

**Proposed Link Road Between Tan-Yr-Efail
 And Holyhead Enterprise Park
 FLOOD CONSEQUENCES ASSESSMENT
 AND DRAINAGE STRATEGY**

1.0 INTRODUCTION

1.1 Background

- 1.1.1 A planning application is being prepared for the construction of a link road to connect Tan-yr-Efail and the Holyhead Enterprise Park in Holyhead. Caulmert has been appointed by the Isle of Anglesey County Council (the Council) to prepare a flood consequence assessment for the proposed redevelopment. This report sets out the principal concerns of flood risk that will be addressed by the proposed development.
- 1.1.2 The Council is aware that traffic flows along the northernmost part of Porthdafarch Road in Holyhead can at times be impeded due to the road layout and on-street parking around Hen Ddu Terrace and Mountain View, and hence there is local concern that future increases in traffic might exacerbate the situation.
- 1.1.3 The location of the site is shown in Figure 1 below.

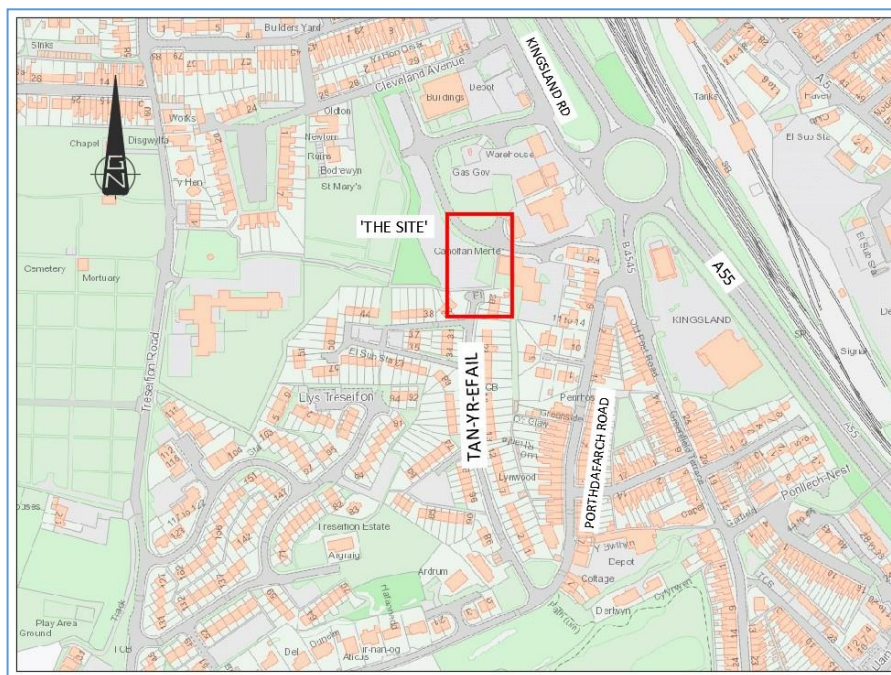


Figure 1 – Site Location Plan

1.2 Existing Site

1.2.1 The site presently comprises a footway link from Tan-yr-Efail to the Holyhead Enterprise Park on the east and a fenced area of grass land within the eastern edge of the Lock Stock secure storage site. Trees border the south of the Lock Stock site.

