-
-
-

Freely draining loamy soils'.

‘Policy DM11:

Designing for Climate Change

The LDP will help ensure that development addresses the implications of climate change by requiring that:

1. *Justified development in the flood zone is resilient and adaptable to the effects of flooding; and*
2. *The long term sustainability of the development has been taken into account.*

Policy DM13:

Sustainable Drainage Systems

In addition to requirements set out by national guidance, development will be permitted provided that:

1. *Where a site is being developed on a plot-by-plot basis a scheme for an appropriate SUDS for the*

entire site is put forward as part of the first application;

2. *If the site is capable of being extended at a future date it should not be developed in such a way that future SUDS systems cannot be implemented;*

3. *Non-residential development of 500m2 or more is accompanied by a SUDS that is capable of being adopted by the SUDS Approving Body; and*

4. *A management scheme is submitted detailing the maintenance of the SUDS scheme.*

If SUDS cannot be implemented a full written justification should be submitted explaining why this is the case.'

<u>'FOUL WATER DRAINAGE – SEWERAGE NETWORK</u>

We have considered the impact of foul flows generated by the proposed development and concluded that flows can be accommodated within the public combined sewerage system. We advise that the flows should be connected to the combined sewer at manhole SN18467804 located in Aberystwyth Road.

<u>SEWERAGE TREATMENT</u>

The proposed development would overload Cardigan Waste water Treatment Works. However, reinforcement works are planned through our AMP8 capital investment programme due for completion by 31st March 2027.

No buildings on the application site shall be brought into beneficial use earlier than 31st March 2027 unless the upgrading of the Waste Water Treatment Works, into which the development shall drain, has been completed and written confirmation of this has been issued by the Local Planning Authority (LPA).

We will be advising the LPA at planning application stage that occupation of these premises are controlled until the scheme is completed, in the interest of protecting our customers and the environment.'

Priority Level 1: Surface water runoff is collected for use;

Priority Level 2: Surface water runoff is infiltrated to ground;

Priority Level 3: Surface water runoff is discharged to a surface water body;

Priority Level 4: Surface water runoff is discharged to a surface water sewer, highway drain, or another drainage system;

Priority Level 5: Surface water runoff is discharged to a combined sewer.

S3 - Surface water quality management

Treatment for surface water runoff should be provided to prevent negative impacts on the receiving water quality and/or protect downstream drainage systems, including sewers.

'The design of the surface water management system should maximise amenity benefits.'

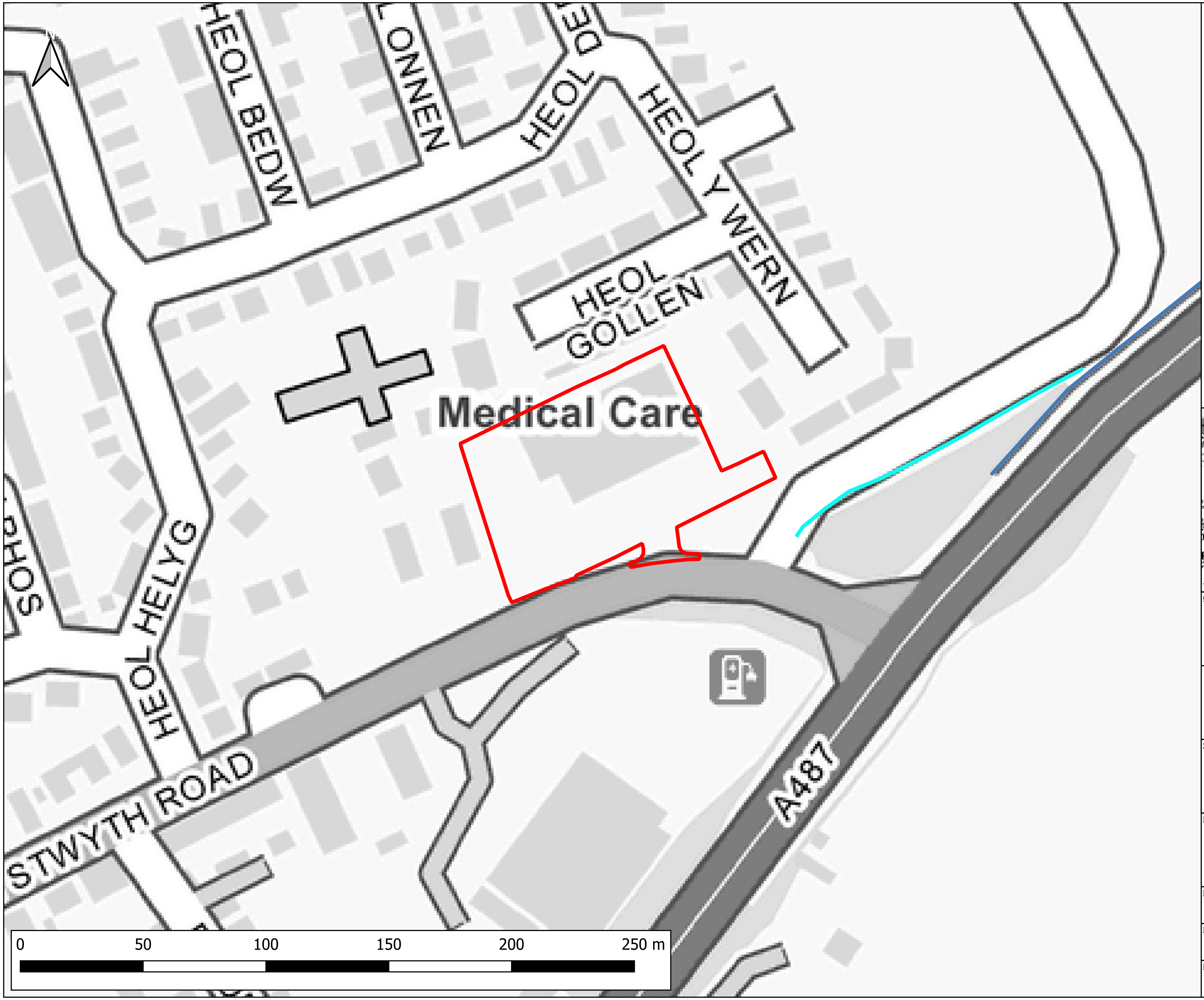
‘The design of the surface water management system should maximise biodiversity benefits.’

S6 – Design of drainage for Construction, Operation and Maintenance

‘We have considered the impact of foul flows generated by the proposed development and concluded that flows can be accommodated within the public combined sewerage system. We advise that the flows should be connected to the combined sewer at manhole SN18467804 located in Aberystwyth Road.’

‘The proposed development would overload Cardigan Waste water Treatment Works. However, reinforcement works are planned through our AMP8 capital investment programme due for completion by 31st March 2027.

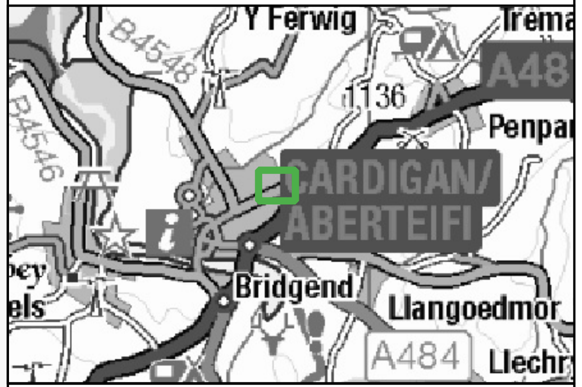
No buildings on the application site shall be brought into beneficial use earlier than 31st March 2027 unless the upgrading of the Waste Water Treatment Works, into which the development shall drain, has been completed and written confirmation of this has been issued by the Local Planning Authority (LPA).’



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- 🟥 Site Boundary
- — Watercourses
- 🟦 Waterbodies
- — Unmapped Watercourse



CLIENT:
Lidl Great Britain Limited

www.waterco.co.uk

SCHEME:
B&M, Aberystwyth Road, Cardigan

PLOT TITLE:
Location Plan

PLOT STATUS:	DATE:
FINAL	10-11-2025

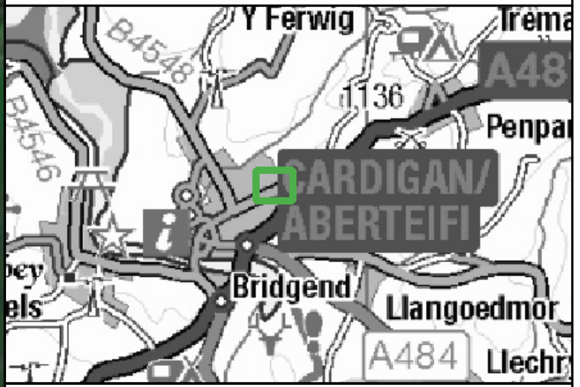
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	NJ	1:1500

PLOT NAME:	REVISION:
17128_Location_Plan	-

Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

🟥 Site Boundary



CLIENT:

Lidl Great Britain Limited

Waterco
www.waterco.co.uk

SCHEME:

B&M, Aberystwyth Road, Cardigan

PLOT TITLE:

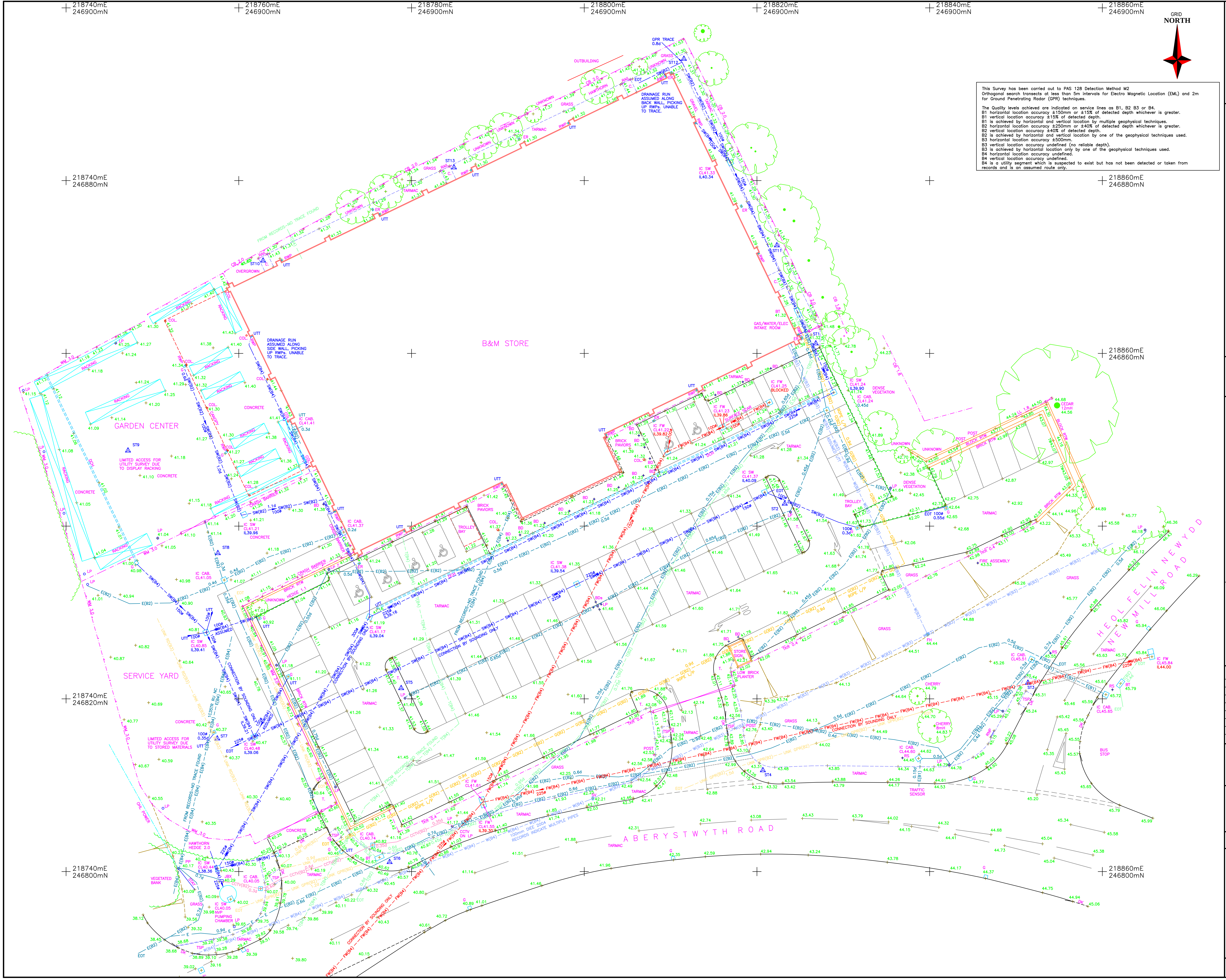
Aerial Plan

PLOT STATUS:	DATE:
FINAL	10-11-2025

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	NJ	1:1500

PLOT NAME:	REVISION:
17128_Aerial_Plan	-

BASEMAP: WORLD IMAGERY. SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSTOPO, GIS USER COMMUNITY



This Survey has been carried out to PAS 128 Detection Method M2
Orthogonal search transects at less than 5m intervals for Electro Magnetic Location (EML) and 2m for Ground Penetrating Radar (GPR) techniques.

The Quality levels achieved are indicated on service lines as B1, B2 B3 or B4.
B1 horizontal location accuracy ±150mm or ±15% of detected depth whichever is greater.
B1 vertical location accuracy ±15% of detected depth.
B1 is achieved by horizontal and vertical location by multiple geophysical techniques.
B2 horizontal location accuracy ±250mm or ±40% of detected depth whichever is greater.
B2 vertical location accuracy ±40% of detected depth.
B2 is achieved by horizontal and vertical location by one of the geophysical techniques used.
B3 horizontal location accuracy ±500mm.
B3 vertical location accuracy undefined (no reliable depth).
B3 is achieved by horizontal location only by one of the geophysical techniques used.
B4 horizontal location accuracy undefined.
B4 vertical location accuracy undefined.
B4 is a utility segment which is suspected to exist but has not been detected or taken from records and is an assumed route only.

Original Drawing Size: A1

NOTES:–

The accuracy and content of this drawing are dependent on the original specification and EDI should be consulted before use at other scales.

Where underground services are shown, all reasonable care has been taken within the spirit of the original specification and requirement. Before use of this information the user should consult EDI and satisfy themselves of the completeness and accuracy of such detail before undertaking any works. Due to the nature of this work and limitations imposed by ground conditions and the detection equipment no guarantee can be given that all services have been recorded. Trial holes should be dug at critical locations.

All reasonable care has been taken in the survey detail represented on this drawing but any discrepancies must be reported to EDI immediately.

Our aim is to produce the best possible results within the specification and cost constraints of our clients. Any comments are most welcome.

Levels shown at kerbs are channel level unless stated.

LEGEND

Features:

AV	Air Valve
AB	Air Brick
BD	Bollard
BH	Borehole
BM	Benchmark
BP	Boundary Post
BS	Bus Stop
BT	British Telecom
CL	Cover Level
COL	Column
CTV	Cable TV Cover
DCH	Drainage Channel
DF	Drinking Fountain
DIS	Disused
DK	Drop Kerb
DPC	Damp proof Course
EIC	Electricity IC
EJ	Expansion Joint
ER	Earth Rod
FH	Fire Hydrant
FHR	Fire Hose Reel
FS	Flagstaff
GV	Gully
G	Gas Valve
IL	Inspection Cover
IC	Invert Level
JBX	Junction Box
KO	Kerb Outlet
LB	Letter Box
LBN	Litter Bin
LLP	Low Level LP
LP	Lamp Post
MP	Marker Post
MS	Mile Stone
MT	Mercury Telecom
OHL	Overhead Line
OP	Overflow Pipe
PM	Parking Meter
PP	Power Pole
RAD	Radiator
RE	Rodding Eye
RNP	Road Name Plate
RS	Road Sign
RSD	Roller Shutter Door
RWP	Rain Water Pipe
SD	Service Duct
SV	Stop Valve
TCB	Telephone Call Box
THL	Threshold Level
TP	Telegraph Pole
TS	Traffic Signal
UB	Universal Beam
UNK	Unknown
UR	Urinal
UTL	Unable to lift
V	Vent
VP	Vent Pipe
WM	Water Meter
WO	Wash Out
WP	Waste Pipe

Building Level Details:

D	Door
EL	Eave Level
FFL	Floor Level
FRL	Flat Roof Level
HL	Head Level
PPL	Parapet Level
RL	Ridge Level
SL	Sill Level
SP	Springer of Arch
TA	Top of Arch
W	Window
12.34	Ceiling/Beam Soffit

Boundary Types:

BW	Barbed Wire
CB	Close Boarded
CH	Chainlink
CI	Corrugated Iron
CP	Chestnut Paling
IR	Iron Railing
IW	Interwoven
LL	Larch Lap
PAL	Palisade
PR	Post & Rail
PW	Post & Wire
TKR	Timber Knee Rail
RTW	Retaining Wall
VSF	Vehicle Safety Fence
WMF	Wire Mesh Fence

Surfaces & Finishes:

B	Brickwork
BB	Breeze Block
C	Concrete
CLT	Ceiling Tiles
CP	Carpet
CPS	Concrete Paving Slabs
CPT	Carpet Tiles
CR	Concrete Render
CT	Ceramic Tiles
FT	Floor Tiles
HBD	Hardboard
L	Linoleum
P	Plaster
PAV	Brick Paviors
S	Steel work
T	Tarmac
TSP	Textured Safety Paving
VT	Vinyl Tiles

Services:

C(B*)	CATV cables
CCTV(B*)	CCTV cables
D(B*)	Data cables
E(B*)	Electricity cables
FO(B*)	Fibre Optic
FW(B*)	Foul water drain
FUEL(B*)	Fuel pipes
G(B*)	Gas pipes
HD(B*)	Heating duct
SD(B*)	Service ducts
SW(B*)	Storm water drain
T(B*)	Telecom cables
UNK GPR(B*)	Unidentified GPR
UNK EML(B*)	Unidentified EML
W(B*)	Water pipes
150ø	Pipe Diameter/Flow
	Overhead Lines
EOT	End Of Trace
TFR	Taken From Records
UTT	Unable To Trace

Survey Station
Fence
Gate
Painted Road Markings
Edge of Vegetation
Kerb/Drop Kerb
Tree
Banks (Top / Bottom)
Building
Overhead Building Detail
Wall

Control: All levels and co–ordinates are related to the datums described.
The horizontal control of this survey is based on Ordnance Survey grid as translated from GPS coordinates using Leica's SmartNet service. We have applied a reverse scale factor to maintain true ground distances, based on station ST5. The vertical control of this survey is based on OS datum as translated from GPS coordinates using the OSGM15 transformation as supplied by the OS. This may differ from the existing OS benchmarks in the area which should be disregarded; all levels should be taken from EDI survey stations.

