

FloodSmart Plus



Flood Consequence Assessment

Site Address

Capel Y Glyn
Hoel Y Glyn
Swansea
SA11 5BB

Date

08/08/2025

Report Status

FINAL

Grid Reference

288440, 206740

Site Area

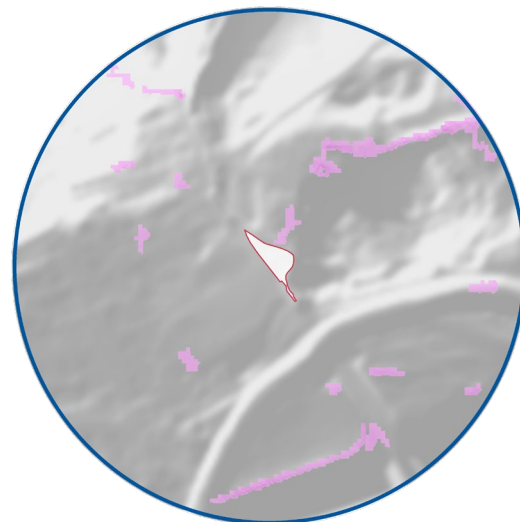
1,600 m²

Report Prepared for

Arran James Booth
37 Brean Close
Sully
Penarth
Vale of Glamorgan
CF64 5TS

Report Reference

86435R1



RISK – Very Low to Low

The Site is mapped within the NRW's fluvial Flood Zones 1 to 3 (Low to High probability). A site-specific analysis of flood model data indicates that areas along the eastern boundary could be impacted by fluvial flooding, with an associated Very Low to High risk, although the risk to the proposed development itself is considered to be Very Low.

Following analysis of the baseline data, the Site is considered to have a Very Low risk of surface water flooding, Negligible risk of groundwater flooding and Low risk of flooding from artificial sources (i.e. canals, reservoirs and sewers).

Mitigation measures are recommended in this report to reduce the risks to an acceptable level over the lifetime of the development.

Report Author

Annabel Elleray

Senior Project Consultant

Report Checker

James Robinson

Senior Consultant

Report Reviewer

Bob Sargent

Associate

GeoSmart Information Ltd
Suite 9-11, 1st Floor, Old Bank Buildings,
Bellstone, Shrewsbury, SY1 1HU
+44(0)1743 298 100
info@geosmartinfo.co.uk
www.geosmartinfo.co.uk

1. Executive summary



The Planning Policy Wales (PPW) 12th edition (2024) and Technical Advice Note 15 (TAN 15) (2025) requires Flood Consequence Assessments (FCA) to review flooding from all potential sources. A review has been undertaken of national environmental data sets to assess the potential flood risk to the Site. The review is provided within this concise interpretative report written by an experienced GeoSmart consultant.

Site analysis

Source of Flood Risk	Baseline ¹	After analysis ²	After Mitigation ³
River (fluvial) flooding	Very Low to High	Very Low to High (entire Site) / Very Low (proposed development)	N/A
Sea (coastal/tidal) flooding	Very Low		N/A
Surface water (pluvial) flooding	Very Low		N/A
Groundwater flooding	Negligible		N/A
Other flood risk factors present	Yes (bridge blockage & reservoir breach)		Yes
Is any other further work recommended?	Yes		Yes (see below)

1 BASELINE risks assigned for the whole Site, using national risk maps, including the benefit of NRW flood defences.

2 AFTER ANALYSIS modification of risk assessment based on detailed site specific analysis including some or all of the following: flood model data, high resolution mapping, building location, access routes, topographic and CCTV surveys. Reasons for the change in classification are provided in the text.

3 AFTER MITIGATION risks include risks to the proposed development / asset and occupants if mitigation measures recommended in this report are implemented, including the impacts of climate change.

*N/A indicates where mitigation is not required.

Summary of existing and proposed development

The Site is currently used as a chapel (Capel Y Glyn) with an associated cemetery, outbuilding, landscaping and access. Development proposals comprise the change of use of the chapel to a single dwelling. As part of the development proposals, the northern and eastern sections of the Site will be publicly accessible, with the south of the Site used as a private garden and driveway.

Summary of flood risks

The flood risks from all sources have been assessed as part of this report and are as follows:

River (fluvial) and Sea (Estuarine/Coastal) flooding

No historic flooding events are known to have occurred at the Site.

According to NRW's Flood Map for Planning, areas along the eastern boundary of the Site are located within fluvial Flood Zones 2 to 3, with the flood risk originating from the Nant y Gwyddyl, which flows adjacent to the eastern Site boundary, and Afon Nedd (River Neath), c. 50 m south. The majority of the Site (c. 80% of the Site area), including the building footprint, is located within fluvial Flood Zone 1.

The Site does not benefit from the presence of defences. An alleviation scheme was completed on the Nant y Gwyddyl in 2024, which is understood not to have caused any appreciable change in flood risk at the Site.

According to the NRW's Flood Risk Assessment Wales (FRAW) map, which considers the type, condition and crest height of flood defences, the Site has a risk of fluvial flooding ranging from Very Low to High. The FRAW map confirms the Site is at Very Low risk of tidal and coastal flooding.

Numerous bridges have been identified in the vicinity of the Site, including adjacent to the north-western corner of the Site over the Nant y Gwyddyl. These bridges could pose a flood risk to the Site should they become blockage or damaged. However, from the available information the risks associated with this cannot be confirmed.

Modelled flood data obtained from the NRW has been analysed in line with the most up to date guidance on climate change to confirm the flood levels at the Site:

- During a 1 in 100 year plus assumed 25% climate change allowance flood event, the flood level is modelled to range between 59.06 and 63.00 mAOD at the Site, due to the steep gradient of the channel in this area. This could result in flood depths up to 0.97 m along the eastern boundary of the Site, although the area proposed for development would not be impacted.
- During a 1 in 1000 year plus 25% climate change allowance event, the flood level is modelled to range between 61.29 and 63.11 mAOD at the Site. This could result in flood depths up to 1.65 m along the eastern Site boundary, although the area proposed for development remains unimpacted.

Should egress from the Site be necessary, emergency evacuation could be taken to the north-east.

Following further analysis of the model data at the Site, the risk of fluvial flooding has been confirmed to be Very Low to High across the Site, with a Very Low risk identified for the proposed development.

Surface water (pluvial) flooding

According to NRW's Flood Risk Assessment Wales (FRAW) mapping, the Site has a Very Low risk of flooding from surface water and small watercourses. An overland flow route is mapped c. 5 m of the Site, but as flows would be intercepted by the channel of the Nant y Gwyddyl, they are not anticipated to impact the Site.

Groundwater flooding

Groundwater Flood Risk screening data indicates the Site is at Negligible risk of groundwater flooding at the surface in the vicinity of the Site during a 1 in 100 year event.

The Site is underlain by permeable superficial deposits above permeable bedrock. Therefore, a groundwater table is likely to be present beneath the Site, which could be in hydraulic continuity with the Nant y Gwyddyl and Afon Nedd. However, given the proposed development is raised relative to the adjacent channel, groundwater emergence at the development itself is considered unlikely.

Artificial sources of flooding

The risk of flooding from artificial (man-made) sources such as reservoirs, sewers and canals has been assessed:

- The NRW's Risk of Flooding from Reservoir map confirms the Site is at risk of reservoir flooding. The potential for a breach of a reservoir to occur and flooding affecting the Site is Low.
- Ordnance Survey (OS) data confirms there are no canals near to the Site.
- Table 1-2 of Appendix A of the SFCA (JBA Consulting, 2022) identifies six incidents of flooding as a result of surcharging sewers within the Glynneath electoral ward. It should be noted that this ward covers a large area and reported incidents of flooding are not specific to the Site.

The risk of flooding from artificial sources is considered to be Low. It is acknowledged that the level of flood risk resulting from a bridge blockage cannot be ascertained.

The risk to the development has been assessed over its expected 100 year lifetime, including appropriate allowances for the impacts of climate change which could increase the flood risk to the Site. Risks identified include increases in river flooding, and appropriate mitigation measures are proposed where required.

Recommendations

Recommendations for flood mitigation are provided below, based upon the proposed development and the flood risk identified at the Site.

- The proposed development is outside of the modelled flood extents for all modelled flood events, up to and including the 1 in 1000 year flood event including an assumed 25% allowance for climate change, and is already raised at least 0.3 m above the 1 in 100 year plus 25% climate change flood level. Therefore, no specific mitigation for fluvial flooding is considered to be required for the development.
- Given that the cemetery includes areas that could experience fluvial flooding, it would be prudent to close the public areas of the Site should a flood event be anticipated, or to incorporate a sign cautioning members of the public against accessing the eastern boundary of the Site when flooding is expected.
- The ongoing management and maintenance of existing and any proposed drainage networks, under the riparian ownership of the developer, should be undertaken in perpetuity with the development.
- Occupants of the Site should be signed up to receive NRW Flood Alerts and Warnings.
- Given that several bridges have been identified within the vicinity of the Site, which could present a flood risk should they become blocked or damaged, discussions should be held with the local authority, adjacent landowner and/or NRW to ascertain the responsibility for their maintenance. Where no such schedule is already in effect it is recommended that an appropriate maintenance regime is put in place to maintain the effective operation of the bridges.

GeoSmart recommend the mitigation measures discussed within this report are considered as part of the proposed development where possible and evidence of this is provided to the Local Planning Authority as part of the planning application.

2. Introduction



Background and purpose

A site-specific flood consequence assessment has been undertaken, to assess the flood risk to and from the development Site. This assessment has been undertaken by firstly compiling information concerning the Site and the surrounding area. The information gathered was then used to construct a 'conceptual site model', including an understanding of the appropriateness of the development, as defined in the PPW (2024), and the source(s) of any flood risk present. Finally, a preliminary assessment of the steps that can be taken to manage flood risk to the development was undertaken.

This report has been prepared with reference to the Technical Advice Note (TAN) 15 (2025) which supplements the PPW (2024).

The general approach of PPW, supported by TAN15, is to advise caution in respect of new development in areas at high risk of flooding by setting out a precautionary framework to guide planning decisions. The overarching aim of the precautionary framework is, in order of preference, to:

- Direct new development away from those areas which are at high risk of flooding; and
- Where development is considered to be in high-risk areas (Flood Zone 3) only those developments which can be justified on the basis of the tests outlined in Section 6 and Section 7 are located within such areas.

The purpose of this report is to provide clear and pragmatic advice regarding the nature and potential significance of flood hazards which may be present at the Site.

Report scope

A thorough review of a commercially available flood risk report and NRW supplied data has been undertaken, indicating potential sources of flood risk to the Site from rivers and tidal sources, surface run-off (pluvial), groundwater and reservoirs, including historical flood information and modelled flood extent. Appropriate measures are recommended to manage and mitigate the flood risk to the property.

Information obtained from NRW and the South-West Wales Strategic Flood Consequence Assessment (JBA Consulting, 2022) have been used to ascertain local flooding issues and, where appropriate, identify information to support a Justification test and Assessment of Flood Consequences required as part of the PPW (2024).

The existing and future flood risk to and from the Site from all flood sources is assessed in line with current best practice using the best available data. The risk to the development has been assessed over its expected lifetime, including appropriate allowances for the impacts of climate change. Residual risks that remain after the flood risk management and mitigation measures are implemented are considered, with an explanation of how these risks can be managed to keep the users of the development safe over its lifetime.

An indication of whether the Site will potentially increase flood risk elsewhere is provided, including where the proposed development increases the building footprint at the Site. A drainage strategy to control runoff can be commissioned separately if identified as a requirement within this report.

Report limitations

It is noted that the findings presented in this report are based on a desk study of information supplied by third parties. Whilst we assume that all information is representative of past and present conditions, we can offer no guarantee as to its validity and a proportionate programme of site investigations would be required to fully verify these findings.

The basemap used is the OS Street View 1:10,000 scale; however, the Site boundary has been drawn using BlueSky aerial imagery to ensure the correct extent and proportion of the Site is analysed.

This report excludes consideration of potential hazards arising from any activities at the Site other than normal use and occupancy for the intended land uses. Hazards associated with any other activities have not been assessed and must be subject to a specific risk assessment by the parties responsible for those activities.

Datasets

The following table shows the sources of information that have been consulted as part of this report:

Table 1. Datasets consulted to obtain confirmation of sources of flooding and risk

Source of flooding	Datasets consulted			
	Commercial Flood Maps	Local Policy & Guidance Documents*	Natural Resources Wales	OS Data
Historical	X	X	X	
River (fluvial) / Sea (tidal/coastal)	X	X	X	
Surface water (pluvial)	X	X	X	
Groundwater	X	X		

Source of flooding	Datasets consulted			
	Commercial Flood Maps	Local Policy & Guidance Documents*	Natural Resources Wales	OS Data
Sewer		X		
Culvert/bridges		X		X
Reservoir		X	X	

*Local guidance and policy, referenced below, has been consulted to determine local flood conditions and requirements for flood mitigation measures.

Local policy and guidance

Local Development Plan (2011 - 2026) (Neath Port Talbot County Borough Council, 2016):

Policy SP 1 Climate Change

The causes and consequences of climate change will be addressed by implementing the following measures.

In relation to the causes of climate change:

- The efficiency and sustainability of the County Borough's settlements will be enhanced through developing more cohesive and efficient settlements and settlement patterns, and consequently more sustainable travel patterns;
- Greenhouse gas emissions from transport will be minimised through encouraging freight / commercial transport by alternatives to road (e.g. rail or sea);
- Dependence on the private car and the need to travel in general will be reduced through promoting alternative means of transport and more efficient use of existing facilities, co-location and joint use of facilities;
- Provision will be made for the County Borough's appropriate contribution to renewable and low carbon energy generation.

In relation to the consequences of climate change:

- Likely increased food risk will be taken into account and addressed by ensuring that there is greater resilience by avoiding development on land that is at risk from flooding in the first instance in accordance with the sequential approach set out in national guidance or in locations that could increase the risk of flooding elsewhere;

- The fragmentation of habitats will be minimised and opportunities made for habitat and species change and migration where possible.

