

Flood Consequences Assessment (FCA) For:

Proposals at:
8 Bridge Street, Glyncorrwg
Neath Port Talbot,
SA13 3AH

Prepared for:
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19710 – FCA

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LIMITATIONS

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All the Natural Resources Wales (NRW) mapping data used is under special license. Data is current as of **June 2024** and is subject to change.

The information presented and conclusions drawn are based on statistical data and are for guidance purposes only. The study provides no guarantee against flooding of the study site or elsewhere, nor of the absolute accuracy of water levels, flow rates and associated probabilities.

Purpose of the report

The purpose of this report is to outline the potential flood risk to the site, the potential impact of the proposed development on flood risk elsewhere, and the proposed measures which could be incorporated to mitigate any identified flood risk.

Consultation

The report has been prepared in accordance with the guidance contained in Planning Policy Wales (PPW) and Technical Advice Note 15 (TAN15): Development and Flood Risk. This report has been prepared in consultation with Natural Resources Wales (NRW) including the Development Advice Map (DAM) and Flood Map for Planning (FMfP) Wales. The Neath Port Talbot County Borough Council Local Development Plan (LDP) was adopted in January 2016 and now forms the development plan that will form the basis of decisions on land use for planning in Cardiff. The relevant specific policies relating to flood risk, drainage and climate change have been reviewed and considered as part of this FCA.

Product 5 & Product 6 data have been used to inform the report. Specifically, the ***Glyncorrwg 1D /2D Linked TufLOW Modelling (2012) V2 (2014)*** model. In short, the model was updated and superseded with V2 due to anomalous results and degrees of uncertainty. Furthermore, the model is considered to be somewhat out-of-date and does not include the appropriate or suitable climate change allowances (CCAs). Within the modelled data received; significant and critical 'grids' i.e. ASC or GRD files are missing thus making it difficult to quantitatively assess the potential flood risk to the site from this source. In 2015, NRW undertook and reported a Model Review which concludes; *'The model is stable with some issues as described above. Although these would normally require correction due to the fact that the model has limited survey data and principally uses LiDAR data as its base data the model is fit for flood risk mapping purpose. The model is not fit for detailed analysis e.g. for a Flood Consequence Assessment, without detail survey data replacing LiDAR cross sections, including topographical survey in areas where the topographical correction have been applied.'*

1 INTRODUCTION

Vale Consultancy has been instructed by *The Client* to undertake a Flood Consequences Assessment (FCA) for the proposed development, at 8 Bridge Street, Glyncorrwg, Neath Port Talbot Council, SA13 3AH (287539E, 199125N).

1.1 Existing Site & Location

Currently, and in its existing state; the property (which maximises the application site boundary extents) is occupied by a dilapidated and disused Café on the Ground Floor, with a 1-bedroom apartment / flat above. **Refer to Figure 2, overleaf.** The site is bounded by Bridge Street to the north; an unnamed highway to the east with Glyncorrwg Primary School located further afield; neighbouring residential units to the south and west. The site is considered to be *Brownfield* or *Previously Developed Land*. Provision of site access / egress is from Bridge Street.

Refer to Figure 1 below and Appendix A.



Figure 1 : Existing Site Satellite (Google Maps) Imagery

1.2 Proposed Development

The proposals are for the conversion and therefore *change of use* of the Ground Floor from café (disused) to communal general amenity areas associated with the residential occupancy on the First Floor. The proposals indicate a lounge (sitting area), kitchen and dining area upon the Ground Floor. The proposals include the reconfiguration and refurbishment of the first floor which will be divided into 3-bedrooms and a bathroom. Thus, the proposed works will be limited to internal refurbishment and reconfiguration; albeit an increase in development vulnerability classification concerning the change of use of Ground Floor café to communal residential living space. It should be stressed and noted that no bedrooms will be located upon the Ground Floor. Instead; all habitable rooms to be located on the First Floor. It should also be stressed that the development proposals are to revert the property to its original and former use (residential) which is arguably *more* in-keeping with the general localised land use, here.

Refer to the Proposed Development Plans, Appendix A.



Figure 2 : Existing Site (Google Street View) Imagery

1.3 Development Vulnerability Classification

The proposal is for *Highly Vulnerable Development* in accordance with Figure 2 of TAN15. Such developments typically have a lifetime expectancy of 100-years. The original build date of the property is not known however due to its location and end-of-terrace nature; its original purposed occupancy would have been residential.

1.4 Existing Topography

No topographical survey of the site has been provided at this stage. In the absence of a survey; topographical data to metres above ordnance datum (m AOD) has been derived from a 1m resolution NRW composite 'Light Detecting and Ranging' (LiDAR) Digital Terrain Model (DTM) tile. This is deemed sufficiently accurate for the purposes of this report and to inform any potential or perceived flood risk. A review of LiDAR data indicates a level of **218.54m AOD** at the site. Based upon this and the fact that buildings ought to have a finished floor level (FFL) at least 0.15m above surrounding ground levels; an existing FFL in the order **218.69m AOD** is assumed for the building. The site sits within a u-shaped valley with rolling hills on either side and further afield the topography slopes from north to south; towards the South Wales coastline. **Refer to the LiDAR Extract, Appendix B.**

1.5 Existing Ground Conditions

According to Soilscape soils dataset produced by the Cranfield Soil and Agrifood Institute, soil conditions at the site and within the surrounding area are described as freely draining acid loamy soils over rock. British Geological Mapping of surface geology indicates the underlying bedrock formation comprises Brithdir Member - Sandstone, overlain by Alluvium – Clay, silt, sand and gravel. According to the British Geological Survey and Natural Resources Wales aquifer designation dataset the superficial deposits and bedrock deposits are classified as a Secondary A aquifer. The site is not shown to be located in a designated groundwater source protection zone.

1.5 Existing Site Drainage

The existing site is served by formal drainage infrastructure which is to be retained. Locally, and under naturally prevailing conditions; surface water generally discharges to the local groundwater and fluvial network.

1.6 Proposed Site Drainage

The existing drainage system will be retained and designed in accordance with national and regional policy.

The existing drainage network serving the area is effective and longstanding.

2 FLOOD ZONE CATEGORY AND POLICY CONTEXT

2.1 National Policy

Future Wales – The National Plan 2040 sets out the national framework for Wales with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate – resilience, developing strong ecosystems and improving the health and well-being of our communities.

Policy 8 – Flooding states that “flood risk management that enables and supports sustainable strategic growth and regeneration in National and Regional Growth Areas will be supported. The Welsh Government will work with Flood Risk Management Authorities and developers to plan and invest in new and improved infrastructure, promoting nature-based solutions as a priority. Opportunities for multiple social, economic and environmental benefits must be maximised when investing in flood risk management infrastructure. It must be ensured that projects do not have adverse impacts on international and national statutory designated sites for nature conservation and the features for which they have been designated.”

Planning Policy Wales (PPW) sets out the government’s planning policies for Wales and how these are expected to be applied. TAN15 provides technical guidance which supplements the policy within PPW and seeks to ensure that flood risk is taken into account at all stages in the planning process and is appropriately addressed.

2.2 Flood Zone Category

Development Advice Map (DAM)

The Welsh Government Development Advice Map (DAM) has been developed for land use planning purposes. It is based on Natural Resource Wales’ extreme flood outlines and the British Geological Survey drift data. The DAM should be used alongside Planning Policy Wales and Technical Advice Note (TAN) 15 to direct new development with respect to flood risk. Together, they form a precautionary framework to guide planning applications. The DAM is used as a screening tool by Local Authorities to understand where further assessment of flooding may be needed. The DAM has not been updated since 2020 and no further updates are planned due to implementation of the forthcoming and revised TAN15 during 2023. It is fair to say that implementation of the new / forthcoming TAN15 is in a transitional phase.

The site is located within **Zone C2** which defines areas;

‘Areas of the floodplain without significant flood defence infrastructure’ And;

‘Used to indicate that only less vulnerable development should be considered subject to application of justification test, including acceptability of consequences. Emergency services and highly vulnerable development should not be considered’

Flood Maps for Planning (FMFP) Wales

The Welsh Government was due to implement a revised TAN15 during 2023. This will be supported by the Flood Map for Planning (FMfP), which shows how climate change will affect flood risk extents over the next century. The map shows the potential extent of flooding assuming no defences are in place. The FMfP has no official status until the Welsh Government implements the revised TAN15. However, it does represent the *best available* source of information that NRW have on flood risk – and therefore is utilised by NRW to inform planning advice.

A review of the FMfP shows the site to fall within **Flood Zone 2 (Rivers)** which defines; *'Areas with 0.1% to 1% (1 in 1000 to 1 in 100) chance of flooding from rivers in a given year, including the effects of climate change'*

From pluvial sources (**Surface Water and Small Watercourses**); the site is located within **Flood Zone 1** which defines; *'Areas with less than (<) 0.1% (1 in 1000) chance of flooding from surface water and / or small watercourses in a given year, including the effects of climate change'*

The site is located within **Flood Zone 1 (Sea)** which defines; *'Areas with less than 0.1% (1 in 1000) chance of flooding from the sea in a given year, including the effects of climate change'*.

Refer to Appendix C.

3 SOURCES OF FLOODING AND PROBABILITY

3.1 Fluvial

The nearest surface water feature to the site is the **Afon Corrwg** which is located approximately 50m north west from the site at its nearest point. From here, it is culverted beneath a public highway bridge and flows south before discharging into the **River Afan** further downstream. Downstream of (and from the culverted watercourse location); the Afon Corrwg is classified as an NRW *Main River*. However, upstream of this the surface water feature is considered to be an *Ordinary Watercourse*. *Main Rivers* are usually larger streams and rivers but also include some smaller watercourses. In Wales, main rivers are legally designated by NRW. If you want to carry out works in, over, under or near a main river, or in a flood plain or flood defence (including a sea defence), you will need to apply for a Flood Risk Activity Permit. It can be concluded that the proposals are exempt from a Flood Risk Activity Permit. Reference to the FMfP indicates the site to fall in **Flood Zone 2 (Rivers)** which defines; *'Areas with 0.1% to 1% (1 in 1000 to 1 in 100) chance of flooding from rivers in a given year, including the effects of climate change'*. In their pre-application response (27/03/24) NRW have stated;

'From a technical view point the site is shown to be located outside of Flood Zone 3 and therefore is deemed to comply with A1.14 of TAN15, whilst the site is shown to be at fluvial flood risk in the 0.1% flood (Flood Zone 2) it is likely that due to the nature of the flood risk the site would comply with A1.15 of TAN15 in relation to flood depths. The flood risk to the site is considered to derive from the 'ordinary watercourse' at the eastern end of Bridge Street before it enters a culvert. We acknowledge that there is already a pre-existing highly vulnerable usage (residential) on the 1st floor of the building, we advise that the proposed development does not include any bedrooms on the ground floor. We would highlight the need for an FCA to identify the flood risk to the site and provide a form of flood management plan to the satisfaction of the LPA. Whilst the potential flood depths to the site would not be expected to be considered significant, the velocities of flood water running down bridge street mean that should the inlet to the aforementioned culvert become blocked or the culvert be overwhelmed by flood flows then impact of flooding would occur quickly with little warning'.

