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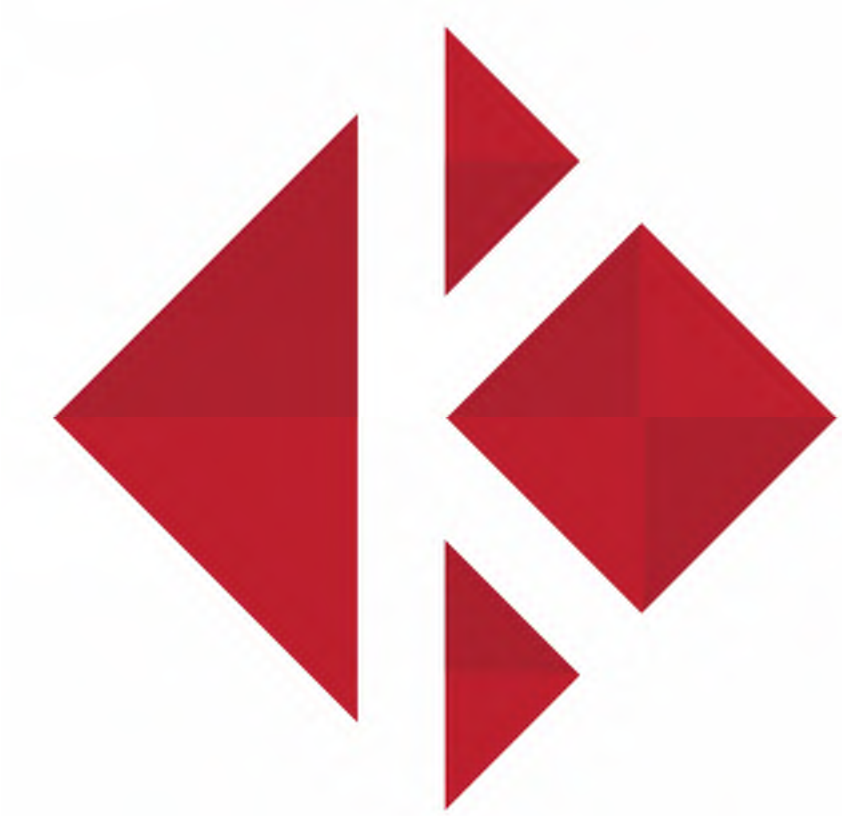


Flood Risk Assessment & Drainage Strategy

Gwynedd Skip & Plant Hire

Client: Gwynedd Skip & Plant Hire Date: 22/6/2022

DOC TYPE				PROJECT				REPORT TITLE					AUTHOR			SEQ NO.				REVISION				
R	E	P	-	G	S	H	-	S	F	D	S	-	R	B	-	0	0	1	-	R	E	V	-	-

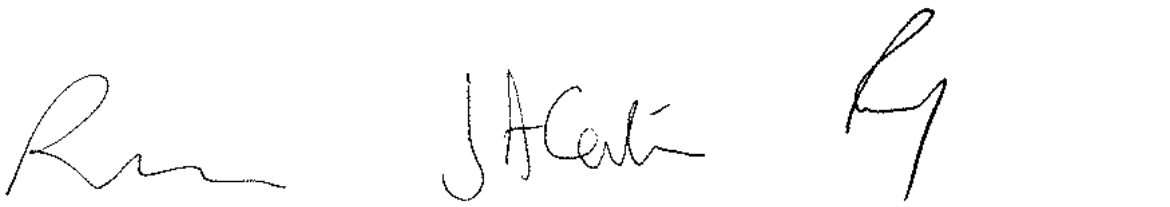
Contents

1 Document History and Validation

1.1 Revision History

Revision	Issue Date	Reason for Issue
Rev-	22 June 2022	First Issue

1.2 Document Validation (Latest Issue)



Principal Author	Checked By	Verified By
RICHARD BROWN	GEOFF CARTER	ROB KENNEDY

2 Executive Summary

This drainage strategy document has been prepared for Gwynedd Skip & Plant Hire to inform the proposed development of a new office & workshop building, vehicle wash unit and hot works building on one site and the extension of an existing building on a second site.

