

Flood Consequences Assessment (FCA) For:

Proposed Class 7 MOT Test Centre
Unit D, North Bank Road
Port Talbot
SA13 1RE

Prepared for:

PTB Properties Ltd

17592 – FCA – R05

January 2025

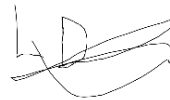
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Document Checking:

Prepared By: L Davies

Signed:



Checked By: R Peskett

Signed:



Verified By: P Graham

Signed:



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Purpose of the report

Vale Consultancy has been instructed by *The Client* to prepare a Flood Consequences Assessment (FCA) report to accompany a planning application for the proposed development of a Class 7 MOT Test Centre at Unit D, North Bank Road, Port Talbot ("The Site") for general industry. The assessment has been undertaken in accordance with the requirements of Technical Advice Note 15 (TAN 15) dated July 2004 and taking into account the revised (draft version) of TAN 15 (January 2023). This is a revision to the initial FCA (s). The main purpose is to address the only outstanding consideration that has seemingly been overlooked in the previous reports and which is associated with their concern regarding 'Flood Risk Elsewhere'. In their most recent comments (07.11.2024) NRW have stated;

'Having reviewed and responded to previous versions (our reference CAS-254223-G2R0, CAS-258156-J6H2 and CAS-261473-G5P9) of the FCA submitted by Vale Consultancy in this review (Doc Ref. 17592-FCA-R04) we have only assessed the information related to increased flood risk elsewhere on this occasion';

'From the information submitted we note that the FCA has relied on flood risk information publicly available from NRW to assess the flood risk to the site, which has been identified as catchment wide modelling rather than that of a site-specific nature. The FCA has stated that maximum volume of displaced flood water due to the proposed development is 61.35m², and that the remaining meterage of the application site is 1561.56m² and deduced that this will result in an increased flood depth across the site of 30mm' And;

'It is not clear from the information provided within this latest FCA how it can be proven that this displaced flood water will remain within the application red line boundary and not cause an impact elsewhere, however we acknowledge that this is a small volume of water that could be potentially displaced over the perceived area of flood risk area'.

Flood displacement calculations have been revised in light of the altered orientation of the proposed units and which results in lower volumes of potentially displaced inundation / storage compared to that under the previous proposed layout.

1 INTRODUCTION

1.1 Site Location and Proposed Development

The approximately 0.23 ha site is located at Ordnance Survey National Grid Reference SS 759 895.

The site is located to the north of Port Talbot Docks.

The site is bounded by the A4241 highway to the north, undeveloped land with overgrown vegetation to the east, industrial units to the south and the 'Dock Feeder' surface water feature to the west.

For the purposes of this report, the site is considered to be *Brownfield* or *Previously Developed Land*.

In its existing state, the site is currently vacant and was previously used for HGV / Lorry Storage.

Provision of site access / egress is primarily from North Bank Road, but also from the A4241 highway.

North Bank Road predominantly and exclusively provides access / egress to this site and the neighbouring industrial (less vulnerable) sites in the vicinity. It is not considered critical infrastructure and does not serve as such; particularly during a flood event.



Figure 1: Site Location Satellite Plan

The proposal is for the construction of an industrial unit, comprising 4 no. self – contained units, with 1-2 operating as a class 7 MOT Centre for Vans and Cars and units 3, 4 and 5 for a B2 or B8 use class.

A proposed FFL of **7.85 m AOD** is indicated for this site.

TAN15 classifies general industrial development as *Less Vulnerable* Development.

1.2 Existing Topography

Topographic levels to metres Above Ordnance Datum (m AOD) have been derived from a topographical survey undertaken by Gerald Blain Associates Ltd in April 2023. The client has provided a copy of the topographical survey which is included as **Appendix C**, for reference.

A review of survey data indicates levels ranging between a maximum of 10.43m AOD in the west and a minimum of 7.54m AOD in the north west extent of the site.

Generally, the site is relatively flat. The heightened topographical levels in the west extent of the site are indicative of a raised bank which segregates the site from the adjacent Dock Feeder. Refer to **Figure 2** below, which is taken from satellite mapping street view.

Further afield, the wider topography generally slopes from north east to south west; towards Baglan Bay.



Figure 2: Satellite Street-View Image of the Site

1.3 Existing Ground Conditions

Reference to the British Geological Survey (BGS) online mapping (1:50,000 scale) indicates the site and surrounding area are underlain and characterised by Made Ground (Landscaped Ground Undivided – Artificially Modified Ground).

Landscaped Ground is an area where the land surface (natural or artificial) has been extensively remodelled, but where it is impracticable or impossible to delineate separate zones of Made Ground, Worked Ground, or Disturbed Ground.

Superficial Deposits are defined as Tidal Flat Deposits comprising Clay, Silt and Sand.

Bedrock geology is defined as South Wales Middle Coal Measures Formation comprising Mudstone, Siltstone and Sandstone.

According to the British Geological Survey and Natural Resources Wales aquifer designation dataset the superficial deposits and bedrock are classified as Secondary A aquifers. The site is not shown to be located in a designated groundwater source protection zone.

1.4 Existing Site Drainage

Public sewer records have not been obtained from DCWW at this stage. Reference to online mapping tools indicates that North Bank Road and the wider industrial estate are served by formal drainage infrastructure.

2 PLANNING POLICY

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.

The general approach of TAN15 is to set out a precautionary framework to guide planning decisions at high risk of flooding by:

- Directing new development away from high-risk areas
- Where development has to be considered in high-risk areas (Zone C) only those developments which can be justified should be located in these areas

In accordance with paragraph 6 of TAN15, development will only be justified if it can be demonstrated that:

- 1) Its location in Zone C is necessary for local authority regeneration
- 2) Its location in Zone C contributes to key employment objectives

And,

- i) It meets the aims of PPW and meets the definition of previously developed land (PPW Figure 2.1; and,
- ii) The potential consequences of a flooding event for a 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.

A revised version of TAN15 and updated Flood Map for Planning are due to be published in the near future (albeit the timing is yet to be confirmed by Welsh Government). The Flood Map for Planning currently holds no formal weight as it is not yet national policy, but Welsh Government advise this is the best available information.

National Policy requires that planning applications for new development proposals should incorporate sustainable drainage systems (SuDS) to appropriate operational standards and with maintenance arrangements in place unless there is clear evidence that this would be inappropriate.

Statutory standards for sustainable drainage were published by Welsh Government in October 2018 in relation to the design, construction, operation and maintenance of sustainable drainage systems serving new developments of more than one house or where the construction is equal to or greater than 100m². These standards set out how surface water runoff generated during the present day 1 in 1, 1 in 30 and 1 in 100 AEP rainfall events and for events exceeding the present day 1 in 100 AEP event should be managed, how peak runoff rates should be restricted and how runoff volumes should be controlled. Approval is subsequently required from the SuDS Approval Body (SAB) before construction.

2.2 Local Planning Policy

The Neath Port Talbot County Borough Council Local Development Plan (LDP) (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

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:

1. 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;
2. Greenhouse gas emissions from transport will be minimised through encouraging freight / commercial transport by alternatives to road (e.g. rail or sea);
3. 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;
4. 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:

1. Likely increased flood risk will be taken into account and addressed by ensuring that there is greater resilience by avoiding development on land that is

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

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;

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

LDP Objective: OB 1 and OB 2

3.0.3 Climate change is likely to affect the environment and future development of Neath Port Talbot in a range of significant ways, some of which are not fully predictable at present. It is also necessary to reduce greenhouse gas production as far as reasonably possible in order to minimise the causes of climate change. These issues are considered to be of fundamental importance to the LDP and have influenced every aspect of the Plan's development. Climate change is consequently seen as an overarching matter to be addressed by all topic areas.

3.0.4 The measures outlined in the climate change strategic policy have therefore fundamentally influenced the development of the Plan, and will be addressed and implemented through all its policies and proposals. Development allocations have been selected in accordance with sustainable development principles to be in locations that minimise as far as possible dependence on the private car and can benefit from local services and facilities, while encouraging the provision of locally based facilities in order to address the causes of climate change. At the same time, the effects of a changing climate (for example flood risk) have been taken into account as far as possible in all the Plan allocations and policies.

3.0.5 New developments will be expected to avoid unnecessary flood 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[®] 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.

2.3 Environmental Permitting and Land Drainage Consents

Under the Environmental Permitting Regulations 2016, an Environmental Permit for Flood Risk Activities is required from Natural Resources Wales for any permanent or temporary works, including works:

- In, over or under a designated main river
- Within 8m of the top of bank of a designated main river or of the landward toe of a flood defence (16m) if it is a tidal main river or a sea defence.