There are no records or incidents of historical flooding at the site or within the vicinity. LiDAR DTM Spot Levels record and indicate a level of **214.49m AOD** from within the **Afon Corrwg** channel. When this is compared to the existing FFL; then (and in the highly unlikely event the watercourse breached its banks and flooded Bridge Street) – inundation waters would need to rise in the order >4m for the property to be at risk of internal flooding. Furthermore, from using **Google's Streetview** mapping tool it is evident that there are raised stone masonry walls along the banks of the watercourse at this location and indeed also between the potential source of flood risk and the property in question which provide additional freeboard and informal flood defences.

Refer to Figure 3, overleaf.

These are of particular relevance when the mode and mechanisms of flooding are considered and as have been assessed from the modelled data. Mapped outputs are included overleaf, for reference.



Figure 3: Google Streetview Image Extracts

Flood Model

As aforementioned; the NRW have deemed that the model should not be used to quantitatively inform flood risk in detail. However, it has been observed and interrogated to better understand the potential mode and mechanisms of flooding during an extreme event. The received files lack any grids for interrogation other than the Q1000 event. **Refer to Figure 4**, below which illustrates the maximum flood extent and depths (m) from the Q1000 modelled event.

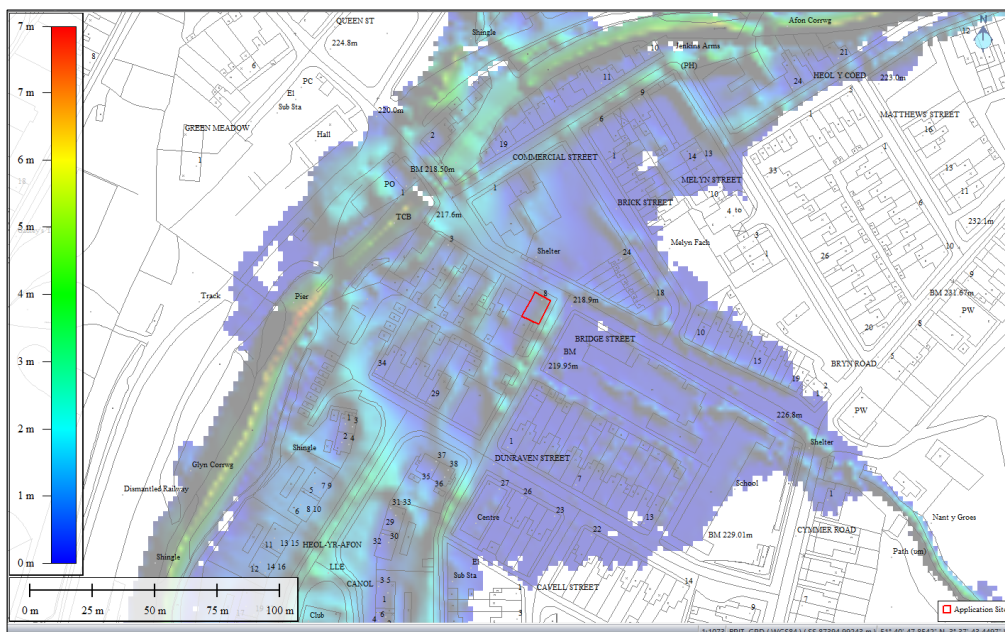


Figure 4: Maximum Flood Extents and Depth (m) during the Q1000 Flood Modelled Event

Interrogation of flood depths reveals that the maximum estimated flood depth at the site during the 0.1% Annual Event Probability (AEP) is **0.36 m**. Refer to Figure 5, below / overleaf.

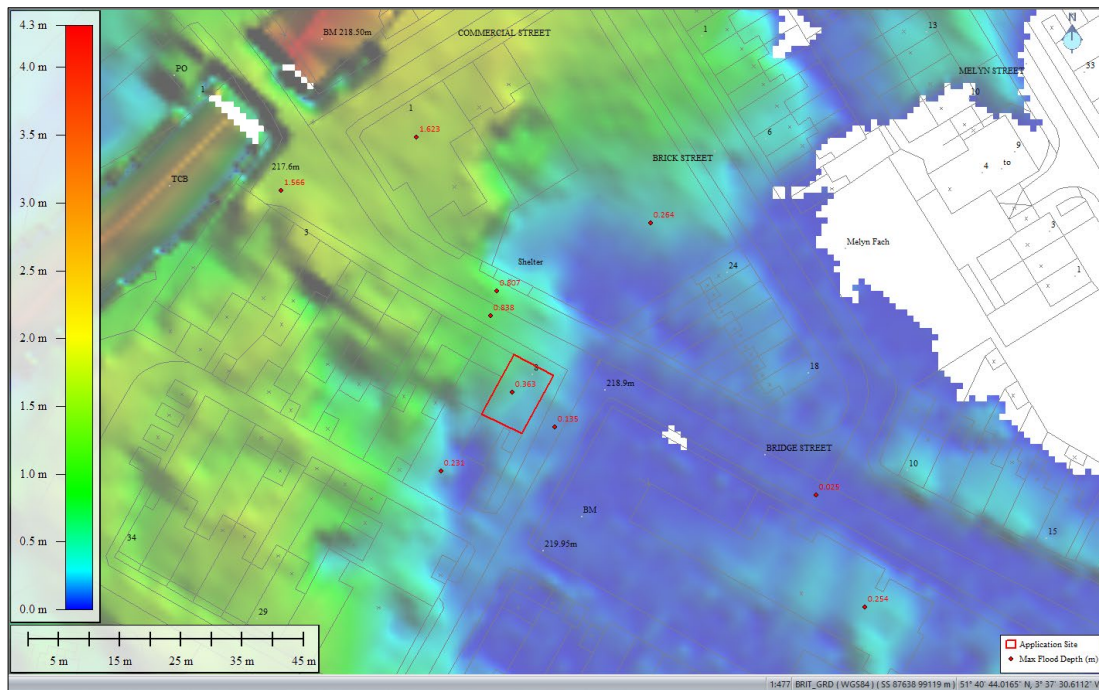


Figure 5: Maximum Flood Extents and Depth (m) during the Q1000 Flood Modelled Event

The corresponding recorded maximum estimated velocities are illustrated in **Figure 6**, below. A maximum inundation velocity of **0.289 m/s** is recorded at the site.

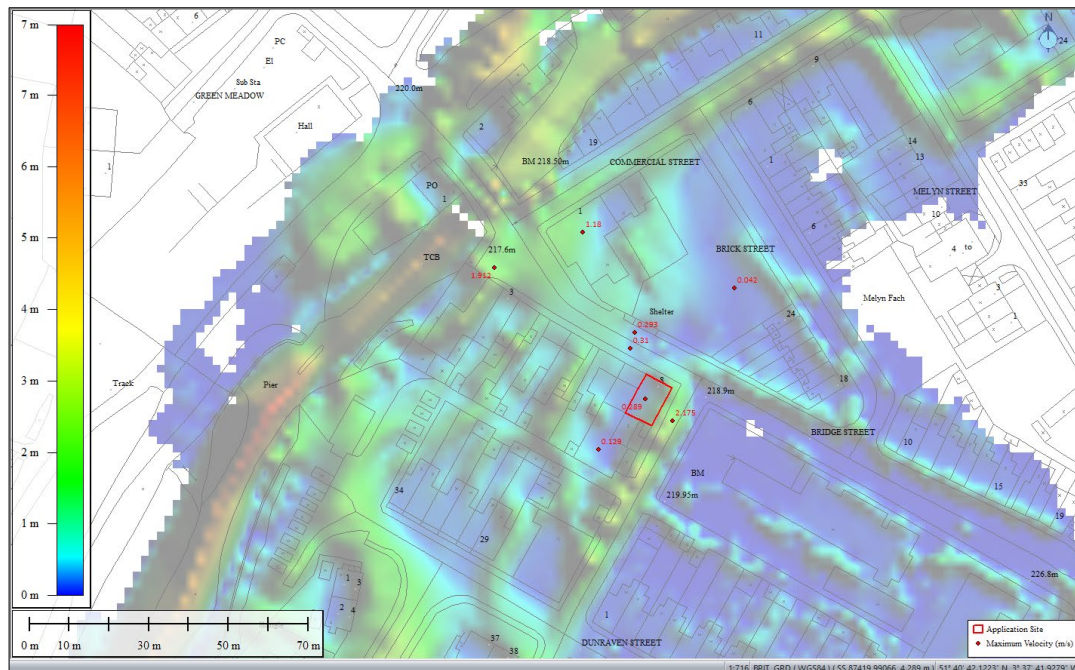


Figure 6: Maximum Flood Extents and Velocities (m/s) during the Q1000 Flood Modelled Event

The depth and velocity values are within (below) the maximum indicative thresholds of allowable (expected) flooding stipulated by A1.15 of TAN15. In their correspondence (above) the NRW clarify that the site is compliant with A1.14 of TAN15 based upon the best available source of information which should be used to inform the report and flood risk; i.e., the FMfP.

It can be concluded that the site is at **Low** risk of fluvial flooding. Refer to Appendix C.

3.2 Tidal

Reference to the FMfP indicates the site to fall in **Flood Zone 1 (Sea)** which defines; '*Areas with less than 0.1% (1 in 1000) chance of flooding from the sea in a given year, including the effects of climate change*'. Because the site is located significantly in-land (>16km) and is at levels in the region >200m AOD it is not currently considered to be at risk of / from Tidal Flooding. Furthermore, the fluvial catchment here is not tidally influenced.

