

Flood Consequences Assessment (FCA) For:

Development at
Baglan Boxing Club
Fenbrook Close
Port Talbot
SA12 7PA

Prepared for:

Baglan Boxing Club

10986 – FCA – R01

24/01/2022

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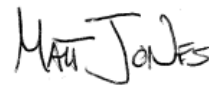
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1 LIMITATIONS

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The date on which this assessment was undertaken, and the date on which the final report is delivered.

Vale Consultancy makes no representation whatsoever concerning the legal significance of its findings or the legal matters referred to in the following report.

All the Natural Resources Wales (NRW) mapping data used is under special license. Data is current as of **January 2022** 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.

1.1 Purpose of the Report

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

1.2 Relevant Documents

The FCA has been informed by the following documents:

- Planning Policy Wales Technical Advice Note 15: DEVELOPMENT AND FLOOD RISK;
- Neath Port Talbot County Borough Council Local Flood Risk Management Strategy June 2013
- Neath Port Talbot County Borough Council Flood Risk Management Plan 2015
- Neath Port Talbot Lead Local Flood Authority Preliminary Flood Risk Assessment Report
- Neath Port Talbot County Borough Council Strategic Flood Consequences Assessment (September 2014)
- Neath Port Talbot County Borough Council Local Development Plan (2011-2026) Adopted January 2016

2 INTRODUCTION

Vale Consultancy has been instructed by *The Client* to undertake a Flood Consequences Assessment (FCA) for the proposed extension of an existing building and construction of new access and car parking area at Baglan Boxing Club (*Bulldogs*), Fenbrook Close, Port Talbot, SA12 7PA (274642E, 191961N).

The site currently comprises the existing building which has a footprint of approximately 500m² along with associated access and parking. The frontage (north) of the site is made up of an expansive soft landscaped verge. The total site area as defined by the site boundary is approximately 3261m² or 0.3ha.

Refer to Site Location and Existing Site Plan, Appendix A.

2.1 Site Location

The site is located at the town of Baglan which is approximately 4km north west from Port Talbot and inland from Swansea Bay. The M4 is located approximately 160m north east from the site, with the National Rail Network line further afield which runs parallel to the motorway.

The site is bounded by Fenbrook Close to the north, Port Talbot Cricket Club to the east, Baglan Way Road to the south, and a soft landscaped verge and roundabout to the west. Fenbrook Close provides access to the site.

The wider surrounding land use area comprises a mix of residential and industrial buildings along with some parcels of vacant, undeveloped land. Refer to Figure 1 below.



Figure 1: Site Location Satellite Plan

2.2 Proposed Development

The proposal is for extension of the existing building and construction of new, additional access and parking facilities in the north extent of the site. The proposed extension will result in an additional **150m²** giving the building a footprint of approximately **650m²**. The proposed new hardstanding access and parking facilities is approximately **580m²**.

Refer to Proposed Development Plans, Appendix B.

2.3 Existing Topography

A Topographical Survey to metres Above Ordnance Datum (m AOD) of the site was undertaken by John Vincent Surveys Ltd in June 2020 and has been provided to Vale Consultancy. The survey recorded a minimal level of **5.02m AOD** in the north eastern extent and a maximum level of **5.56m AOD** in the north western extent. A review of the survey data indicates that the site generally slopes from north west to south east. Levels of between **5.05** and **5.32m AOD** are recorded within the existing site access road.

Topographic levels to metres Above Ordnance Datum (m AOD) have also been derived from a 1m resolution NRW composite 'Light Detecting and Ranging' (LiDAR) Digital Terrain Model (DTM). A review of LiDAR data corroborates the Topographical Survey findings. LiDAR data indicates the wider surrounding landscape to be relatively flat.

Refer to Topographical Data, Appendix C.

2.4 Existing Ground Conditions

Reference to the British Geological Survey (BGS) online mapping (1:50,000 scale) indicates that the site is underlain by Superficial deposits defined as Tidal Flat Deposits comprising clay, silt and sand. Bedrock geology is recorded as South Wales Lower Coal Measures Formation comprising mudstone, siltstone and sandstone.

2.5 Existing Site Drainage

Public sewer records have been obtained from DCWW. A 600mm public combined sewer is recorded just north of the site flowing south west and then north west from manhole SS74916940. Public surface water (SW) sewers are also recorded in the vicinity. Specifically, a 9-inch SW sewer in the east extent of the site flowing south to north until it cojoins with an 18-inch SW sewer at manhole SS74916904 near the site access entrance where it flows north east.

Online internet mapping tools indicate that the site and site access / egress routes are served by formal surface water drainage infrastructure. For instance, there are road gullies and manholes visible.

3 FLOOD ZONE CATEGORY AND POLICY CONTEXT

3.1 Flood Zone Category

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.

In addition to the DAM, the Flood Risk Assessment Wales map indicates long term risk of flooding from Rivers, the Sea, Surface Water and Small Watercourses and Reservoirs.

The DAM excerpt for the site (See Appendix D) shows that the site falls within Zone C1 which is defined by TAN15 as;

Zone C1 – Areas of the floodplain which are developed and served by significant infrastructure, including flood defences

And;

Used to indicate that development can take place subject to application of justification test, including acceptability of consequences

The NRW Flood Risk Maps included in Appendix D show that the site is at '**Low**' risk of flooding from fluvial flooding, meaning it has between 1 in 1000 (0.1%) and 1 in 100 (1%) annual probability of (fluvial) flooding. Furthermore, the site is shown to be served and benefitting from fluvial flood defences.

From the Sea (tidal flooding), the site is shown to be outside of the flood extent and therefore at '**Very Low**' risk of flooding, meaning it has less than 1 in 1000 (0.1%) annual probability of (tidal) flooding.

Refer to Appendix D.

3.2 Development Vulnerability Classification

The proposal is for extension of the existing building and construction of new, additional access and parking facilities in the north extent of the site.

The proposed development is considered to be both '*highly vulnerable development*' (the Boxing Club) and '*less vulnerable*' (car parks / access) in accordance with Figure 2 of the Welsh Government's TAN15.

Paragraph 6.2 of TAN 15 states that highly vulnerable development should be permitted in Flood Zone C1, subject to the justification test and acceptability of consequences:

6.2 New development should be directed away from zone C and towards suitable land in zone A, otherwise to zone B, where river or coastal flooding will be less of an issue. In zone C the tests outlined in sections 6 and 7 will be applied, recognising, however, that highly vulnerable development and Emergency Services in zone C2 should not be permitted. All other new development should only be permitted within zones C1 and C2 if determined by the planning authority to be justified in that location. Development, including transport infrastructure, will only be justified if it can be demonstrated that: -

- i. Its location in zone C is necessary to assist, or be part of, a local authority regeneration initiative or a local authority strategy required to sustain an existing settlement; or,*

- ii. *Its location in zone C is necessary to contribute to key employment objectives supported by the local authority, and other key partners, to sustain an existing settlement or region.*

And,

- i. *It concurs with the aims of PPW and meets the definition of previously developed land (PPW fig 2.1); and,*
- ii. *The potential consequences of a flooding event for the particular type of development have been considered, and in terms of the criteria contained in sections 5 and 7 and appendix 1 found to be acceptable.*

Paragraph 7.1 of TAN 15 states that:

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 development will flood and will need to be planned accordingly.

Local Policy

The Neath Port Talbot County Borough Council Local Development Plan (2011-2026) was adopted in January 2016 and now forms the development plan that will form the basis of decisions on land use for planning in the area. The following policies relate to flood risk and drainage:

Climate Change

3.0.2 Strategic Policy SP1 Climate Change

1. *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;*

3.0.5 *New developments will be expected to avoid unnecessary food risk and to meet the requirements of TAN 15: Development and Flood Risk. No highly vulnerable development will be permitted within Development Advice Map (DAM) Zone C2(8) and development will only be considered in areas at risk of flooding where it can be demonstrated that the site can comply with the justification and assessment requirements set out in the TAN.*

5.5.8 Policy BE1 Design

9. *Its drainage systems are designed to limit surface water run-off and food risk and prevent pollution;*

5.5.13 *Drainage systems should be designed to ensure that developments have no detrimental effects on the water environment or on food risk. Normally this will involve the use of Sustainable Drainage Systems (SuDS) techniques.*

3.3 Consultation

Product 5 and Product 6 data from the ***Port Talbot Harbourside Flood Model*** undertaken by JBA in 2017 has been reviewed as part of this FCA. To review flood risk, JBA Consulting undertook a hydraulic modelling analysis for the Afon Afan, Ffrwd Wyllt and Baglan Brook watercourses, updating an existing 1D-2D ESTRY-TUFLOW model. To provide robust information on the nature of flood risk from the watercourses, the model was built to enable the simulation of both fluvial and tidal events.

The relevant modelled data outputs have been interrogated and scrutinised by Vale Consultancy as part of this FCA thus enabling the fluvial and tidal flood risk to the site to be analysed quantitatively and in a risk-based manner.

Product 6 modelled data outputs (by JBA) have been provided in **Appendix D**.

4 SOURCES OF FLOODING AND PROBABILITY

4.1 Fluvial

The nearest watercourse is Baglan Brook which is located approximately 35m east from the site at its nearest point, flowing north west until it discharges into the River Neath at approximately 273197E, 193286N). This in turn discharges into Baglan Bay.

The River Afan is located approximately 2.5km south east from the site.

The NRW Flood Risk Map confirms that the site is at *Low Risk* of fluvial flooding – an area considered to have between a 0.1% (1 in 1000) and 1% (1 in 100) annual probability of fluvial flooding.

Formal NRW defences are found throughout the catchment area in the form of embankments, walls and regions of high ground.

The Map shows that the site falls within an area served by fluvial flood protection. A review of GIS shapefiles from the NRW *Lle Portal* indicates these to NRW managed assets in the form of flood walls and embankments.

The NRW 'Historic Flood Map' indicates no records of flooding at the site or within the vicinity.

NRW Flood Data

From a review of the NRW Product 5 and Product 6 data it can be ascertained that the site remains flood-free during all events up to and including the Defended 0.1% AEP fluvial flood event plus 25% Climate Change (CC). The site is shown to be flood-free during all the modelled outputs.

Therefore, it is concluded that the site fully complies with section **A1.14** and **A1.15** of TAN15.

Refer to the Mapped Model Outputs, Appendix D.

It can be concluded that the fluvial flood risk to the site is Low.

4.2 Tidal

The NRW Flood Risk from the Sea Map indicates that the site is outside of the flood extent and therefore at *very low* risk from tidal flooding. A review of Product 5 and Product 6 modelled data shows the site to be flood-free in all of the extreme events. The site is not shown to flood in any of the modelled outputs / events.

Therefore, it is concluded that the site is at very low risk from tidal flooding and fully complies with TAN15.

4.3 Surface Water

Surface water 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 NRW 'Risk of Flooding from Surface Water' map (**Appendix D**) indicates the extent of flood risk from surface water and small watercourses. An extract is provided below for reference.



Figure 2: Extract of NRW surface water and small watercourses flood risk map

The flood map shows that the site and wider surrounding area are outside of the flood extent and therefore at **very low** risk of surface water flooding, meaning it has a less than 0.1% annual probability of flooding.

There are no records of surface water flooding at the site.

The proposed development will incorporate a Sustainable Drainage System (SuDS) resulting in the improvement of the sites existing surface water drainage arrangement.

It can be concluded that the site is at **very low** risk of surface water flooding.

4.4 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.

It can be concluded that the risk of sewer flooding is low.

4.5 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. Furthermore, the site is currently overlain by 100% hardstanding which would prevent the ingress of groundwater to the surface.

It can be concluded that the risk of groundwater flooding is low.

4.6 Artificial Sources of Flooding

There are no canals or other artificial / man-made surface water features in the vicinity.

The NRW 'Risk of Flooding from Reservoirs' map (**Appendix D**) shows that the site is not at risk of flooding from reservoirs.

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 very low.

4.7 Summary of Potential Flooding

It can be concluded that fluvial and tidal flooding are the main potential source of flood risk to the site.

There are no records of historic flooding at the site.

The proposed development will incorporate a Sustainable Drainage System (SuDS) resulting in the improvement of the sites existing surface water drainage arrangement.