Utility Depths
Depths obtained by EML are to the centre of the utility
Depths obtained by GPR are to the top of the utility
All depths are shown in metres in the format 0.7d

The services on this survey have been traced using a combination of Radiodetection RD8000 and PROCEQ GS8000 Ground Penetrating Radar. Whilst every effort has been made to locate all services no system or equipment is able to locate 100% of services without excavation. GPR works well in moist soils which are relatively undisturbed but works less well in very wet or very dry soils and ground which has been generally disturbed or built up, and it also works better with larger diameter cables and pipes – for example it is difficult to trace small bore connections to individual properties. The RD8000 cannot distinguish between services if they are adjacent, cannot always distinguish small pipes/cables adjacent to large ones and can be swamped by radiation from buildings (when very close to them) or high voltage overhead lines. Inspection covers have been lifted where possible without damage to covers.

Station Schedule

Station	Easting	Northing	Level	Type
1	218826.813	246861.144	41.355	Hilti Nail
2	218823.219	246842.589	41.553	Hilti Nail
3	218851.376	246821.849	45.418	Hilti Nail
4	218820.688	246811.726	43.398	Hilti Nail
5	218778.802	246821.235	41.461	Hilti Nail
6	218777.462	246801.101	40.678	Hilti Nail
7	218757.510	246815.403	40.389	Hilti Nail
8	218757.575	246836.859	41.110	Hilti Nail
9	218747.169	246848.739	41.128	Hilti Nail
10	218762.811	246870.735	41.434	Scratch Mark
11	218822.306	246872.495	41.328	Hilti Nail
12	218811.544	246894.092	41.311	Hilti Nail
13	218784.914	246881.522	41.415	Hilti Nail

Rev.	Job No.	Date	Revision Detail	Surveyor	Chkd

CLIENT

Lidl Great Britain Ltd
Waterton Industrial Estate
off Cowbridge Road
Bridgend
CF31 3PH

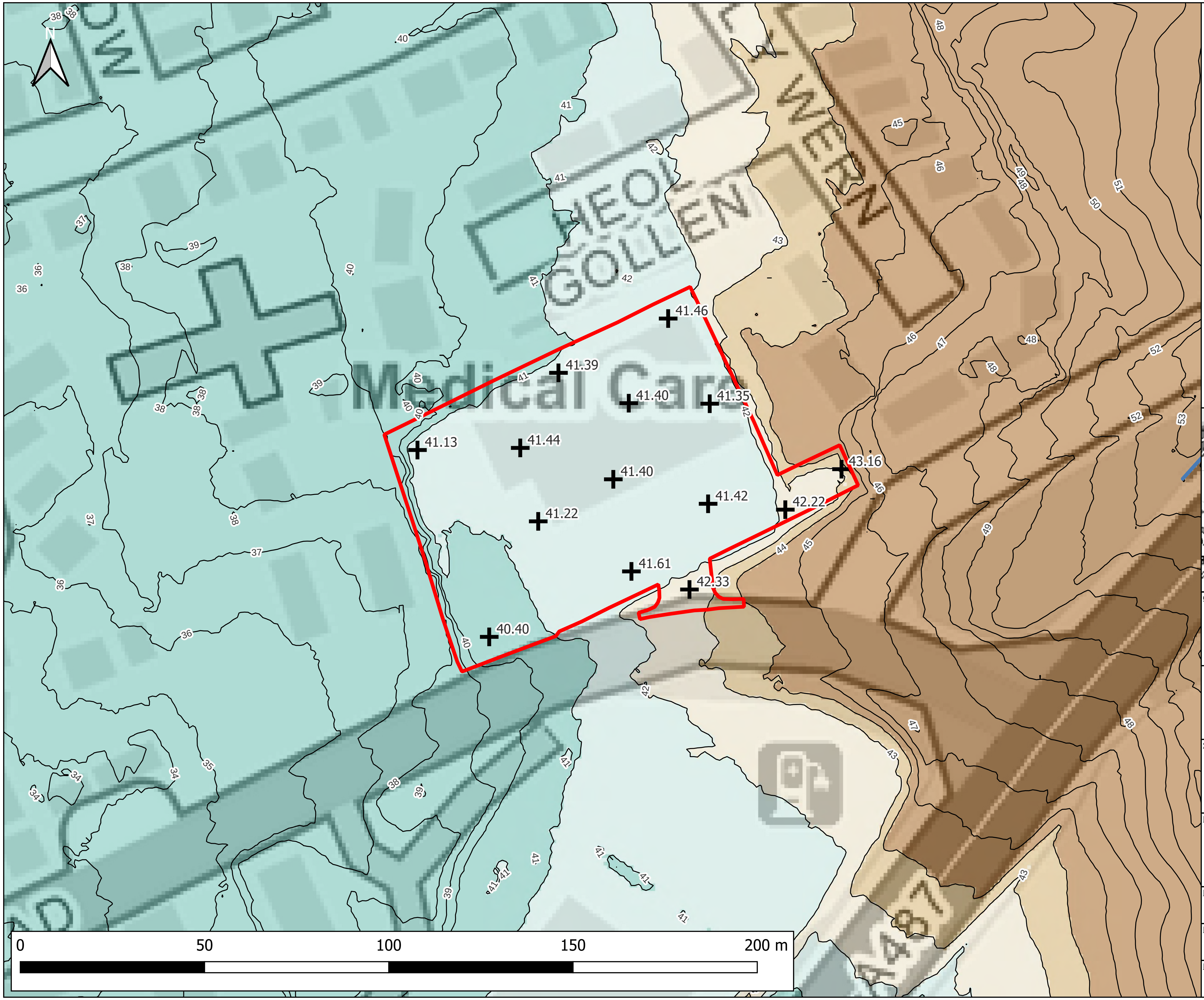
PROJECT

Topographic & Buried Utilities Survey
Aberystwyth Road
North Park Estate
Cardigan
SA43 1NA

Job No.	Surveyor	Checked	Date	Scale
20203	A Rose	TA	Jan. 2022	1:200

EDI SURVEYS LTD
163–165 Ranelagh Road, Ipswich, Suffolk IP2 0AH
Telephone | 01473 211222
Email | enquiries@edisurveys.co.uk
Our Services:– Topographic Surveys, Measured Building Surveys, GPS Surveying and Control, 3D laser Scanning, Utility Surveying and Drainage Investigation.
Click the link below to visit our website and find out more.
www.edisurveys.co.uk

DRAWING No. 20203/T&S/01–01
REV. –



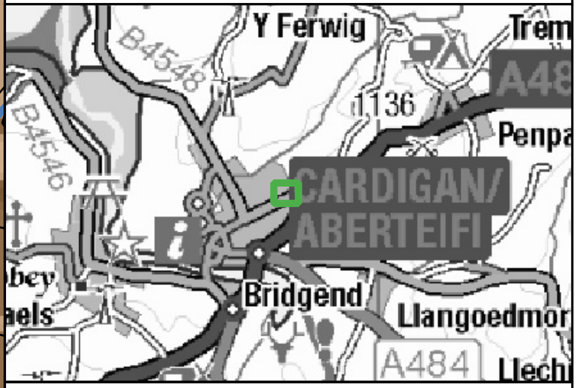
Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

🟥 Site Boundary
✚ Site Levels (m AOD)
— 1m Contour

Ground Elevation (m AOD)

▨	<= 41
▨	41 - 42
▨	42 - 43
▨	43 - 44
▨	> 44



CLIENT:
Lidl Great Britain Limited

www.waterco.co.uk

SCHEME:
B&M, Aberystwyth Road, Cardigan

PLOT TITLE:
LiDAR Plan
xm Resolution
Data from Natural Resources Wales (flown month 202x)

PLOT STATUS:	DATE:
FINAL	11-09-2025

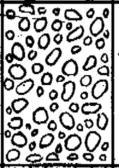
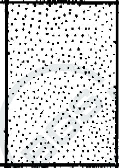
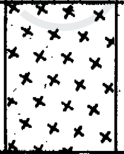
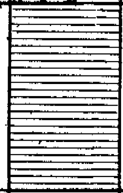
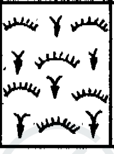
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	NJ	1:1000

PLOT NAME:	REVISION:
17128_LiDAR_Plan	-

SN 14 NE / 4-28.

KEY TO BOREHOLE LOGS

SOIL CLASSIFICATION

CLASS	TYPE	SYMBOL	GRAIN SIZE
COARSE GRAINED NON-COHESIVE	BOULDERS		LARGER THAN 200mm.
	COBBLES		200 to 60 mm.
	GRAVEL		COARSE 60-20mm. MEDIUM 20-6mm. FINE 6-2mm.
	SAND		COARSE 2-0·6mm. MEDIUM 0·6-0·2mm. FINE 0·2-0·06mm
FINE GRAINED COHESIVE	SILT		0·06 – 0·002mm.
	CLAY		MORE THAN 30% OF PARTICLES FINER THAN 0·002mm.
ORGANIC	PEAT		FIBROUS

STANDARD PENETRATION TEST

SANDS AND COARSE SILTS

No. of BLOWS Per 0.30m (N)	RELATIVE DENSITY	ANGLE of * INT. FRICT.
0 – 4	Very loose	< 30°
4 – 10	Loose	30° – 35°
10 – 30	Med. dense	35° – 40°
30 – 50	Dense	40° – 45°
Over 50	Very dense	> 45°

(*after Meyerhof)

CONSISTENCY of COHESIVE SOIL

CLAYS AND FINE SILTS

CONSISTENCY	FIELD IDENTIFICATION	COHESION kN/m²
Very soft	Can squeeze through fingers easily	< 20
Soft		20 to 35
Firm	Can dent with little finger	35 to 75
Stiff	Can just dent with forefinger	75 to 150
Very stiff		150 to 200
Hard	Can scratch with fingernail	> 200

(F.M.C.) GRAIN SIZE of SAND or GRAVEL
Fine – Medium – Coarse

BOREHOLE LOG SYMBOLS

U	0.10m dia. undisturbed sample
U ( )	Undisturbed sample (diameter)
•	Sample not recovered
D	Small disturbed sample
B	Bulk disturbed sample
+	Ground water first noted
W	Water sample
N ( )	Standard penetration test (blows per 0.30m)
VN ( )	Vane test (natural shear strength kN/m²)
VR ( )	Vane test (remoulded shear strength kN/m²)
CR	Core recovery

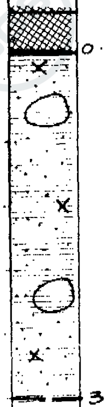
FOUNDATION ENGINEERING LTD.

SN14NE/8 SN 14 NE 8

RECORD OF TRIAL PIT **No:** 5

Location : CARDIGAN BY-PASS
Contract No. : CF669/910
~~Type of Boring~~ :
Date (started) : 14 . 4 . '72

~~Borehole Dia~~ : 1': 193
~~Casing~~ : 1897.4685
Ground Level : 52.21m

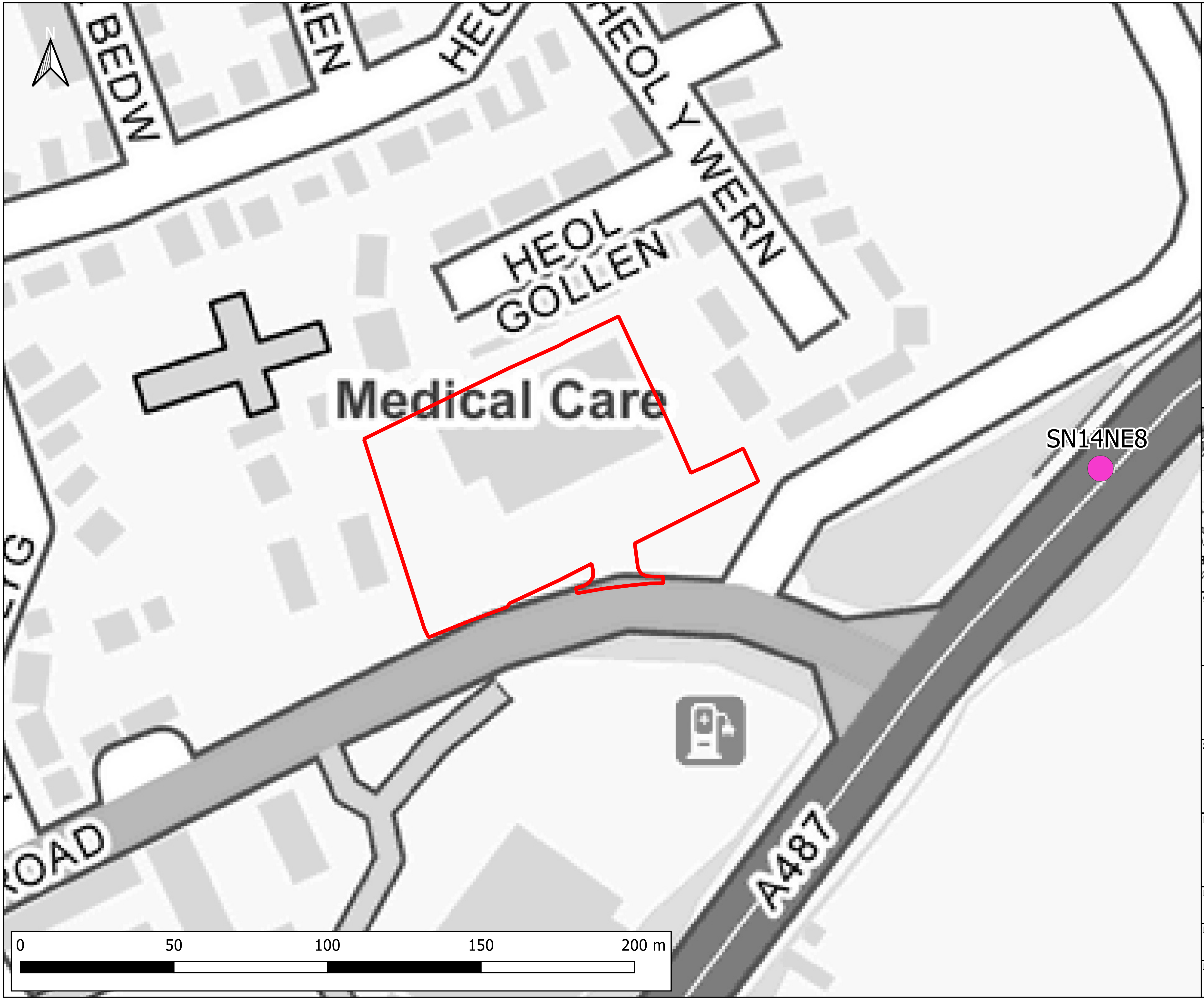
Depth of Casing	Water Level	SAMPLES Depth	SAMPLES Type	SAMPLES No.	STRATA Legend	STRATA Depth	STRATA Thickness	DESCRIPTION OF STRATA
							0.30m	MADE GROUND
		0.30m-0.60m	U	1		0.30m		
		0.60m	D	2				
		0.68m-0.98m	U	3				Firm to stiff brown grey sandy silty CLAY with decayed vegetation & occ. boulders.
		1.35m	D	4			2.70m	
		1.80m	B	5				
						3.00m		

Trial Pit Terminated

REMARKS: Slight water seepage at 1.20m.

SCALE 1 : 50

Foundation Engineering Ltd.