In addition, any permanent or temporary works within the floodplain of a designated main river may also require an Environmental Permit for Flood Risk Activities. A permit is separate to and in addition to any planning permission granted.

3 SOURCES OF FLOODING AND PROBABILITY

3.1 Historical Records of Flooding

The Flood Map for Planning – Recorded Flood Extents and associated database indicates that there are no records of historical flooding at or in the immediate vicinity of the site.

3.2 Flood Risk from the Sea (Tidal) and Rivers (Fluvial)

The Dock Feeder is located adjacent to the site's western boundary, flowing from north to south from here.

The River Afan which is identified as a **Main River** by NRW is located approximately 80m north west from the site, and flowing from north to south from here before discharging into Baglan Bay.

The Port Talbot Docks is located 250 m south of the site.

Figure 1 of TAN15 defines three development advice zones:

- Zone A: Considered to be at little or no risk of fluvial / coastal flooding
- Zone B: Areas known to have been flooded in the past evidenced by sedimentary deposits
- Zone C: Based on Natural Resources Wales flood outline, equal to or greater than 0.1% (river, tidal or coastal). Zone C is subdivided into two zones:
 - 1) Zone C1: Areas of the floodplain which are developed and served by significant infrastructure
 - 2) Zone C2: Areas of the floodplain without significant defence infrastructure.

The Development Advice zones are shown on the Development Advice Map and are defined by the predicted extent of the 1 in 1,000 (rivers and sea) AEP event (zone C) and the British Geological Survey drift data (Zone B). The zones do not take into account the possible impact of climate change. The Development Advice Map indicates the site to be located within Zone B and C2.

The Flood Map for Planning – Rivers and Sea indicates the site to be located in Flood Zone 1 and 2 (Rivers) and Flood Zone 1 (Sea). The site is also in a TAN15 defended zone (Rivers and Sea). The notion that the site is located in C2 is questionable as C2 is defined as "Areas of the floodplain without significant defence infrastructure". Considering that the site is TAN15 Defended (Rivers), this does not support the C2 classification, but rather the site should be classified as being located in Zone B and C1.

The flood zones are defined as follows and include the effects of climate change:

- Flood Zone 1 (Rivers and Sea): Less than 1 in 1,000 chance of flooding from rivers and the sea in a given year
- Flood Zone 2 (Rivers): Areas with a 1 in 1,000 to 1 in 100 chance of flooding from rivers in a given year.
- Flood Zone 3 (Rivers): Areas with more than a 1 in 100 chance of flooding from rivers in a given year
- Flood Zone 2 (Sea): Areas with a 1 in 1,000 to 1 in 200 chance of flooding from sea in a given year

- Flood Zone 3 (Sea): Areas with more than a 1 in 200 chance of flooding from the sea in a given year
- TAN15 Defended Zones: Areas that benefit from Risk Management Authority flood defences with a present day 1 in 100 and 1 in 200 AEP standard of protection for rivers and the sea respectively.

No tidal flood defences are present at this location.

Natural Resources Wales has provided Vale Consultancy with Product 5 and 6 Data from the River Afan within the Port Talbot_5_V3.2_2022 model for the undefended and defended scenarios. The model was run for the present day 2022 T200 + Q0002 (Fluvial Contribution) AEP Event, 2022 T1000 + Q0002 (Fluvial Contribution), 2122 T200 + Q0002 (Fluvial Contribution) and 2122 T1000 + Q0002 (Fluvial Contribution). The development lifetime expectancy of the development is only for 75 years (2099) therefore the model results provided are deemed to be “conservative”. During all aforementioned AEP events, the site is not considered to flood up to and including the undefended 2122 T1000 AEP event, therefore the risk from tidal sources is concluded to be *Low*.

Fluvial defences are located 140 m northeast of the site in the form of embankment on the Left Bank of the River Afan (Asset ID: EMB1500158). The defence has a length of 342 m and is currently in fair condition. The defence has design crest level of between 8.65 m AOD and 9.29 m AOD, here. Natural Resources Wales has provided Vale Consultancy with Product 5 and 6 Data from the River Afan within the Port Talbot_5_V3.0_2022 model. These have been carried out for 2016 and 2116 for the defended and undefended scenarios, with model information only provided for 2016 for culvert scenarios. These include a tidal contribution (TMHWS). The results recorded at / within the site are provided below:

Defended 2016

Baseline Level + T200 – No flooding;

Baseline Level + T200 – No flooding;

Q100 + TMHWSCC – No flooding;

Q1000 + TMHWSCC – 7.935 m AOD (Maximum Estimated Depth – 0.395 m, Maximum Estimated Velocity – 0.252 m/s).

Defended 2116

Baseline Level + T200 + CCA – No flooding;

Baseline Level + T200 + CCA – No flooding;

Q100 + CCA + TMHWSCC – No flooding;

Q1000 + TMHWSCC + CCA – 8.021m AOD (Maximum Estimated Depth 0.481 m, Maximum Estimated Mean Depth – 0.148m, Maximum Estimated Velocity – 0.397 m/s).

Undefended 2016

Baseline Level + T200 – No flooding;

Baseline Level + T200 – No flooding;

Q100 + CCA + TMHWSCC – No Flooding;

Q1000 + TMHWSCC – No flooding.

Undefended 2116

Baseline Level + T200 – No flooding;

Baseline Level + T200 – No flooding

Q100 + TMHWSCC – No flooding;

Q100 + CCA + TMHWSCC – No Flooding;

Q1000 + CCA + TMHWSCC – 7.904 m AOD (Maximum Estimated Depth – 0.364 m, Maximum Estimated Mean Depth – 0.14m, Maximum Estimated Velocity - 0.12 m/s).

These results demonstrate compliance with A1.14 and A1.15 of TAN15. The results have also been used to inform and demonstrate compliance with A1.12 of TAN15 (i.e. the main aim of this revision of the FCA as per NRW's most up-to-date comments for which this (potential flood risk elsewhere) has been specified as the only outstanding issue to address in order to satisfy NRW in terms of flood risk.

3.3 Surface Water and Small Watercourses (Pluvial)

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 indicates the extent of flood risk from surface water and small watercourses. These maps indicate that the site is outside of the flood extent and is not shown to be at risk from surface water flooding, meaning it has a less than 0.1% annual probability of flooding. The access / egress route is shown to be partially within **Flood Zone 2** which is defined as 'Areas with 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.'

The Neath Port Talbot Flood Risk Management Strategy states: "The public sewer system has a finite capacity and at times of heavy rainfall, surface water entering designated surface water sewers, combined sewers (ones which receive foul and surface water flows) and designated foul sewers which are subject to penetration of surface water through misconnections, etc. can become overloaded, giving rise to surface flooding. This will include those private sewers, foul and combined, that have recently come under the aegis of DCWW. It is known that some solely storm water drains have not yet been adopted so for now remain the responsibility of the riparian owner". National scale modelling results for pluvial flood risk are summarised in Table 2, below / overleaf.

Table 2 – Summary of maximum estimated flood depths (m) and velocities (m/s) associated with pluvial flood risk

Site (Depths)	Access (Depths)	Site (Velocities)	Access (Velocities)
1 in 30 event – No Flooding	1 in 30 event – No Flooding	1 in 30 event – No Flooding	1 in 30 event – No flooding
1 in 30 - 1 in 100 event – No flooding	1 in 30 event – 1 in 100 event – No flooding	1 in 30 - 1 in 100 event – No flooding	1 in 30 - 1 in 100 event – No flooding
1 in 1000: 0.00 – 0.21	1 in 1000 – 0.17 – 0.19	1 in 1000: 0.00 – 0.05	1 in 1000: 0.02 – 0.03

There are no flow conveyance routes which would direct any surface water inundation towards the site. Therefore, it can be concluded that the risk of surface water flooding to the proposed development is **Low**.

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. This can occur if there is a blockage in the network causing water to back up behind it or if the sheer volume of water draining into the system is too great to be handled. Sewer flooding tends to occur sporadically in both location and time. As such, any inundation flows emitting from / breaching the local sewer network would be confined to the highways around the development before either re-entering the water cycle via evapotranspiration, flow away from the site following the natural fall in topography, be absorbed by local surface water drainage as and where the capacity of the system is recovered.

DG5 registers from Dŵr Cymru Welsh Water (DCWW) were analysed to investigate the occurrence of sewer flooding incidents across the County Borough. Once a property is identified on the water companies DG5 register, it typically means that the water company can put funding in place to take properties off the DG5 register. It was found that there was a total of 430 sewer flooding events that have been recorded by the water company within Neath Port Talbot, of which 355 were identified as being at high risk with 34 suffering from internal flooding.

