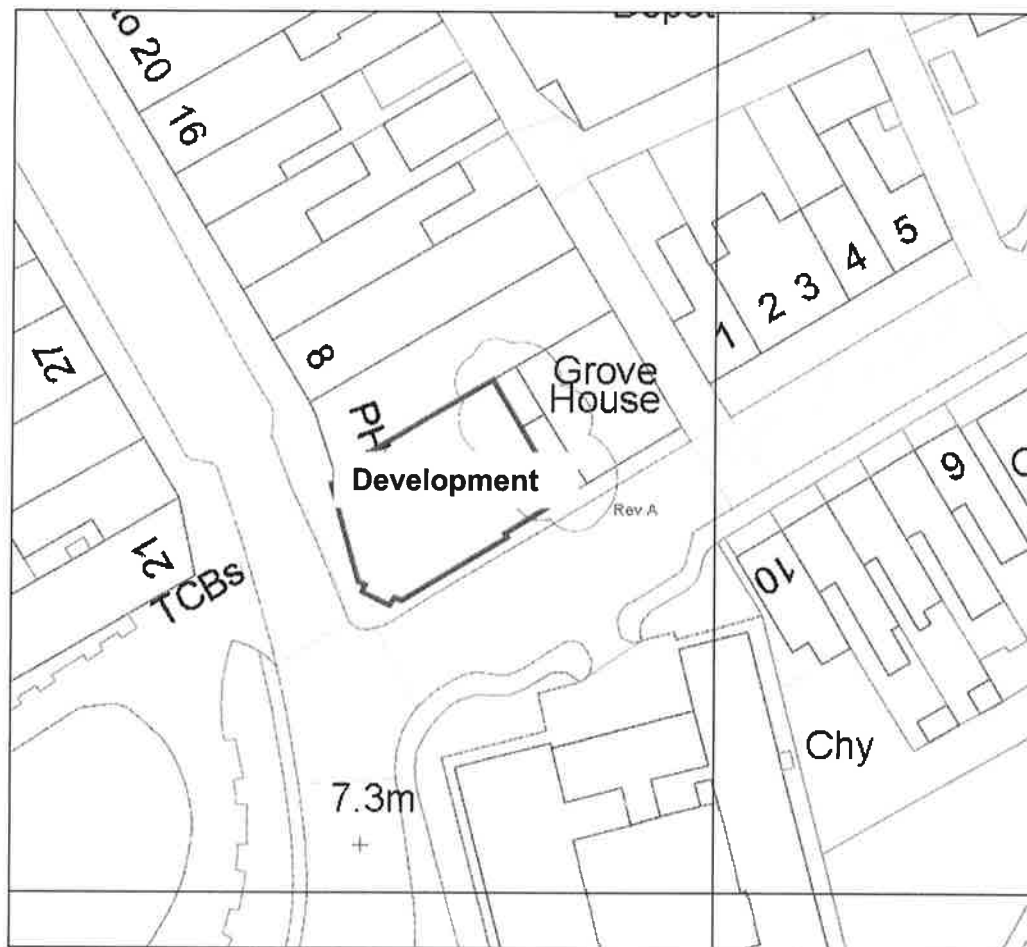


Francis Sant

2-4 Station Road, Port Talbot Flood Response Plan



January 2020
Final

Project	Residential Development, 2-4 Station Road, Port Talbot
Document	Flood Response Plan
Status	Final
Revision	O
Project Number	R/WD/P/1941
Date	January 2020
Client	Mr Ferhan Rasul
Consultant	Francis Sant Limited
Office	14, Queen St. Carmarthen Carmarthenshire SA31 1JT
Author	Ceirion Herbert
Telephone	01267 233833
e-mail	cherbert@francissant.com

This document has been produced in accordance with Francis Sant Limited Quality Management System

Signed

Date

CONTENTS		Page
1	Introduction	1
2	Location	2
3	Flood Risk	6
4	Flood Evacuation	9
Appendix A - Flood Evacuation Procedure		

1 INTRODUCTION

It is proposed to redevelop the upper floors of an existing building at 2 - 4 Station Road, Port Talbot into 6 residential flats. The client has been advised, however, that the building lies in flood Zone C1 as defined by the development advice maps (see Figure 1.1). This means that the area is considered to be at risk of flooding during at least the 1 in 1000 year event but is protected by recognised significant flood defence infrastructure.

