ALDI STORE - LAND AT ABBERLEY HALL ROAD, MON BANK, NEWPORT

FLOOD CONSEQUENCES STATEMENT & DRAINAGE STRATEGY

Site Summary

It is proposed to develop an ALDI retail foodstore with parking and access arrangements, on a previously developed site at Abberley Hall Road, Newport. The proposed development falls within part of the wider Mon Bank residential development, undertaken on the former Monmouthshire Bank railway sidings. Refer to appendix A for the site location plan.

The ALDI development site has a total area of approximately 0.815Ha, and currently predominantly comprises a relatively flat plateau, falling generally from south to north, between around 18.0m and 15.4m AOD. The site is bounded by Monmouth Castle Drive to the south west, Abberley Hall Road to the south east and a footpath/cyclepath to the north. This footpath falls from west to east along the northern boundary, therefore the northern portion of the site comprises steep banking down from the level plateau. At its lowest point, the toe of the banking within the site is around 10.7mAOD. This banking will be retained and modified to suit the proposed development. Refer to appendix B for the proposed site plan.

The ALDI site is not currently formally surfaced, having been remediated, filled and levelled as part of the enabling works for the wider development, and left at a lower level than the immediate surroundings, to receive onward engineered construction and surfacing.

Aside from a filter drain at the bottom of the bank on the northern boundary of the site, there are no known existing drains within the site. Historic information suggests a reen passed through the site from north north west to south south east, and was culverted beneath the railways land, however this was diverted to follow the footpath, upstream of the site, as part of the enabling works.

As it is allocated for development within the wider masterplan, the site benefits from connections to existing foul and surface water drainage in Abberley Hall Road, which was designed and constructed to serve the site. Refer to appendix C for topographical survey drawings identifying existing drainage in the vicinity.

Dŵr Cymru Welsh Water (DCWW) asset mapping included in appendix D does not currently show these drains, however an updated plan is awaited from DCWW.

Flood Consequences Statement

The following considers the flood risk associated with the site in accordance with Planning Policy Wales Technical Advice Note 15 (TAN 15).

According to Natural Resources Wales's (NRW) online Development Advice Map (DAM), the ALDI site is predominantly located within the TAN 15 Development and Flood Risk Zone B, which describes "areas known to have flooded in the past". A small area to the north west of the site, adjacent to the footpath, is located within DAM Zone A, which describes areas at little or no risk of tidal or fluvial flooding. Refer to appendix E for the TAN 15 Development Advice Map, and other flood maps from NRW.

According to the detailed flood risk map, the site is entirely located within Flood Zone 1 (less than 0.1% chance of flooding from rivers or seas in any given year), which generally coincides with DAM Zone A. The nearest areas shown to be at elevated risk of fluvial or tidal flooding are the River Ebbw, to the south, and the area between Alexandra Road and the River Usk, to the east of the site. Both of these are just over 1km from the proposed site. The site is not shown to have flooded historically, or to be at elevated risk from reservoir or surface water flooding.

TAN 15 Figure 1 describes Zone B as areas flooded in the past evidenced by sedimentary deposits. Proposed developments in this zone should have their proposed levels checked against the 0.1% extreme flood level, and if site levels are greater than the flood levels used to define the nearest extreme flood outline, there is no need to consider flood risk further.

Both the Usk and Ebbw are tidally influenced at their locations nearest to the site, and it is considered that tidal flood risk is likely to be dominant in these locations. Extreme estuary water levels have been extracted from the current DEFRA dataset for these locations, with the highest being 9.68m AOD for the 1 in 1000-year plus

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climate change scenario. Since the developable plateau area of the site is entirely above 15m AOD, the site is significantly higher than the extreme 0.1% flood level, and is therefore not considered to be at risk of tidal or fluvial flooding. The requirement of Figure 1 of TAN 15 is therefore considered to be satisfied for development in this location, and no further justification test is required.

Since the total site area is less than 1.0Ha and the surface water drainage system will be designed to control discharge rates off site (discussed in later sections), the surface water generated by the development is unlikely to have a significant impact upon flooding within the site locality. Other issues considered in assessing the flood risks associated with developing the site were:

- a) Overall loss of flood storage volume during the design event
- b) Obstruction to the flow of water during a flood event
- c) Increase in rate of runoff that might worsen flooding elsewhere
- d) Obstruction to existing watercourses or access to them
- e) Situations that may be dangerous during flooding.
- f) Flooding from fluvial sources.
- g) Flooding from tidal sources.
- h) Flooding from pluvial sources and overland flows
- i) Flooding from ground water
- j) Flooding from sewers
- k) Flooding from reservoirs or canals.
- I) Flooding from other sources.

Item a), b), d), e), f) and g) Are satisfied since the ALDI site does not predominantly lie within an area at risk of flooding during the design events.

Item c). The proposed ALDI drainage system will be designed to mitigate the effects on receiving systems of additional surface water generated by the development. As such it is therefore anticipated that the development will not worsen flood risk elsewhere.

Item h). Flooding from overland flows. The NRW risk of flooding from surface water mapping shows the ALDI site is not at elevated risk of surface water flooding, either on the site or from off-site. Although the existing site is situated slightly lower than the surrounding roads, the site will be raised during construction, and the roads vertical alignments are such that any overload flows that do arise are directed past the site from west to east.

Item i). There is no known history of flooding from ground water for the development site, and it is raised relatively compared to the wider area.

Item j). Flooding from sewers. There is no known history of flooding from sewers within the vicinity of the development. The surface water drainage system in the surrounding access roads has been relatively recently designed, to current standards including an allowance for climate change.