3.3 Surface Water and Small Watercourse (Pluvial)

Surface water (or pluvial) flooding occurs when rainwater does not drain away through the normal drainage system or soak into the ground. It is usually associated with high intensity rainfall events but can also occur with lower intensity rainfall or melting snow where the ground is saturated, frozen or developed, resulting in overland flow and ponding in depressions in topography. Surface water flooding can occur anywhere without warning. However, flow paths can be determined by consideration of contours and relative levels. The FMfP indicates the extent of flood risk from Surface water and Small watercourses (*Pluvial*). The application site is located within **Flood Zone 1** (pluvial). **Flood Zone 1** defines areas with less than a 0.1% (1 in 1000) chance of flooding from pluvial sources in a given year, including the effects of climate change.

There are no distinct flow routes in the area which would direct any excess surface water towards the site. Any excess surface water would be conveyed west, away from the site and following the natural fall in topography. The site and wider local area are served by a reliable, effective and longstanding surface water drainage system. There are no records or incidents of historical pluvial flooding at the site or within the vicinity.

Immediate site access / egress (north and east) is shown to be located within **Flood Zone 2** (*Pluvial*) which defines *Areas with between 0.1% to 1% (1 in 1000 to 1 in 100) chance of flooding from surface water and / or small watercourses in a given year, including the effects of climate change.*

During a high frequency, low severity event (1 in 30 AEP event) the site and access from Bridge Street remain flood free from a surface water flooding event.

During a medium frequency, medium severity event (1 in 100 – 1 in 1000 AEP event) the site and access from Bridge Street remain flood free from a surface water flooding event.

During a low frequency, high severity event (1 in 1000 AEP event) , depths at the site are typically in the region of 0.00 – 0.12 m with velocities in the region of 0.00 – 0.80 m/s . Depths on the access to Bridge Street are typically in the region of 0.00 – 0.04 m with velocities expected to be in the region of 0.00 – 0.72 m/s.

Therefore, It can be concluded that the site is at **Low** risk of flooding arising / sourced from surface water and small watercourses. **Refer to Appendix C.**

3.4 Sewer Flooding

Flooding from sewers can occur when a sewer is overwhelmed by heavy rainfall, becomes blocked, is damaged, or is of inadequate capacity. There are no known records of notable flooding from sewers at the site or in the near vicinity. There are no distinct flow routes in the area which would direct any potential flooding arising from the local sewer network serving the area. It can be concluded that the risk of sewer flooding to the site is **Low**.

3.5 Groundwater Flooding

Groundwater flooding occurs when water levels underneath the ground rise above normal levels. Prolonged heavy rainfall soaks into the ground and can cause the ground to become saturated. This results in rising groundwater levels which leads to flooding above ground. There are no known records of groundwater flooding incidents at or near to the site. The existing and proposed sites are overlain predominantly by

hardstanding which would prevent the ingress of groundwater to the surface. Therefore, it can be concluded that the risk of groundwater flooding is **Low**.

3.6 Artificial Sources of Flooding

There are no canals or other artificial / man-made surface water bodies within the immediate vicinity of the site or surrounding area which would pose a flood risk to the site. The NRW 'Risk of Flooding from Reservoirs' map (**Appendix C**) shows that the site is not currently at risk of flooding from reservoirs, even should critical infrastructure fail. Furthermore, the risk of flooding from reservoirs is extremely unlikely to happen. All large reservoirs must be inspected and supervised by a reservoir panel engineer, as the enforcement agency the NRW ensure that reservoirs are inspected regularly, and essential safety work carried out. It can be concluded that the probability of flooding from artificial sources is **Low**.

3.7 Summary of Potential Flooding

It can be concluded that *Fluvial* flooding from the **Afon Corrwg** poses the most significant flood risk to the site at present, albeit a **Low** risk. Proper and thorough adoption of recommendations and mitigation measures should ensure that any identified / perceived risk become residual. *Tidal* sources don't currently pose a flood risk to the site.

All other potential sources, modes and mechanisms of flooding have been considered and are deemed to pose either a **Low**, **Residual** or **No** flood risk to the site.

There are no records or incidents of any historic flooding at the site, nor within the vicinity.

4 TAN15 ASSESSMENT

4.1 Justifying the Location

As previously mentioned, the site falls within **Zone C2** of the NRW DAM map which is defined as:

'Areas of the floodplain without significant flood defence infrastructure' And;

'Used to indicate that only less vulnerable development should be considered subject to application of justification test, including acceptability of consequences. Emergency services and highly vulnerable development should not be considered'.

Figure 1 of TAN15 advises that **Zone C2** is used to indicate area that only 'Less Vulnerable' Development should be considered, subject to application of the justification test, including acceptability of consequences.

However, in this case NRW have acknowledged (in their response) that; although the site is wholly within Zone C2 it is compliant with TAN15 using the FMfP, which should be used as the best available information on flood risk; *'From a technical view point the site is shown to be located outside of Flood Zone 3 and therefore is deemed to comply with A1.14 of TAN15, whilst the site is shown to be at fluvial risk in the 0.1% flood (Flood Zone 2) it is likely that due to the nature of the flood risk the site would comply with A1.15 of TAN15 in relation to flood depths. The flood risk to the site is considered to derive from the 'ordinary watercourse' at the eastern end of Bridge Street before it enters a culvert. We acknowledge that there is already a pre-existing highly vulnerable usage (residential) on the 1st floor of the building, we advise that the proposed development does not include any bedrooms on the ground floor. We would highlight the need for an GCA to identify the flood risk to the site and provide a form of flood management plan to the satisfaction of the LPA. Whilst the potential flood depths to the site would not be expected to be considered significant, the velocities of flood water running down bridge street mean that should the inlet to the aforementioned culvert become blocked or the culvert be overwhelmed by flood flows then impact of flooding would occur quickly with little warning.'*

The site and proposals are deemed to meet the requirements of / for and therefore 'pass' the *Justification Test*. Refer to Appendix D.

Policy 6 of TAN15, *Justifying the location of development* states; 6.1 *Much urban development in Wales has taken place alongside rivers and in the coastal plain. It is therefore inevitable, despite the overall aim to avoid flood risk areas, that some existing development will be vulnerable to flooding and fall within zone C. Some flexibility is necessary to enable the risks of flooding to be addressed whilst recognising the negative economic and social consequences if policy were to preclude investment in existing urban areas, and the benefits of reusing previously developed land. Further development in such areas, whilst possibly benefitting from some protection, will not be free from risk and could in some cases exacerbate the consequences of a flood event for existing development and therefore a balanced judgement is required.*

Policy 7 'Assessing flooding consequences' of TAN15 states; 7.1 *If a development proposal in zone C1, or in C2 if it is defined as being of low vulnerability, meets the test outlined in section 6, the justification will be in the knowledge that those developments will flood and will need to be planned accordingly. This section will apply in zone C, and those parts of zone B where flooding has been identified as a material consideration to allow for localised problems.*

The proposals offer a good opportunity to make the existing property more resilient and resistant to climate change and accompanying increase (generally) in flood risk. This is in line with the aims and objectives of the LDP and in particular their definition of *Sustainable Development*.

5 MITIGATION & RECOMENDATIONS

The site is at risk from *Fluvial* flooding, albeit a **Low** risk. Having said this; the site and property are in relatively close proximity to the source of flooding and in the unlikely event the watercourse flooded and burst its banks; then the time window for inundation of the site would be small. Therefore, this section of the report is of particular relevance.

Site owners and residents should ensure that sandbags are always kept on site. Preferably in a stockpile. Local Authorities should have a stockpile. Alternatively, you can get your own from some DIY or building supplies shops.

The site is deemed to be at either **Low / Residual / No** risk of flooding from all of the other potential sources assessed including *Tidal* and *Surface Water and Small Watercourses* (or *Pluvial*).

Taking a precautionary approach and as an additional factor of safety, mitigation measures should be incorporated into the proposed development to ensure that development is as safe as possible and there is:

- Minimal risk to life;
- Minimal disruption to people living and working in the area;
- Minimal potential damage to property;
- Minimal impact of the proposed development on flood risk generally; and,
- Minimal disruption to natural heritage.

External alterations should be considered. For instance, commercial flood guards (barriers) are available and should be fitted to doorways. They can be applied and removed as and when by site users / residents and can provide a protection and freeboard to inundation waters up to 0.6m and will prevent the ingress of waters to properties thus minimising and avoiding any potential internal / material damage. Other products which would protect the dwellings from inundation include flood fences, flood doors and air bricks.

Additional *internal* alterations that should be introduced where practically possible to the development include:

- Raised electronic control units and sockets;
- Install smart air bricks or air brick covers;
- Provide low level flood guards on all access points;
- Use plastic and stainless-steel fixtures and fittings and avoid wooden alternatives;
- Use solid flooring (tiled, resin, concrete) at lower ground level, where possible;
- Ensure that with the time afforded by advance warning, evacuation of property via safe egress and removal of valuables from the building can be implemented;
- Clearance of any existing surface water drainage system to improve drainage of the site and follow necessary maintenance procedures (to new and existing surface water drainage) to ensure that the system functions to optimum capacity;
- The predicted depths, rise, speed of inundation and velocities are likely to satisfy the TAN15 suggested tolerable conditions for more extreme events;
- Use robust flood resistant construction techniques.

All construction methods to be inherently flood resilient. For example, polished concrete floors preferable to plasterboard. It is helpful to refer to *BS85500: 2015, Flood resistant and resilient construction. Guide to improving the flood performance of buildings*.

In-fact, and in terms of this statement; the development proposals raise a good opportunity to make the site and property more resilient and resistant to climate change and flooding.

If you live in a flood risk area, or you have flooded before, consider getting a chartered surveyor to carry out a flood survey. This will tell you where flood water might enter your property, how fast it will flow and where it could cause the worst damage. The surveyor can then use this information to help you choose the best flood protection for your property. Ensure to choose BSI kitemark certified flood protection products that meet the British standard for quality and safety. You can also follow the guidance and checklists in the property resilience Code of Practice to make sure the survey, installations or building work are completed to the correct standard.

Check Insurance

- Confirm you are covered for flooding (ask your insurance provider, landlord or letting agent);
- Find out if the policy replaces new for old, and if it has a limit on repairs;
- Don't underestimate the value of your contents;
- Take photos of your property and make a list of your belongings to help with future potential insurance claims.