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.

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.

The Neath Port Talbot Flood Risk Management Strategy states that;

“Groundwater flooding occurs as a result of water rising up from underlying aquifers or from water flowing from abnormal springs. This tends to occur after long periods of sustained high rainfall and the areas most at risk are often low-lying where the water table is more likely to be at shallow depth. Groundwater flooding is

known to occur in areas underlain by major aquifers, although increasingly it is also being associated with more localised floodplain sands and gravels. Historically, there are no specific areas of groundwater flooding recorded in the Neath Port Talbot area."

There are no known records of groundwater flooding incidents at or near to the site.

The site is currently overlain by mostly hardstanding which would prevent the ingress of groundwater to the surface. Both the existing and proposed site are to be overlain predominantly with hardstanding / impermeable surface which would prevent the ingress of groundwater. Therefore, it can be concluded that the risk of groundwater flooding is **Low**.

3.6 Artificial Sources of Flooding

The Dock Feeder is located adjacent to the site. However, and as already mentioned; there is a significant raised bank which segregates the site from the feeder. Furthermore, and moreover, the Product 5 and 6 data cover the Dock Feeder which is not shown to flood any of the developable areas of the site in any of the modelled scenarios.

There are no other canals or other artificial surface water bodies within the immediate vicinity of the site or surrounding area that would pose a flood risk to the site, however, the River and Canal Trust are currently working on a study to better understand the future flood risk from this source.

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. Therefore, it can be concluded that the probability of flooding from artificial sources is **Low**.

3.7 Justification Test

Figure 1 of TAN15 advises that Zone C2 is used to indicate that only less vulnerable development should be considered subject to application of the justification test, including acceptability of consequences, although in reality the site should be sited in C1 due to the presence of formal defences and that the site is TAN15 defended.

The proposed development will create a new HGV M.O.T centre on what is currently a disused, redundant Brownfield site.

Furthermore, the development proposal is typical and in keeping of those in the local vicinity. It is fair to say that alternatives for the development in this location are very limited.

The current site is somewhat dilapidated and requires work which supports the notion for the proposed development which will vastly improve the aesthetic value of the site.

The proposed site supports and creates jobs important to the LDP Policy SRA2 – Harbourside Strategic Regeneration Area and local economy.

It is concluded that the development concurs with the aims of PPW and meets the definition of previously developed land. The potential consequences of flooding, to satisfy the latter part of these conditions, have been assessed and are fully compliant with TAN15. It can be concluded that the risks are deemed to be residual, acceptable and manageable across the development's 75-year lifetime expectancy. The developer wholly accepts the potential risks and inherent consequences.

4 FLOOD RISK MITIGATION

4.1 Flood Risk Mitigation

The site is deemed to be at **Low Risk** from all forms of flooding. However, fluvial flooding poses the greatest risk, as concluded by this report.

Because all of the parameters during all events considered are within (below) maximum indicative parameters as stipulated by TAN15 – it can be ascertained that the potential consequences of flooding are deemed acceptable (especially for less vulnerable industrial development) and manageable across the lifetime expectancy of the development (75 years).

Taking a precautionary approach and as an additional factor of safety, mitigation measures should be incorporated into the proposed development.

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

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 surface water drainage) to ensure that the system functions to optimum capacity;
- Use robust flood resistant construction techniques.

All construction methods to be inherently flood resilient i.e., polished concrete floors, no plasterboard. Refer to the BS 85500: 2015, Flood resistant and resilient construction Guide to improving the flood performance.

Check your insurance

- Confirm you are covered for flooding (ask your insurer, 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 cover this area. Site owner/s 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/s 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 all 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.

It is highly recommended that The Client (developer) consults the local authority's (Neath and Port Talbot Council) Emergency Planners to comment on the details of emergency plans for the proposed site to deem if they are sufficient and accurate.

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. Installing the wrong flood protection products could mean they are ineffective, or even cause more damage

in a flood. 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 surveys, installations or building work are completed to the correct standard.

4.2 Access and Egress

Safe access / egress is provided by North Bank Road (south east) which leads to an area outside of the extreme flood extent. Evacuation should only be undertaken if safe to do so and sufficient time is allowed between the receipt of Flood Alerts / Warnings and inundation of the site, for evacuation / safe refuge to be sought. **Refer to Figure 3 - Flood Evacuation / Safe Egress Route, below.**

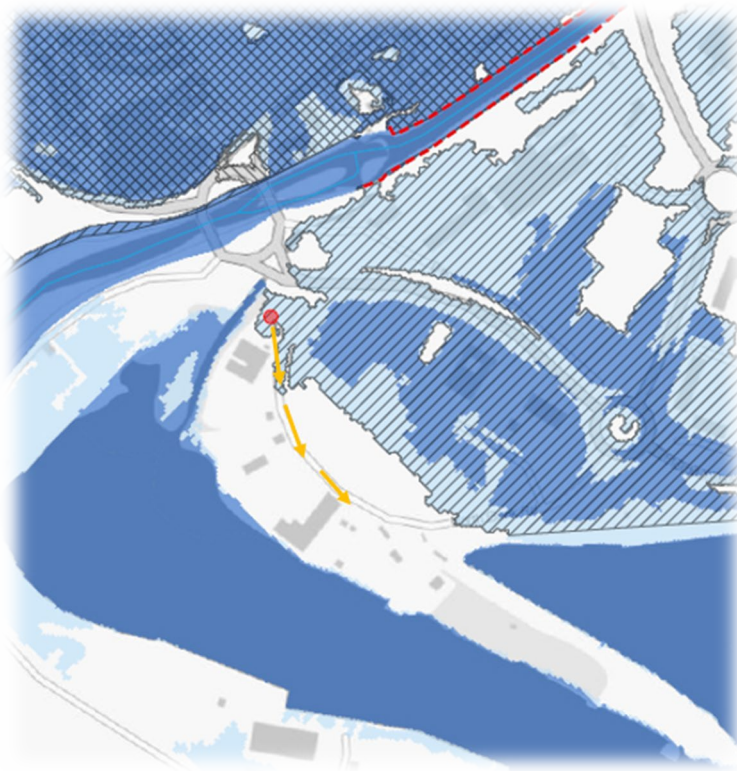


Figure 3: Proposed Flood Evacuation / Safe Egress Route

4.3 Safe Refuge Area and Flood Procedure

In the 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 typically provided. When a flood is expected Neath and Port Talbot Council, and the local emergency services will be responsible for public care and safety.

In the unlikely event of the site flooding without warning, site users should seek safe refuge in the neighbouring industrial sites (south) which are located outside of the flood extents, as and where possible until safe to evacuate.

4.4 Finished Floor Level (FFL)

The finished floor level of the building (s) will be 7.85 m AOD.

4.5 Flood Risk Elsewhere

*Supplementary Note: The old (previous) information (hydraulic calculations relating to potential loss of flood storage / displacement of inundation waters during critical extreme modelled events as a result of the proposals) in order to address A1.12 of TAN15 was based on the old / previous orientation where the building / units were located within the northwest extent of the site and parallel to the dock feeder. The new and updated calculations as presented within this revision (R05) of the FCA are reflective of the updated proposed orientation.

In accordance with A1.2 of TAN15 developers must ensure there will be no loss of flood flow or flood storage capacity for floods up to the severity of the 1 in 1,000 AEP event. Whilst not specified by TAN15, Natural Resources Wales generally recommends that this should be the case over the lifetime of the development (i.e. should take into account climate change) and should consider breach and blockage where necessary.

Although the site is shown to flood partially during the Defended Q1000 Fluvial Event (notwithstanding compliance with A1.15 of TAN15 is achieved); an average estimated flood depth of **0.012m** (12mm) has been calculated in the area concerned with the proposed development.

The new proposed unit has a building footprint / surface area of **409m²**. Therefore, the proposals could potentially displace up to and approximately 5m³ of inundation waters. This volume of water is considered negligible when considered over the wider, catchment wide modelled extents. When this basic hydraulic calculation is 'reversed' by dividing the maximum estimated volume of potentially displaced inundation waters (5m³) by the total site area as defined by the redline application site boundary (1970m²) then an average increase in flood depth across the site of 0.0025m (or 2.5mm) could occur.

An average depth of 0.14m is recorded during the Q1000 Fluvial Undefended event plus CCA + TMHWSCC across the site. However, the area subject to proposed location of units is shown to be outside of the flood extent and therefore no potential displacement for flood water / storage.

An average depth of 0.148m is recorded during the Q1000 Fluvial Defended event plus CCA + TMHWSCC across the site. An average depth of 0.07m is recorded in the area subject to the proposed location of new units. Therefore, the proposals could potentially displace up to and approximately a maximum volume of 31.3m³ of inundation water.

