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CONSULTING CIVIL & STRUCTURAL ENGINEERS

FLOOD CONSEQUENCE ASSESSMENT (FCA)

Newport Pallets,
West Way,
Newport,
NP20 2WD

Prepared for: ASR Projects
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All the Natural Resources Wales (NRW) mapping data used is under special license. Data is current as of **April 2026** 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 INTRODUCTION

1.1 Purpose of Report

Vale Consultancy have been commissioned by ASR Projects (“the client”) to undertake an FCA in support of the proposed development at Newport Pallets, West Way, Newport, NP20 2WD (“the site”).

1.2 Relevant Documents

This assessment has been informed by the following documents, policy and information:

- Technical Advice Note 15: Development, Flooding and Coastal Erosion, Welsh Government, March 2025.
- Planning Policy Wales, Welsh Government, February 2024.
- Future Wales - the National Plan 2040, Welsh Government, February 2021.
- Flood Consequences Assessments: Climate Change Allowances, Welsh Government, March 2026.
- Newport City Council (NCC) Local Development Plan 2011-26 – NCC, January 2015
- South East Wales – Strategic Flood Consequence Assessment (Stage 1) – JBA Consulting, November 2022.
- NCC Local Flood Risk Management Strategy 2024 – 2030
- National Geoscience Data Centre’s Single Onshore Borehole Index, <https://www.bgs.ac.uk/products/onshore/SOBI.html>.
- BGS Mapping of Surface Geology, <https://www.bgs.ac.uk/map-viewers/geoindex-onshore/>.



2 SITE DETAILS & PROPOSED DEVELOPMENT

2.1 Site Location

The approximately 1.35ha site is located at National Grid Reference (NGR) ST315851 (331504, 185190) as shown in **Figure 1**.



Figure 1: Site Location Satellite Imagery Plan

2.2 Existing Site

The existing site comprises a fully paved area of hardstanding with no green infrastructure, located in Newport Docks. It is accessible from West Way Road to the southwest.

2.3 Proposed Development

The proposal comprises the erection of new steel-cladded manufacturing building and a steel-cladded open-air covered pallet storage shelter with external areas for pallet storage with a secondary access point (see **Appendix A**).

TAN15 classifies the proposed development of a building for commercial use as a 'Less Vulnerable' development.

2.4 Surface Waterbodies in the Vicinity of the Site

The nearest NRW designated main river to the site is the River Usk (approximately 588m to the northeast) flowing in a southeasterly direction towards its discharge into the Severn Estuary (approximately 3.9km to the southeast). The Ebbw River is located approximately 640m to the west, flowing in a south-westerly direction towards its confluence with the River Usk (approximately 1.5km to the south). There are no ordinary watercourses within 250m of the site.



All local hydrology can be seen in **Figure 2** below.

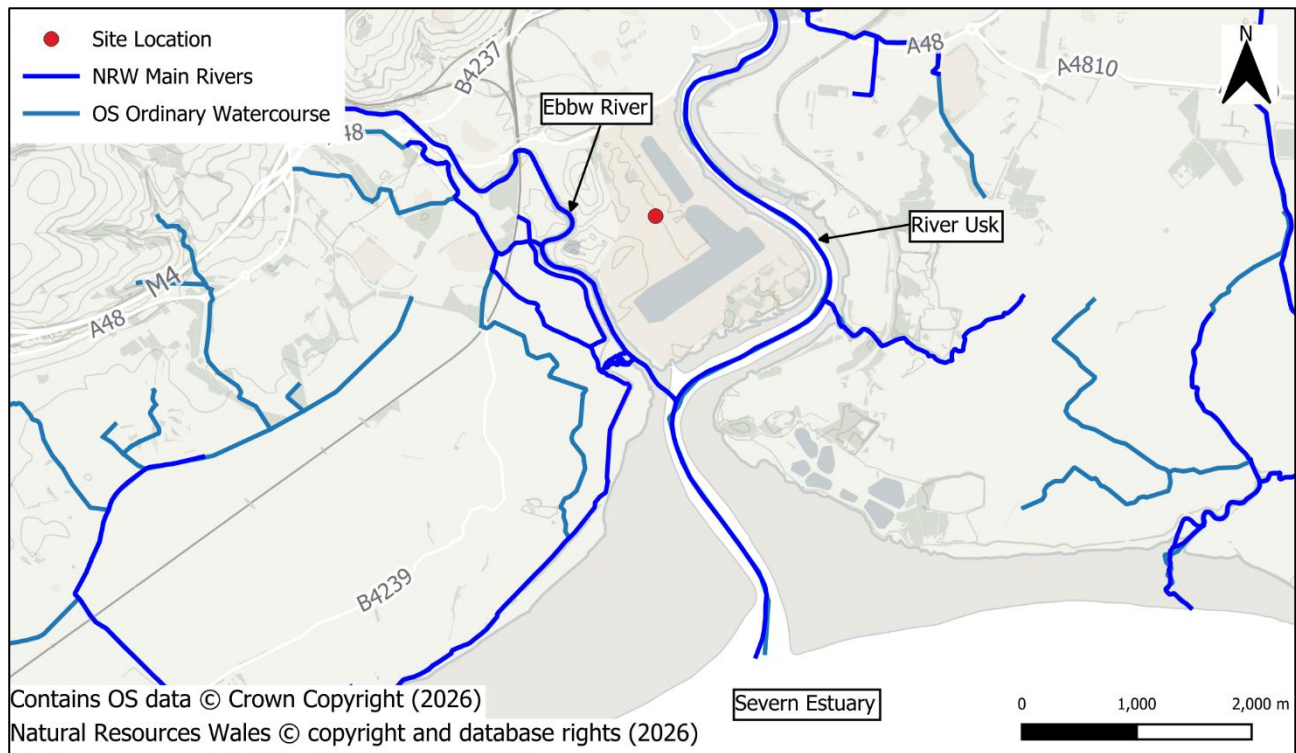


Figure 2: Local Hydrology

2.5 Existing Topography

A site topographic survey was made available to Vale to inform this report. This was undertaken by John Vincent Land Survey in January 2026, and can be seen in **Appendix B**. In addition, freely available 1m resolution LiDAR data has been downloaded for the site and local area. A visual representation of the LiDAR is presented within **Figure 3**. From a review of the LiDAR data, it was indicated to concur with the general findings of the site-specific topographic survey.

Wider site levels are shown to range between 8.52 – 10.73mAOD. This is a difference of 2.21m.

Covered Pallet Storage Shelter

Ground levels at the proposed covered pallet storage shelter range between 9.30 – 9.67mAOD. This is a difference of 0.37m.

Manufacturing Building

Ground levels at the proposed manufacturing building footprint are shown to range between 9.48 – 10.23mAOD. This is a difference of 0.75m.

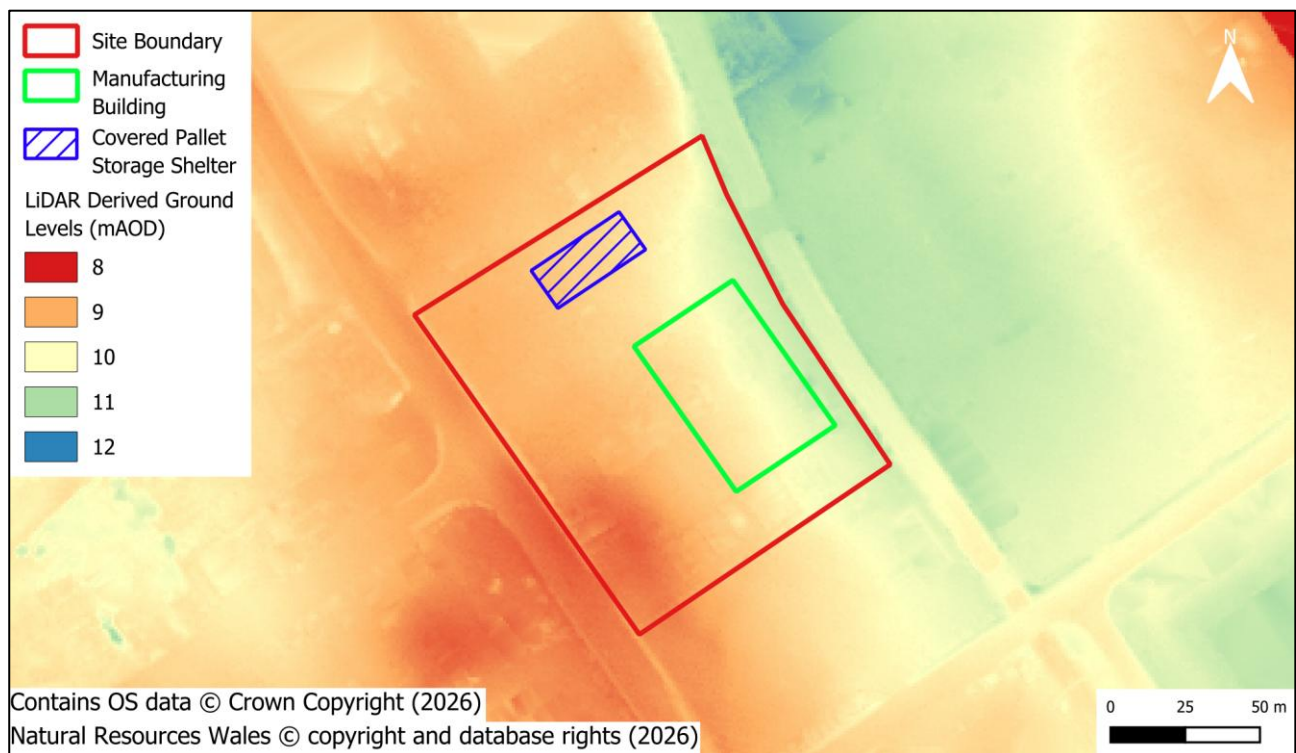


Figure 3: 1m Resolution LiDAR DTM (mAOD)

2.6 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 loamy and clayey soils of coastal flats with naturally high groundwater.

Online BGS mapping shows the bedrock geology beneath the site to comprise Mercia Mudstone Group-Mudstone. This is defined by NRW as an Unproductive Aquifer. These are rock layers or deposits with very low permeability that have negligible groundwater storage or flow potential. They are generally unable to support water supply on any useful scale and typically only yield water in small quantities, if any, via localised fractures or weathered zones.

The bedrock is overlain by tidal flat deposits-Clay and silt. This is also defined by NRW as an Unproductive Aquifer.



3 PLANNING POLICY

3.1 National Planning Policy

Future Wales - the National Plan 2040 sets out the national development 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”.

PPW sets out government's planning policies for Wales and how these are expected to be applied. TAN15 (2025) 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 in areas at high risk of flooding. The overarching aim of TAN15 is to provide a framework within which the flood risks arising from rivers, the sea and surface water, and the risk of coastal erosion can be assessed. It also provides advice on the consequences of the risks and adapting to and living with flood risk.

National policy requires that planning applications for new development proposals should incorporate 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 area is equal to or greater than 100m². These standards set out how surface water runoff generated during the 100%, 3.3% and 1% AEP rainfall events and for events exceeding the 1% 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 SAB before construction can commence.

3.2 Local Planning Policy

Newport Local Development Plan (LDP) 2011–2026 (Adopted Plan – January 2015)

The Newport Local Development Plan (LDP) 2011–2026 was formally adopted by the Newport City Council on 27 January 2015. This LDP provides the statutory framework for land use and development for the city through to 2026, replacing the previous Unitary Development Plan.

A number of key planning documents and context underpin the LDP and form part of the local planning framework:

- The adopted LDP 2011–2026;
- Supplementary Planning Guidance (SPG) documents, which provide further detail and guidance on specific issues; and,



- Background studies and evidence base documents (e.g. flood-risk assessments, water resource assessments, housing market studies, employment land reviews, transport and infrastructure analyses).

Local Development Plan Overview

The LDP establishes a strategic vision and spatial strategy for Newport's growth and land use change between 2011 and 2026. It seeks to achieve sustainable development by balancing social, economic, and environmental objectives: including housing delivery, employment and economic growth, retail/centre provision, transport and infrastructure, protection and enhancement of natural and built environments, environmental resilience (particularly flood risk), and health and wellbeing.