All other potential sources of flooding have been assessed and are concluded to be low.

The risk of flooding to the development proposal has been addressed and a balanced judgement has been applied in recognising the important benefits of using previously developed land in realising the development expectations.

5 TAN15 ASSESSMENT

5.1 Justifying the Location

TAN15 advises that all new developments should only be permitted within Zones C1 if determined by the planning authority to be justified in the relevant location. Development, including transport infrastructure, should only be considered justified if it can be demonstrated that:

- Its location in Zone C is necessary to assist, or be part of the local authority regeneration initiative or a local authority strategy required to sustain an existing settlement or region; or
- Its location in Zone C is necessary to contribute to key employment objectives supported by the local authority, and other key partners, to sustain an existing settlement or region; and
- It concurs with the aims of Planning Policy Wales 2002 and meets the definition of previously developed land; and
- The potential consequences of a flooding event for the development have been considered, and found to be acceptable.

In both these instances it is necessary that the development concurs with PPW and meets the definition of previously developed land. The potential consequences of a flooding event must be considered, and in terms of criteria identified in TAN 15 found to be acceptable.

The proposed development will provide, enhance and extend an important community service on what is currently undeveloped land.

The following statement from TAN15 is deemed to be of particular relevance to this specific development proposal:

“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”

It is ascertained that the development concurs with the aims of PPW.

The potential consequences of flooding, to satisfy the latter part of these conditions, are assessed in terms of the requirements of TAN 15 in the following sections of the report.

5.2 Compliance

As previously mentioned, the site and proposed development fully comply with section **A1.14** and **A1.15** of TAN15.

6 MITIGATION & RECOMENDATIONS

The site is deemed to be at either very low or low risk from all of the potential sources assessed.

Taking a precautionary approach and as an additional factor of safety, mitigation measures could be incorporated into the proposed development. The ground floor FFL should be at least 150mm above surrounding ground levels in accordance with Building Regulations.

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 the existing surface water drainage system to improve drainage of the site and follow necessary maintenance procedures (to new & existing SW drainage) to ensure that the system functions to optimum capacity.
- The predicted depths, rise, speed of inundation and velocities are likely to satisfy the TAN 15 suggested tolerable conditions for more extreme events.
- Use robust flood resistant construction techniques as detailed the RIBA publication -
- “Improving the Flood Performance of New Buildings, Flood Resilient Construction” (May 2007).

Flood Alerts and Flood Warnings cover this area (**see Appendix D**). Site owners should register to receive flood alerts and where possible, Flood Warnings. 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.

Appropriate documentation should be displayed to inform any users of the site of the potential risk. 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.

The site owner should draw up an 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 extent of 'dry proofing' measures incorporated is determined by the assessment of the social and economic impact of a flood.

The evacuation procedure should be a written document which should outline the course of action to occupants during a flood. 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.

Flood proofing measures should be incorporated as far as is practically possible.

It is proposed that the new building will be constructed with materials with inherently good wet proofing performance. Wet proofing is the use of more flood resistant building materials in the floors, walls and doors, i.e., concrete ground slab and masonry wall construction in this case.

6.1 Access and Egress

Safe access / egress is provided by Seaway Parade (A4241) (west and then south west) to a location outside of the extreme flood extent. **Refer to Figure 3 below.**

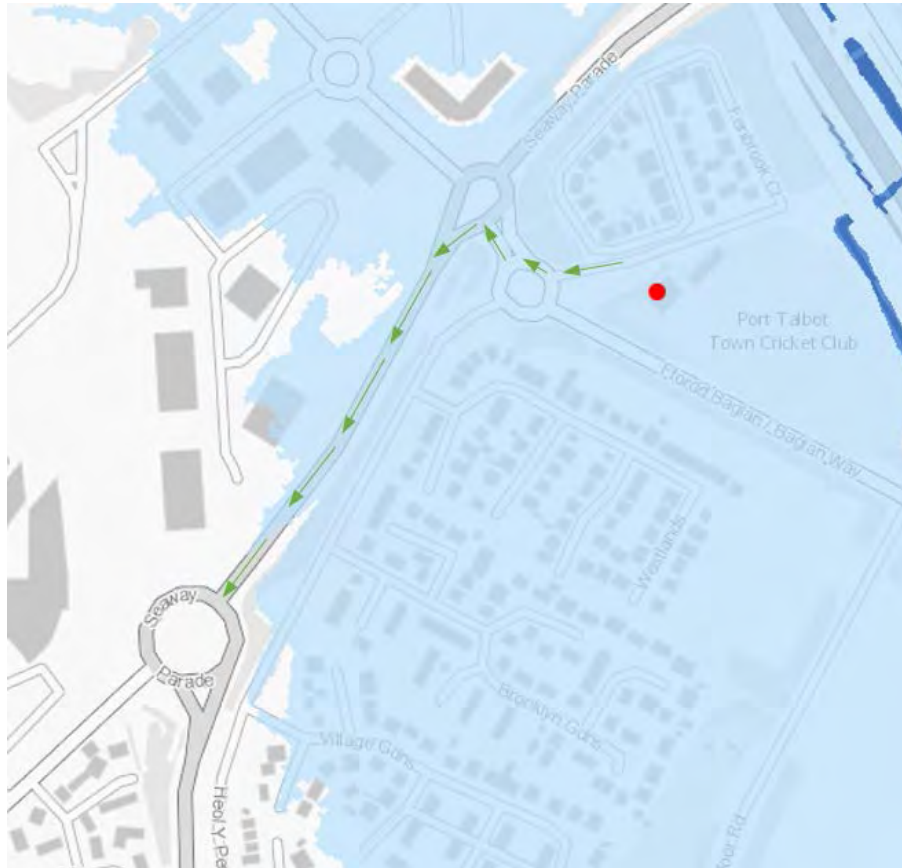


Figure 3: Flood Evacuation / Safe Egress Route

6.2 Safe Refuge Area and Flood Procedure

In the highly unlikely event that the site floods the competent warning authority is the NRW and a lead time of several hours in advance of flooding is provided, excluding potential breaches of defences. When a flood is expected Neath Port Talbot County Borough Council, and the local emergency services will be responsible for public care and safety. In the event of the site flooding before site users have an opportunity to evacuate via the route specified.

7 CONCLUSIONS

The proposal is for extension of the existing building and construction of new, additional access and parking facilities in the north extent of the site. The proposed extension will result in an additional **150m²** giving the building a footprint of approximately **650m²**. The proposed new hardstanding access and parking facilities is approximately **580m²**.

The DAM shows that the site falls within Zone C1, which is defined by TAN15 as:

Zone C1 – Areas of the floodplain which are developed and served by significant infrastructure, including flood defences.

The NRW Flood Risk Maps included in **Appendix D** show that the site is at *Low risk* of fluvial flooding meaning it has between 0.1% and 1% annual probability of flooding.

The site is shown to be at *very low risk* of flooding from the sea meaning it has less than 0.1% chance annual probability of flooding.

The flood map shows that the site and wider surrounding area are outside of the pluvial flood extent and therefore at **very low** risk of surface water flooding, meaning it has a less than 0.1% annual probability of flooding.

All other potential sources of flooding have been investigated and are considered to be low.

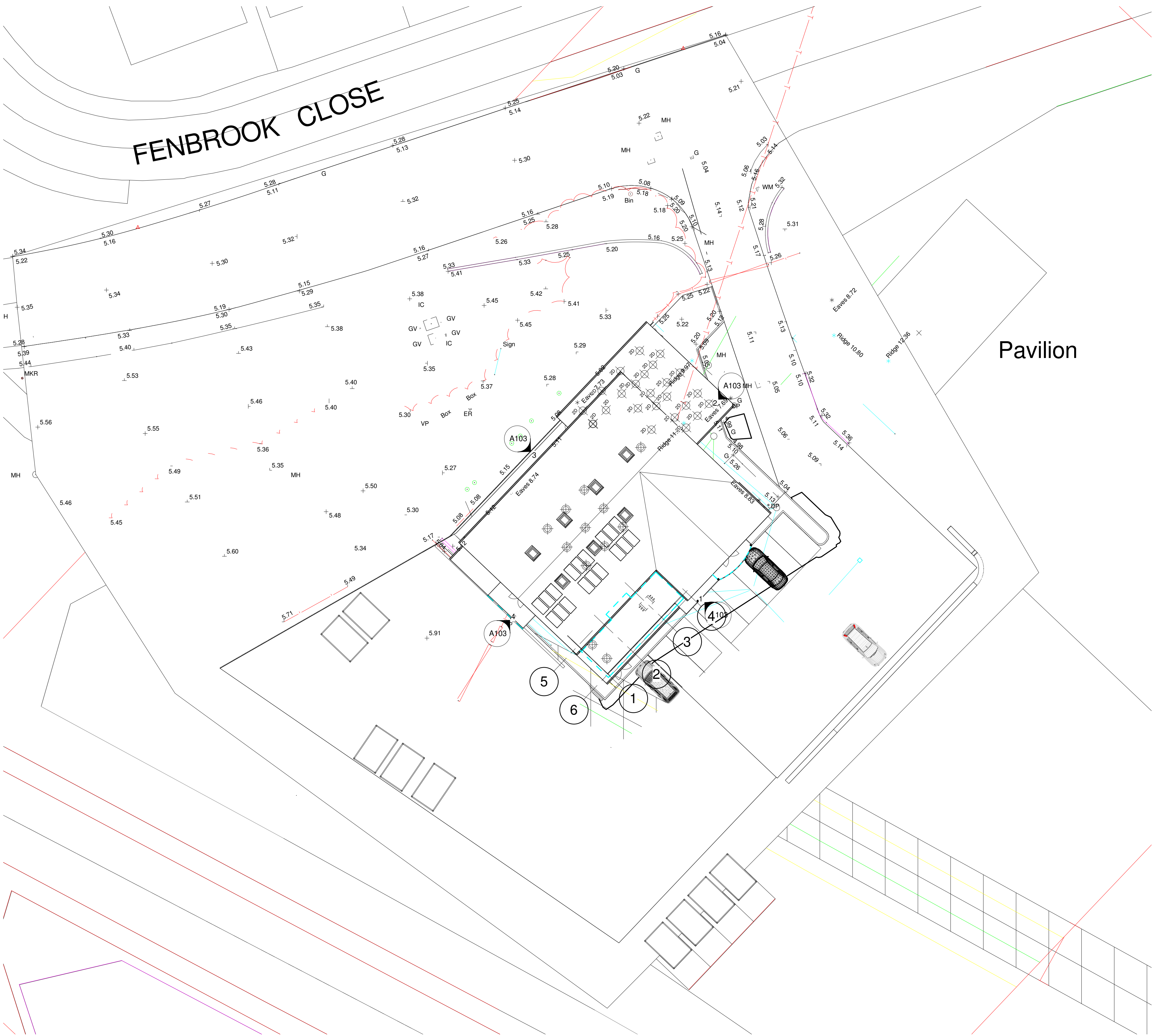
It is concluded that the site and proposed development are fully compliant with PPW and TAN15.

Taking a precautionary approach, the FCA outlines suitable mitigation measures and factors to ensure that the consequences (in the highly unlikely event of flood defences failing and the site flooding) of any potential flooding are totally minimised.