South-West Wales Strategic Flood Consequence Assessment (JBA Consulting, 2022):

The River Neath rises in the Brecon Beacons National Park at Fan Nedd and flows in a south westerly direction to the sea at Baglan Bay. The River Neath is joined by a number of tributaries including the Afon Melte at Pontneddfechan, Dulias at Aberdulias, and the River Clydach to the south of Neath. In the upper reaches of the river catchment the floodplain is refined to proximity to the watercourse. In the middle and lower reaches Flood Zone 2 and 3 extend into existing settlement areas. Flood Zone 3 extends into Glyn-Neath, and further downstream into the village of Resolven. One of the main settlements, Neath, is partially located within Flood Zone 2 and 3 with residential development and infrastructure within the flood extent. NRW fluvial flood defences, with a standard of protection of 1 in 100 years, are present in Glyn-Neath and Resolven. As a result of the presence of fluvial flood defences, both these areas are classified as a TAN15 Defended Zone.

The town of Neath and locations within close proximity to the River Neath – between Neath and Glyn-Neath, are at greatest risk of surface water and small watercourse flooding, with some localised areas of flooding in Port Talbot as a result of being located within Flood Zone 3.

Guidance

Strategic Flood Consequence Assessments are carried out by local authorities, in consultation with the Natural Resources Wales, to assess the flood risk to the area from all sources both now and in the future due to climate change. They are used to inform planning decisions to ensure inappropriate development is avoided (PPW, 2024).

3. Site analysis



Site information

The Site is located in Glynneath within a setting of residential and commercial land use at National Grid Reference SN 88440 06740.

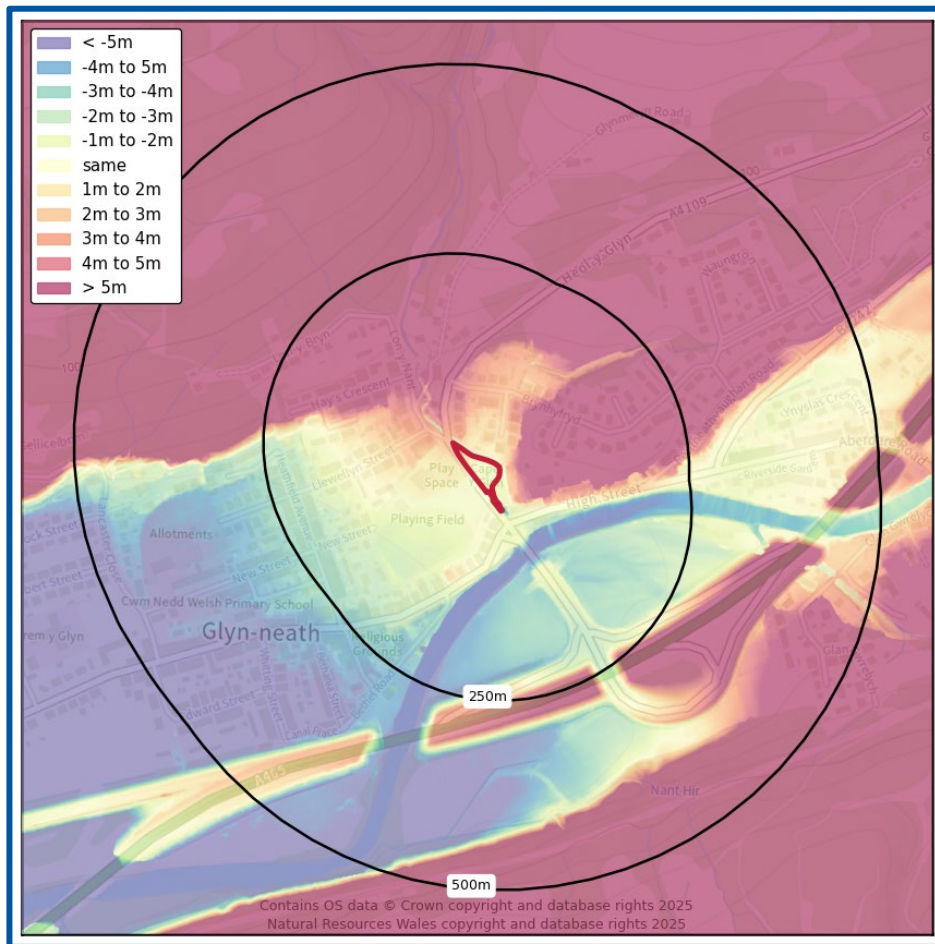
Figure 1. Aerial imagery of the Site (Bluesky, 2025)



Figure 2 (overleaf) indicates the Site is located on the northern flank of a valley feature associated with the Afon Nedd (River Neath), with ground levels within the wider area generally falling in a westerly direction.

The general ground levels on the Site are between 58.34 and 63.78 mAOD with the Site falling gradually in a south-easterly direction. This is based on NRW elevation data obtained for the Site to a 1 m resolution with a vertical accuracy of ± 150 mm.

Figure 2. Site Location and Relative Elevations (GeoSmart, 2025)



Development

The Site is currently used as a chapel (Capel Y Glyn) with an associated cemetery, outbuilding, landscaping and access.

Development proposals comprise the change of use of the chapel to a single dwelling. As part of the development proposals, the northern and eastern sections of the Site will be publicly accessible, with the south of the Site used as a private garden and driveway. Site plans are included within Appendix A.

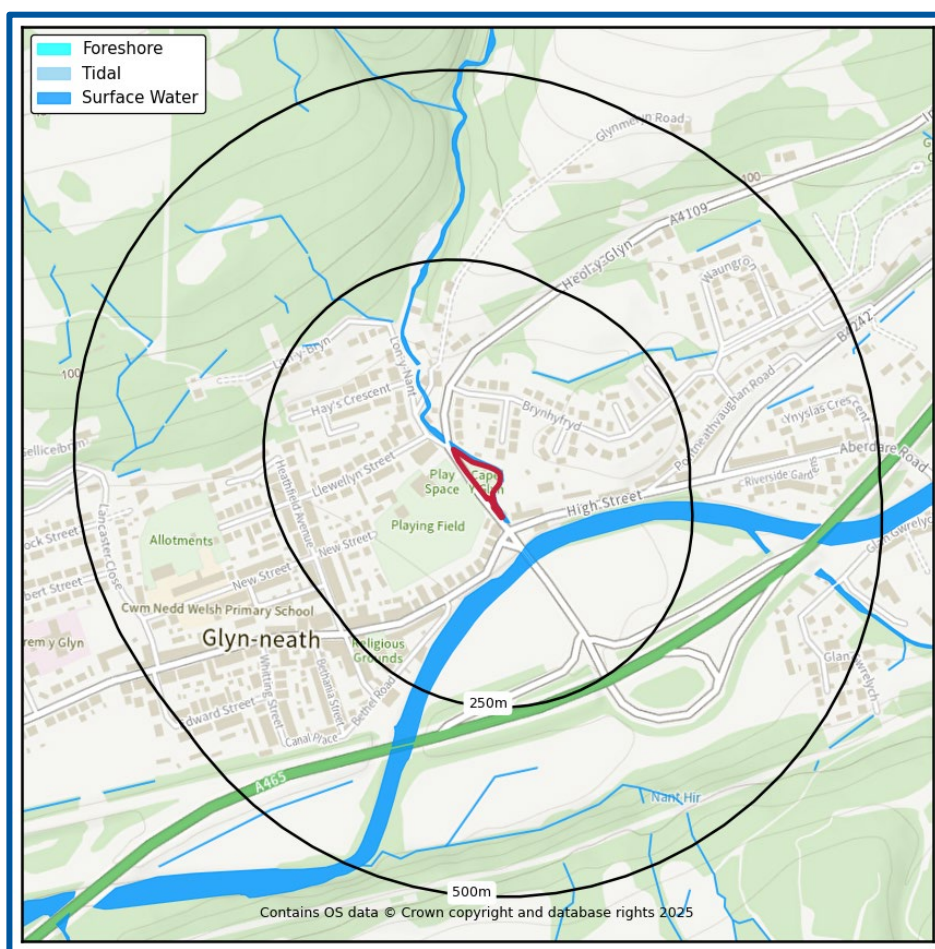
The effect of the overall development will result in an increase in number of occupants and/or users of the Site and will result in the change of use, nature or times of occupation. According to Figure 4 of TAN15 (2025), the vulnerability classification of the existing development is Less Vulnerable and the proposed development is Highly Vulnerable. The estimated lifespan of the development is 100 years.

Hydrological features

According to Ordnance Survey (OS) mapping included in Figure 3, there are numerous surface water features within 500 m of the Site:

- A ford (Nant y Gwyddyl) forms the eastern boundary of the Site. The ford flows in a south-easterly direction prior to discharging into the Afon Nedd (River Neath) c. 50 m south of the Site.
- Several tributaries drain into the Nant y Gwyddyl, the closest of which is c. 190 m north-west.
- The Nant Gwrelych discharges into the Afon Nedd c. 330 m east of the Site.
- Several additional tributaries drain into the Afon Nedd within the vicinity of the Site, the closest of which is c. 330 m south.
- Occasional drainage ditches are also noted within the vicinity of the Site, the closest of which is c. 130 m north-east.

Figure 3. Surface water features (OS, 2025)



Proximity to relevant infrastructure

Infrastructure has been identified within 500 m of the Site which could influence the risks of flooding throughout the lifespan of the proposed development, including:

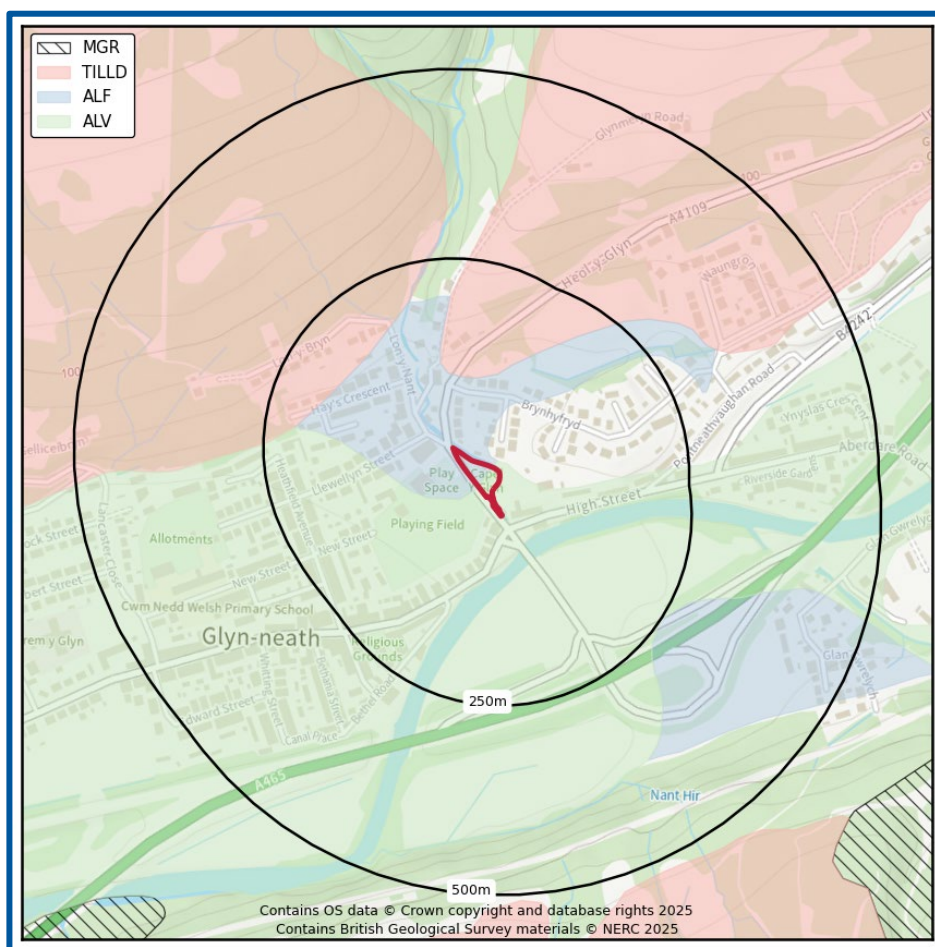
- Bridges crossing the Nant y Gwyddyl adjacent to the north-western corner of the Site, as well as c. 10 m south, c. 60 m north and c. 70 m north of the Site.
- Several bridges crossing the Afon Nedd, the closest of which is c. 50 m south.
- An embankment associated with the A465, c. 220 m south of the Site. The A465 is noted to cross the Afon Nedd c. 320 m south-west and c. 410 m east of the Site.

Hydrogeological features

British Geological Survey (BGS) mapping indicates that the Site is underlain by two superficial geologies (Figure 4, overleaf):

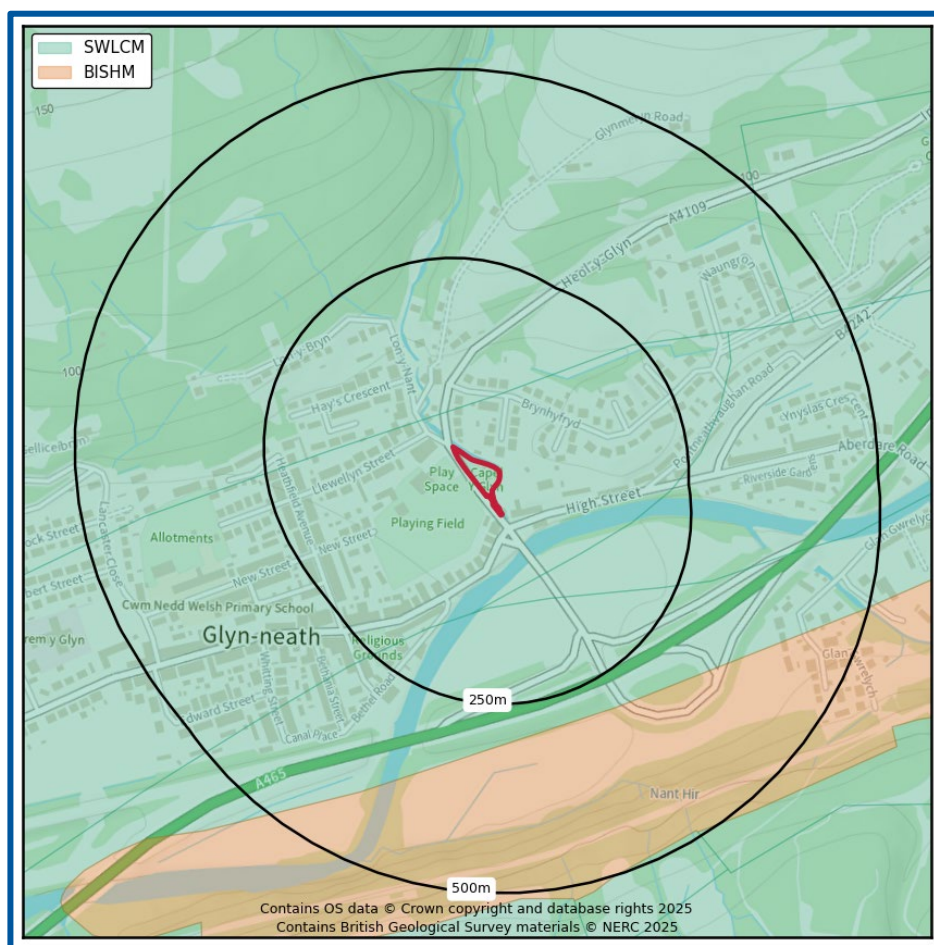
- Alluvial Fan Deposits (ALF), comprising sand and gravel, underlies the north-western c. 55% of the Site. These deposits are classified as a Secondary (A) Aquifer (BGS, 2025).
- Alluvium (ALV), comprising clay, silt, sand and gravel, underlies the south-eastern c. 45% of the Site. These deposits are also classified as a Secondary (A) Aquifer (BGS, 2025).