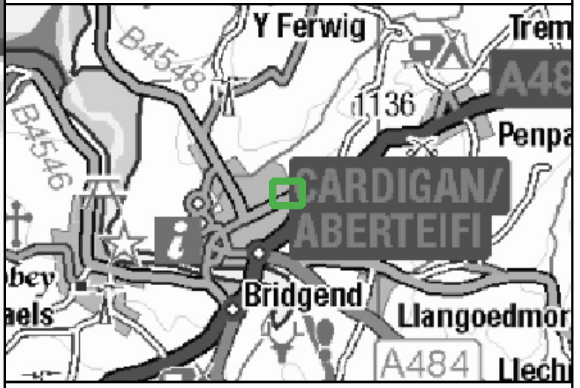


Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

🟥 Site Boundary

● BGS Borehole Location



CLIENT:
Lidl Great Britain Limited

waterco
www.waterco.co.uk

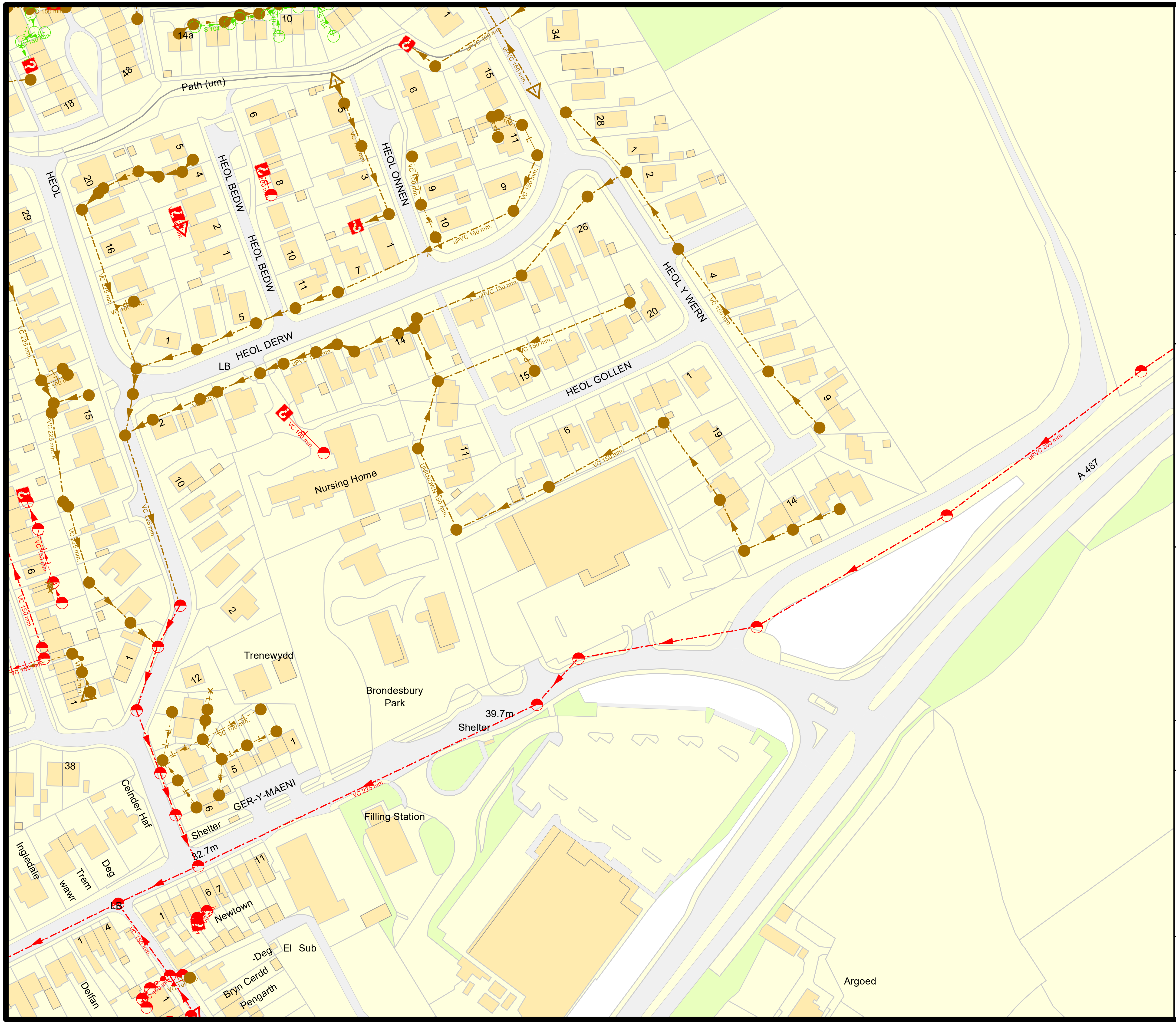
SCHEME:
B&M, Aberystwyth Road, Cardigan

PLOT TITLE:
BGS Borehole Location Plan
Data from British Geological Survey (BGS)

PLOT STATUS:	DATE:
FINAL	09-10-2025

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	NJ	1:1200

PLOT NAME:	REVISION:
17128_BGS_Borehole_Location_Plan	-



Dŵr Cymru
Welsh Water

Cardigan, Ceredigion Council, SA43 1NA

N
W E
S

LEGEND(Representative of most common features)

Waste network:

Foul chamber	Outfall
Surface water chamber	Lamphole
Combined chamber	Storm Overflow
Combined sewer overflow	Rising main
Special purpose chamber	Gravity sewer
Treatment works	Private sewer
Pumping station	S 104 Private sewer subject to Sect. 104 adoption agreement
	Private Sewer Transfer
	Lateral Drain
	Inspection Chamber

NB: Sewer symbol colour indicates the type.

RED - Combined
GREEN - Surface Water
BROWN - Foul
Purple - Former S24 sewers (for indicative purposes only)

Notes:

Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be asbestos cement (AC) or Pitch Fibre (PF) . It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation

Dŵr Cymru Cyfyngedig ('the Company') gives this information as to the position of its underground apparatus by way of general guidance only and on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon in the event of excavations or other works made in the vicinity of the company's apparatus. The onus of locating apparatus before carrying out any excavations rests entirely on you. The information which is supplied by the Company, is done so in accordance with statutory requirements of sections 198 and 199 of the Water Industry Act 1991 which is based upon the best Information available and, in particular, but without prejudice to the generality of the foregoing, it should be noted that the records that are available to the Company may not disclose the existence of a water main, service pipe, sewer, lateral drain or disposal main and any associated apparatus laid before 1 September 1989, or, if they do, the particulars thereof including their position underground may not be accurate. It must be understood that the furnishing of this information is entirely without prejudice to the provision of the New Roads and Street Works Act 1991 and the Company's right to be compensated for any damage to its apparatus.

Service pipes are not generally shown but their presence should be anticipated.

EXACT LOCATIONS OF ALL APPARATUS TO BE DETERMINED ON SITE.

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Map Ref:	218792,246869
Map scale:	1:1500
Printed by:	Jessica Formosa
Printed on:	15 Sep 2025

Dŵr Cymru
Welsh Water

glas
Glas Cymru Cyfyngedig

Please Note ***that demands upon the water and sewerage systems change continually; consequently the information given above should be regarded as reliable for a maximum period of 12 months from the date of this letter.***

Dŵr Cymru
Welsh Water

Planning and new development

What you should do, and how we can help

dwrcymru.com

WWDEV 0400

Whether you're a homeowner with plans to extend your home, a builder working on a new house or a developer working on a new housing site, you need to involve us in the planning process. Even if you are just thinking about building, getting us involved early can help your project run smoothly and address any water and drainage matters as early as possible in the development process.

How can we help?

As water and waste services are at the forefront of public health and protection of the environment, we play a key part in the town and country planning process.

If you're planning on building new houses, our team of dedicated planning officers can give you advice and guidance at all stages of the process, including pre-application, planning application and discharge of condition.

When it comes to your new development, by getting us involved in the planning stages, we can:

- Assess whether the current local water and sewerage networks have capacity to service your new site (and if they can't, then identify whether the network can be reinforced to support your new site)
- Mitigate any potential negative impact that the new development could have on the performance of our infrastructure, the service we provide to customers, and the wider environment
- Identify where new development and growth is planned so that we can target investment in our existing infrastructure within these areas
- Provide advice on making new water and waste connections to our networks once your development is complete and ready to be occupied
- Identify any existing water or waste pipes in or near to the site, so we can advise on their location and let you know your options for protecting and/or diverting our assets for the lifetime of the development

Step 1: Use our pre-planning service

What is our pre-planning service?

We encourage all developers to engage with us as early as possible to ensure any water and drainage matters that might arise during the planning process are identified and addressed early on. In order to facilitate this, you can engage with us via our dedicated pre-planning service, which will provide:

- An assessment of the impact of your proposed development and whether our local water and waste networks can support it
- Confirmation of whether off-site water mains and/or sewers will need to be provided, and
- Water main and sewer plans indicating the location of our assets crossing the site or located in close proximity. *Please note that these are for general guidance only and all assets need to be accurately located on site before any excavation works begin.*

How can I access it?

You can submit a 'pre-planning advice' application online via our website. To make sure that we can provide you with the most comprehensive advice, you should include the following information:

- Site location plan
- Details of the proposed development
- Proposed points of communication to our local network of sewers and/or water mains (if known)
- Relevant planning history relating to the site e.g. any previous permissions granted or status within the council's development plan

You can see how much this service will cost on our website, and we'll aim to get back to you with a written **response within 21 days** of your application. The advice provided will be valid for 12 months and help inform our response when consulted on your planning application by the local planning authority (LPA).

For larger developments in Wales:

- You have to undertake pre-application consultation as set out in Schedule 4 of the Town & Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016 for any developments that:
  - Include 10 dwellings or larger
  - Have 1000sqm or larger non-residential floor space or
  - Have a site area that's 1 hectare or larger
- This means you need to consult with us and we will **respond within 28 days**.
- While there's no charge for this service, as it's a statutory requirement, we do recommend that you apply for our pre-planning service in advance of this consultation, as it will help to identify any potential issues that need to be addressed in advance of your planning application.

Step 2: Once you have our pre-planning advice

Locate our assets

Before you build, it's important to identify if any of our pipes, water mains or sewers are underneath the ground in or adjacent to your development site. Under section 159 of the Water Industry Act 1991, we have the rights of access to inspect, maintain, adjust, repair or alter any asset or apparatus at all times.

If your land does contain assets

If your land does indeed contain some of our assets, then this will have an impact on the layout and general arrangement of the new development site. We strongly recommend that you contact us to discuss accurately locating our assets to ensure that they are protected during and after construction. Please contact our Plan and Protect team via **planandprotect@dwrcymru.com** or **08009172652** to discuss further.

If you want to divert or remove the assets contained in your land

If you decide the asset located within or adjacent to your site can't be incorporated within the layout of the new development, or our rights of access to the asset may be hindered by your proposal, you can ask us to alter, divert or remove it in accordance with section 185 of the Water Industry Act 1991. You can find the application forms on our website.

How will you manage surface water?

As with all new development sites, you'll need to think about how to deal with surface water runoff from any new buildings and hard standings. Legislation in both England and Wales now actively encourages the use of sustainable urban drainage systems (SUDS). This approach manages surface water runoff by imitating natural drainage systems and retaining water on or near the site.

There are such a variety of SUDS techniques including green roofs, rainwater harvesting and permeable pavements that any development should be able to include a SUDS scheme. There would need to be good justification not to incorporate a SUDS scheme on your site.

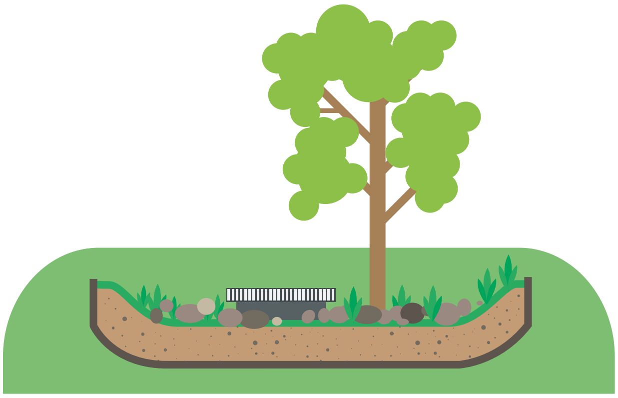
SUDS in Wales

All new development of more than one building or a construction area of 100m2 or more will require consent from the sustainable drainage system (SUDS) approval body (also known as a SAB) for any new SUDS features, as required by Schedule 3 of the Flood and Water Management Act 2010. SABs are delivered by local authorities across Wales.

In accordance with this and the Welsh Government 'Statutory standards for sustainable drainage systems', you need to explore and fully exhaust all surface water drainage options, using discharge to a combined sewer only as a last resort.

SUDS in England

Even if your new development is based in England, it's important to keep Part H of the 'Building Regulations 2000' in mind. On this basis, all new developments in England will also be expected to consider surface water management techniques and demonstrate all technical options have been explored and exhausted, in liaison with the land drainage authority and/or the Environment Agency. You need to consider the management of highway or land drainage runoff as these flows won't be allowed to discharge directly or indirectly into the public sewerage system.



Step 3: The planning application process

Once you've used our pre-planning service and identified any potential issues before building, it's time to incorporate our advice into your proposals to your local planning authority (LPA).

As part of the planning application consultation process we will provide similar advice to that provided in our pre-application **response within 21 days**. It's important to note that while we share our expert opinion during this process, the ultimate decision to grant planning permission is the LPA's.

What are the options if we can't currently support your development?

Network hydraulic modelling/WwTW feasibility studies

As our aim is to support economic development and growth, we do not want to resist new development where possible. However, we must take the capacity of our existing assets, the service we are providing to existing customers and the environment into account. In areas where there are capacity constraints either on our networks or at the wastewater treatment works (WwTW), we may well already have proposals in place to deliver reinforcement works and to create capacity for new developments.

That being said, you may want to develop your site in advance of us undertaking these works. If this is the case, to ensure there's no detriment to our existing customers, you may be required to implement solutions identified by an assessment of either the network or WwTW. It's important to note that you won't be expected to resolve any existing operational issues.

Where further assessments are recommended, you will need to allow sufficient time in your development programme for these studies to be carried out and any reinforcement works to be delivered, as in some circumstances we won't permit a communication to our networks until these works are completed. The delivery of the works will need to align with occupation rather than construction.

Where possible, we will control the delivery of any solutions as part of the planning process. Dependent on the progress of the assessment, we may be in a position to recommend appropriate planning conditions so that the outcomes of the assessment can be delivered as part of any planning permission.

This approach allows us to support the progression of the site through the planning process, however in the absence of a completed assessment and known solutions we may need to work with you and the LPA until the assessment is completed and the outcomes are known.

Step 4: Connecting to our network

If you've had the green light from us and planning permission has been granted for your development, then it's time to start thinking about the different ways you'll need to connect to our network.

On our website you can find detailed guidance around applying for new water connections, new water mains, new public sewers and new sewer connections.

Contact us

If you've still got any questions or queries, then feel free to contact us:

Email: developer.services@dwrcymru.com

Visit: **www.dwrcymru.com**

Tel: 0800 917 2652

Contact Us:

If you've got any questions or queries, then feel free to contact us:

Call
0800 917 2652

Email
developer.services@dwrcymru.com

Visit
www.dwrcymru.com

@dwrcymru

/dwrcymruwelshwater

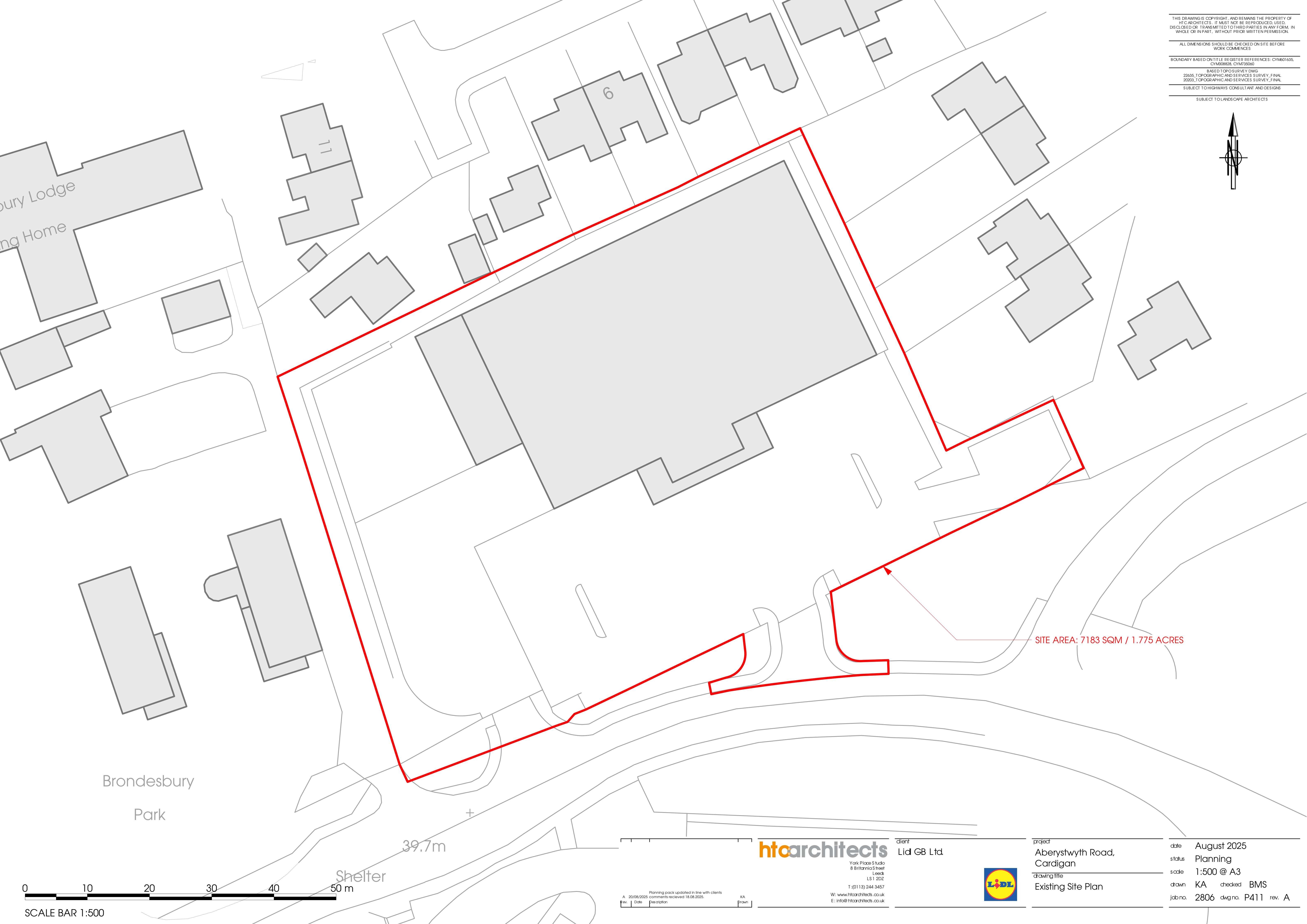
ALL DIMENSIONS SHOULD BE CHECKED ON SITE BEFORE WORK COMMENCES

BOUNDARY BASED ON TITLE REGISTER REFERENCES: CYM601635, CYM308828, CYM735060

BASED TOPO SURVEY DWG
22635_TOPOGRAPHIC AND SERVICES SURVEY_FINAL
20203_TOPOGRAPHIC AND SERVICES SURVEY_FINAL

SUBJECT TO HIGHWAYS CONSULTANT AND DESIGNS

SUBJECT TO LANDSCAPE ARCHITECTS



Rev.	Date	Description	Drawn
A	20/08/2025	Planning pack updated in line with clients comments recieved 18.08.2025.	KA