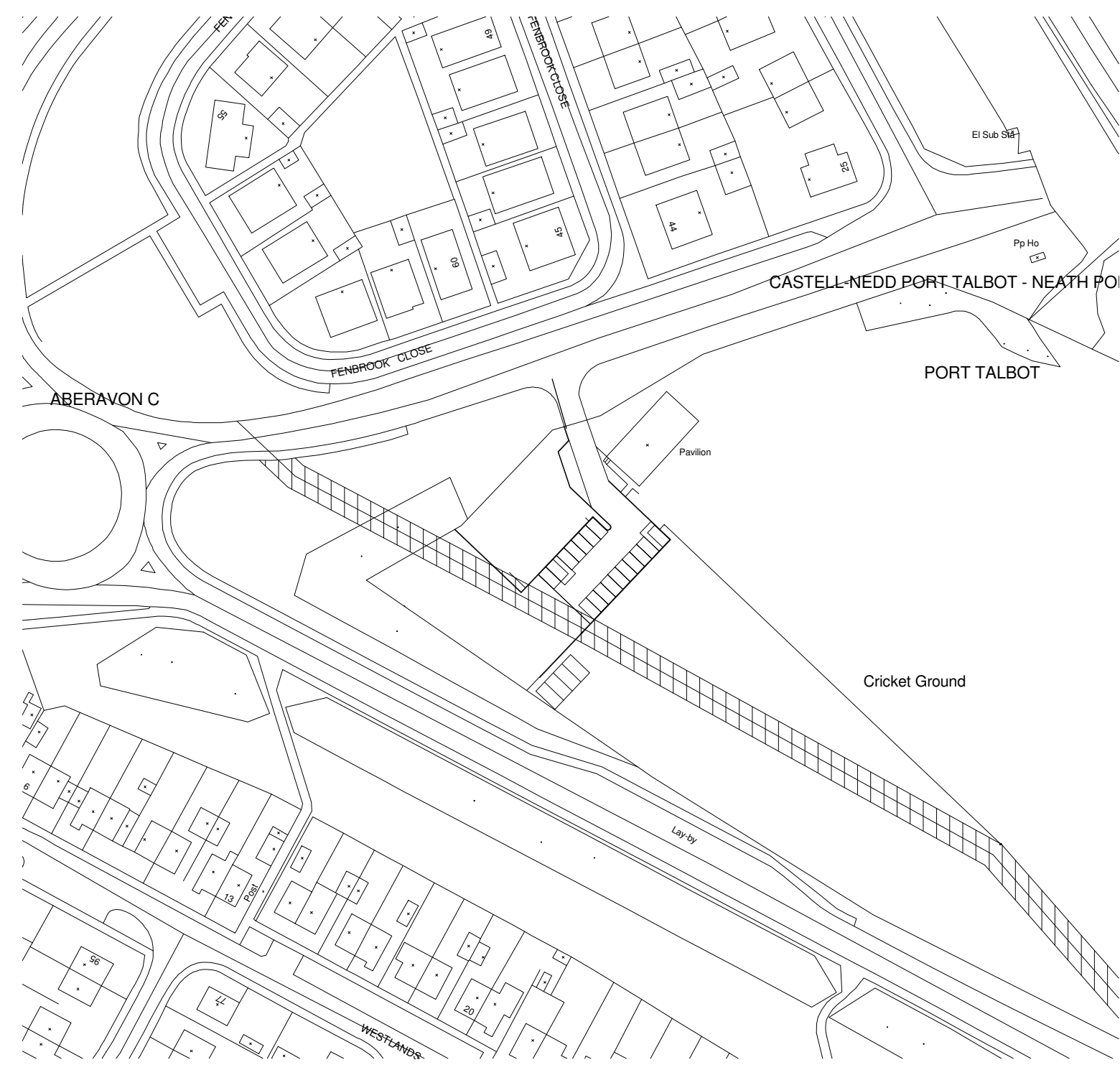
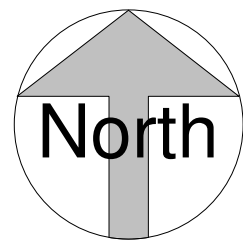
Surface water drainage is to be suitably designed in line with local and national requirements, thus improving the current arrangement.

Therefore, based on the findings of the FCA, it is considered that the principal objectives of TAN15 have been satisfied and that the development proposals are acceptable in terms of flood risk.

APPENDIX A: Site Location and Existing Site Plan



1 Site
1 : 200



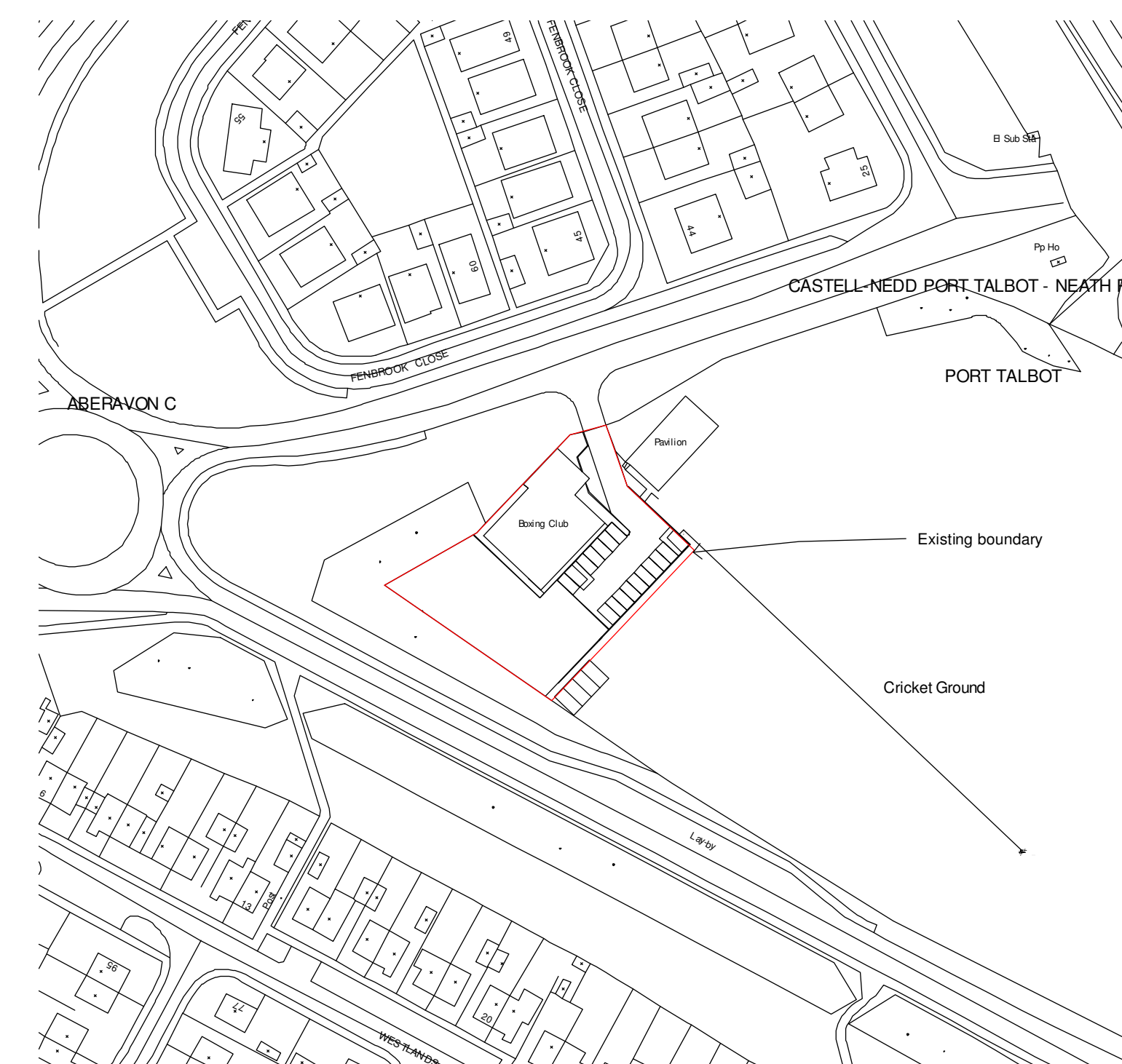
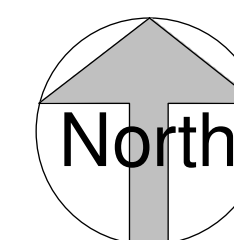
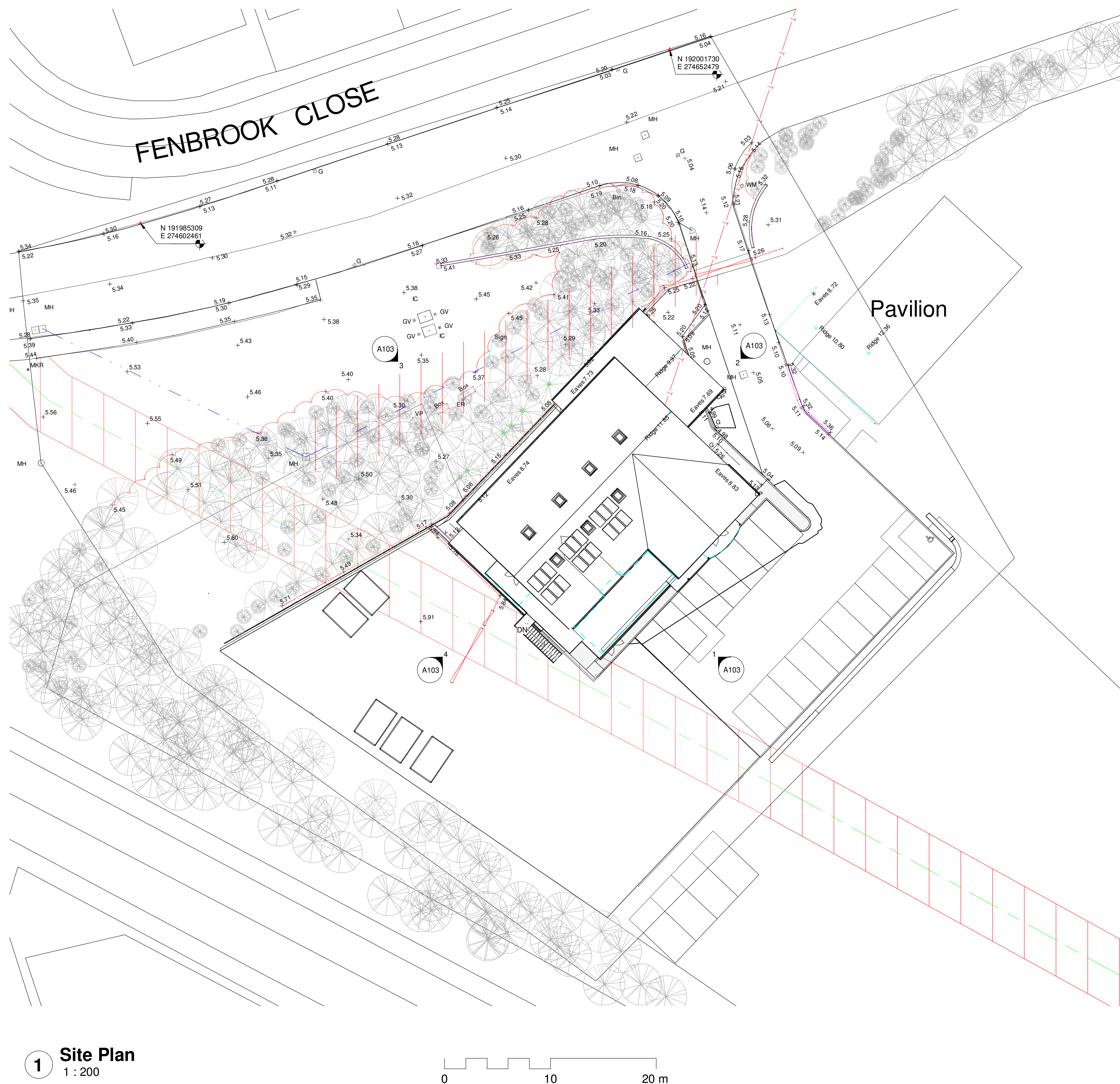
2 Location
1 : 1250

- NOTES
1. All dimensions are in millimetres unless noted otherwise.
 2. All levels are shown in millimetres unless noted otherwise.
 3. Do not scale from the drawing. Use figured dimensions only.
 4. Any discrepancies to be reported immediately to the Designer/Engineer.
 5. This drawing to be read in conjunction with all relevant Architects, engineers, subcontractors and specialists drawings and specifications.

ALL DIMENSIONS TO BE CHECKED ON SITE: Contractor to check and verify all building and site dimensions. The Contractor is to comply in all respects with the current Building Regulations whether specifically stated on this drawing or not. This drawing must be read and checked against any other specialist drawings provided & manufacturer's recommendations. Tabled quantities are for guidance only all specialist Consultants & Contractors to check and verify. Any discrepancies in all of the above must be reported to the Design team prior to installation.