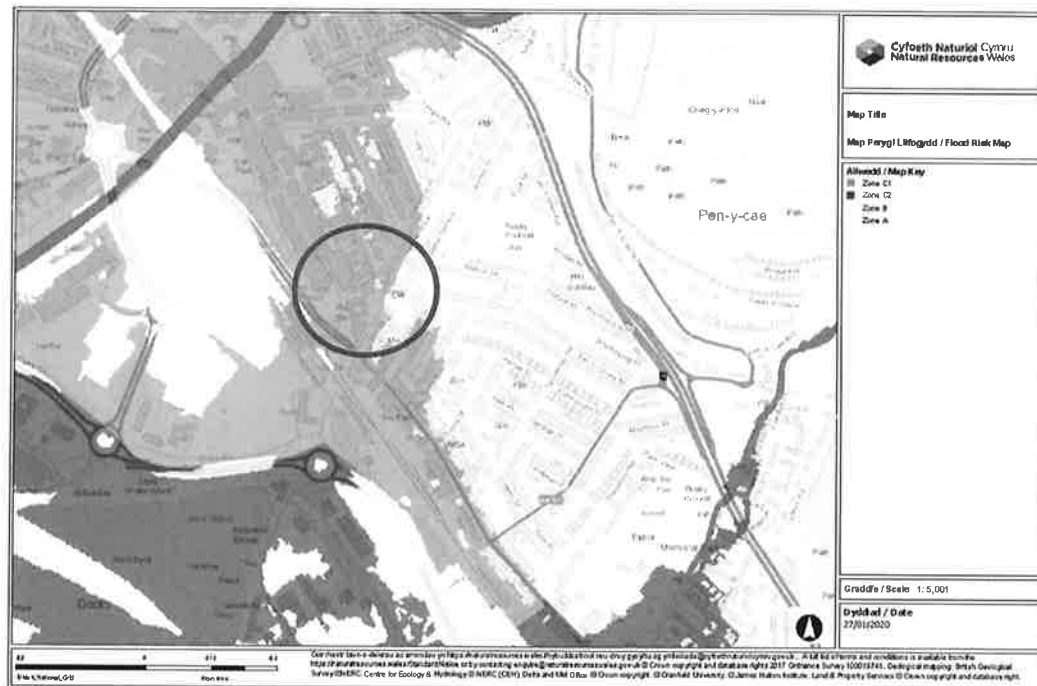


Figure 1.1 - Development Advice Flood Map

As part of the planning procedure a Flood Consequence Assessment (FCA) was prepared which identified that the first floor residential area is not considered to be at risk of flooding although the surrounding land, as well as the ground floor of the building, could be. As such the client has requested that a Flood Response Plan be prepared, to be provided to each residential unit.

This document identifies the proposed response to an event and should be read in conjunction with the FCA.

2 LOCATION

The building (coordinates 276770, 189745) is located on the southern end of Station Road towards the centre of Port Talbot in a mixed use area (see Figure 2.1 to 2.3 and Plate 2.1). The main Paddington to Fishguard railway line is located 80m to the west while the station is some 110m to the south and the bus station is some 40m in the same direction. The Afan is some 440m to the north west and generally flows from the north east to the south west. The Afan discharges into Swansea Bay some 2km to the south west. The M4 is some 460m to the north east.