Figure 4. Superficial Geology (BGS, 2025)



BGS mapping indicates the underlying bedrock geology (Figure 5, overleaf) consists of the South Wales Lower Coal Measures Formation, which comprises sandstone and is classified as a Secondary (A) Aquifer (BGS, 2025).

Figure 5. Bedrock Geology (BGS, 2025)



Geological conditions

A review of the BGS borehole database (BGS, 2025) indicates the nearest borehole to the Site (ref: SN80NE37) is located c. 50 m to the south east of the Site boundary at an elevation of c. 59.8 mAOD (taken from the borehole record). An additional borehole (ref: SN80NE38) is located c. 60 m to the south-east of the Site boundary at an elevation of c. 59.8 mAOD. Both boreholes are mapped as underlain by Alluvium deposits. The strata encountered by both boreholes are summarised within Table 2.

Table 2. Summary of BGS borehole information

Strata encountered	BGS borehole SN80NE37		BGS borehole SN80NE38	
	Depth to base of stratum (m bgl)	Strata composition	Depth to base of stratum (m bgl)	Strata composition
Made Ground	0.5	Cobbles, gravel and ash in sandy clay	3.4	Cobbles, boulders and gravel in sandy clay
Alluvium	1.7	Cobbles, boulders and gravel in sandy clay	7.8	Gravel with sandy clay and occasional cobbles and boulders
South Wales Lower Coal Measures Formation	>1.9 (base of borehole)	Hard sandstone	>8.1 (base of borehole)	Hard sandstone

Groundwater

Borehole ref: SN80NE38 identified a groundwater level between c. 4.0 m and 4.9 m bgl during drilling in November 1966, subject to seasonal variations.

Borehole ref: SN80NE37 did not encounter groundwater to a depth of 1.9 m during drilling in November 1966.

The boreholes indicate that the underlying groundwater level could be between c. 54.9 m and 55.8 mAOD, compared to a minimum on-Site ground level of c. 58.34 mAOD, subject to hydraulic continuity between the river level along Afon Nedd and groundwater system beneath the Site.

4. Flood risk to the development



Historical flood events

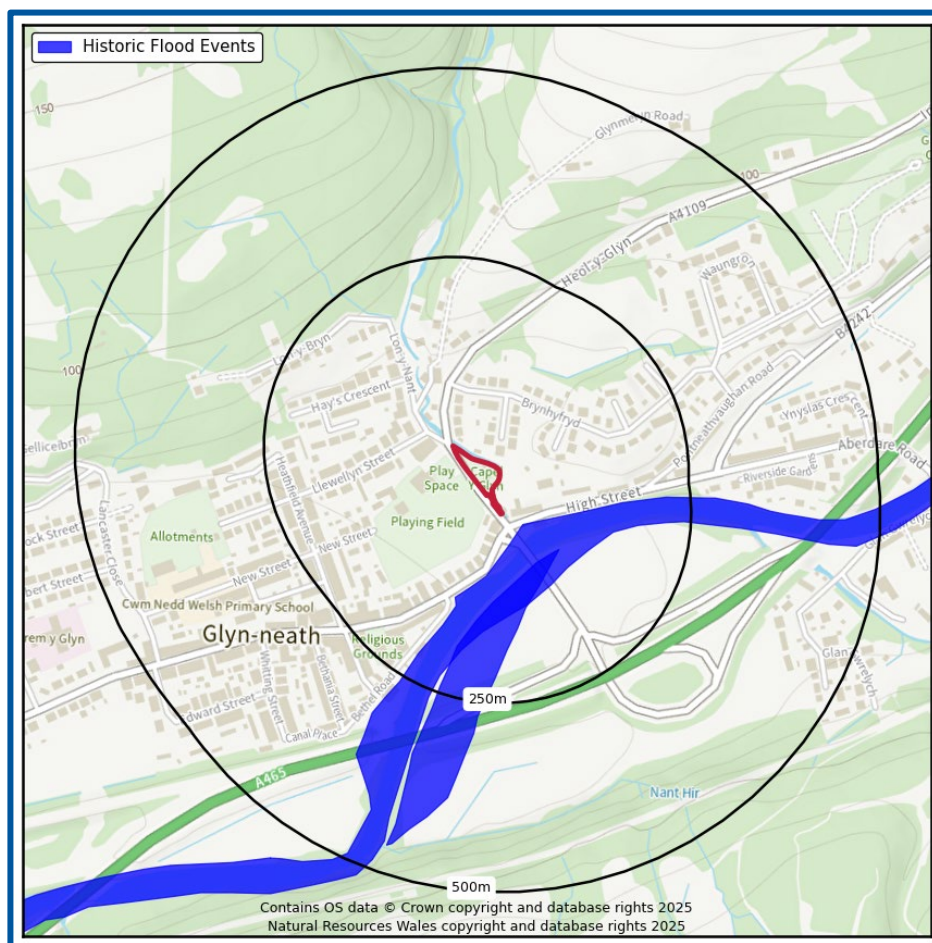
According to the NRW's Recorded Flood Extents Map (NRW, 2025; Figure 6), no historic fluvial or tidal flood events have been recorded at the Site.

Table 1-1 of the SFCA (JBA Consulting, 2022) indicates that flooding occurred throughout the Neath Valley, including Glynneath, in January 1938. However, no information regarding the specific properties or areas that were impacted have been provided.

The client has confirmed that they are not aware of any previous incidents of flooding at the Site.

The purpose of historical flood data is to provide information on where and why flooding may have occurred in the past. The absence of any recorded events does not mean flooding has never occurred on-Site or that flooding will never occur at the Site.

Figure 6. NRW Historic Flood Event mapping (NRW, 2025)



Rivers (fluvial) / Sea (coastal) / Estuarine (tidal) flooding

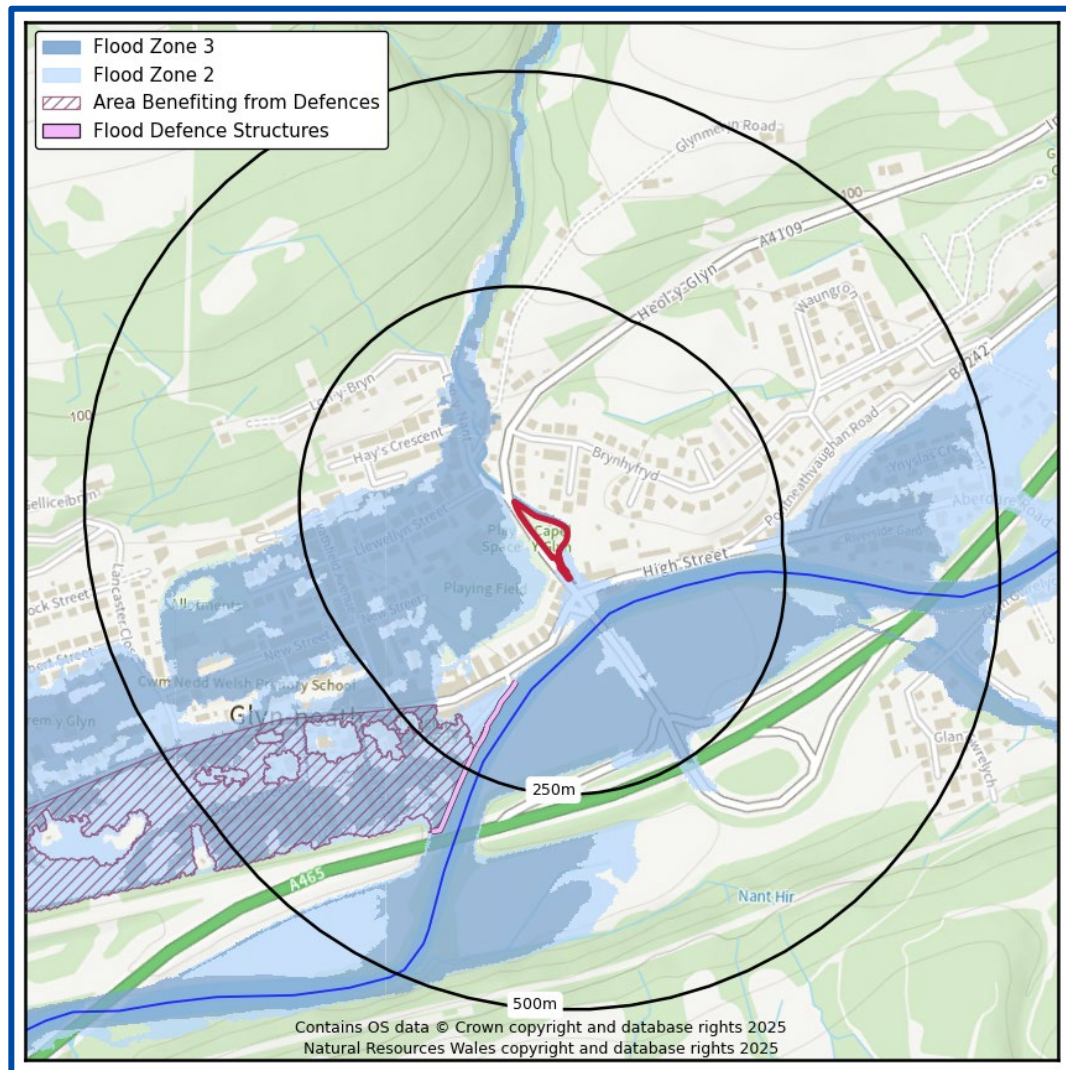
The predominant risk at the Site is from flooding from rivers, termed as fluvial flooding. The Site is located in an inland location and the risk of flooding from coastal and tidal processes are therefore considered to be Very Low.

River (fluvial) flooding occurs during times of heavy rainfall or snow melt when watercourses' capacity can be exceeded, over topping the banks and flood defences.

According to the NRW's Flood Map for Planning (Figure 7, overleaf), the Site is located within fluvial Flood Zones 1 to 3 and is therefore classified as having a Low to High probability of fluvial flooding from the Nant y Gwyddyl and Afon Nedd (River Neath).

The eastern boundary of Site (c. 19% of the Site area) includes areas in Flood Zone 3, with an associated High probability of fluvial flooding. One area in the south of the Site (c. 1% of the Site area) is located within Flood Zone 2, with an associated Medium probability. The remaining c. 80% of the Site, including the building footprint, is located within Flood Zone 1, with an associated Low probability.

Figure 7. NRW Flood Zone mapping (NRW, 2025)



Flood defences

Existing flood defences

According to NRW's Flood Map for Planning (Figure 7), the Site is not located within a TAN15 Defended Zone, with no formal or informal defences identified along the Nant y Gwyddyl and Afon Nedd (River Neath) within the vicinity of the Site.

According to the Neath Port Talbot Borough Council website¹, Glynneath Flood Alleviation Scheme was completed in 2024. Phase 1 of the scheme involved the implementation of a new intake structure and pipework to discharge water from an ordinary watercourse to the north of Lancaster Close into the River Neath. Phase 2 involved the replacement of a crossing on the Nant y Gwyddyl at Glynmelyn Road (c. 60 m north of the Site) by two box culverts, with the intention of reducing fluvial flows leaving the channel and flooding the adjacent roads.

The Council noted that the scheme provided protection to 251 residential and 23 non-residential properties from surface water and ordinary watercourse flooding, up to and including the 1 in 100 year event.

An FCA was submitted as part of the planning application for the scheme (ref: P2021/0970; Atkins, 2021), which included modelling to show the change in flood extents and levels prior to and following the implementation of the alleviation scheme. This indicated that the alleviation scheme would cause a significant decrease in flood extent and levels in Glynneath. At the Site itself, the flood extent was not modelled to change for each respective event, with the change in flood level calculated as between 0.005 and 0.05 m. Therefore, the alleviation scheme is not anticipated to cause any appreciable change in flood risk to the Site.

Note: the Glynneath Flood Alleviation Scheme was at initial assessment stage at the time of publication of the SFCA (JBA Consulting, 2022).

Future flood defences

No information regarding any proposed future flood defence or flood alleviation schemes within the prevailing area has been identified. However, given that a flood alleviation scheme was recently completed in Glynneath, it is considered unlikely that any further flood defences are planned for the surrounding area in the near future.

Guidance

Sites that are located close to flood defences are likely to be zones where rapid inundation will occur in the event of the flood defences being overtopped or breached. A Site located close to flood defences (within 250 m) may require a more detailed FCA subject to local topography.

¹ Neath Port Talbot Borough Council (2024). Glynneath Flood Alleviation Scheme. Accessed from: <https://storymaps.arcgis.com/stories/b8281c99304b4161a6d76b9b40a29935> on 29/07/2025.