htcarchitects

York Place Studio
8 Britannia Street
Leeds
LS1 2DZ

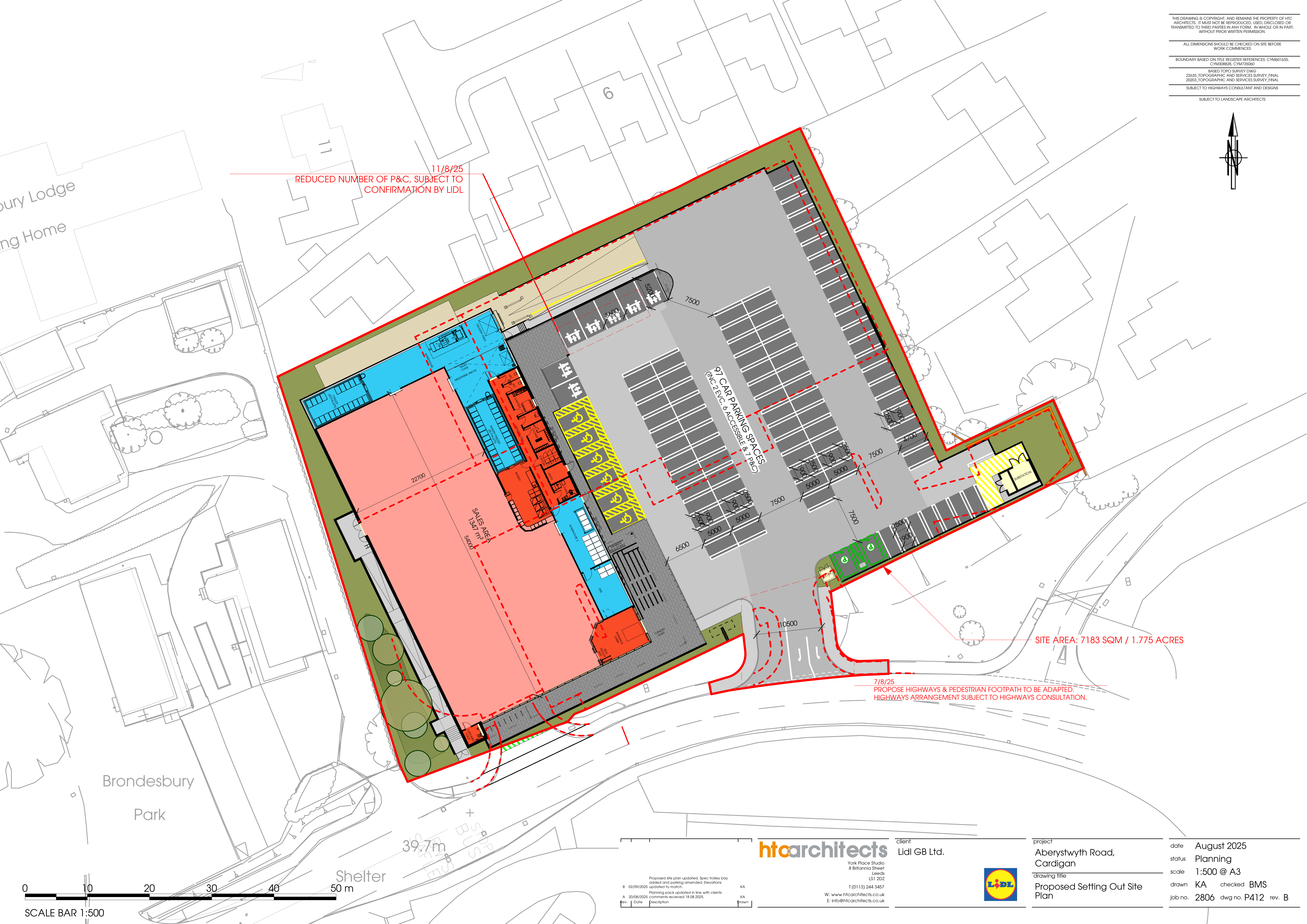
T:(0113) 244 3457
W: www.htcarchitects.co.uk
E: info@htcarchitects.co.uk

client
Lidl GB Ltd.

project
Aberystwyth Road,
Cardigan

drawing title
Existing Site Plan

date August 2025
status Planning
scale 1:500 @ A3
drawn KA checked BMS
job no. 2806 dwg no. P411 rev. A



11/8/25
REDUCED NUMBER OF P&C, SUBJECT TO CONFIRMATION BY LIDL

SITE AREA: 7183 SQM / 1.775 ACRES

7/8/25
PROPOSE HIGHWAYS & PEDESTRIAN FOOTPATH TO BE ADAPTED.
HIGHWAYS ARRANGEMENT SUBJECT TO HIGHWAYS CONSULTATION.

ALL DIMENSIONS SHOULD BE CHECKED ON SITE BEFORE WORK COMMENCES

BOUNDARY BASED ON TITLE REGISTER REFERENCES: CYM601635, CYM308828, CYM735060

BASED TOPO SURVEY DWG
22635_TOPOGRAPHIC AND SERVICES SURVEY_FINAL
20203_TOPOGRAPHIC AND SERVICES SURVEY_FINAL

SUBJECT TO HIGHWAYS CONSULTANT AND DESIGNS

SUBJECT TO LANDSCAPE ARCHITECTS

Rev.	Date	Description	Drawn
B	02/09/2025	Proposed site plan updated. Spec trolley bay added and parking amended. Elevations updated to match.	KA
A	20/08/2025	Planning pack updated in line with clients comments recieved 18.08.2025.	KA

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E: info@htcarchitects.co.uk

client
Lidl GB Ltd.

project
Aberystwyth Road,
Cardigan

drawing title
Proposed Setting Out Site Plan

date August 2025
status Planning
scale 1:500 @ A3
drawn KA checked BMS
job no. 2806 dwg no. P412 rev. B

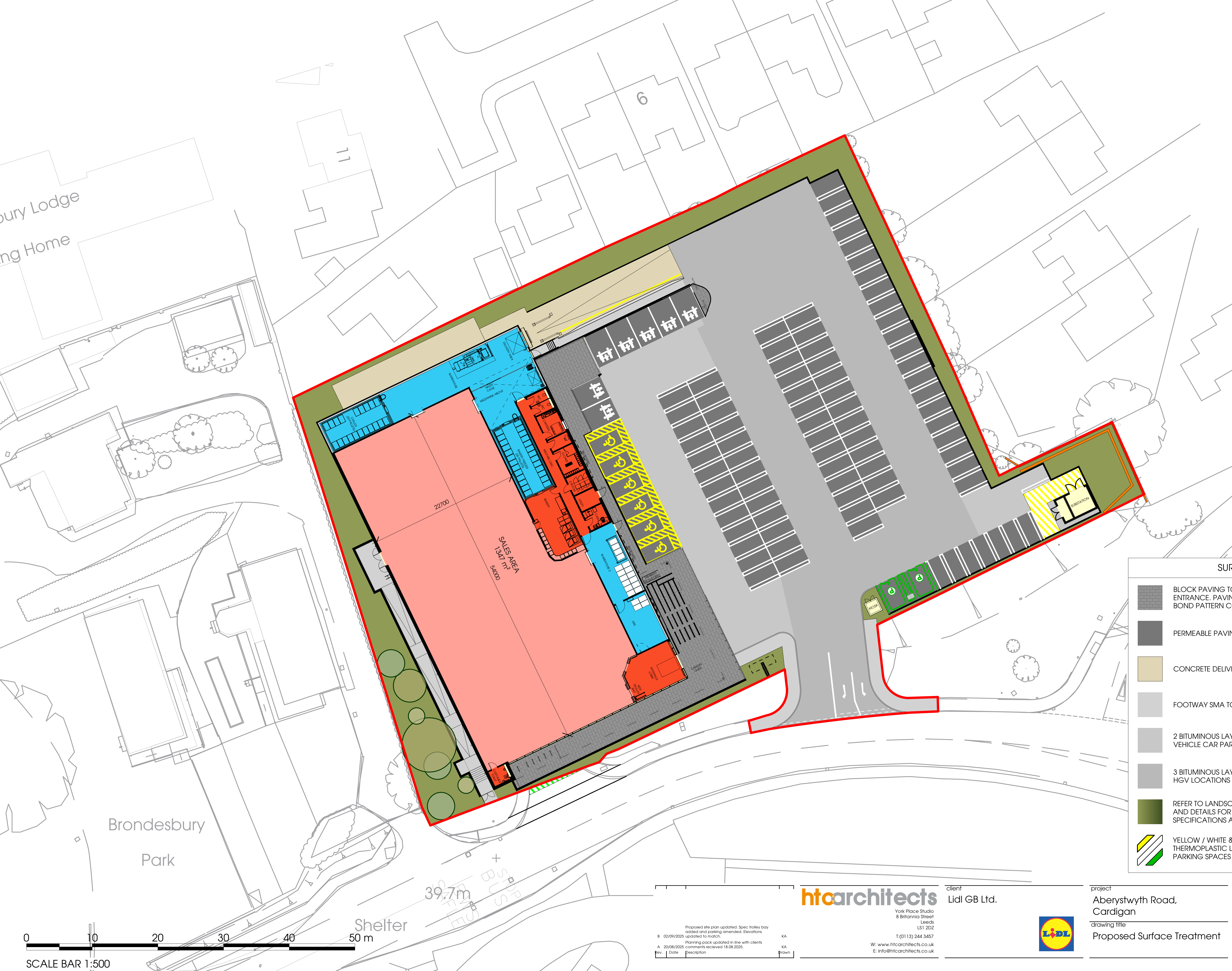
ALL DIMENSIONS SHOULD BE CHECKED ON SITE BEFORE WORK COMMENCES

BOUNDARY BASED ON TITLE REGISTER REFERENCES: CYM601635, CYM308828, CYM735060

BASED TOPO SURVEY DWG
22635_TOPOGRAPHIC AND SERVICES SURVEY_FINAL
20203_TOPOGRAPHIC AND SERVICES SURVEY_FINAL

SUBJECT TO HIGHWAYS CONSULTANT AND DESIGNS

SUBJECT TO LANDSCAPE ARCHITECTS



SURFACES KEY:

▨	BLOCK PAVING TO PEDESTRIAN ROUTES AND STORE ENTRANCE. PAVING TO BE LAID IN A STRETCHER BOND PATTERN COLOUR: DARK GREY/ ANTHRACITE
■	PERMEABLE PAVING AS PER SPECIALIST DESIGN
■	CONCRETE DELIVERY YARD AND PLANT ROOM
■	FOOTWAY SMA TO PEDESTRIAN ROUTES.
■	2 BITUMINOUS LAYER TO CAR AND LIGHT VEHICLE CAR PARK LOCATIONS.
■	3 BITUMINOUS LAYER TO ACCESS ROAD AND HGV LOCATIONS
🟩	REFER TO LANDSCAPING ARCHITECTS DRAWINGS AND DETAILS FOR ALL SOFT LANDSCAPING SPECIFICATIONS AND FINISHES
▨	YELLOW / WHITE & GREEN AS INDICATED THERMOPLASTIC LINING TO DENOTE ALL CAR PARKING SPACES

Rev.	Date	Description	Drawn
B	02/09/2025	Proposed site plan updated. Spec trolley bay added and parking amended. Elevations updated to match.	KA
A	20/08/2025	Planning pack updated in line with clients comments recieved 18.08.2025.	KA

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client
Lidl GB Ltd.

project
Aberystwyth Road,
Cardigan

drawing title
Proposed Surface Treatment

date August 2025
status Planning
scale 1:500 @ A3
drawn KA checked BMS
job no. 2806 dwg no. P414 rev. B

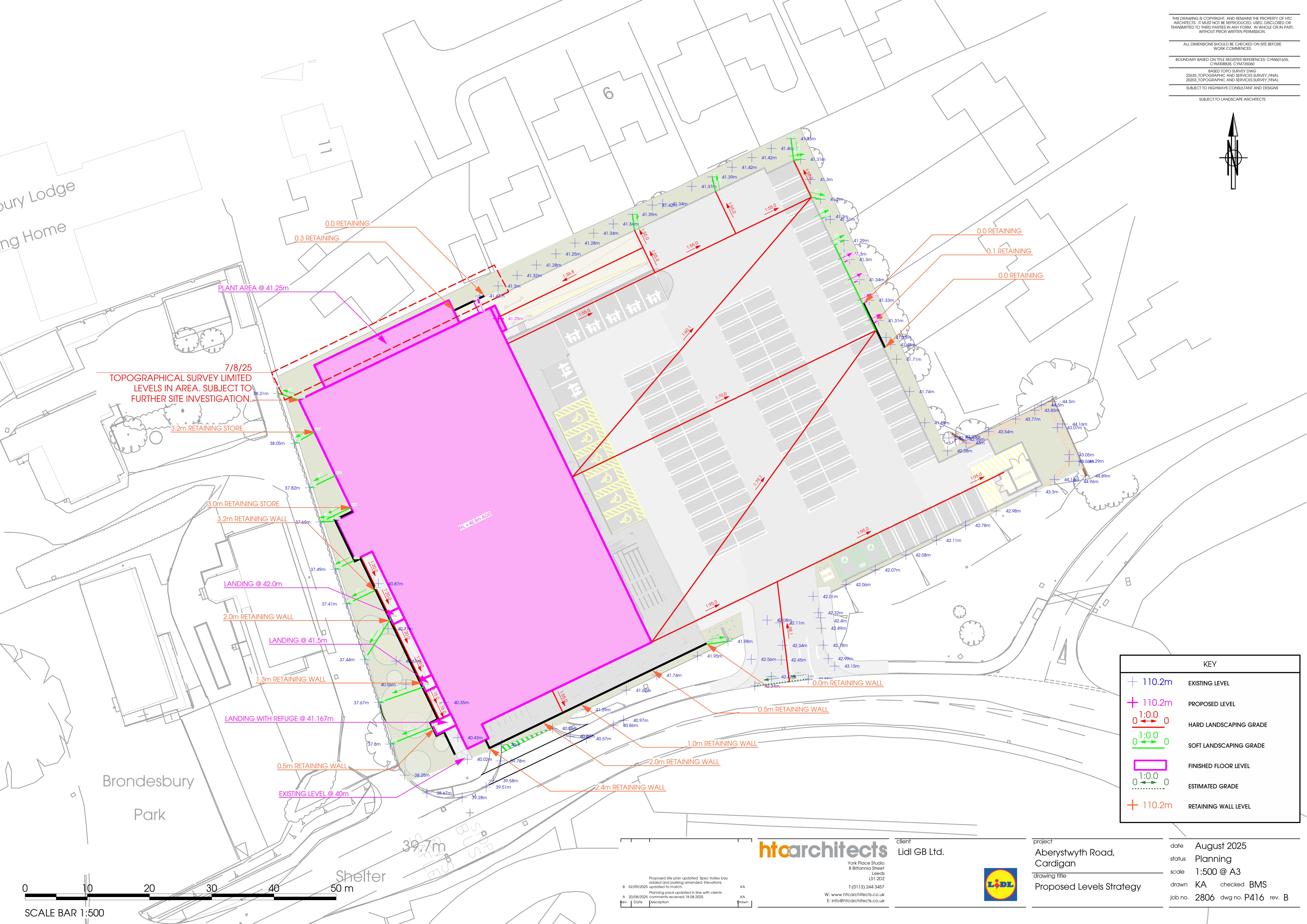
ALL DIMENSIONS SHOULD BE CHECKED ON SITE BEFORE WORK COMMENCES

BOUNDARY BASED ON TITLE REGISTER REFERENCES: CYM601635, CYM308828, CYM735060

BASED TOPO SURVEY DWG
22635_TOPOGRAPHIC AND SERVICES SURVEY_FINAL
20203_TOPOGRAPHIC AND SERVICES SURVEY_FINAL

SUBJECT TO HIGHWAYS CONSULTANT AND DESIGNS

SUBJECT TO LANDSCAPE ARCHITECTS



KEY

+ 110.2m	EXISTING LEVEL
+ 110.2m	PROPOSED LEVEL
0 ←1:0.0→ 0	HARD LANDSCAPING GRADE
0 ←1:0.0→ 0	SOFT LANDSCAPING GRADE
▭	FINISHED FLOOR LEVEL
0 ←1:0.0→ 0	ESTIMATED GRADE
+ 110.2m	RETAINING WALL LEVEL

Rev.	Date	Description	Drawn
B	02/09/2025	Proposed site plan updated. Spec trolley bay added and parking amended. Elevations updated to match.	KA
A	20/08/2025	Planning pack updated in line with clients comments recieved 18.08.2025.	KA