Figure 2.1 – Location Plan

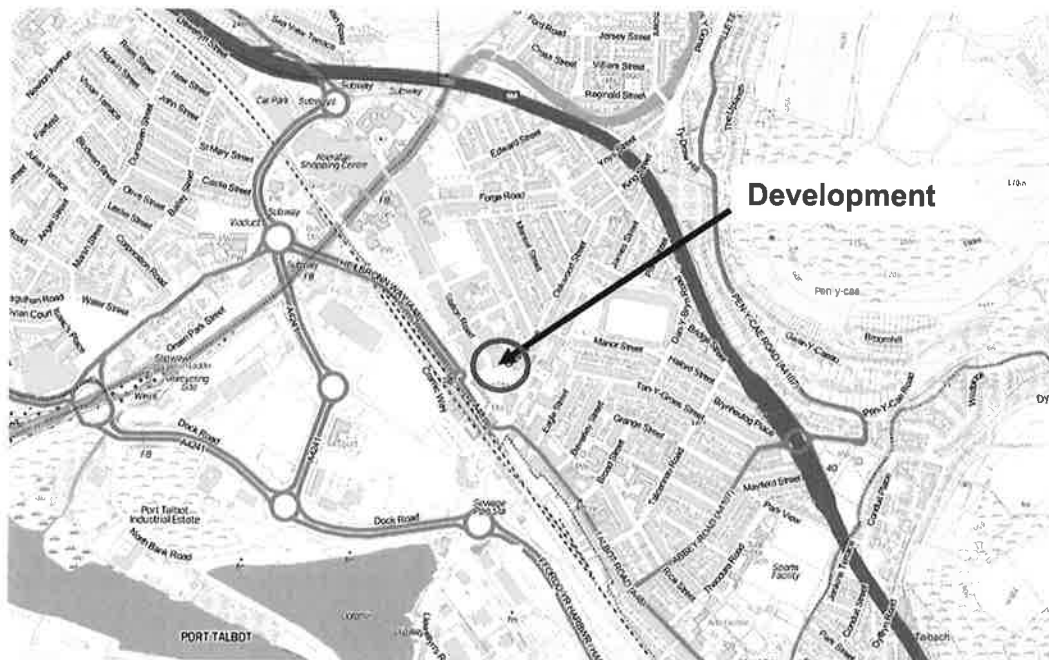


Figure 2.2 – Plan of Area

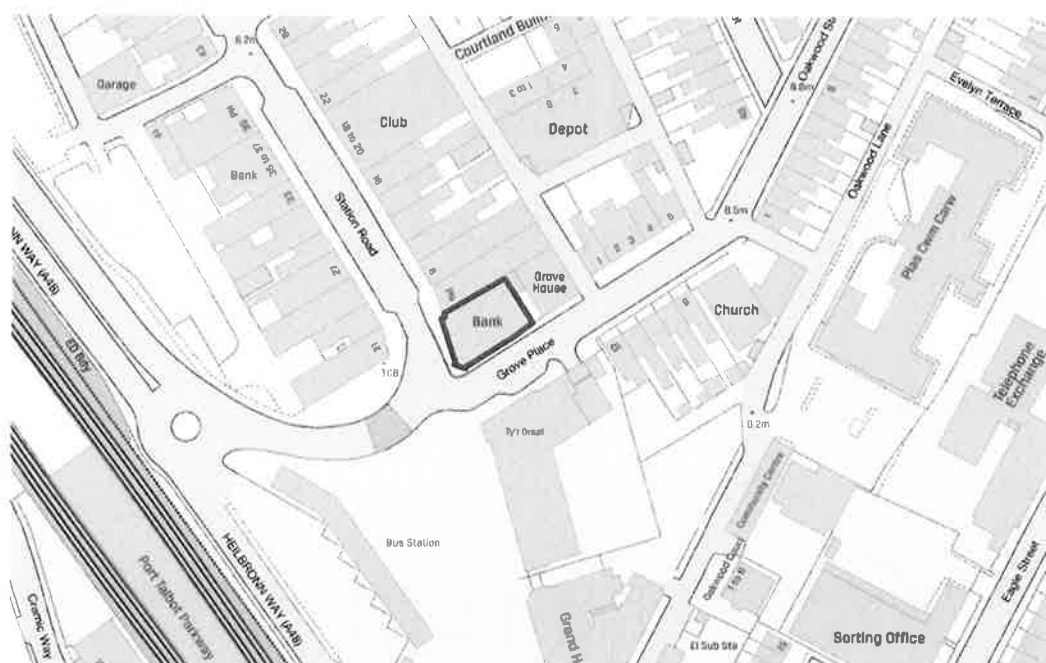


Figure 2.3 – Plan of Site



Plate 2.1 – Aerial Photograph of Site

Proposed Development

It is proposed to develop the building by converting the upper floors into 6 flats (see Figure 2.4 to 2.6).