The LDP forms the statutory basis for decision making on planning applications across Newport, guiding where development should occur, where land should be protected, and the standards to which development should adhere.

Since adoption of the Newport Local Development Plan (2011–2026), the Council has been progressing the Replacement Local Development Plan (RLDP). The most recent consultation on the RLDP took place in October 2023 on the Preferred Strategy.

Key Policies Relevant to Flood Risk, Drainage and Environmental Management

Policy SP3 – Flood Risk

The policy recognises that Newport's coastal location, its rivers (notably the River Usk) and the complex network of drainage/channel systems (reens) on the Gwent Levels make flood risk a critical constraint. Development is required to be directed away from areas where flood risk is identified as a constraint and must ensure that flood risk is not increased elsewhere.

Where development is proposed in flood risk areas (e.g. tidal, fluvial, surface water, groundwater, reservoirs or canal related), a detailed technical flood risk assessment will be required to ensure the development is designed to cope with flood threats across its lifetime. Sustainable solutions to manage flood risk should be prioritised.

The approach draws on a Strategic Flood Consequence Assessment (SFCA) and takes into account both statutory and non-statutory flood risk plans (e.g. shoreline management, catchment flood management).

Additionally, where watercourses lie within the area overseen by an Internal Drainage Board (IDB), there are strict requirements: watercourses must not be culverted, and development must avoid obstructing them by maintaining buffer zones (e.g. minimum 12.5m for reens, 7m for field ditches) to permit future maintenance.

Policy SP4 – Water Resources (and Sustainable Water Management / Drainage)

The LDP includes a policy requiring that development proposals minimise water consumption, protect water quality during and after construction, and ensure no net increase in surface water runoff. This is to be achieved through sustainable drainage systems (SuDS), water reuse where possible, and careful consideration of the capacity of water supply and wastewater/sewerage infrastructure.

Developers must consider the impact on finite water resources, particularly in light of climate change, and ensure that development is appropriately located and phased so that existing water/wastewater infrastructure can accommodate it, while safeguarding water quality.

Policy SP9 – Conservation of the Natural, Historic and Built Environment

The Plan requires that the conservation, enhancement, and appropriate management of recognised sites within the natural, historic and built environment be sought in all proposals. This reflects an overarching intention to protect environmental and heritage assets as part of sustainable development.



Other objectives and background principles underpinning the LDP include health and well-being (through access to green space, open space, sustainable movement, environmental quality), climate change adaptation, and sustainable development more broadly.

Supplementary Planning Guidance (SPG)

The LDP is supported by a suite of Supplementary Planning Guidance (SPG) documents, which provide detailed guidance on how certain LDP policies should be implemented in practice. This helps guide developers and decision-makers on topics such as sustainable drainage, water management, design, environmental protection, conservation, and other aspects relevant to development proposals.

3.3 Water Framework Directive

The WFD provides a legal framework for the protection, improvement and sustainable use of inland surface waters, groundwater, transitional waters, and coastal waters across England and Wales, and seeks to:

- Prevent deterioration in the status of surface water and groundwater bodies;
- Protect, enhance and restore surface water and groundwater bodies (except artificial or heavily modified water bodies) with the aim of achieving good ecological, chemical and groundwater quantitative status by December 2021;
- Protect and enhance artificial and heavily modified water bodies with the aim of achieving good ecological potential and good chemical status by December 2021;
- Progressively reduce or phase out the release of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment and progressively reduce pollution of groundwater. The WFD applies to any proposed development which has the potential to impact on a waterbody. Where this is the case, NRW may require evidence demonstrating that the proposed development does not compromise the aims of the WFD.

3.4 Environmental Permitting and Land Drainage Consent

Under the Environmental Permitting (England and Wales) Regulations 2016 an Environmental Permit for Flood Risk Activities is required from the Environment Agency for any permanent or temporary works, including works:

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

Land drainage consent may be required from the lead local flood authority or drainage board for work to an ordinary watercourse.

Undertaking activities controlled by local byelaws also requires the relevant consent.

3.5 Ordinary Watercourse Consent

Ordinary Watercourse Consent may be required from Council for any temporary or permanent works to or within an ordinary watercourse.

4 SOURCES OF FLOODING AND PROBABILITY

4.1 Historical Records of Flooding

The NRW Recorded Flood Extents (**Figure 4**) indicate that there are no records of flooding at or within the immediate vicinity of the site. The nearest recorded flood outlines to the site are located approximately 918m to the northeast (overtopping of defences from tidal flooding – 2014) and 930m to the east (channel capacity of the River Usk exceeded its capacity with no raised defences – 1981).

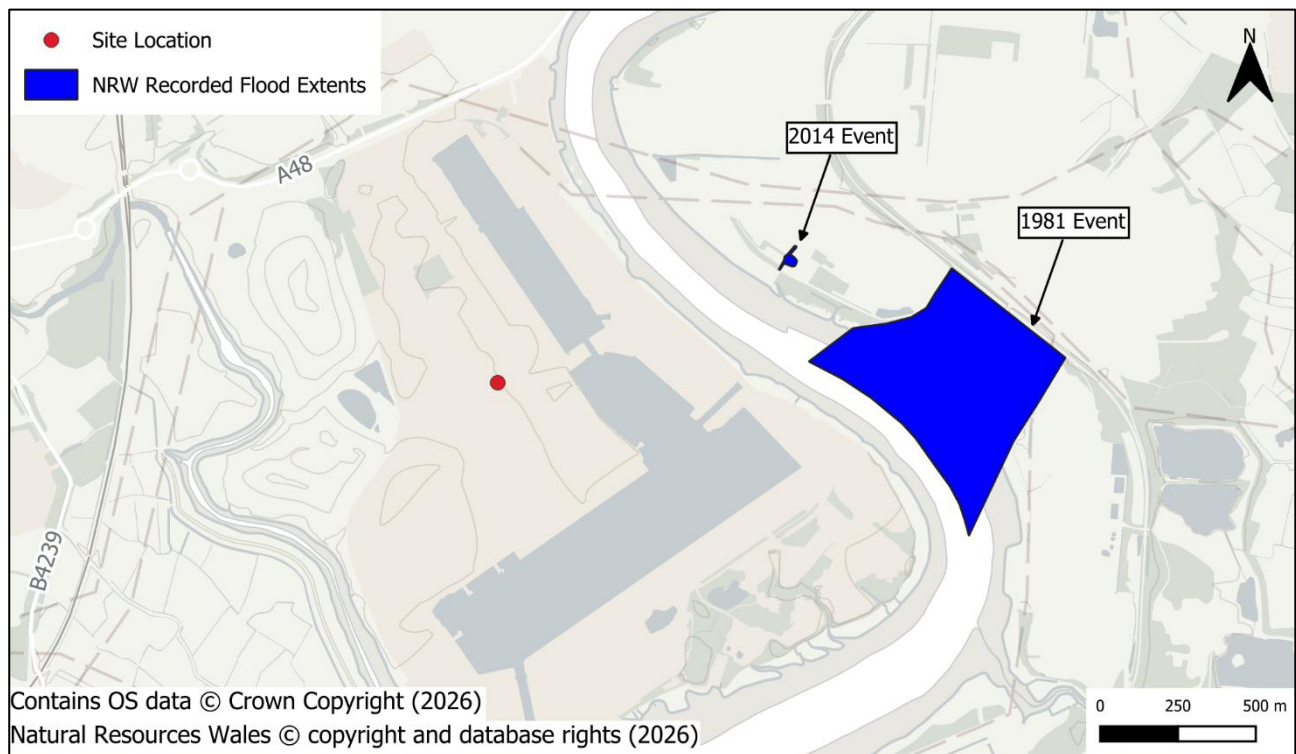


Figure 4: NRW Recorded Flood Extents

4.2 Flood Risk Summary

The Flood Map for Planning (FMFP) - indicates the site to be located within **Flood Zone 1** (Rivers). A small area of **Flood Zone 2** (Surface Water and Small Watercourses) is shown to be located in the very southern corner of the site with the remainder of the site within **Flood Zone 1**. Additionally, the western half of the site is located within **Flood Zones 2** (Tidal) with the eastern half located within **Flood Zone 1**.

The flood zone definitions are as follows:

Flood Zone 1: Land that has been assessed as having a less than a 0.1% (1 in 1000) chance of flooding in a given year, including the effects of climate change.

Flood Zone 2: Land that has been assessed as having between a 1% and 0.1% chance of river flooding (fluvial) / surface water flooding (pluvial) or between a 0.5% and 0.1% chance of flooding from the sea (tidal) in a given year, including the effects of climate change.

Flood Zone 3: Land that has been assessed as having a greater than 1% chance of river flooding (fluvial) / surface water flooding (pluvial) or a greater than 0.5% chance of flooding from the sea (tidal) in a given year, including the effects of climate change.



4.3 Rivers (Fluvial)

The site is located within Flood Zone 1. Moreover, the NRW Flood Risk Assessment Wales (FRAW) mapping (Rivers) indicates that the site is not located in an area of high, medium or low risk of flooding from rivers. As seen in **Figure 5**, the site is located approximately 1.2km east of the nearest area of high risk. This mapping takes into consideration flood defences within the area.

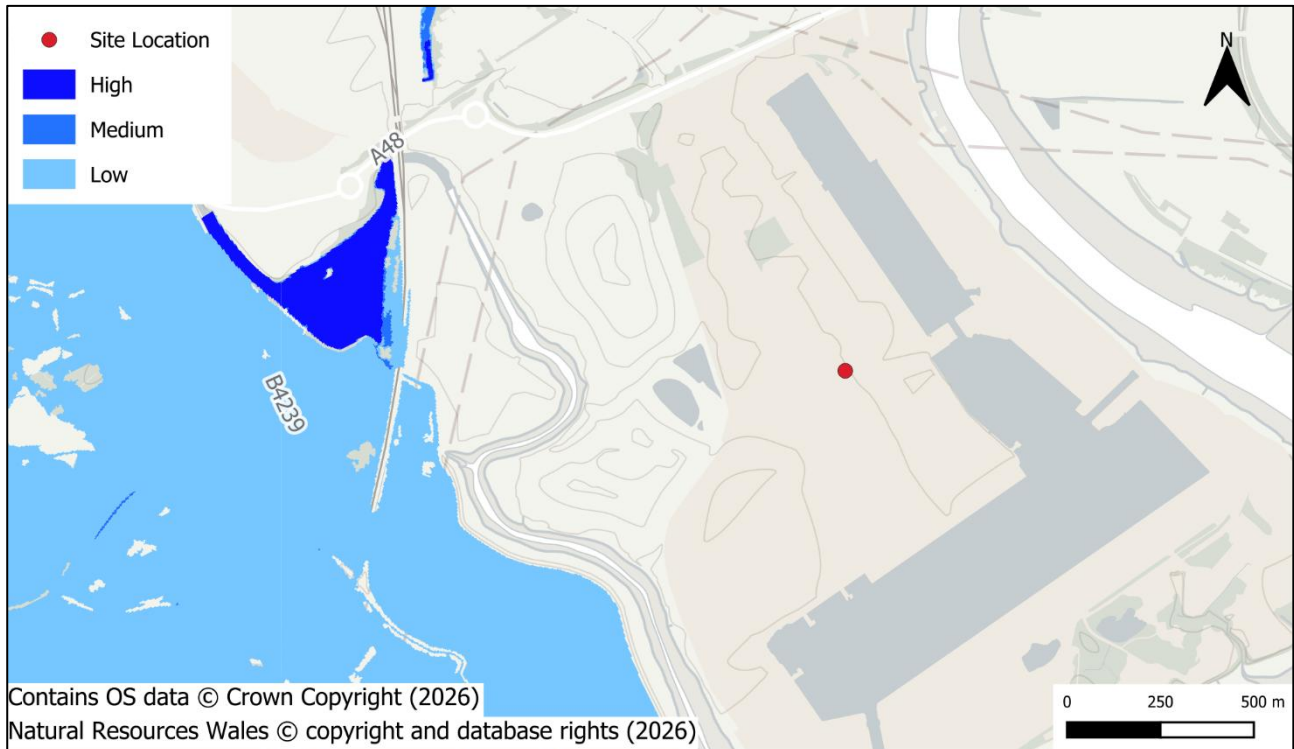


Figure 5: NRW Flood Risk from Rivers

Overall, the site is considered to be at a **Low** risk of flooding from fluvial sources.