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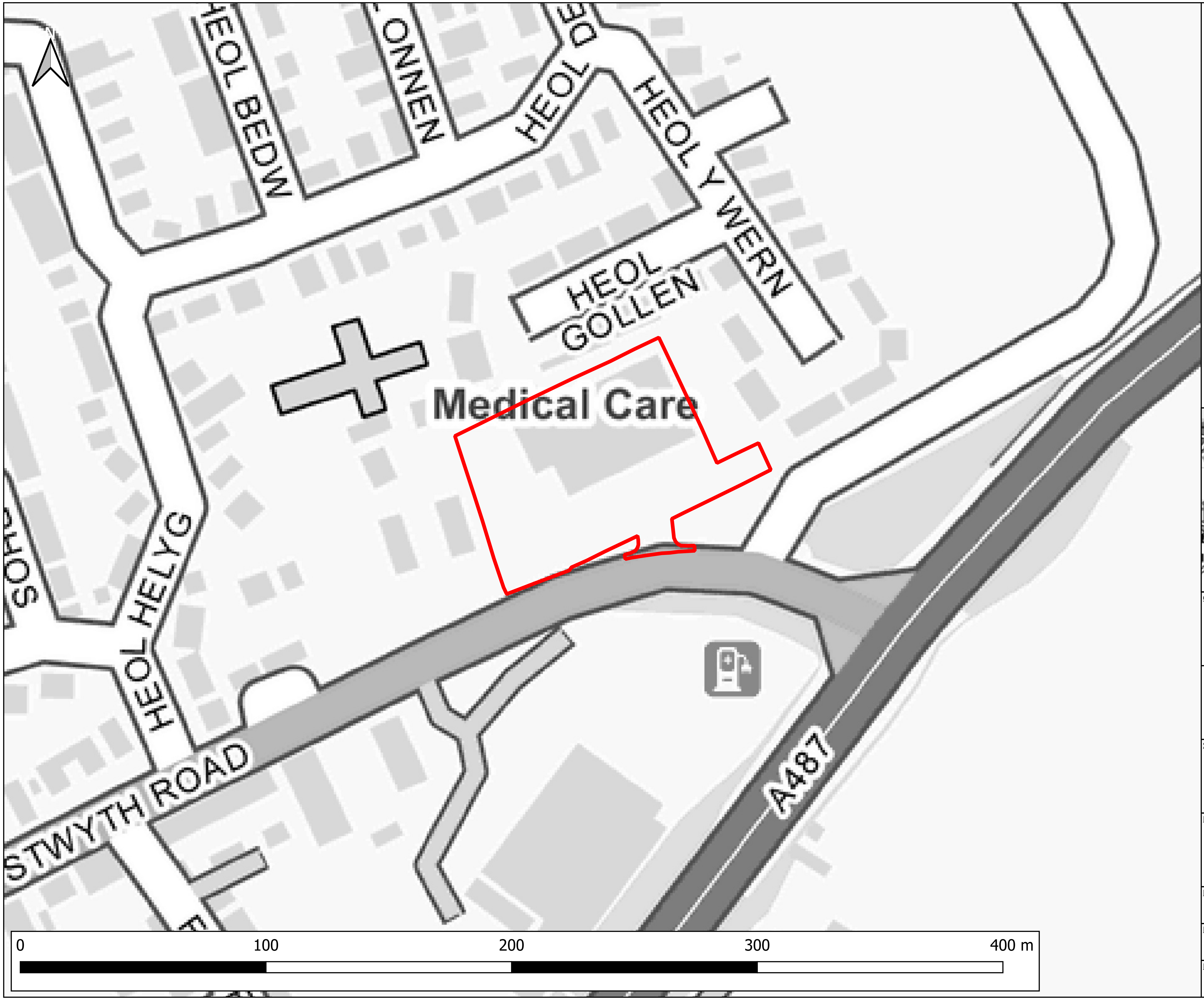
E: info@htcarchitects.co.uk

client
Lidl GB Ltd.

project
Aberystwyth Road,
Cardigan

drawing title
Proposed Levels Strategy

date August 2025
status Planning
scale 1:500 @ A3
drawn KA checked BMS
job no. 2806 dwg no. P416 rev. B

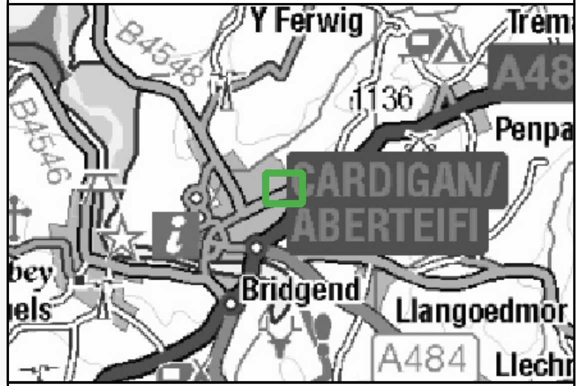


Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise
2) Flood Zone 3 displays the extent of flooding from rivers with a 1% AEP or greater of flooding in a given year including and allowance for climate change and the sea with a 0.5% AEP or greater of flooding in a given year including and allowance for climate change
3) Flood Zone 2 displays the extent of flooding from rivers with a less than 1% AEP but greater than or equal to 0.1% AEP of flooding in a given year including and allowance for climate change and the sea with a less than 0.5% AEP but greater than or equal to 0.1% AEP of flooding in a given year including an allowance for climate change

LEGEND

🟥 Site Boundary
☒ TAN15 Defended Zones

Flood Map for Planning
Flood Zone 1
Flood Zone 2
Flood Zone 3



CLIENT:
Lidl Great Britain Limited

waterco
www.waterco.co.uk

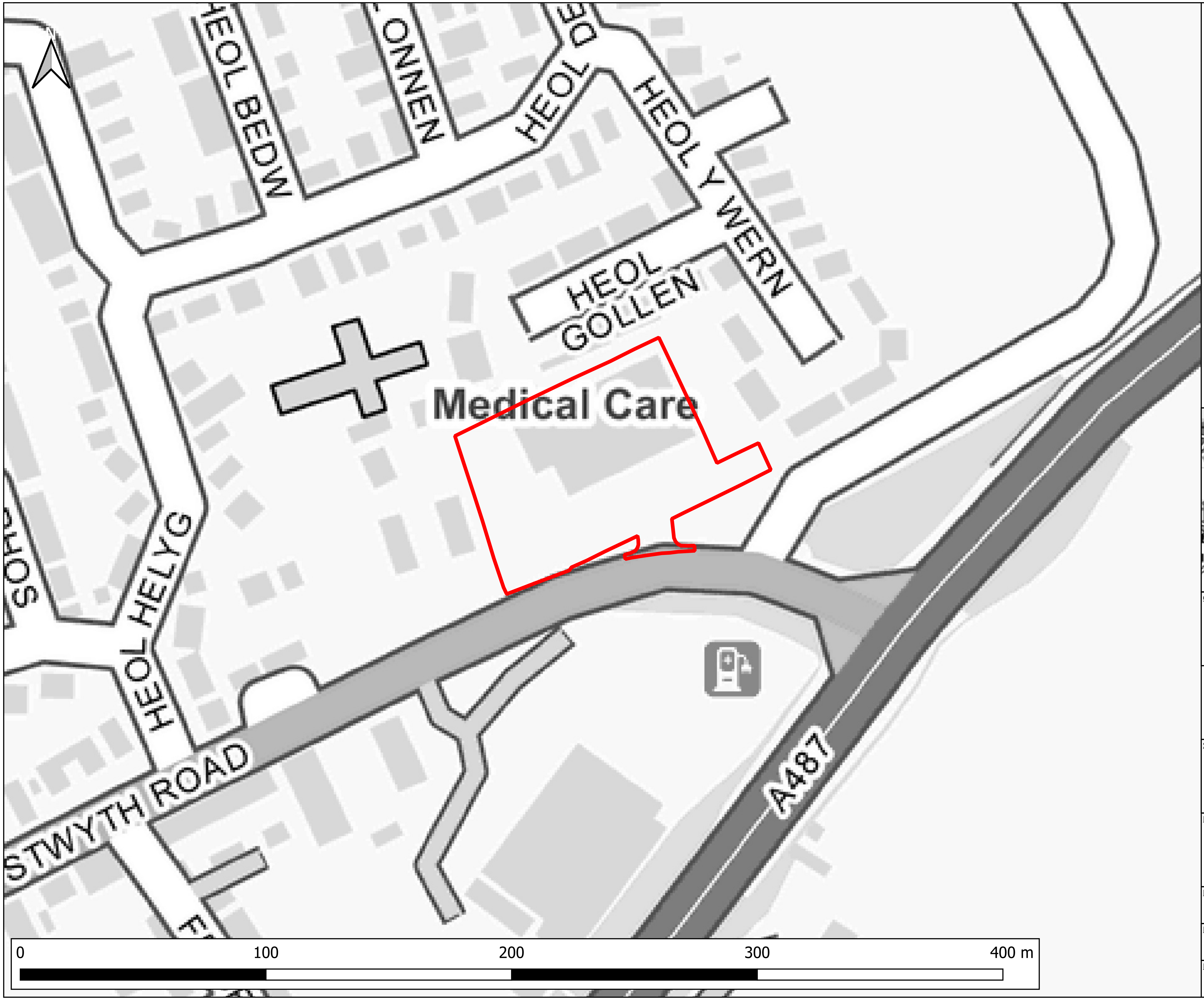
SCHEME:
B&M, Aberystwyth Road, Cardigan

PLOT TITLE:
NRW Flood Map for Planning (Rivers and Sea)
Data published May 2025

PLOT STATUS:	DATE:
FINAL	10-09-2025

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	NJ	1:1500

PLOT NAME:	REVISION:
17128_NRW_FMfP	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

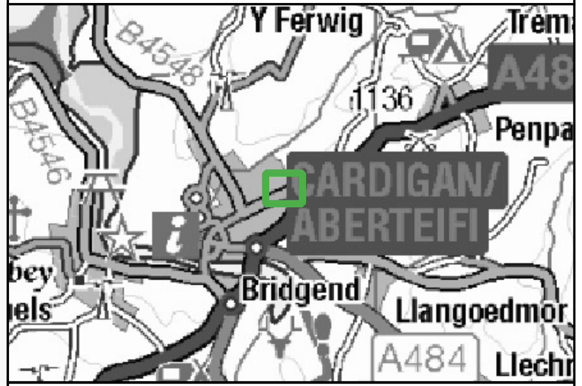
🟥 Site Boundary

Flood Zones - Rivers

Flood Zone 1

▨ Flood Zone 2

▨ Flood Zone 3



CLIENT:
Lidl Great Britain Limited

www.waterco.co.uk

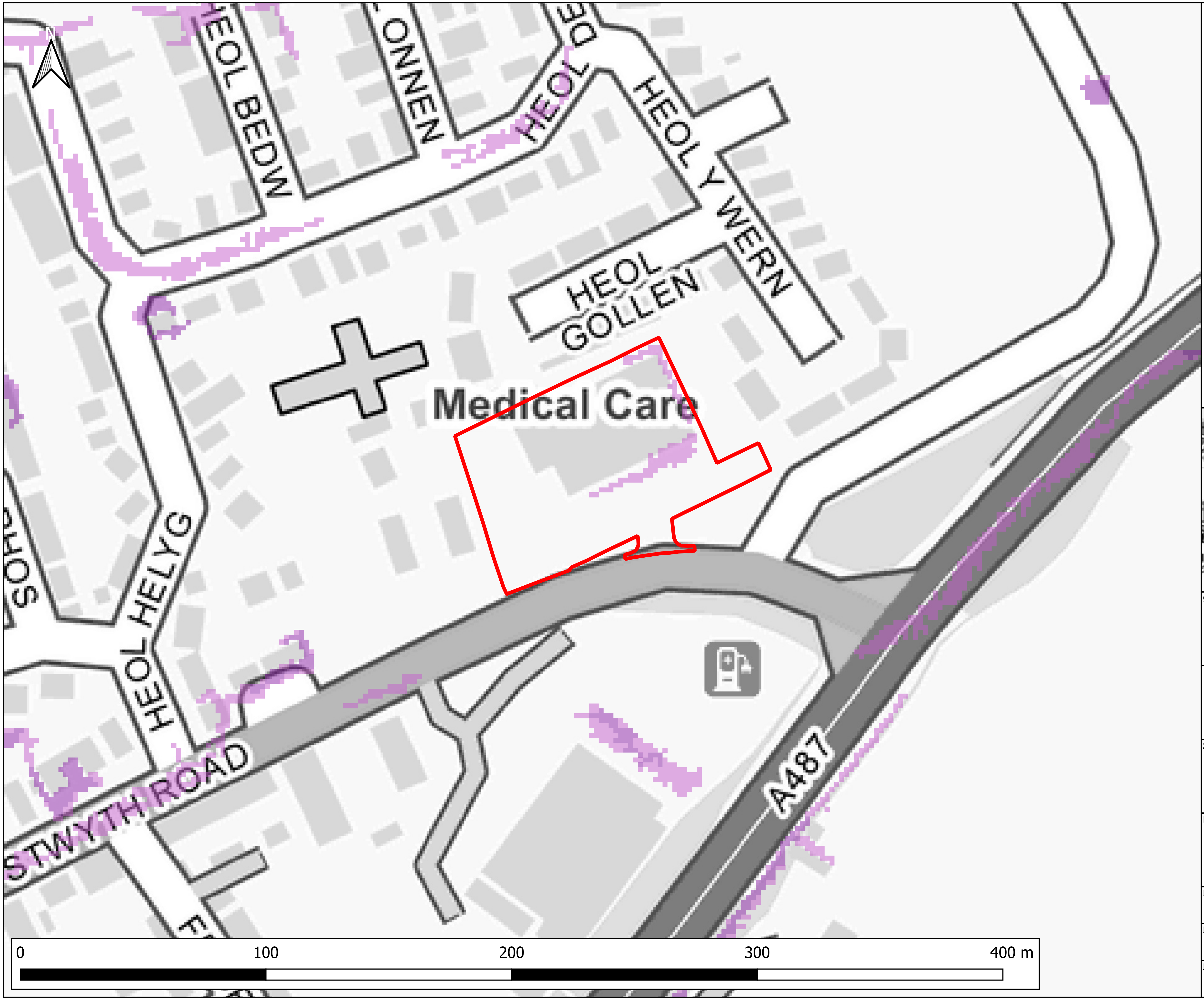
SCHEME:
B&M, Aberystwyth Road, Cardigan

PLOT TITLE:
NRW Flood Zones - Rivers
Data published May 2025

PLOT STATUS:	DATE:
FINAL	10-09-2025

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	NJ	1:1500

PLOT NAME:	REVISION:
17128_NRW_Flood_Zones_Rivers	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

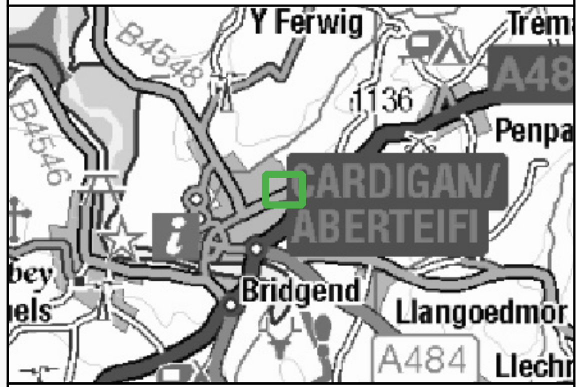
🟥 Site Boundary

Flood Zones - Surface Water & Small Watercourses

Flood Zone 1

▨ Flood Zone 2

■ Flood Zone 3



CLIENT:
Lidl Great Britain Limited

Waterco
www.waterco.co.uk

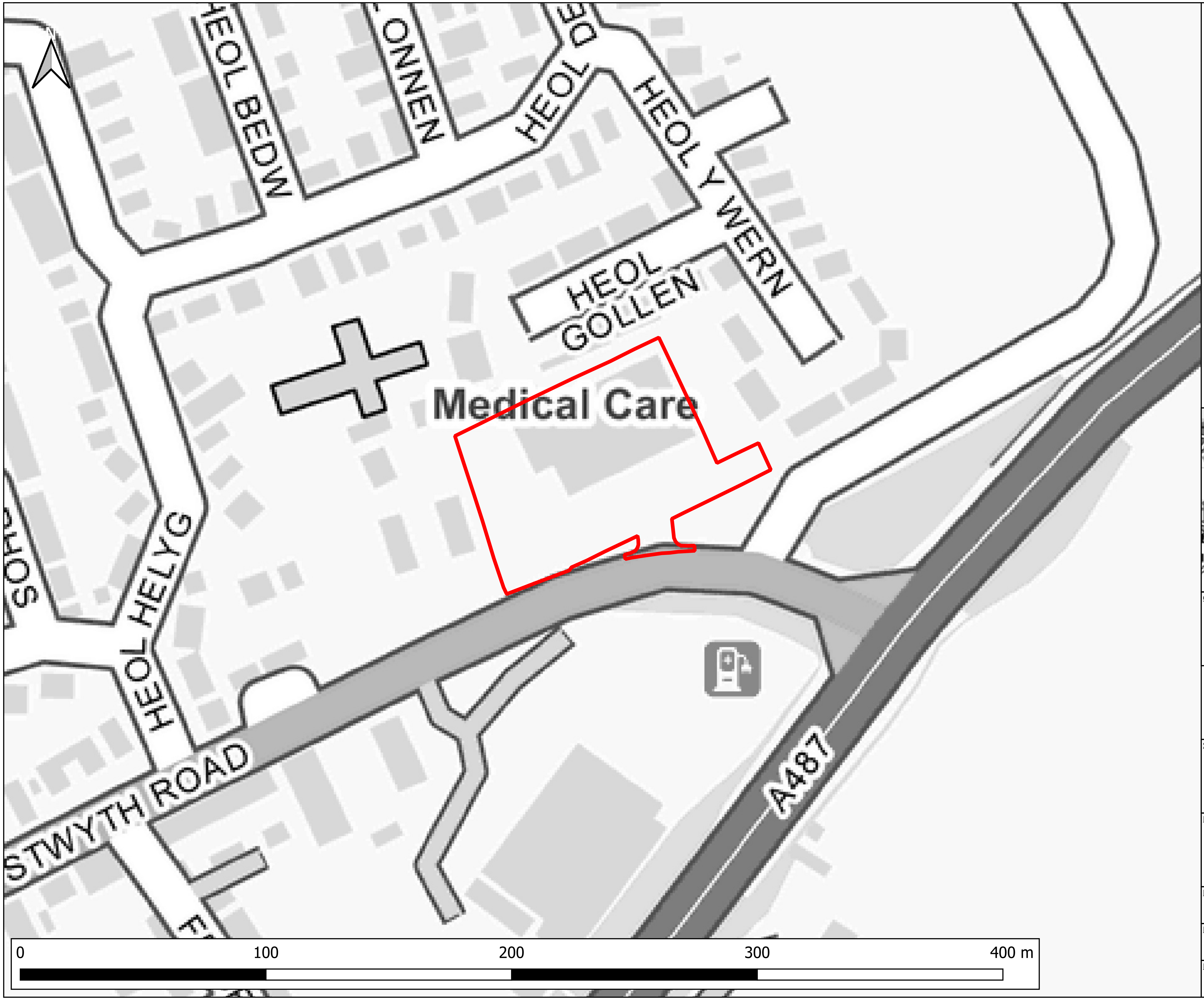
SCHEME:
B&M, Aberystwyth Road, Cardigan

PLOT TITLE:
NRW Flood Zones - Surface Water & Small Watercourses
Data published May 2025

