63 Eton Road, Harlington

Flood Risk Assessment

Job Number: 1607

Date	Version	Notes/Amendments
May 2025	1	Issued for Information

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Acronyms	
AOD	Above Ordnance Datum
CIRIA	Construction Industry Research and Information Association
EA	Environment Agency
SFRA	Strategic Flood Risk Assessment
NPPF	National Planning Policy Framework
PPG	Planning Practice Guidance

Executive Summary

This Flood Risk Assessment supports a householder planning application for a proposed single-storey rear extension and front porch at 63 Eton Road, Harlington, UB3 5HS, within the London Borough of Hillingdon. The site lies within Flood Zone 1, indicating a low probability of fluvial or tidal flooding.

The River Crane, a designated Main River, flows approximately 200 metres east of the site but does not influence flood risk at this location. The Environment Agency's mapping confirms that the site is not affected by fluvial, surface water, or reservoir flooding, even during extreme scenarios such as the 1 in 1000-year surface water event or modelled climate change flood extents.

The West London SFRA identifies the area as having ≥75% susceptibility to groundwater flooding, but there are no recorded incidents at the site, and the proposed works do not involve any basement or deep groundworks. The risk from groundwater flooding is therefore considered low.

The development will be constructed over existing hardstanding, and there will be no net increase in impermeable area. The proposals do not alter existing drainage arrangements and will maintain existing runoff pathways. Finished Floor Levels will be consistent with the existing dwelling, and standard detailing will ensure water ingress is avoided.

This Flood Risk Assessment demonstrates that the proposed development is appropriate in flood risk terms, complies with national and local policy, and will not increase flood risk on or off site. No further mitigation or assessment is required to support this application.

Introduction

Flume Consulting Engineers have been appointed to prepare a Flood Risk Assessment (FRA) in support of a planning application for a proposed single-storey rear extension and front porch at 63 Eton Road, Harlington, UB3 5HS, within the London Borough of Hillingdon. The site lies within Flood Zone 1, as classified by the Environment Agency (EA), indicating a low probability of fluvial or tidal flooding.

This FRA has been prepared in accordance with the requirements of the National Planning Policy Framework (NPPF), the Planning Practice Guidance (PPG) on Flood Risk and Coastal Change, and the guidance contained in the West London Strategic Flood Risk Assessment (SFRA), Version 1.4. The site is not located within a Critical Drainage Area, and the development does not trigger the need for sequential or exception testing under current policy.

The scope of this FRA is proportionate to the scale and nature of the proposed development, in line with Table 4-2 of the West London SFRA, and considers flood risk from all relevant sources including fluvial, surface water, groundwater, and reservoir flooding. It also outlines mitigation measures, where necessary, to ensure that the development remains safe and flood-resilient over its lifetime without increasing flood risk elsewhere.

This assessment supports the planning application by confirming that the proposed development is appropriate in terms of flood risk, complies with local and national policy, and does not require further fluvial modelling or sequential test justification due to its Flood Zone 1 classification.

Site Description and Location

The site is located at 63 Eton Road, Harlington, Hayes, UB3 5HS, within the administrative boundary of the London Borough of Hillingdon. The Ordnance Survey grid reference for the site is TQ 09817 77167. It is situated in a suburban residential area comprising predominantly two-storey semi-detached dwellings with private gardens and driveways. The site is bounded by adjacent residential properties and enclosed with timber panel fencing to the sides and rear.

The site lies approximately 200 metres west of the River Crane, a designated Main River which flows in a north–south direction through the wider catchment. Although the River Crane is the principal fluvial feature in the area, the Environment Agency's Flood Map for Planning confirms that the site is located wholly within Flood Zone 1, and therefore has a low probability of fluvial flooding (less than 1 in 1,000 annual chance). The site does not fall within the functional floodplain or within the defended flood extents associated with the River Crane.

