

**Gwelantyr - Front and Rear Extension**

**FLOOD RISK ASSESSMENT**

**August 2021**

**Gwelantyr**

**Swanpool**

**Falmouth**

**TR11 5BA**

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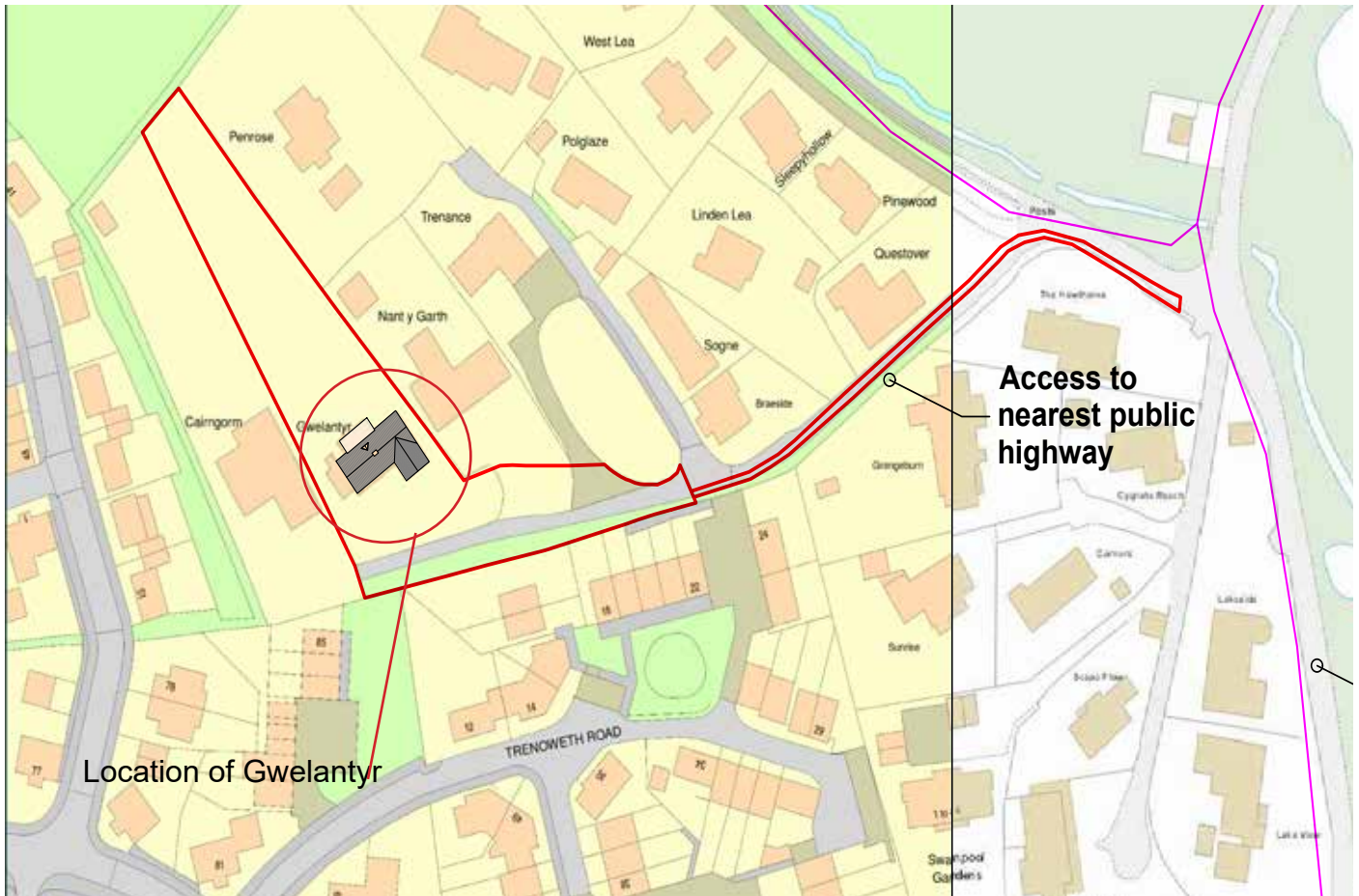
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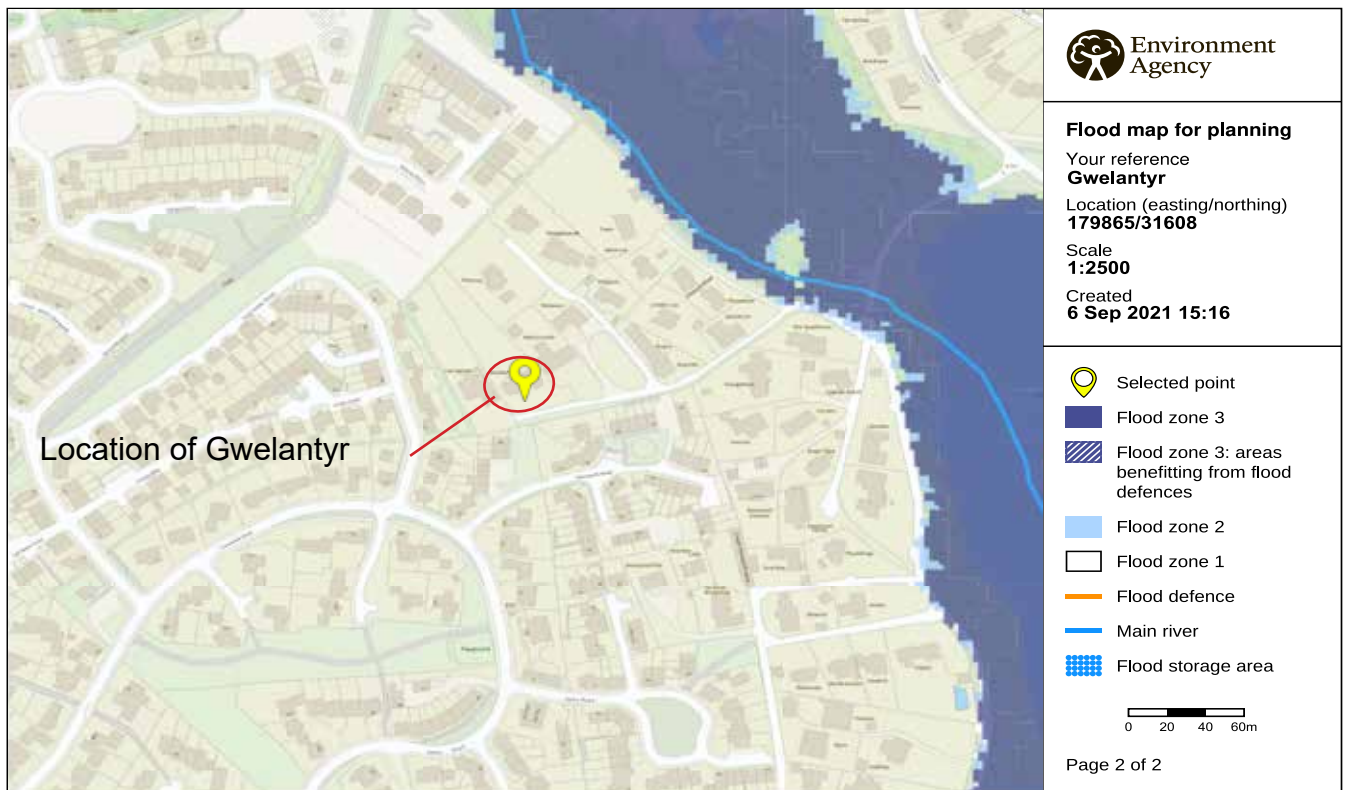
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On behalf of:

Mr and Mrs Kitchen



**Fig 1 - Location Plan**



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**Fig 2 - Environment Agency indicative Flood Map**

## Gwelantyr - Flood Risk Assessment

## **Flood Risk**

The Environment Agency indicative flood map (fig 2) shows the site is in Flood Zone 1 (less than 1 in 1000 annual probability of river or sea flooding). The site is therefore not at risk of either fluvial or tidal flooding.

## **Surface Water Flow**

Having checked the Environment Agency Website and map for this location it is confirmed that the area is at a LOW risk of flooding from surface water for the site. It is also at VERY LOW risk from rivers or the sea.

## **The Development**

Any new building development and additional impermeable hard surfaces are acknowledged to have the potential to increase flood risk as a result of additional surface water flow or runoff. The proposal is for a new rear and front extension.

The existing effective roof area is 185m<sup>2</sup> (143m<sup>2</sup> x 1.29 for a 30 deg pitch). The proposed new total roof area is 260m<sup>2</sup>, this is a total increase of 75m<sup>2</sup>.

## **Building Control Guidance for New Development**

Building Control Guidance (H3) indicates that rainwater shall be:

“discharged to one of the following, listed in order of priority: a) an adequate soakaway or some other adequate infiltration system; or, where that is not reasonably practicable, (b) a watercourse; or, where that is not reasonably practicable, (c) a sewer.”

Building Control advice is that a soakaway should be sited 5m or more from any building or road and sufficiently far away from any other soakaway or drainage field so that the soakage capacity of the ground is not exceeded.

## Conclusion.

Although within a Critical Drainage Area, the site has a large garden which is able to accommodate a suitable soak away at front and rear. It is a very low risk of any fluvial and tidal flooding and or low risk of surface water flooding. The additional roof area total is 75m<sup>2</sup>. This is proposed to be offset by the use of rainwater harvesting water butts.