4.4 Sea (Tidal / Coastal)

The site is located within Flood Zones 1 and 2. Moreover, the NRW Flood Risk Assessment Wales (FRAW) mapping (Tidal/Coastal) indicates that the site is not located within an area of low, medium or high risk from the sea (**Figure 6**). The nearest area of high risk is located approximately 166m to the northeast of the site. This mapping takes into consideration flood defences within the area.

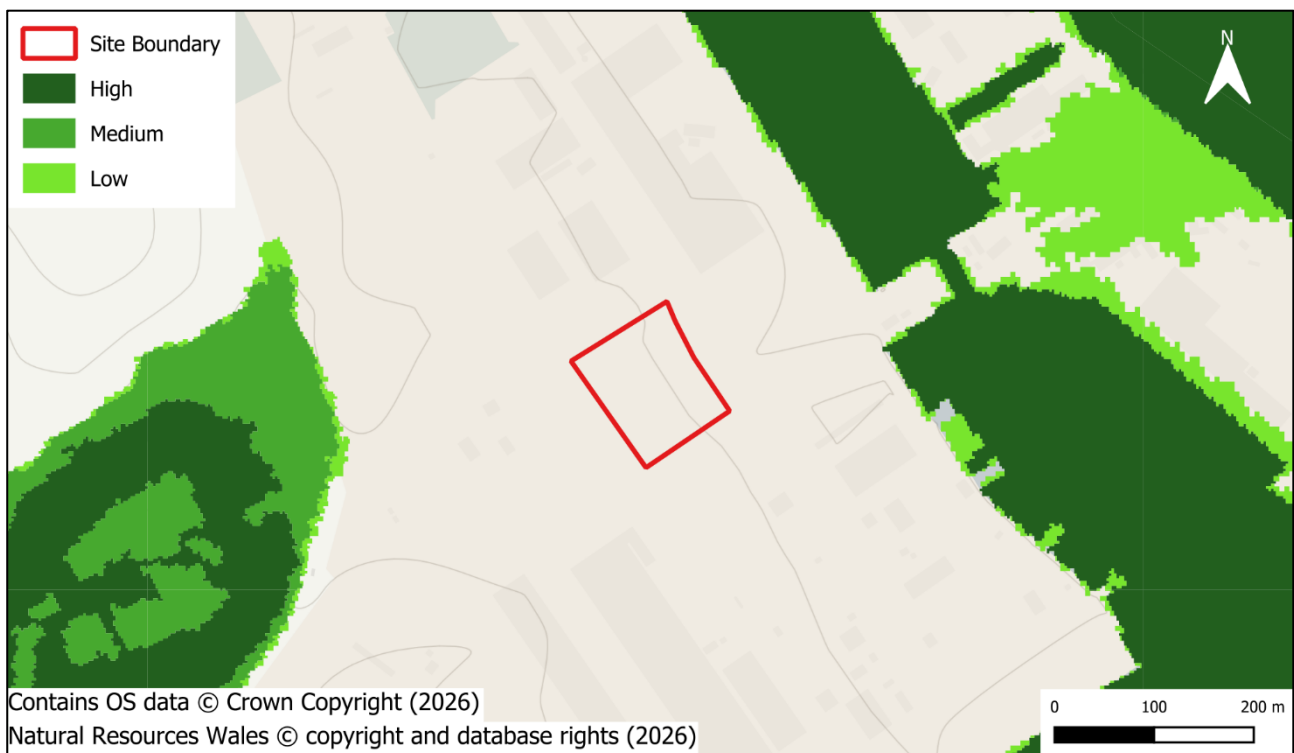


Figure 6: NRW Flood Risk from Sea

Flood Defences

The nearest flood defences to the site are located approximately 790m to the southwest. From interrogation of the available flood defence data, this is identified to comprise an embankment that has a Standard of Protection (SoP) up to a 1 in 200 year tidal flooding event.

It is anticipated that Flood Defence and Management infrastructure, here, will be maintained and enhance in line with current and future climate change projections in line with LDP policy and the Shoreline Management Plan (SMP) as alluded to in the SFCA (2022). This is to protect and safeguard existing infrastructure here (including the existing site).

NRW Flood Model Data

To help inform this report, Vale Consultancy has obtained Product 5 and 6 flood model data from NRW. Flood risk for the site has been assessed using both the **Newport_5_V8.0_2022** and **CaldicotAndWentlooge_5_V1.0_2016** models. The 2022 Newport model has been adopted as the primary source for present day (2021) and climate change (75 year - 2096 and 100 year - 2121) flood extents due to its updated topography, as-built flood defence surveys (including Crindau Pill), updated tidal and fluvial inflows, and high-resolution hydrodynamic simulations; however, the Newport 2022 model does not include breach scenarios of defended watercourses. To ensure high-consequence, low-probability events are captured, breach scenarios from the 2016 Caldicot and Wentlooge model are incorporated into the consequence assessment. Where applicable, the most conservative flood depths and extents from either model have been adopted to ensure a robust and compliant assessment of flood risk.

Moreover, the flood extents used within the Newport (2022) hydraulic model are taken from the defended scenario. Within this model there are present day return periods from the 1 in 5 year event up to and including the 1 in 1000 year event. The modelled climate change events are for the 1 in 30, 1 in 200 and 1 in 1000 year events. Where tidal flooding is concerned, the data used is the latest held by NRW.



Figure 7 represents the maximum modelled flood extents at the present-day events (2021) and **Figures 8 and 9** represent the maximum modelled flood extents for the two future climate change scenarios (2096 and 2121). Given the development comprises a commercial site, the lifetime expectancy of 75 years is accounted for within the future modelled events analysed within this FCA.

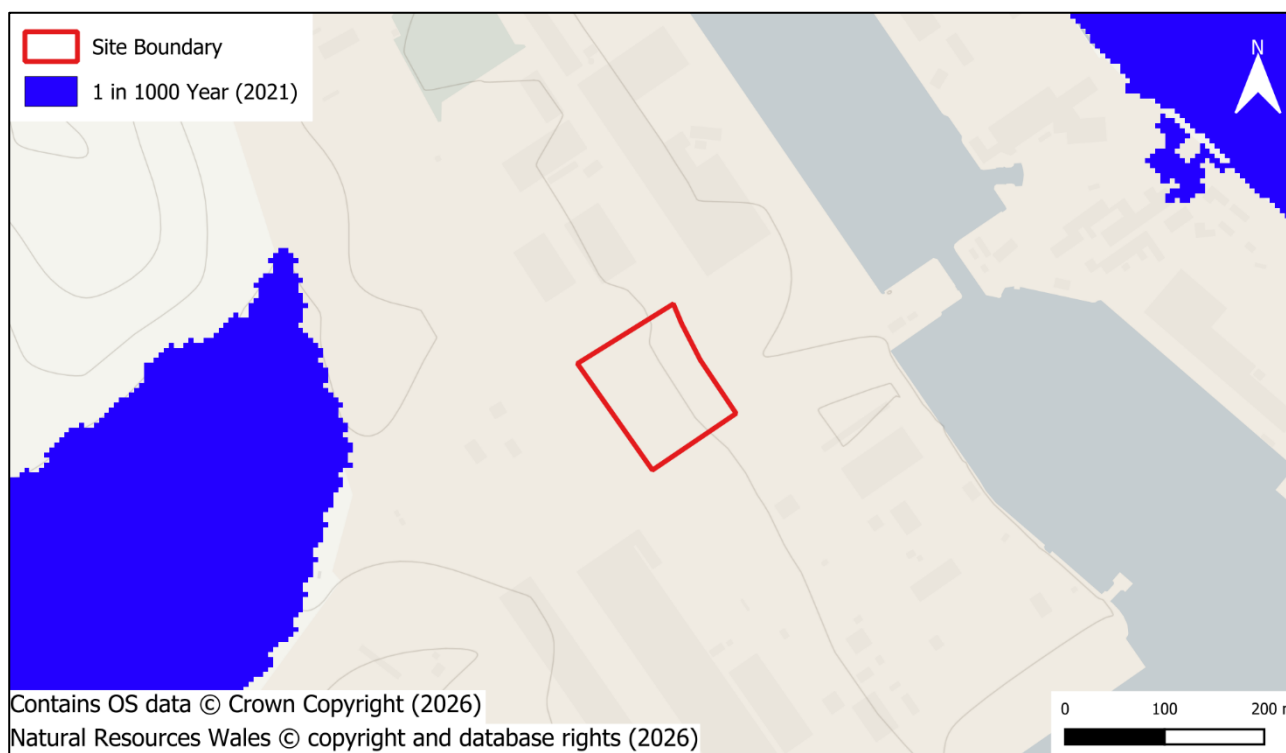


Figure 7: *Modelled Flood Extents for Present Day (2021)*

As seen in **Figure 7**, the site is shown to not be at risk in all present-day return periods up to and including the extreme 1 in 1000 year event. The site is located approximately 240m east of the nearest modelled extent.

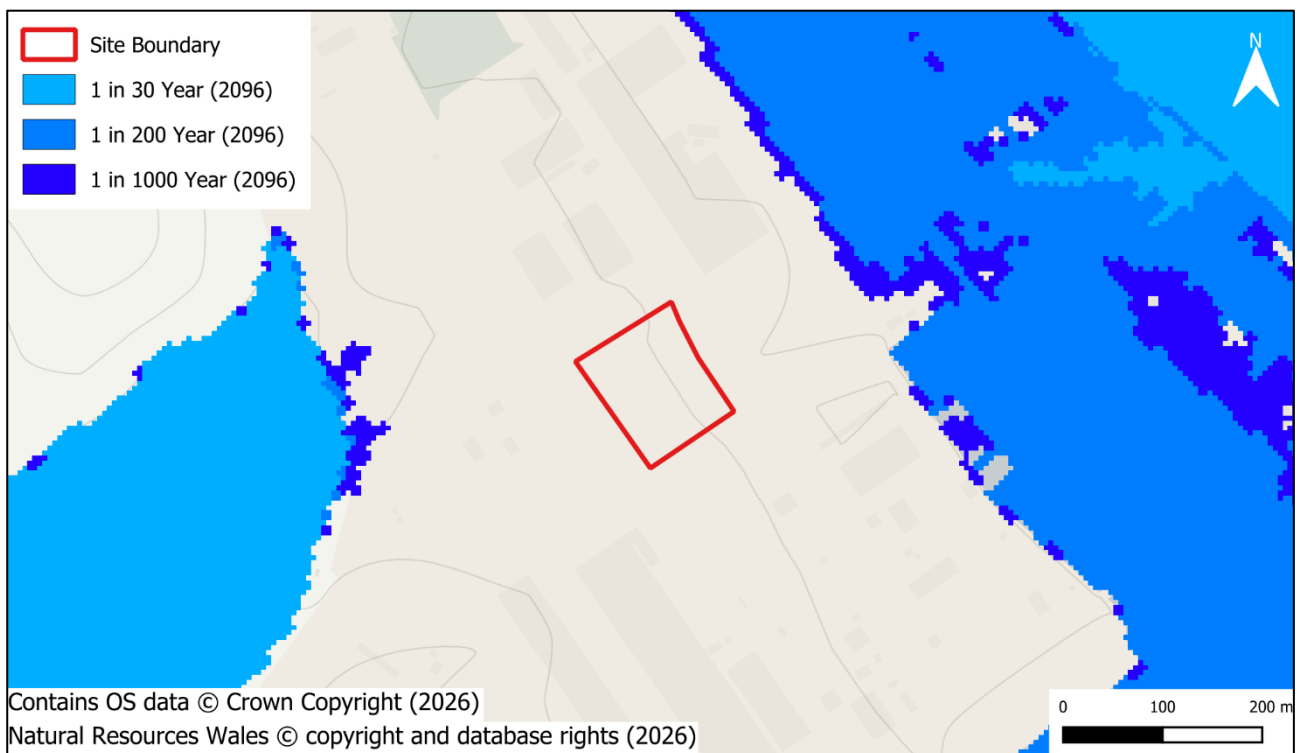


Figure 8: *Modelled Flood Extents for the Future CC Events - 2096*

As seen in **Figure 8**, the site is shown to not be at risk in all future CC return periods up to and including the extreme 1 in 1000 year event for the year 2096. The site is located approximately 170m west of the nearest modelled extent.