Item k). The NRW risk of flooding from reservoirs map indicates that the site is not in an area at risk of reservoir flooding. There are no other large bodies of retained water (e.g. canals) in the vicinity of the site.

Item I). No other natural or artificial sources of flooding have been identified for this development.

Conclusion: This development is deemed appropriate in this location, is at minimal risk of flooding and its undertaking will not increase the risk of flooding to the neighbouring area.

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ALDI Store Surface Water Drainage Strategy

Following the implementation of Schedule 3 of the Flood Water Management Act 2010 in Wales, developments with a construction area greater than 100m² are required to incorporate Sustainable Drainage Systems (SuDS). All such systems are required to be approved by the SuDS Approval Body (SAB) under an approval application, and required to be adopted by the SAB where they serve more than a single property. As such, surface water drainage for the proposed ALDI site will be developed and approved under application separate to the planning process.

Generally, disposal of surface water generated by the development is proposed to be to the existing surface water drainage system in the wider Mon Bank development. Re-use of rainwater in the proposed development is not considered to be viable due to the relatively large ratio of yield to demand, generated by minimal non-potable water requirements in the retail foodstore. Due to the site's history of contaminative use as railway land and subsequent remediation and capping, infiltration of surface water to the ground is not considered to be suitable. Aside from Twenty Acres Reen, which is the discharge point for the wider Mon Bank drainage system, no watercourses or other surface water bodies are located in the vicinity of the site.

The wider Mon Bank surface water drainage system has been designed with an allowable discharge from the site. As above, this system ultimately discharges to Twenty Acres Reen, which flows along on the northern boundary, at a controlled rate agreed as part of the planning process. Attenuation storage is provided through a combination of an open attenuation pond, in the far south eastern corner of the wider site, and below ground geocellular attenuation storage beneath public open spaces. As such, any additional discharge from the ALDI site would not increase the overall maximum surface water discharge rate to the reen from the estate.

The surface water drainage discharge rate from the ALDI site is to be agreed under the SAB approval process. The system will be designed to have enough storage capacity to prevent flooding for all storm durations up to and including the 1 in 30-year return period event, plus a 20% increase in rainfall intensity as allowance for climate change. MicroDrainage System 1 software will be used to size the pipes and MicroDrainage Simulation and Source Control software will be used to model the integrated below ground drainage system.

The drainage system will also be checked for the 1 in 100-year return period events plus 40%. Any surface water flooding will be retained on the site during these storm events, via ponding on the car park and lorry ramp. Any ponding will not affect the proposed building or access/egress routes.

In the event of drainage system failure or exceedance (beyond 1 in 100-year events), flow routes will be away from the proposed and existing buildings which will not be affected.

The surface water drainage system for the ALDI site will remain separate and will only serve the ALDI property, therefore will not be offered for adoption to the SAB.

The design of the private drainage will be developed in accordance with the requisite standards, including current Building Regulations Approved Document Part H.

ALDI Store Foul Water Drainage Strategy

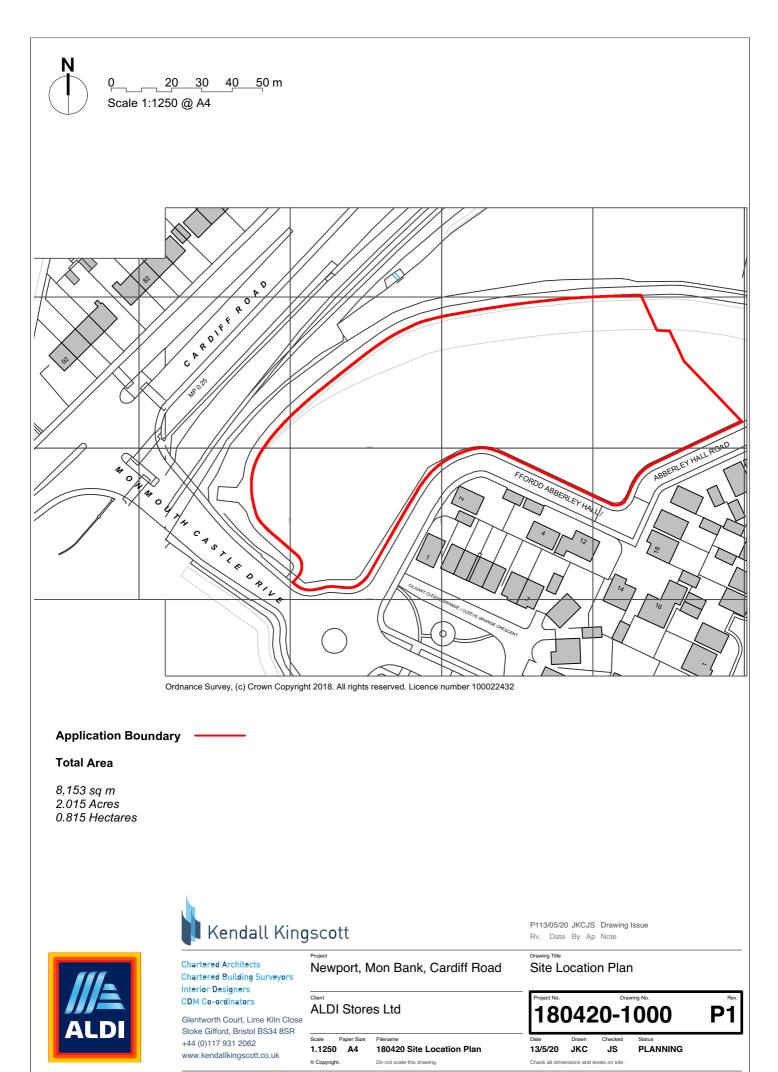
It is proposed to discharge the foul water from the proposed ALDI store development to the existing drains within Abberley Hall Road adjacent to the site. The connection to the foul drainage may be subject to a Section 104 lateral drain adoption and 106 direct connection agreement with Dŵr Cymru Welsh Water.