Flood risk including the benefit of defences

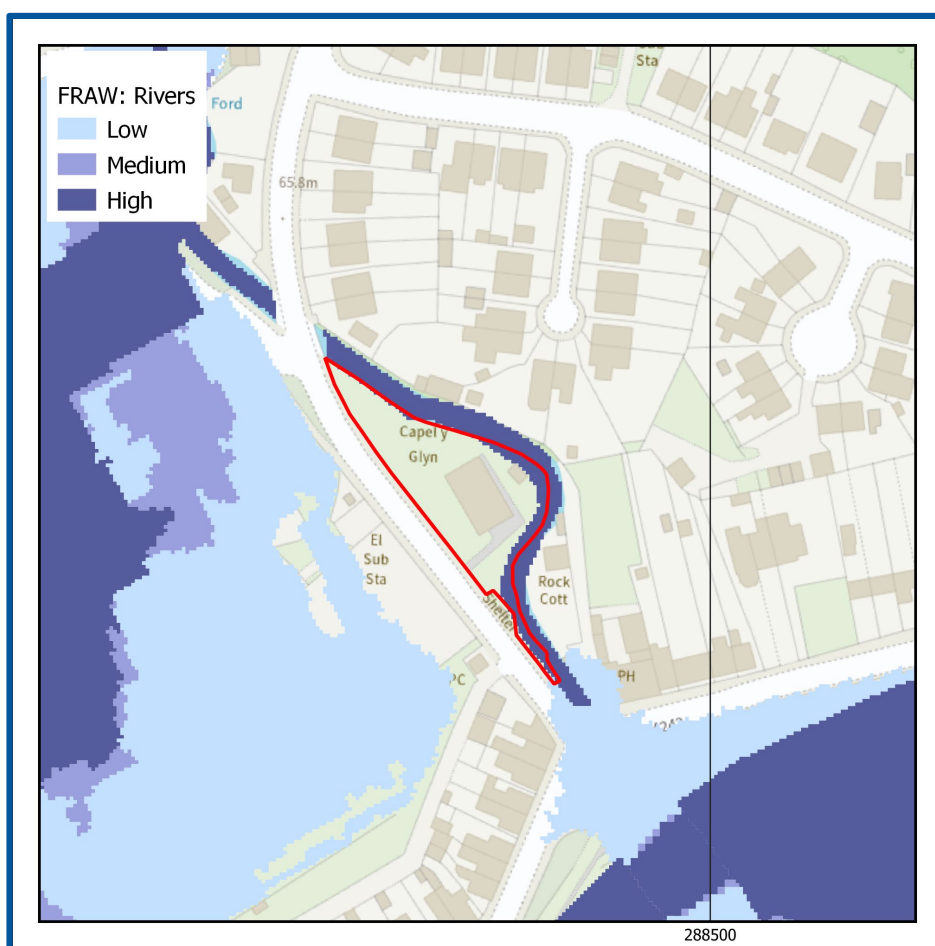
The Flood Risk Assessment Wales (FRAW) maps were published in the Summer of 2020.

The FRAW mapping includes consideration of flood defences that have been built to protect against flooding from rivers and the sea. The defences shown provide different levels of flood protection and this is recognised in the risk classification shown in the Flood Risk Assessment Wales (FRAW) map.

The FRAW maps indicate:

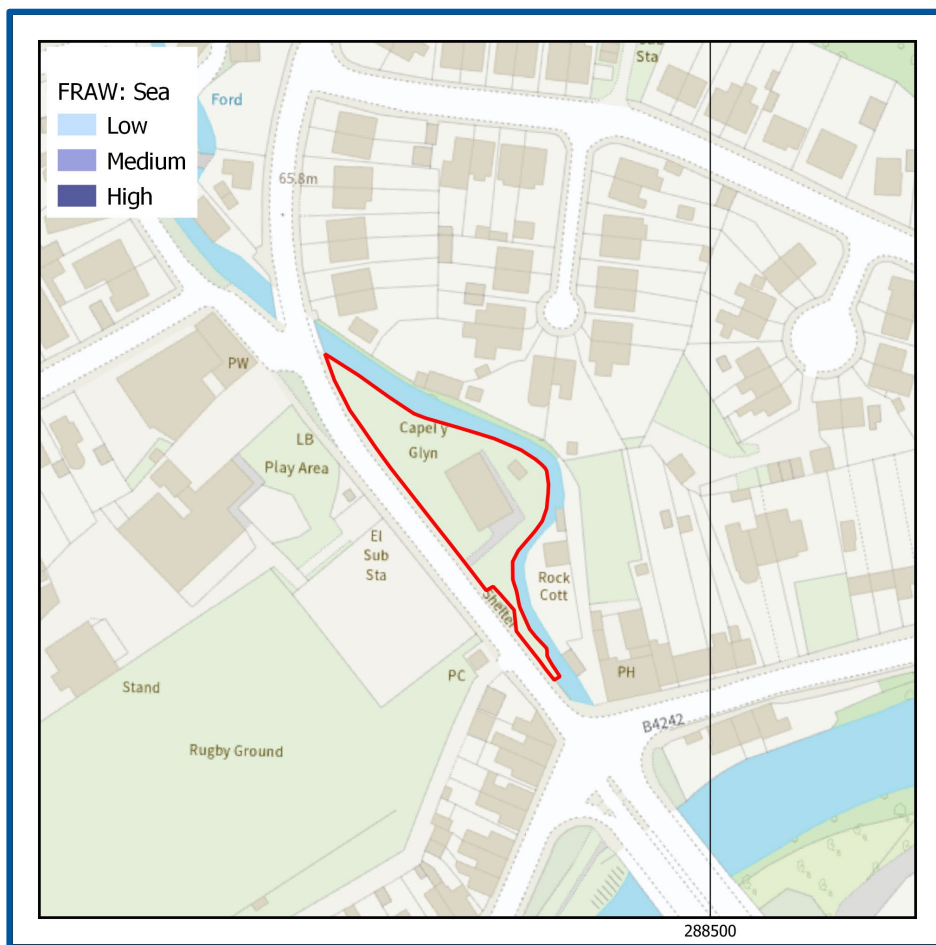
- The risk from Rivers is Very Low to High (Figure 8);
- The risk from the Sea is Very Low (Figure 9, overleaf);
- The risk from Surface Water and Small Watercourses is Very Low (Figure 10, overleaf).

Figure 8. Rivers – FRAW Risk Map (NRW, 2025)



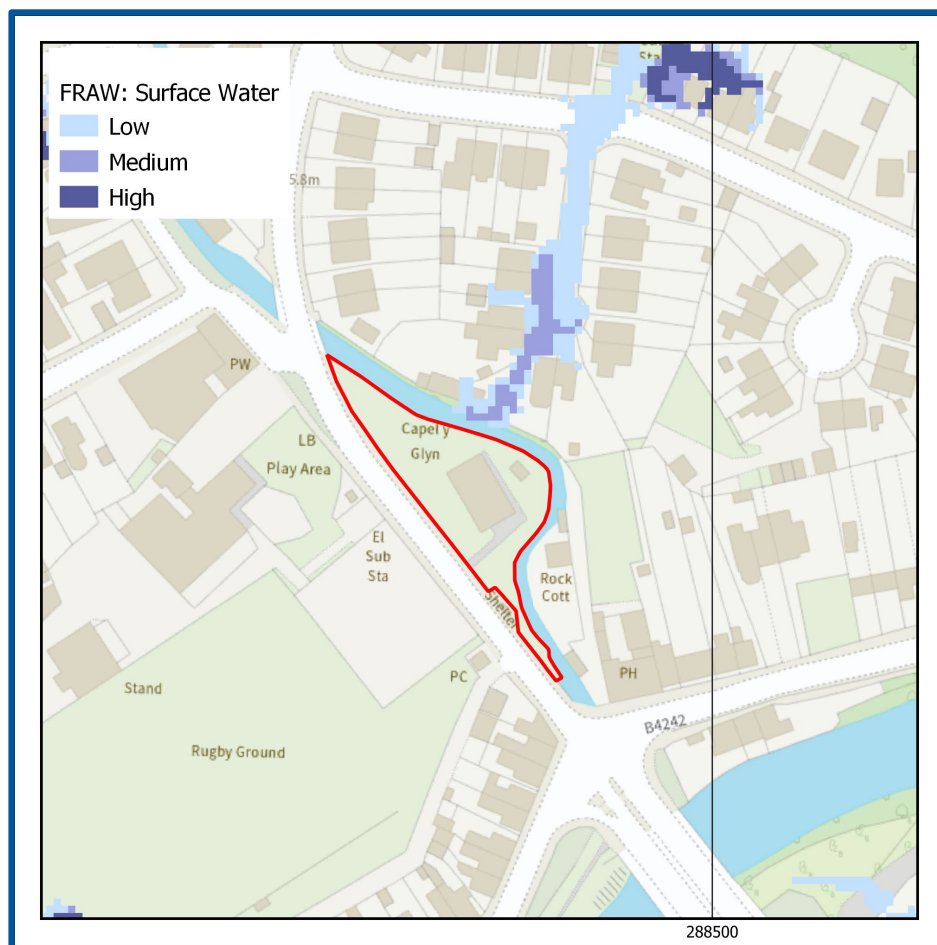
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Natural Resources Wales copyright and database rights 2025

Figure 9. Sea – FRAW Risk Map (NRW 2025)



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Figure 10. Surface Water and Small Watercourses – FRAW Risk Map (NRW 2025)



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Model data

As the Site is located within the NRW's fluvial floodplain, modelled flood elevation data was obtained from NRW and has been used to assess flood risk and to provide recommendations for mitigation for the proposed development.

Defended modelled data from the River Neath 1D-2D Hazard Modelling Study (JBA Consulting, 2013; updated in 2019 and 2022) has been extracted from the 2D floodplain data provided at the Site². Given that the channel has a steep gradient as it passes the Site, the modelled flood levels immediately upstream and downstream of the Site have provided within Table 3.

The modelling study was completed prior to the completion of the Glynneath Flood Alleviation Scheme in 2024. However, modelling completed as part of the FCA for the planning application for the scheme (Atkins, 2021) indicates that there would be no change in flood extent following its implementation. Therefore, the flood modelling for the River Neath is considered to be appropriate for the analysis of flood risk at the Site.

Table 3. NRW defended present day modelled flood data

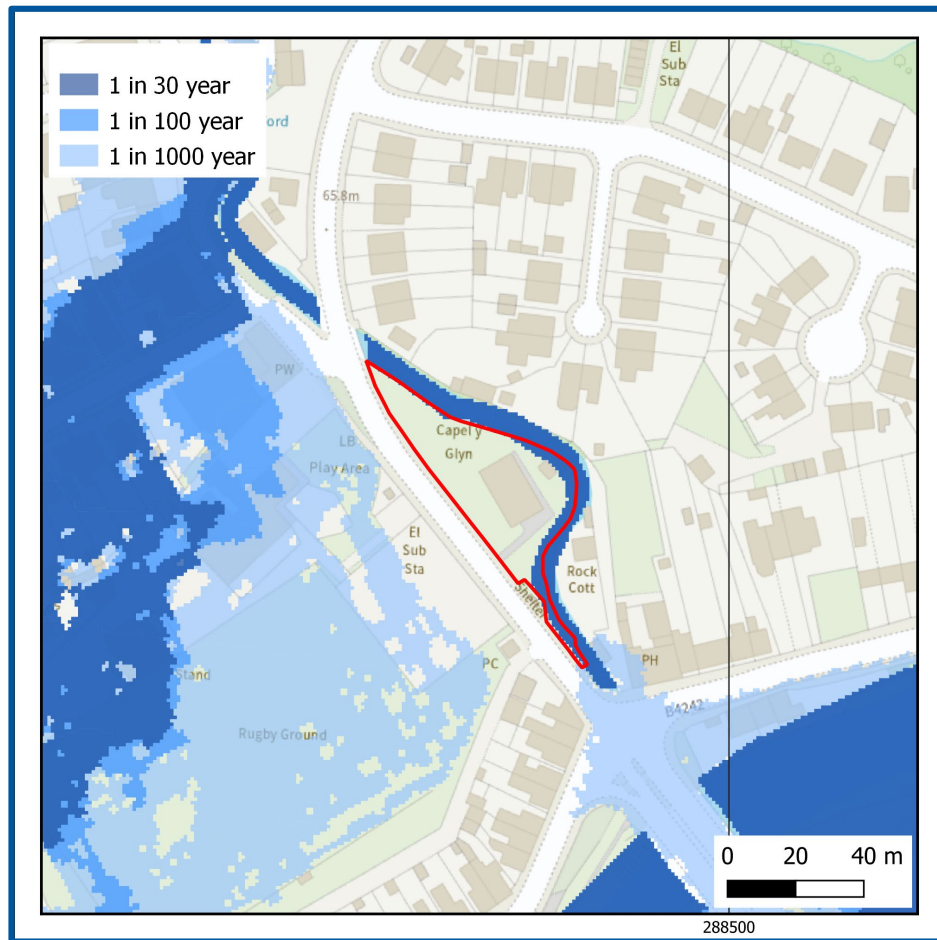
Flood data	Flooding scenario		
	1 in 30 year	1 in 100 year	1 in 1000 year
Flood level (mAOD)	58.62 to 62.90	58.75 to 62.95	60.86 to 63.08
Flood depths (m)*	Up to 0.73	Up to 0.82	Up to 1.07
Flood depths in the area proposed for development (m)*	No flooding anticipated		

*Given the variability in ground levels and flood levels at the Site, the flood depths have been taken directly from the depth grids provided for each event within the modelling study.

The following figure confirms the flood extent associated with the present-day flooding scenarios.

² The accuracy of the modelled flood levels are not known. These are dependent on the accuracy of input datasets such as LiDAR data, used to model the impacts of flooding within the 2D domain. Confirmation of the accuracy of the modelled flood data can be obtained separately from Natural Resources Wales.

Figure 11. Modelled present day flooding scenarios



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Climate change factors

In accordance with the Welsh Government's *Climate Flood Consequences Assessments: Climate change allowances guidance (2021)*, allowances should be made for the impact of increased river and sea levels and flows to the proposed development.

As the Site is located within the Severn River Basin and the proposed development is classed as Highly Vulnerable, where the proposed lifespan is 100 years, the Central 2080s (25%) allowance has been used to determine a suitable climate change factor to apply to river data.

The climate change scenario has been modelled for the 1 in 100 year and 1 in 1000 year events as part of the River Neath 1D-2D Hazard Modelling Study (JBA Consulting, 2013; updated in 2019 and 2022). It should be noted that the model report does not specify the allowance used and instead notes "*the effects of climate change will be accounted for using the latest guidance*". Therefore, these model runs are assumed to be sufficiently representative of each event including the Central 2080s allowance, with the associated modelled flood levels shown in Table 4.

