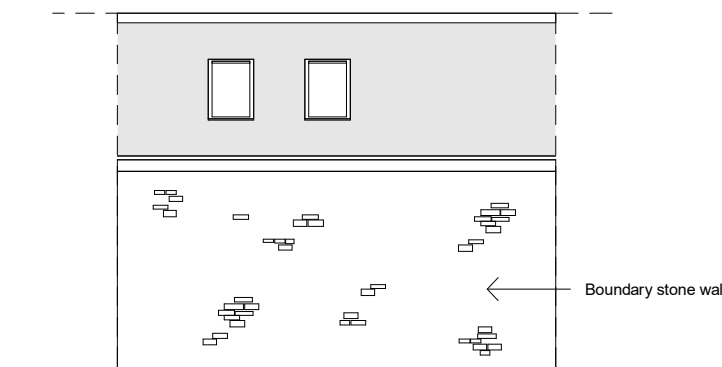
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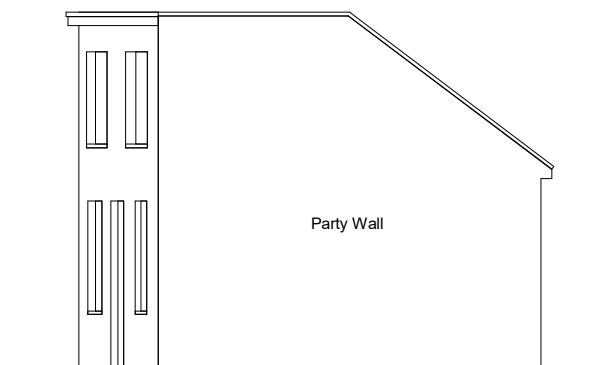
4 Front Elevation
1 : 100



5 Side Elevation (East)
1 : 100



6 Rear Elevation
1 : 100



7 Side Elevation (West)
1 : 100

GIA Proposed:
Level 0: 24.5 m²
Level 1: 14.5 m²



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PROJECT ADDRESS

Longfield House, Mortimer
Street, Trowbridge, BA14
8BG

DRAWING NAME

Proposed Plans and Elevations

CLIENT

Albert Dzapasi

DRAWN BY
PL

DATE
21.11.2024

SCALE (@ A3)
1 : 100

PROJECT NUMBER
BA14

DRAWING NUMBER
BA14-03

REV
V1

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
385633/157506

Created
6 August 2025 11:00

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2025 AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



Flood map for planning

Your reference

Unspecified

Location (easting/northing)
385633/157506

Scale
1:2,500

Created
6 Aug 2025 11:01

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area



0 20 40 60m

Annex 3: Flood Risk Vulnerability Classification	
Essential Infrastructure:	- Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. - Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including infrastructure for electricity supply including generation, storage and distribution systems; including electricity generating power stations, grid and primary substations storage; and water treatment works that need to remain operational in times of flood. - Wind turbines. - Solar farms.
Highly Vulnerable:	- Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding. - Emergency dispersal points. - Basement dwellings. - Caravans, mobile homes and park homes intended for permanent residential use. - Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure'.)
More Vulnerable: * Landfill is as defined in Schedule 10 of the Environmental Permitting (England and Wales) Regulations 2010	- Hospitals. - Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. - Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. - Non-residential uses for health services, nurseries and educational establishments. - Landfill* and sites used for waste management facilities for hazardous waste. - Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.
Less Vulnerable:	- Police, ambulance and fire stations which are not required to be operational during flooding. - Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'more vulnerable' class; and assembly and leisure. - Land and buildings used for agriculture and forestry. - Waste treatment (except landfill* and hazardous waste facilities). - Minerals working and processing (except for sand and gravel working). - Water treatment works which do not need to remain operational during times of flood. - Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place. - Car parks.
Water-Compatible Development:	- Flood control infrastructure. - Water transmission infrastructure and pumping stations. - Sewage transmission infrastructure and pumping stations. - Sand and gravel working. - Docks, marinas and wharves. - Navigation facilities. - Ministry of Defence installations. - Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. - Water-based recreation (excluding sleeping accommodation). - Lifeguard and coastguard stations. - Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms. - Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

National Planning Policy Framework Annex 3: Flood risk vulnerability classification