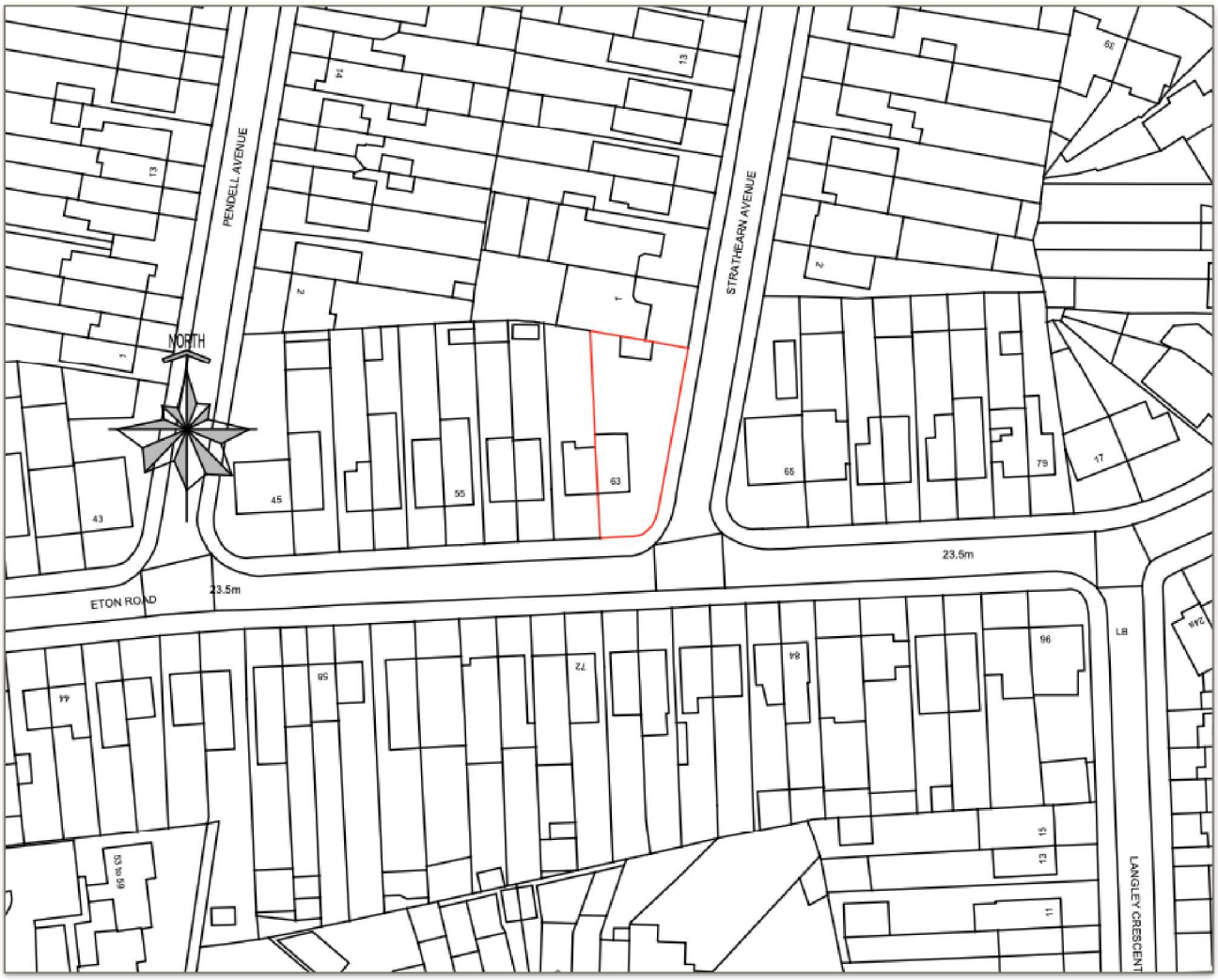

FIGURE 1. SITE LOCATION

Development Proposal

The proposed development comprises a single-storey rear extension and a single-storey front porch to the existing two-storey residential property at 63 Eton Road, Harlington. The extension will accommodate expanded ground floor living space, while the porch will provide covered access to the front entrance. The proposed works are categorised as a minor householder development for planning purposes.