1.2.2 An extract from Google Maps as Figure 2 below shows the area of the site.

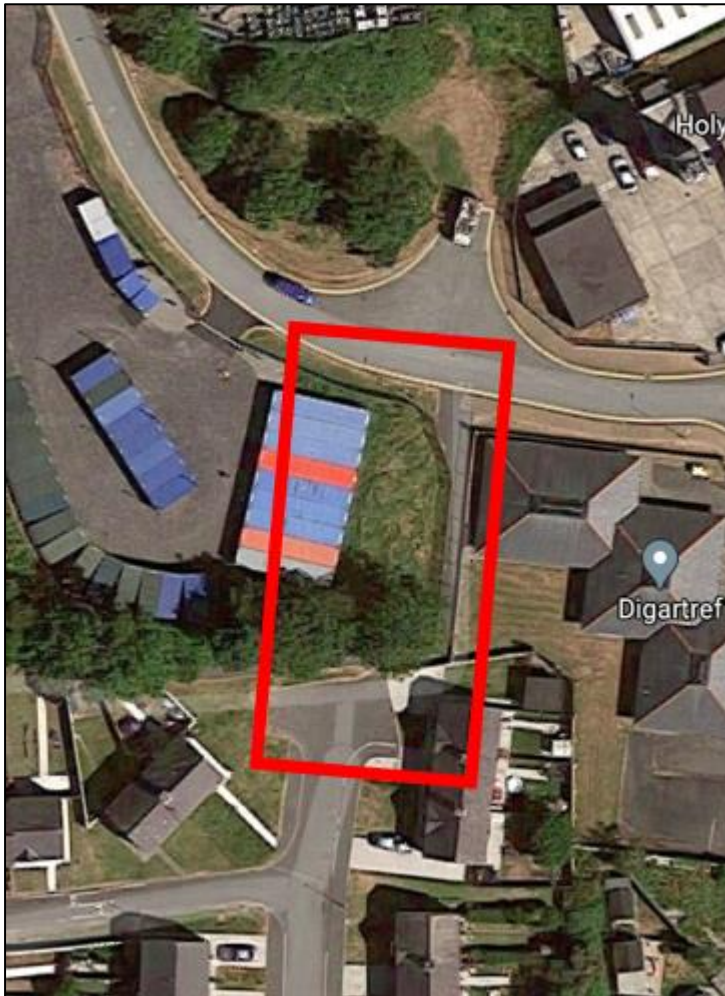


Figure 2 – Existing Site (Google)

1.2.3 A topographical survey has been carried out and is provided in Appendix A. In summary, the ground falls from the estate road in the north from a level of around 6.6m AOD to a low point near the south east corner of the Lock Stock site where the level is around 6.0m AOD. From there the ground rises towards Tan-Efail to a level of around 6.4m AOD. The plan

below is extracted from the topographical survey and shows the key levels. Access into the Lock Stock land was not available.