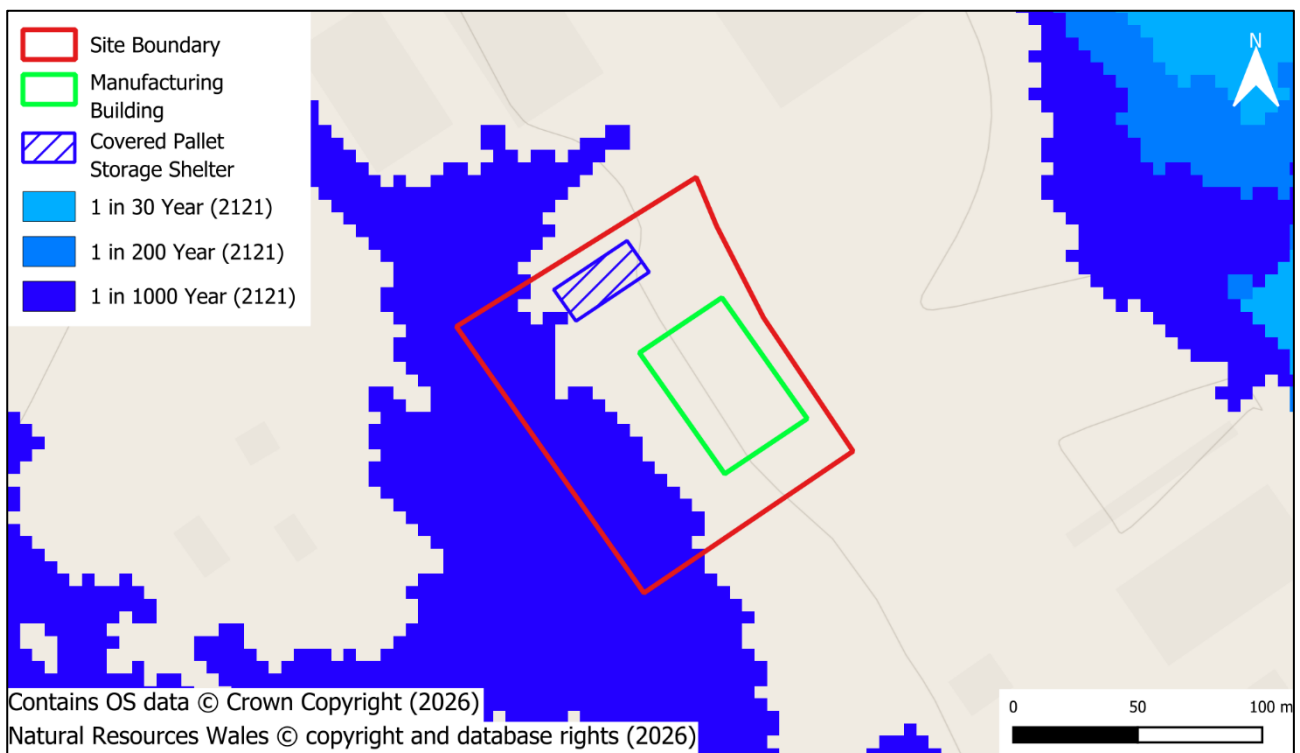


Figure 9: *Modelled Flood Extents for the Future CC Events - 2121*

As seen in **Figure 9**, the site is shown to not be at risk in all future CC return periods up to and including the 1 in 200 year event for the year 2121; however, the western region of the site is shown to be at risk of flooding in the extreme 1 in 1000 year event. Moreover, the proposed location for the manufacturing



building is not shown to be at risk across all modelled events. The proposed location for the pallet storage shelter is shown to be marginally encroach by the 1 in 1000 year event.

In addition to the Newport model (2022) the Caldicot and Wentlooge model (2016) includes breach scenarios. This analysis was carried out by the HR Wallingford using the EMBREA (Embankment Breach) model to simulate the breaching process for various embankments in the Caldicot and Wentlooge model. For the purposes of this FCA, a total of five breach scenarios were assessed from the Caldicot model; however, the site was shown to be at risk of flooding in only one of the five scenarios (6). Therefore, breaches 4, 5, 7a and 7b have not been included within **Figure 10**. Breach scenario 6 includes an assessment of the 1 in 1000 year + CC (2115) event.

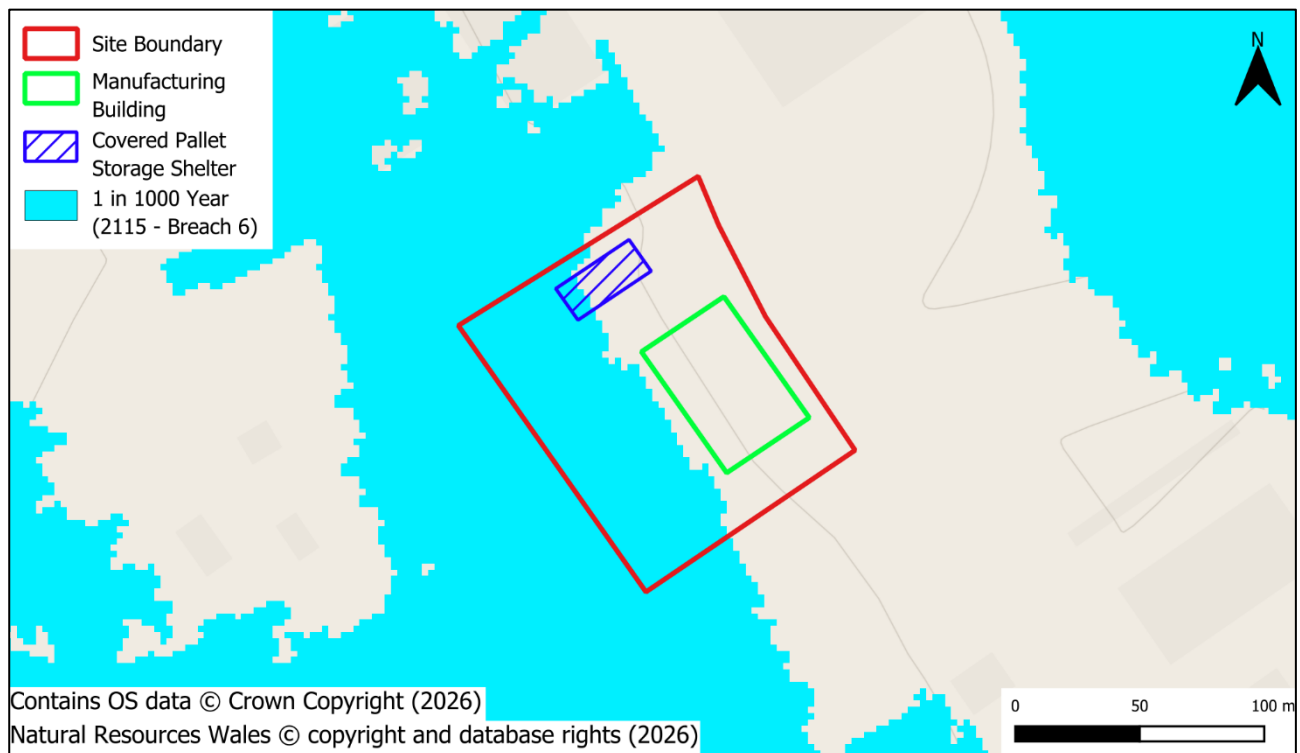


Figure 10: Modelled Breach Scenario 6 – 2115 (Caldicot and Wentlooge model 2016)

As seen in **Figure 10**, the western half of the site is shown to be at risk of flooding at the 1 in 1000 year + CC for the year 2115 (Breach 6), which includes a small section of the proposed location for the covered pallet storage shelter. The proposed location for the manufacturing building is not shown to be at risk of flooding across any modelled breach scenario.

As discussed in Section 2.5 of this report, the lowest LiDAR derived ground level at the proposed covered pallet storage shelter location is 9.30mAOD. The lowest LiDAR derived ground level at the proposed manufacturing building is 9.48mAOD. Given that the site is shown to only be at risk of flooding at two modelled return periods, the 1 in 1000 (2121) and the 1 in 1000 (Breach 6 - 2115). These ground level will be compared against the maximum modelled flood levels in these events. **Table 1** below presents the calculated flood depths at the site.



Return Periods	Location	Maximum Modelled Flood Levels (mAOD)	Calculated Maximum Flood Depth (m)
1 in 1000 Year (2121)	Manufacturing Building	N/A	N/A
	Covered Pallet Storage Shelter	N/A	N/A
1 in 1000 Year (Breach 6 - 2115)	Manufacturing Building	N/A	N/A
	Covered Pallet Storage Shelter	9.44	0.14

Table 1: *Calculated food depths at the site*

As seen in **Table 1**, the manufacturing building is flood free across all modelled events. Moreover, the covered pallet storage shelter is only shown to be at risk of flooding at the 1 in 1000 year (Breach 6 – 2115) event to a maximum depth of 0.14m.

Moreover, it must be noted that the future climate change (2115) flood events derived from the Caldicot and Wentlooge hydraulic model include some areas of reduced numerical stability which are not present in the equivalent present-day defended scenarios. These instabilities arise because the higher water levels, increased overtopping volumes and longer simulation durations used for the climate change allowances place additional computational pressure on the model. As a result, small pockets of flooding or abrupt changes in predicted depth may occur that reflect modelling artefacts rather than genuine hydraulic behaviour. These effects are typically localised and do not indicate a systematic over-prediction of water levels across the wider floodplain. The modelled depths at the site form part of a consistent and hydraulically plausible flood cell and are therefore considered appropriate for use within this FCA, with the noted caveat that minor anomalies in the broader dataset may be attributable to model stability rather than true flood mechanisms.

Overall, based on the analysis conducted within this section, the site is considered to be at a **Low** risk of flooding from tidal sources. Further considerations are made in Section 5 in relation to keeping this risk to a low designation in the long-term.

4.5 Surface Water & Small Watercourses (Pluvial)

As previously mentioned, the very southern corner of the site comprises an area of Flood Zone 2 with the remainder of the site being located within Flood Zone 1. Moreover, the NRW Risk of Flooding from Surface Water and Small Watercourses mapping indicates that the southern corner of the site is located in an area low risk of flooding from surface water with the remainder of the site indicated to be flood free (**Figure 10**). It must be highlighted that both the proposed manufacturing building and covered pallet storage shelter are not shown to be at risk of surface water flooding across all probability events.