Both these sites are located within the Cibyn Industrial Estate, Caernarfon, LL55 2BD.

This report has also been written to meet the requirements Natural Resources Wales with regards to analysing the site locations against flood risk.

Both sites are located within a Flood Zone A area meaning there is little to no risk of fluvial or tidal flooding occurring.

It was also identified that the overall flood risk from all sources, with the exception of the existing infrastructure on Site B, is low.

As with every development there are residual risks of flooding. With prudent design and construction and by enacting regular inspection and maintenance of infrastructure, these risks can be minimised. As it is proposed to restrict surface water flows off Site A, the probability of flooding, both on site and downstream of the sites will be reduced as a result of the proposed development.

Under these conditions, the flood risk posed to the development is deemed to be acceptable and no justification test should be required.

New separate gravity surface water systems will be constructed on both sites. Surface water from Site A will continue to be discharged into an adjacent watercourse and surface water from Site B will continue to discharge to an adjacent existing drainage system. It is proposed apply a 30% betterment to the surface water flow rate from Site A. This will reduce the peak flow rate of the water leaving the site.

To provide SuDS within the development, Site A will utilise below ground attenuation, filter trenches and rainwater harvesting.

Foul flows from Site A will discharge to an adjacent Welsh Water sewer. Foul flows from Site B will mimic the existing site discharge strategy by connecting to an existing combined drainage system on the site.

The proposed drainage systems will be subject to a maintenance plan which should be carried out by an appointed management company. This will ensure adequate maintenance of the infrastructure in the future.

3 Introduction

3.1 Reason for Report

This drainage strategy document has been prepared for Gwynedd Skip & Plant Hire to inform the proposed development of a new office & workshop building, vehicle wash unit and hot works building on one site and the extension of an existing building on a second site.

The report has been produced to firstly analyse the flood risk to the development and to determine whether any form of justification test is required. It will then provide information used in the development of the drainage design and the principles that were followed.

The drainage strategy uses sustainable principles and will aim to promote approaches in keeping with the nature of the existing site and current legislation.

The report should be read in conjunction with the appendices enclosed within.

3.2 Correspondence with Local Authorities

At this time, no local authorities have been previously contacted regarding the drainage strategy or flood risk.

3.3 Site Overview

3.3.1 Existing Site

The proposed development is located at 2 sites. Both these sites are located within the Cibyn Industrial Estate, Caernarfon, LL55 2BD.

A satellite image showing the 2 locations can be found enclosed in Appendix A.

3.3.1.1 Site A

Site A has an area of approximately 1.189ha. It contains an existing building which was previously used as an abattoir, associated hardstanding including car parking and container units. The remainder of the site is a mixture of rough ground and soft landscaped areas around the boundary. The existing hardstanding area, including the building, has an area of approximately 0.632ha.

The entire of Site A will be developed.

3.3.1.2 Site B

Site B has an area of approximately 0.927ha and is entirely hardstanding. It consists of three waste sorting buildings, a container used as an office, an office building, an external hardstanding yard used for vehicle movements and waste sorting and a hardstanding area used for carparking adjacent to the office building.

Only a small area of Site B will be developed, most of the site will remain as existing.

3.3.2 Surrounding Area

3.3.2.1 Site A

Site A is bounded by Lôn Cae Darbi road to the northeast and northwest, the A487 Caernarfon Bypass to the southeast and an un-named watercourse to the southwest.

Vehicular access to the site is from two locations off Lôn Cae Darbi road, one at the northeast boundary and another at the southwest corner of the site.

3.3.2.2 Site B

Site B is bounded by an Advanced Vehicle Workshop to the northeast, an un-named access road to the southeast, Lon Hen Felin road to the southwest and a warehouse to the northwest.

Vehicle access is from Lon Hen Felin road at the southwest corner of the site and the unnamed access road in the northeast corner of the site.

3.3.3 Topography

The topographical surveys for the two sites can be found enclosed in Appendix B.

3.3.3.1 Site A

Site A slopes down from the northwest to the southeast boundary of the site at an average slope of approximately 1:27 and slopes down from the northeast boundary to the southwest boundary at an average slope of approximately 1:80. The highest level is approximately 55.54m AOD in the northwest corner of the site. The lowest level is approximately 48.24m AOD in the southeast corner of the site. This low level is associated with the watercourse adjacent to the boundary of the site.