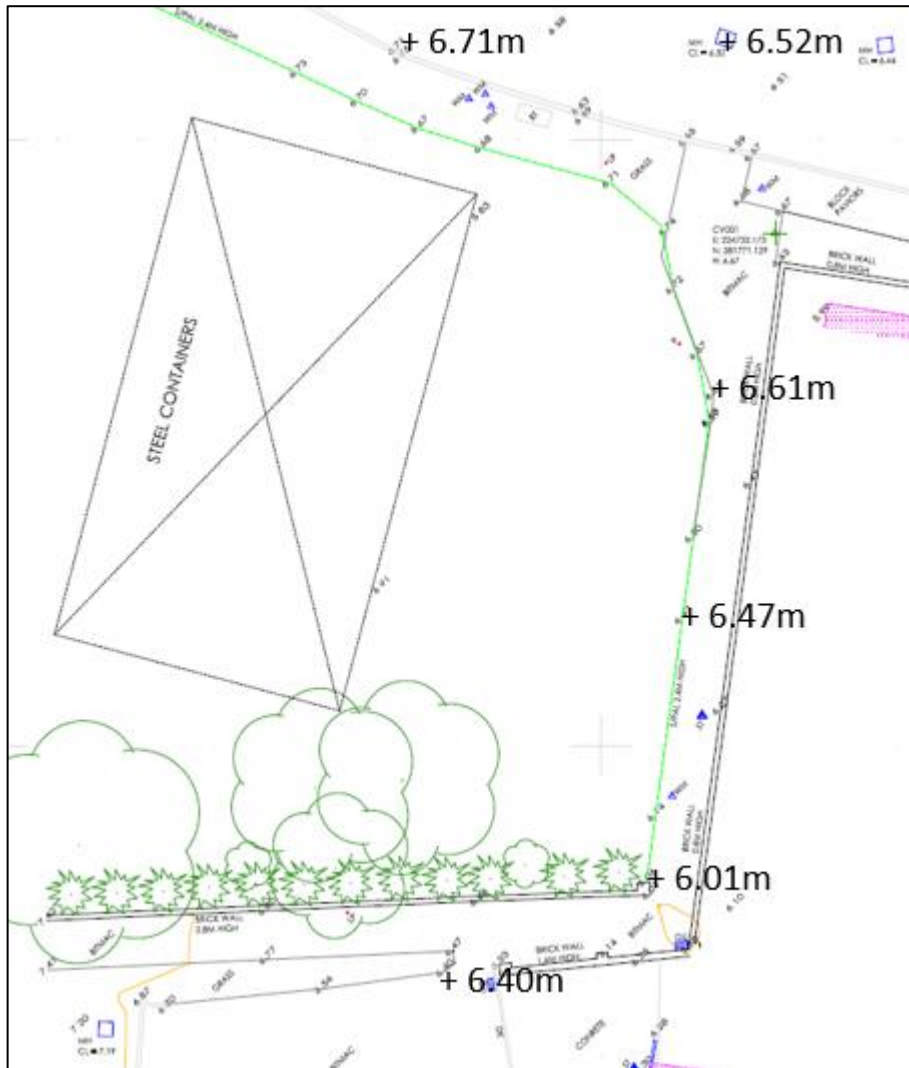


Figure 3: Extract from Topographical Survey

- 1.2.4 Dwr Cymru Welsh Water sewer records indicate their assets in the vicinity of the site. These show one, or possibly two concrete pipes 600mm diameter that carry surface water from south to north. Chambers within the site provide access. Also indicated is a foul sewer also assumed to flow northwards.
- 1.2.5 Figure 4 below provides an extract from the sewer records.

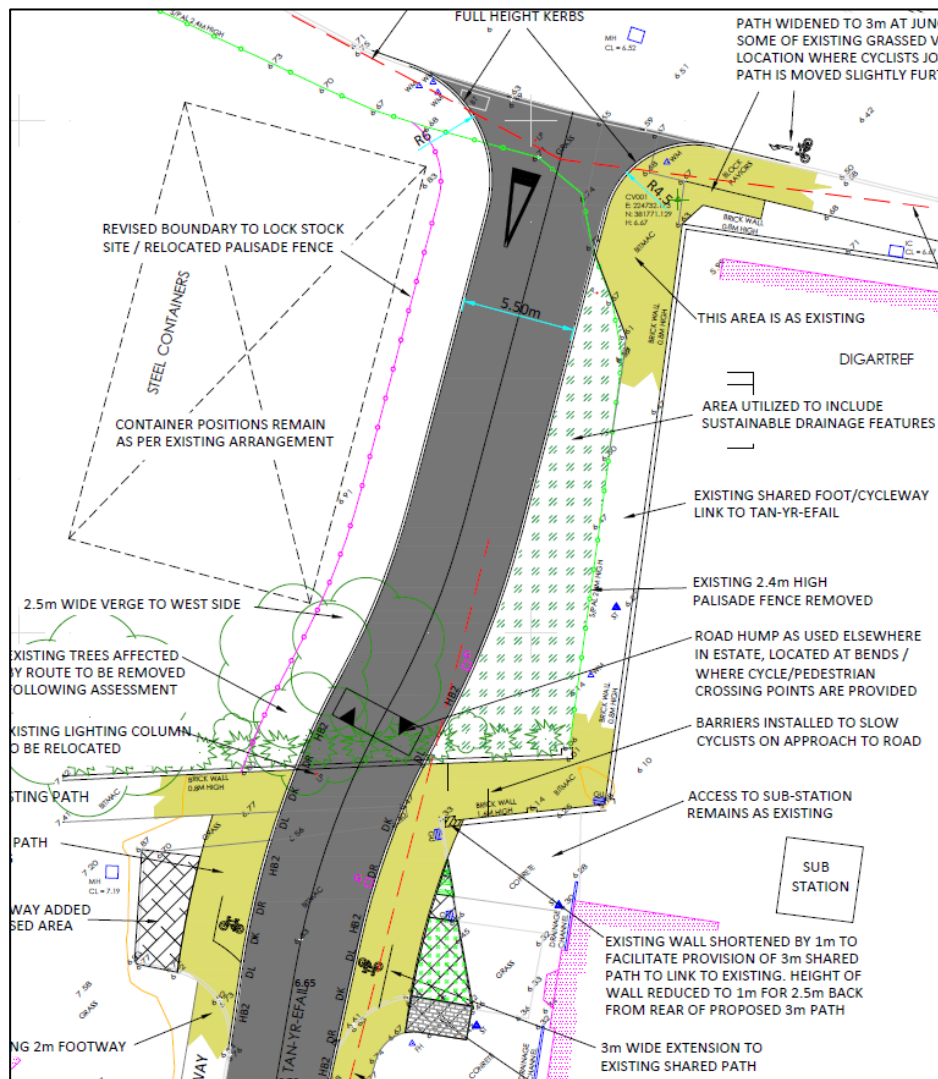


Figure 5: Proposed Development

2.0 FLOOD RISK

2.1 Technical Advice Note 15 (TAN15)

2.1.1 TAN15 sets out the Governments policy in respect of development and flood risk. Development Advice Maps (DAMs) indicate areas that are predicted to potential be at risk of flooding from significant rivers and the sea.

