Flood Risk Assessment (FRA)

Address: 10 Briarwood Drive, Northwood, HA6 1PJ
Local Authority: London Borough of Hillingdon
Proposal: Rear extension forming part of an existing side/rear extension and a front first-floor dormer
Property Type: Detached dwelling
Flood Zone: Flood Zone 2 (Medium Probability)

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1. Purpose of Report

This Flood Risk Assessment (FRA) is submitted in support of a householder planning application at 10 Briarwood Drive, which is located within Flood Zone 2, as defined by the Environment Agency.
In accordance with:

- NPPF (Section 14: Meeting the challenge of climate change, flooding and coastal change)
- Hillingdon Local Plan (Strategic Policies EM6 & Local Plan Part 2)
- Environment Agency Flood Risk Standing Advice

a proportionate FRA is required for the proposed minor extension works.

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2. Site and Surroundings

The site comprises a detached single-family dwelling situated on Briarwood Drive within a fully developed residential area. The proposal includes:

- A single-storey rear extension, integrating with an existing side/rear extension
- A front first-floor dormer

There are no basements, and the external ground levels around the building are generally flat and stable.
No watercourses exist immediately adjacent to the property.

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3. Flood Zone Classification

Environment Agency mapping identifies the site within:

Flood Zone 2 (Medium Probability)

Defined as land with:

- Between 1% and 0.1% annual probability of fluvial flooding.

This classification requires a proportionate FRA but does not require the Exception Test for minor householder development.

The use class (C3 Residential) remains unchanged.

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4. Flood Risk Assessment by Source

4.1 Fluvial Flooding (Rivers and Sea)

- Current risk: Medium (Flood Zone 2)
- Future risk (2036–2069): Low to Medium
- Flood mapping indicates the risk is associated with the wider catchment, not immediate watercourse proximity.

Flood defences reduce, but do not eliminate, residual risk.
The proposal does not occupy functional floodplain nor impede flood flow routes.

4.2 Surface Water Flooding (Pluvial)

Government Surface Water Risk data indicates:

- Present day risk: Very Low to Low
- Future risk (2040–2060): Very Low / Low to Medium

Surface water flooding occurs when rainfall exceeds drainage capacity.
There are no recorded incidents at the site and no significant surface water flow paths across the property.

4.3 Groundwater Flooding

- The site is outside a groundwater flood alert area.
- Groundwater flooding is considered unlikely based on regional geological mapping.

4.4 Sewer Flooding

No records indicate historical sewer surcharge at this location.
Risk is considered low.

4.5 Reservoir Flooding

- EA mapping shows no reservoir inundation routes affecting the site.
- Reservoir failure risk is extremely low.

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5. Proposed Development and Flood Risk Impact

The proposal consists of modest residential extensions that:

- Do not introduce a more vulnerable use
- Do not reduce floodplain storage
- Do not alter ground levels
- Do not obstruct any overland flood paths
- Slightly increase the building footprint but remain minor in nature

The development will not increase flood risk on-site or elsewhere.

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6. Flood Mitigation and Resilience Measures

To ensure robust flood management, the following measures are included or recommended:

6.1 Finished Floor Levels

- Ground floor levels retained as existing.
- Door thresholds to remain 150mm above external ground level, where feasible.

6.2 Flood-Resilient Construction

At ground floor level:

- Water-resistant floor finishes
- Closed-cell insulation
- Moisture-resistant plasterboard or lime-based plasters
- Electrical sockets positioned ≥450mm above floor level
- Waterproof membrane behind wall finishes (where applicable)

6.3 Surface Water Drainage (SuDS)

To avoid increased runoff:

- Permeable paving for new external hard surfaces
- Rainwater butts on new downpipes
- Soakaway or infiltration-based attenuation (subject to soil testing)
- Roof water directed to permeable surfaces rather than into the sewer

These align with Hillingdon drainage guidelines.

6.4 Safe Access and Egress

Flood Zone 2 mapping indicates the area is not subject to hazardous flood depths or velocities. Safe pedestrian access is expected to remain available in a flood event.

6.5 Flood Warning

The occupants should register for:

- Environment Agency Flood Warning Service
- Local severe weather alerts

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7. Sequential Test

For householder development affecting an existing dwelling:

- The Sequential Test is satisfied, as the works cannot be relocated.
- No Exception Test is required.

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8. Assessment Summary

- The site is within Flood Zone 2 and therefore subject to medium fluvial risk.
- Surface water, groundwater, sewer, and reservoir risks are low or very low.
- The development is minor, retains existing floor levels, and incorporates suitable resilience measures.
- The proposal does not increase flood risk elsewhere and complies with national and local policy requirements.

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9. Conclusion

This Flood Risk Assessment concludes that:

- The proposed extensions at 10 Briarwood Drive are acceptable in flood risk terms.
- The development is consistent with the NPPF, Environment Agency Standing Advice, and Hillingdon Council Local Plan requirements.