3.3.3.2 Site B

Site B slopes down from the northwest boundary to the southeast boundary of the site at an average slope of approximately 1in33. The highest level is approximately 59.19m AOD at the access road in the western corner of the site. The lowest level is approximately 56.14m AOD in the southern corner of the site, adjacent to Lon Hen Felin road.

3.3.4 Hydrogeology

There is an un-named watercourse adjacent to the southwest boundary of Site A.

There are no watercourses within or adjacent to Site B.

The closest river is the Afon Seiont, located approximately 90m to the south of Site A. The watercourse adjacent to Site A flows to this river.

3.3.5 Geology

A site investigation (SI) was carried out by Groundtech consulting in March 2022 at both site locations. The SI is enclosed in Appendix I.

3.3.5.1 Site A

The SI found the presence of made ground in the form of concrete and gravel slate or brick to thicknesses of between 0.1m and 0.9m. This was underlain by firm clay which was measured to the maximum borehole depth of 5.5m.

Groundwater was not encountered in any borehole.

3.3.5.2 Site B

The SI found the presence of made ground in the form of concrete and gravel slate or brick to thicknesses of between 0.7m and 1.8m. This was underlain by firm clay which was measured to the maximum borehole depth of 3.0m.

Groundwater was not encountered in any borehole.

Bedrock was not encountered at either site location. The British Geological Survey map, available online, shows that the bedrock beneath both sites should be a Nant Ffrancon Subgroup of siltstone.

3.3.6 Existing Drainage

Existing drainage surveys within the site boundaries has been carried out as part of the topographical survey. The private drainage layout can be seen on the topographical surveys enclosed in Appendix B.

The public sewer network layout has been reviewed using a Welsh Waster sewer map enclosed in Appendix C.

3.3.6.1 Site A

A 225mm Welsh Water foul water sewer is located in Lôn Cae Darbi road to the northwest of the site, this drains from southwest to northeast. A 100mm foul water sewer connects to the 225mm sewer, it then follows Lôn Cae Darbi road to the northeast of the site. It discharges to a foul water pumping station located northeast of the site. The rising main from this pumping station is located adjacent to the northeast boundary of the site.

The existing site was served by separate foul and surface water drainage systems.

A foul water drainage system collects flows from the abattoir building. This is shown flowing towards the northeast boundary of the site. It was not surveyed to the point of discharge but based on its location, it is most likely to have connected to the Welsh Water foul water sewer in Lôn Cae Darbi road.

A surface water drainage system collects flows from the abattoir building and external hardstanding areas. It is shown flowing towards the southwest boundary of the site. It was not surveyed to the discharge point but based on its location, it is most likely to have discharged into the watercourse adjacent to the boundary of the site.

3.3.6.2 Site B

A 225mm Welsh Water foul water sewer is located to the southwest of the site in Lon Hen Felin Road. The sewer flows from northwest to southeast. It ultimately discharges to the foul water pumping station located towards Site A.

The private drainage system on the site is a mixture of foul water, surface water and combined water pipework.

There are two combined water systems discharging towards the southwest boundary of the site. One system collects foul water from the larger waste sorting building and surface water from the southwest corner of the larger waste handling building roof. The second system collects foul water from the office building and surface water from the office building roof and surrounding hardstanding. It is unknown at this time exactly where these combined systems discharge to.

Foul flows are also collected from the container being used as an office using separate foul drainage system. One foul run from the container flows northwards but has not been traced enough to determine the discharge location. A second foul run from the container flows southwards past one of the smaller waste sorting building in the southwest. It is unknown exactly where this foul water system discharges to.

Surface water is also collected from the remainder of the large waste sorting building roof and external slab areas using a separate surface water drainage system. The system is predominantly located adjacent to the northeast boundary of the site. The system is shown flowing beyond the boundary of the site. It is unknown at this time where the system discharges to.

3.3.7 Proposed Development

The proposed development proposals can be found enclosed in Appendix D.