2.1.2 An extract from the DAM shown below in Figure 6 indicates that the site is within zone C2, which is an area considered to be at risk of flooding from the sea and with little or no defences. The access road is indicated in green.



Figure 6: Extract from TAN15 DAM

2.1.3 Flood Zone C2 extends across the whole of the site area and 10m to the south along Tan-yr-Efail, and 10m to the north-west along the estate road.

2.2 Natural Resources Wales Flood Mapping

2.2.1 Natural Resources Wales provides mapping indicating flood risk on their web site. An extract from the Flood Risk Assessment Wales Map is shown below as Figure 7.

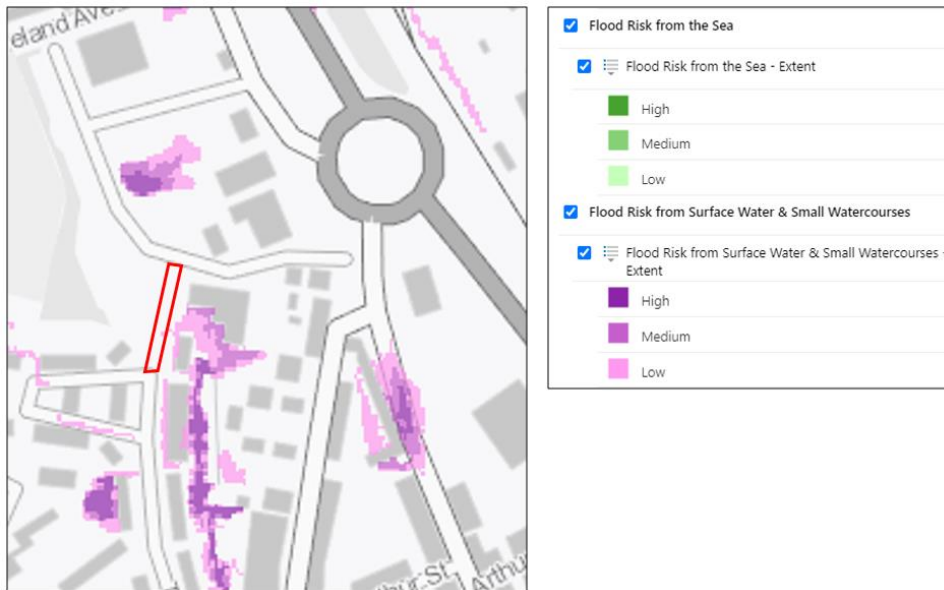


Figure 7: Flood Risk Assessment Wales Map

- 2.2.2 There is predicted to be flooding from surface water and small watercourses close to the site, extending slightly onto the site on the east.
- 2.2.3 The National Flood Hazards and Risk Map also indicates the site is not at risk of tidal flooding as shown in Figure 8 below.