CDM - If we are appointed as a Designer or Principal Designer, for the Pre-Construction Phase only, we can only carry out our duties for that phase. This means that we will give all relevant design information for consideration in the Construction Phase Plan / Health & Safety File to the Client at the end of the Pre-Construction Phase. It will be the Client's responsibility to pass that information on to the Principal Contractor and any other Contractors or Designers, which the client subsequently appoints.

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- ### NOTES
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[illegible]

APPENDIX B: Proposed Development Plans

3 New Front

NOTES

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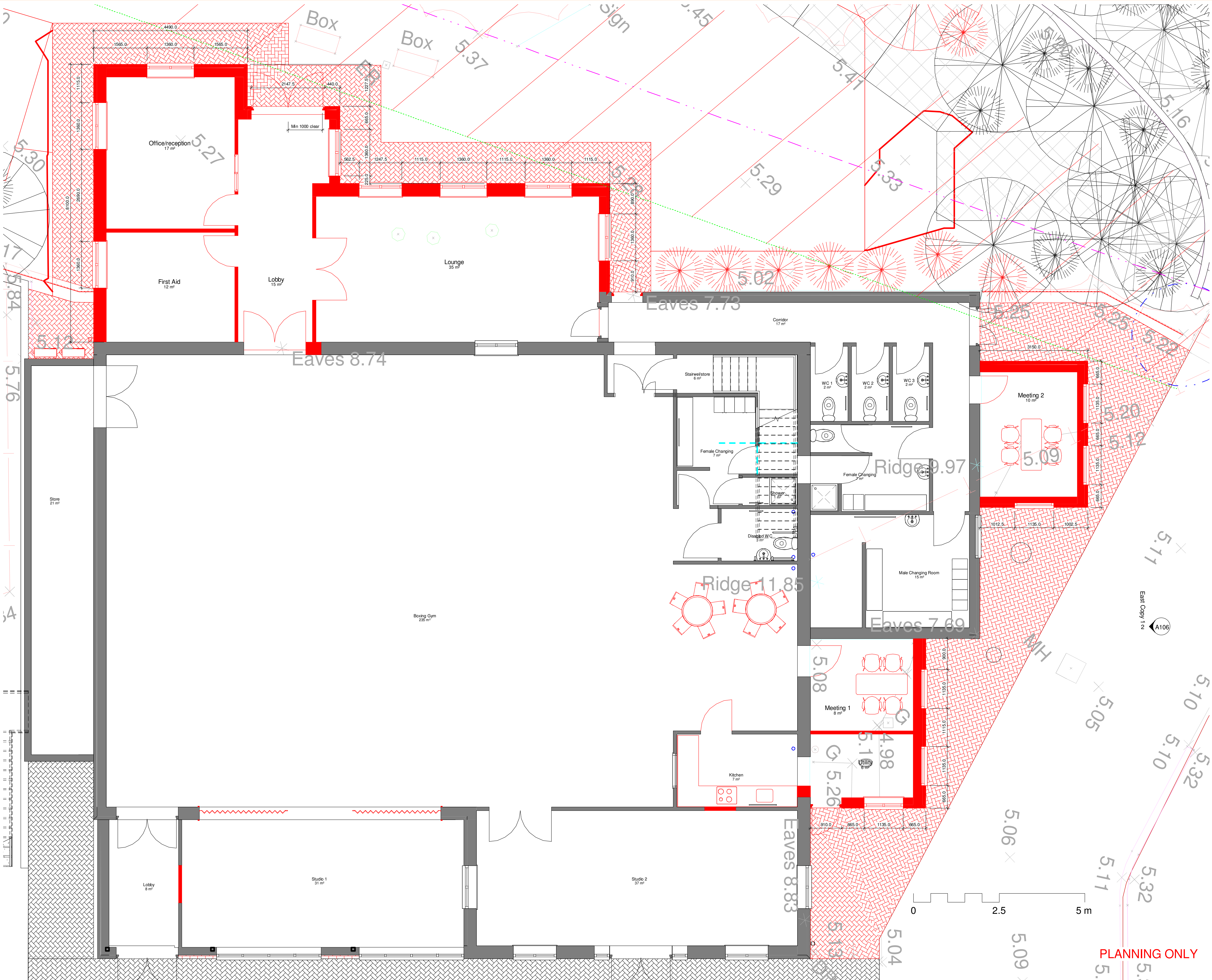
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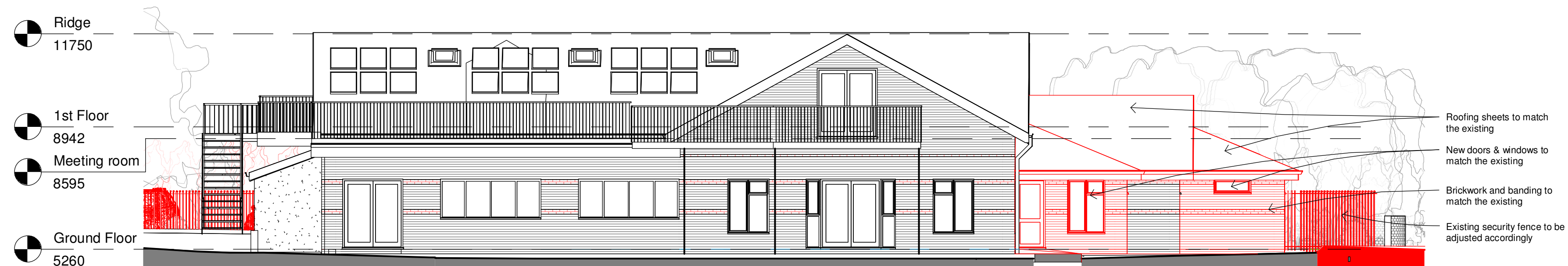
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Room Schedule - Proposed

Name	Level	Area	Perimeter
Office/reception	Ground Floor	17 m ²	16345
First Aid	Ground Floor	12 m ²	13890
Lobby	Ground Floor	15 m ²	18320
Lounge	Ground Floor	35 m ²	25030
Meeting 2	Ground Floor	10 m ²	12855
Meeting 1	Ground Floor	8 m ²	11385
Utility	Ground Floor	6 m ²	9700
Boxing Gym	Ground Floor	235 m ²	69267
Studio 2	Ground Floor	37 m ²	26640
Kitchen	Ground Floor	7 m ²	11300
Disabled WC	Ground Floor	3 m ²	7500
Female Changing	Ground Floor	7 m ²	15155
Shower	Ground Floor	1 m ²	4850
Male Changing Room	Ground Floor	15 m ²	20850
Stairwell/store	Ground Floor	6 m ²	12205
Corridor	Ground Floor	17 m ²	33250
Studio 1	Ground Floor	31 m ²	23880
Lobby	Ground Floor	8 m ²	11485
Store	Ground Floor	21 m ²	26345
Female Changing	Ground Floor	7 m ²	13685
WC 3	Ground Floor	2 m ²	6515
WC 1	Ground Floor	2 m ²	6570
WC 2	Ground Floor	2 m ²	6570
Grand total: 23		505 m ²	

rev.	drawn	chkd.	appvd.	date	description
Client					
Baglan Boxing Club Fenbrook Close Port Talbot SA12 7PA					
Project					
New entrance extension					
Title					
Proposed ground floor plan					
360AD Limited Architectural Design & Visualisation Consultancy First floor 29 Bocam Park Pencoed Bridgend CF35 5LJ T: 01656330997 email: enquiries@360ad.co.uk web: www.360ad.co.uk					
date		drawn	checked	approved	
August 2021		ND	ND		
scale @ A1		Project number			
1 : 50		10-026			
status	System Number		drg. no.		rev.
	20-026-b		A105		



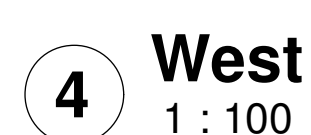
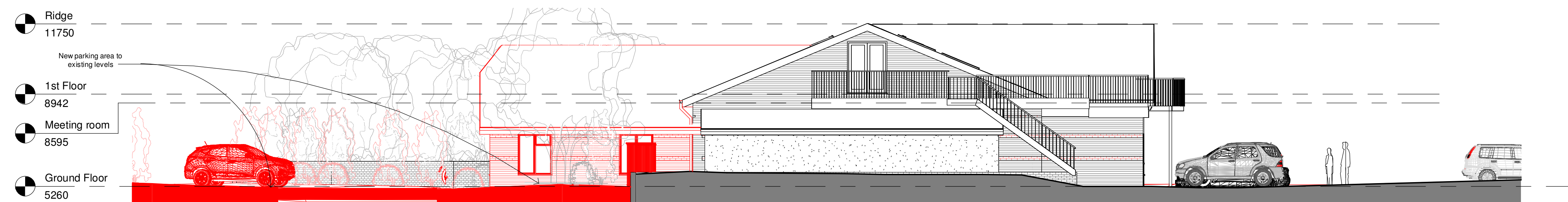
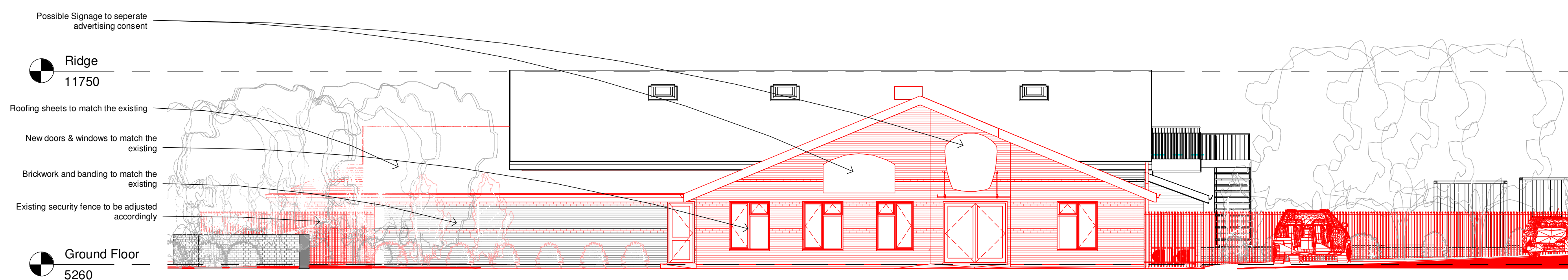
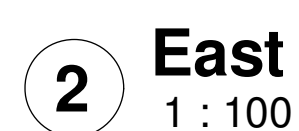
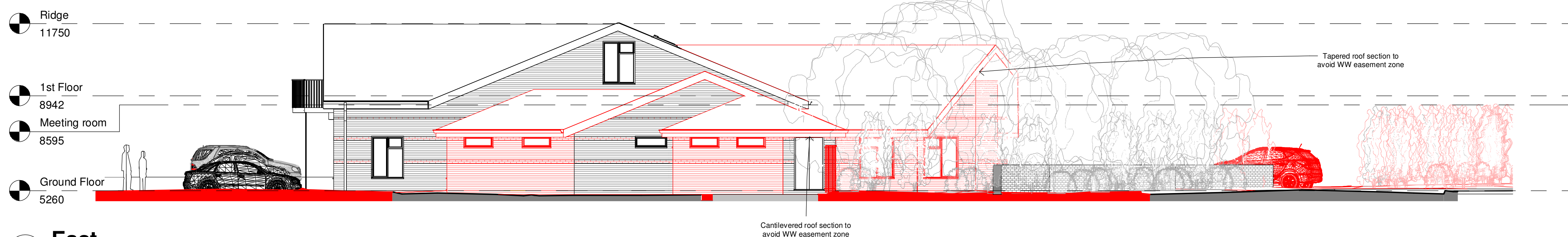