Both the rear extension and the front porch will be constructed over areas of existing hardstanding or previously developed land within the curtilage of the dwelling. There will be no net increase in impermeable surface area as a result of the development. The proposals do not involve changes to the existing foul or surface water drainage connections, and no new discharge points are proposed.

Given the replacement of existing hardstanding, the development will not generate additional runoff or change the site's existing surface water drainage characteristics. There is no requirement for a formal Sustainable Drainage System (SuDS) strategy due to the scale of the works and the absence of increased flood risk, but the development will adhere to best practice design standards, ensuring that surface water is safely managed within the site boundary.

There are no basement elements, no proposed alterations to ground levels, and no intensification of use. The building footprint remains within the existing domestic curtilage, and the proposals do not introduce any new dwellings.

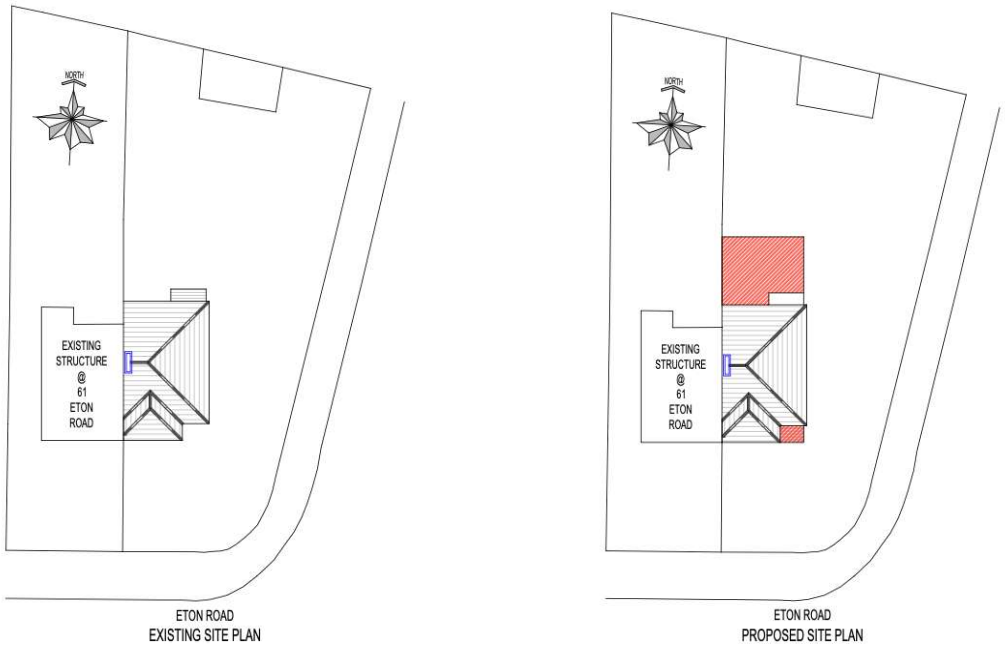

FIGURE 2. EXISTING AND PROPOSED SITE PLAN

Flood Risk Assessment

Flood Risk from Watercourses

The site lies approximately 200 metres west of the River Crane, a designated Main River managed by the Environment Agency. The River Crane flows in a generally north–south direction and is the principal fluvial watercourse in the local catchment. Despite its proximity, the site is located wholly within Flood Zone 1 as defined by the Environment Agency's Flood Map for Planning, which indicates a less than 0.1% annual probability (1 in 1000-year) of fluvial or tidal flooding.

The topography of the surrounding area and the intervening built environment provide a natural barrier between the site and the River Crane. There are no flood defences or recorded flood events associated with this location, and the site does not fall within a defended floodplain or a zone benefiting from flood storage.