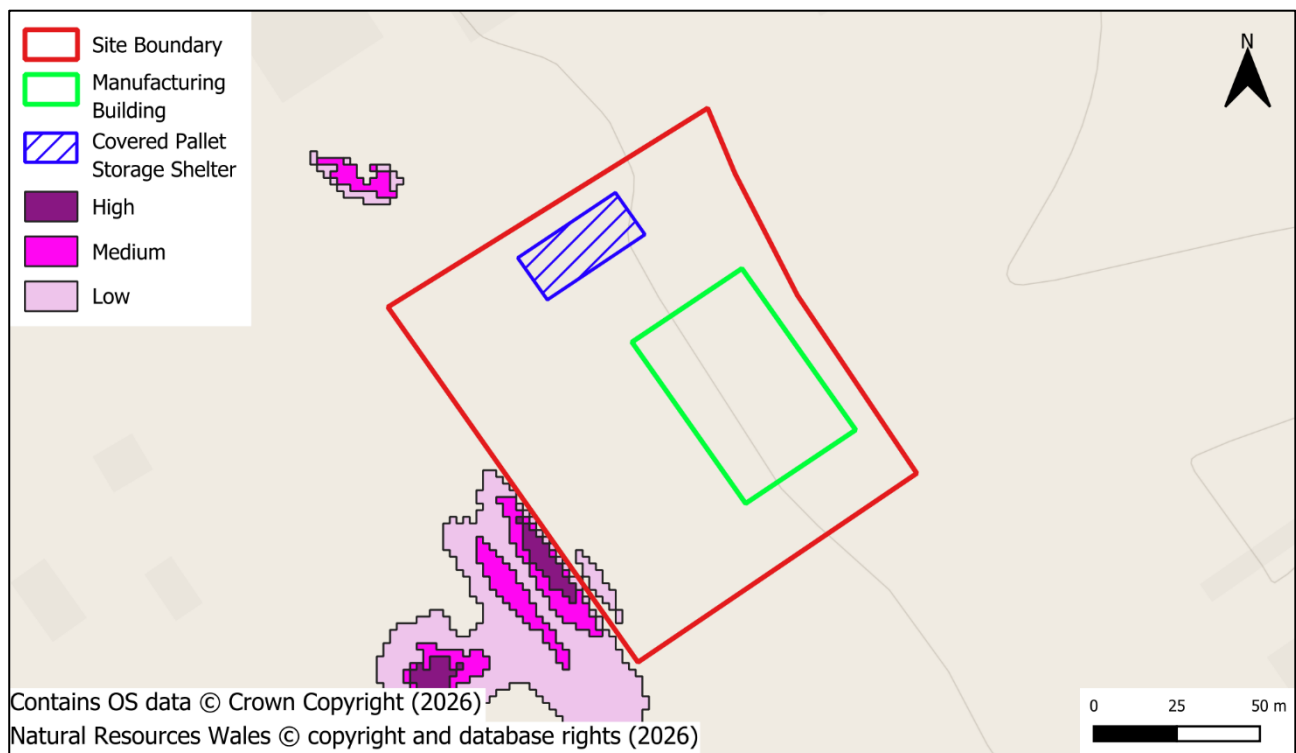


Figure 10: NRW Risk of Flooding from Surface Water and Small Watercourses

The probability definitions can be seen below for reference:

- **High probability** – each year, this area has a chance of flooding of greater than 1 in 30 (3.3%);
- **Medium probability** – each year, this area has a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%); and,
- **Low probability** – each year, the area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%).

As seen in **Figure 11** below, the site is shown to be flood free in the high probability surface water flood event.

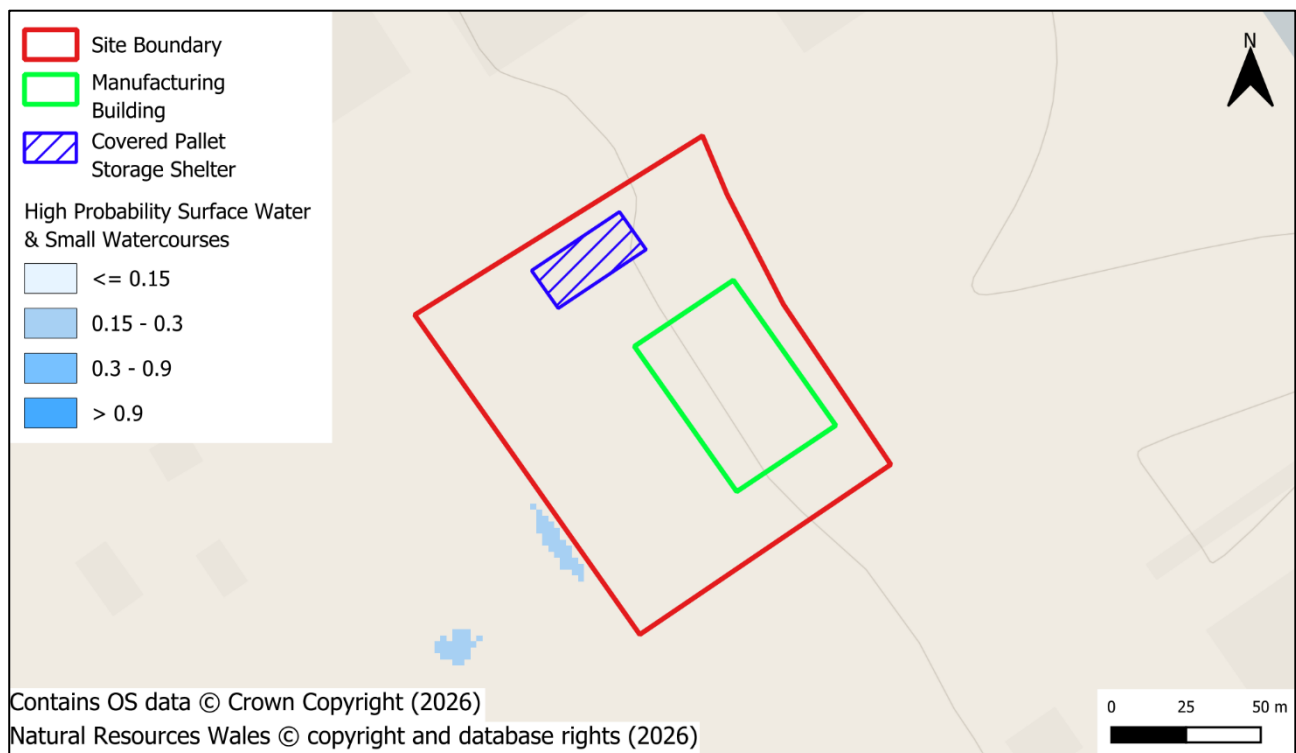


Figure 11: NRW High Probability surface water Depths

As seen in **Figure 12** below, the site is shown to be flood free in the medium probability surface water flood event.

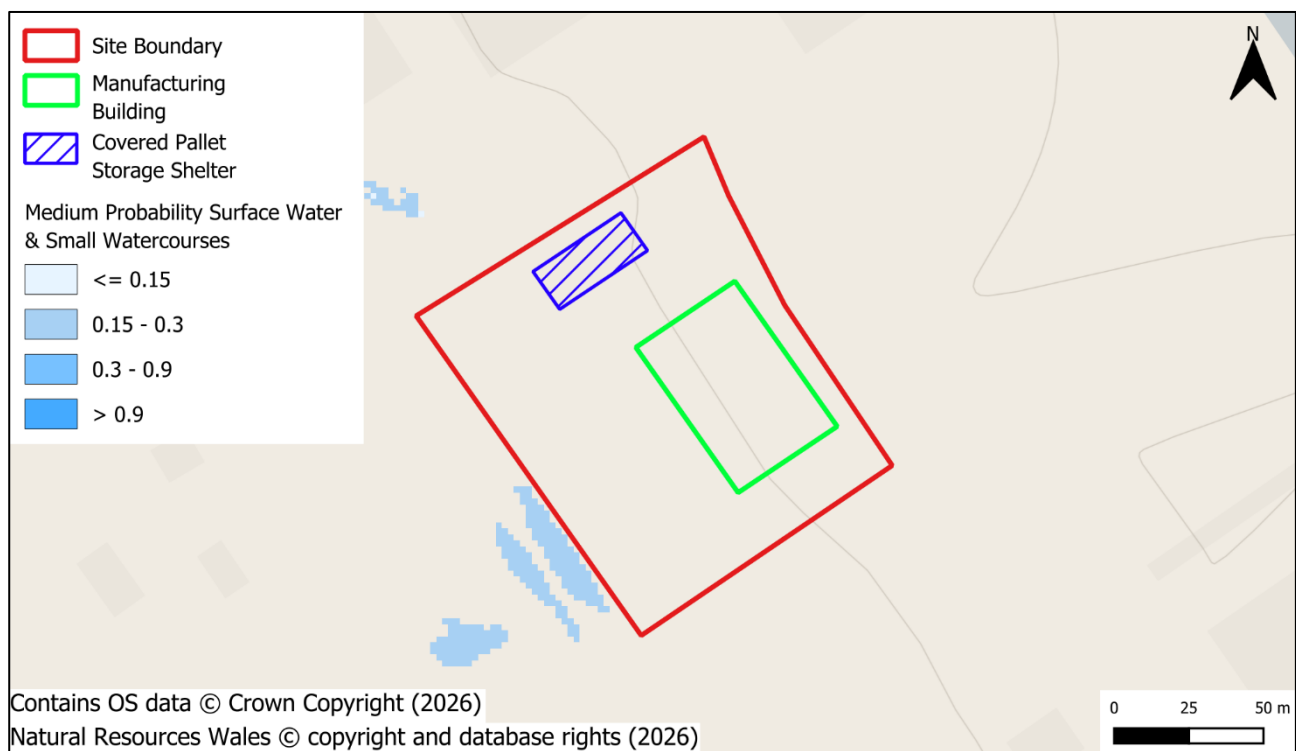


Figure 12: NRW Medium Probability surface water Depths

As seen in **Figure 13** below, both the proposed manufacturing building and covered pallet storage shelter are not shown to be at risk of surface water flooding. During the low probability event, a small, localised area of



surface water flooding is projected in the southern corner of the site with depths ranging between 0.15-0.3m.

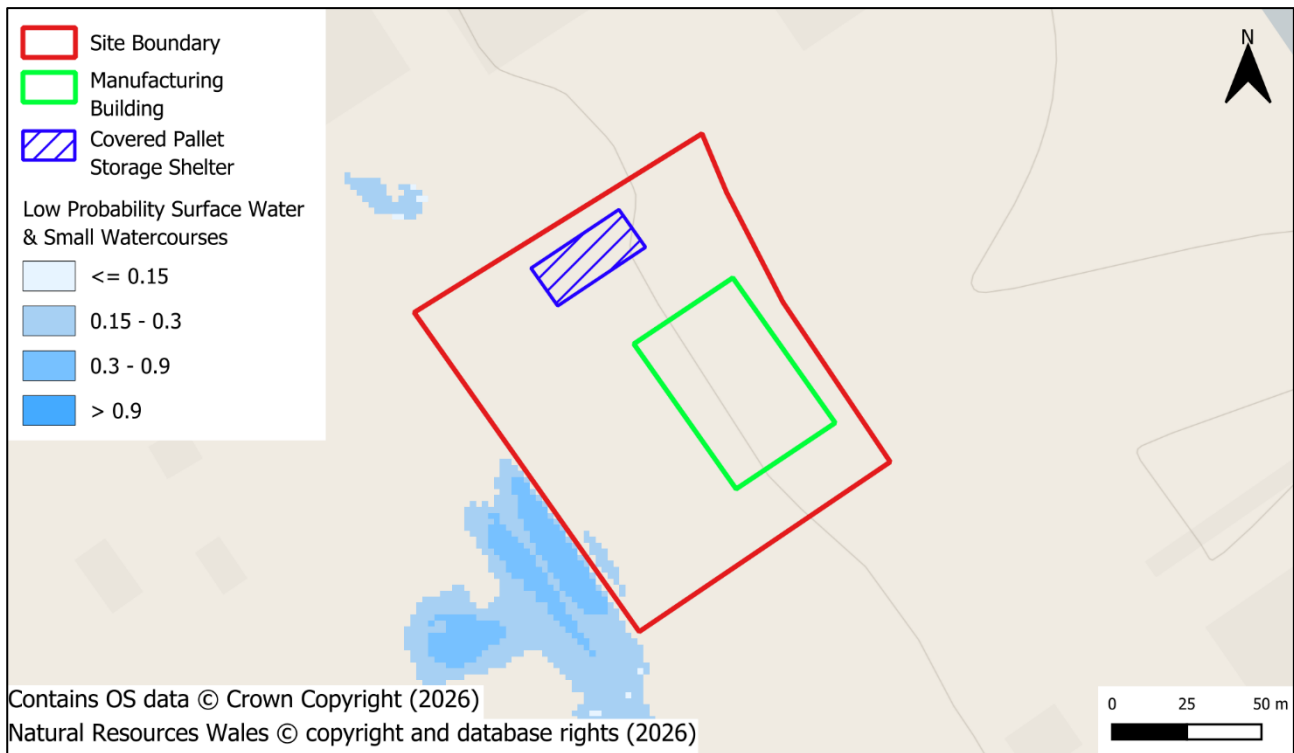


Figure 13: NRW Low Probability surface water Depths

The projected surface water pooling is shown to be localised and align with wider topography. A review of the site-specific topographic survey and available LiDAR indicate that ground levels are lowest in the southern region of the site with a wider topographical low spot located at West Way Road in the region of the projected pooling. It is noted that the location of the predicted flooding may pose a risk to an access point to the site; however, the site comprises alternate access points and this will be discussed further in Section 5 of this report.