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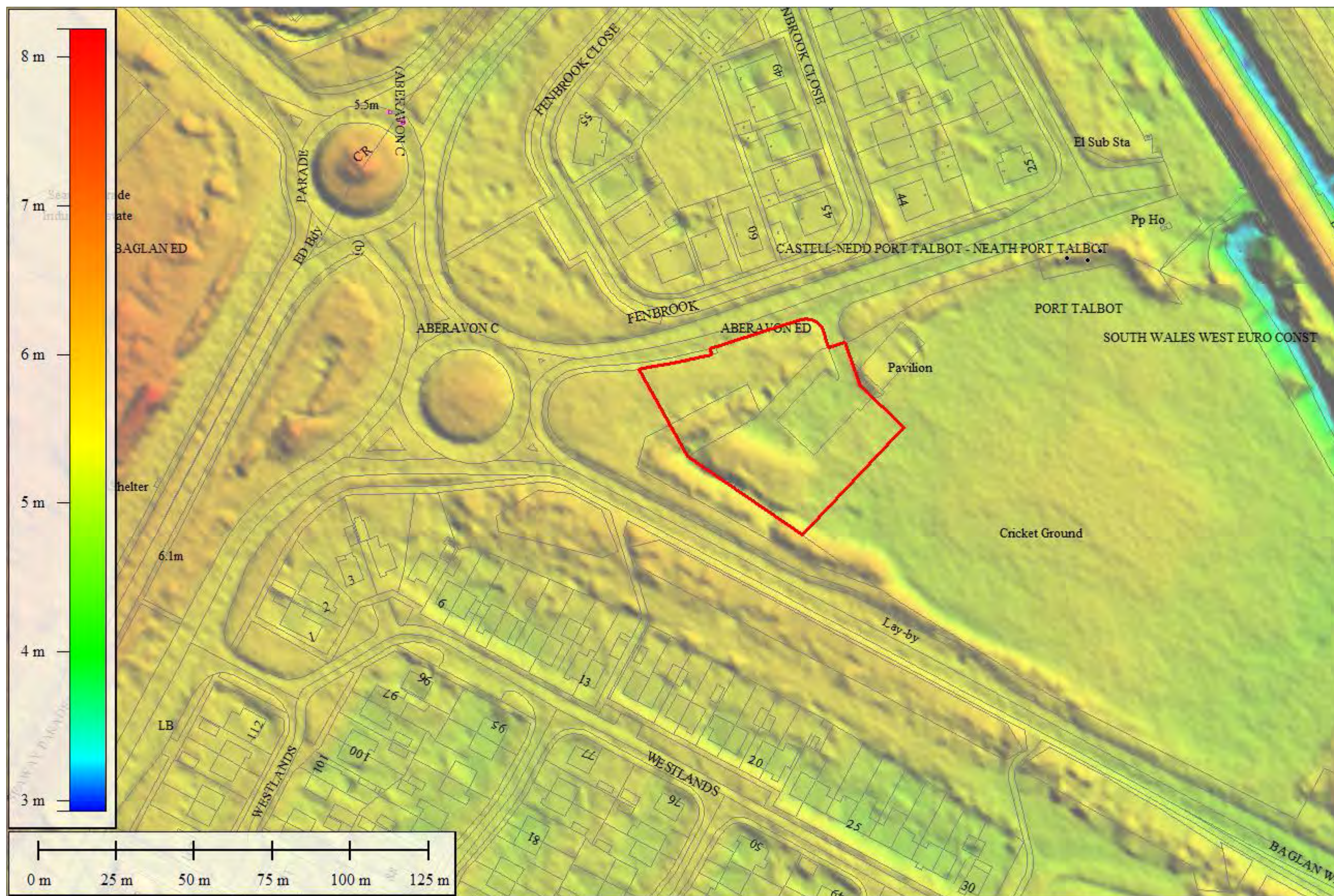


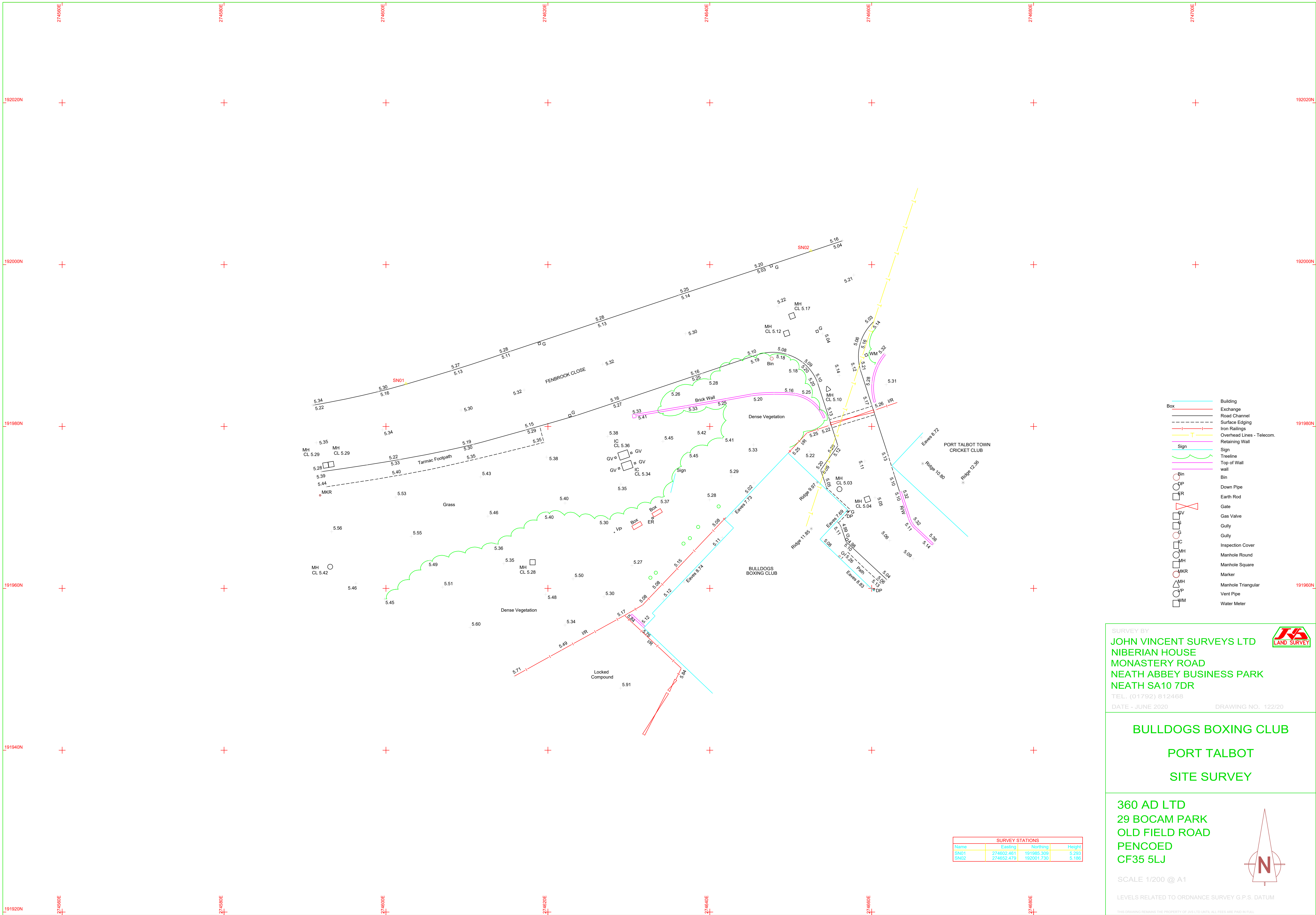
PLANNING ONLY

[illegible]

APPENDIX C: Topographical Data

10986 – Baglan Boxing Club

**NRW LiDAR Extract (m AOD)**



SURVEY BY

JOHN VINCENT SURVEYS LTD

NIBERIAN HOUSE

MONASTERY ROAD

NEATH ABBEY BUSINESS PARK

NEATH SA10 7DR

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DATE - JUNE 2020

122/20

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PORT TALBOT

SITE SURVEY

360 AD LTD

29 BOCAM PARK

OLD FIELD ROAD

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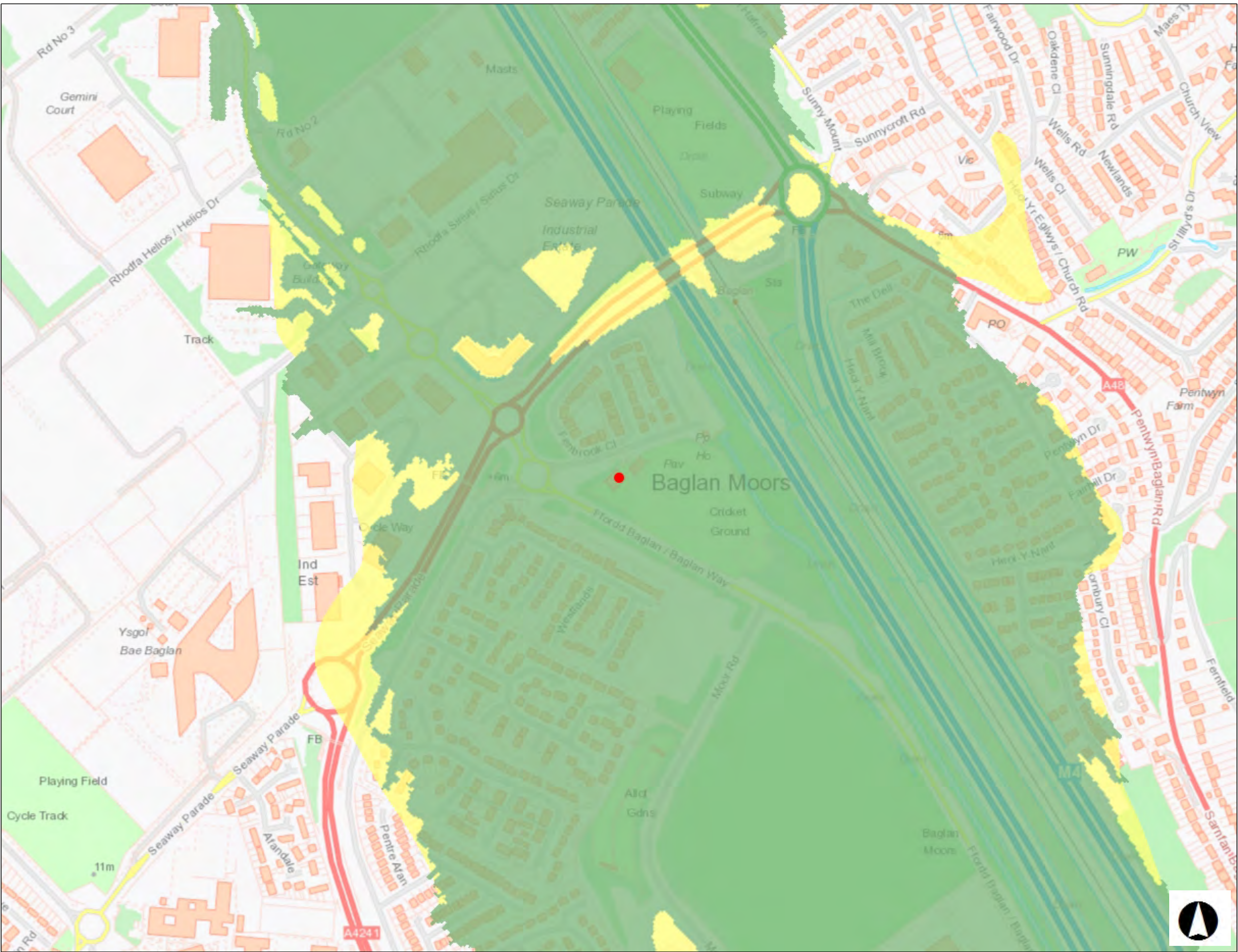
SCALE 1/200 @ A1

LEVELS RELATED TO ORDNANCE SURVEY G.P.S. DATUM

THIS DRAWING REMAINS THE PROPERTY OF JVS LTD UNTIL ALL FEES ARE PAID IN FULL.