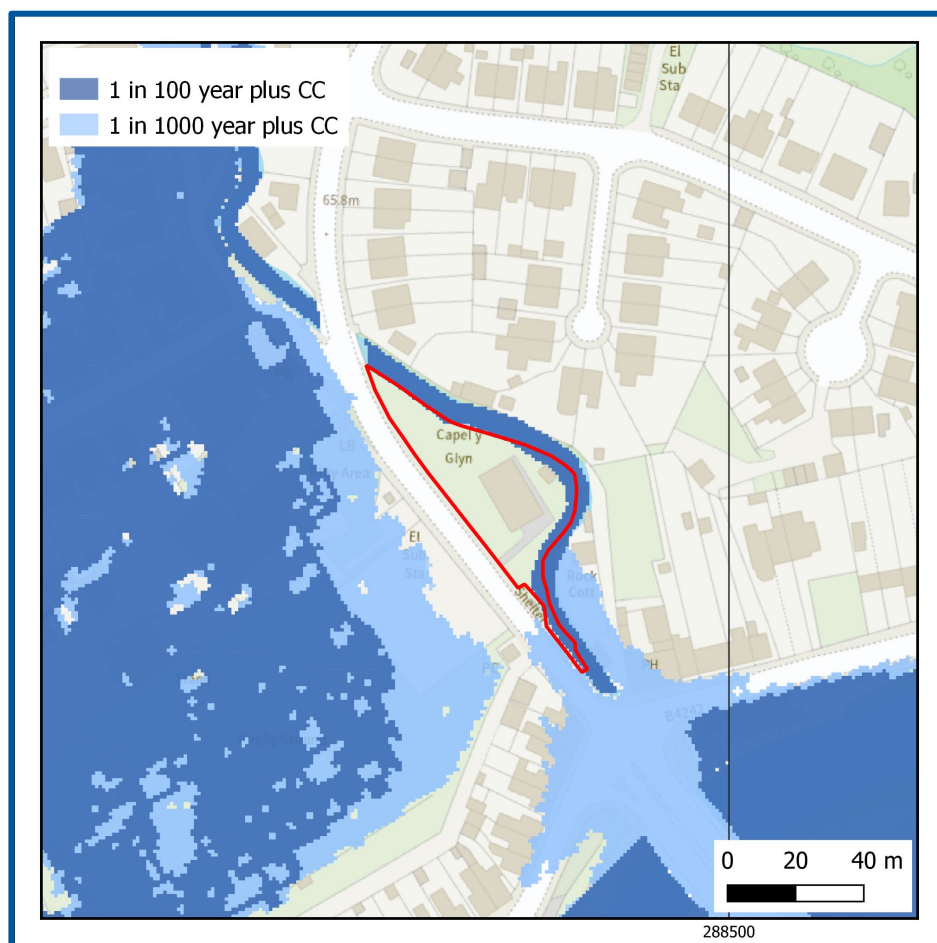
Table 4. Flood levels plus climate change allowances

Ground levels on-Site (mAOD)	Modelled flood levels (mAOD)	
	1 in 100 year plus assumed 25% climate change allowance	1 in 1000 year plus assumed 25% climate change allowance
Flood level (mAOD)	59.06 to 63.00	61.20 to 63.11
Flood depths at the Site (m)*	Up to 0.97	Up to 1.65
Flood depths in the area proposed for development (m)*	No flooding anticipated	

*Given the variability in ground levels and flood levels at the Site, the flood depths have been taken directly from the depth grids provided for each event within the modelling study.

The following figure confirms the flood extent associated with the climate change flooding scenarios.

Figure 12. Modelled climate change flooding scenarios



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The modelled climate change scenarios indicate that the proposed dwelling and associated garden and driveway would not be impacted by flooding up to and including the 1 in 1000 year plus climate change event. Areas along the eastern boundary of the Site could experience flooding during all modelled events due to their proximity to the Nant y Gwyddyl channel, but this generally appears to be restricted to landscaped areas within the cemetery.

Therefore, on balance, a Very Low to High risk of fluvial flooding has been identified for the entire Site, with a Very Low risk applicable to the proposed development.

Surface water (pluvial) flooding

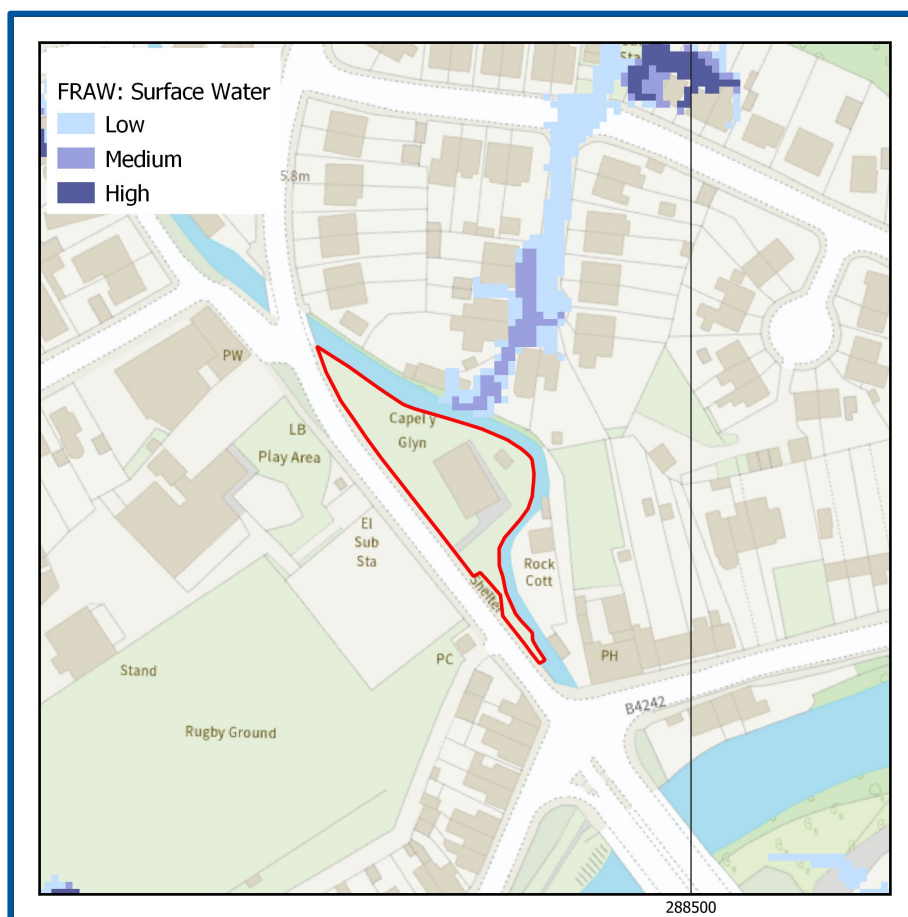
Surface water flooding occurs when intense rainfall exceeds the infiltration capacity of the ground and overwhelms the drainage systems. It can occur in most locations even at higher elevations and at significant distances from river and tidal floodplains.

According to NRW's Flood Map for Planning, the Site is located within Flood Zone 1 for surface water and small watercourses.

According to the NRW's Flood Risk from Surface Water and Small Watercourses flood mapping (Figure 13), the Site has a Very Low risk of pluvial flooding and is mapped as remaining flood free in each of the modelled pluvial scenarios.

An overland flow route is mapped c. 5 m north of the Site, with surface water flowing in a south-westerly direction along Woodland Park during the Medium risk (3.3 – 1% AEP) and Low risk (>3.3% AEP) flood events. However, these flows are modelled to be intercepted by the channel of the Nant y Gwyddyl and are therefore not anticipated to impact the Site.

Figure 13. NRW surface water risk map (NRW, 2025)



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According to NRW's surface water flood risk map the Site is at:

- Very Low risk - chance of flooding of less than 1 in 1000 (0.1%).

To provide further information regarding the extent and depth of flooding, the National Flood Hazard (NFH) maps (published in 2020) have been considered for surface water. The NRW's NFH surface water flood risk mapping confirms that the Site is not modelled to be impacted by surface water flooding up to and including the Low risk event.

Climate change may lead to an increase in rainfall intensity which affects river levels, land and urban drainage systems. Rainfall intensity for small and urban catchments may increase from 5 to 20% (central estimate) or 10 to 40% (upper estimate) over the period to 2115 (NRW, 2024).

To consider the risk of surface water flooding over the lifetime of the development, the 0.1% AP (1 in 1000 year) surface water flooding event has been used as a proxy in this instance for the 1% AP (1 in 100 year) plus climate change event. This indicates that the Site would not be affected by flooding in the 1 in 100 year plus climate change scenario.

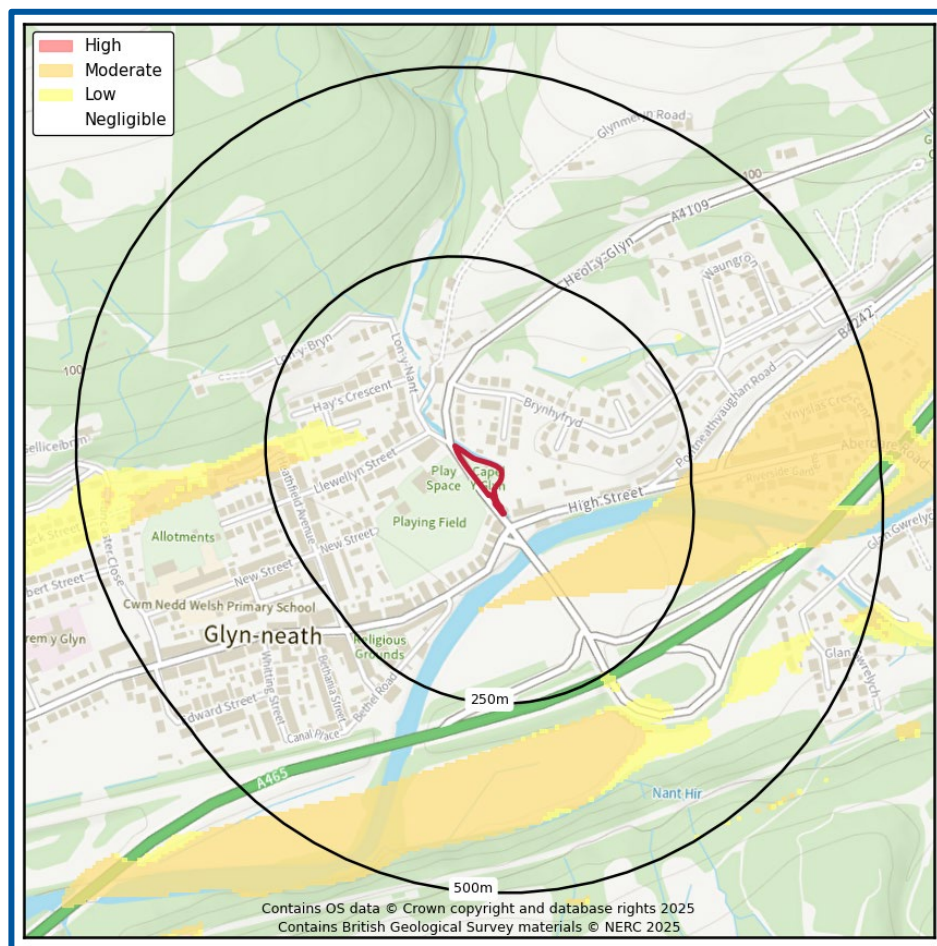
Any existing and proposed on-Site surface water drainage systems should be designed and maintained appropriately to manage the run-off over the lifetime of the proposed development.

Groundwater flooding

Groundwater flooding occurs when sub-surface water emerges from the ground at the surface or into Made Ground and structures. This may be as a result of persistent rainfall that recharges aquifers until they are full; or may be as a result of high river levels, or tides, driving water through near-surface deposits. Flooding may last a long time compared to surface water flooding, from weeks to months. Hence the amount of damage that is caused to property may be substantially higher.

Groundwater Flood Risk screening data (Figure 14) indicates there is a Negligible risk of groundwater flooding at the surface within the vicinity of the Site from permeable bedrock and superficial deposits during a 1 in 100 year event:

Figure 14. GeoSmart GW5 Groundwater Flood Risk Map (GeoSmart, 2025)



Mapped classes within the screening map combine likelihood, possible severity and the uncertainty associated with predicting the subsurface system. The map is a national scale screening tool to prompt site-specific assessment where the impact of groundwater flooding would have significant adverse consequences. Mapping limitations and a number of local factors may reduce groundwater flood risk to land and property even where it lies within mapped groundwater flood risk zones, which do not mean that groundwater floods will occur across the whole of the risk area.

A site-specific assessment has been undertaken to refine the groundwater risk screening information on the basis of site-specific datasets (see Section 3) including BGS borehole data, and the NRW's fluvial and tidal floodplain data (where available) to develop a conceptual groundwater model. The risk rating is refined further using the vulnerability of receptors including occupants and the existing and proposed Site layout, including the presence of basements and buried infrastructure. The presence of any nearby or on-Site surface water features such as drainage ditches, which could intercept groundwater, have also been considered.

It is understood there are no existing basements, and a basement is not proposed as part of the development *Note: The risks are higher for basements, buried infrastructure and soakaway systems which may be affected by high groundwater levels.*

According to a review of the hydrogeology (Section 3), the Site is underlain by permeable superficial deposits above permeable bedrock. Groundwater levels may rise in the bedrock and superficial aquifers in a seasonal response to prolonged rainfall recharge which may cause an unusually high peak in groundwater levels during some years.

Groundwater levels may also rise in the bedrock and superficial aquifers in response to high river events due to the potential hydraulic continuity with the Nant y Gwyddyl and Afon Nedd (River Neath).

However, despite the presence of an aquifer, the Site would only be at risk of groundwater flooding if the water table reaches the base of the Site development or the ground surface, when groundwater seepage could lead to overland flow and ponding. The surrounding topography suggests that groundwater seepage is more likely to occur downgradient of the Site, within the watercourse channels or elsewhere in the base of the valley feature.

The nearest BGS borehole (ref: SN80NE37, c. 50 m south-east) did not encounter groundwater to a depth of 1.9 m during drilling in November 1966. A further borehole (ref: SN80NE38, c. 60 m south-east) identified a groundwater level between c. 4.0 m and 4.9 m bgl during drilling in November 1966, subject to seasonal variations.

Spring lines have not been identified within the vicinity of the Site.

The hydrogeological characteristics suggest there is potential for a groundwater table beneath the Site, which could be in hydraulic continuity with the Nant y Gwyddyl and Afon Nedd. However, given the proposed development is raised relative to the adjacent channel, groundwater emergence at the development itself is considered unlikely.