The design of the private foul drainage will be developed in accordance with Building Regulations Approved Document H.

Ownership and Maintenance

All the ALDI private foul and surface water drainage will be maintained by ALDI Stores Ltd. Specific maintenance requirements for the new ALDI surface water drainage system (including SuDS) will be agreed with the SAB.

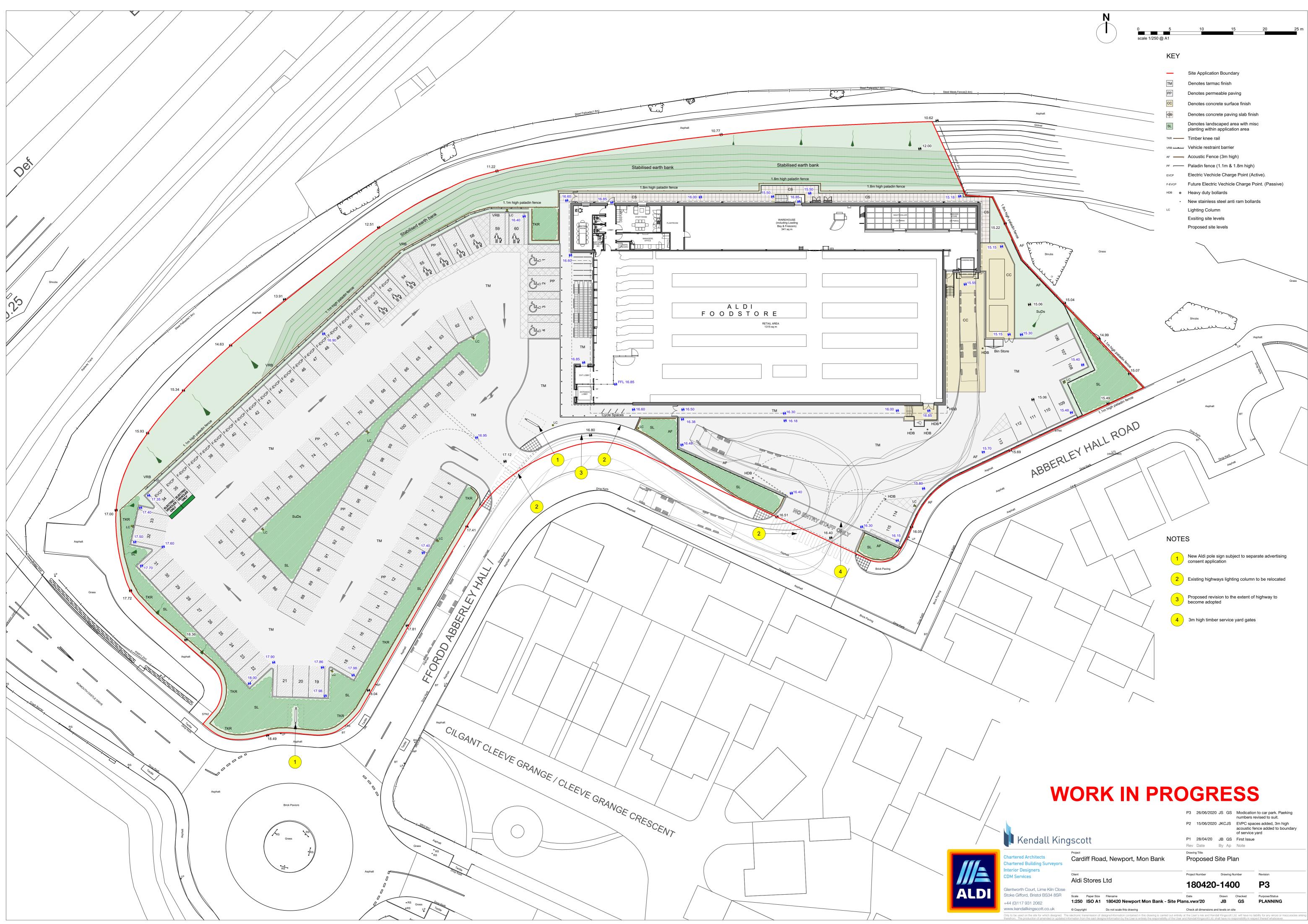
Appendix A: Site Location Plan



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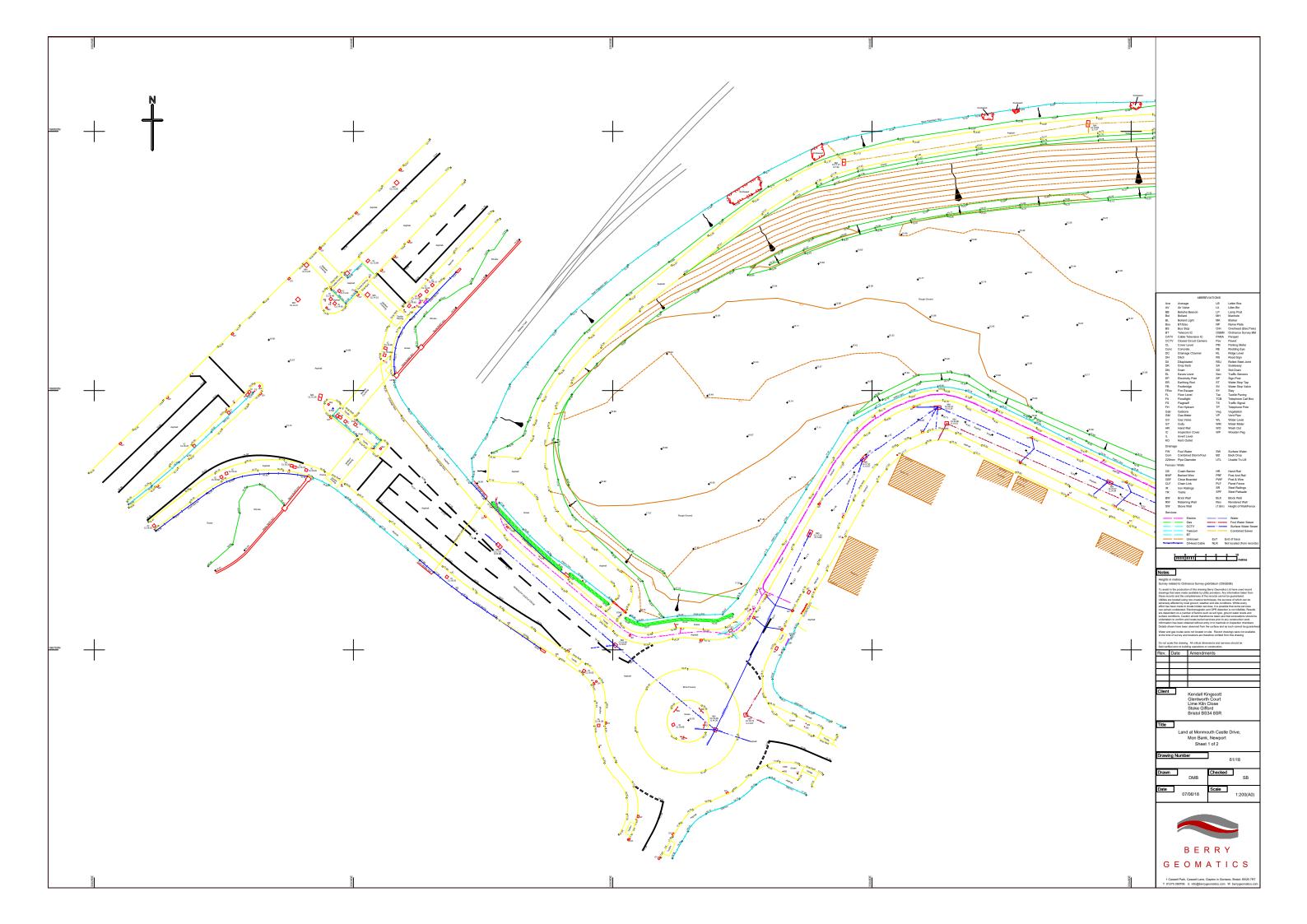
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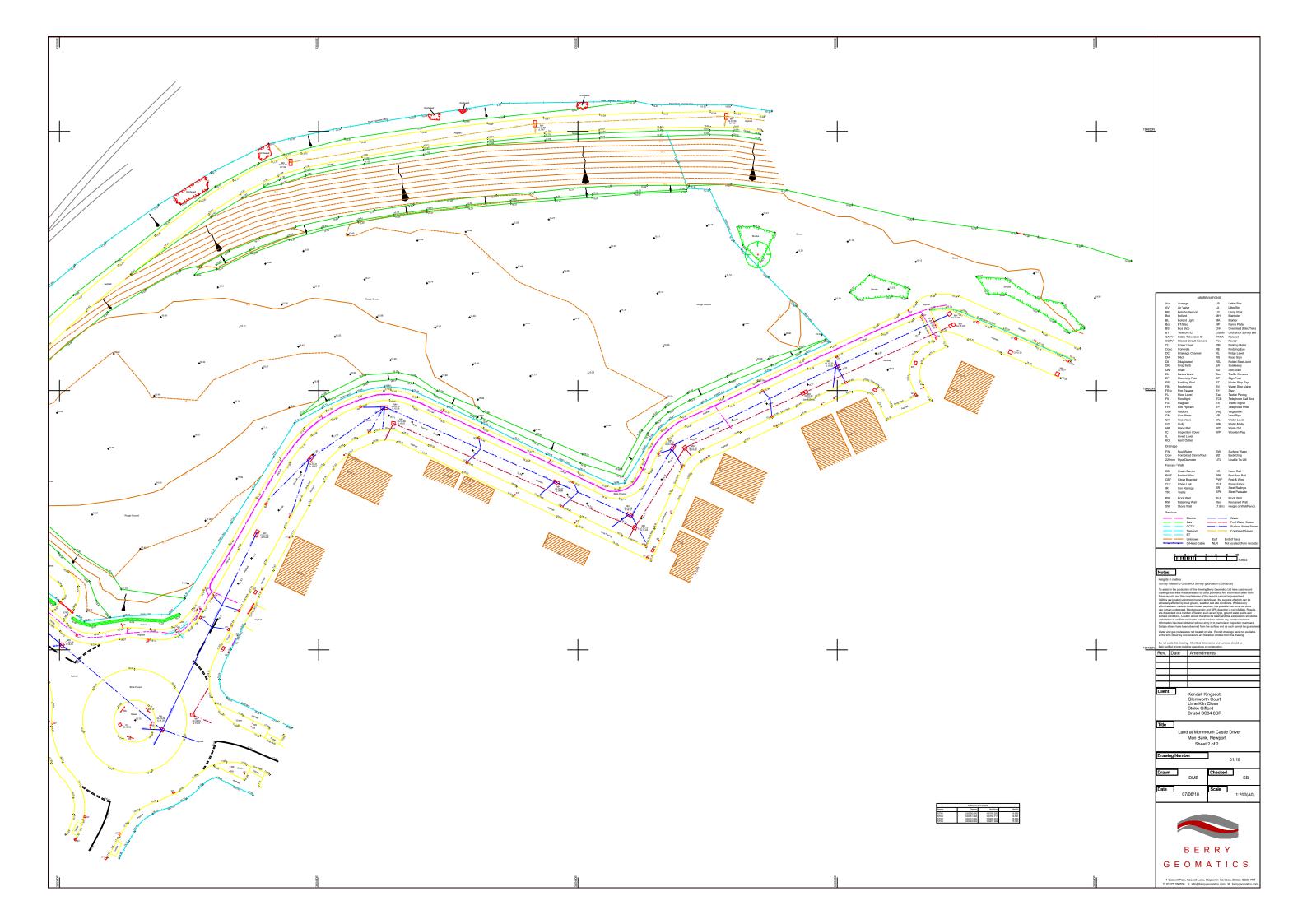
Appendix B: Proposed Site Plan