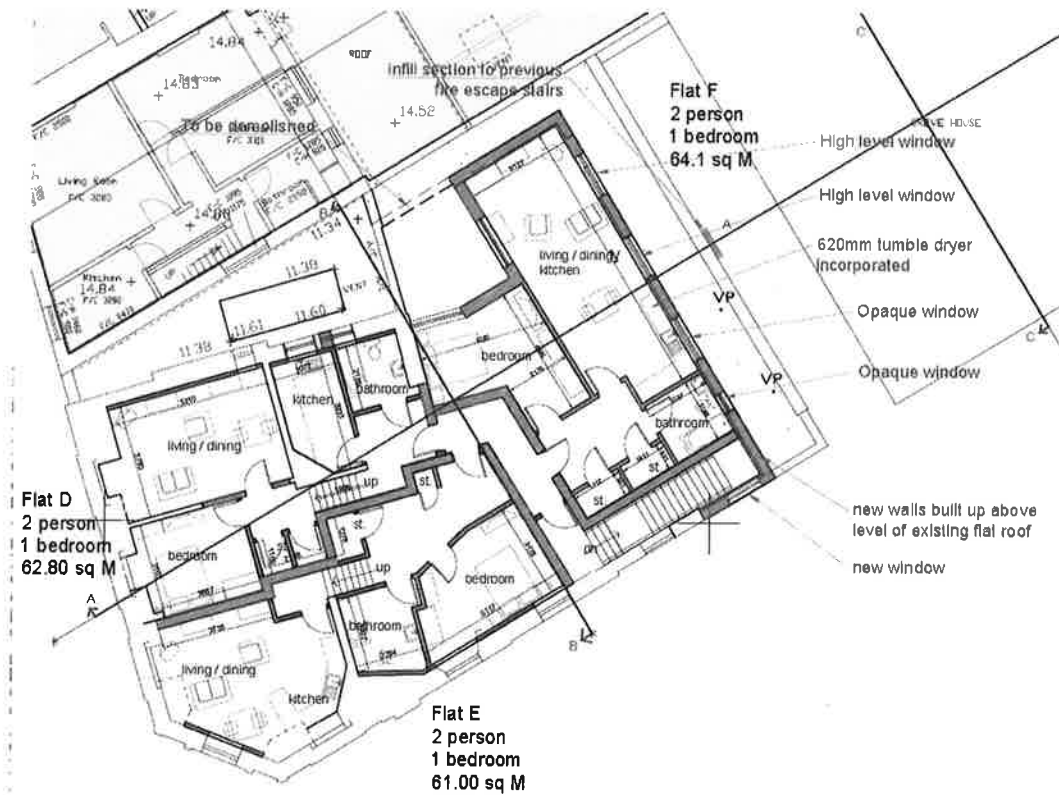


Figure 2.6 – Second Floor Plan of Proposed Development

Topography

LiDAR data shows that the land level outside the development was around 7.8m AOD and rose towards the north east (see Figure 2.7).