Flood Alerts and Warnings

NRW Flood Alerts cover the site however, Flood Warnings do not. **Refer to Figure 7, overleaf.**

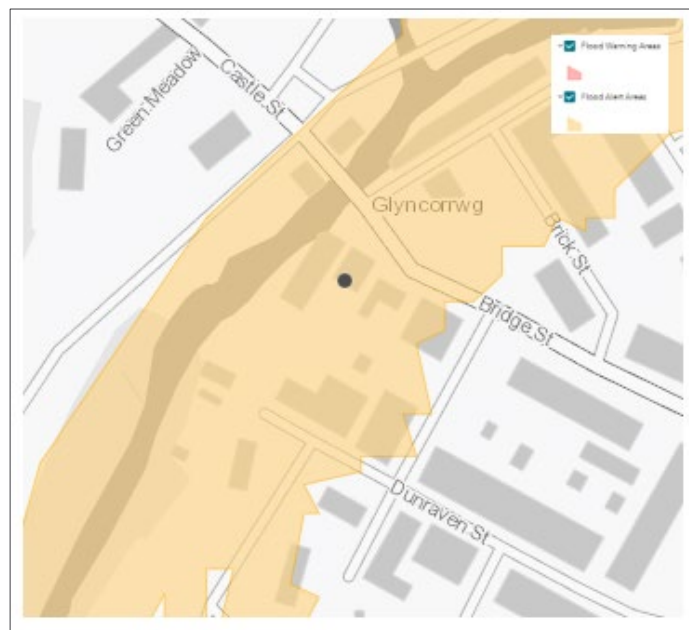


Figure 7: NRW Flood Alert and Warning Coverage

Site owners and residents / occupants should register to receive Flood Alerts. Flood Warnings Direct is a free service that provides prior warnings of a fluvial flood event. Areas at risk of flooding from rivers (fluvial) and the sea (tidal) are warned, which relies on direct measurements of rainfall, river levels, tide levels, in-house predictive models, rainfall data and information from the Met Office. This service operates 24 hours / day 365 days a year. If flooding is forecast, warnings are issued using a set of easily recognisable codes.

Site owners and residents / occupants should register to receive Flood Warnings, should coverage become available for the site in the future. Appropriate documentation should be displayed to inform any users of the site of the potential risk from potential *Fluvial* flooding. Documentation will be displayed at an appropriate position in the building. The documentation will indicate the risk of flooding and contain information on how prior warnings will be sent to the building. Further information on the documentation will comprise of the

Floodline Warnings Direct telephone number, emergency services numbers and exit plans and egress directions from the hall, as identified in the evacuation procedure for the site. **Refer to Figure 8, below.**



Figure 8: Proposed Flood Evacuation Route Plan

Access and Egress

Safe access / egress is provided by Bridge Street (due south east) and then south along Cymmer Road to an area outside of the extreme flood extents, away from the potential source of flooding and of / to higher ground. An alternative but similar potential evacuation route is directly south from the site along an unnamed highway towards Dunraven Street which also leads to Cymmer Road to an area outside of the extreme flood extents and away from the potential source of flood risk. Glyncorrwg Hall (green) offers a good venue for safe refuge. Site access is good, unrestricted and allows for access and egress of emergency vehicles.

In the highly unlikely event of the site flooding without any prior warning (i.e. breach / failure of defences / channel capacity); site occupants / residents should seek safe refuge on the upper floors which will be at least 2.4m above the FFL / surrounding ground levels and well above any and all DFLs during critical events.

A Flood Risk Mitigation and Management plan ought to be undertaken for the site.

The site owner should draw up a detailed evacuation procedure for implementation during an extreme event. This should be done in conjunction with the appropriate professional bodies. An evacuation procedure should be drawn up after the developer has completed an action plan. The action plan is carried out and based on an assessment of the consequences of an extreme flood on the building.

The evacuation procedure should be a written document which should outline the course of action to site users during a flood. Neath Port Talbot Council Emergency Planning department should be consulted in regards to the evacuation plan and procedure.

The evacuation procedure should address the following topics:

- A list of important contacts, building services, suppliers and evacuation contacts for officers and users;
- A description or plan showing locations of key property, protective materials and service shut-off points;
- Basic strategies for protecting property and assisting recovery;
- Checklist of procedures that can be quickly accessed by users during a flood;
- Safe exit-plan (building and site);
- Safe exit route to higher ground outside the flood risk area (building and site), kept and displayed on site.

5.1 Finished Floor Level (FFL)

In accordance with Building Regulations, finished floor levels (FFL) should be set 150mm above surrounding ground levels. The raising of FFLs / ground re-profiling to alleviate flood risk is not considered necessary or appropriate.

An existing FFL of approximately **218.54m AOD** has been assumed and informed by 1m resolution LiDRA DTM.

5.2 Impact on Flood Risk Elsewhere

The development will not increase flood risk elsewhere or to third party land / infrastructure. For instance; there will be no loss of floodplain / storage. The proposals are limited to internal works including reconfiguration and refurbishment of what is currently a dilapidated and disused building which, for want of a better phrase; would otherwise be wasted economic space.

The proposals within the constraints of the wider site boundary; are for '*Less Vulnerable*' development on *Brownfield* Land which is already overlain by 100% impermeable (hardstanding) surfaces. Any displaced water would behave in exactly the same manner as it does / would at current. In this sense – the proposals are (externally) like-for-like and non-intrusive.

The proposals are not subject to a SAB application which highlights the fact that the works would not have an effect on the surrounding flood plain and / or current modelled mode and mechanisms of flooding comprising the potential (albeit Low) *Fluvial* flood risk to the site.

5.3 Hydraulic Modelling

The small size and nature of the scheme (which is limited to internal works and re-configuration) of an existing dilapidated and disused property does not warrant additional independent hydraulic modelling which would be out of proportion especially following the conclusions of this report. However, should and when flood modelled information / data coverage from the nearby watercourse become available; it should be reviewed to inform and amend (if necessary) the Flood Mitigation and Management Plan.

6 CONCLUSIONS

The proposals are for the conversion and therefore *change of use* of the Ground Floor from café (disused) to communal general amenity areas associated with the residential occupancy on the First Floor. The proposals indicate a lounge (sitting area), kitchen and dining area upon the Ground Floor. The proposals include the reconfiguration and refurbishment of the first floor which will be divided into 3-bedrooms and a bathroom.

The NRW DAM map shows the site to fall within **Zone C2**.

A review of the FMfP shows the site to fall within **Flood Zone 2 (Rivers)** which defines; '*Areas with 0.1% to 1% (1 in 1000 to 1 in 100) chance of flooding from rivers in a given year, including the effects of climate change*'

From pluvial sources (**Surface Water and Small Watercourses**); the site is located within **Flood Zone 1** which defines; '*Areas with less than (<) 0.1% (1 in 1000) chance of flooding from surface water and / or small watercourses in a given year, including the effects of climate change*'

The site is located within Flood Zone 1 (Sea) which defines; '*Areas with less than 0.1% (1 in 1000) chance of flooding from the sea in a given year, including the effects of climate change*'.

It can be concluded that *Fluvial* flooding represents the greatest potential flood risk to the site, albeit a **Low** risk.

In their comments; NRW confirm that the site and proposals are compliant with A1.14 of TAN15. The modelled results indicate compliance with A1.15 of TAN15.

The potential consequences of flooding across the lifespan expectancy of the development have been considered and are deemed to be acceptable and manageable. The developer wholly accepts the potential risks and inherent consequences of flooding here.

All other potential sources of flooding have been assessed and are concluded to be either **Low, Residual risk** or **Null**.

The area is served by Flood Alerts and a safe evacuation route along with safe refuge areas have been identified. Notwithstanding the additional mitigation measures outlined in the report.

The proposals will not result in an increase in flood risk elsewhere or to third party land / infrastructure.

The proposals are fully compliant with the guidance and principles laid out in TAN15 and PPW. The proposals concur with the aims and objectives of the LDP.

The level of detail and content of the FCA are commensurate with the scale and nature of the proposed works.

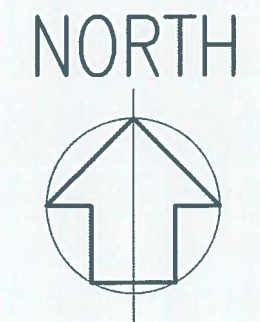
The proposals are not subject to a successful SAB Application. All drainage infrastructure to be retained and designed and constructed in accordance with national and regional policy, guidance and legislation.

The risk of flooding to the development proposal has been addressed and a balanced judgement has been applied in recognising the potential consequences of flooding.