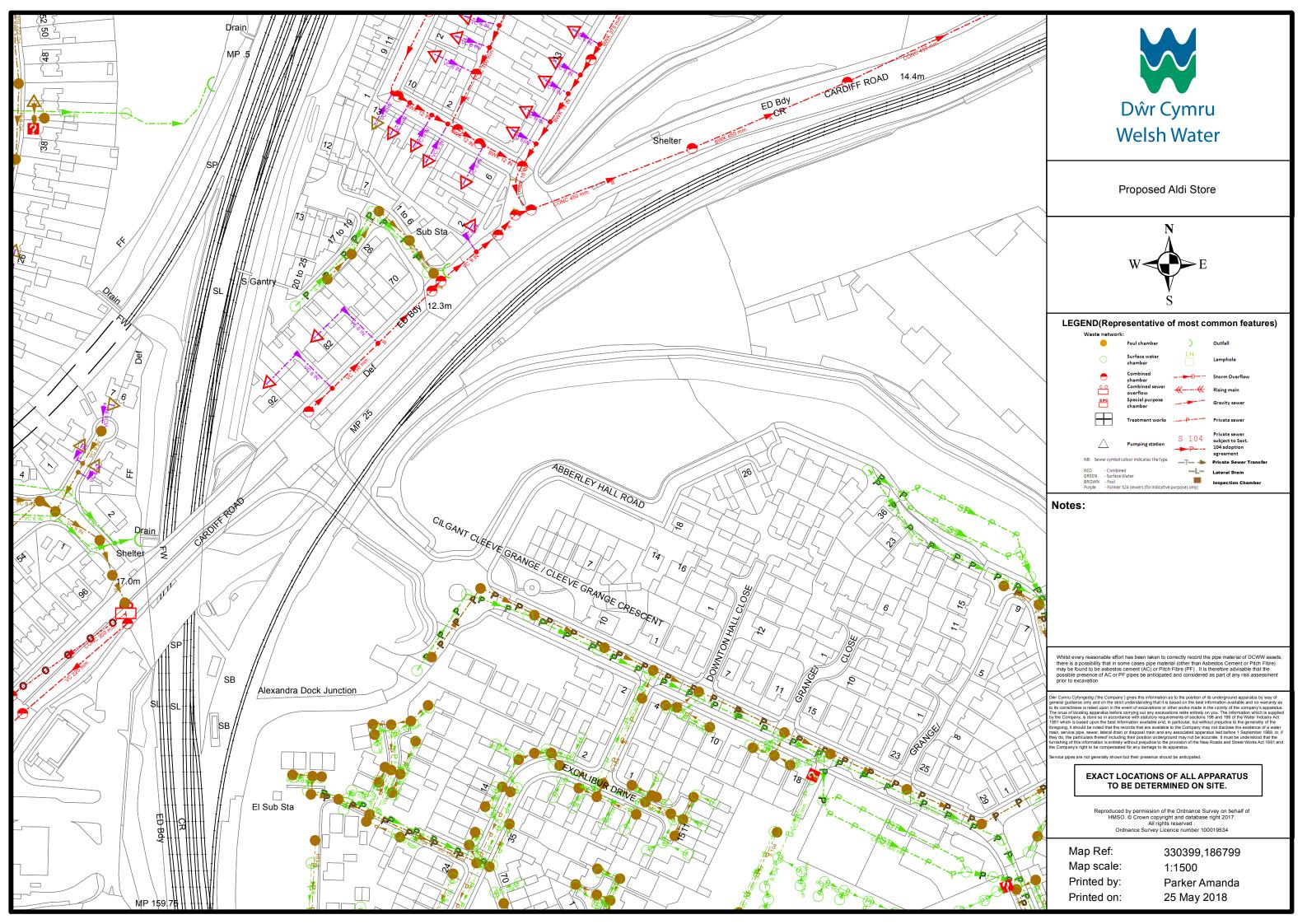
			P3 26/06/2020 JS GS Modication to car park. Paekin numbers revised to suit. P2 15/06/2020 JKCJS EVPC spaces added, 3m high acoustic fence added to boun of service yard			s revised to suit. paces added, 3m high c fence added to boundary
Kendall Kingscott		P1	28/04/20	JB G	S First Iss	ue
		Rev	Date	By A	o Note	
	Project	Drawir	Drawing Title			
Chartered Architects Chartered Building Surveyors Interior Designers CDM Services Glentworth Court, Lime Kiln Close Stoke Gifford, Bristol BS34 8SR	Cardiff Road, Newport, Mon Bank Proposed Site Plan					
	Client	Projec	t Number	Drawin	g Number	Revision
	Aldi Stores Ltd	18	180420-1400 P3			
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Appendix C: Topographical Survey