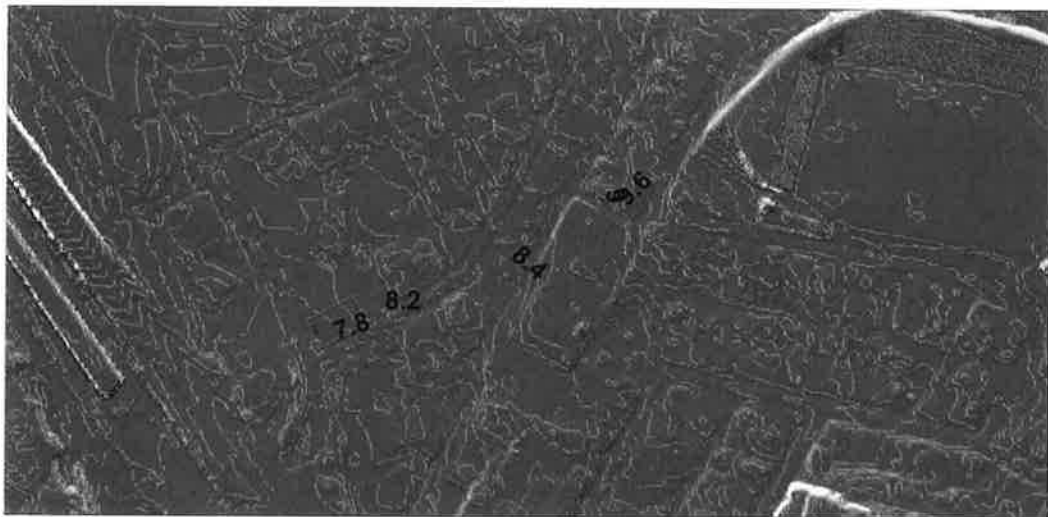


Figure 2.7 – Lidar Data of Site

3 FLOOD RISK

Flooding can occur from several sources, some of which are considered in this section. A flood map (Figure 3.1), obtained from NRW, shows that the site is affected during the 1 in 1000 year fluvial event (or 0.1% event) but is expected to be flood free during the 1 in 100 year event (1% event).

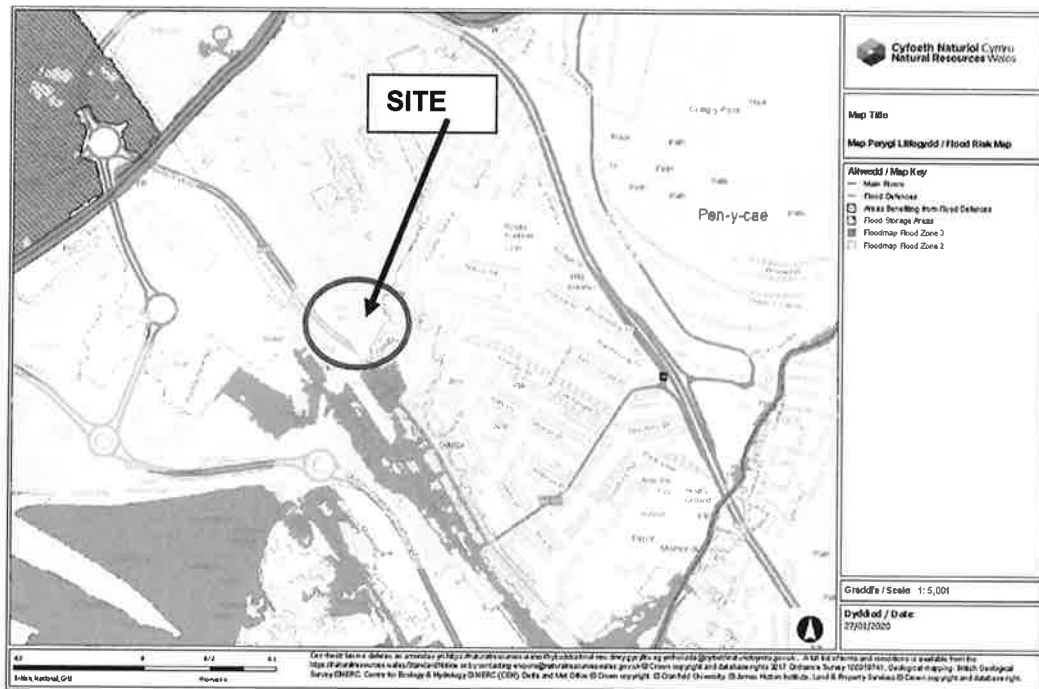


Figure 3.1 – NRW Flood Map of the Area

3.1 Flood Alleviation Measures

The DAM maps indicate that the surrounding area of Port Talbot benefits from significant flood protection measures, including defences to the River Afan, which are owned and maintained by Natural Resources Wales (NRW).