The West London Strategic Flood Risk Assessment (SFRA) confirms that for minor developments located in Flood Zone 1, no site-specific fluvial modelling is required where no modelled flood extents or overtopping mechanisms exist that would influence the site. Given the separation distance from the river, the lack of historical flood records, and the mapped Flood Zone classification, the risk of fluvial flooding from the River Crane is considered to be negligible.

In accordance with the NPPF and the SFRA, this assessment concludes that no mitigation measures are required in relation to fluvial flooding from the River Crane, and the site is suitable for the proposed development from a watercourse flood risk perspective.

FIGURE 3. ENVIRONMENT AGENCY FLOOD RISK FROM RIVERS OR SEA MAP (GOV.UK, 2025)

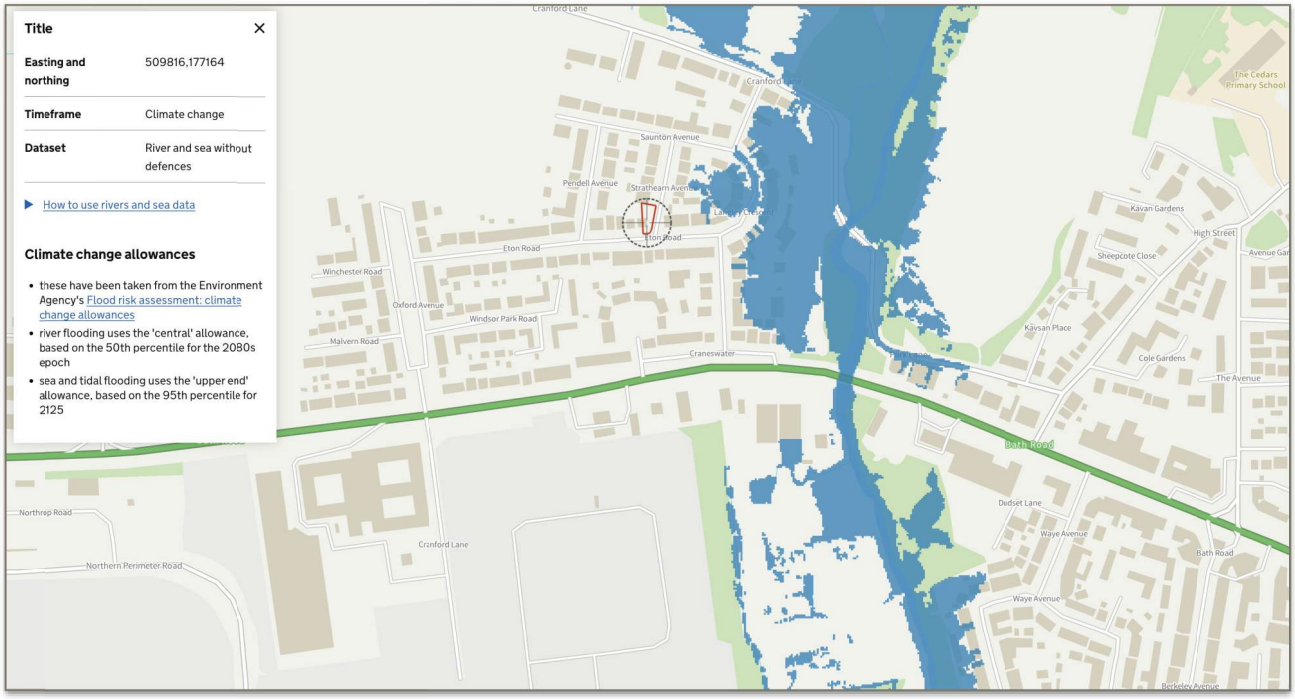

FIGURE 4. ENVIRONMENT AGENCY FLOOD RISK FROM RIVERS OR SEA - CLIMATE CHANGE MAP (GOV.UK, 2025)

Flood Risk from Groundwater

The West London Strategic Flood Risk Assessment (SFRA) identifies the site as being within an area classified as having ≥75% susceptibility to groundwater flooding, based on the Areas Susceptible to Groundwater Flooding (AStGWf) dataset (Figure 5). This mapping indicates potential susceptibility to groundwater emergence during periods of seasonally high water tables or prolonged rainfall.