Overall, based on the surface water mapping assessed above, the site is considered to be at a **Low** risk of flooding from pluvial sources. Further considerations are made within Section 5 in relation to keeping this risk to a low designation in the long-term.

4.6 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.

Groundwater as a sole flooding mechanism is often regarded as low risk as it often relies on a coinciding rainfall, or flood event from an additional source to become a flood risk. The main contributory factor that will enhance the risk of groundwater flooding, is prolonged periods of high rainfall, which results in the groundwater saturation levels rising to the point where it reaches the surface.

Upon review of the relevant online documents listed in Section 1.2 of this report, it was indicated that there have been no reportable instances of historic groundwater flooding at or within the vicinity of the site. Furthermore, no further information regarding the susceptibility of groundwater flooding at the site was provided within any of the listed documents.



Overall, the site is considered to be at a **Low** risk of groundwater flooding.

4.7 Artificial Sources of Flooding

Flood risk from artificial sources would include the failure of man-made drainage or water supply network. Although the likelihood of such an occurrence is highly unpredictable, it is recommended that any proposed designs for the site take into account the location of any existing below ground services, in order to avoid any inadvertent flooding taking place during the construction phase and in the future.

Upon review of the relevant online documents discussed in Section 1.2 of this report, it was indicated that there have been no reportable instances of historic sewer flooding located at or within the vicinity of the site.

Overall, the site is considered to be at a **Low** risk of flooding from artificial sources.

4.8 Reservoir Failure

Assessment of risk of a reservoir failure may be interpreted as the extent of flooding that would occur, should any reservoir that has a capacity larger than 25,000m³, suffer a catastrophic failure. Mapping of this nature is described by Natural Resources Wales as a very worst-case scenario, with a flood event of this type being extremely unlikely to occur.

The NRW Risk of Flooding from Reservoirs map (**Figure 14**) shows that the site is not at risk of flooding from reservoirs. The risk of flooding from reservoirs is extremely unlikely to happen. For instance, 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 / maintenance work is carried out.

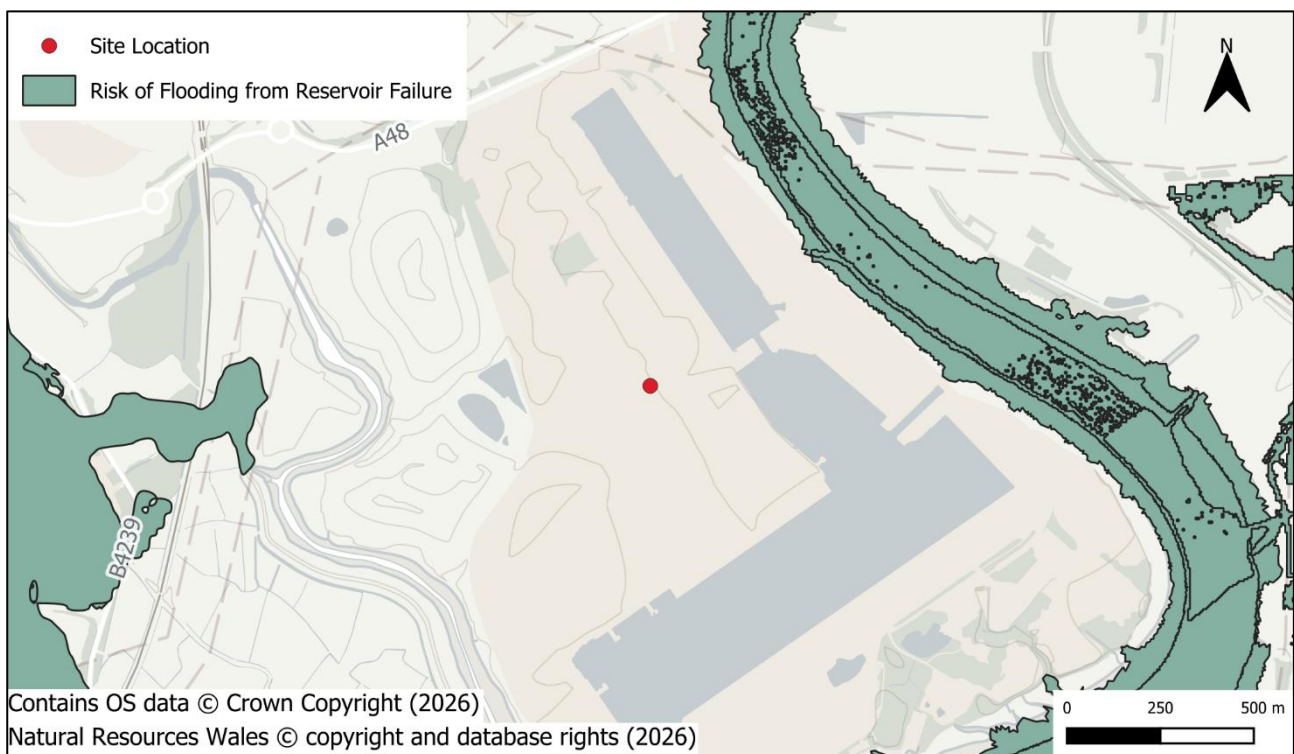


Figure 14: NRW Risk of Flooding from Reservoir Failure

Current legislation states that all reservoirs are inspected regularly and the likelihood of failure occurring is considered to be low. Therefore, the site is at a **Low** risk of flooding from reservoir failure.



5 FLOOD MITIGATION

5.1 Flood Risk Mitigation

The risk of flooding to the site from all sources is considered Low. As mentioned, the site is located within tidal Flood Zone 2 and as part of this assessment the available NRW flood model data was reviewed. Analysis indicates that the manufacturing building is flood free across all modelled events. The covered pallet storage shelter is only shown to be at risk of tidal flooding in the 1 in 1000 year (Breach 6 – 2115) event to a maximum depth of 0.14m. In the absence of a specific design flood event (1 in 200 year return period for the year 2101) the 2096 and 2121 modelled scenarios have been assessed. In both scenarios the site is shown to be flood free.

5.2 Acceptability of Flood Consequences

In accordance with TAN15 Section 11, the proposed development has been assessed against the acceptability of consequences criteria. The scheme comprises a Less Vulnerable commercial use that aligns with the existing and wider site uses and therefore does not represent an increase in vulnerability classification. The site is not at risk from flooding during present-day events, including the extreme 1 in 1000 year scenario. While future climate change breach modelling to 2115 indicates a potential residual tidal flood risk affecting the covered pallet storage shelter, this element is designed as an open-air structure, allowing floodwater to pass through freely in the unlikely event of flooding. The manufacturing building remains unaffected across all modelled events.

The proposal is modest in scale and proposed on existing hardstanding, with footprints that have a negligible impact on flood risk. They are designed to be flood resilient rather than flood-proof, and therefore no specific resistance measures are incorporated. In extreme flood conditions, the covered pallet storage shelter is intended to flood without resulting in a loss of floodplain storage, impeding overland flow routes, or increasing flood levels elsewhere.

Taking all factors into account, the development complies with TAN 15 requirements by avoiding any increase in flood risk beyond the site boundary and ensuring resilience and recoverability over its lifetime. The potential flood consequences are therefore considered acceptable and manageable, including with allowance for climate change, and the developer accepts the associated risks. The proposal is consequently justified in flood risk terms and accords with national planning policy in Wales.

5.3 Design Principles for Development

It is recommended that based on the current design proposals, the following is considered to provide long term mitigation of flood risk.

The client should ensure all pallets are stored on 150mm plinths to allow any residual flood water to flow beneath. Moreover, the site is already bound by fencing, thus mitigating against the risk of movement of pallets off-site in an extreme flood event.

Flood Awareness

The site is located approximately 160m to the southwest of a Flood Alert area (Usk Estuary – ref: 103WATuskest) and approximately 240m to the east of a second Flood Alert area (Coast from Aberthaw to Severn Bridge – ref: 103WACcoastse).

The site is located approximately southeast of a Flood Warning area (Usk Estuary at Uskmouth and Old Town Docks – ref: 103FWTt06) and approximately 240m to the east of a second Flood Warning area (Coast at the



Wentlooge Levels in the Newport Area – ref: Coast at the Wentlooge Levels in the Newport Area) (**Figure 15**). The site owners and occupants should therefore register to receive both.

Flood Warnings Direct is a free service that provides prior warnings of a fluvial / tidal 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.

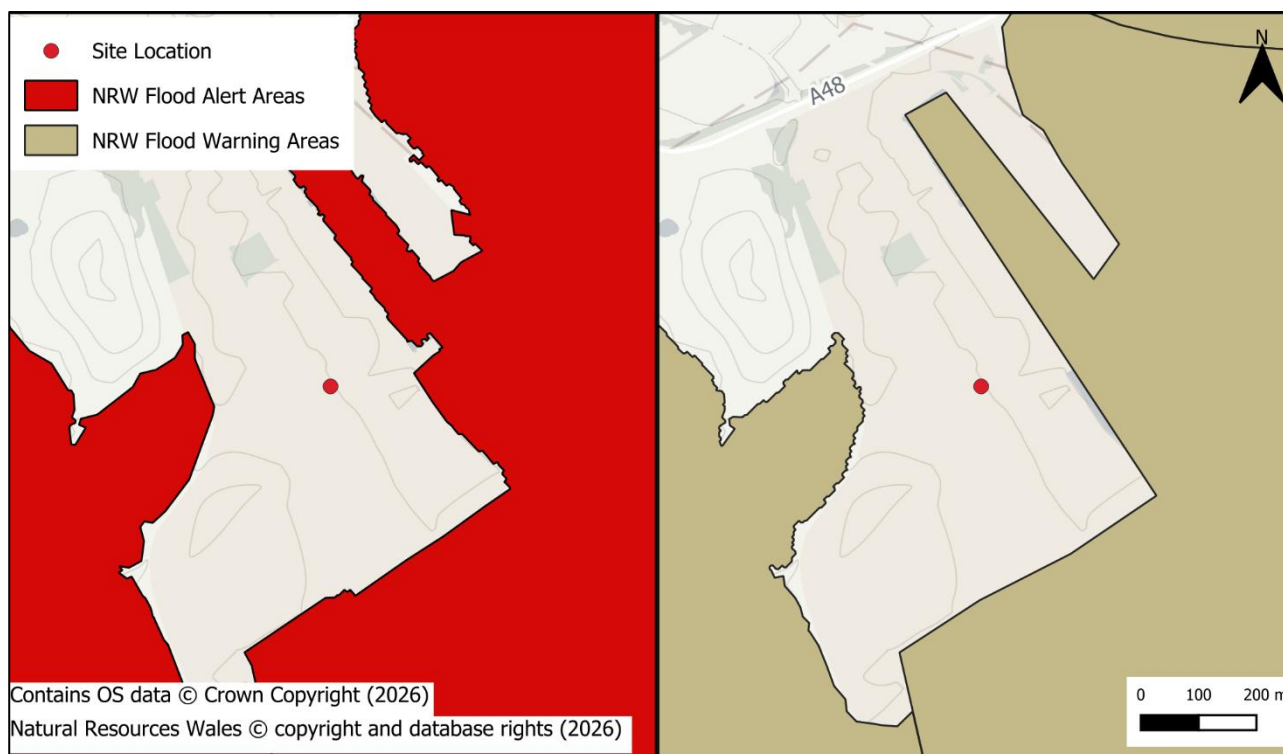


Figure 15: NRW Flood Alert and Warning Areas

Appropriate documentation should be displayed to inform any users of the site of the potential flood risk. Documentation will be displayed at an appropriate position. The documentation will indicate the risk of flooding and contain information on how prior warnings will be sent. Further information on the documentation will comprise of the Floodline Warnings Direct telephone number, emergency services numbers and exit plans and egress directions, as identified in the evacuation procedure for the site.

The site owner should consider undertaking a Flood Evacuation Management Plan (FEMP) for implementation during an extreme event. This should be done in conjunction with the appropriate professional bodies including and in particular Newport City Council Emergency Planning Department. The FEMP should be a written document which should outline the course of action to all employees/occupants during a flood. The evacuation procedure should address (but not be limited to) 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.