PLOT STATUS:	DATE:
FINAL	10-09-2025

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	NJ	1:1500

PLOT NAME:	REVISION:
17128_NRW_Flood_Zones_Surface_Water	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

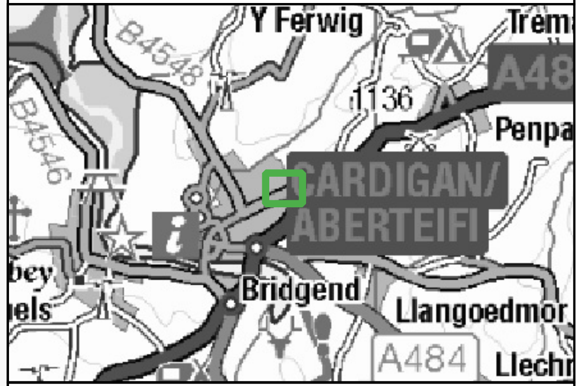
🟥 Site Boundary

Flood Zones - Sea

Flood Zone 1

🟩 Flood Zone 2

🟩 Flood Zone 3



CLIENT:

Lidl Great Britain Limited

waterco

www.waterco.co.uk

SCHEME:

B&M, Aberystwyth Road, Cardigan

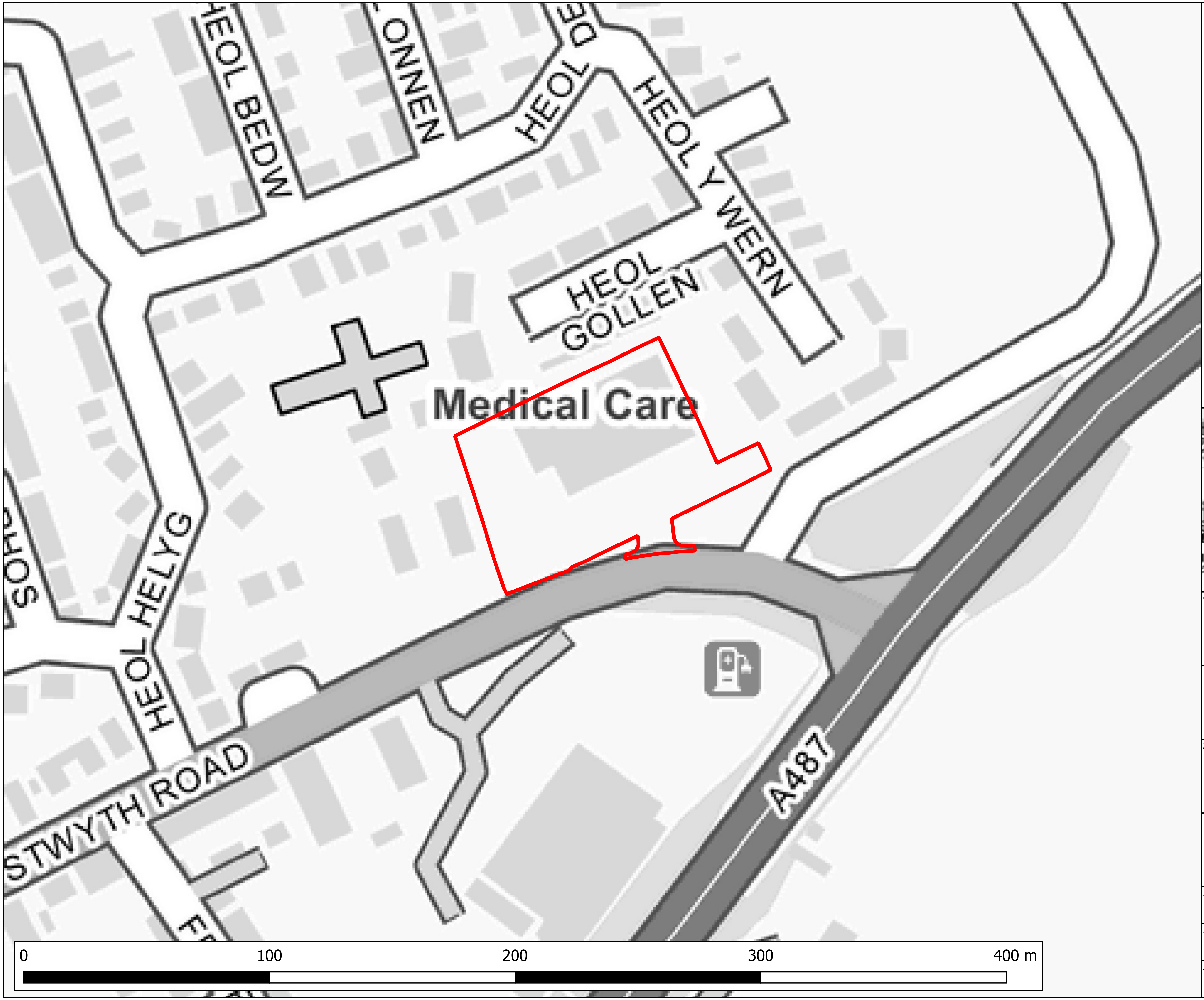
PLOT TITLE:

NRW Flood Risk from the Sea
Data published May 2025

PLOT STATUS:	DATE:
FINAL	10-09-2025

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	NJ	1:1500

PLOT NAME:	REVISION:
17128_NRW_Flood_Zones_Sea	-



Notes:
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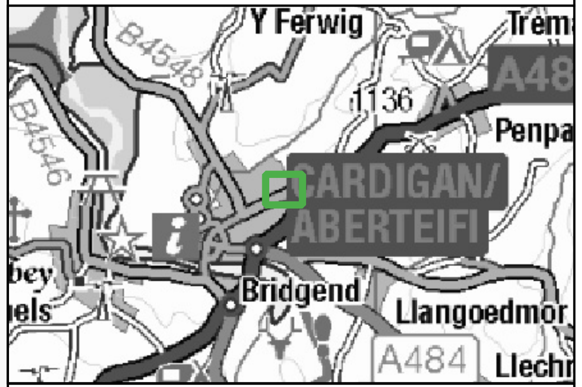
LEGEND

🟥 Site Boundary
▨ NRW Recorded Flood Extents



CLIENT:
Lidl Great Britain Limited

waterco
www.waterco.co.uk

SCHEME:
B&M, Aberystwyth Road, Cardigan

PLOT TITLE:
NRW Recorded Flood Extents
Data published May 2025

PLOT STATUS:	DATE:
FINAL	10-09-2025

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	NJ	1:1500

PLOT NAME:	REVISION:
17128_NRW_Recorded_Flood_Extents	-

UK Design Flood Estimation

Generated on 06 November 2025 16:21:49 by adam.mcculloch
Printed from the ReFH2 Flood Modelling software package, version 4.1.8704.23947

Summary of estimate using the Flood Estimation Handbook revitalised flood hydrograph method (ReFH2)

Site details

Checksum: 2185-EE71

Site name: FEH_Point_Descriptors_218794_246862_v5_1_0

Easting: 218794

Northing: 246862

Country: England, Wales or Northern Ireland

Catchment Area (km²): 0.01 [0.5]*

Using plot scale calculations: Yes

Model: 2.3

Site description: None

Model run: 1 year

Summary of results

Rainfall - FEH22 (mm):	15.92	Total runoff (ML):	0.02
Total Rainfall (mm):	11.10	Total flow (ML):	0.07
Peak Rainfall (mm):	3.02	Peak flow (m³/s):	0.00

Parameters

Where the user has overriden a system-generated value, this original value is shown in square brackets after the value used.
** Indicates that the user locked the duration/timestep*

Rainfall parameters (Rainfall - FEH22)

Name	Value	User-defined?
Duration (hh:mm:ss)	02:15:00	No
Timestep (hh:mm:ss)	00:15:00	No
SCF (Seasonal correction factor)	0.7	No
ARF (Areal reduction factor)	1	No
Seasonality	Winter	No

Loss model parameters

Name	Value	User-defined?
Cini (mm)	100.48	No
Cmax (mm)	321.39	No
Use alpha correction factor	No	No
Alpha correction factor	n/a	No

Routing model parameters

Name	Value	User-defined?
Tp (hr)	1.07 [1]	Yes
Up	0.65	No
Uk	0.8	No

Baseflow model parameters

Name	Value	User-defined?
BF0 (m^3/s)	0	No
BL (hr)	30.87 [22.12]	Yes
BR	2.03	No

Urbanisation parameters

Name	Value	User-defined?
Sewer capacity (m^3/s)	0	No
Exporting drained area (km^2)	0	No
Urban area (km^2)	0	No
Effective URBEXT2000	0	n/a
Impervious runoff factor	0.7	No
Imperviousness factor	0.4	No
Tp scaling factor	0.75	No
Depression storage depth (mm)	0.5	No

Time series data

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m^3/s)	Net Rain (mm)	Runoff (m^3/s)	Baseflow (m^3/s)	Total Flow (m^3/s)
00:00:00	0.3171	0.0000	0.0993	0.0000	0.000253	0.000253
00:15:00	0.5950	0.0000	0.1872	0.0000	0.000251	0.000264
00:30:00	1.1064	0.0000	0.3509	0.0001	0.00025	0.00031
00:45:00	2.0211	0.0000	0.6509	0.0002	0.00025	0.000424
01:00:00	3.0181	0.0000	0.9957	0.0004	0.000253	0.000665
01:15:00	2.0211	0.0000	0.6826	0.0008	0.000261	0.0011
01:30:00	1.1064	0.0000	0.3791	0.0014	0.000277	0.00171
01:45:00	0.5950	0.0000	0.2054	0.0021	0.000304	0.00237
02:00:00	0.3171	0.0000	0.1099	0.0026	0.00034	0.00294
02:15:00	0.0000	0.0000	0.0000	0.0029	0.000382	0.00328
02:30:00	0.0000	0.0000	0.0000	0.0029	0.000426	0.00328
02:45:00	0.0000	0.0000	0.0000	0.0026	0.000467	0.00306
03:00:00	0.0000	0.0000	0.0000	0.0022	0.000503	0.00272
03:15:00	0.0000	0.0000	0.0000	0.0018	0.000532	0.00236
03:30:00	0.0000	0.0000	0.0000	0.0015	0.000555	0.00204
03:45:00	0.0000	0.0000	0.0000	0.0012	0.000572	0.00176
04:00:00	0.0000	0.0000	0.0000	0.0009	0.000585	0.00151
04:15:00	0.0000	0.0000	0.0000	0.0007	0.000594	0.00128
04:30:00	0.0000	0.0000	0.0000	0.0005	0.000598	0.00107
04:45:00	0.0000	0.0000	0.0000	0.0003	0.0006	0.000889
05:00:00	0.0000	0.0000	0.0000	0.0001	0.000598	0.000748
05:15:00	0.0000	0.0000	0.0000	0.0001	0.000595	0.000662
05:30:00	0.0000	0.0000	0.0000	0.0000	0.000591	0.000617
05:45:00	0.0000	0.0000	0.0000	0.0000	0.000587	0.000593
06:00:00	0.0000	0.0000	0.0000	0.0000	0.000582	0.000583
06:15:00	0.0000	0.0000	0.0000	0.0000	0.000578	0.000578
06:30:00	0.0000	0.0000	0.0000	0.0000	0.000573	0.000573
06:45:00	0.0000	0.0000	0.0000	0.0000	0.000568	0.000568
07:00:00	0.0000	0.0000	0.0000	0.0000	0.000564	0.000564
07:15:00	0.0000	0.0000	0.0000	0.0000	0.000559	0.000559
07:30:00	0.0000	0.0000	0.0000	0.0000	0.000555	0.000555
07:45:00	0.0000	0.0000	0.0000	0.0000	0.00055	0.00055
08:00:00	0.0000	0.0000	0.0000	0.0000	0.000546	0.000546
08:15:00	0.0000	0.0000	0.0000	0.0000	0.000541	0.000541

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m^3/s)	Net Rain (mm)	Runoff (m^3/s)	Baseflow (m^3/s)	Total Flow (m^3/s)
08:30:00	0.0000	0.0000	0.0000	0.0000	0.000537	0.000537
08:45:00	0.0000	0.0000	0.0000	0.0000	0.000533	0.000533
09:00:00	0.0000	0.0000	0.0000	0.0000	0.000528	0.000528
09:15:00	0.0000	0.0000	0.0000	0.0000	0.000524	0.000524
09:30:00	0.0000	0.0000	0.0000	0.0000	0.00052	0.00052
09:45:00	0.0000	0.0000	0.0000	0.0000	0.000516	0.000516
10:00:00	0.0000	0.0000	0.0000	0.0000	0.000511	0.000511
10:15:00	0.0000	0.0000	0.0000	0.0000	0.000507	0.000507
10:30:00	0.0000	0.0000	0.0000	0.0000	0.000503	0.000503
10:45:00	0.0000	0.0000	0.0000	0.0000	0.000499	0.000499
11:00:00	0.0000	0.0000	0.0000	0.0000	0.000495	0.000495
11:15:00	0.0000	0.0000	0.0000	0.0000	0.000491	0.000491
11:30:00	0.0000	0.0000	0.0000	0.0000	0.000487	0.000487
11:45:00	0.0000	0.0000	0.0000	0.0000	0.000483	0.000483
12:00:00	0.0000	0.0000	0.0000	0.0000	0.000479	0.000479
12:15:00	0.0000	0.0000	0.0000	0.0000	0.000475	0.000475
12:30:00	0.0000	0.0000	0.0000	0.0000	0.000472	0.000472
12:45:00	0.0000	0.0000	0.0000	0.0000	0.000468	0.000468
13:00:00	0.0000	0.0000	0.0000	0.0000	0.000464	0.000464
13:15:00	0.0000	0.0000	0.0000	0.0000	0.00046	0.00046
13:30:00	0.0000	0.0000	0.0000	0.0000	0.000457	0.000457
13:45:00	0.0000	0.0000	0.0000	0.0000	0.000453	0.000453
14:00:00	0.0000	0.0000	0.0000	0.0000	0.000449	0.000449
14:15:00	0.0000	0.0000	0.0000	0.0000	0.000446	0.000446
14:30:00	0.0000	0.0000	0.0000	0.0000	0.000442	0.000442
14:45:00	0.0000	0.0000	0.0000	0.0000	0.000438	0.000438
15:00:00	0.0000	0.0000	0.0000	0.0000	0.000435	0.000435
15:15:00	0.0000	0.0000	0.0000	0.0000	0.000431	0.000431
15:30:00	0.0000	0.0000	0.0000	0.0000	0.000428	0.000428
15:45:00	0.0000	0.0000	0.0000	0.0000	0.000425	0.000425
16:00:00	0.0000	0.0000	0.0000	0.0000	0.000421	0.000421
16:15:00	0.0000	0.0000	0.0000	0.0000	0.000418	0.000418
16:30:00	0.0000	0.0000	0.0000	0.0000	0.000414	0.000414
16:45:00	0.0000	0.0000	0.0000	0.0000	0.000411	0.000411
17:00:00	0.0000	0.0000	0.0000	0.0000	0.000408	0.000408

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m^3/s)	Net Rain (mm)	Runoff (m^3/s)	Baseflow (m^3/s)	Total Flow (m^3/s)
17:15:00	0.0000	0.0000	0.0000	0.0000	0.000404	0.000404
17:30:00	0.0000	0.0000	0.0000	0.0000	0.000401	0.000401
17:45:00	0.0000	0.0000	0.0000	0.0000	0.000398	0.000398
18:00:00	0.0000	0.0000	0.0000	0.0000	0.000395	0.000395
18:15:00	0.0000	0.0000	0.0000	0.0000	0.000391	0.000391
18:30:00	0.0000	0.0000	0.0000	0.0000	0.000388	0.000388
18:45:00	0.0000	0.0000	0.0000	0.0000	0.000385	0.000385
19:00:00	0.0000	0.0000	0.0000	0.0000	0.000382	0.000382
19:15:00	0.0000	0.0000	0.0000	0.0000	0.000379	0.000379
19:30:00	0.0000	0.0000	0.0000	0.0000	0.000376	0.000376
19:45:00	0.0000	0.0000	0.0000	0.0000	0.000373	0.000373
20:00:00	0.0000	0.0000	0.0000	0.0000	0.00037	0.00037
20:15:00	0.0000	0.0000	0.0000	0.0000	0.000367	0.000367
20:30:00	0.0000	0.0000	0.0000	0.0000	0.000364	0.000364
20:45:00	0.0000	0.0000	0.0000	0.0000	0.000361	0.000361
21:00:00	0.0000	0.0000	0.0000	0.0000	0.000358	0.000358
21:15:00	0.0000	0.0000	0.0000	0.0000	0.000355	0.000355
21:30:00	0.0000	0.0000	0.0000	0.0000	0.000352	0.000352
21:45:00	0.0000	0.0000	0.0000	0.0000	0.00035	0.00035
22:00:00	0.0000	0.0000	0.0000	0.0000	0.000347	0.000347
22:15:00	0.0000	0.0000	0.0000	0.0000	0.000344	0.000344
22:30:00	0.0000	0.0000	0.0000	0.0000	0.000341	0.000341
22:45:00	0.0000	0.0000	0.0000	0.0000	0.000338	0.000338
23:00:00	0.0000	0.0000	0.0000	0.0000	0.000336	0.000336
23:15:00	0.0000	0.0000	0.0000	0.0000	0.000333	0.000333
23:30:00	0.0000	0.0000	0.0000	0.0000	0.00033	0.00033
23:45:00	0.0000	0.0000	0.0000	0.0000	0.000328	0.000328
24:00:00	0.0000	0.0000	0.0000	0.0000	0.000325	0.000325
24:15:00	0.0000	0.0000	0.0000	0.0000	0.000322	0.000322
24:30:00	0.0000	0.0000	0.0000	0.0000	0.00032	0.00032
24:45:00	0.0000	0.0000	0.0000	0.0000	0.000317	0.000317
25:00:00	0.0000	0.0000	0.0000	0.0000	0.000315	0.000315
25:15:00	0.0000	0.0000	0.0000	0.0000	0.000312	0.000312
25:30:00	0.0000	0.0000	0.0000	0.0000	0.00031	0.00031
25:45:00	0.0000	0.0000	0.0000	0.0000	0.000307	0.000307