The hatched area on NRW maps, however, indicates that the area benefiting from the flood defences is limited to properties located to the north of the riverbank. The development, located to the south does not receive any benefit from the defences. Furthermore, NRW's hydraulic model predicts flood levels will actually be worsened near the proposed development property as a result of the defences. The defended scenario is therefore considered a worst case.

3.2 Access & Evacuation Routes

The road network in the area is shown in Figure 1.1. The main access route to / from Station Road is via Heilbronn Way (A48) which provides a link to Ffordd Y Harbwr (A424) and the M4. There are good pedestrian and public transport linkages to the town centre and the railway station, Port Talbot Parkway, is in close proximity to the property.

The extent of the predicted flood plain is widespread and surrounds the proposed development property. The ground floor of the properties in the area and the wider

local highway network are predicted to be inundated. Means of access and egress will therefore be compromised in such an extreme event.

The residential floors associated with highly vulnerable occupiers of the proposed development property are set above the maximum flood level and will, therefore, provide safe refuge until flood waters subside.

3.3 Potential Flooding From Various Flooding Sources

Fluvial

Being located in the relatively low lying town centre, the proposed development property is vulnerable to fluvial flood risk. As stated previously the property is located within the flood plain of the River Afan, designated a Flood Risk Zone C1.

NRW fluvial flood maps indicates the property lies within an area of low risk with an annual event probability of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%) (see Figure 3.1).

NRW's model indicate that the commercial element of the building could potentially experience flood depths of 0.765m and 1.114m during the 1 in 100 year (plus climate change) and 1 in 1000 year flood events respectively. The residential floors (first floor and above) will remain flood free.

The extent and magnitude of the predicted flooding is such that any retrospective modifications to the existing property, such as refinement in external level design, finished floor level etc would be futile.

Tidal

NRW hydraulic modelling indicates no flooding in the area for a 1 in 1000 year, defended tidal event.

Pluvial

Maps showing the risk of surface water flooding have been published by NRW (see Figure 3.2). Pluvial flood risk is rated up to medium within Station Road to the front of the property (between 1 in 30 and 1 in 100 (3.3%-1%) annual risk of flooding).