CAD REFERENCE: BULLDOGS

APPENDIX D: NRW Flood Maps & Product 5 / 6 data



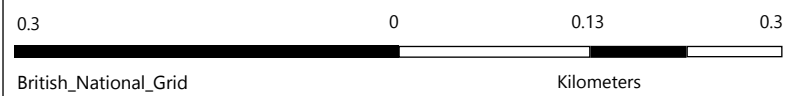
10986 - Baglan Boxing Club

Allwedd / Map Key

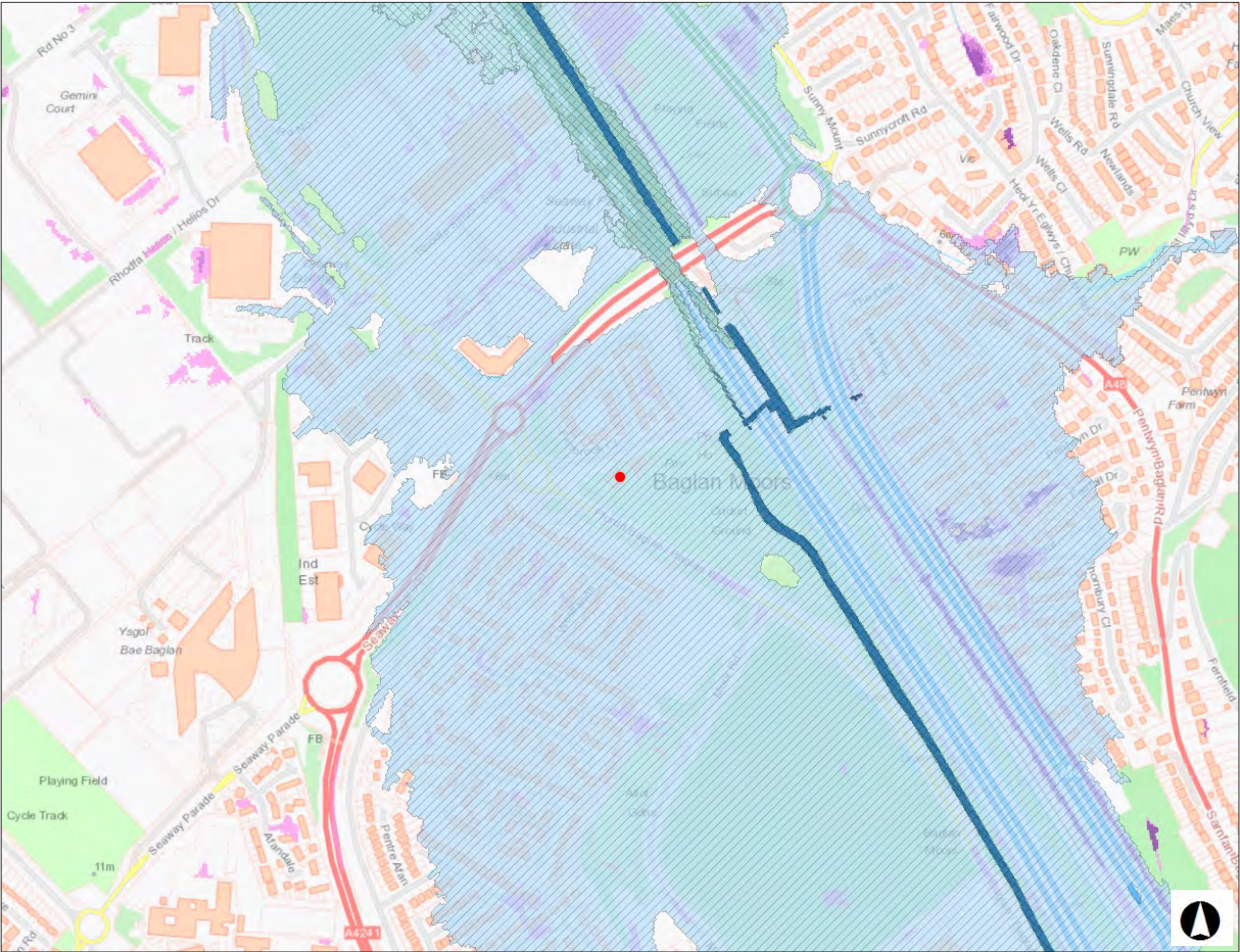
- Zone C1
- Zone C2
- Zone B
- Zone A

Graddfa / Scale at A3 1: 5,000

Dyddiad / Date
19/01/2022



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Allwedd / Map Key

Areas Benefitting from Flood Defences

- Rivers
- Sea
- Rivers and Sea

Risk Level Under Review

Flood Risk from Rivers - Extent

- High
- Medium
- Low

Flood Risk from the Sea

- High
- Medium
- Low

Flood Risk from Surface Water & Small Watercourses - Extent

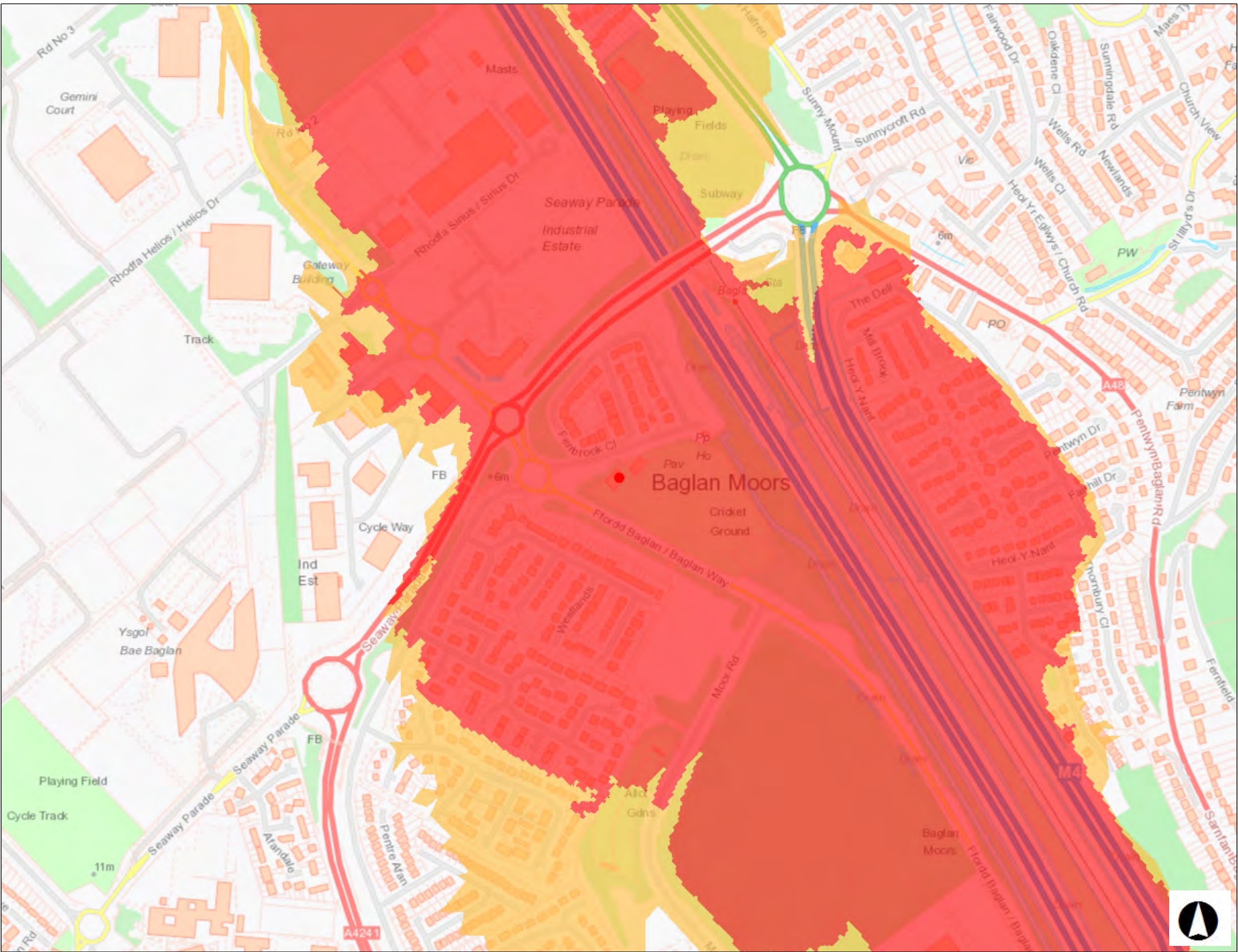
- High
- Medium
- Low

Graddfa / Scale at A3 1: 5,000

Dyddiad / Date
19/01/2022

0.3 0 0.13 0.3
British_National_Grid Kilometers

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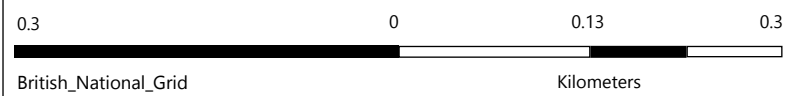
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Allwedd / Map Key

- Flood Warning Area
- Flood Alert Area

Graddfa / Scale at A3 1: 5,000

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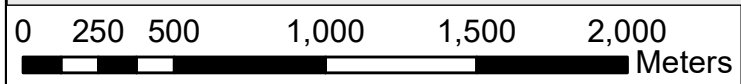
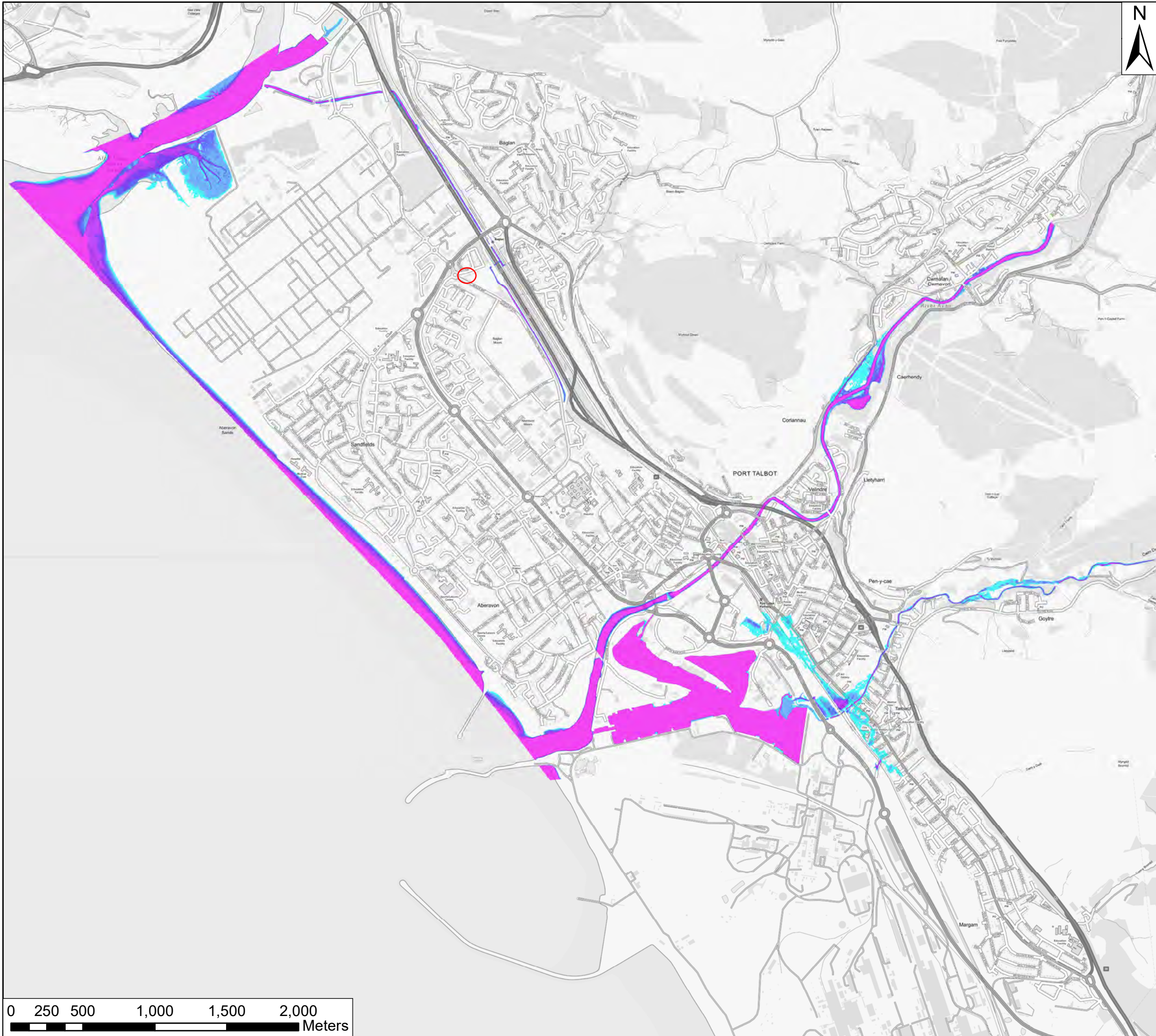
Allwedd / Map Key