And based upon a review of the topographical data; any displaced floodwaters would be conveyed north and then south east towards the site access / egress. No third-party land / infrastructure would be affected. The neighbouring industrial site and units (south / south west) from the site is located at higher topographical levels. There is / are no flow conveyance routes and the water would need to travel 'up' and through overgrown vegetation. This would not occur and any excess flows (including minor displaced inundation waters discussed) would be conveyed toward the existing site access / egress as demonstrated in the **Flow Exceedance Route Plan, Appendix D**.

Furthermore, North Bank Road naturally falls gradually from south to north and falls toward the site which is the last one served by the road and within the cluster of industrial sites. Excess surface water flows naturally flow this way and can be seen 'pooling' on the other side of the road on google streetview. Refer to Figure 4, below / overleaf.



Figure 4: Google Streetview of site access / egress

Refer to additional outputs in Appendix D.

Any potential 'loss' of floodplain storage / displacement of inundation waters as a result of the proposals would only occur in the modelled Q1000 Fluvial Event and above. The lifetime expectancy of the less vulnerable, industrial development is 75-years.

As previously discussed, the hydraulic modelled data supplied by NRW and used by Vale Consultancy to inform this study is catchment wide and thus not necessarily suitable for site-specific analysis. However, and taking into consideration that the modelled data demonstrates that the site and proposals are compliant with A1.14 and A1.15 of TAN15 – additional / independent hydraulic modelling is reasonably considered superfluous to the requirements of the FCA and particularly in light of the less vulnerable proposals upon disused brownfield / previously developed land.

5.2 of TAN15 states; *Less vulnerable development describes development where the ability of occupants to decide on whether they wish to accept such risks is greater than that in the highly vulnerable category.*

7.4 of TAN15 states; *Therefore, before deciding whether a development can take place an assessment, which examines the likely mechanisms that cause the flooding, and the consequences on the development of those floods, must be undertaken, which is appropriate to the size and scale of the proposed development.*

A1.4 of Appendix 1 (TAN15) states; *Before embarking on an assessment, it is important to recognise that levels of confidence in our estimation of extreme flood events are generally not high. The high public and private costs of flooding require a precautionary approach which acknowledges the uncertainty of current forecasts. It is important that these uncertainties are acknowledged and taken fully into account to ensure that decisions are made in a sensible and pragmatic manner.*

The proposals will not result in any change of the flooding regime both upstream and downstream of the site.

Re-profiling of the site levels and / or provision of flood compensatory storage have been discounted as it would be highly impractical and unrealistic for the developer. These are not deemed appropriate or necessary; especially when the potential flood depths and volumes of displaced inundation water (minimal / negligible) are considered.

Minor displacement to existing highway could occur however this would not significantly exacerbate any potential risks and / or consequences to the highway. It is anticipated that flows would be contained and conveyed within the highway kerbs lining the site access / egress point before entering the highway drainage system / re-entering the water cycle via evapotranspiration.

No other 3rd party land / infrastructure affected.

The application will be supported by a successful SAB Application in line with national and regional policy and guidance. This will ensure that surface water flows are managed effectively and efficiently on-site and at its source.

The existing Brownfield site is currently largely overlain by impermeable surfaces. Under the proposals, more permeable surfaces will be introduced (including soft landscaping). Under the new surface water drainage scheme which will be in alignment with national and regional policy; excess surface water on-site will be managed much more efficiently and effectively. Under pre-existing conditions (i.e. greenfield) surface water would naturally permeate into the underlying substrate, before re-entering fluvial systems via baseflow and / or overland flow. Currently, surface water flows are unfettered on site. A successful SAB Application will ensure that pre-existing greenfield is replicated as far as is practically possible.

Furthermore; the overall wider floodplain as defined by the modelled extents (i.e. catchment wide) is not site-specific.

The surrounding units and land associated with the wider industrial estate are not shown to be at risk from flooding during the Q1000 Fluvial event. It can be concluded that the proposals will not exacerbate or cause flooding to any third-party land / infrastructure.

5 CONCLUSIONS

The proposal is for development of a new HGV M.O.T Test Centre at the site including access, parking and turning area.

The FCA concludes that although the site is at **Low** Risk of flooding from all sources; fluvial flooding poses the greatest risk. However, following implementation and consideration of Mitigation Measures and Recommendations the risks are residual.

Furthermore, and moreover, the proposals are fully compliant with A1.14 and A1.15 of TAN15 and therefore the potential consequences of flooding are acceptable and manageable across the lifetime expectancy (75-years) of the development.

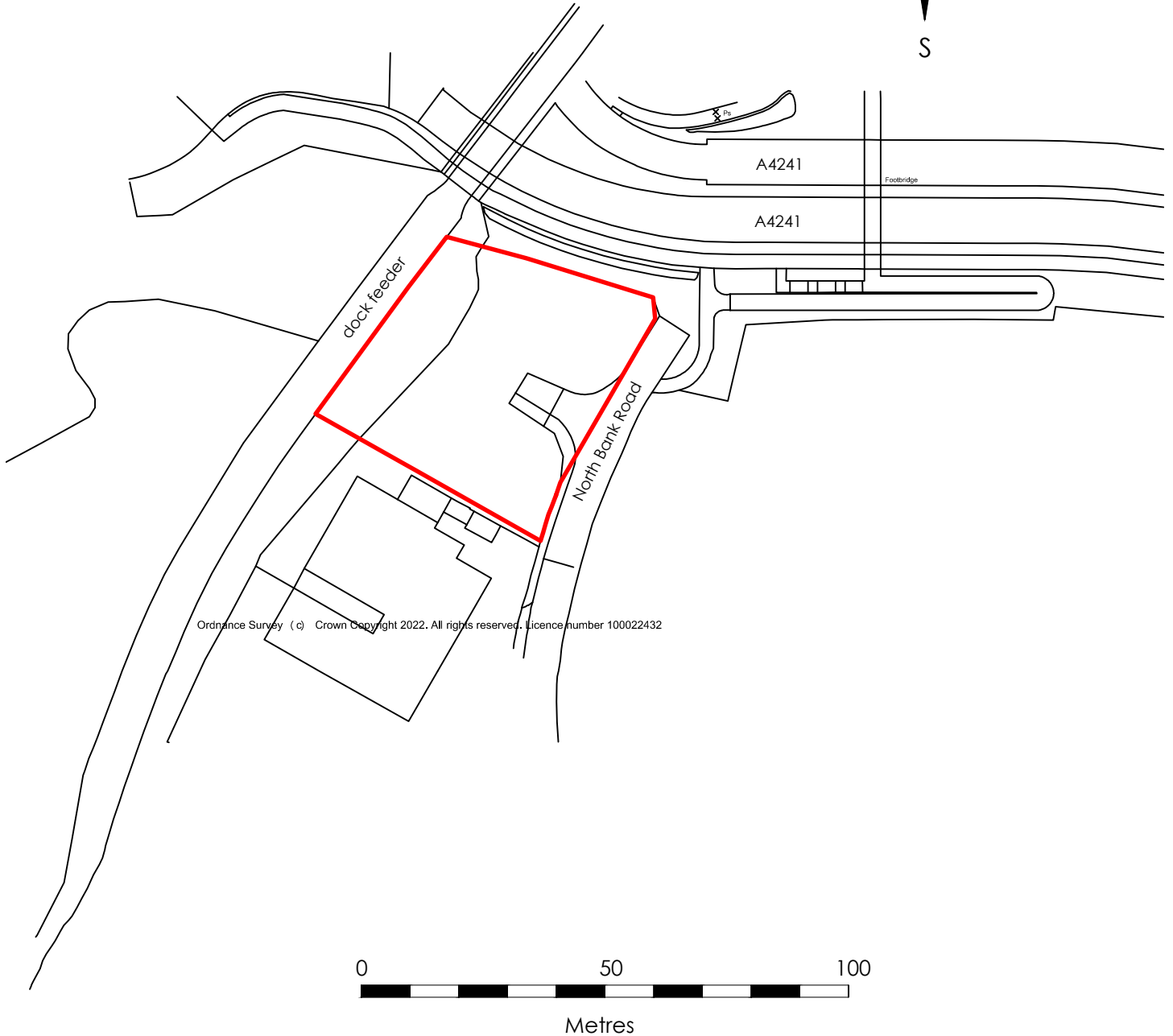
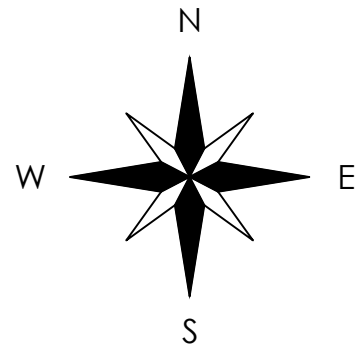
In respect of the criteria outlined in this document the findings are as follows:

- The development proposal is deemed to be compliant with PPW and TAN15.
- The main source of flood risk to the site is fluvial, though this risk can be considered residual, acceptable and manageable.
- All owner/s are to be signed up to the NRW 'Floodline Warnings Direct' scheme where possible.
- Surface water drainage to be suitably designed in line with local and national requirements.