Time (hh:mm:ss)	Rain (mm)	Sewer Loss (m^3/s)	Net Rain (mm)	Runoff (m^3/s)	Baseflow (m^3/s)	Total Flow (m^3/s)
26:00:00	0.0000	0.0000	0.0000	0.0000	0.000305	0.000305
26:15:00	0.0000	0.0000	0.0000	0.0000	0.000302	0.000302
26:30:00	0.0000	0.0000	0.0000	0.0000	0.0003	0.0003
26:45:00	0.0000	0.0000	0.0000	0.0000	0.000297	0.000297
27:00:00	0.0000	0.0000	0.0000	0.0000	0.000295	0.000295
27:15:00	0.0000	0.0000	0.0000	0.0000	0.000292	0.000292
27:30:00	0.0000	0.0000	0.0000	0.0000	0.00029	0.00029
27:45:00	0.0000	0.0000	0.0000	0.0000	0.000288	0.000288
28:00:00	0.0000	0.0000	0.0000	0.0000	0.000285	0.000285
28:15:00	0.0000	0.0000	0.0000	0.0000	0.000283	0.000283
28:30:00	0.0000	0.0000	0.0000	0.0000	0.000281	0.000281
28:45:00	0.0000	0.0000	0.0000	0.0000	0.000279	0.000279
29:00:00	0.0000	0.0000	0.0000	0.0000	0.000276	0.000276
29:15:00	0.0000	0.0000	0.0000	0.0000	0.000274	0.000274
29:30:00	0.0000	0.0000	0.0000	0.0000	0.000272	0.000272
29:45:00	0.0000	0.0000	0.0000	0.0000	0.00027	0.00027
30:00:00	0.0000	0.0000	0.0000	0.0000	0.000268	0.000268
30:15:00	0.0000	0.0000	0.0000	0.0000	0.000265	0.000265
30:30:00	0.0000	0.0000	0.0000	0.0000	0.000263	0.000263
30:45:00	0.0000	0.0000	0.0000	0.0000	0.000261	0.000261
31:00:00	0.0000	0.0000	0.0000	0.0000	0.000259	0.000259
31:15:00	0.0000	0.0000	0.0000	0.0000	0.000257	0.000257
31:30:00	0.0000	0.0000	0.0000	0.0000	0.000255	0.000255

Appendix

Catchment descriptors *

Name	Value	User-defined value used?
BFIHOST	0.46	No
BFIHOST19	0.44	No
PROPWET	0.5	No
SAAR (mm)	969	No

Values in square brackets are the original values loaded from the FEH Web Service or FEH CD-ROM

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 1626 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	9.561	0.161	0.0	3.3	3.3	167.1	O K
30 min Summer	9.624	0.224	0.0	3.3	3.3	233.6	O K
60 min Summer	9.696	0.296	0.0	3.3	3.3	309.8	O K
120 min Summer	9.758	0.358	0.0	3.3	3.3	375.2	Flood Risk
180 min Summer	9.799	0.399	0.0	3.3	3.3	417.9	Flood Risk
240 min Summer	9.829	0.429	0.0	3.3	3.3	449.8	Flood Risk
360 min Summer	9.872	0.472	0.0	3.3	3.3	494.9	Flood Risk
480 min Summer	9.902	0.502	0.0	3.3	3.3	526.9	Flood Risk
600 min Summer	9.925	0.525	0.0	3.3	3.3	550.9	Flood Risk
720 min Summer	9.942	0.542	0.0	3.3	3.3	569.3	Flood Risk
960 min Summer	9.967	0.567	0.0	3.3	3.3	595.0	Flood Risk
1440 min Summer	9.986	0.586	0.0	3.3	3.3	615.4	Flood Risk
2160 min Summer	9.995	0.595	0.0	3.3	3.3	624.7	Flood Risk
2880 min Summer	9.993	0.593	0.0	3.3	3.3	622.5	Flood Risk
4320 min Summer	9.971	0.571	0.0	3.3	3.3	599.0	Flood Risk
5760 min Summer	9.942	0.542	0.0	3.3	3.3	569.2	Flood Risk
7200 min Summer	9.911	0.511	0.0	3.3	3.3	536.2	Flood Risk
8640 min Summer	9.881	0.481	0.0	3.3	3.3	504.9	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	112.153	0.0	148.1	16
30 min Summer	78.120	0.0	206.0	31
60 min Summer	51.978	0.0	306.8	62
120 min Summer	31.899	0.0	375.1	122
180 min Summer	23.978	0.0	419.7	182
240 min Summer	19.584	0.0	452.0	242
360 min Summer	14.720	0.0	493.4	362
480 min Summer	12.043	0.0	510.0	482
600 min Summer	10.315	0.0	507.4	600
720 min Summer	9.093	0.0	501.6	720
960 min Summer	7.459	0.0	491.1	960
1440 min Summer	5.617	0.0	474.8	1370
2160 min Summer	4.224	0.0	909.1	1728
2880 min Summer	3.439	0.0	954.9	2108
4320 min Summer	2.547	0.0	888.6	2940
5760 min Summer	2.055	0.0	1207.7	3800
7200 min Summer	1.734	0.0	1269.8	4616
8640 min Summer	1.513	0.0	1324.0	5448

Summary of Results for 100 year Return Period (+40%)

Storm Event	**Max Level (m)**	**Max Depth (m)**	**Max Infiltration (l/s)**	**Max Control (l/s)**	**Max Σ Outflow (l/s)**	**Max Volume (m³)**	**Status**
10080 min Summer	9.853	0.453	0.0	3.3	3.3	475.4	Flood Risk
15 min Winter	9.561	0.161	0.0	3.3	3.3	167.0	O K
30 min Winter	9.624	0.224	0.0	3.3	3.3	233.5	O K
60 min Winter	9.696	0.296	0.0	3.3	3.3	309.6	O K
120 min Winter	9.758	0.358	0.0	3.3	3.3	375.0	Flood Risk
180 min Winter	9.798	0.398	0.0	3.3	3.3	417.6	Flood Risk
240 min Winter	9.829	0.429	0.0	3.3	3.3	449.4	Flood Risk
360 min Winter	9.871	0.471	0.0	3.3	3.3	494.5	Flood Risk
480 min Winter	9.902	0.502	0.0	3.3	3.3	526.8	Flood Risk
600 min Winter	9.925	0.525	0.0	3.3	3.3	551.1	Flood Risk
720 min Winter	9.943	0.543	0.0	3.3	3.3	569.9	Flood Risk
960 min Winter	9.968	0.568	0.0	3.3	3.3	596.7	Flood Risk
1440 min Winter	9.990	0.590	0.0	3.3	3.3	619.9	Flood Risk
2160 min Winter	9.993	0.593	0.0	3.3	3.3	623.1	Flood Risk
2880 min Winter	9.988	0.588	0.0	3.3	3.3	617.0	Flood Risk
4320 min Winter	9.952	0.552	0.0	3.3	3.3	579.2	Flood Risk
5760 min Winter	9.907	0.507	0.0	3.3	3.3	531.7	Flood Risk
7200 min Winter	9.857	0.457	0.0	3.3	3.3	478.9	Flood Risk
8640 min Winter	9.802	0.402	0.0	3.3	3.3	421.6	Flood Risk

Storm Event	**Rain (mm/hr)**	**Flooded Volume (m³)**	**Discharge Volume (m³)**	**Time-Peak (mins)**
10080 min Summer	1.351	0.0	1372.0	6256
15 min Winter	112.153	0.0	148.1	16
30 min Winter	78.120	0.0	206.0	31
60 min Winter	51.978	0.0	306.8	62
120 min Winter	31.899	0.0	375.1	120
180 min Winter	23.978	0.0	419.7	180
240 min Winter	19.584	0.0	452.1	238
360 min Winter	14.720	0.0	493.9	356
480 min Winter	12.043	0.0	510.9	472
600 min Winter	10.315	0.0	508.6	588
720 min Winter	9.093	0.0	502.8	704
960 min Winter	7.459	0.0	492.2	932
1440 min Winter	5.617	0.0	476.0	1368
2160 min Winter	4.224	0.0	909.4	1772
2880 min Winter	3.439	0.0	956.6	2216
4320 min Winter	2.547	0.0	897.3	3156
5760 min Winter	2.055	0.0	1207.8	4088
7200 min Winter	1.734	0.0	1270.2	4976
8640 min Winter	1.513	0.0	1325.3	5872

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
10080 min Winter	9.747	0.347	0.0	3.3	3.3	362.8	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
10080 min Winter	1.351	0.0	1375.1	6560

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 218794 246862 SN 18794 46862
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	1.000
Cv (Winter)	1.000
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.622

Time From:	(mins) To:	Area (ha)
0	1	0.622

Model Details

Storage is Online Cover Level (m) 10.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000
Membrane Percolation (mm/hr)	1000
Max Percolation (l/s)	308.3
Safety Factor	2.0
Porosity	0.95
Invert Level (m)	9.400
Width (m)	22.2
Length (m)	50.0
Slope (1:X)	10000.0
Depression Storage (mm)	5
Evaporation (mm/day)	3
Membrane Depth (m)	0

Hydro-Brake® Optimum Outflow Control

Unit Reference	MD-SHE-0092-3300-0600-3300
Design Head (m)	0.600
Design Flow (l/s)	3.3
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	92
Invert Level (m)	9.395
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	**Head (m)**	**Flow (l/s)**
Design Point (Calculated)	0.600	3.3
Flush-Flo™	0.181	3.3
Kick-Flo®	0.412	2.8
Mean Flow over Head Range	-	2.8

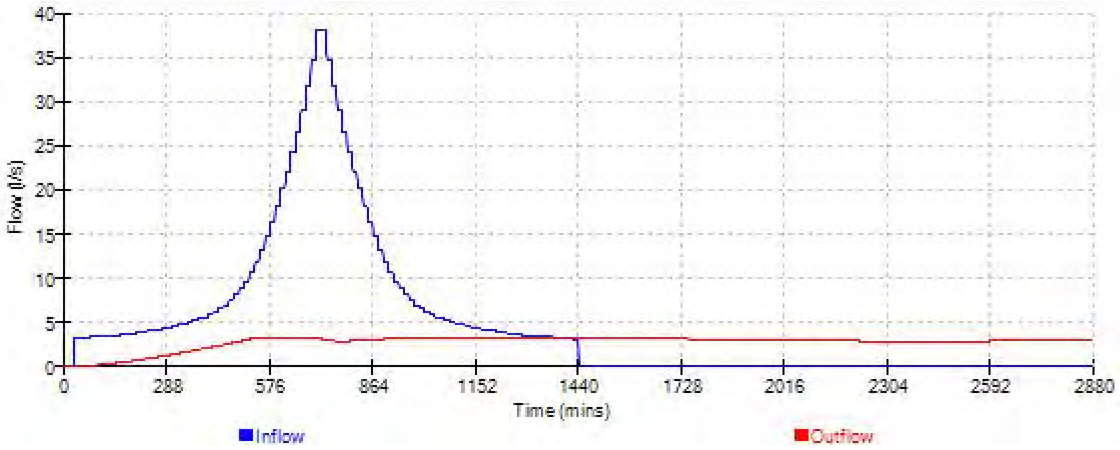
The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

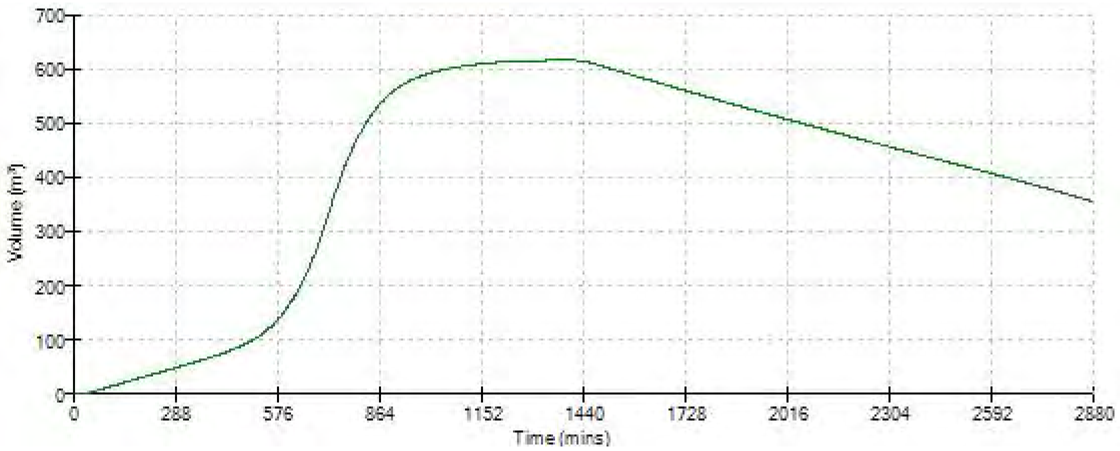
Depth (m)	**Flow (l/s)**	**Depth (m)**	**Flow (l/s)**	**Depth (m)**	**Flow (l/s)**
0.100	2.9	0.500	3.0	1.200	4.5
0.200	3.3	0.600	3.3	1.400	4.9
0.300	3.2	0.800	3.8	1.600	5.2
0.400	2.9	1.000	4.2	1.800	5.5

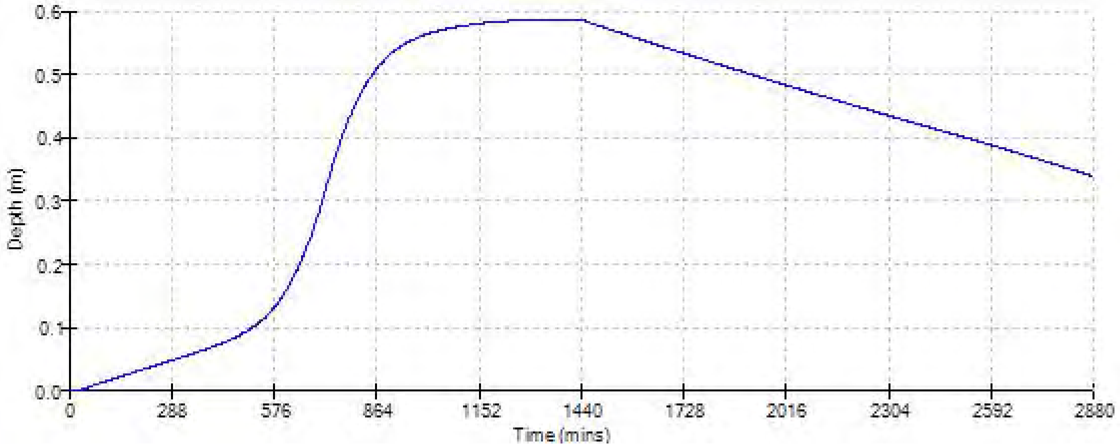
Hydro-Brake® Optimum Outflow Control

Depth (m)	**Flow (l/s)**	**Depth (m)**	**Flow (l/s)**	**Depth (m)**	**Flow (l/s)**
2.000	5.8	4.000	8.0	7.000	10.4
2.200	6.0	4.500	8.4	7.500	10.8
2.400	6.3	5.000	8.9	8.000	11.2
2.600	6.5	5.500	9.3	8.500	11.5
3.000	7.0	6.000	9.7	9.000	11.8
3.500	7.5	6.500	10.0	9.500	12.2