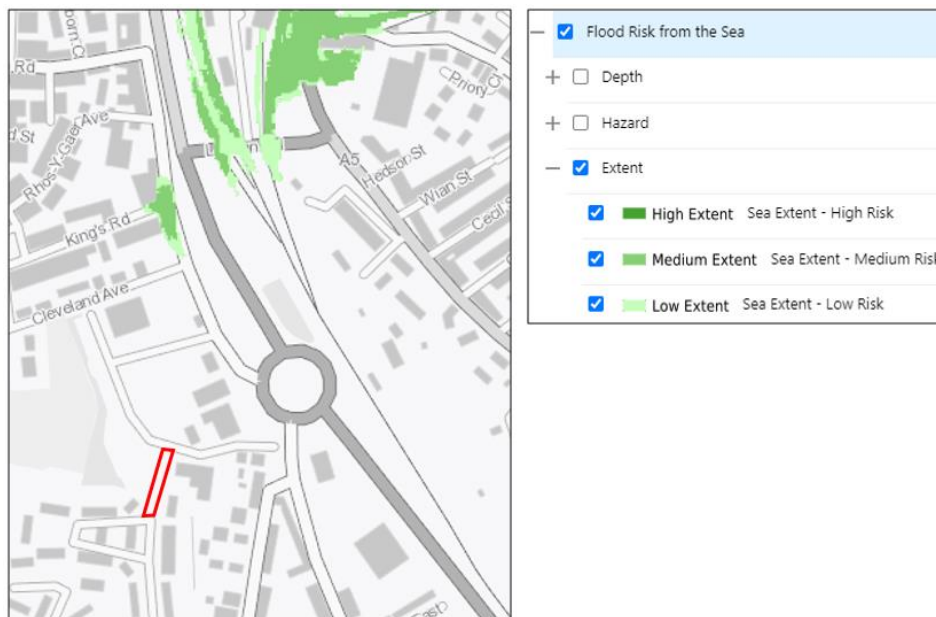


Figure 8: Extract from National Flood Hazard and Risk Map

- 2.2.4 Predicted return period sea levels are provided by the web site Lle. Transferring the data set onto Google Earth allows the predicted sea levels at Holyhead to be inspected. From this the 1 in 200 sea level in 2008 is predicted to be 3.93m AOD and the 1 in 100 sea level 4.07m AOD. Refer to Figure 9 below.

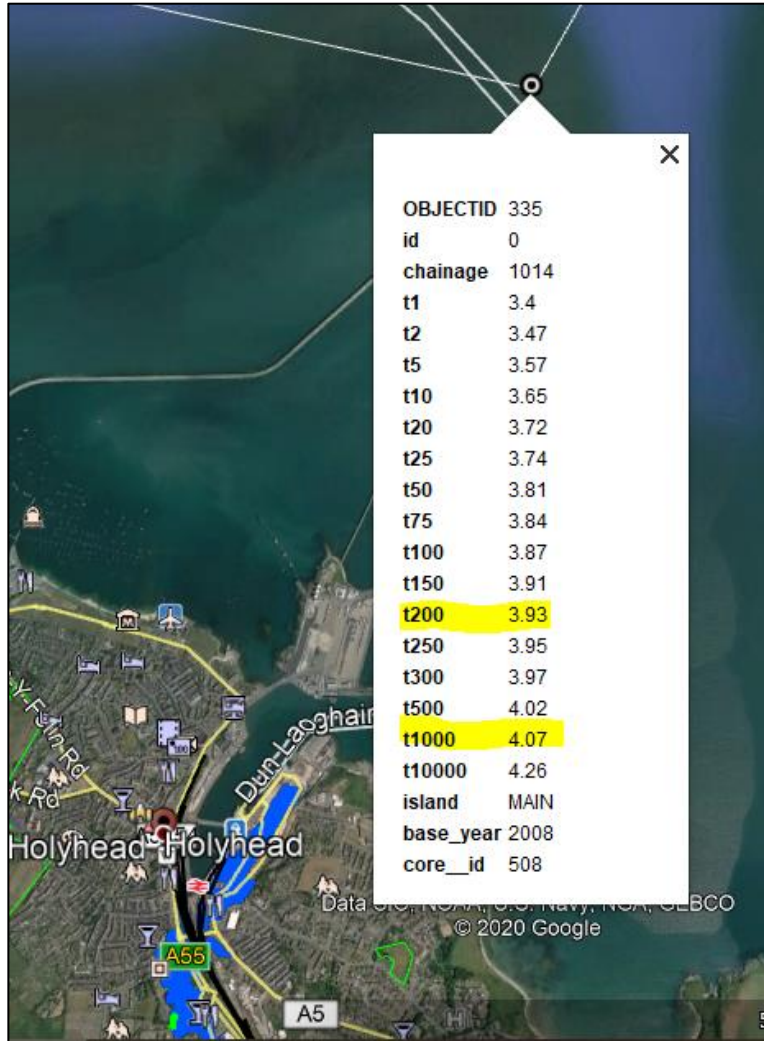


Figure 9: Return Period Sea Levels – Data Source Lle website

2.3 Climate Change

- 2.3.1 Welsh Government’s document “Adapting to Climate Change” December 2017 provides guidance on projected sea level rises. Based on this, for the 100 year lifespan of the access road the sea level is predicted to rise by approximately 1.14m.
- 2.3.2 The predicted 1 in 200 sea level with 100 years Climate change allowance is 5.07m AOD.