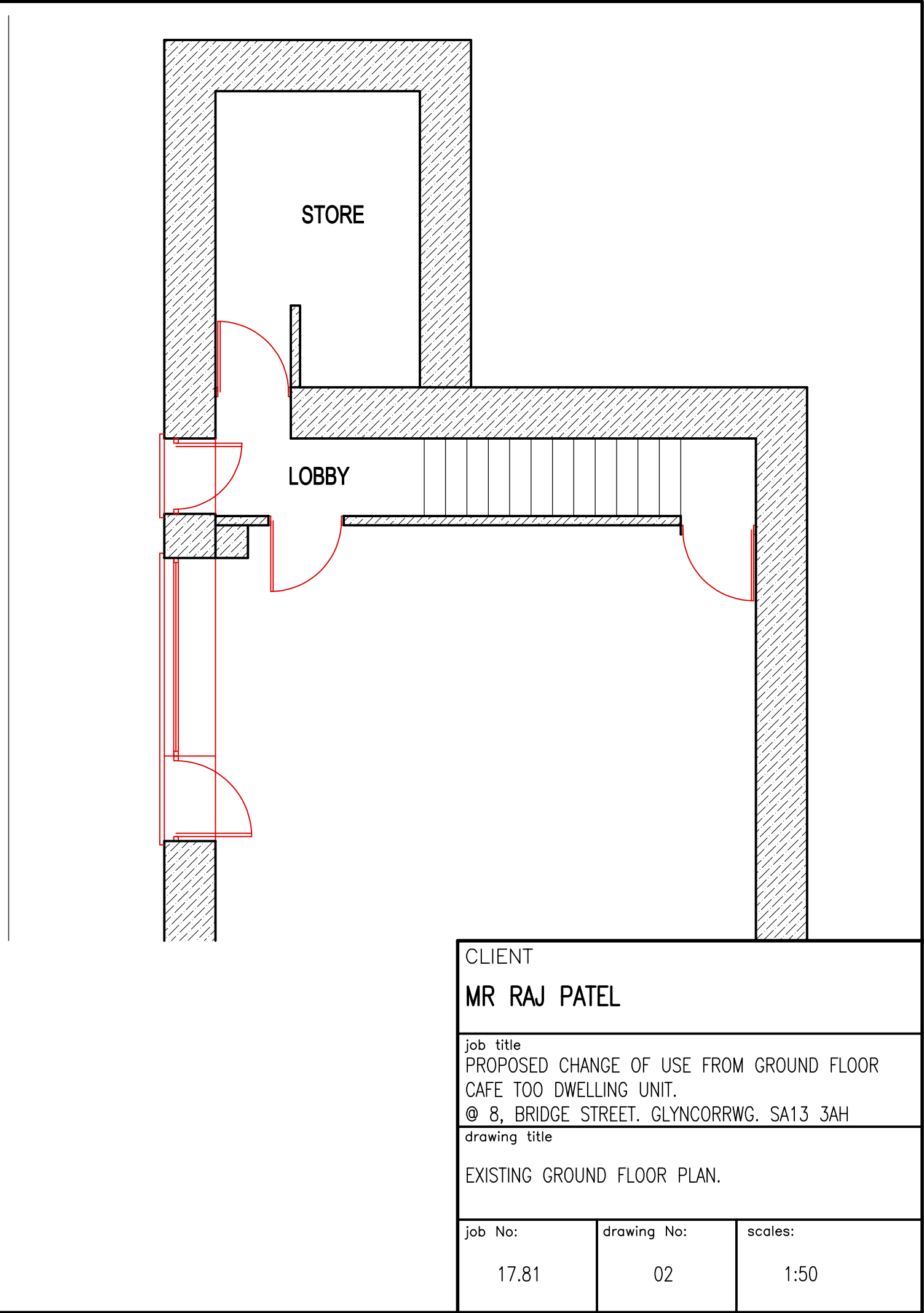
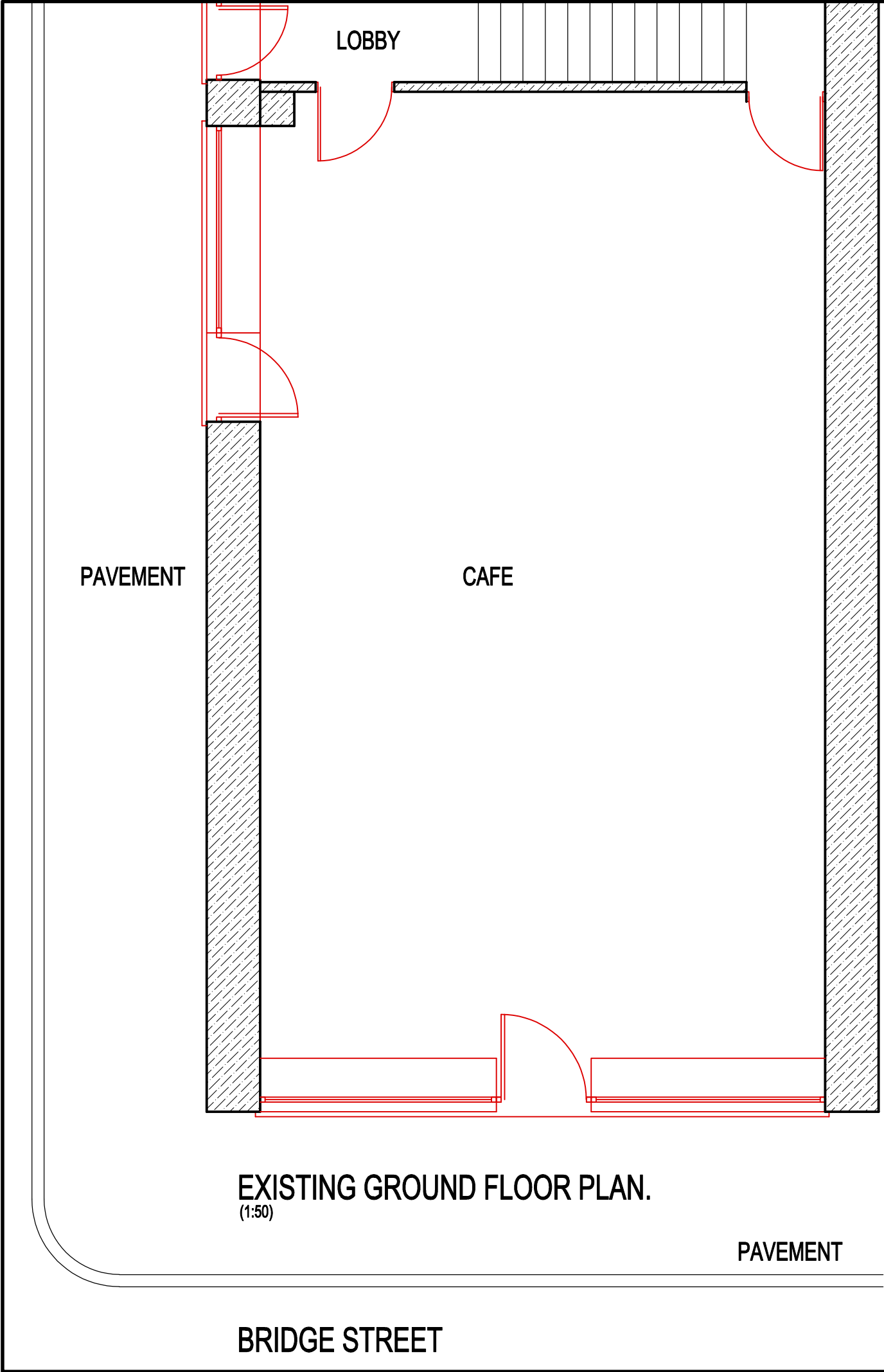
The site meets the definition of *Previously Developed (Brownfield) Land*.

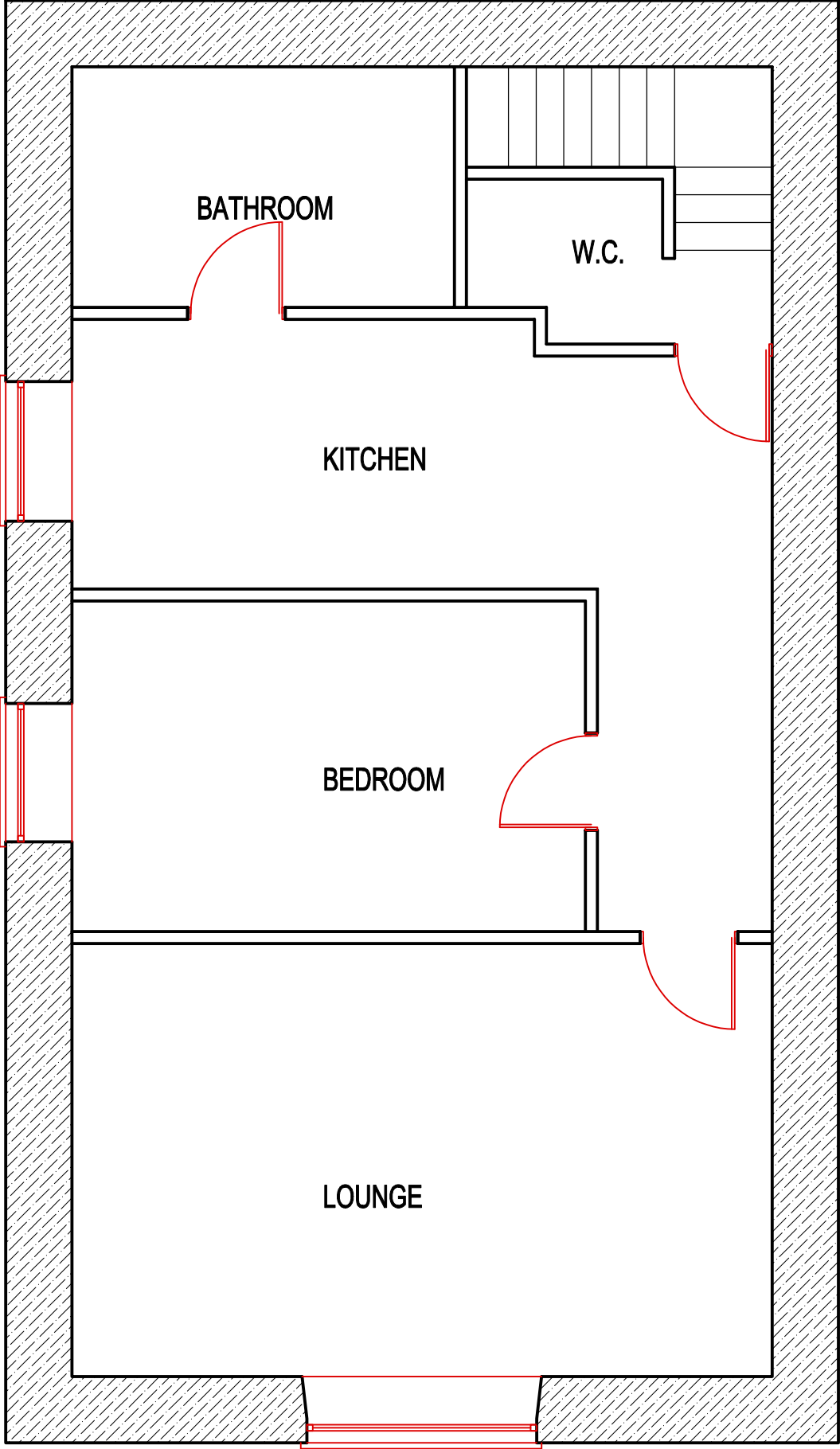
The site and proposals meet and therefore pass and fulfil the requirements of the *Justification Test*. There is very limited scope for alternative development of the site which will make the best use of the available, disused space.