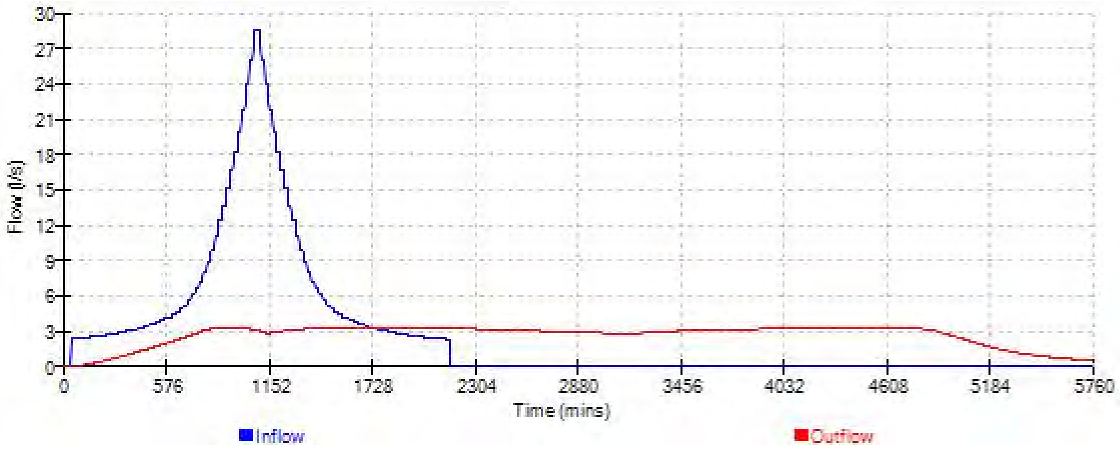
Event: 1440 min Summer

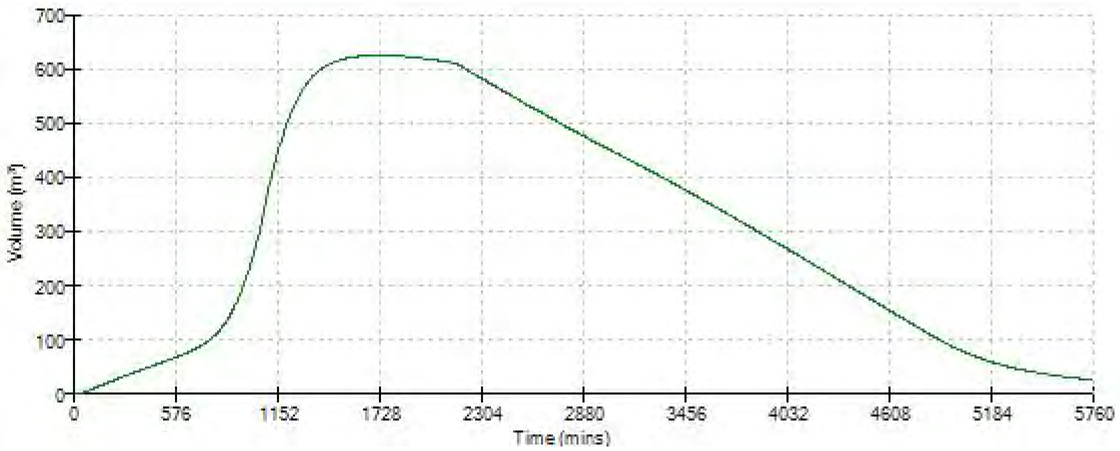


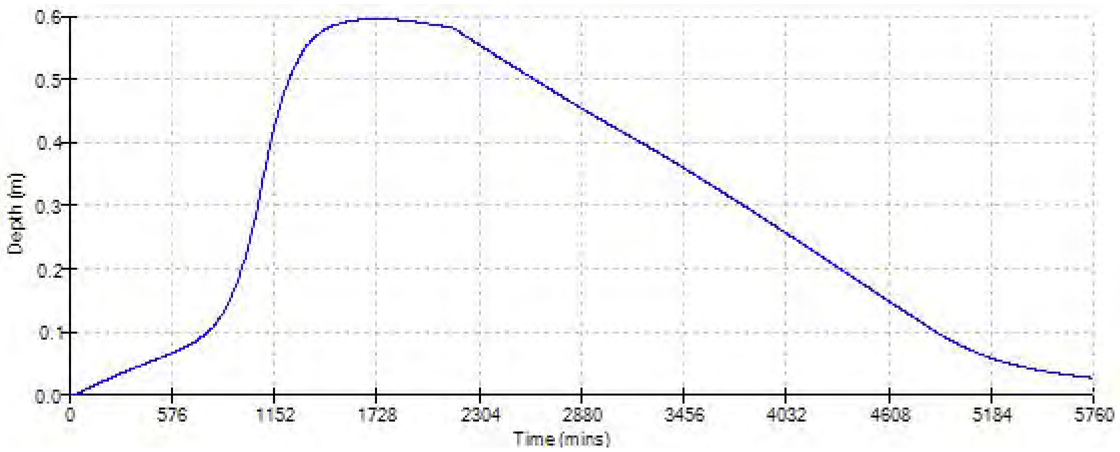




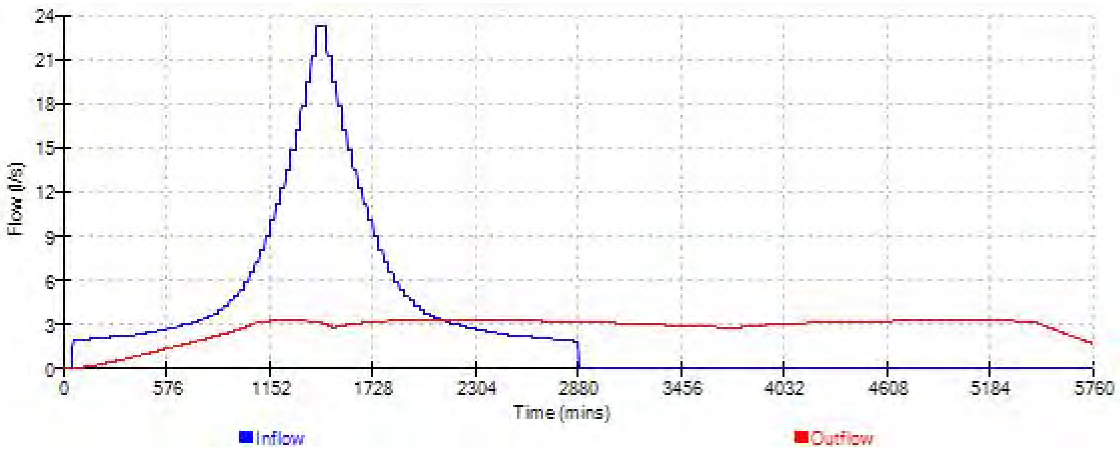
Event: 2160 min Summer

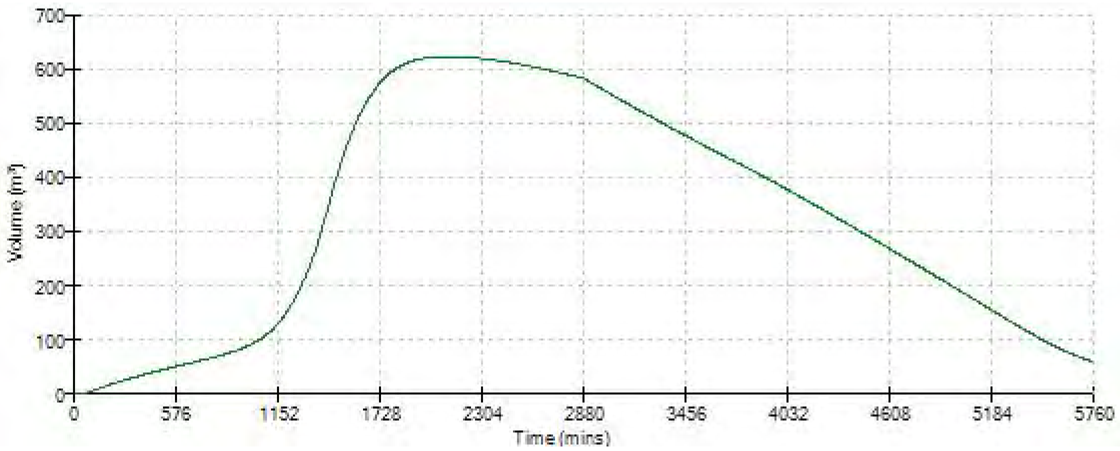


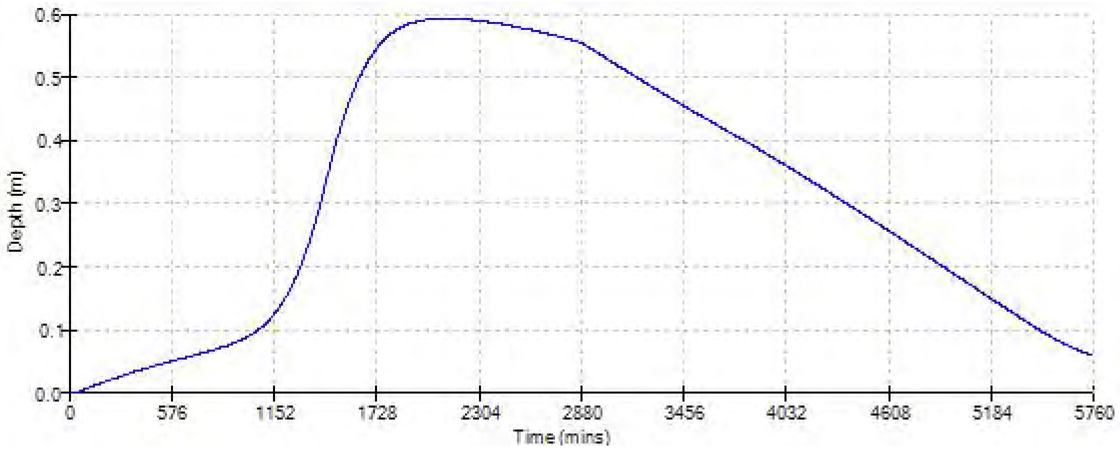




Event: 2880 min Summer



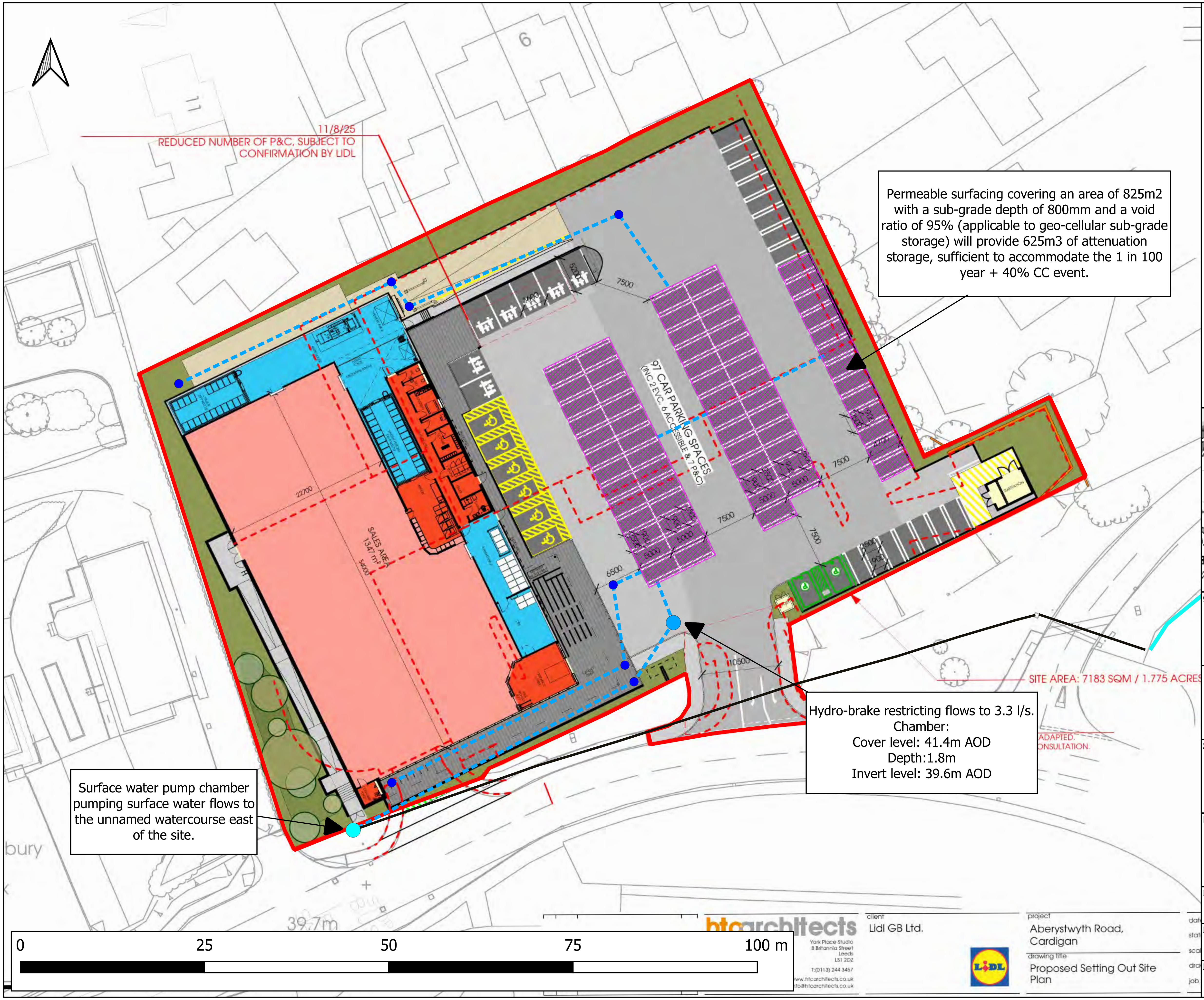




Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

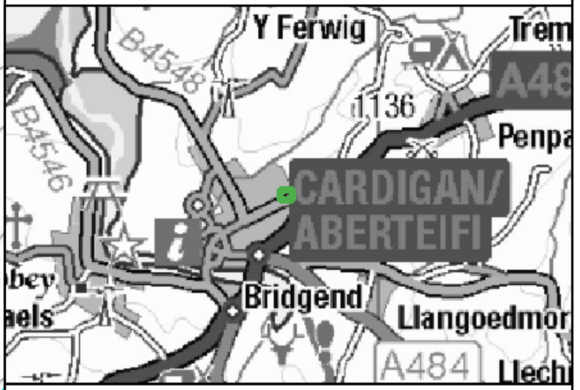
- 🟥 Site Boundary
- ▨ Permeable Surfacing
- ● Flow Control Chamber
- ● Existing Pump Chamber
- ● Surface Water Inspection Chamber
- - - Surface Water Drain
- — Assumed route of Rising Main
- — Watercourse



Permeable surfacing covering an area of 825m2 with a sub-grade depth of 800mm and a void ratio of 95% (applicable to geo-cellular sub-grade storage) will provide 625m3 of attenuation storage, sufficient to accommodate the 1 in 100 year + 40% CC event.

Hydro-brake restricting flows to 3.3 l/s.
Chamber:
Cover level: 41.4m AOD
Depth:1.8m
Invert level: 39.6m AOD

Surface water pump chamber pumping surface water flows to the unnamed watercourse east of the site.



CLIENT:
Lidl Great Britain Limited

waterco
www.waterco.co.uk

SCHEME:
B&M, Aberystwyth Road, Cardigan

PLOT TITLE:
Concept Drainage Sketch

PLOT STATUS:				DATE:
FINAL				10-11-2025
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AM	AW	NJ	1:500	
PLOT NAME:				REVISION:
17128_Concept_Drainage_Sketch				-

Operation and Maintenance Requirements for Flow Control Chambers and Devices

Maintenance Schedule	Required Action	Typical Frequency

Name :

Position :

Date :

Signed on behalf of the site owner :

File Ref: Flow Control Chamber - SuDS Maintenance.docx

File Ref: Tank - SuDS Maintenance

File Ref: Permeable Paving -SuDS Maintenance

Operation and Maintenance Requirements for Piped Drainage Systems

Maintenance Schedule	Required Action	Typical Frequency

Name :

Position :

Date :

Signed on behalf of the site owner :

File Ref: Piped Drainage Systems - SuDS Maintenance.docx

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CONCEPT DESIGNER'S RISK ASSESSMENT

Project:	B&M, Aberystwyth Road, Cardigan	**Project No:**	17128
Client:	Lidl Great Britain Limited		
Report Reference:	17128-FCA&DS-01		

Prepared by:	Adam McCulloch	**Date:**	23/10/2025
Checked by:	Aled Williams	**Date:**	23/10/2025
Reviewed by:	Nigel Jones	**Date:**	23/10/2025

Requirement:

The Construction (Design and Management) Regulations 2015 (CDM 2015) place an obligation on the Designer to take all reasonable steps to provide, with the design, sufficient information about the design, construction or maintenance of the structure, to adequately assist the client, other designers and contractors to comply with their duties under CDM. The Designer has undertaken this assessment to identify any extra-ordinary risks, or those that would not be expected on this particular project by an experienced and competent Contractor. The aim is to avoid needless paperwork and bureaucracy and ensure the assessment is project specific, relevant and proportionate to the risk.

DRA Summary

Each of the following risk areas has been considered using the question below. Is a risk present which is considered to be **extra-ordinary or unexpected** in this instance?

If **YES** - A detailed risk assessment is required at design stage
If **UNKNOWN** - Insufficient information has been provided at concept design stage and the risks are unknown. Further consideration must be given at design stage(s)
If **NO** - No further action is required.

Hazard Ref.	Risk Areas	YES, UNKNOWN or NO	Comments
1	Ground Conditions	**Unknown**	To be considered at detailed design
2	Hazardous Environment	**Unknown**	To be considered at detailed design
3	Existing Working Environment	**Yes**	Existing B&M store on site
4	Existing Services	**Yes**	See utility survey - multiple burried services
5	Proximity to Other Structure(s)	**Unknown**	To be considered at detailed design
6	Near Waterbody / flood risk	**No**	To be considered at detailed design
7	Proximity to Other Activities	**Unknown**	To be considered at detailed design
8	Sequence of Construction	**Unknown**	To be considered at detailed design
9	Access	**Unknown**	Access is provided from Aberystwyth Road
10	Interfaces	**Unknown**	To be considered at detailed design
11	Confined Space Working	**Unknown**	To be considered at detailed design
12	Maintenance Considerations	**Unknown**	Permeable surfacing, hydro-brake and pump chamber
13	Working at Height	**Unknown**	To be considered at detailed design
14	Steep Slopes	**Yes**	Steep slopes on western boundary - retaining walls proposed
15	Demolition / Refurbishment / Repair	**Unknown**	Exisitng B&M Store to be demolished
16	Welfare	**Unknown**	To be considered at detailed design
17	Occupational Health	**Unknown**	To be considered at detailed design
18	Environmental Issues	**Unknown**	To be considered at detailed design
19	Other Significant Hazards not Identified Above	**Unknown**	To be considered at detailed design
20	Residual Risk to Future Users	**Unknown**	To be considered at detailed design

File Ref: K - Concept DRA

Form Ref: F-54.3-B-Concept DRA