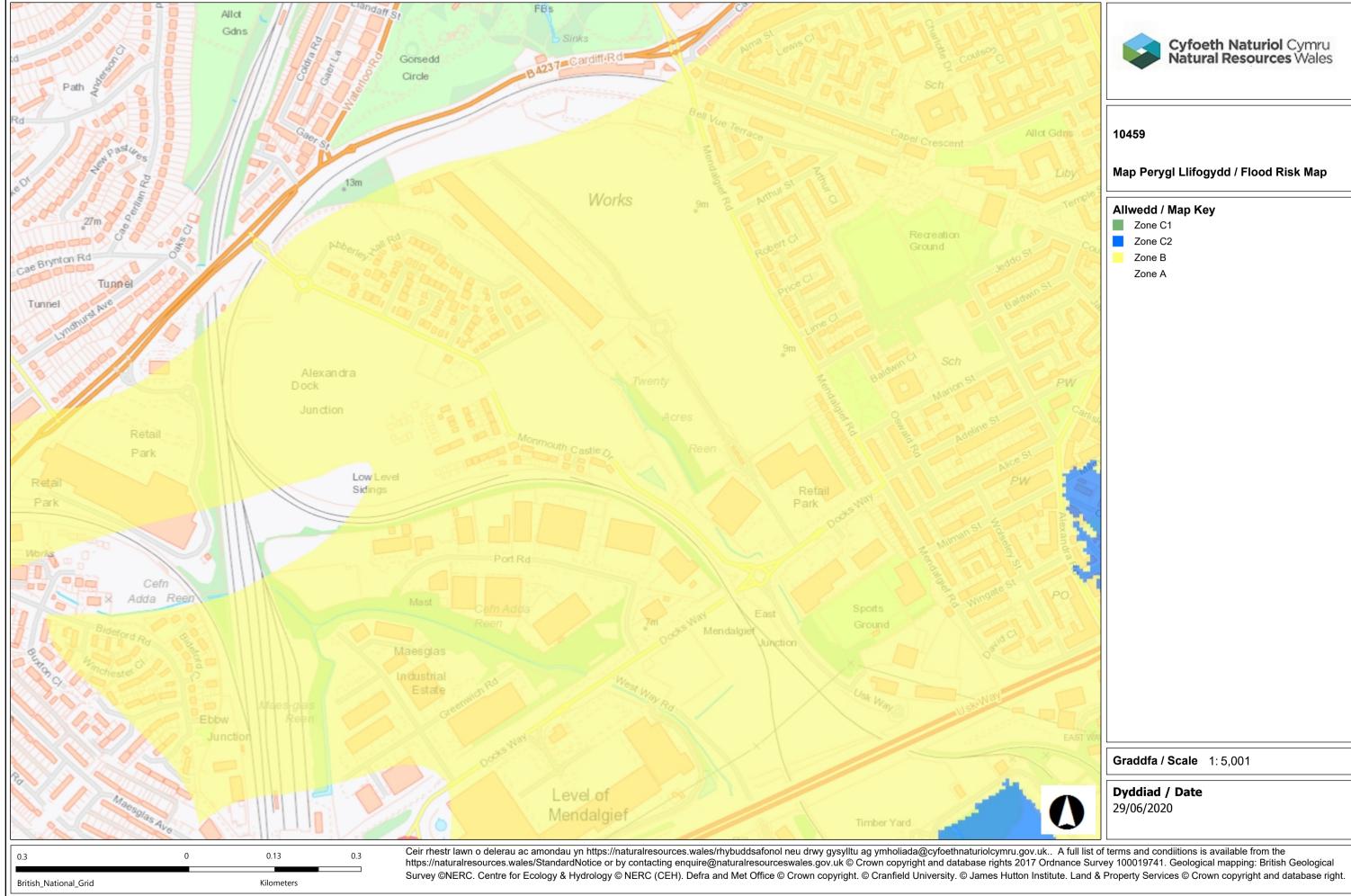


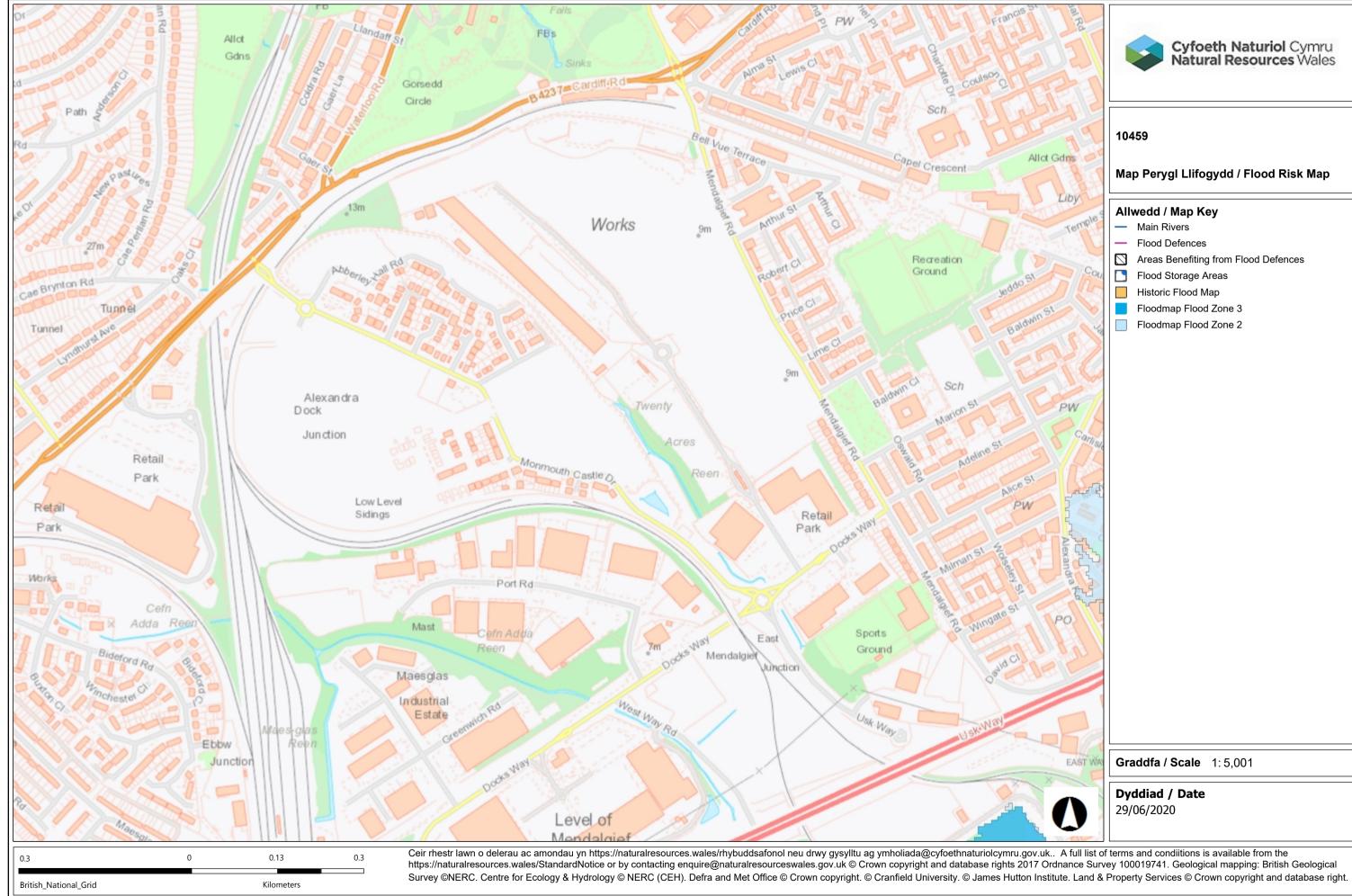


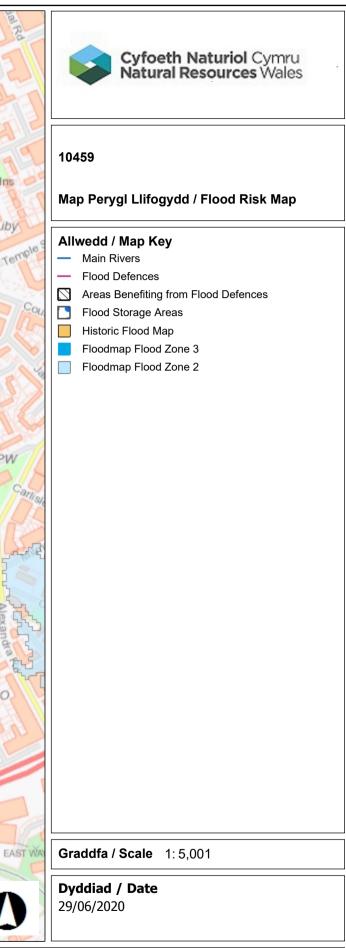
Appendix D: Dŵr Cymru Welsh Water Asset Maps



