

**Subject** Atlantic Wharf Masterplan and Cardiff Arena and Hotel – Flood Statement

**Date** 26 August 2021

**Job No/Ref** 281124

## Atlantic Wharf Masterplan, Cardiff Arena and Hotel

### Flood Statement

## 1 Introduction

The Atlantic Wharf development is proposed to redevelop part of Cardiff Bay over a period of seven years. The development area incorporates the area of the Red Dragon Centre and associated car parks, County Hall and associated car parks.

The red line boundary for the masterplan is shown in Figure 1 below.



Figure 1 – Extent of Atlantic Wharf masterplan area

The proposed development shown in Figure 1 will include the new Cardiff Arena as well as residential, hotel, commercial and office buildings and a new multistorey car park. There will also be additional areas of water bodies which will be created as part of the scheme, fed from Bute East Dock.

This note considers the risk associated with the site.

## 2 Published Flood Maps

### 2.1 TAN15 Flood Map

The TAN15 flood map shows that the site is within Flood Zone B, see Figure 2. Flood Zone C2 is present along the eastern boundary of the site, this encompasses the existing extent of Bute East Dock water body and low level footpath.



Figure 2 – TAN15 Flood Map extract

### 2.2 NRW Flood Risk Map Rivers and Sea

The NRW published flood map for rivers and sea is presented in Figure 2. The map shows the site is almost entirely outside the flood risk areas, apart from the eastern boundary, which shows the existing water body of Bute East Dock as being partly in a high risk of flooding from the sea.

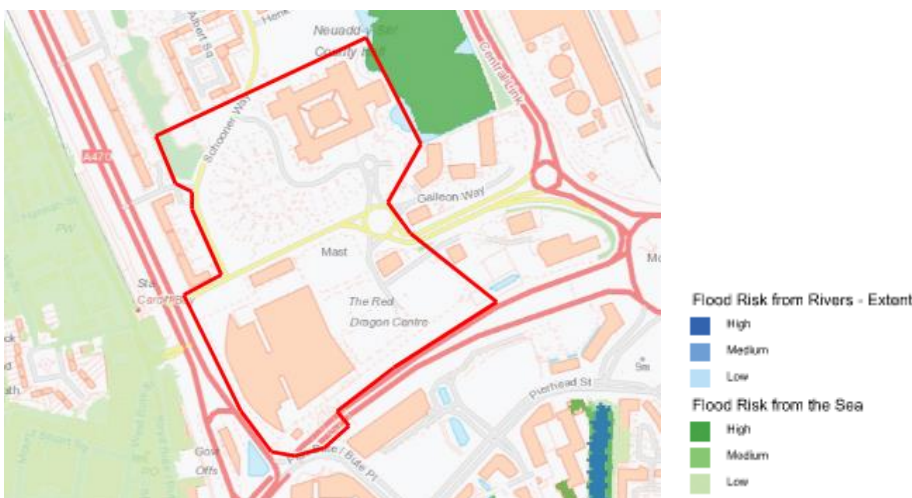


Figure 3 – NRW Flood Risk Map extract

**Subject** Atlantic Wharf Masterplan and Cardiff Arena and Hotel – Flood Statement

**Date** 26 August 2021

**Job No/Ref** 281124

## 2.3 Surface Water Flood Risk

The NRW published flood map showing surface water flooding is presented in Figure 4. The map shows that the majority of the site is not at risk of surface water flooding. There are local discreet area which do have a low and medium risk, these are localised low topographic areas where surface ponding occurs during high rainfall events.



Figure 4 – Surface Water Flood Risk Map extract

## 3 Assessed Flood Risk

The site is located within Flood Zone B on the Natural Resource Wales (NRW) TAN 15 Development Advice Map (see Figure 2). The Flood Zone B designation indicates that the site is known to have flooded in the past, evidenced by the presence of sedimentary deposits. The NRW flood maps demonstrates that the proposed site is not at risk of fluvial or tidal flooding for events up to and including the 1 in 1000-year event (0.1% Annual Exceedance Probability), as shown on Figure 3. Its presence in Zone B is likely to be due to the underlying sedimentary deposits prior to the site and surroundings being raised as part of the former dockland developments.

The presence of Zone C2 flood risk along the north-eastern boundary of the site represents the Bute East Dock water body and adjacent footpath, which at 8.3m and 7.9mAOD are some 1.5-2.0m lower than the existing level of the remainder of the site. The proposed finished level of the Arena and Hotel is 10.6 and 10.8mAOD, which are more than 2m higher than the low level area in the east. The finished levels of the AW masterplan area has yet to be finalised, but will be close to or above the existing levels, typically between 10m and 11mAOD, again more than 1.5m higher than the low levels in the east. The masterplan proposals along the eastern boundary is to be clarified but is proposed to be maintained as a low level waterside footway and public amenity space, consequently the flood risk in this area remain the same as existing. Should any new buildings encroach into this low level area at subsequent stages and/or levels uplifted, an FCA will need to be produced assessing the risk of flooding in accordance with TAN15.

**Subject** Atlantic Wharf Masterplan and Cardiff Arena and Hotel – Flood Statement

**Date** 26 August 2021

**Job No/Ref** 281124

The development proposals will include new sustainable drainage measures to deal with extreme storm events. Consequently, the drainage design will remove the localised flood risk areas associated with localised ponding currently shown on the Surface Water Flood Risk map.

## 4 Conclusion

---

Since the proposed development area is not at risk of fluvial and tidal flooding during events up to the 0.1% event, there is no requirement to consider fluvial or tidal flood risk any further for the development. Its presence in Zone B is likely to be due to the underlying sedimentary deposits prior to the site and surroundings being raised as part of the former dockland developments. It is not currently proposed to change the end use of the area along the north-eastern boundary of the site, currently shown within Flood Zone C2. Consequently, a Flood Consequences Assessment (FCA) is not considered necessary in this instance. Should any new buildings encroach into this low level area at subsequent stages and/or levels uplifted, an FCA will need to be produced assessing the risk of flooding in accordance with TAN15.