3.3.7.1 Site A

The existing building and hardstanding will be demolished. The development will be the construction of a new office & workshop building, a workshop/welding building and a vehicle wash. Associated hardstanding in the form of car parking, a storage area and a concrete service yard will also be constructed. The proposed development will have a hardstanding area of approximately 0.911ha. The remaining 0.278ha of the development will be soft landscaping. The soft landscaping will include eco-screening with planting to improve biodiversity at the site.

Vehicular access will remain from Lôn Cae Darbi Road in the northeast boundary and southwest corner of the development.

3.3.7.2 Site B

Only part of Site B will be developed, affecting an area of approximately 0.215ha.

Site B will see the demolition of the two existing smaller waste sorting buildings and the existing office building. The development will be the construction of an extension to the

existing larger waste sorting building and the construction of a new external concrete slab to act as a waste sorting area.

The slab and extension will both be constructed over the footprint of demolished buildings or hardstanding. Therefore, the hardstanding area of the site will remain approximately 0.927ha.

Vehicular access to the development will remain from Lon Hen Felin road at the southwest corner of the site and the unnamed access road in the northeast corner of the site.

4 Flood Risk Assessment

In accordance with the guidance provided within the Technical Advice Note 15: Development and Flood Risk, the planning authority will need to be satisfied that a development is justified and that the consequences of flooding are acceptable. If it can be demonstrated that the development is located within Zone A, then this will mean that a justification test is not required and there is no need to consider flood risk further.

4.1 Flood Zone for Planning

NRW (Natural Resource Wales) states that Zone A areas are:

Considered to be at little or no risk of fluvial or coastal/tidal flooding

The flood zone map enclosed in Appendix E shows that both sites are located within a Zone A area. The closest Zone B/Zone C area is approximately 75m south of Site A and 300m east of Site B. These areas are associate with the Afon Seiont.

Although the sites are located in Zone A, a review of the flood risk posed by different sources will also be carried out.

4.2 Tidal and Fluvial Flooding

The NRW characterises the risk of flooding due to tidal and fluvial sources as follows:

- Flood Zone 1 – Land having less than 1 in 1,000 annual probability of river or sea flooding (low risk)
- Flood Zone 2 – Land having between a 1 in 100 and 1 in 1000 annual probability of river flooding, or, land having between a 1 in 200 and 1 in 1000 annual probability of sea flooding (medium risk)
- Flood Zone 3 – Land having a 1 in 100 or greater annual probability of river flooding, or land having a 1 in 200 or greater annual probability of sea flooding (High risk)

The tidal and fluvial flood zones are linked to the planning zones, the NRW River and Sea flood map enclosed in Appendix E shows that both sites are located in a Flood Zone 1 area. The closest Zone 2/Zone 3 area is approximately 75m south of Site A and 300m east of Site B. These areas are associate with the Afon Seiont. Due to the topography between the Sites and the Afon Seiont, there is no risk of river flooding to either Site.

Assessment of Impact: LOW

Assessment of Probability: LOW

The overall risk posed due to tidal and fluvial flooding is therefore considered **low.**

4.3 Surface water

The GOV.UK website characterises the risk of surface water flooding as follows:

- Flood Zone 1 – Land with less than a 0.1% (1 in 1000) chance of flooding each year
- Flood Zone 2 – Land which has between 0.1% (1 in 1000) and 1% (1 in 100) chance of flooding each year
- Flood Zone 3– Land which has a greater than 1% (1 in 100) chance of flooding each year

The NRW surface water flood risk map is enclosed in Appendix E. It shows that there are no areas of Flood Zone 2 or 3 within Site B.

On Site A, a small area adjacent to the existing abattoir building is shown as a Flood Zone 2. The entire existing site is being demolished and re-developed, including the installation of a new drainage system to modern standards. Therefore, this area is no longer considered to be at risk.

As the surface water flood risk area can be removed, the overall risk of surface water flooding for Site A or B is considered low.

Assessment of Impact: LOW

Assessment of Probability: LOW

The overall flood risk due to surface water is therefore considered **low.**

4.4 Groundwater

Groundwater flooding occurs when water levels in the ground rise above surface elevations. Groundwater flooding does not generally pose a significant risk to life due to the slow rate at which the water level rises.