- Recorded Flood Extents
- Flood Risk from Reservoirs

Graddfa / Scale at A3 1: 5,000

Dyddiad / Date
19/01/2022





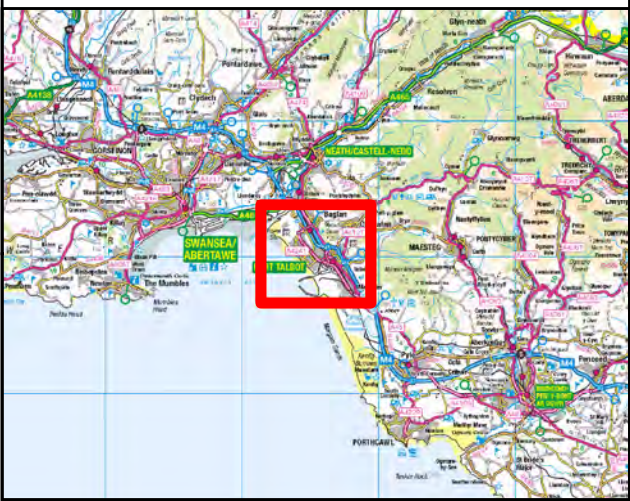
KEY

Fluvial 1% AEP event

Depth (m)

- 0 - 0.25
- 0.25 - 0.5
- 0.5 - 0.75
- 0.75 - 1
- 1 - 1.5
- 1.5 +

KEYPLAN



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NP20 1QU

+44 (0)1633 413 514
+44 (0)8458 627 772

info@jbaconsulting.co.uk



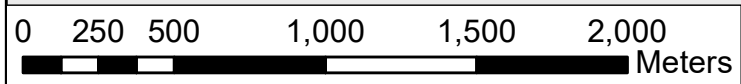
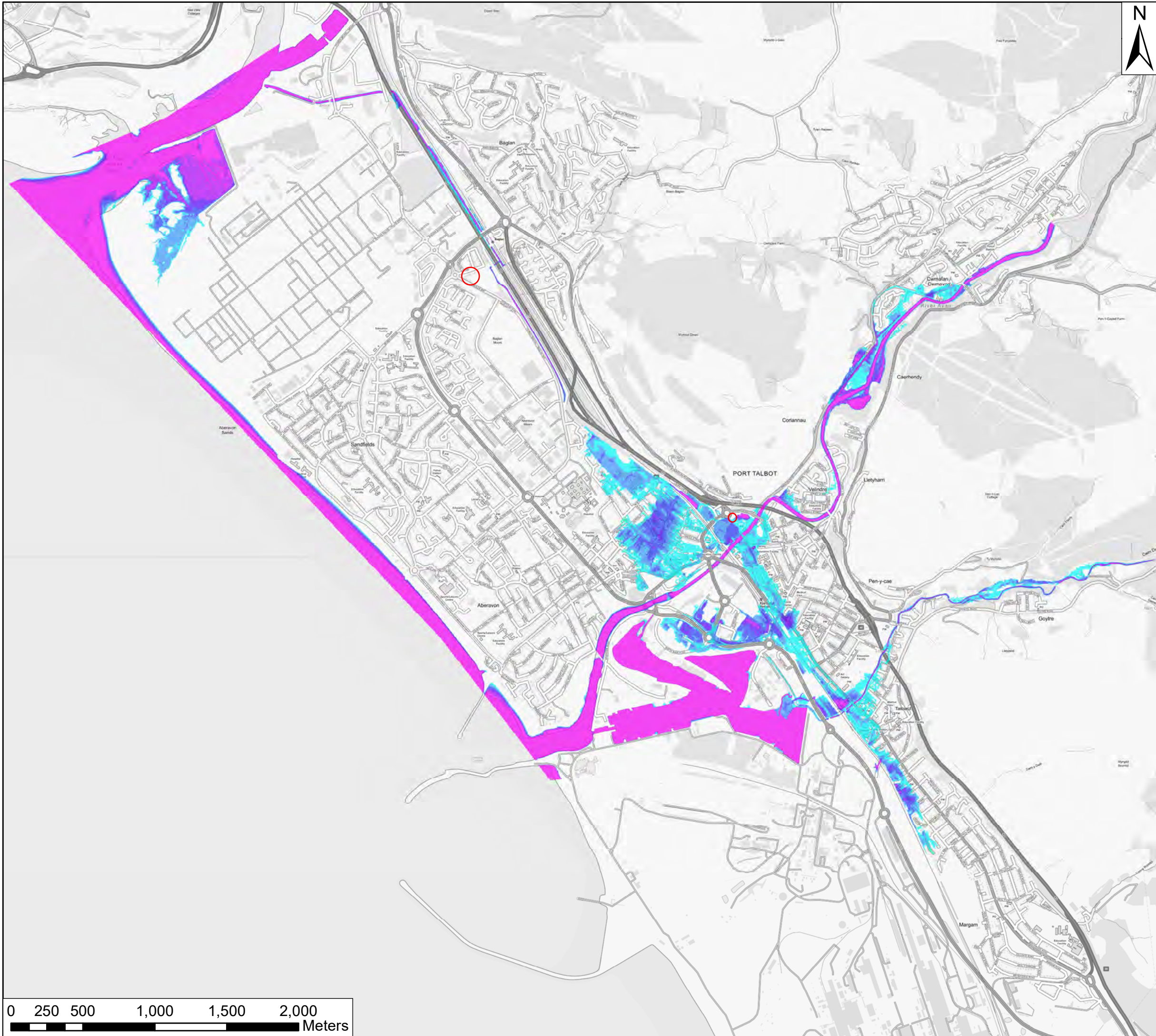
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for

Neath Port Talbot County Borough Council

Port Talbot Harbourside PAR
Fluvial Depth Grid - 1% AEP

Scale: 1:25,000 Original @ A3	Drawn	MOF	04/05/2017
	Checked	GB	04/05/2017
	Approved	GB	04/05/2017
Digital File Name: 2016s4827_PT_005.MXD			
Drawing 2016s4827_PT_005		Sheet No.: 5 of 16	Rev.: A



KEY

Fluvial 1% AEP event + climate change

Depth (m)

0 - 0.25

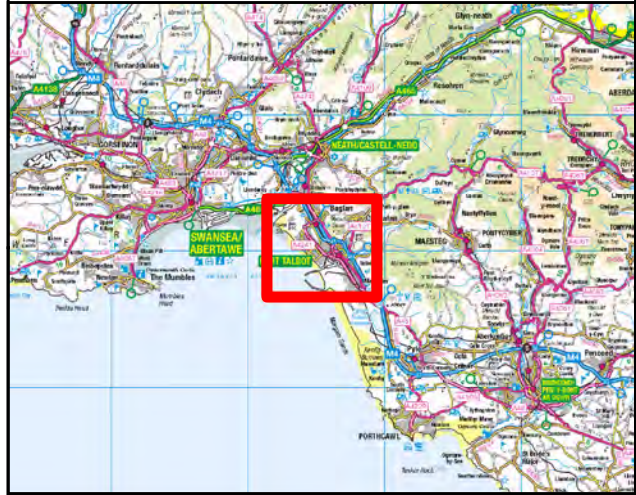
0.25 - 0.5

0.5 - 0.75

0.75 - 1

1 - 1.5

1.5 +

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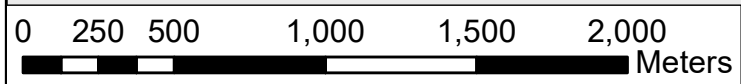
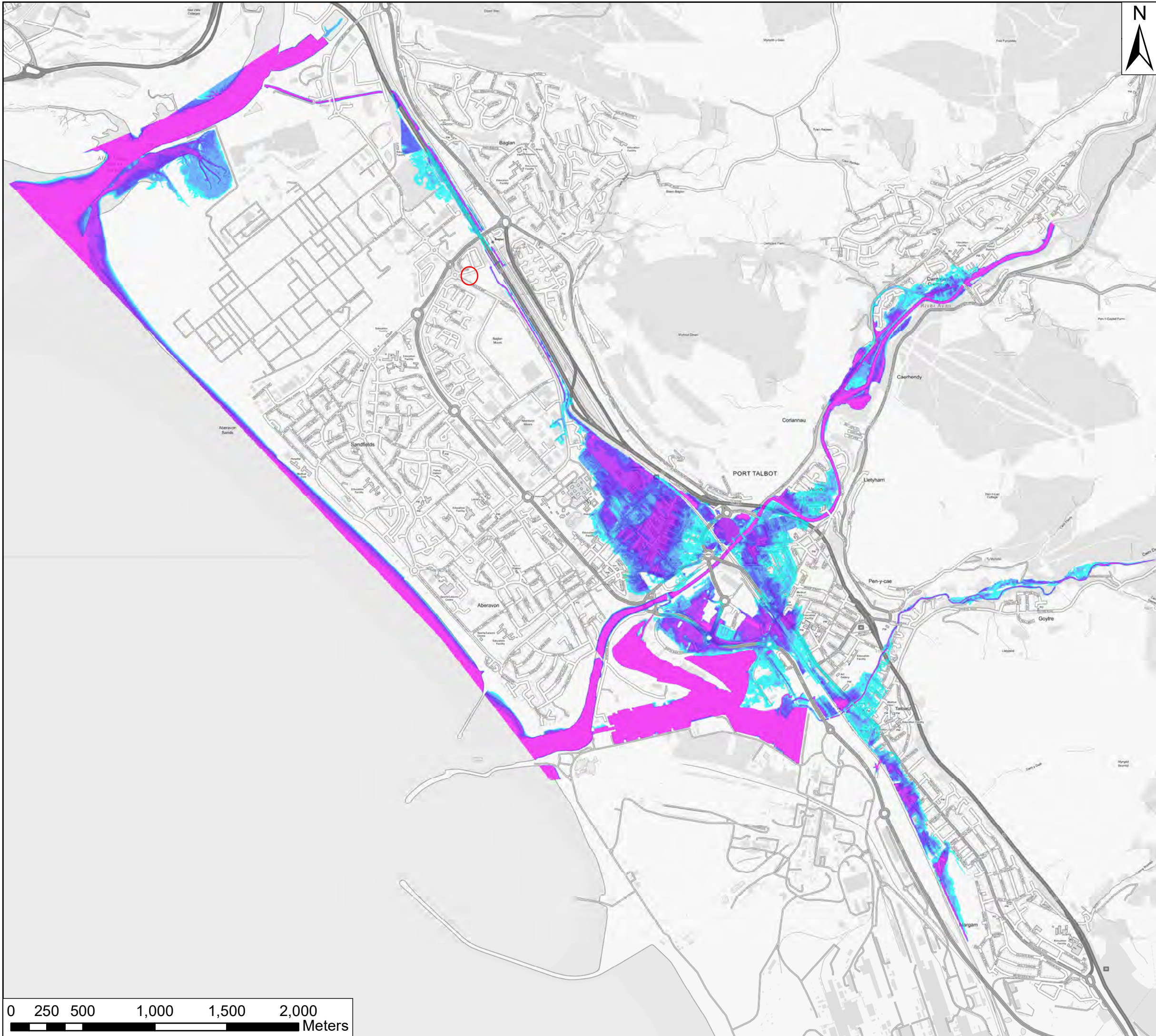
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for

Neath Port Talbot County Borough Council

Port Talbot Harbourside PAR
Fluvial Depth Grid - 1% AEP
plus Climate Change

Scale: 1:25,000 Original @ A3	Drawn	MOF	04/05/2017
	Checked	GB	04/05/2017
	Approved	GB	04/05/2017
Digital File Name: 2016s4827_PT_006.MXD			
Drawing 2016s4827_PT_006		Sheet No.: 6 of 16	Rev.: A