APPENDIX A: Existing Site and Proposed Plans



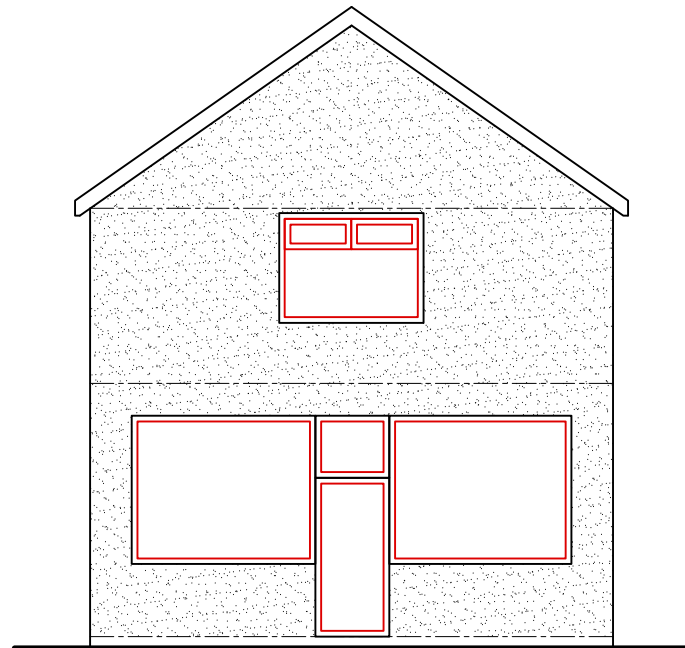
CLIENT		
MR RAJ PATEL		
job title PROPOSED CHANGE OF USE FROM GROUND FLOOR CAFE TO DWELLING UNIT. @ 8, BRIDGE STREET. GLYNCORRWG. SA13 3AH		
drawing title LOCATION/BLOCK PLAN.		
job No:	drawing No:	scales:
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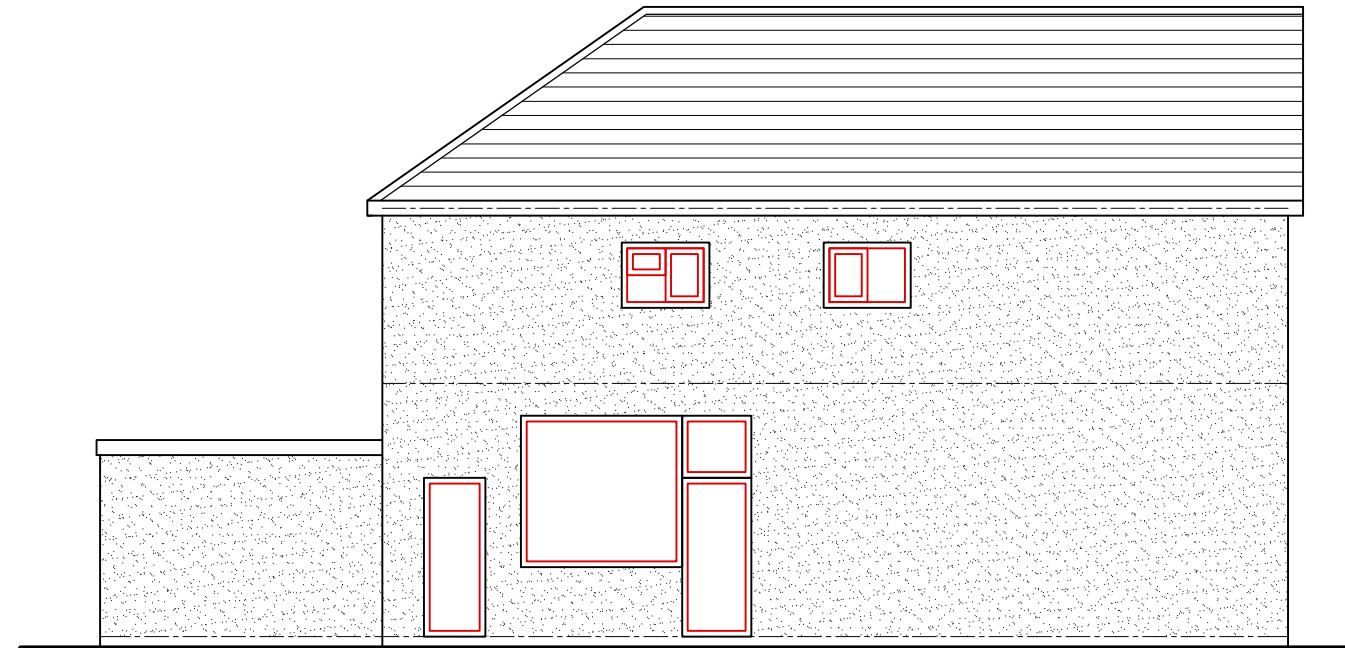


EXISTING FIRST FLOOR PLAN.
(1:50)

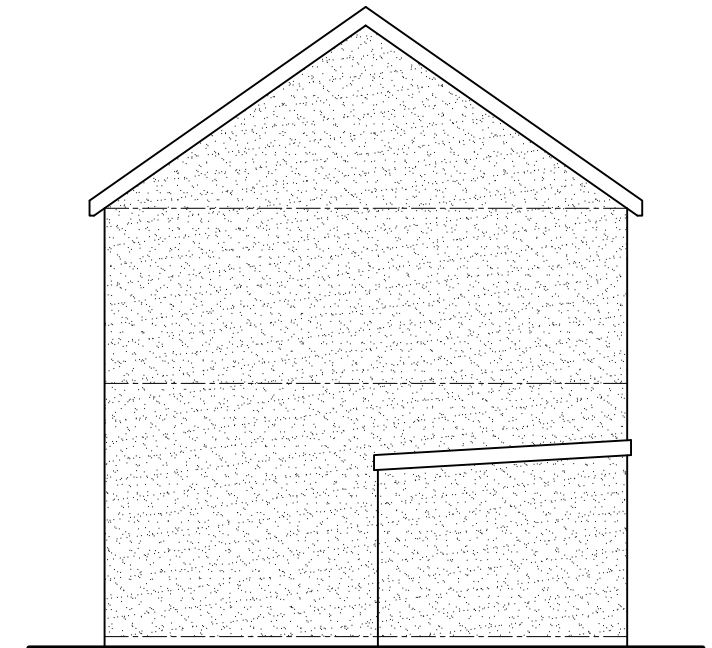
CLIENT		
MR & MRS RAJ PATEL		
job title		
PROPOSED CHANGE OF USE FROM GROUND FLOOR CAFE TOO DWELLING UNIT.		
@ 8, BRIDGE STREET. GLYNCORRWG. SA13 3AH		
drawing title		
EXISTING FIRST FLOOR PLAN.		
job No:	drawing No:	scales:
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EXISTING FRONT ELEVATION.
(1:100)



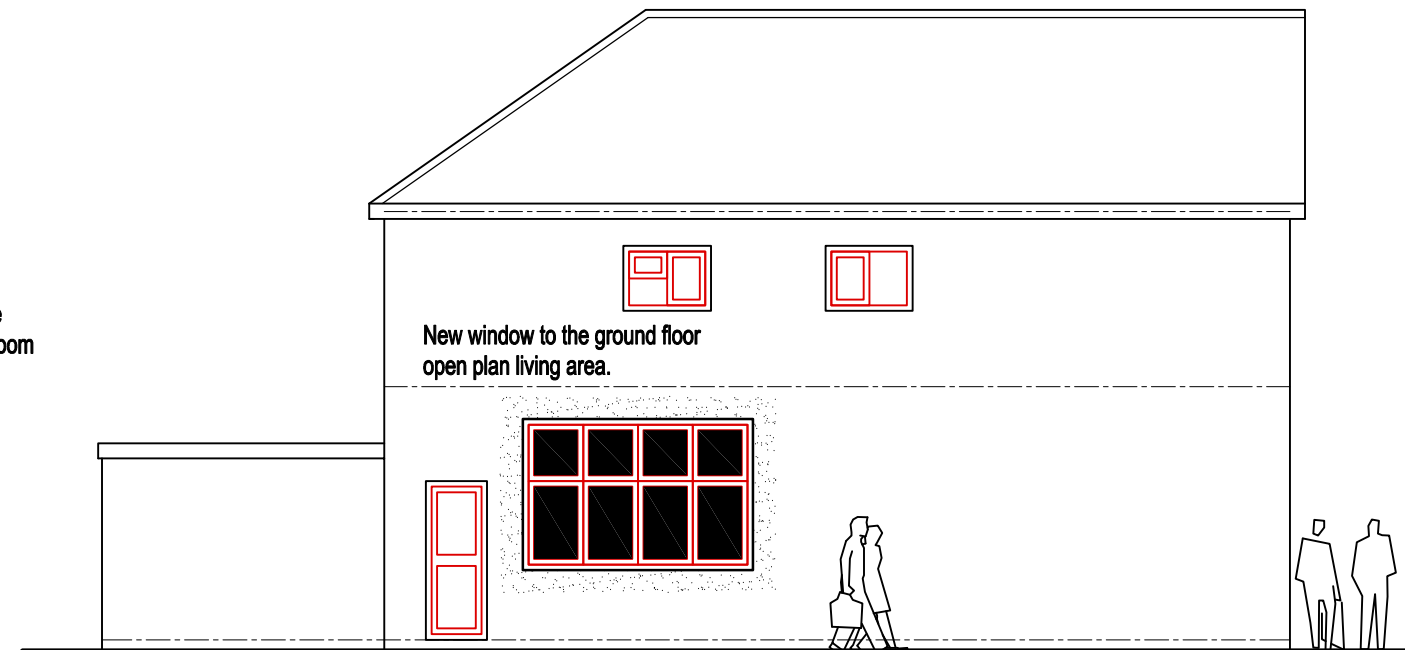
EXISTING SIDE ELEVATION.
(1:100)



EXISTING REAR ELEVATION.
(1:100)



PROPOSED FRONT ELEVATION.
(1:100)