It can be concluded that the proposals will not result in an increase in flood risk elsewhere and no third-party land / infrastructure would be affected.

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

APPENDIX A: Existing Site / Location Plan



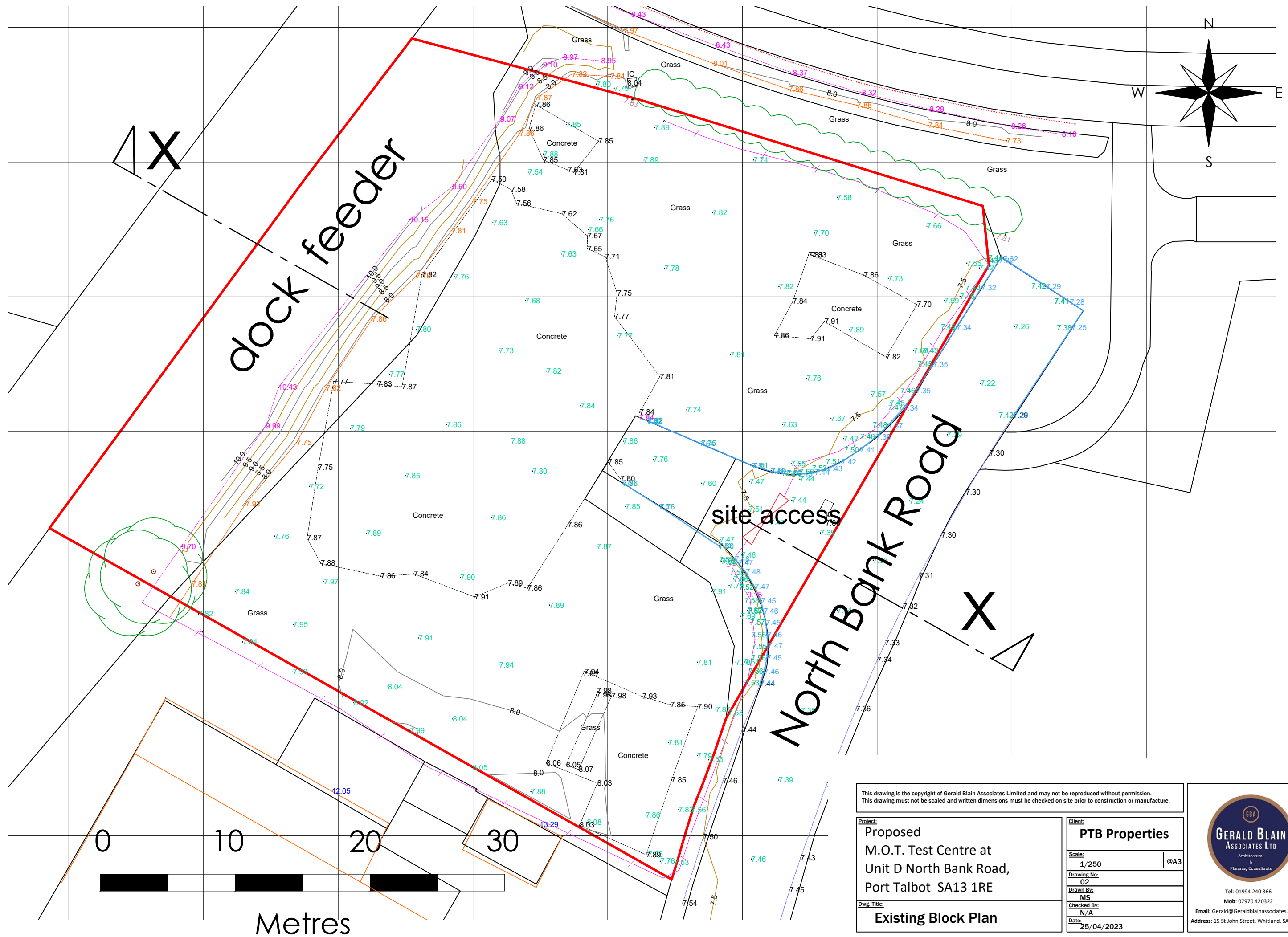
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Project: Proposed M.O.T. Test Centre at Unit D North Bank Road, Port Talbot SA13 1RE
Dwg. Title: Site Location Plan

Client: PTB Properties
Scale: 1/1250 @A4
Drawing No: 01
Drawn By: MS
Checked By: N/A
Date: 25/04/2023



Tel: 01994 240 366
Mob: 07970 420322
Email: Gerald@Geraldblainassociates.co.uk
Address: 15 St John Street, Whitland, SA34 0AN



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Project:
Proposed
M.O.T. Test Centre at
Unit D North Bank Road,
Port Talbot SA13 1RE

Existing Block Plan

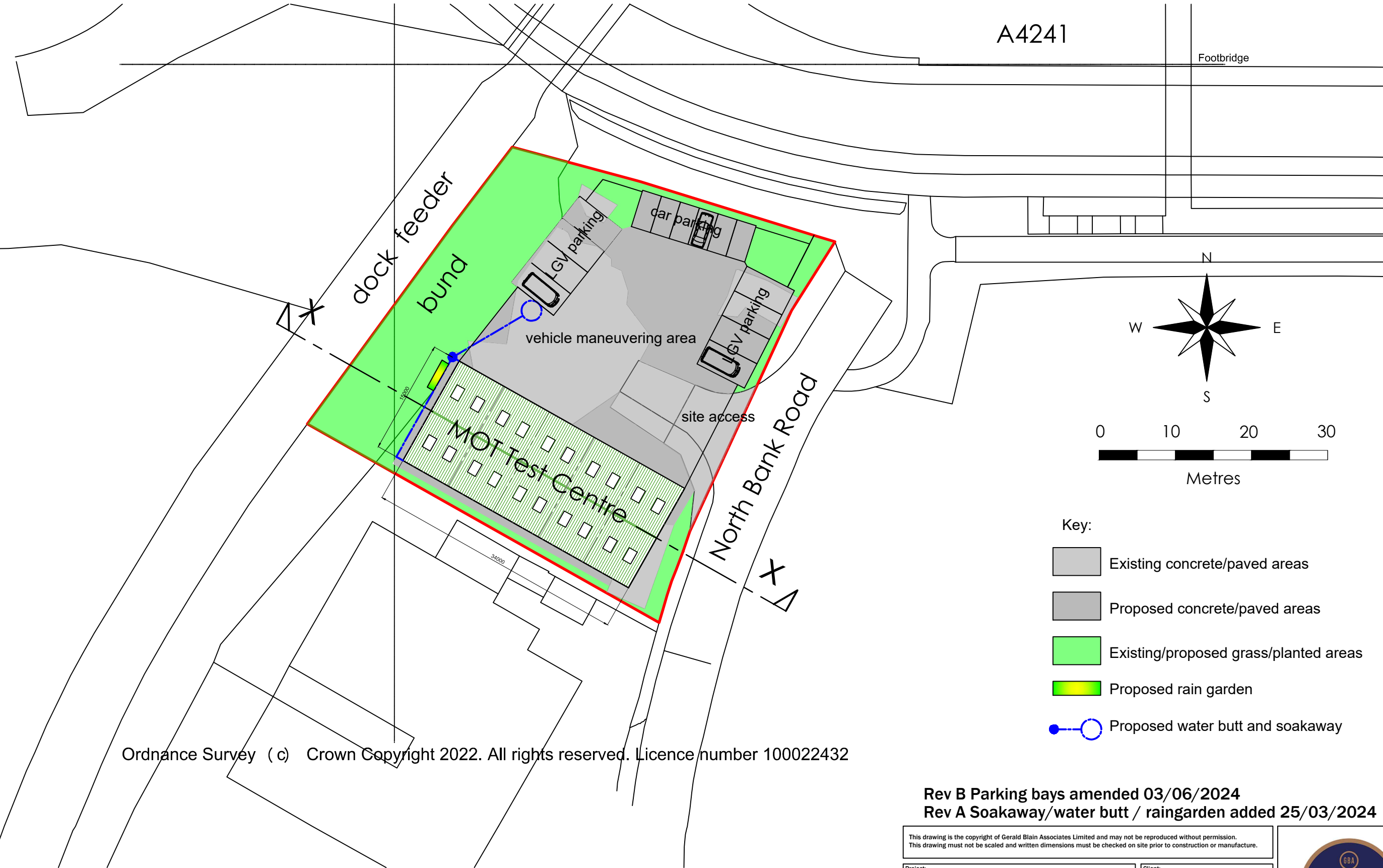
Client:
PTB Properties

Scale:	1/250	@A3
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Drawn By:	MS	
Checked By:	N/A	
Date:	25/04/2023	