KEY

Fluvial 0.1% AEP event

Depth (m)

0 - 0.25

0.25 - 0.5

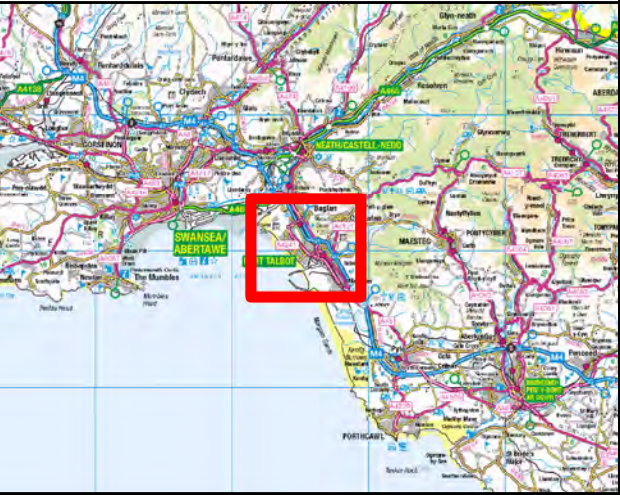
0.5 - 0.75

0.75 - 1

1 - 1.5

1.5 +

KEYPLAN



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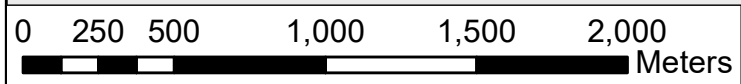
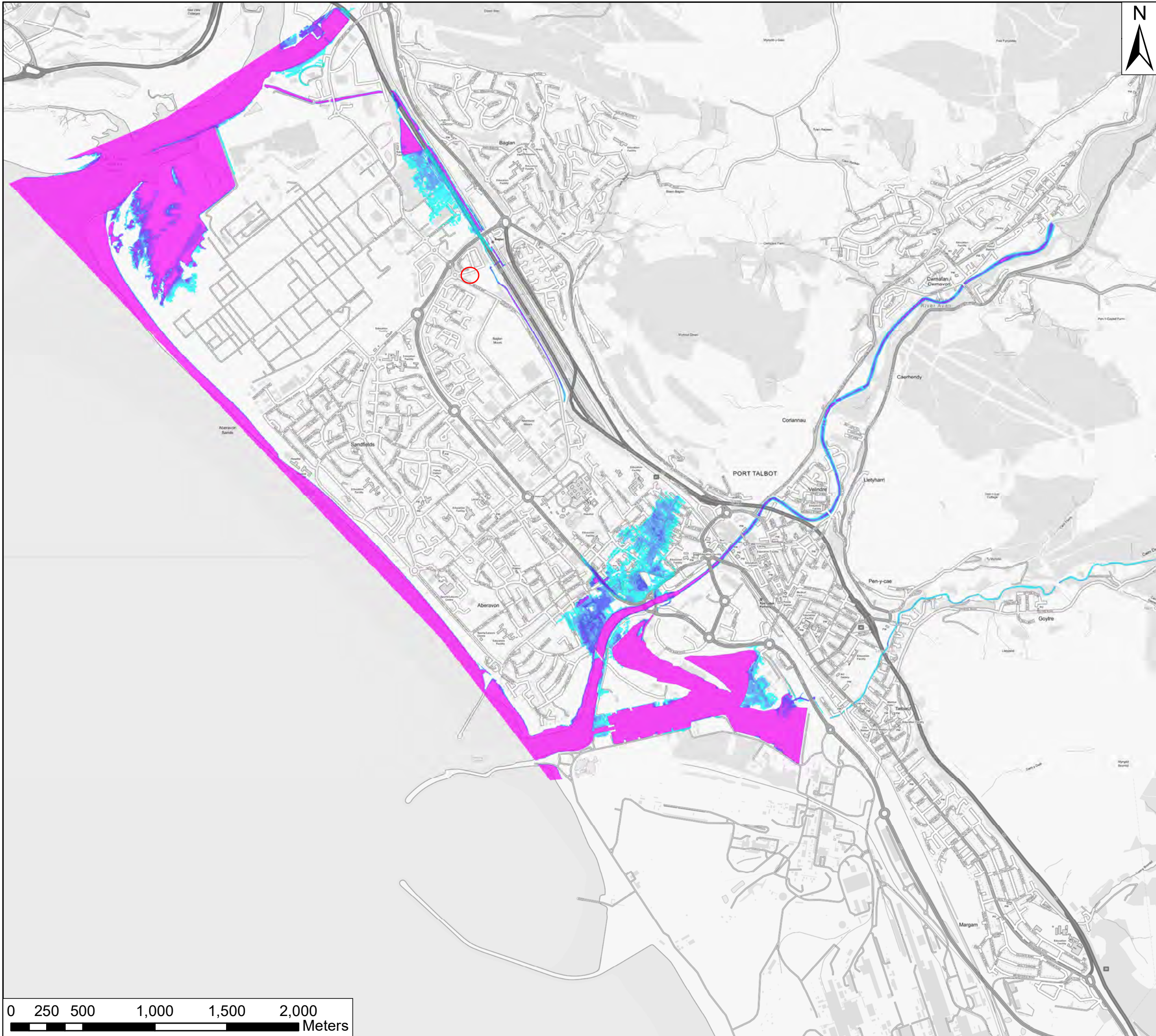
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for

Neath Port Talbot County Borough Council

Port Talbot Harbourside PAR
Fluvial Depth Grid - 0.1% AEP

Scale: 1:25,000 Original @ A3	Drawn	MOF	04/05/2017
	Checked	GB	04/05/2017
	Approved	GB	04/05/2017
Digital File Name: 2016s4827_PT_007.MXD			
Drawing 2016s4827_PT_007		Sheet No.: 7 of 16	Rev.: A



KEY

Tidal 0.5% AEP event (2116)

Depth (m)

0 - 0.25

0.25 - 0.5

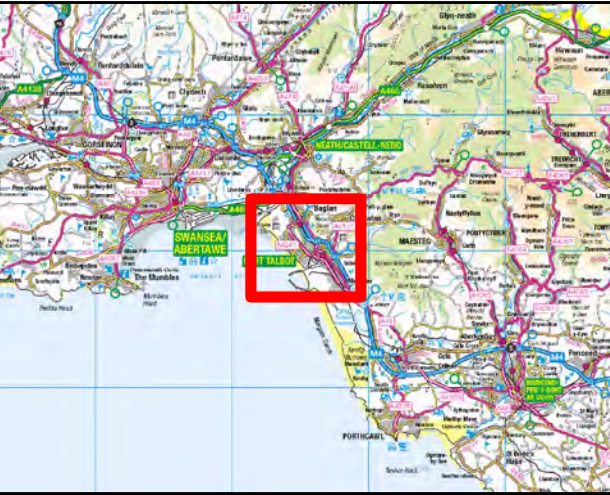
0.5 - 0.75

0.75 - 1

1 - 1.5

1.5 +

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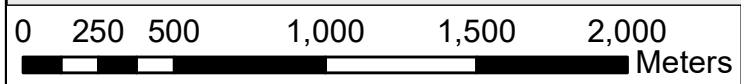
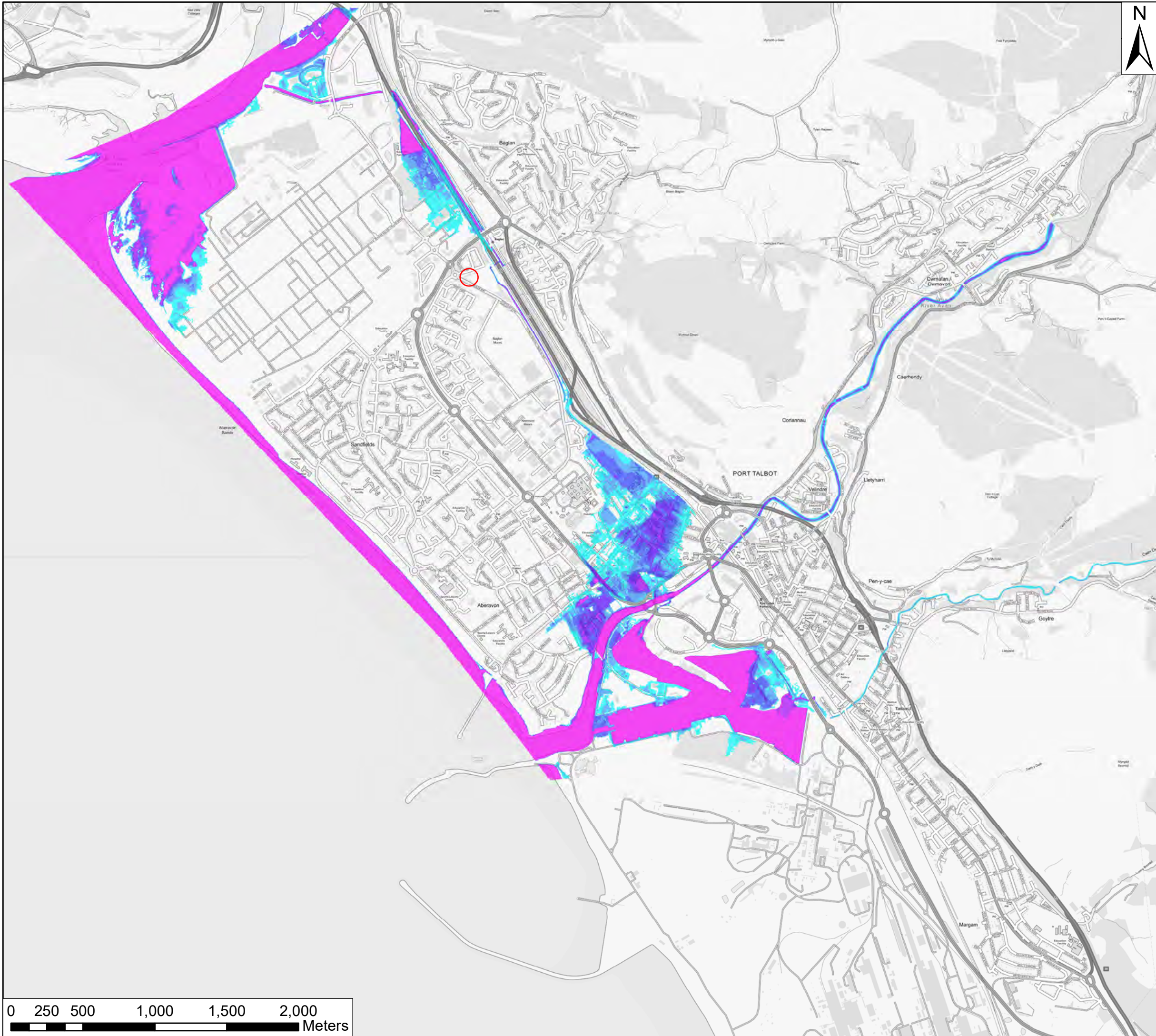
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for

Neath Port Talbot County Borough Council

Port Talbot Harbourside PAR
Tidal Depth Grid - 0.5% AEP

Scale: 1:25,000 Original @ A3	Drawn	MOF	04/05/2017
	Checked	GB	04/05/2017
	Approved	GB	04/05/2017
Digital File Name: 2016s4827_PT_008.MXD			
Drawing 2016s4827_PT_008		Sheet No.: 8 of 16	Rev.: A



KEY

Tidal 0.1% AEP event (2116)

Depth (m)

0 - 0.25

0.25 - 0.5

0.5 - 0.75

0.75 - 1

1 - 1.5

1.5 +

KEYPLAN

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for

Neath Port Talbot County Borough Council

Port Talbot Harbourside PAR
Tidal Depth Grid - 0.1% AEP

Scale: 1:25,000 Original @ A3	Drawn	MOF	04/05/2017
	Checked	GB	04/05/2017
	Approved	GB	04/05/2017

Digital File Name: 2016s4827_PT_009.MXD

Drawing 2016s4827_PT_009	Sheet No.: 9 of 16	Rev.: A
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