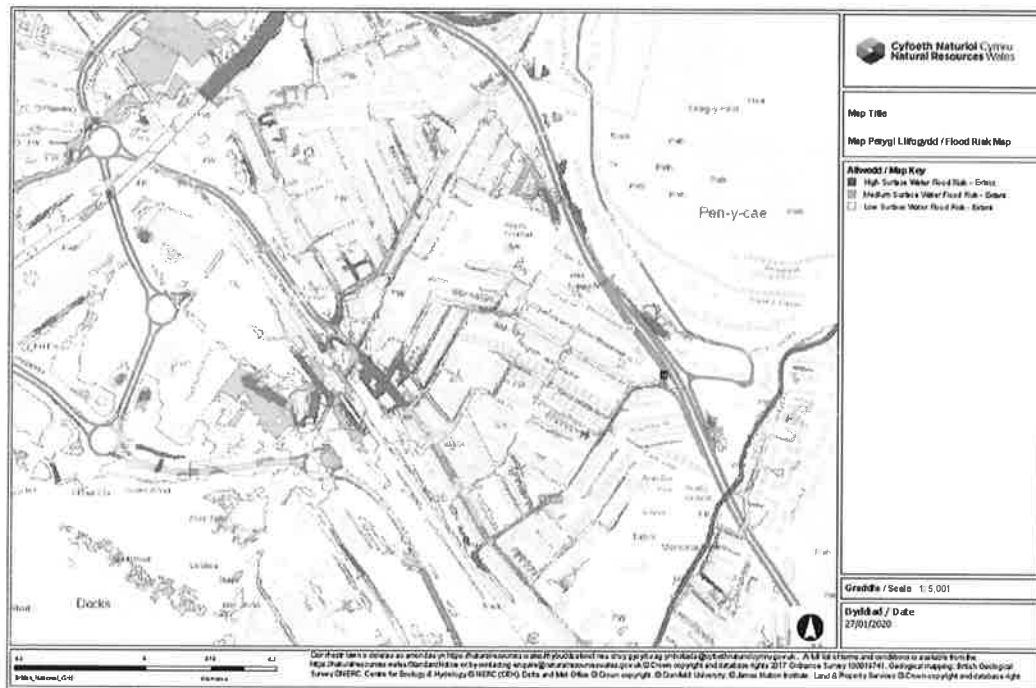


Figure 3.2 – NRW Surface Water Flood Risk Map

3.4 Flood History

The Afan River is referenced in Neath Port Talbot CBC's Flood Risk Management Plan 2015(Draft) as historically being the cause of a number of significant flood events.

3.5 Residual Risks

Fluvial flood risk is considered the critical source of flooding with greatest potential for significant impact to the development property. The extent and magnitude of the predicted flooding is such that any retrospective modifications to the existing property, such as refinement in external level design, finished floor level etc would be futile.

Refurbishment proposals should, therefore, seek to incorporate flood resilient measures to mitigate the impact and protect the ground floor and its occupants as far as reasonably practical.

It is recommended that flood barriers to ground floor doors, windows and access points, implementation of suitable flood proofing measures to the internal fabric of the ground floor and locating electrical sockets / components at a level above possible flood levels.

4 FLOOD EVACUATION

Although the residential flats are not considered to be at risk of flooding the surrounding land, along with ground floor retail area is considered to be at risk.

The site is covered by Natural Resources Wales flood warning scheme, which uses the latest technology 24 hours a day to monitor rainfall, river levels and sea conditions. Combined with weather data and tidal reports from the Met Office, they can provide local area forecasts on the possibility of flooding and its likely severity.

Four different kinds of flood warning codes are issued. Three of the codes indicate the severity of the warning, and a fourth is an 'all clear', meaning the threat has passed. NRW ensure warnings are broadcasted on local radio and television, and information can also be obtained through their dedicated Floodline information service (0845 988 1188) or on their website, which is updated every 15 minutes.

As there is quite a comprehensive flood warning cover (see Figure 4.1) to this area and it is expected that there will be warning given prior to an event although the duration of the warning could be limited.



Figure 4.1 – Flood Warning Area at Solva

A Flood Warden will be nominated for the commercial element of the building.

On receipt of an evacuation flood warning, from NRW, the ground floor will be closed and evacuated in an orderly fashion. A sign will be erected advising that the commercial element is closed.

Separate warnings will be given to each flat. If sufficient warning is given then the building will be evacuated otherwise the resident should remain in the building until the event is over and the all clear is given by the authorities.

On evacuating the building all the utilities will be switched off (eg electricity) and the building locked. No one will be allowed to return to the building until after the "all clear" has been given by NRW.

Should flood water be seen on the road, refuge will be sought at the first floor or individual flats, which is expected to remain flood free. If it is necessary to evacuate during an event the path will be to the east via the designated route (see Figure 4.2).

A clear plan, showing the evacuation procedure, is to be kept in a prominent part of the flats and the ground floor commercial element. The plan will be accessible to all staff and visitors at the commercial unit and residents of the flats so that all are aware that the area could potentially be at risk of flooding and what procedures are in place to safely evacuate the building.

The Flood Response Plan is to be reviewed as necessary, but at least annually, and kept in good order by the designated Flood Warden / Resident.