3.0 DRAINAGE STRATEGY

- 3.1.1 The presence of public sewers under the site constrains the options available, as DCWW does not accept infiltration in close proximity to their sewer assets. This effectively prevents infiltration as an option. It is therefore proposed that a connection is formed to the surface water public sewer that passes beneath the access road.
- 3.1.2 The discharge rate into the sewer will be controlled and storage in the pipe network provided. A discharge rate of 1l/s is proposed, as a practical minimum.
- 3.1.3 To mitigate against the connection of road drainage into the surface water sewer it is proposed to disconnect existing gullies from the combined sewer system, instead directing them into the controlled runoff from the highway drainage. This will provide betterment as it will reduce the flood risk on the combined sewer.
- 3.1.4 The DCWW assets prevent the use of Sustainable drainage and the provision of amenity and biodiversity benefit from the development.
- 3.1.5 An application will be made to the SuDS Approving Body prior to the commencement of construction.
- 3.1.6 Below is an extract of the road design showing the drainage strategy.

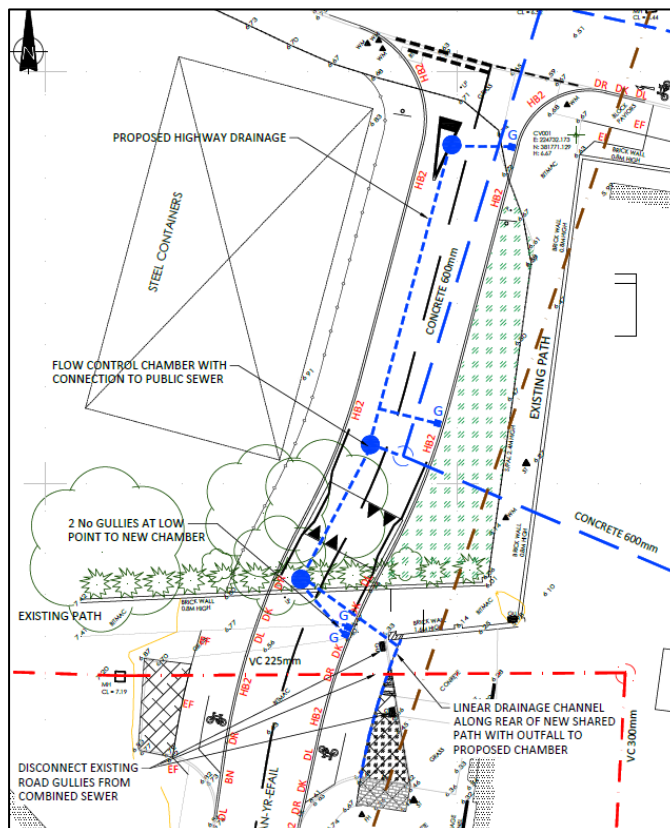


Figure 10: Drainage Proposals

4.0 FLOODING CONSEQUENCES

4.1 Tidal Flood Risk

- 4.1.1 The DAM C2 zone does not appear to accord with current information NRW publishes.
- 4.1.2 Based on the current NRW mapping and sea level data the site is not predicted to be affected by tidal flooding, as the lowest level on the site is 6.03m AOD

4.2 Watercourse / Surface Water Flood Risk

- 4.2.1 NRW mapping indicates a very small incursion onto the site in respect of surface water flood risk. The proposed access road will tie into the estate road and Tan-yr-Efail at existing levels and it is envisaged the lowest level on the access road will be approximately 6.38m AOD. This will further reduce the risk of the road being affected by flooding.
- 4.2.2 In the event of a blockage in the piped drainage system such that water does affect the carriageway, there will remain the existing access to and from Tan-yr-Efail at the south onto Porthdafarch Road. Such a scenario will therefore not result in any unacceptable consequences.

5.0 SUMMARY OF FLOOD RISK AND DRAINAGE

5.1 Development Considerations

- 5.1.1 Technical Advice Note (TAN) 15: Development and Flood Risk guides development to locations that have little or no flood risk. The proposed development, being transport infrastructure is considered less vulnerable development in TAN15.
- 5.1.2 While the TAN15 DAM indicates the site is at risk of fluvial flooding, current NRW information indicates it is not.
- 5.1.3 Surface water flood risk is negligible, and in the event of the route being affected by flooding it will not prevent safe access to or from the area as alternative access is available.
- 5.1.4 Drainage of the site using SuDS is affected by DCWW assets. However the proposed drainage will remove existing road gullies connections from the combined sewer and direct them to the surface water sewer, which, along with the new highway drainage will be discharged at a controlled rate.