However, the AStGWf dataset represents a broad-scale screening tool and does not account for site-specific conditions such as local geology, topography, or drainage. No recorded incidents of groundwater flooding have been identified at or near the site, and the property is located on level ground with no natural depressions or low-lying areas that might encourage groundwater emergence.

The proposed development does not involve basement construction or deep foundations, and no below-ground infrastructure is proposed that would intersect with the water table. The extension and porch will be constructed at ground level, replacing existing hardstanding, and will not introduce any new subsurface pathways or constraints that would increase groundwater flood risk.

In accordance with the NPPF and West London SFRA Table 4-2, the presence of AStGWf mapping alone does not trigger a requirement for groundwater-specific mitigation, where no historic flooding has occurred and no basement or intrusive groundworks are proposed.

The risk of groundwater flooding to the proposed development is therefore considered low, and no mitigation measures are required.

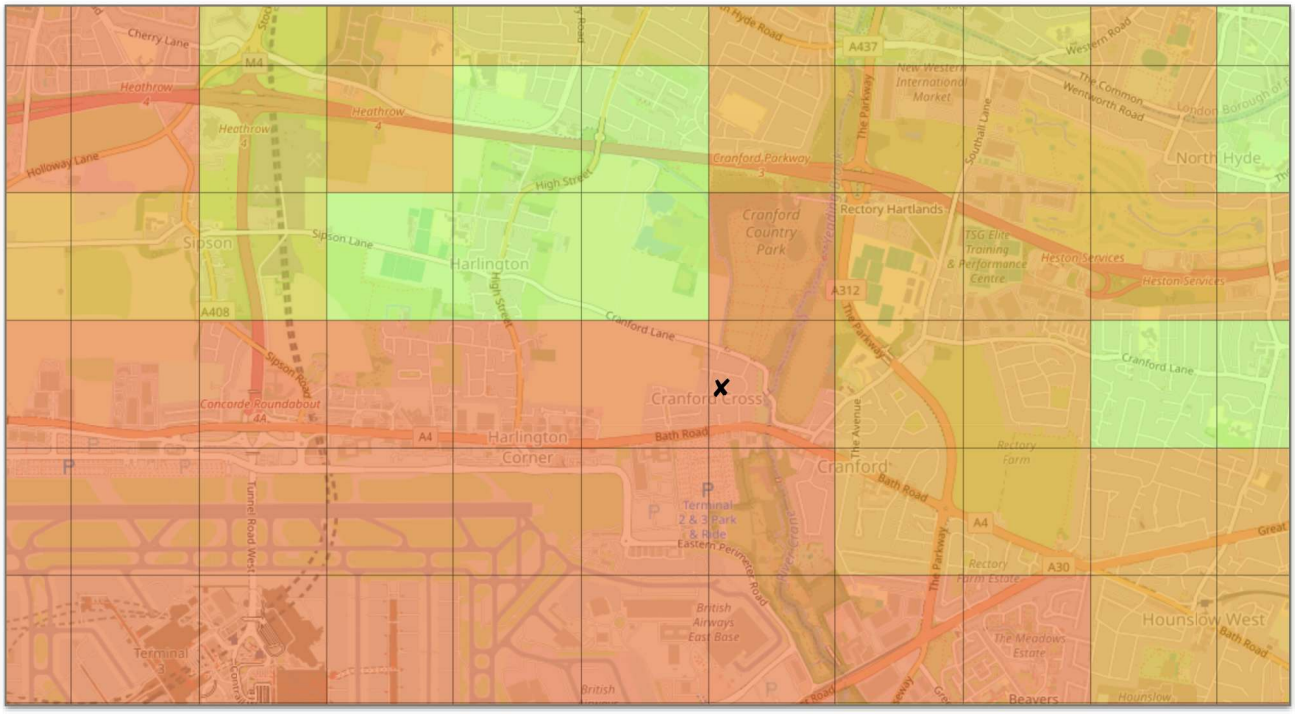

FIGURE 5. AREAS SUSCEPTIBLE TO GROUNDWATER FLOODING (SFRA, 2017)

Flood Risk from Surface Water and Overland Flows

Surface water flood risk has been assessed using the Environment Agency's Flood Risk from Surface Water mapping (Figure 6), which models the likelihood and extent of surface water flooding during a range of rainfall scenarios. The site at is shown to be entirely outside the modelled flood extents for the 1 in 30-year, 1 in 100-year, and 1 in 1000-year rainfall events.

There are no mapped overland flow routes or ponding zones that affect the property or its immediate surroundings. The local topography is level, and the surrounding road network and garden layouts do not indicate any preferential flow paths that would direct runoff towards the site. The proposed development replaces existing hardstanding and will not increase the impermeable area or alter existing surface drainage characteristics.

As the site lies in Flood Zone 1, and is not affected by any level of mapped surface water risk, the probability of overland flow or pluvial flooding is considered negligible. The development does not require a formal SuDS strategy under the West London SFRA guidance for minor developments in low-risk areas, and no mitigation is proposed or necessary in this regard.

The proposed layout and finished floor levels will maintain existing drainage conditions and will not increase surface water flood risk either on or off-site.

FIGURE 6. ENVIRONMENT AGENCY FLOOD RISK FROM SURFACE WATER MAP (GOV.UK, 2025)

Flood Risk from Reservoir Failure

The EA's information states that reservoir flooding is extremely unlikely to happen and there has been no loss of life in the UK from reservoir flooding since 1925. The Reservoir Act of 1975 ensures that reservoirs are inspected regularly and essential safety work is carried out.