Access / Egress

Provision of safe access / egress is provided from the site onto West Way heading in a north-westerly direction towards Docks Way before heading in a westerly direction along Southern Distributor Road away from all modelled tidal flood extents up to and including the extreme 0.1% + CC event (2121).

It is also important to note that the proposed secondary access and egress point is situated outside the projected surface water flood risk area. Should the primary access become unavailable, employees and occupants will be able to safely evacuate the site using this secondary route.



6 CONCLUSIONS

This report has been prepared for ASR Projects in support of the proposed development at Newport Pallets, West Way, Newport, NP20 2WD.

The risk of flooding to the site from all sources is considered Low. The site is located within tidal Flood Zone 2 and as part of this assessment the available NRW flood model data was reviewed. Analysis indicates that the manufacturing building is flood free across all modelled events. The covered pallet storage shelter is only shown to be at risk of tidal flooding in the 1 in 1000 year (Breach 6 – 2115) event to a maximum depth of 0.14m. In the absence of a specific design flood event (1 in 200 year return period for the year 2101) the 2096 and 2121 modelled scenarios have been assessed. In both scenarios the site is shown to be flood free.

In accordance with TAN15 Section 11, the proposed development has been assessed against the acceptability of consequences criteria. The scheme comprises a Less Vulnerable commercial use that aligns with the existing and wider site uses and therefore does not represent an increase in vulnerability classification. The site is not at risk from flooding during present-day events, including the extreme 1 in 1000 year scenario. While future climate change breach modelling to 2115 indicates a potential residual tidal flood risk affecting the covered pallet storage shelter, this element is designed as an open-air structure, allowing floodwater to pass through freely in the unlikely event of flooding. The manufacturing building remains unaffected across all modelled events. The proposal is modest in scale and proposed on existing hardstanding, with footprints that have a negligible impact on flood risk. They are designed to be flood resilient rather than flood-proof, and therefore no specific resistance measures are incorporated. In extreme flood conditions, the covered pallet storage shelter is intended to flood without resulting in a loss of floodplain storage, impeding overland flow routes, or increasing flood levels elsewhere.

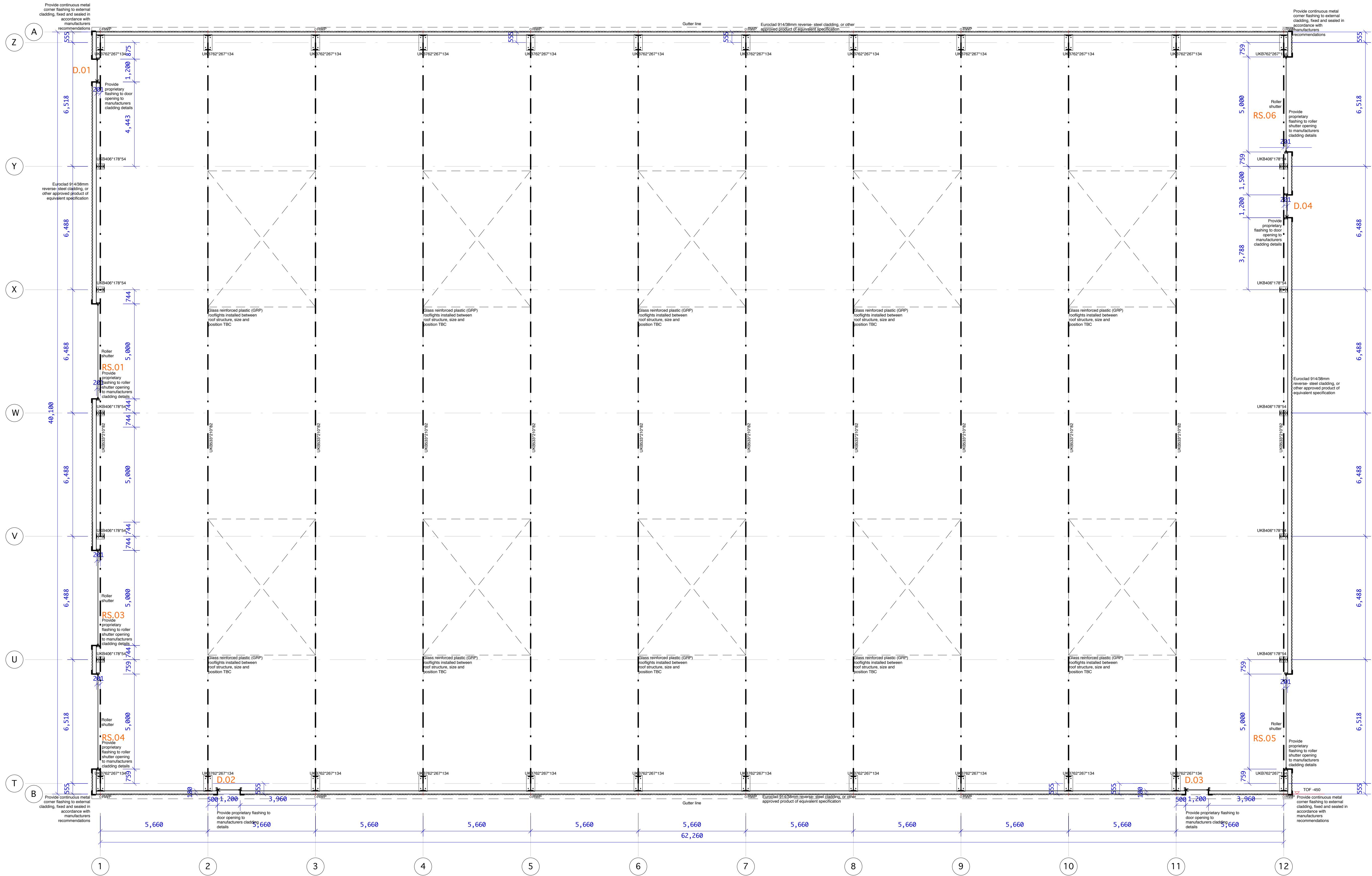
Taking these factors into account, the potential flood consequences are considered acceptable and manageable over the lifetime of the development, including allowance for climate change, with the developer fully accepting the associated risks. The proposal is therefore justified in flood risk terms, complies with TAN 15, and aligns with national planning policy in Wales.

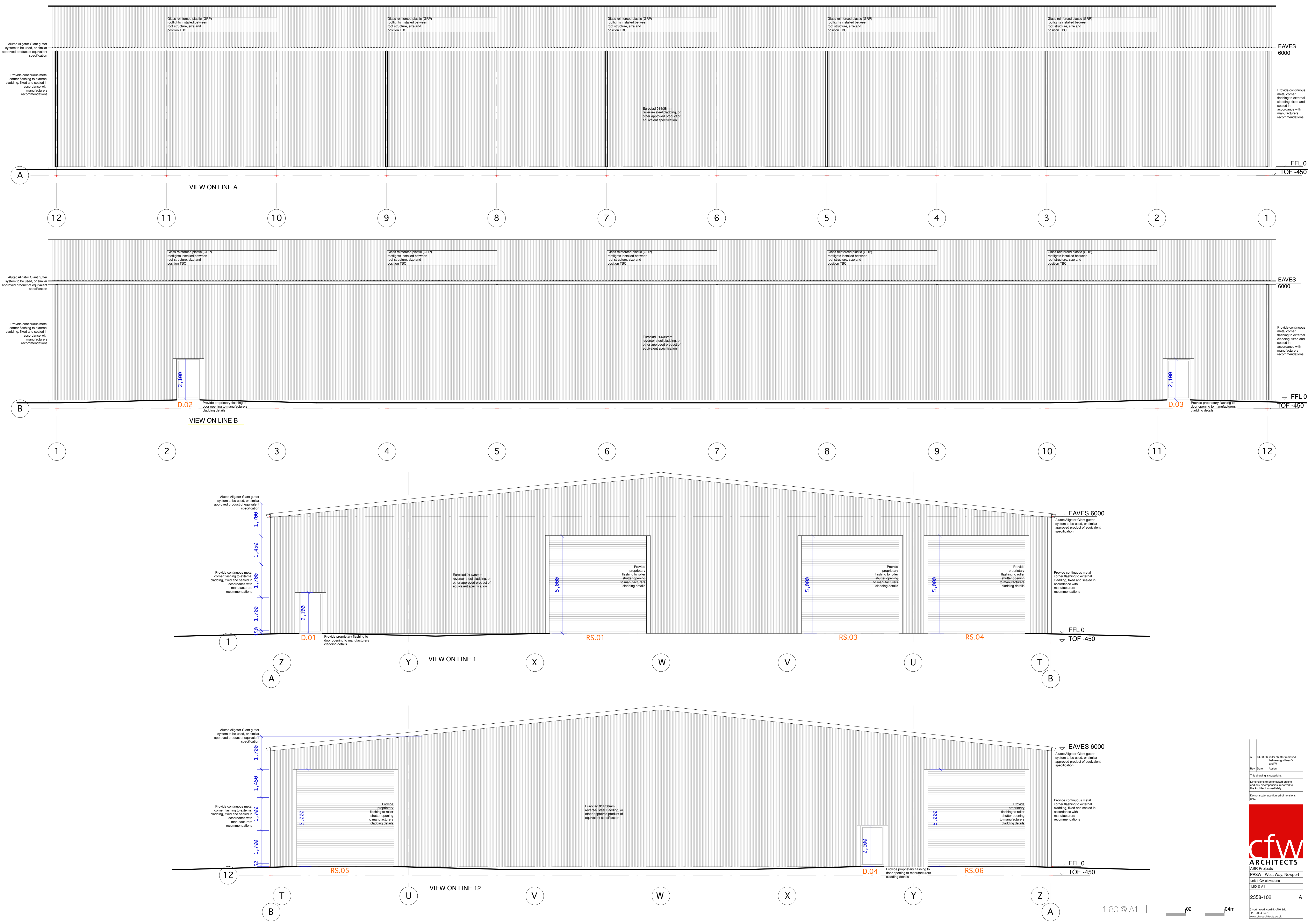
Overall, this report demonstrates sufficient justification for the proposed works, in relation to flood risk and any potential inherent consequences.

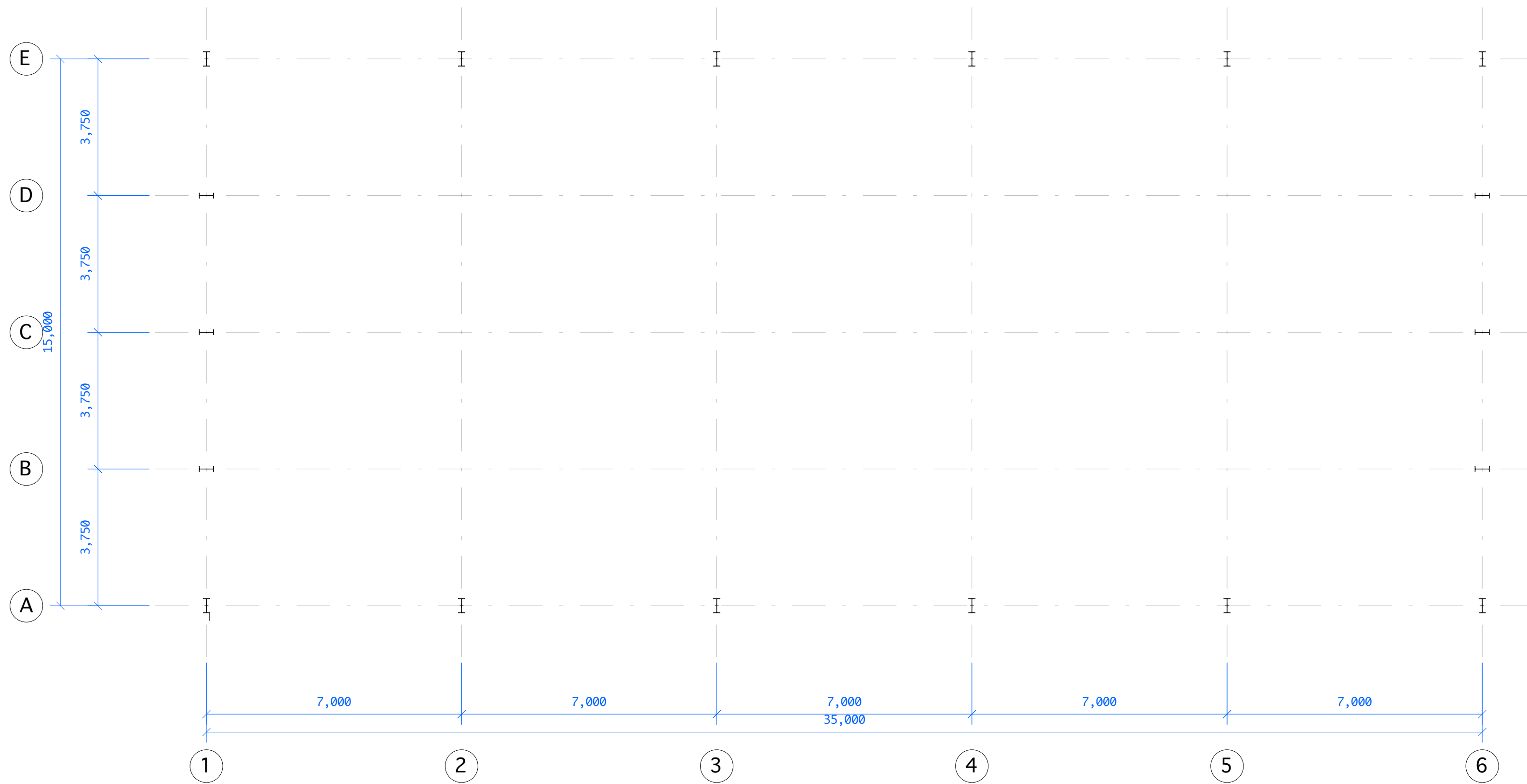
The FCA has been undertaken by suitably qualified personnel and is commensurate to the scale and nature of the proposed works.