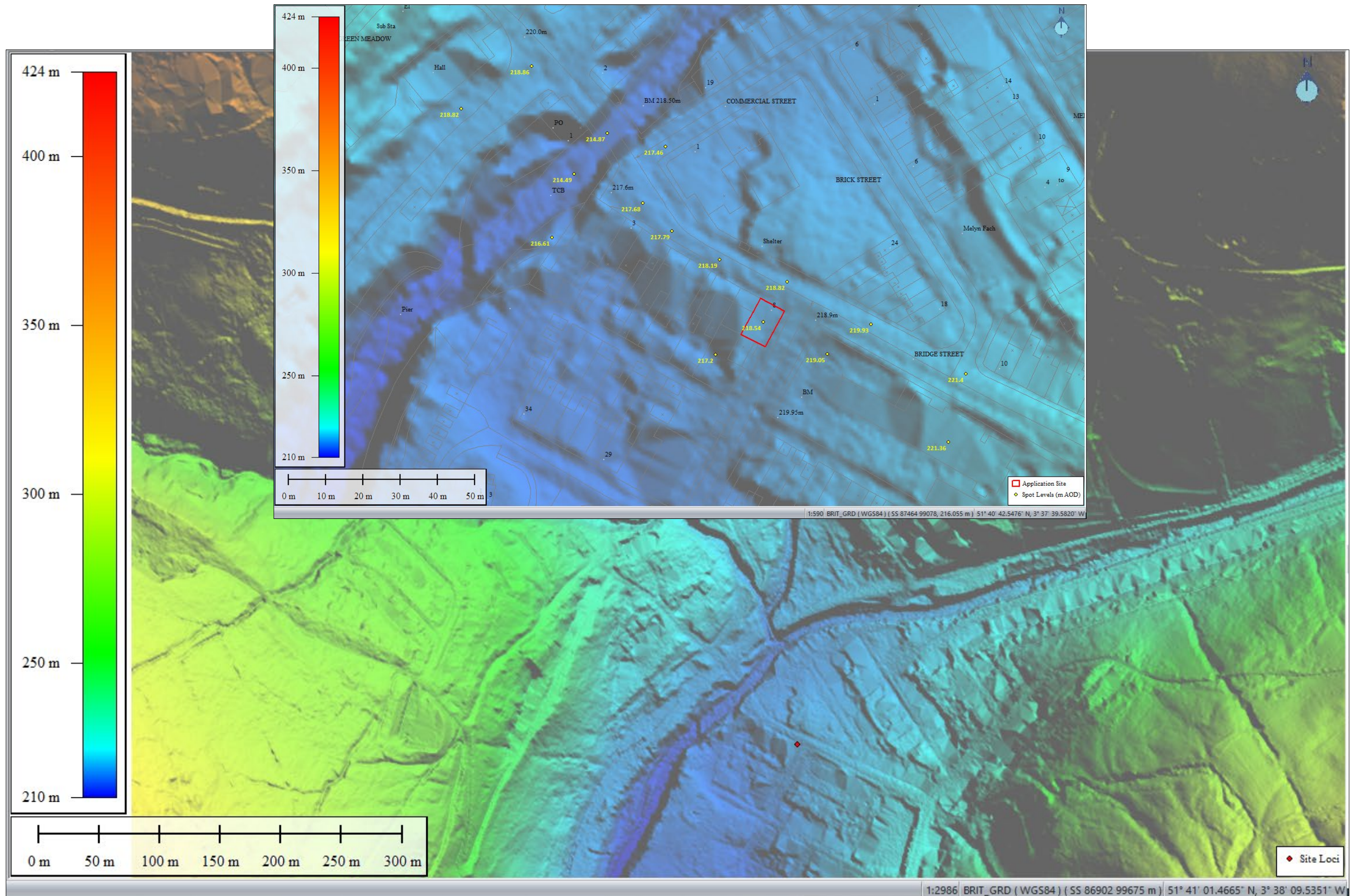


PROPOSED SIDE ELEVATION.
(1:100)

CLIENT		
MR RAJ PATEL		
job title PROPOSED CHANGE OF USE FROM GROUND FLOOR CAFE TOO DWELLING UNIT. @ 8, BRIDGE STREET. GLYNCORRWG. SA13 3AH		
drawing title EXISTING & PROPOSED ELEVATIONS		
job No:	drawing No:	scales:
17.81	06	1:100

APPENDIX B: LiDAR Extract

19710 – 8 Bridge Street, Glyncorrwg



NRW 1m Resolution LiDAR Extract Digital Terrain Model (DTM) of the site and wider catchment including Spot Levels to metres above Ordnance Datum (m AOD)

APPENDIX C: NRW Flood Maps and Correspondence

Paul Watkin
PDW Building Designs

Ein cyf/Our ref: CAS-251419-M9T9
Eich cyf/Your ref: P2024/0039

Dyddiad/Date: 27 March 2024

Annwyl/Dear Mr Watkins

BWRIAD/PROPOSAL: PRE-APPLICATION ADVICE (FREE) FOR Change of use from a ground floor Cafe to one dwelling with living space on Ground level and bedrooms at first floor.

LLEOLIAD/LOCATION: 8 BRIDGE STREET, GLYNCORRWG, PORT TALBOT, NEATH PORT TALBOT.

Thank you for consulting Cyfoeth Naturiol Cymru / Natural Resources Wales about the above pre-application enquiry, which we received on 13/03/24.

We have considered your enquiry in relation to our Development Planning [Consultations Topics](#) document (September 2018). We advise the following matters are relevant to your site / proposed development and suggest you consider these further prior to the submission of any planning application:

Flood Risk

The application site is wholly within DAM Zone C2, from a policy point of view it would be a matter for the LPA to decide from a policy perspective.

From a technical view point the site is shown to be located outside of Flood Zone 3 and therefore is deemed to comply with A1.14 of TAN15, whilst the site is shown to be at fluvial flood risk in the 0.1% flood (Flood Zone 2) it is likely that due to the nature of the flood risk the site would comply with A1.15 of TAN15 in relation to flood depths. The flood risk to the site is considered to derive from the 'ordinary watercourse' at the eastern end of Bridge Street before it enters a culvert.

We acknowledge that there is already a pre-existing highly vulnerable usage (residential) on the 1st floor of the building, we advise that the proposed development does not include any bedrooms on the ground floor.

We would highlight the need for an FCA to identify the flood risk to the site and provide a form of flood management plan to the satisfaction of the LPA.

Whilst the potential flood depths to the site would not be expected to be considered significant, the velocities of flood water running down bridge street mean that should the inlet to the aforementioned culvert become blocked or the culvert be overwhelmed by flood flows then impact of flooding would occur quickly with little warning.

Other Matters

Please note, the view expressed in this letter is a response to a pre-planning enquiry only. We trust these comments will prove helpful, but they should not set a precedent for any future Natural Resources Wales' response to any formal application for planning permission or other legal consent. Such applications shall be assessed on the information submitted and regulations of relevance at that time. The details contained in this letter are based on the information available to date.

As part of our discretionary advice service we can provide further advice relating to land contamination, groundwater and flood risk prior to your planning application being submitted. There is a charge for this service. Further details are available on our [website](#).

If you have any queries on the above, please do not hesitate to contact us.

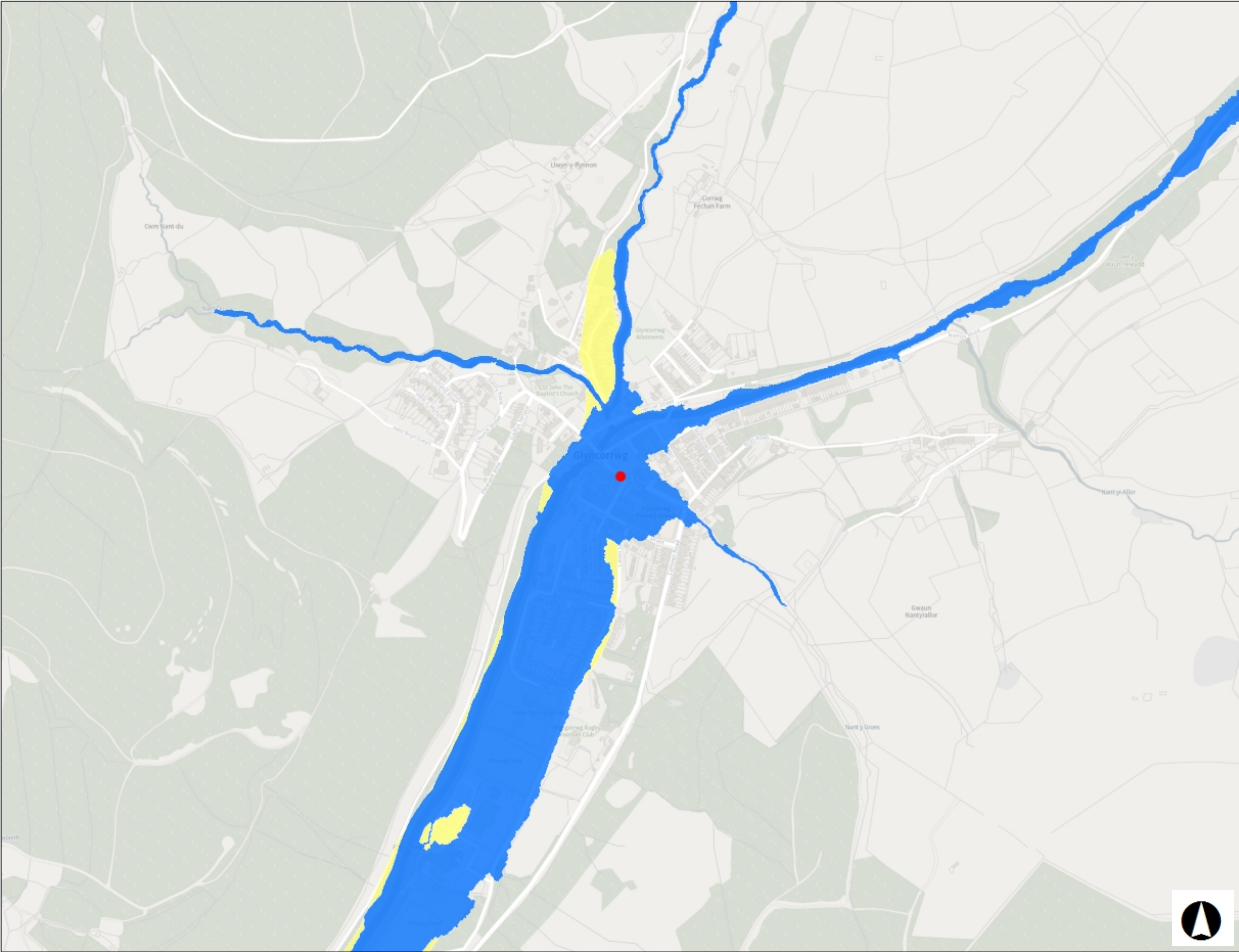
Yn gywir / Yours faithfully

Scott O'Connor

Cynghorydd - Cynllunio Datblygu/Advisor - Development Planning
Cyfoeth Naturiol Cymru/Natural Resources Wales

E-bost/E-mail: swplanning@cyfoethnaturiolcymru.gov.uk
Ffôn/Phone: 03000 65 4183

Croesewir gohebiaeth yn Gymraeg a byddwn yn ymateb yn Gymraeg, heb i hynny arwain at oedi./Correspondence in Welsh is welcomed, and we will respond in Welsh without it leading to a delay.