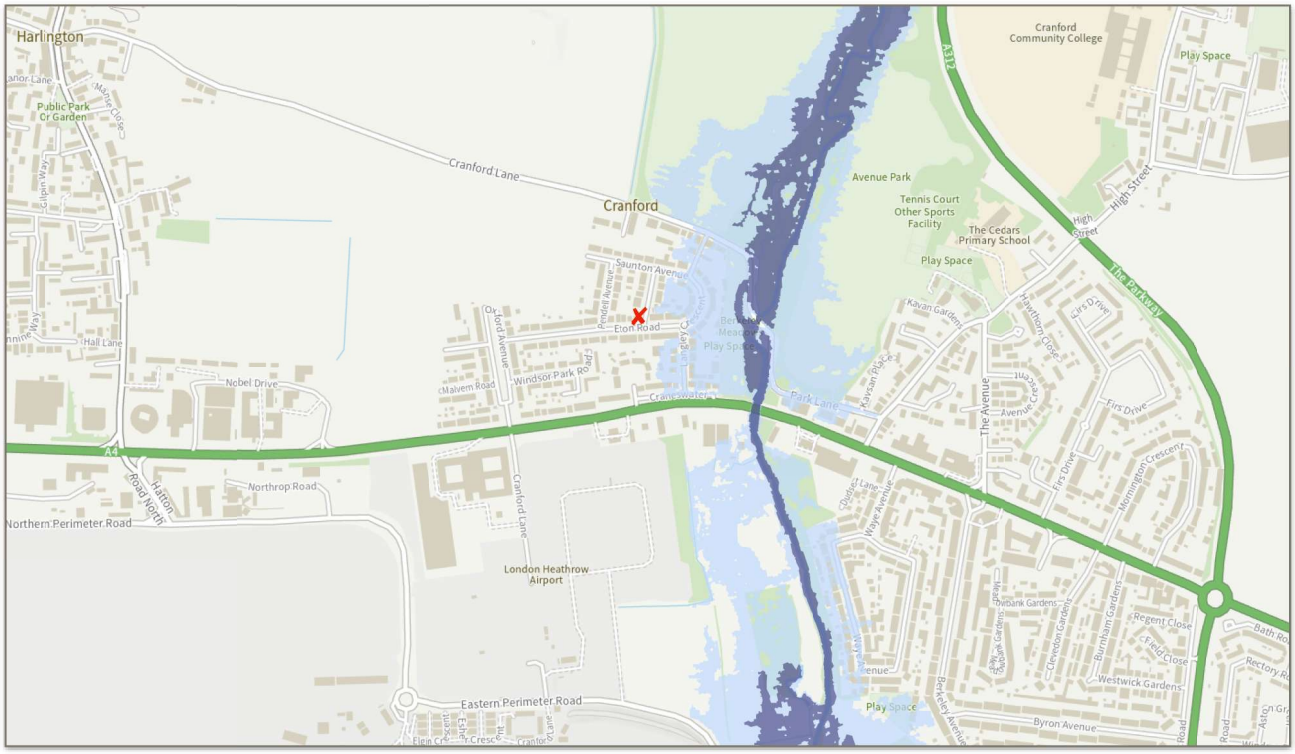

FIGURE 7. ENVIRONMENT AGENCY FLOOD RISK FROM RESERVOIRS MAP (GOV.UK, 2025)

The Environment Agency's Risk of Flooding from Reservoirs mapping (Figure 7) has been reviewed to assess the potential for flood risk arising from a failure of any large, raised reservoir infrastructure. The mapping confirms that the site at 63 Eton Road is not located within an area at risk from reservoir inundation.

Reservoir flood risk is a residual category, referring to the unlikely scenario in which a reservoir structure fails and releases stored water downstream. In accordance with the Reservoirs Act 1975, all large reservoirs in the UK are subject to a rigorous inspection and maintenance regime overseen by qualified reservoir panel engineers. The UK has had no recorded loss of life from reservoir failure since the introduction of formal regulation.

Given the site's location outside any identified reservoir flood extent, there is no risk of flooding from this source, and no mitigation or emergency planning measures are required.

Flood Mitigation Measures

The proposed development lies within Flood Zone 1, is not at risk from surface water or reservoir flooding, and does not include basement works or changes to ground levels. The risk from all assessed sources is therefore considered low, and the scale of the development does not justify site-specific engineering mitigation.

Nevertheless, the following good practice measures will be incorporated to maintain a low residual flood risk and ensure that local drainage performance is not compromised:

Finished Floor Levels

The extension and porch will be constructed with Finished Floor Levels (FFLs) to match the existing dwelling, which has not been subject to historic flood incidents. Given the absence of surface water risk, no raised thresholds are required beyond standard damp-proofing detailing.

Drainage and Runoff

The works will not increase impermeable area, as both the rear extension and front porch replace existing hardstanding. Existing rainwater runoff patterns will be maintained via connection to the property's existing surface drainage system. No new outfalls are proposed, and discharge will remain to the existing sewer network.

External Ground Levels

Ground levels around the proposed extension and porch will be designed to fall away from external walls where feasible, reducing the likelihood of ponding near building thresholds.

Construction Detailing

Standard damp-proof courses, insulation, and cavity wall detailing will be incorporated in line with Building Regulations. No flood-specific resilient materials are required given the absence of mapped flood risk.

Routine Drainage Maintenance

Regular maintenance of the drainage system, including clearing gutters and any existing channel drains, will be essential to manage surface water effectively. Ensuring that these systems remain clear and functional will reduce the potential for blockages and overflow, contributing to the long-term flood resilience of the outbuilding and preventing surface water build-up around the site.