## Flood Risk Mitigation

### 1. Soak aways

It is proposed that percolation rates of the ground and subsoil are ascertained and a suitably sized soakaway is designed and located front and back, in the areas indicated on drawing GW\_GA\_100\_A (fig 3) Site Plan with Proposed Drainage.

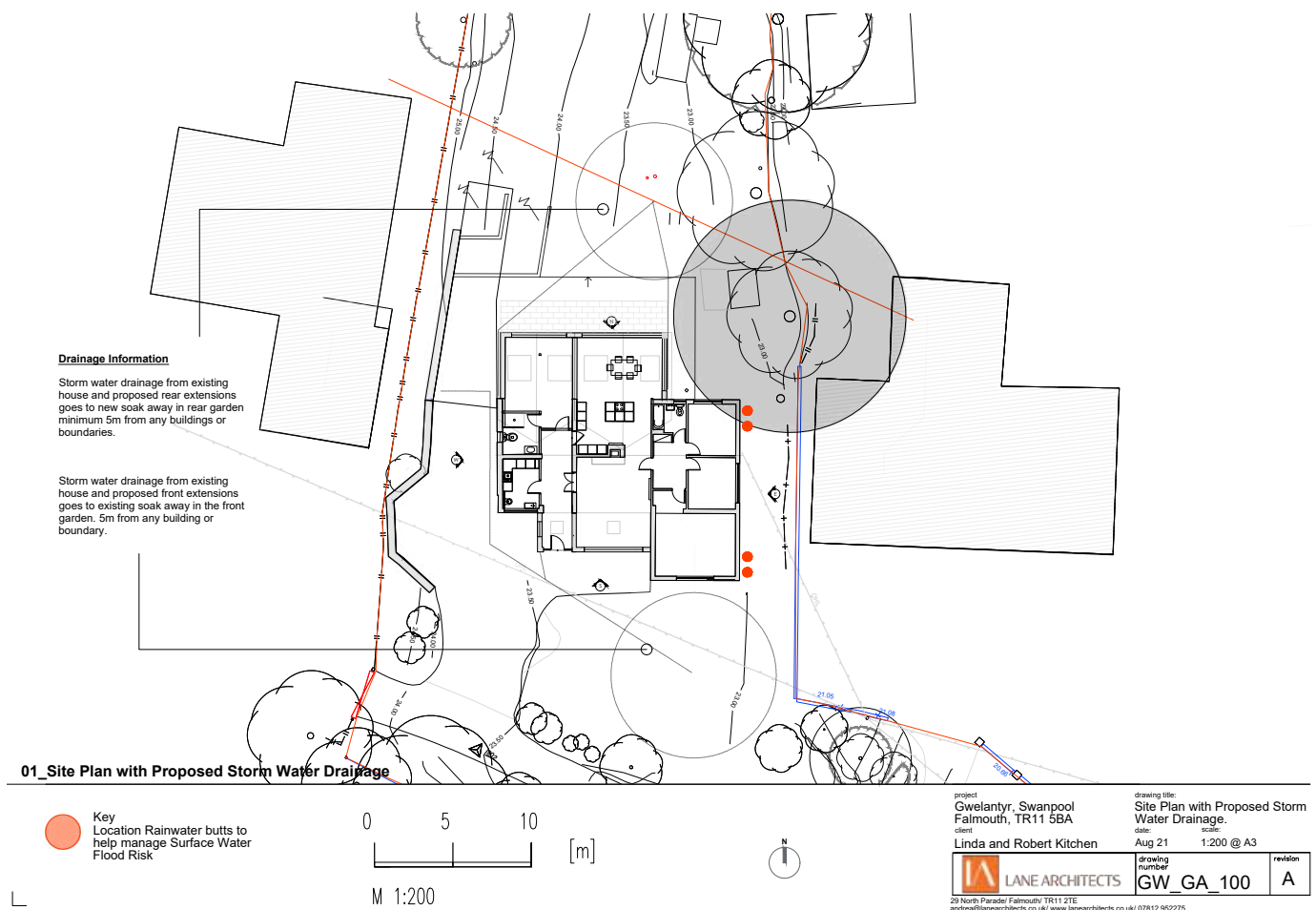


Fig 3 - Site Plan with Surface Water Drainage Information

Gwelantyr - Flood Risk Assessment

## Flood Risk Mitigation Cont....

### 2. Household Rainwater Harvesting

It is also proposed that a minimum of 4 x 210L water butts are installed to take approximately 76m<sup>2</sup> of effective roof area. These water butts are designed to help manage surface water flood risk. See drawing GW\_GA\_100\_A (fig 3) Site Plan with Proposed Drainage and the example water butt below (fig 4).

### 3. Landscape Finishes.

There is a small area of paved terrace proposed at the front and rear. All the remainder of the landscape finishes are to be permeable. The front drive and side access are all permeable gravel finish.

Household Rainwater Harvesting to Help Manage Surface Water Flood Risk



Fig 4 - Type of Household Water Butt Proposed