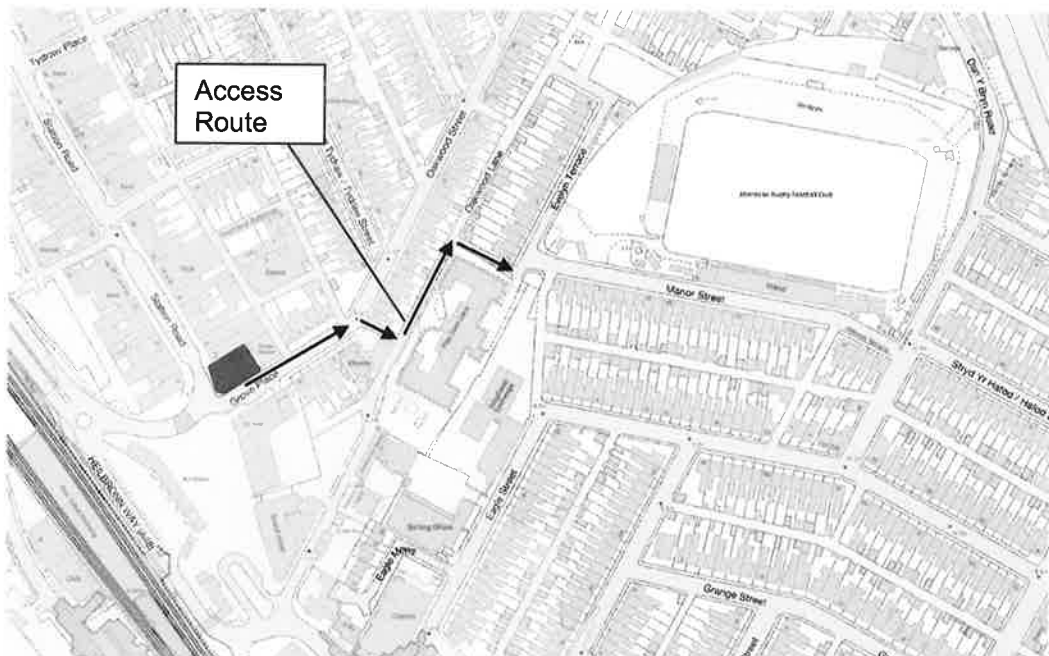


Figure 4.2 – Emergency Evacuation Route

APPENDIX A - Flood Evacuation Procedure

FLAT FLOOD EVACUATION INSTRUCTIONS

1 When a flood warning is issued please advise all other residents in the flat:

2 Ensure residents from adjacent flats are also aware that a flood warning has been issued, by Natural Resources Wales, for the area.

3 All residents are to evacuate to a safe area following the designated route.

4 Prior to leaving the flat all utilities are to be shut down.

5 In the event of any flood water being seen on the adjacent road, refuge should be sought in the flat.

6 If refuge is sought the emergency flood kit should be placed in location for easy access (torches, radio etc.).

7 Once evacuated, do not re-enter the premises until instructed by the recognised authority that it is safe to do so.

COMMERCIAL FLOOD EVACUATION INSTRUCTIONS

1 When a flood warning is issued please advise the Flood Warden as named below:

Flood Warden _____

Day Time Tel. _____

Out of Office Tel. _____

2 Ensure all members of staff and customers are aware that a flood warning has been issued for the area, by Natural Resources Wales.

3 The building is to be immediately closed to visitors and signs are to be erected at the entrance.

4 All visitors, customers, staff and residents are to evacuate to a safe area following the designated route.

5 Prior to leaving and closing the doors all utilities are to be shut down.

6 In the event of any flood water being seen on the adjacent road, refuge should be sought on the first floor.

7 If refuge is sought the emergency flood kit should be placed in a location for easy access (torches, radio etc.).

8 Once evacuated, do not re-enter the premises until instructed by the recognised authority that it is safe to do so.

Emergency Contact List		
Organisation	Telephone General	Telephone Out of Hours
NRW Floodline	03708 560560	08459 881188
NRW General	03000 653000	0800 807060
South Wales Police	101 / 999	999
Fire and Rescue Service	999	999
Ambulance Service	999	999
Dwr Cymru - Welsh Water	08000 853968	08000 853968
Western Power	131351	131351
RSPCA	03001 234999	03001 234999
Neath Port Talbot Council	01639 895455	08456 015522