Tel: 01994 240 366
Mob: 07970 420322
Email: Gerald@Geraldblainassociates.co.uk
Address: 15 St John Street, Whitland, SA34 0AN

APPENDIX B: Proposed Development Plans



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Rev B Parking bays amended 03/06/2024
Rev A Soakaway/water butt / raingarden added 25/03/2024

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Project:
Proposed Class 7 M.O.T.
Test Centre at
Unit D North Bank Road,
Port Talbot SA13 1RE

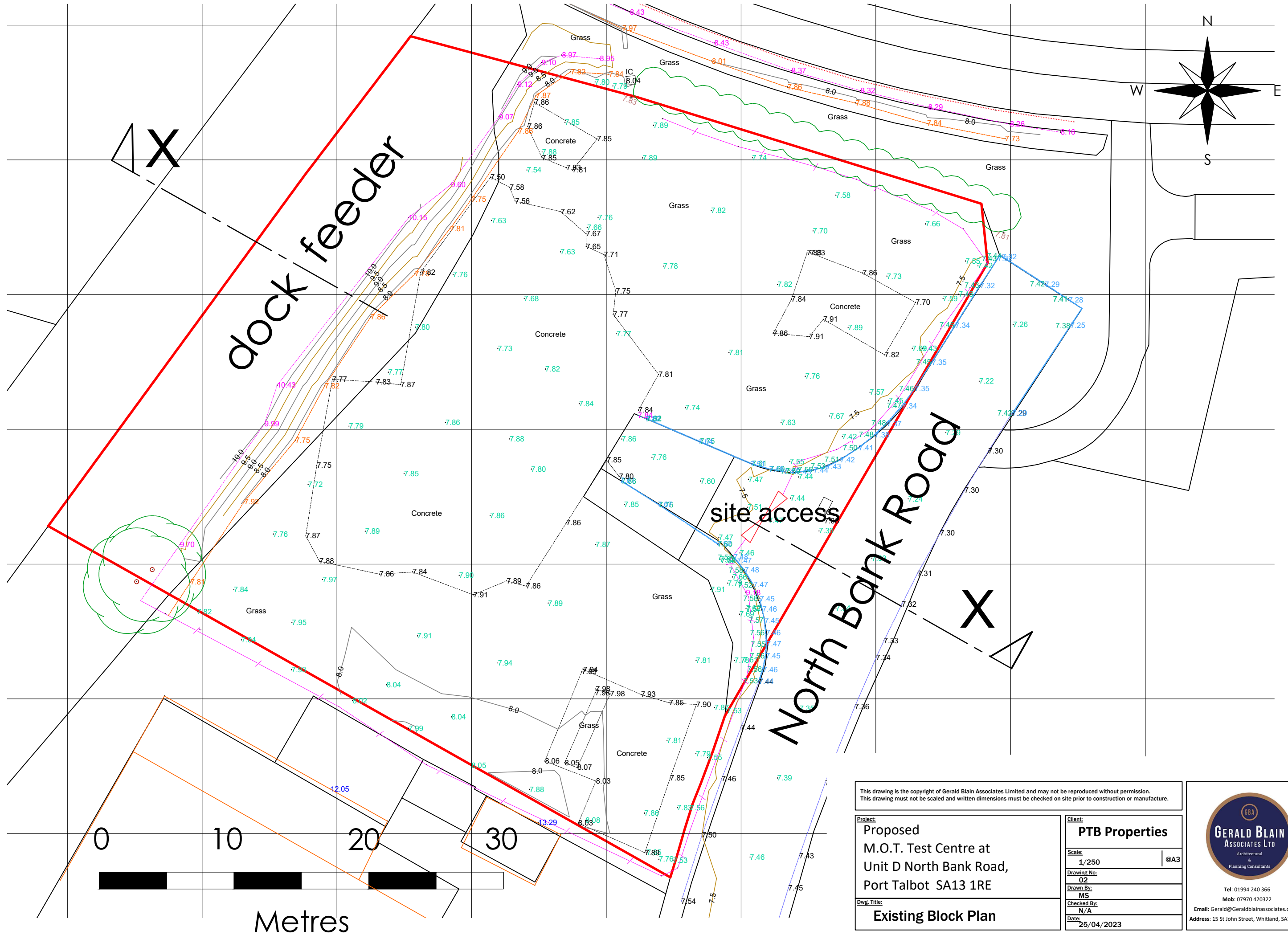
Dwg. Title:
Proposed Block Plan

Client:
PTB Properties
Scale:
1/500 @A3
Drawing No:
03
Drawn By:
MS
Checked By:
N/A
Date:
25/04/2023



Tel: 01994 240 366
Mob: 07970 420322
Email: Gerald@Geraldblainassociates.co.uk
Address: 15 St John Street, Whitland, SA34 0AN

