

**38 GRANGE AVENUE TW2 5TW**

**PROPOSED REAR EXTENSION, FIRST FLOOR SIDE EXTENSION AND GARAGE  
CONVERSION**

**FLOOD RISK ASSESSMENT**

Submitted with the 'Householder and other minor extension in Flood Zones 2 and 3' - Environment Agency



Climate change over the next few decades is likely to mean milder wetter winters and hotter drier summers in the UK whilst sea levels will continue to rise. These factors will lead to increased and new risks of flooding within the lifetime of planned development even in low flood risk areas .

The property is located in flood risk areas **ZONE 1** and this document aims to provide details on how to improve flood avoidance, flood resistance, flood resilience and flood repairable on the proposed development at No 38 Grange Avenue TW2 5TW by the use of suitable materials and construction details.

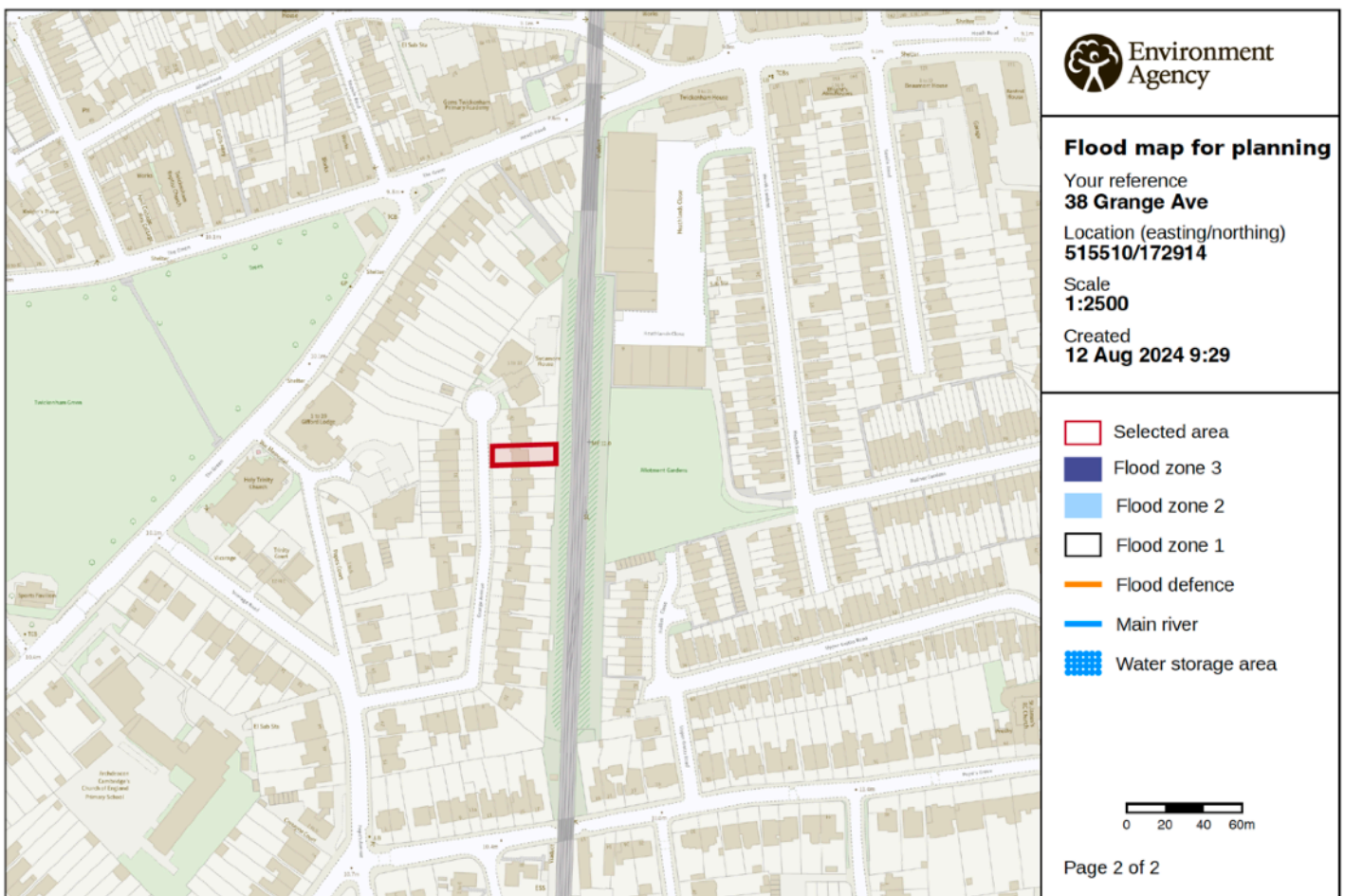
# Flood map for planning

Your reference  
**38 Grange Ave**

Location (easting/northing)  
**515510/172914**

Created  
**12 Aug 2024 9:29**

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



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## **Flood avoidance - Floor levels**

### **Site Layout Floor Levels**

New construction will avoid it being flooded by maintaining and not lowering the current ground levels.