Prepared by	Jonathan Sykes	29 th October 2020
Checked by	Nick Owen	06/11/2020
Approved by	Jonathan Sykes	06/11/2020
Document Reference	4261-CAU-XX-XX-RP-D-0301	
Status	S4	

Appendices

- A Topographical Survey
- B Proposed Development Layout Plan
- C Preliminary Pre-Application Advice

REVISION HISTORY

Rev No	Date	Paragraph	Change History
P1	06/11/2020	-	Issued with PAC
P2			
P3			

Appendix A

Topographical Survey

224650E
381825N
381800N
381775N
381750N
381725N
224675E
224700E
224725E
224750E
224775E



Legend

Symbols

- | | | | |
|---|----------------------------|---|------------------------|
| □ | Bollard | ○ | Osbn |
| → | Direction of Watercourse | ○ | Rain Water Gully |
| ○ | Electricity Pole | ○ | Road Sign |
| △ | Fire Hydrant | ○ | Shrubs |
| △ | Gas Tap | ○ | Slope |
| ○ | Gate | ○ | Stop Tap |
| ○ | Gully | ○ | Stop Valve |
| ○ | Lamp Post | ○ | Survey Station |
| □ | Manhole/Inspection Chamber | ○ | Telegraph Pole |
| ○ | Manhole/Inspection Chamber | ○ | Tree (Spread to scale) |
| △ | Manhole/Inspection Chamber | ○ | Tree Stump |
| | | ○ | Utilities Marker Post |

Abbreviations

- | | |
|------|--|
| AV | Air Valve |
| BED | Flower Bed |
| BH | Bore Hole |
| BOL | Bollard |
| BT | British Telecom Inspection Chamber |
| BT | Telegraph Pole |
| BS | Bus Stop |
| CCTV | Closed Circuit Television Furniture |
| CEB | Control Electricity Box (Above ground) |
| DK | Drop Kerb |
| ER | Earth Rod |
| EP | Electricity Pole |
| FH | Fire Hydrant |
| GU | Gully |
| IC | Inspection Chamber |
| LP | Lamp Post |
| LB | Letter Box |
| MP | Utilities Marker Post |
| MH | Manhole |
| P | Post |
| RS | Road Sign |
| RE | Rodding Eye |
| RWG | Rain Water Gully |
| SOP | Setting Out Point |
| ST | Stop Tap |
| SV | Stop Valve |
| TCB | Telephone Call Box |
| TL | Traffic Light |
| WM | Water Meter |

Boundary Abbreviations

- | | |
|-------|-----------------------|
| B/W | Barbed Wire Fence |
| C/B | Close Boarded Fence |
| C/Br | Crash Barrier |
| C/L | Chain Link Fence |
| C/P | Chestnut Paling |
| C/I | Corrugated Iron Fence |
| I/R | Iron Railing |
| L/L | Larchlap Fence Panel |
| P/W | Post & Wire Fence |
| P/C | Post & Chain |
| RTW | Retaining Wall |
| S/PAL | Steel Palisade Fence |
| S/P | Stock Proof Fence |
| W/M | Wire Mesh Fence |

Title:
TOPOGRAPHIC SURVEY
LAND ADJACENT TO THE FIRE STATION
HOLYHEAD

Client:

- Notes:**
1. Grid - tied into OS grid using OSGB 36
 2. Datum - tied into OS datum using OSGB 36
 3. Contour - vertical interval = 1m
 4. Survey orientated to grid north

SCALE: 1:250@A1 DATE: 15/06/20 CHECKED: SR DWG NO. 20077/01

Survey data and drawings produced by.

CURVASURE
PROFESSIONAL CONSTRUCTION

Curvasure Limited a company registered in England and Wales. Company No. 4830127
Registered Office: 23 Princes Drive, Colwyn Bay, Conwy, LL29 8HT
t:01492 532400 m:07970 459236 f:01492 532400 e:admin@curvasure.co.uk
www.curvasure.co.uk

Appendix B

Proposed Development Layout Plan

Appendix C

NRW Preliminary Pre Application Advice

Maes Y Ffynnon,
Penrhosgarnedd,
Bangor,
Gwynedd
LL572DW

Jonathan Sykes
Caulmert

ebost/email:
northplanning@cyfoethnaturiolcymru.gov.uk
Ffôn/Phone: 03000 65 5241

6th April 2020

Dear Sir,

PRELIMINARY PRE-APPLICATION ADVICE

DEVELOPMENT: IT IS PROPOSED THAT THE SITE IS USED FOR THE SITING OF STORAGE CONTAINERS THAT WILL BE RENTED OUT TO THE PUBLIC FOR STORAGE USE.