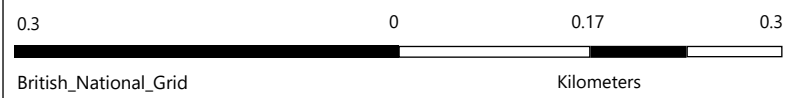
19710 - NRW DAM

Allwedd / Map Key

- Zone C1
- Zone C2
- Zone B
- Zone A

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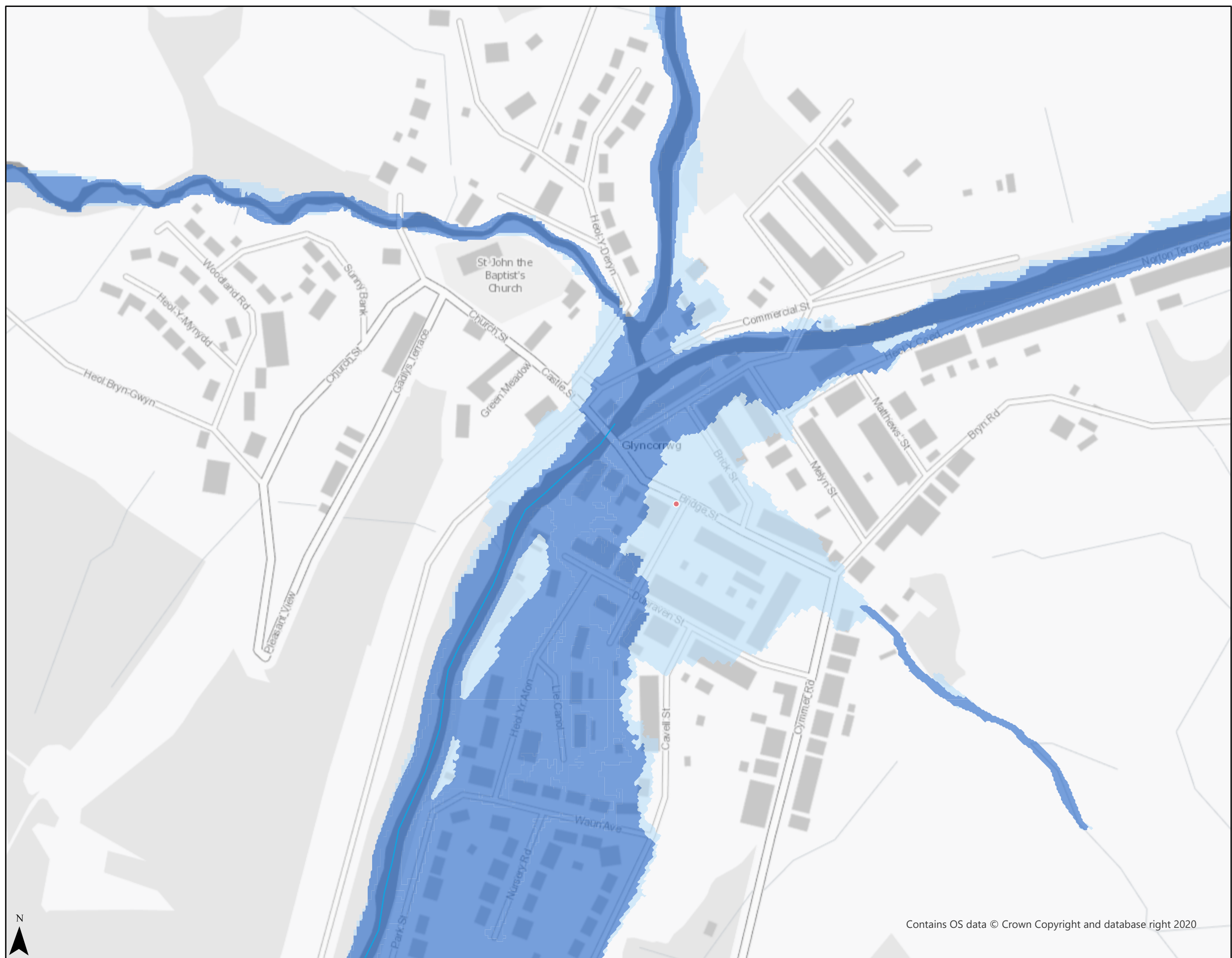
Dyddiad / Date
22/05/2024



Flood Map for Planning - Detail
19710 - 8 Bridge Street

Legend

- Flood Defence Locations
- TAN15 Defended Zones
- ▨ Rivers
- ▨ Sea
- ▨ Rivers and Sea
- Rivers
- Flood Zone 3
- Flood Zone 2
- Sea
- Flood Zone 3
- Flood Zone 2
- ▨ Recorded Flood Extents
- Main Rivers



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Scale at A3: 1:2,500

Date: 22/05/2024

0.1 0.05 0 0.1
km

British National Grid

Disclaimer

<https://naturalresources.wales/flooding/disclaimer-for-our-flood-and-coastal-erosion-risk-maps/?lang=en>

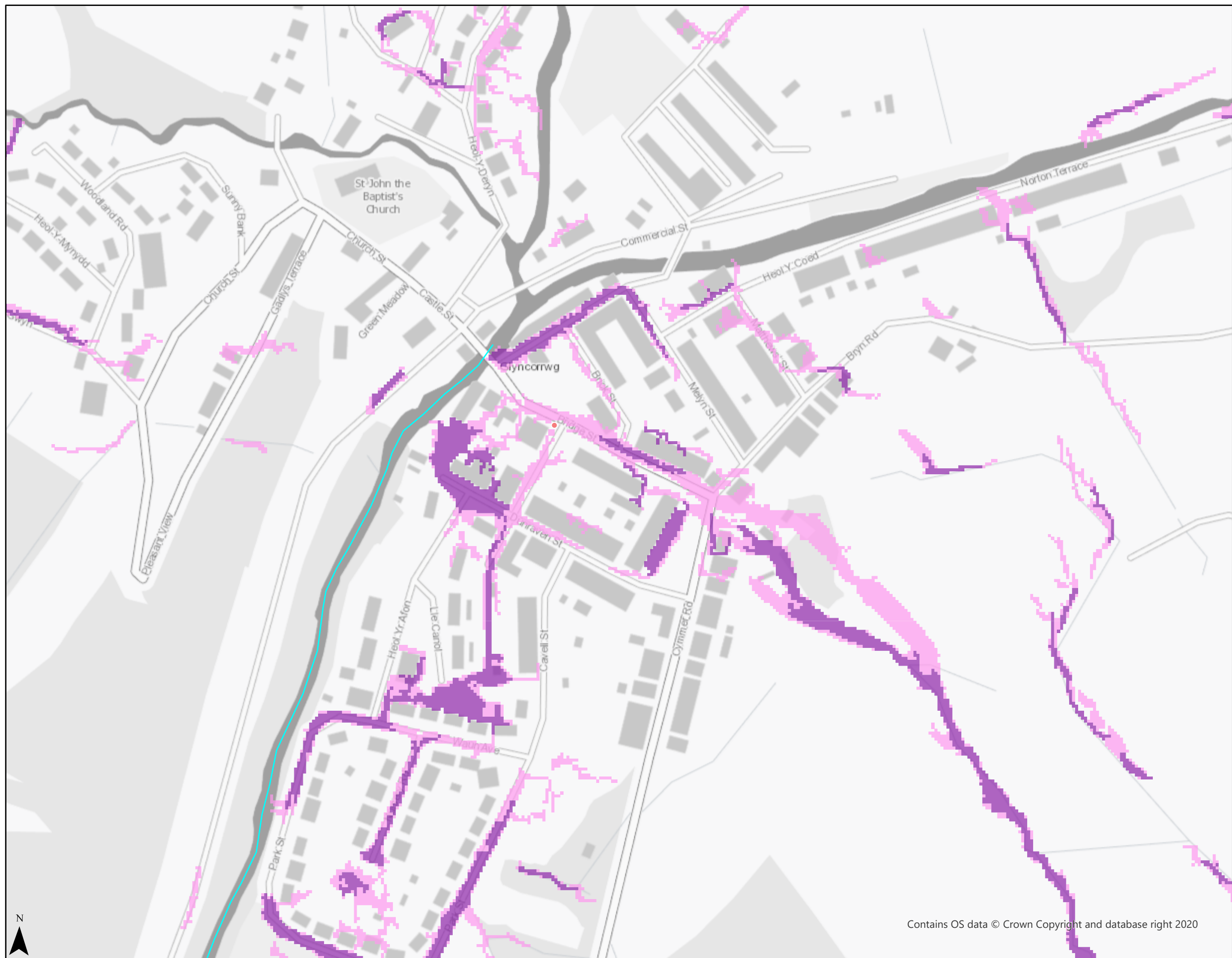
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Flood Map for Planning - Detail
19710 - 8 Bridge Street

Legend

Surface Water and Small Watercourses

- Flood Zone 3
- Flood Zone 2
- Recorded Flood Extents
- Flood Risk from Reservoirs
- Main Rivers



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Scale at A3: 1:2,500

Date: 22/05/2024

Disclaimer

<https://naturalresources.wales/flooding/disclaimer-for-our-flood-and-coastal-erosion-risk-maps/?lang=en>

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0.1 0.05 0 0.1
km

British National Grid

APPENDIX D: Justification Test

TAN15 Justification Criteria	Comments	Achieved
Its location is necessary to assist a local authority regeneration initiative or strategy, or contribute to key employment objectives, necessary to sustain an existing settlement or region	The proposed works will contribute affordable accommodation, in what is otherwise a disused Brownfield site. The property was originally and historically all residential. The ground floor was latterly converted into a commercial unit. In its current state, the site is in dire need of renovation works which will provide betterment i.e. aesthetically, but also practically. For instance, it presents a good opportunity to ensure the property is more resilient and resistant to climate change (energy efficiency) and flood risk (materials used). Specific mitigation measures are covered within the main report. Alternative Development options at the site are extremely limited. These proposals are viewed to make the best, and most appropriate / suitable use of the Previously Developed Land. The site and proposals align with the aims and objectives of the LDP.	Yes
The site meets the definition of previously developed land (i.e. it is not a Greenfield Site) and concurs with the aims and objectives of PPW	Site comprises an existing property which has occupied the Application Site for a considerable amount of time (build date unknown). The site originally served as residential on both the ground and upper floors. Therefore, the works will re-instate the original configuration without increasing flood risk elsewhere.	Yes
A Flood Consequences Assessment has been produced to demonstrate that the potential consequences of flooding including extreme events have been considered and meet the (Acceptability Criteria) ... in order to be considered acceptable	An FCA for the site and proposals has been undertaken using the best information available at the time it was undertaken (June 2024). The level of detail and analysis of the FCA is considered (at least) commensurate with the scale and nature of the development proposals. The FCA finds and concludes that the potential risks and consequences of flooding are acceptable and manageable across the lifetime expectancy of the development. Using the best information available, and taking into consideration the mitigation section – the site and proposals meet the Acceptability Criteria laid out in TAN15	Yes