Flood levels within the proposed development will be set no lower than the existing levels and flood proofing will be incorporated where appropriate.

### **Landscaping**

The land surrounding No 16 Michelham Gardens is designed to encourage drainage away from the property.

### **Drainage**

The site drainage system and management of surface water runoff is designed to reduce the flood risk .

## **Flood resistance - Flood resilience - Flood repairable**

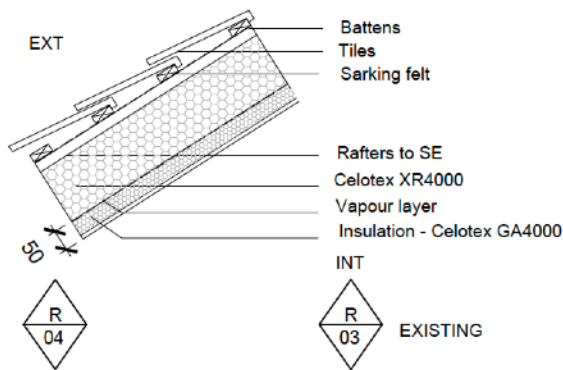
**Resistance** : The proposal at No 38 Grange Avenue will be constructed to prevent floodwater entering the building and damaging its fabric.

**Resilience** : The proposal at No 38 Grange Avenue will be constructed so that although flood water may enter the building its impact is reduced therefore no permanent damage is caused , structural integrity is maintained and drying and cleaning are facilitated.

**Repairable** : The proposal at No 38 Grange Avenue be constructed in such a way that although flood water enters the building, elements that are damaged by flood water can be easily repaired or replaced.

The above will be achieved by the following mitigation measures:

- Materials with low permeability up to 0.3m
- Accept water passage through building at higher water depths

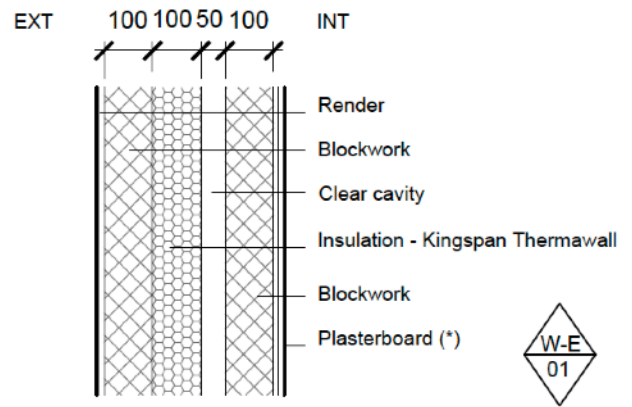


**PITCHED ROOF (Un-Ventilated)**  
**Min U-Value 0.15W/m<sup>2</sup>K**

Valley boards & valley gutters code 5 lead minimum 450mm wide. Vented ridge. Tiles on roofing felt on battens with 125mm Celotex XR4000 insulation and 25mm cavity between existing rafters to SE. Pre bonded Celotex GA4000 to inside of rafters 50mm + 12.5 plasterboard and skim.  
 Structural & anchoring details strictly to SE drawings.

**ROOFLIGHTS**

Velux rooflights to be installed following manufacturer's instructions. include all flashing kits by Velux. Double up rafters/joists around rooflights to SE drawings. U-Value 0.16 W/m<sup>2</sup>K or better



**EXTENSION WALLS**  
**Min U-Value 0.18W/m<sup>2</sup>K**

External render on 100mm concrete blockwork outer leaf with 100mm Kingspan Thermawall insulation fixed to inside leaf leaving 50mm clear cavity. 100mm concrete block inner leaf.

(\*) Moisture resistant wallboard to be used in kitchen area

Provide DPC at min 150mm above ground level.

- Design to drain water away after flooding
- Access to all spaces to permit drying and cleaning
- Flood resilient materials and designs
- Materials and constructions with low permeability

Building materials that are effective for a 'water exclusion strategy' and 'water entry strategy' such as engineering bricks, cement-based materials including water retaining concrete and concrete blocks will be used for the construction of this proposal.

In the foundations concrete will be use to seal the blocks placed below ground-bearing concrete floor slabs ( blocks are considerably more permeable than concrete slabs ).

The floor arrangement will be constructed as detail in pic. above.

Wall arrangements will be constructed as detail in pic.above.

Durable fittings not significantly affected by water and that can be easily cleaned ( plastic / stainless steel ) will be used.

Where possible all services entries will be sealed.

*References and sources of information:*

*Improving the flood performance of new buildings CGL 2007*

*Environment Agency -Flood map for planning*