APPENDIX C: Topographical Data

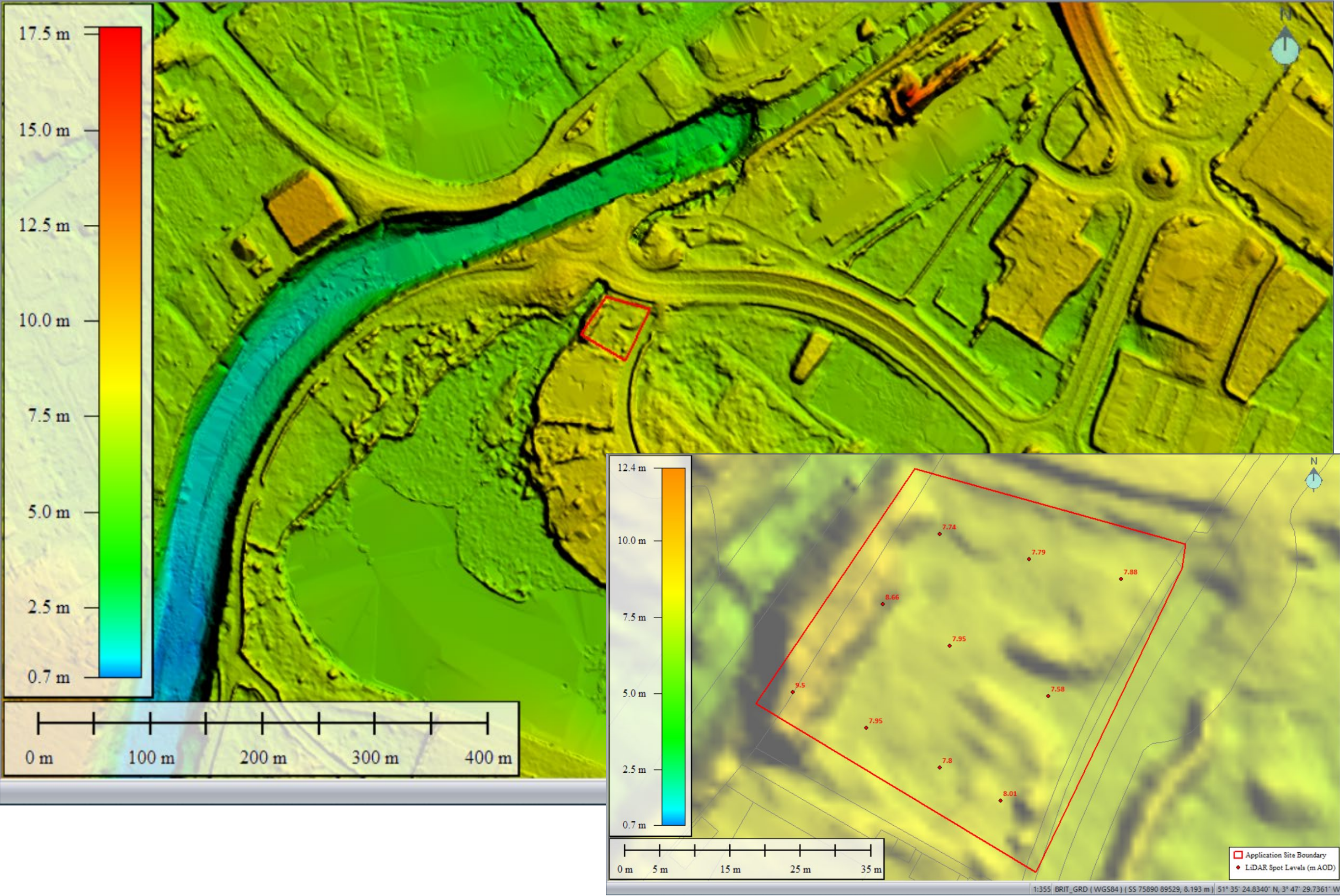


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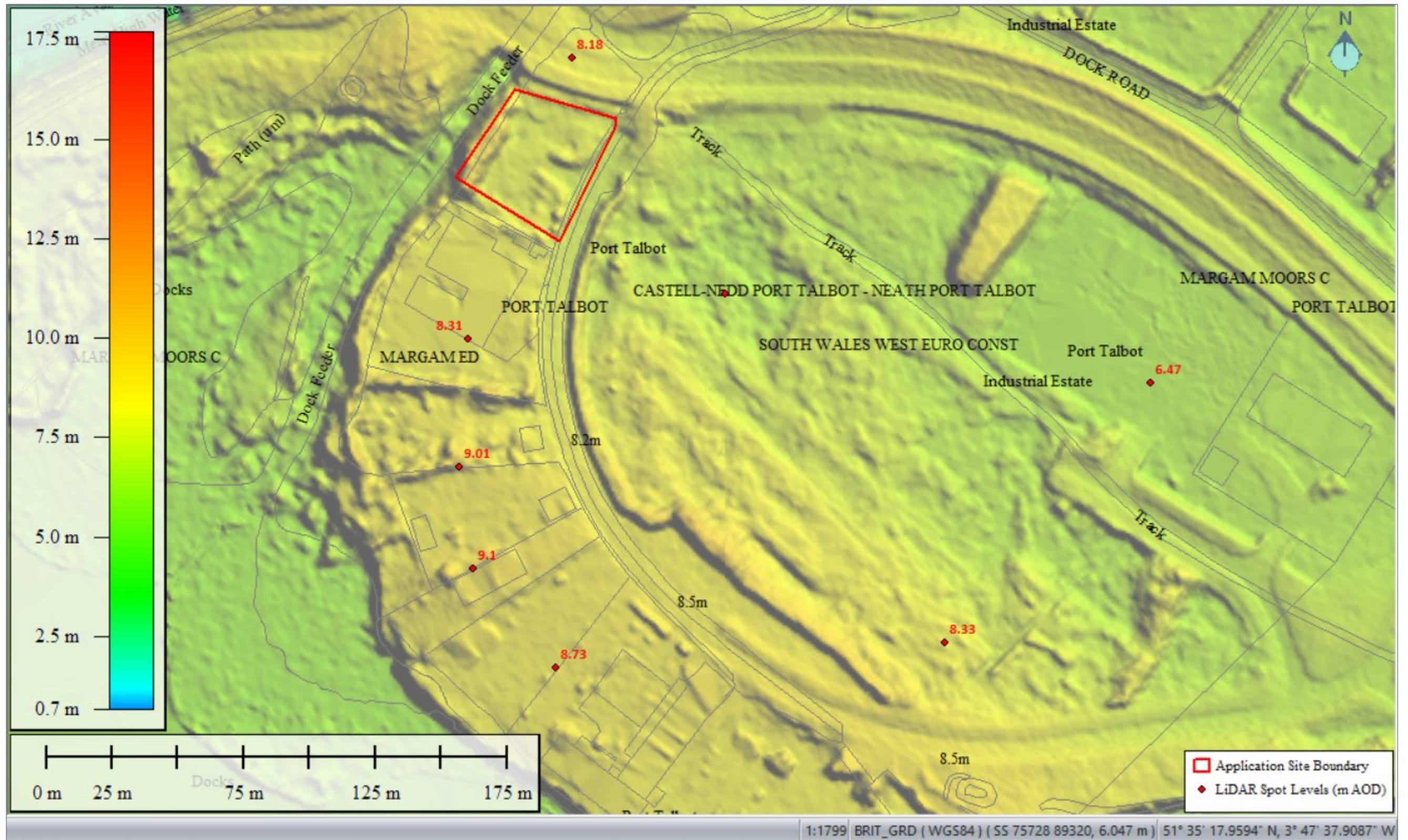
Project: Proposed M.O.T. Test Centre at Unit D North Bank Road, Port Talbot SA13 1RE	Client: PTB Properties
Dwg. Title: Existing Block Plan	Scale: 1/250 @A3
	Drawing No: 02
	Drawn By: MS
	Checked By: N/A
	Date: 25/04/2023



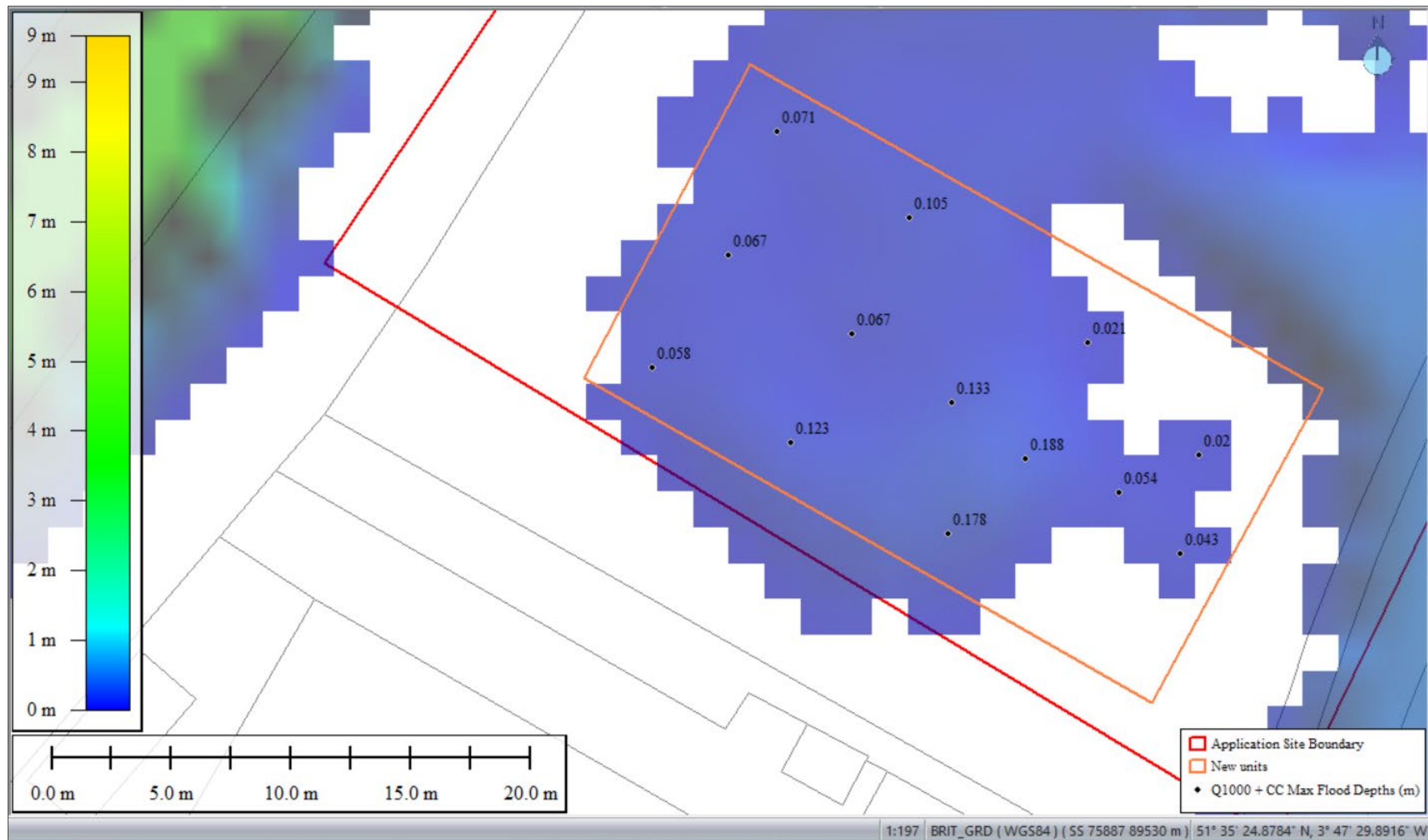
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Mob: 07970 420322
Email: Gerald@Geraldblainassociates.co.uk
Address: 15 St John Street, Whitland, SA34 0AN