APPENDIX A: Proposed Plans







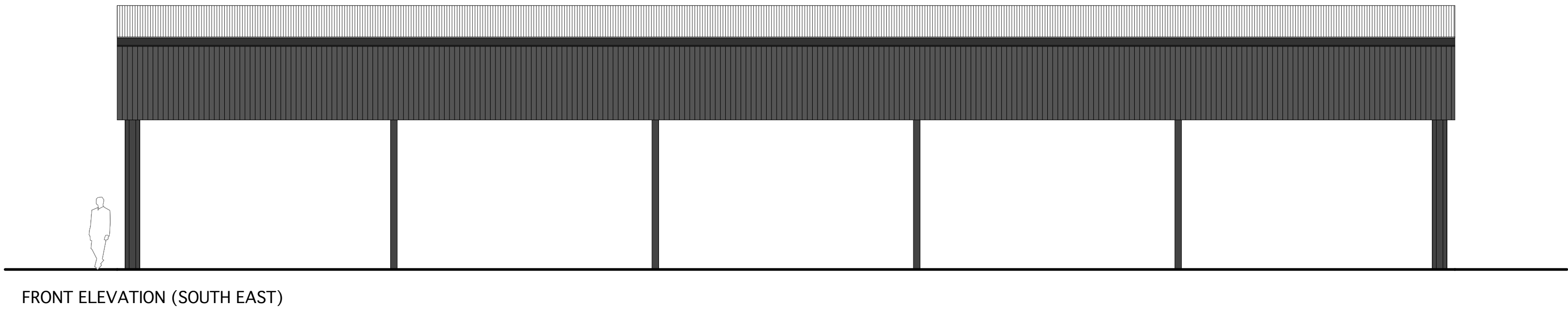
GROUND FLOOR

A	27.11.25	removing cladding
Rev	Date:	Action:
This drawing is copyright.		
Dimensions to be checked on site and any discrepancies reported to the Architect immediately.		
Do not scale, use figured dimensions only.		

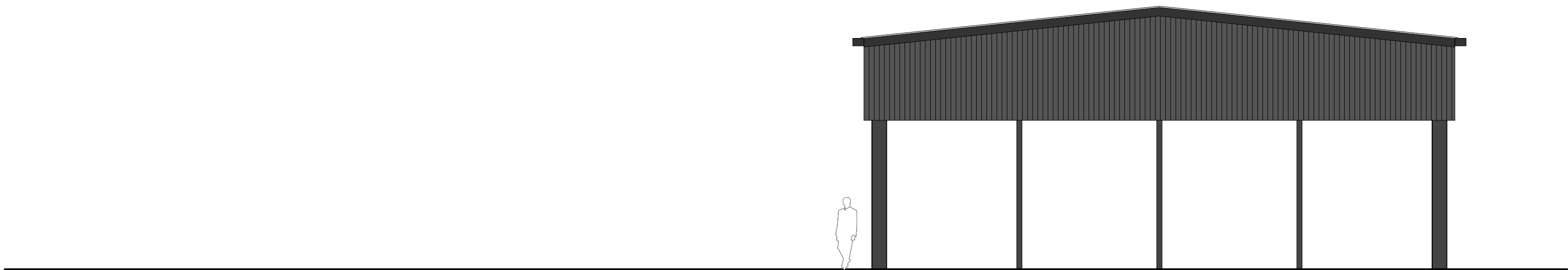


ASIX Projects
PRSW - West Way, Newport
unit 2 plan
1:100 @ A1
2358-010

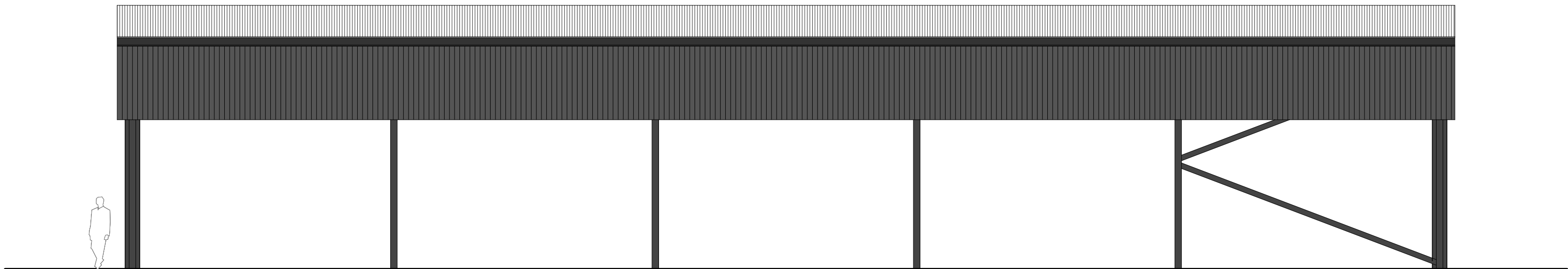
11 north road, car98t, #110 3da
029 2024 0481
www.cfw-architects.co.uk



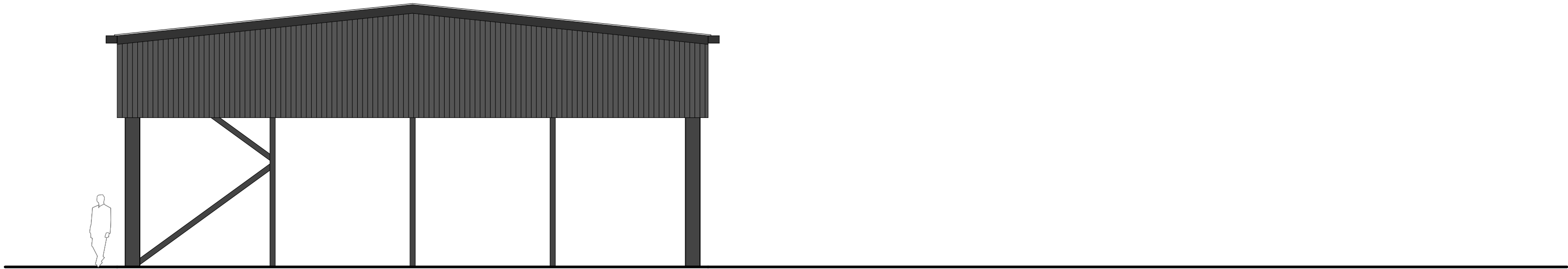
FRONT ELEVATION (SOUTH EAST)



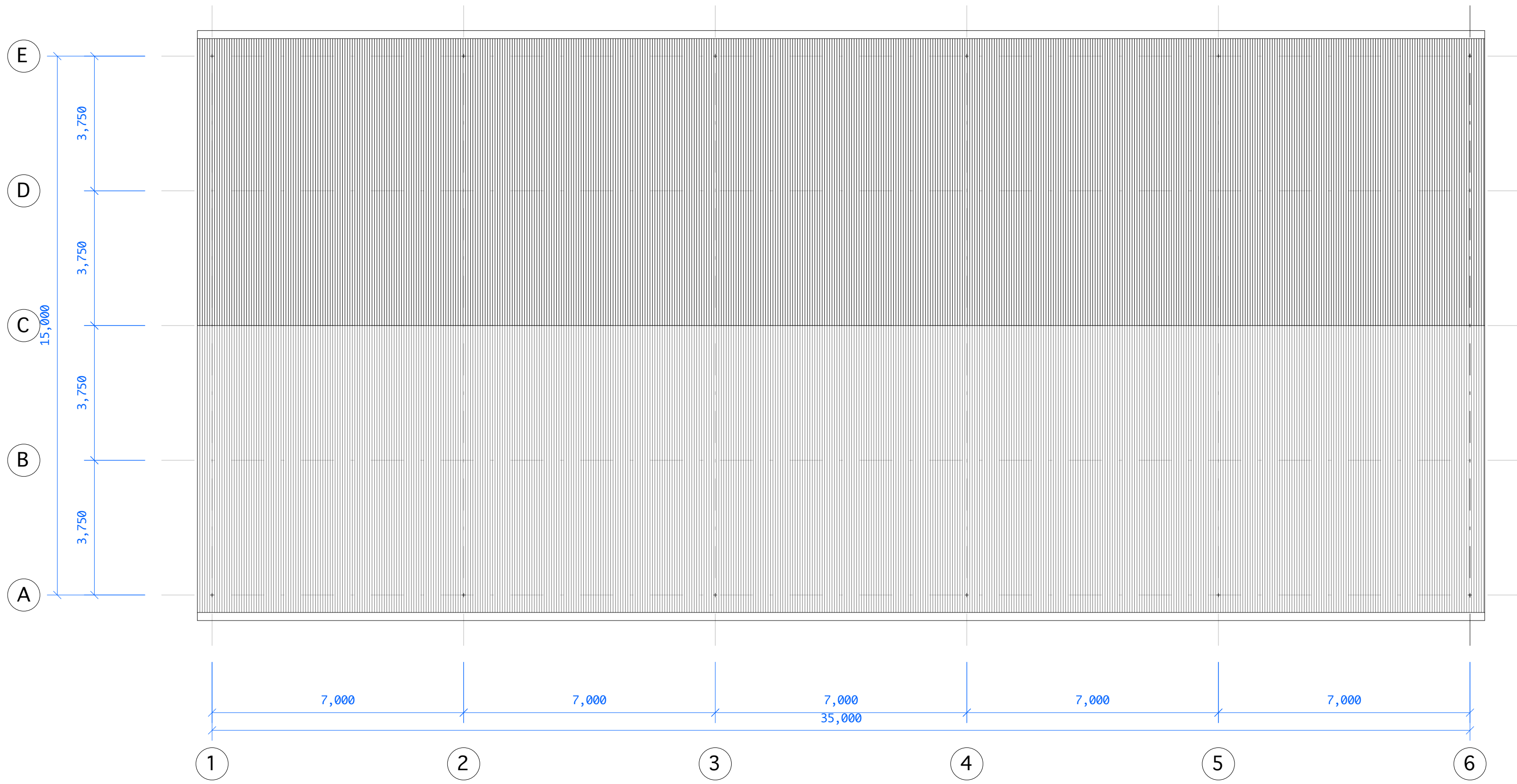
SIDE ELEVATION (NORTH EAST)



REAR ELEVATION (NORTH WEST)



SIDE ELEVATION (SOUTH WEST)



ROOF PLAN



APPENDIX B: Topographic Survey