LOCATION: LAND NEAR KINGSLAND RD, HOLYHEAD

Thank you for your enquiry dated 19th March 2020

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

Flood Risk Management

The proposal site lies partially within Zone C2 as defined by the Development Advice Map (DAM) referred to under Technical Advice Note 15: Development and Flood Risk (TAN15) (July 2004).

Section 6 of TAN15 requires the Local Planning Authority to determine whether the development at this location is justified. As the proposed development is considered to be 'less vulnerable development' under TAN15, we refer you to the tests set out in section 6.2 of TAN15. If you consider the proposal meets the tests set out in criteria (i) to (iii), then the final test (iv) is for the applicant to demonstrate, through the submission of an FCA, that the potential consequences of flooding can be managed to an acceptable level.

The site is shown to be at risk from a culverted watercourse which ultimately discharges into a Dwr Cymru Welsh Water asset. The site is also considered to have a degree of flood

risk when the impacts of climate change are considered from tidal inundation (albeit projected modelling) from this source.

Please find attached our response to the adjacent site (dated 29/03/2016) which remains valid in that we would be seeking containers to be sited outside of the C2 extent or that a suitable FCA is provided.

The access requirements would be subject to the maximum depths as suggested in table A1.15 of TAN15, the maximum depth of 0.6m should be addressed in any FCA.

We refer you to our [website](#) and [Guidance Note 028 Modelling for Flood Consequence Assessments](#) for further advice.

European Protected Species (EPS)

Our records show there may be protected species in the vicinity of the site (Bats and Great Crested Newts). We advise liaison with the LPA ecologist to discuss and agree the scope of any surveys required.

We refer you to our [website](#) for further advice.

Foul Water

Before deciding a planning application, the LPA needs to be satisfied the foul drainage arrangements for the proposed development are suitable. From the details submitted there is no reference to the foul drainage arrangements for the proposed development. We recommend you provide details regarding foul drainage arrangements with any planning application.

We refer you to WG Circular 008/2018 on private drainage, and specifically paragraphs 2.3-2.5, which stress the first presumption must be to provide a system of foul drainage discharging into a public sewer.

Groundwater protection and land contamination

Advice on environmental considerations and the assessments needed to support your planning application can be found on our external website.

- For advice on how to deal with possible land contamination on your development visit: <http://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/advice-for-developers/land-contamination/?lang=en>
- For advice on how to protect groundwater at your development visit: <http://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/advice-for-developers/protecting-groundwater/?lang=en>

Historic Landfill

The proposal site is approximately 228metres from a historic landfill site (Kingston). The Environment Agency provided the Local Authority with Historic Landfill data in 2007. You may wish to consult the Local Authority's Environmental Health department with regard to this aspect.

Protected Sites

The site lies within 380 metres of Holy Island Coast SPA.

The Local Planning Authority is a Competent Authority for the purposes of the *Conservation of Habitats and Species 2017 Regulations*. As such, they must not agree to any plan or project unless they are certain that it will not adversely affect the integrity of a Special Protection Area (SPA).

The Local Planning Authority should carry out a test of likely significant effects (TLSE) for the SPA, which is required under Regulation 63 of the *Conservation of Habitats and Species Regulations 2017*. This test applies to impacts on the SPAs from the proposed works, either alone or in combination with other plans and projects.

If the test concludes there is likely to be a significant effect then an appropriate assessment of the impacts on the SPA from the proposed works, either alone or in combination with other plans and projects, will be required. We would be able to assist with that assessment in our role as the statutory nature conservation body under the above Regulations.

Provision of Data

In addition to the above, please note, we can also provide certain data free of charge, as set out in our [Open Data Policy](#). Customers can [access our data via our website](#).

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

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

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

Yours faithfully

Ruth Prichard
Advisor Development Planning
Planning Advisory Service



Registered Office: InTec, Parc Menai, Bangor, Gwynedd, LL57 4FG

Tel: 01248 672666

Fax: 01248 672601

Email: contact@caulmert.com

Web: www.caulmert.com