No formal Sustainable Drainage System (SuDS) features are proposed or required under current policy, given the lack of runoff increase and the minor nature of the development. This approach complies with the guidance in Table 4-2 of the West London SFRA for minor development within Flood Zone 1.

Flood Risk Assessment (FRA) Submission Checklist

Compliance

This FRA has been prepared in accordance with the requirements set out in the West London Strategic Flood Risk Assessment (SFRA), Version 1.4, including the FRA Submission Checklist for minor developments. The proposal has been assessed against each applicable requirement, with findings summarised as follows:

Site Details and Development Information

The FRA includes full details of the site location, nature of the proposed works, and planning context. The development comprises a single-storey rear extension and front porch within the curtilage of an existing residential dwelling. The site lies in Flood Zone 1 and is not within a Critical Drainage Area. No intensification of use or change in flood risk vulnerability is proposed.

Flood Risk from All Sources

The FRA addresses fluvial, surface water, groundwater, and reservoir flood risks. The site is located approximately 200m west of the River Crane but lies outside all mapped flood extents under present and climate change conditions. Surface water and reservoir flood maps show no risk. Groundwater susceptibility is mapped as ≥75%, but no historic events are known, and the proposed works do not include a basement or deep foundations.

Climate Change Considerations

Although climate change allowances are not applicable to Flood Zone 1 sites without modelled flood extents, EA climate mapping has been reviewed and confirms no encroachment at the site under future scenarios.

Flood Mitigation and Drainage

No increase in impermeable area is proposed. Existing hardstanding will be replaced, and drainage connections retained. No additional runoff will be generated. Finished floor levels will match the existing building and external levels will be graded appropriately.

Residual Risk

Residual risks from groundwater and surface water have been reviewed and found to be low. No formal emergency flood response plan is required under the SFRA guidance for minor developments in Flood Zone 1.

Permits and Consents

The site lies outside buffer zones requiring EA flood risk activity permits or ordinary watercourse consents. No main river or culvert works are involved.

The FRA complies with the West London SFRA Checklist, providing a proportionate and site-specific appraisal of flood risk. No further information is considered necessary to support this application.

Conclusions

This Flood Risk Assessment has been prepared in support of a minor householder application for a single-storey rear extension and front porch at 63 Eton Road, Harlington, UB3 5HS, within the London Borough of Hillingdon. The site lies within Flood Zone 1, where there is a low probability of flooding from rivers or the sea.

Flood risk from fluvial sources has been assessed with reference to the nearby River Crane, which flows approximately 200 metres east of the site. The EA Flood Map confirms that the site is unaffected by fluvial flooding, both now and under future climate change scenarios. The risk from surface water flooding is also confirmed to be negligible, with the site lying outside all mapped extents for the 1 in 1000-year event. Reservoir flood risk is not present at the site.

The site is located within an area of ≥75% susceptibility to groundwater flooding according to the AStGWf dataset. However, no historic incidents are recorded, and the development does not involve basement construction, deep excavation, or changes to ground levels that would increase this risk. Groundwater flood risk is therefore considered to be low.

The proposals replace existing hardstanding and will not increase runoff or impermeable area. There is no requirement for SuDS measures or drainage reconfiguration. Finished floor levels will be consistent with the existing dwelling, and site drainage will be retained without modification.

This FRA demonstrates that the proposed development is appropriate in terms of flood risk, does not increase flood risk elsewhere, and complies with the relevant guidance in the NPPF, PPG, and the West London SFRA. No further flood risk assessment or mitigation is considered necessary.

Note:

This report has been prepared for the purposes of submitting for planning to the local planning authority for review in relation to the associated flood risk for the proposed development, and uses the most up-to-date information available to us at the time. It should not be relied upon by anyone else or used for any other purpose. This report is confidential to our Client; it should only be shown to others with their permission. We retain copyright of this report which should only be reproduced with our permission.

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