The baseline groundwater flood risk rating is Negligible, and further analysis confirms that this risk level would be appropriate for the Site.

Guidance

Negligible risk - There will be a remote possibility that incidence of groundwater flooding could lead to damage to property or harm to other sensitive receptors at, or near, this location.

Climate change predictions suggest an increase in the frequency and intensity of extremes in groundwater levels.

- Rainfall recharge patterns will vary regionally resulting in changes to average groundwater levels.
- A rise in peak river levels will lead to a response of increased groundwater levels in adjacent aquifers subject to the predicted climate change increases in peak river level for the local catchment.

The impact of climate change on groundwater levels beneath the Site is linked to the predicted rise in peak river levels and the variation in rainfall recharge, which is uncertain.

Flooding from artificial sources

Artificial sources of flood risk include waterbodies or watercourses that have been amended by means of human intervention rather than natural processes. Examples include reservoirs (and associated water supply infrastructure), docks, sewers and canals. The flooding mechanism associated with flood risk from artificial sources is primarily related to breach or failure of structures (reservoir, lake, sewer, canal, flood storage areas, etc.)

Sewer flooding

Table 1-2 of Appendix A of the SFCA (JBA Consulting, 2022) identified six incidents of flooding as a result of surcharging sewers within the Glynneath electoral ward. It should be noted that this ward covers a large area and reported incidents of flooding are not specific to the Site.

Guidance

Properties classified as “at risk” are those that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system either once or twice in the ten year reference period. Records held by the sewage utility company provide information relating to reported incidents, the absence of any records does not mean that the Site is not at risk of flooding.

Canal failure

According to Ordnance Survey (OS) mapping, there are no canals within 500 m of the Site.

Water supply infrastructure

Water supply infrastructure is comprised of a piped network to distribute water to private houses or industrial, commercial or institution establishments and other usage points. In urban areas, this represents a particular risk of flooding due to the large amount of water supply infrastructure, its condition and the density of buildings. The risks of flooding to properties from burst water mains cannot be readily assessed.

If more information regarding the condition and history of the water supply infrastructure within the vicinity of the Site is required, then it is advisable to contact the local water supplier, Dŵr Cymru / Welsh Water.

Culverts and bridges

The blockage of watercourses or structures by debris (that is, any material moved by a flowing stream including vegetation, sediment and man-made materials or refuse) reduces flow capacity and raises water levels, potentially increasing the risk of flooding. High water levels can cause saturation, seepage and percolation leading to failure of earth embankments or other structures. Debris accumulations can change flow patterns, leading to scour, sedimentation or structural failure.

Several bridges have been identified along the Nant y Gwyddyl, including adjacent to the north-western corner of the Site and c. 10 m south, and the Afon Nedd, including c. 50 m south. These bridges could pose a flood risk to the Site should they become blockage or damaged. However, given the limited information available regarding the condition and capacity of the culverts as well as the absence of detailed blockage scenarios, the potential impacts of the blockage of these nearby culverts cannot be quantified within the scope of this report.

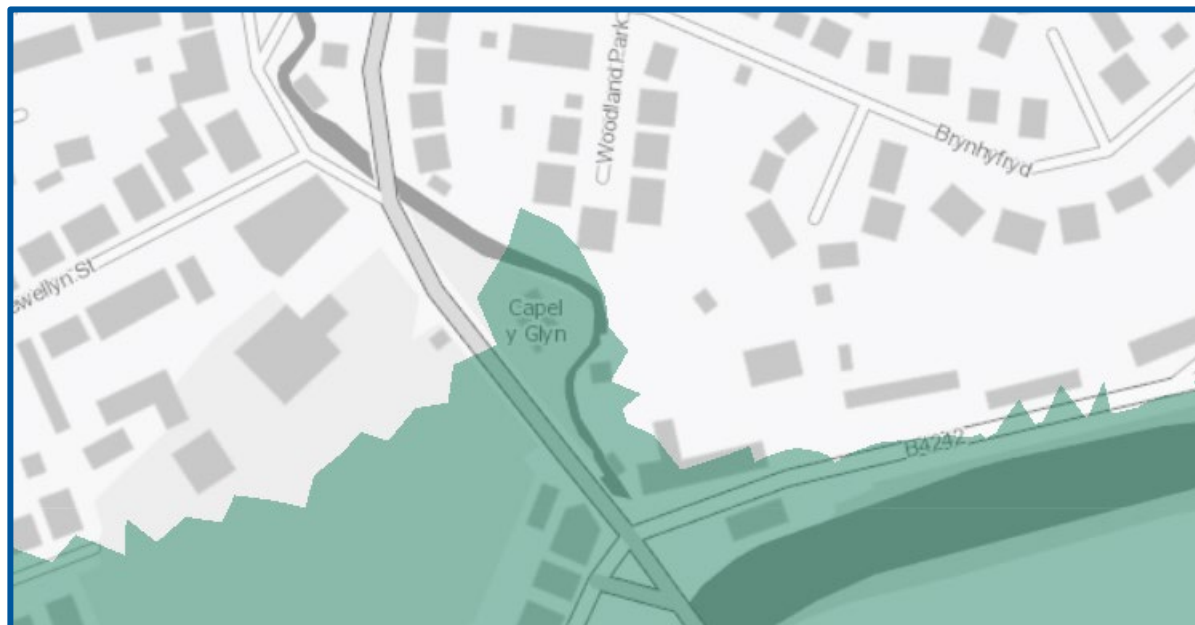
Discussions should be held with the local authority, adjacent landowner and/or NRW to ascertain the responsibility of maintenance for the infrastructure. Where no such schedule is already in effect it is recommended that an appropriate maintenance regime is put in place to maintain effective operation of the bridges.

Reservoir flooding

According to the NRW's Flood Risk from Reservoirs mapping, the south and centre of the Site is at risk of flooding from reservoirs (Figure 15) (NRW, 2025).

The Site is mapped as being at risk of flooding from the Llyn-Fawr and Ystradfellte reservoirs.

Figure 15. NRW Flood Risk from Reservoirs Flooding (NRW, 2025)



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Guidance

The risk of reservoir flooding is related to the failure of a large reservoir (holding over 25,000 m³ of water) and is based on the worst-case scenario. Reservoir flooding is extremely unlikely to occur (NRW, 2025).

5. Flood risk from the development



Floodplain storage

Where flood storage from any source of flooding is to be lost as a result of development, on-site level-for-level compensatory storage, accounting for the predicted impacts of climate change over the lifetime of the development, should be provided. Where it is not possible to provide compensatory storage on site, it may be acceptable to provide it off-site if it is hydraulically and hydrologically linked.

The loss of floodplain storage is less likely to be a concern in areas benefitting from appropriate flood risk management infrastructure or where the source of flood risk is solely tidal.

The Site includes areas within fluvial Flood Zones 2 and 3. However, the proposed development does not involve an increase in building footprint, nor would it be impacted by the 1 in 100 year plus 25% climate change event. Therefore, there would be no displacement of flood water and compensatory flood storage is not required.

Drainage and run-off

Based on the topography and Very Low surface water flood risk in the vicinity, interference or interaction with overland flow paths and inflows from off-site is considered unlikely.

As the development proposals are for a change of use and will not involve the alteration of any external features of the building, an estimation of surface water runoff is not considered to be required.

However, it is recommended that permeable paving is utilised within the proposed driveway to prevent an increase in the generation of surface water runoff at the Site (and hence prevent any increases in the associated surface water flood risk).

Any changes to the existing drainage system will be undertaken in accordance with best practice and care will be taken to ensure the new development does not overload/block any existing drainage or flow pathways to/from the Site.

6. Suitability of the proposed development



The information below outlines the suitability of proposed development in relation to national and local planning policy.

National policy and guidance

The aims of the national planning policies TAN15 (2025) and PPW (2024) are achieved through application of the Justification Test and by assessing Flood Consequences. The key requirements of these are outlined below:

Guidance
Acceptability criteria for flooding consequences: All developments should be designed to be flood free during the 1% river flood and 0.5% flood from the sea, plus an allowance for climate change over the lifetime of development. Tolerable conditions: During an extreme 0.1% flood event, flood depths should not exceed 600 mm at the Site. The maximum permitted velocity of flood waters is 0.15 m/s for Highly Vulnerable development and 0.3 m/s for Less Vulnerable development.

The proposed Site use is residential and is classified as “Highly Vulnerable” development. As the proposed development is located within Flood Zone 1, the development is acceptable according to National Policy, and the acceptability criteria and tolerable conditions are not required to be satisfied.

Table 5. Flood risk vulnerability and flood zone compatibility (taken from TAN15, 2025)

Flood risk vulnerability classification	Highly vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓
Defended Zone	Must satisfy acceptability criteria and tolerable conditions	✓	✓
Zone 2	Must satisfy acceptability criteria and tolerable conditions	Must satisfy acceptability criteria	✓

Flood risk vulnerability classification	Highly vulnerable	Less vulnerable	Water compatible
Zone 3	X (greenfield land) / brownfield land must satisfy acceptability criteria and tolerable conditions	Must satisfy acceptability criteria	✓

Natural Resources Wales Flood Risk Standing Advice for Sites located in Flood Zones 2 or 3³

For all relevant vulnerable developments (i.e. more vulnerable, less vulnerable and water compatible), advice on the points should be followed:

- Surface water management;
- Access and evacuation; and
- Floor levels.

Surface water management

Plans for the management of surface water need to meet the requirements set out in either the local authority's:

- Surface water management plan where available; OR
- Strategic flood consequence assessment.

They also need to meet the requirements of the approved building regulations Part H: drainage and water disposal. Read section H3 rainwater drainage.

Planning permission is required to use a material that can't absorb water (e.g. impermeable concrete) in a front garden larger than 5 square metres.

Access and evacuation

Details of emergency escape plans should be provided for any parts of a building that are below the estimated flood level:

Plans should show:

- Single storey buildings or ground floors that don't have access to higher floors can access a space above the estimated flood level, e.g. higher ground nearby;
- Basement rooms have clear internal access to an upper level, e.g. a staircase; and

³ Please note in the absence of NRW FRSA, the EA guidance (2022) has been used to provide a clear framework for the assessment of flood risk and mitigation strategies.

- Occupants can leave the building if there's a flood and there's enough time for them to leave after flood warnings.

Floor levels

The following should be provided:

- Average ground level of the building; and
- Finished floor level of the lowest habitable room in the building.

Ground floor levels should be a minimum of whichever is higher of:

- 300 millimetres (mm) above the general ground level of the site; OR
- At least 600 mm above the estimated river or sea flood level.

7. Resilience and mitigation



Based on the flood risk identified at the Site, the national and local policies and guidance and proposed development, the mitigation measures outlined within this section of the report are likely to help protect the development from flooding.

Sea (coastal/tidal) flood mitigation measures

As the Site is not identified as being at risk of flooding from the sea, mitigation measures are not required.

Rivers (fluvial) flood mitigation measures

The Site is located within an area which is affected by flooding from rivers. The following table confirms the flood depths associated with the area proposed for development:

Table 6. Flood levels compared to ground levels on-Site

Flood data	Modelled flood levels (mAOD)			
	1 in 100 year	1 in 1000 year	1 in 100 year plus assumed 25% CC	1 in 1000 year plus assumed 25% CC
Flood level (mAOD)	58.75 to 62.95	60.86 to 63.08	59.06 to 63.00	61.20 to 63.11
Flood depths (m)*	Up to 0.82	Up to 1.07	Up to 0.97	Up to 1.65
Flood depths in the area proposed for development (m)*	No flooding anticipated			

*Given the variability in ground levels and flood levels at the Site, the flood depths have been taken directly from the depth grids provided for each event within the modelling study.

The vulnerability classification of the Site and the Flood Zone means proposals for the Site fall under the NRW's Flood Risk Standing Advice (FRSA) for Highly Vulnerable developments.

In line with the FRSA, Finished Floor Levels (FFLs) should be raised at least 0.3 m above the flood level during the 1 in 100 year event, including an allowance for climate change (CC). However, in this instance, the ground levels in the area proposed for development are already set 0.3 m above the nearest upstream flood level along the Nant y Gwyddyl. Therefore, no raising of finished floor levels is considered to be required, nor would specific fluvial flood mitigation measures be necessary.

Given that the cemetery includes areas which could experience flooding, it would be prudent to close the public areas of the Site should a flood event be anticipated, or to incorporate a

sign cautioning members of the public against accessing the eastern boundary of the Site when flooding is expected.

Surface water (pluvial) flood mitigation measures

As the Site is not identified as being at risk of pluvial flooding, mitigation measures are not required.

As part of best practice, the regular maintenance of any drains and culverts surrounding/on the Site should be undertaken to maintain the Very Low flood risk.

Groundwater flood mitigation measures

As a Negligible risk of groundwater flooding has been identified at the Site, specific groundwater mitigation measures are not required.

Reservoir flood mitigation measures

According to NRW data, the Site is at risk of flooding from reservoirs.

There would be a relatively high rate and onset of flooding associated with a reservoir breach; therefore, it is unlikely that safe access could be achieved unless a long warning period was provided. Occupants should get to the highest level of the building as possible and contact the emergency services.

Other flood risk mitigation measures

Numerous bridges have been identified in the vicinity of the Site, including adjacent to the north-western corner of the Site over the Nant y Gwyddyl. These bridges could pose a flood risk to the Site should they become blockage or damaged.

Discussions should be held with the local authority, adjacent landowner and/or NRW to ascertain the responsibility of maintenance for the infrastructure. Where no such schedule is already in effect it is recommended that an appropriate maintenance regime is put in place to maintain the effective operation of the bridges.

Residual flood risk mitigation measures

The risk to the Site has been assessed from all sources of flooding and appropriate mitigation and management measures proposed to keep the users of the development safe over its lifetime. There is, however, a residual risk of flooding associated with the potential for failure of mitigation measures if regular maintenance and upkeep are not undertaken. If mitigation measures are not implemented or maintained, the risk to the development will remain as the baseline risk.

Further flood mitigation information

More information on flood resistance, resilience and water entry can be found here: http://www.planningportal.gov.uk/uploads/br/flood_performance.pdf

Emergency evacuation - safe access / egress and safe refuge

Emergency evacuation to land outside of the floodplain should be provided if feasible. Where this is not possible, 'highly vulnerable' developments and, where possible, development in general (including basements), should have internal stair access to an area of safe refuge within the building to a level higher than the maximum likely water level. An area of safe refuge should be sufficient in size for all potential users and be reasonably accessible to the emergency services.