Appendix E: NRW Flood Risk Maps

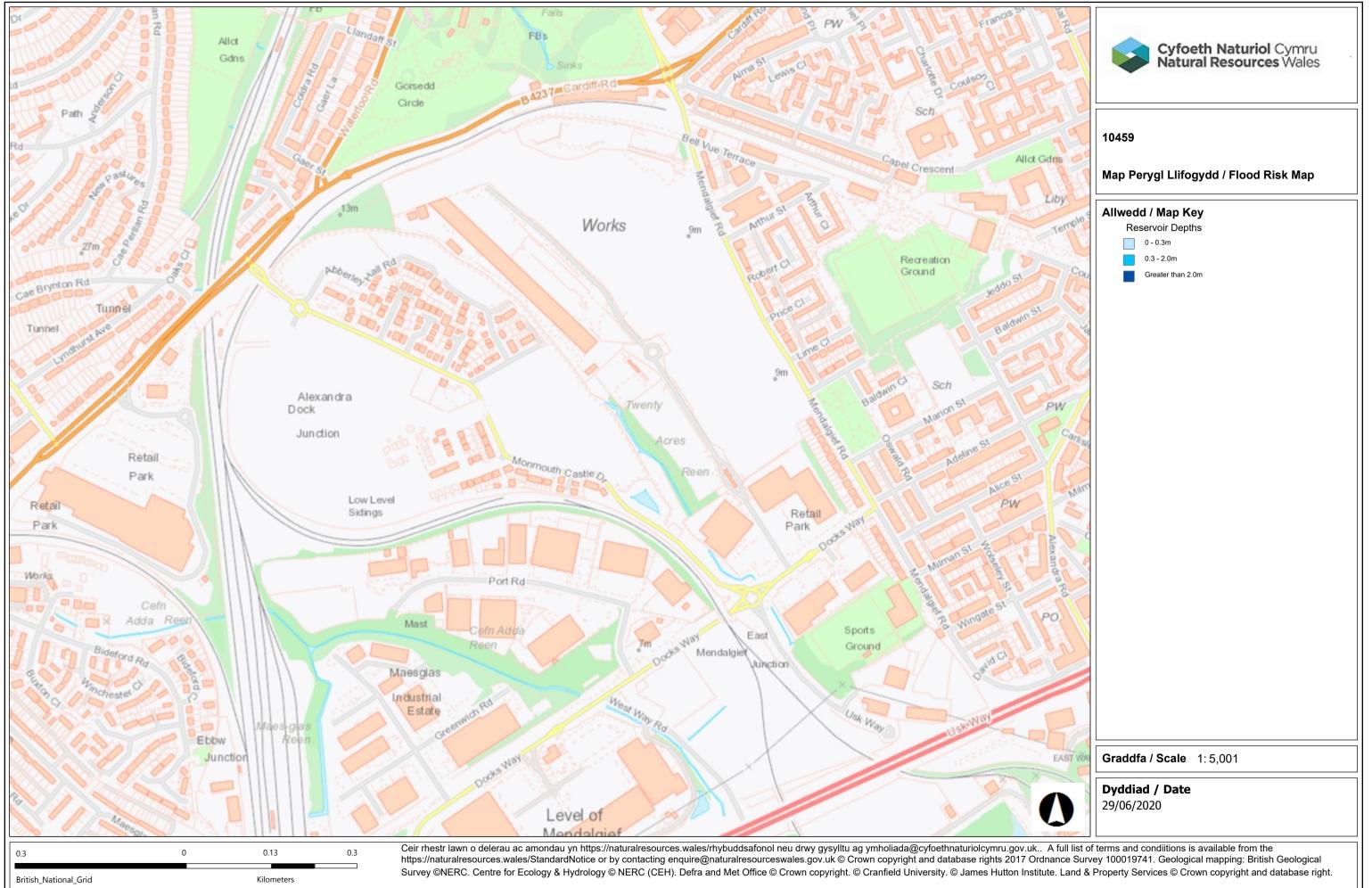


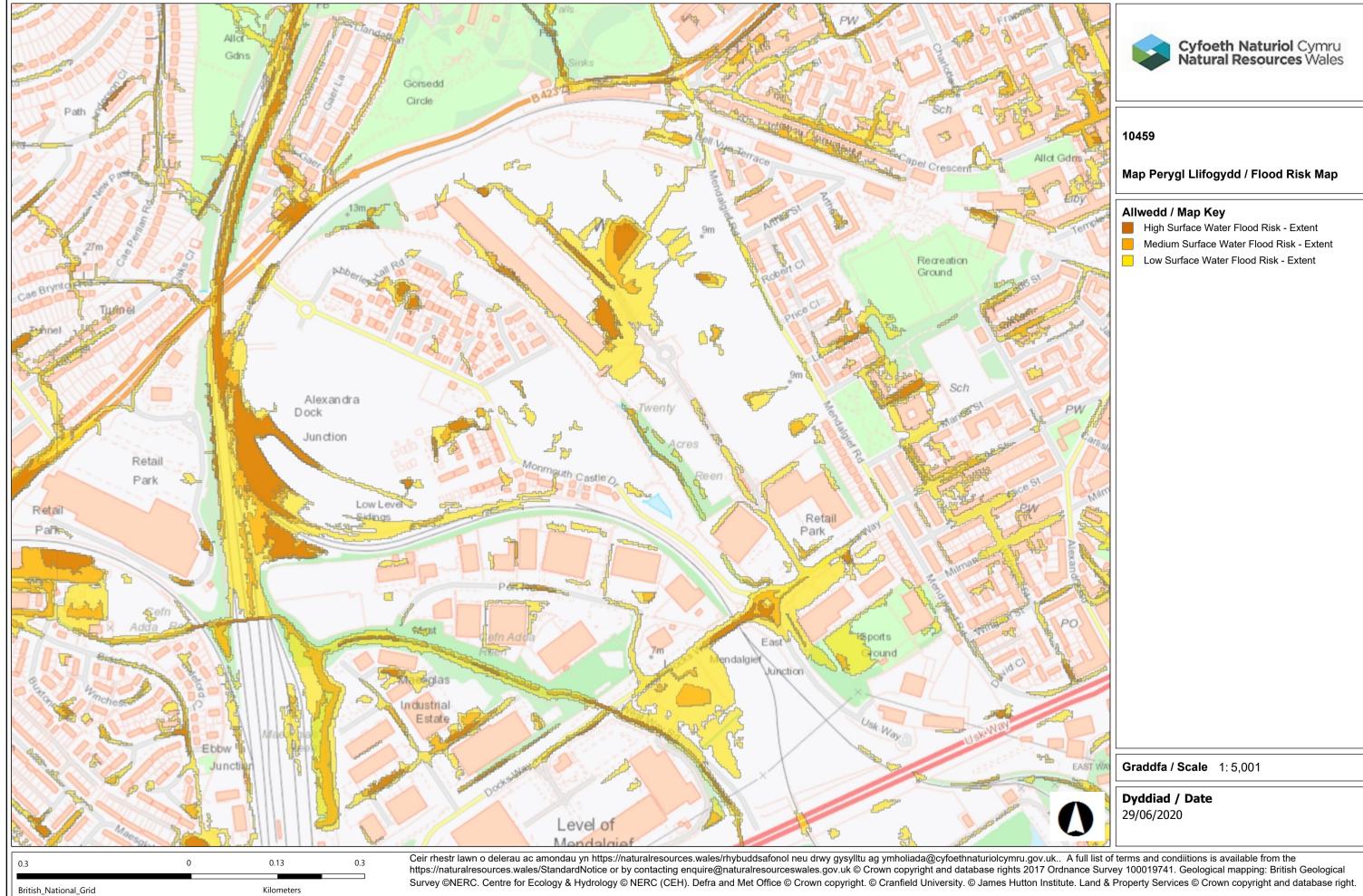




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