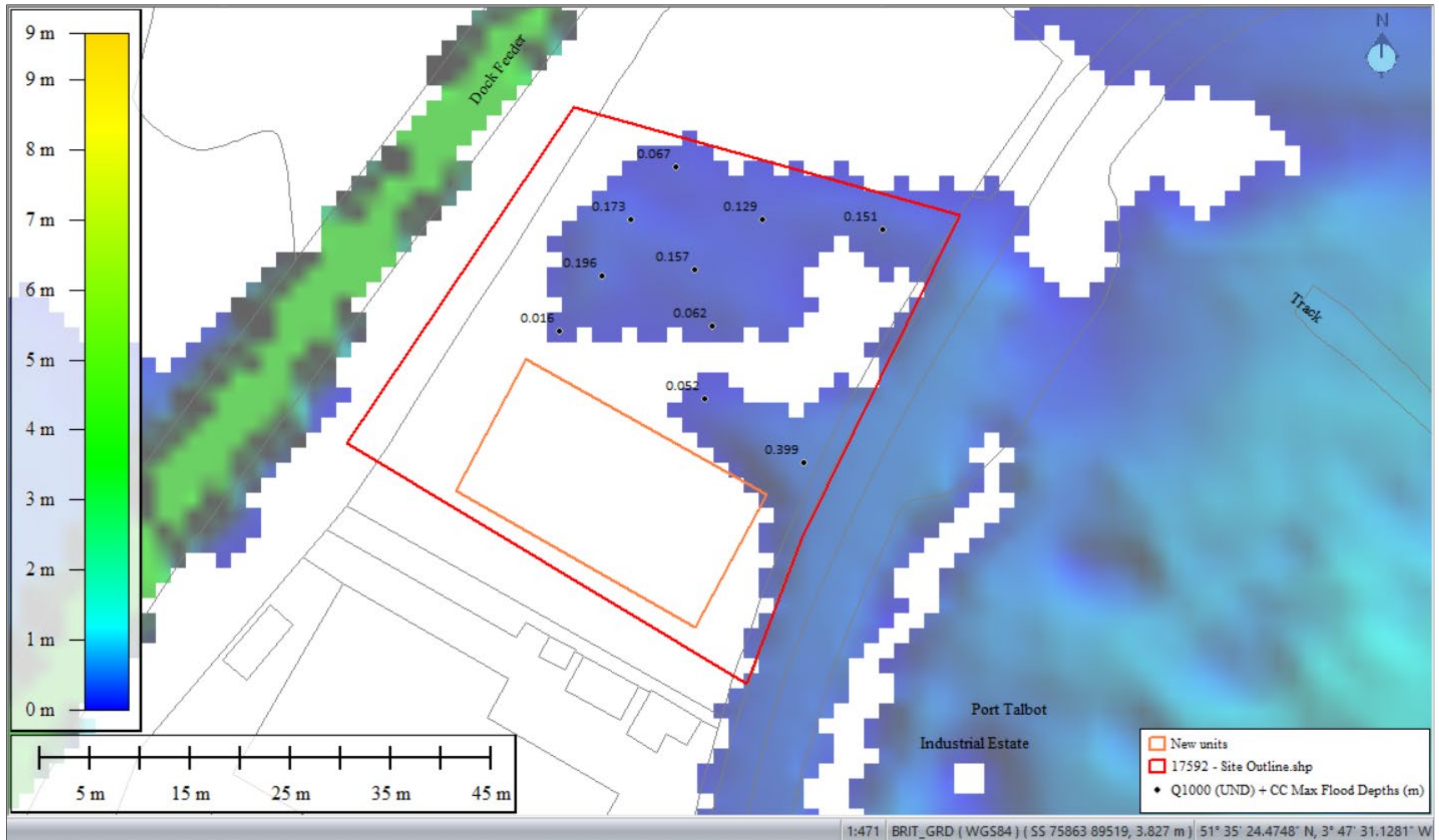
NRW LiDAR Digital Terrain Model (DTM) 1m Resolution Including Spot Levels (to m AOD)



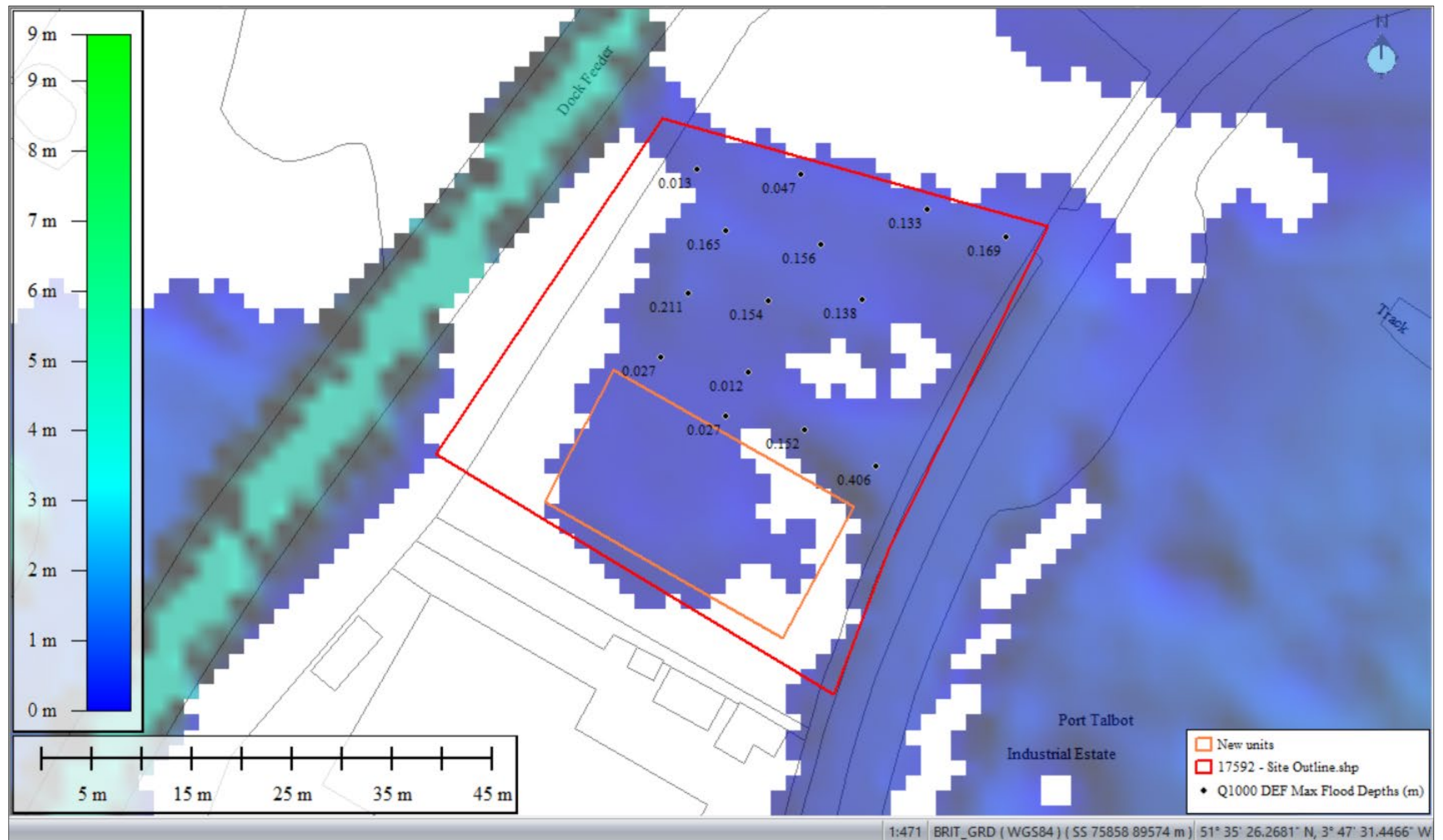
APPENDIX D: Additional Outputs to address NRW comments



Maximum estimated flood extent and depths (m) including spot levels on site from the Port Talbot Model and during the Q1000 Fluvial Defended (DEF) scenario + CC + TMHWSO for analysis and demonstration of A1.12 of TAN15



Maximum estimated flood extent and depths (m) including spot levels on site from the Port Talbot Model and during the Q1000 Fluvial Undefended (UND) scenario + CC + TMHWSO for analysis and demonstration of A1.12 and A1.15 of TAN15



Maximum estimated flood extent and depths (m) including spot levels on site from the Port Talbot Model and during the Q1000 Fluvial Defended (DEF) scenario + CC + TMHWSO for analysis and demonstration of A1.15 of TAN15