Emergency evacuation from the development and the Site should only be undertaken in strict accordance with any evacuation plans produced for the Site, with an understanding of the flood risks at the Site including available mitigation, the vulnerability of occupants and preferred evacuation routes.

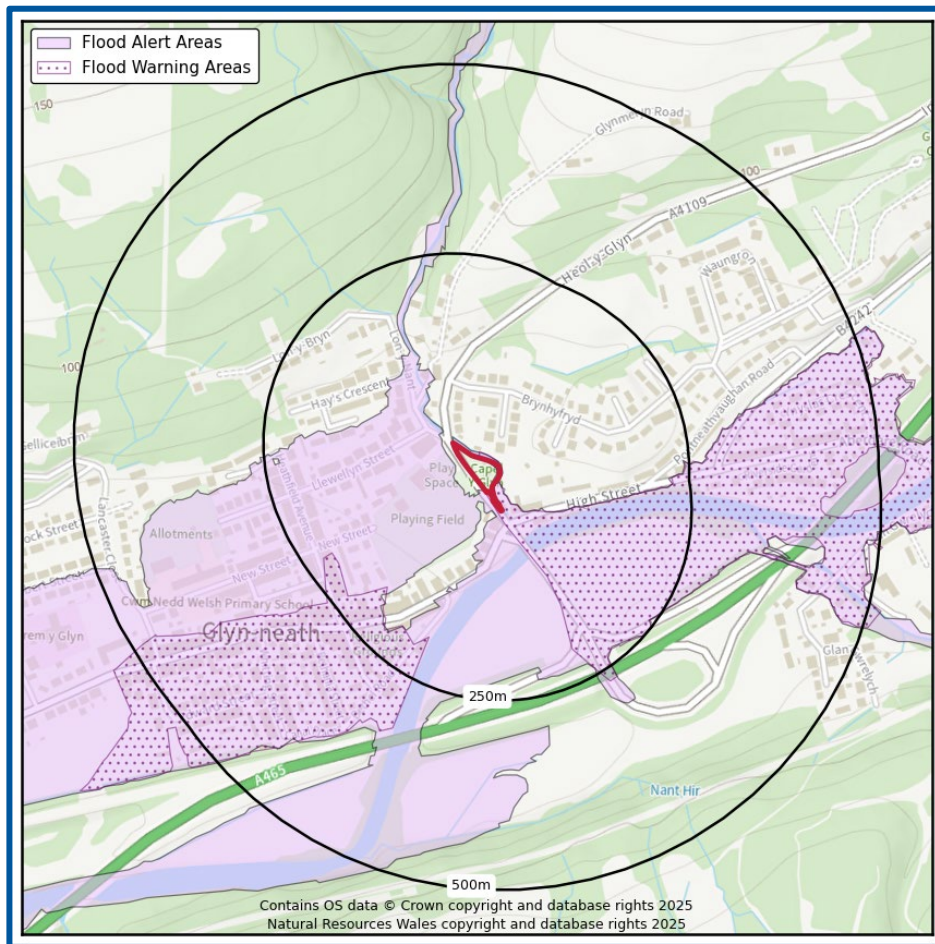
Flood warnings

The NRW operates a flood warning service in all areas at risk of flooding; this is available on their website: <https://www.gov.uk/check-flood-risk>. The Site is located within NRW Flood Warnings and Alerts areas so is able to receive warnings and alerts (Figure 16, overleaf). All warnings are also available through the NRW's 24 hour Floodline Service, 0345 988 1188.

- Flood Alert ref: 102WAFF18; quick dial code: 603056
- Flood Warning ref: 102FWF111A; quick dial code: 503024

The NRW aims to issue Flood Warnings 2 hours in advance of a flood event. Flood Warnings can provide adequate time to enable protection of property and evacuation from a Site, reducing risk to life and property.

Figure 16. NRW Flood Warning Coverage for the local area (NRW, 2025)



Emergency evacuation

Where possible, a safe access and egress route with a 'very low' hazard rating from areas within the floodplain to an area wholly outside the 1 in 100 year flood event including an allowance for climate change should be demonstrated.

The proposed dwelling is located within Flood Zone 1, and should egress from the Site be necessary, this could be undertaken along the Heol y Glyn (A4109) to the north-east. Given the dwelling would not be impacted by flooding, evacuation from the Site in the event of a flood is not considered to be required.

On-Site refuge

Given that the proposed dwelling is not anticipated to be impacted by flooding during any modelled event, on-Site refuge could be taken at ground or first floor level if necessary.

Other relevant information

Occupants should be signed up to receive NRW Flood Alerts.

Registration to the Natural Resource Wales flood warning scheme can be done by following this link: <https://www.gov.uk/sign-up-for-flood-warnings>.

It is recommended that main communication lines required for contacting the emergency services, electricity sockets/meters, water supply and first aid stations and supplies are not compromised by flood waters. Where possible these should all be raised above the extreme flood level.

8. Conclusions and recommendations



Table 7. Risk ratings following Site analysis

Source of Flood Risk	Baseline ¹	After analysis ²	After Mitigation ³
River (fluvial) flooding	Very Low to High	Very Low to High (entire Site) / Very Low (proposed development)	N/A
Sea (coastal/tidal) flooding	Very Low		N/A
Surface water (pluvial) flooding	Very Low		N/A
Groundwater flooding	Negligible		N/A
Other flood risk factors present	Yes (bridge blockage & reservoir breach)		Yes
Is any other further work recommended?	Yes		Yes (see below)

1 BASELINE risks assigned for the whole Site, using national risk maps, including the benefit of NRW flood defences.

2 AFTER ANALYSIS modification of risk assessment based on detailed site specific analysis including some or all of the following: flood model data, high resolution mapping, building location, access routes, topographic and CCTV surveys. Reasons for the change in classification are provided in the text.

3 AFTER MITIGATION risks include risks to the proposed development / asset and occupants if mitigation measures recommended in this report are implemented, including the impacts of climate change.

*N/A indicates where mitigation is not required.

The table below provides a summary of where the responses to key questions are discussed in this report.

Highly Vulnerable developments in Flood Zone 1 are acceptable according to TAN15 (2025) and providing the recommended mitigation measures are put in place (see previous sections) it is likely that flood risk to this Site will be reduced to an acceptable level.

Table 8. Summary of responses to key questions in the report

Key sources of flood risks identified	Rivers, bridge blockage & reservoir breach (see Section 4).
Are standard mitigation measures likely to provide protection from flooding to/from the Site?	Yes (see Section 7).
Is any further work recommended?	Yes (see exec summary and Section 7).

9. References and glossary



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Glossary

General terms

BGS	British Geological Survey
NRW	National Resource Wales
GeoSmart groundwater flood risk model	GeoSmart's national groundwater flood risk model takes advantage of all the available data and provides a preliminary indication of groundwater flood risk on a 50m grid covering England and Wales. The model indicates the risk of the water table coming within 1 m of the ground surface for an indicative 1 in 100 year return period scenario.
Dry-Island	An area considered at low risk of flooding (e.g. In a Flood Zone 1) that is entirely surrounded by areas at higher risk of flooding (e.g. Flood Zone 2 and 3)
Flood resilience	Flood resilience or wet-proofing accepts that water will enter the building, but through careful design will minimise damage and allow the re-occupancy of the building quickly. Mitigation measures that reduce the damage to a property caused by flooding can include water entry strategies, raising electrical sockets off the floor, hard flooring.
Flood resistance	Flood resistance, or dry-proofing, stops water entering a building. Mitigation measures that prevent or reduce the likelihood of water entering a property can include raising flood levels or installation of sandbags.
Flood Zone 1	This zone has less than a 0.1% annual probability of river flooding
Flood Zone 2	This zone has between 0.1 and 1% annual probability of river flooding and between 0.1% and 0.5 % annual probability sea flooding
Flood Zone 3	This zone has more than a 1% annual probability of river flooding and 0.5% annual probability of sea flooding
Functional Flood Plain	An area of land where water has to flow or be stored in times of flood.
Hydrologic model	A computer model that simulates surface run-off or fluvial flow. The typical accuracy of hydrologic models such as this is $\pm 0.25\text{m}$ for estimating flood levels at particular locations.
OS	Ordnance Survey
Residual Flood Risk	The flood risk remaining after taking mitigating actions.
SFCA	Strategic Flood Consequence Assessment. This is a brief flood risk assessment provided by the local council

SuDS

A Sustainable drainage system (SuDS) is designed to replicate, as closely as possible, the natural drainage from the Site (before development) to ensure that the flood risk downstream of the Site does not increase as a result of the land being developed. SuDS also significantly improve the quality of water leaving the Site and can also improve the amenity and biodiversity that a Site has to offer. There are a range of SuDS options available to provide effective surface water management that intercept and store excess run-off. Sites over 1 Ha will usually require a sustainable drainage assessment if planning permission is required. The current proposal is that from April 2014 for more than a single dwelling the drainage system will require approval from the SuDS Approval Board (SABs).

Aquifer Types

Principal aquifer

These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.

Secondary A aquifer

Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

Secondary B aquifer

Predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

Secondary undifferentiated

Has been assigned in cases where it has not been possible to attribute either category A or B to a rock type due to the variable characteristics of the rock type.

Unproductive Strata

These are rock layers or drift deposits with low permeability that has negligible significance for water supply or river base flow.

Data Sources

Aerial Photography	Contains Ordnance Survey data © Crown copyright and database right 2025 BlueSky copyright and database rights 2025
Bedrock & Superficial Geology	Contains British Geological Survey materials © NERC 2025 Ordnance Survey data © Crown copyright and database right 2025
Flood Risk (Flood Zone/RoFRS/Historic Flooding/Pluvial/Surface Water Features/Reservoir/ Flood Alert & Warning)	Natural Resource Wales copyright and database rights 2025 Ordnance Survey data © Crown copyright and database right 2025
Flood Risk (Groundwater)	GeoSmart, BGS & OS GW5 (v2.4) Map (GeoSmart, 2025) Contains British Geological Survey materials © NERC 2025 Ordnance Survey data © Crown copyright and database right 2025
Location Plan	Contains Ordnance Survey data © Crown copyright and database right 2025
Topographic Data	OS LiDAR/NRW Contains Ordnance Survey data © Crown copyright and database right 2025 Natural Resource Wales copyright and database rights 2025

10. Appendices



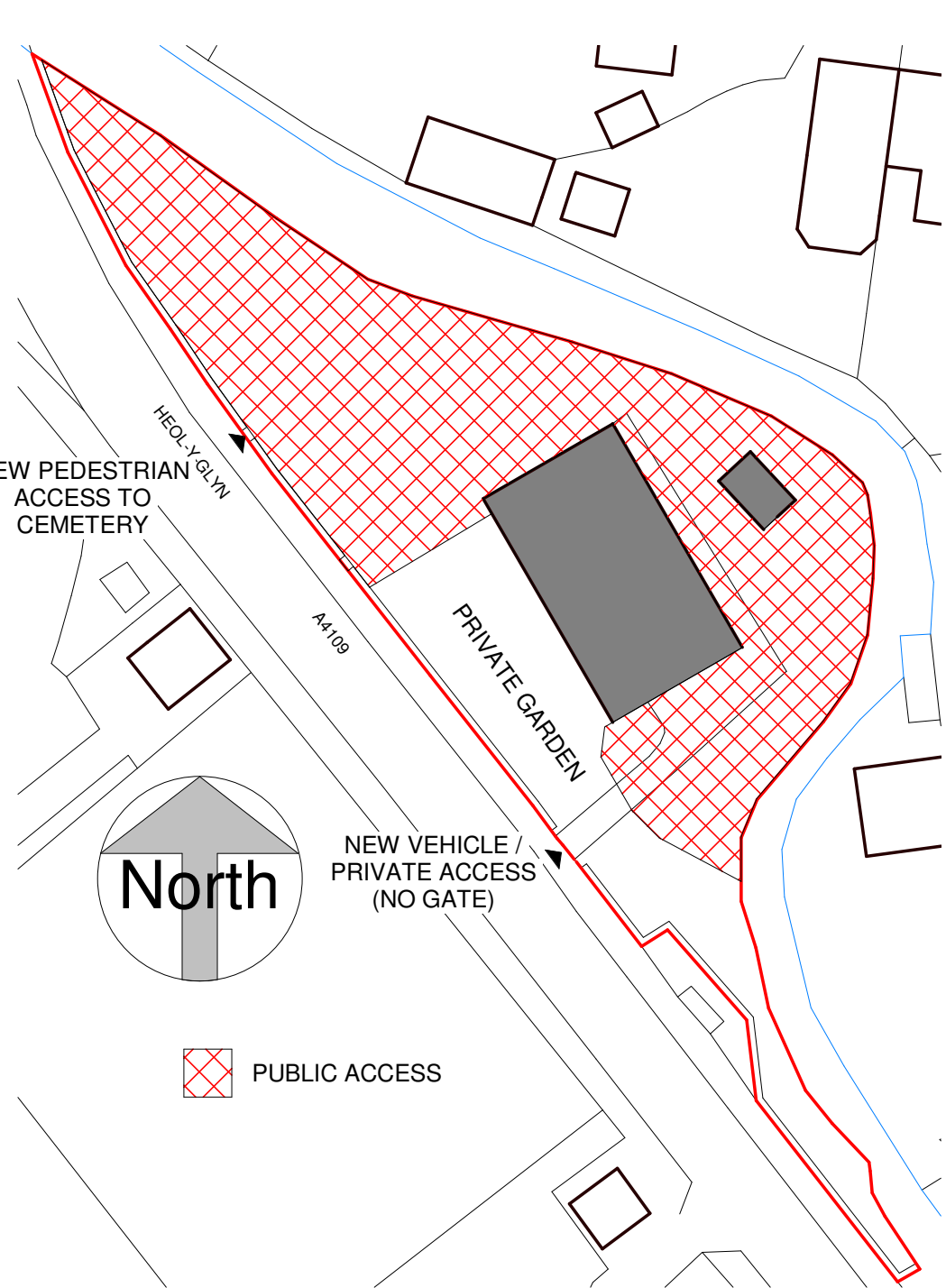
Appendix A



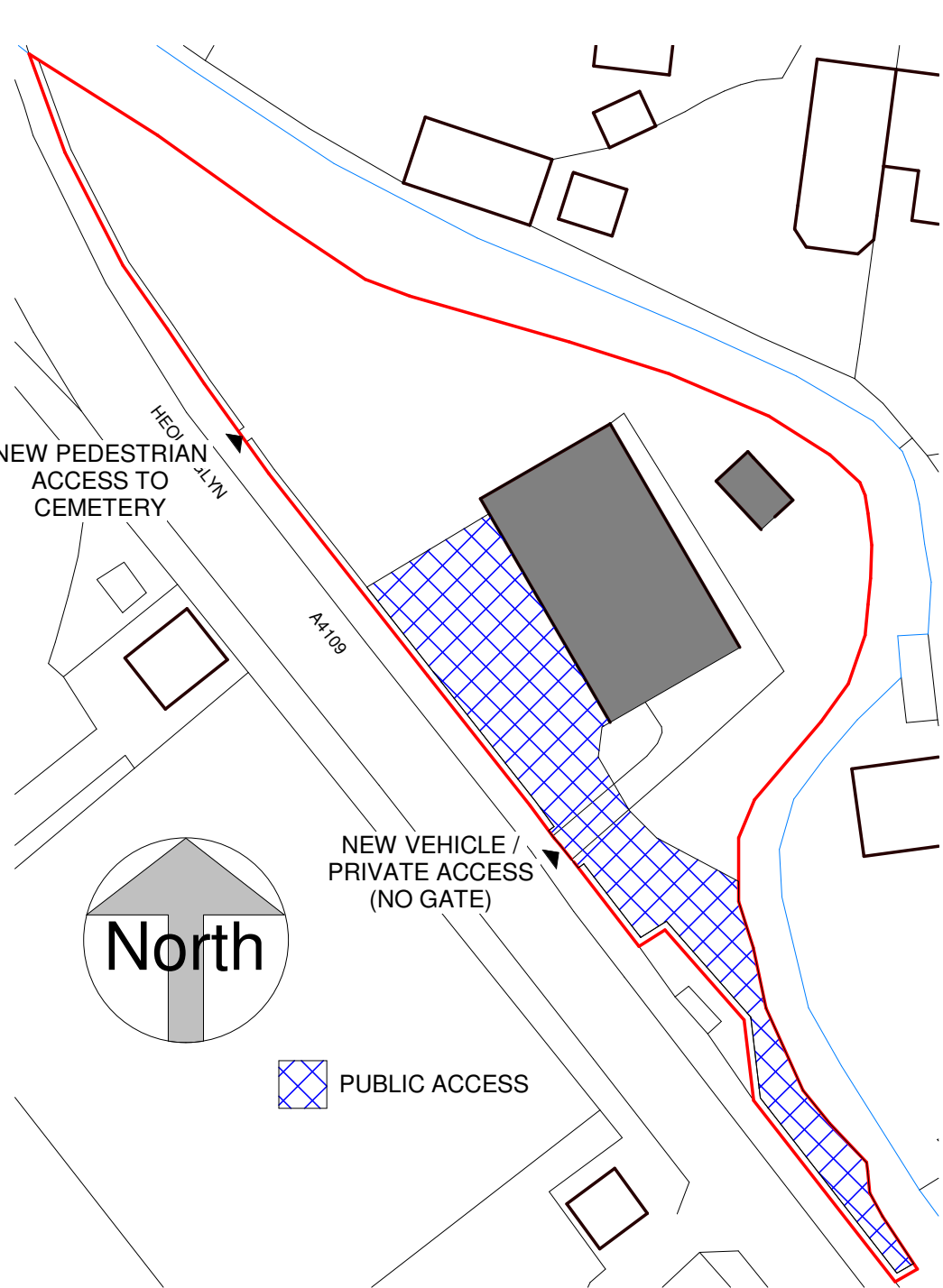
Site plans



PROPOSED LANDSCAPE PLAN
1 : 200



1. PROPOSED PUBLIC ACCESS
AREA
1 : 500



2. PROPOSED PRIVATE
ACCESS AREA
1 : 500

ACCESS MANAGEMENT:
The proposal is to convert the existing chapel into a new domestic dwelling. As such the external areas will need to be split in order to provide access to the existing cemetery and provide private space for the new dwelling.

The current space is to be split into two zones. One being for public access, giving access to all existing graves. The other is for private usage only.
A new public pedestrian entrance is to be provided to the north end of the site away from the new dwelling. New signage indicating the access is to be provided along with a new timber pass gate.
The new entrance will grant access to all graves in the public domain as highlighted on 1. Public and private areas will be split by means of timber fences. A 1.8m high timber featherboard fence will be set between the existing annex building and the existing stone boundary wall.
A shorter 1.1m high fence will be provided between the chapel building and existing stone wall to the south of the site. This is to divide the space between private parking area and grave sites without being too imposing. A pass gate will be provided, however it will be for private use only.
An additional 1.8m high fence is proposed along the inside of the stone wall to the west boundary in order to provide further privacy from the public highway for the new dwelling.
The existing entrance to the site will be increased in size to approx 3.5-4m in order to allow for vehicular access of the main highway. There will be no gate provided which would impede access while in a vehicle. Adequate private signage will be provided to indicate this is a private space only and also give direction to the new public access.



Rev	Date	Description
Revisions:		
		
Client: Arran Booth		
Project Name: Chapel Y Glyn, Heol Y Glyn, SA11 5BB		
Drawing Title: PROPOSED LANDSCAPE / MANAGEMENT PLAN		
Status: PLANNING	Scale: @A1	
Project No: RDM0063	Drawing No: 0005	Revision: As indicated
Date: APR 2023		

Appendix B



NRW data licence agreement

Re-use Licence	
ATI Ref:	28610a

Section 1 – General Conditions

You are encouraged to use and reuse the Information that is available under this licence with the following conditions:

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- ensure that You do not use the Information in a way that suggests any official status or that NRW endorses You or your use of the Information;
- ensure that You do not mislead others or misrepresent the Information or its source;
- ensure that your use of the Information does not breach any Privacy and Electronic Communications (EC Directive) Regulations 2003 (as amended by The Data Protection, Privacy and Electronic Communications (Amendments etc) (EU Exit) Regulations 2019) or the NRW guidance on species and habitats at risk from environmental harm;

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- where sensitive data is provided (under section 2) any outputs that contain the raw data it must be marked “Official – sensitive” and You must keep it secure from any unauthorised or accidental use, access, duplication, disclosure, damage, loss or destruction;
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This licence does not cover the use of:

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- Information subject to other intellectual property rights, including patents, trademarks, and design rights.
- Onward licensing of the Information, except for sub-licensing to a contractor as detailed above.

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The Information is licensed ‘as is’ and NRW excludes all representations, warranties, obligations and liabilities in relation to the Information to the maximum extent permitted by law.

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It is your responsibility to ensure the information is fit for the intended purpose. To avoid re-using old information, You should periodically obtain the latest version from the original source.

Indemnity

You shall indemnify us against all costs (including reasonable and proper legal costs), claims, damages, demands and expenses arising directly or indirectly out of any third party claim that arises out of a breach of our licensing conditions except to the extent that any such claim arises out of a negligent or wilful default by us. We will

Re-use Licence	
ATI Ref:	28610a

in respect of a third party claim to which the above condition applies use reasonable endeavours to give you notice of such claim, at no time admit liability and act in such a way as to mitigate the third party's losses.

Governing Law

This licence is governed by the laws of England & Wales and in the event of a dispute, the parties submit to the exclusive jurisdiction of the courts of England & Wales.

Ending the Licence

We have the right to end this licence at any time:

- if You are wound up, declared bankrupt, placed in administration, placed in the hands of receivers or creditors or involved with any other insolvency procedure or otherwise stop operating;
- if there is a material breach of the terms of this licence and You do not put this right within 30 days of our telling You in writing or by email, or
- to comply with any legal requirement including the legal requirement of a third party whose content is used in the creation of our Information.

Clauses that will still apply after the end of a licence include confidentiality, indemnities and governing law. Ending the licence will not affect accrued rights and liabilities.

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Upon termination of this Licence, the Licensee shall immediately cease use of the Data. The Licensee is not permitted to retain the Data Set(s) to be used for any other projects or supply/distribute the Data Set(s) to any third parties.

The Licensee shall be permitted to retain: (i) one copy of the Data Set(s) for archival purposes with all personal data redacted unless granted permission by NRW, (ii) any derived datasets that contain the licensed Data Set(s) that have been created for the project to be used as per the licensed conditions.

The Licensee is permitted to use the archival copy for any complaints, statutory audits, defects under contract or insurance purposes only.

Please contact us if You require a licence renewal.



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Section 2 – Datasets and Special Conditions

The licence applies to the licensing period and the datasets listed below:

Licence start date	Licence end date
17/07/2025	16/07/2026

Ref. Number	Summary Table
1	Flood Flows Estimate Data, (WinFap).

Further details, restrictions and special licensing conditions are listed for the dataset(s) in the table(s) below:

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ATI Ref:	28610a

1	Ref. Number	1
2	Dataset Name	Flood Flows Estimate Data, (WinFap).
3	NRW Dataset Number	NRW_DS123530.
4	Metadata link ¹ if available OR Description & geographical extent	Peak flood flow and/or flood hydrograph estimates for one or more locations for one or more design events, usually calculated using gauged data, Flood Estimation Handbook Statistical and/or Rainfall Runoff methods. https://libcat.naturalresources.wales/folio/?oid=123530
5	Format Supplied	Formats include text, tables and/or charts in excel, word, pdf or email.
6	Information Warnings	This data is not raw, factual or measured. It comprises of estimated or modelled results showing expected outcomes based on the data available to us.
7	Third Party Rights	Wallingford Hydrosolutions Ltd. UKCEH and NERC, (UKRI).
8	Attribution Statement	Contains Natural Resources Wales information © Natural Resources Body for Wales and database right. All rights reserved. Flood flow estimates are based upon FEH methodology and data, © and database right UKCEH 2015*, using WinFap FEH and/or the Revitalised Flood Hydrograph Modelling Tool © Wallingford HydroSolutions Limited 2023 or its licensors. Catchment descriptors or other extracts from the FEH Web-Service, if supplied, are © and database right UKCEH 2015*. All rights reserved. *UKCEH 2015. The Flood Estimation Handbook (FEH) Online Service, UK Centre for Ecology & Hydrology, Wallingford, Oxon, UK.
9	Third Party Special Conditions	The flood flow estimates data are licenced for internal business or personal use only. The raw data may not be re-supplied to any third party or re-communicated to the public on commercial terms or for financial gain or be published. You may publish pdf outputs in a research paper on non-commercial terms, using above attribution statement
10	NRW Special Conditions	As above.

¹ Please consult the metadata for further information about the dataset, such as frequency of update.

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Section 3 – Signatory

Parties

NATURAL RESOURCES BODY FOR WALES whose principal office is at Cathays Park, King Edward VII Avenue, Cardiff, CF10 3NQ (the “**Licensor** “) (1) and

GEOSMART INFORMATION LIMITED (05475394), whose registered office is at Suite 9 To 11, First Floor Old Bank Buildings, Bellstone, Shrewsbury, England, SY1 1HU (the “**Licensee**”) (2)

Contact details	LICENSOR	LICENSEE
Contact Name:	Michelle Lewis	Rosamund Whitehurst
Job Title:	Data Licensing Officer	Sales Coordination Manager
Telephone/Mobile:	07917243096	01743 298 100
Email:	datadistribution@naturalresourceswales.gov.uk	rosamundwhitehurst@geosmartinfo.co.uk
Address:	Customer Hub Team, Llys Afon, Hawthorn Rise, Haverfordwest, Pembrokeshire, SA61 2BQ	Suite 9-11, 1st floor, Old Bank Buildings, Bellstone, Shrewsbury, SY1 1HU
Signature: Signed by authorised signatory		
Name & Post title of signatory: (if different from above)		
Date:	04/08/2025	04/08/2025

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ATI Ref:	28610a

Appendix 1- Glossary

Definitions

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means passing of Information under a written licence to a contractor (see definition above) who is formally contracted to provide services to the Licensee. The following conditions must be met: a) all terms of the original NRW licence must be applied to the Contractor in a written licence that must not exceed the time period of the original licence; b) use must be limited to the purposes of the contract; c) at the end of the contract the Contractor destroys all copies of the original Information supplied; d) the person or legal entity letting the contract remains responsible for ensuring that terms a), b) and c) are met.

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means (i) Data Protection Act (DPA) 2018 and the UK General Data Protection Regulation (GDPR) and then (ii) any successor legislation to the GDPR or the Data Protection Act.

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means information protected by copyright or by database right (for example, literary and artistic works, content, data and source code) offered for use under the terms of this licence.

‘Internal Business Use’

means use within a business or organisation.

‘NRW’

is the acronym for Natural Resources Wales / Natural Resources Body for Wales.

‘Provider’

means an organisation, individual, organisation, company or a legal entity that owns information that has been supplied to a 3rd Party.

‘Use’

as a verb, means doing any act which is restricted by copyright or database right, whether in the original medium or in any other medium, and includes without limitation distributing, copying, adapting, modifying as may be technically necessary to use it in a different mode or format.

‘You’

means the natural or legal person, or body of persons corporate or incorporate, acquiring rights under this licence as identified as the Licensee in Section 3

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For full T&Cs see <http://geosmartinfo.co.uk/terms-conditions>

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Tel: 01743 298 100

Email: info@geosmartinfo.co.uk

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- sets out minimum standards which firms compiling and selling search reports have to meet.
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals.
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.
- By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

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- act with integrity and carry out work with due skill, care and diligence.
- at all times maintain adequate and appropriate insurance to protect consumers.
- conduct business in an honest, fair and professional manner.
- handle complaints speedily and fairly.
- ensure that products and services comply with industry registration rules and standards and relevant laws.
- monitor their compliance with the Code.

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If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs contact details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk. Please ask your search provider if you would like a copy of the search code

Complaints procedure

GeoSmart Information Limited is registered with the Property Codes Compliance Board as a subscriber to the Search Code. A key commitment under the Code is that firms will handle any complaints both speedily and fairly. If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk.

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision. Complaints should be sent to:

Liz Lloyd

Finance Manager

GeoSmart Information Limited

Suite 9-11, 1st Floor,

Old Bank Buildings,

Bellstone, Shrewsbury, SY1 1HU

Tel: 01743 298 100

support@geosmartinfo.co.uk

11. Terms and conditions, CDM regulations and data limitations



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Data use and limitations can be found on our website:

<http://geosmartinfo.co.uk/data-limitations/>