The site investigation did not encounter groundwater in any borehole.

There are currently no plans to construct basements or partially buried areas within either development locations.

Assessment of Impact: LOW

Assessment of Probability: LOW

The overall risk posed to the site due to groundwater flooding is therefore considered **low.**

4.5 Artificial drainage

4.5.1 Existing drainage

The NRW historic flood event map enclosed in Appendix E does show any flood events occurring within or adjacent to either site.

Any private existing drainage within Site A will be abandoned as part of the development. Therefore, there is no risk of flooding posed from this.

The existing surface water pipe sizes and gradients on Site B have been reviewed and have the capacity required. Some areas of the existing external slab on Site B could not be accessed to survey. As currently there is limited information on the entire existing network, the risk of flooding due to existing artificial drainage is to be confirmed upon receiving further information regarding pipe gradients, invert levels, cover levels and detailed outfall information etc.

Assessment of Impact: TBC

Assessment of Probability: TBC

The overall risk posed to the due to existing artificial drainage flooding is therefore **TBC.**

4.5.2 Proposed drainage

The proposed drainage strategy for the site will be designed in accordance with the relevant design standards, industry guidance and government guidance.

The surface water from Site A will be restricted based on a 30% betterment of the existing brownfield flow rate. The use of SuDS on Site A will attenuate and slow down surface water flows during storm events. By restricting existing flow rates, the flood risk downstream of the development will be reduced.

The extension on Site B will be constructed over an existing hardstanding slab. Therefore, the flood risk downstream of the development will not be worsened.

The capacity of any proposed drainage system will be set to ensure no flooding occurs in a 1 in 30 rainfall event and any flooding from a 1 in 100 (+40% allowance for climate change) rainfall event will be contained within the site boundary and will not flood any structures or properties.

Additionally, a robust drainage maintenance strategy will ensure risk of flooding from any proposed drainage systema` will be low. Should the above action be taken, this will reduce the risk of flooding from the proposed drainage system.

Assessment of Impact: LOW

Assessment of Probability: LOW

The overall risk posed due to proposed drainage flooding is therefore considered **low.**

4.6 Infrastructure failure

4.6.1 Reservoir failure

The NRW reservoir flood risk map enclosed in Appendix E, does not show any risk of flooding to either site.

Assessment of Impact: LOW

Assessment of Probability: LOW

4.6.2 Canal failure

There are no canals near the site and it therefore safe to assume that there is a negligible risk of canal flooding on site.

Assessment of Impact: LOW

Assessment of Probability: LOW

The overall risk posed to the site due to infrastructure flooding is therefore considered **low**.

4.7 Residual Risk

Whilst the risk of flooding to the development is mostly low, it should be acknowledged that there is potential for residual risks. The residual risk comes from the failure or blockage of site drains and sewers, or lack of maintenance of nearby infrastructure. Prudent design and planning will mitigate the potential impact these could have on the development. Enacting regular inspection and maintenance regimes and careful working practices should reduce the potential of failures of infrastructure. The utilisation of building finished floor levels above the surrounding area will prevent inflow into the buildings. However, this may not be possible with warehouse buildings which require vehicular access.

Designing in allowances for climate change provides extra capacity and so provides a level of future proofing in the drainage system for the potential changes to the climate over the design life of the development.

4.8 Flood Risk Summary & Conclusion

A summary of the flood risks identified in Section 2 are shown in the table below.

RISK ASSESSMENT MATRIX				
	Impact →			
Probability of Event ↓		**Low**	**Medium**	**High**
	Low	A, B, C, D (Site A), E, F, G		
	Medium			
	High			

Key:

- A: Tidal and Fluvial Flooding – (Section 4.2)
- B: Surface Water/Pluvial/Overland Flow – (Section 4.2)

- C: Groundwater Flooding – (Section 4.4)
- D: Artificial Drainage: Existing Drainage: Existing Site Drainage – (Section 4.5.1) – (Site B – TBC)
- E: Artificial Drainage: Proposed Drainage – (Section 4.5.2)
- F: Infrastructure Failure: Reservoirs – (Section 4.6.1)
- G: Infrastructure Failure: Canals – (Section 4.6.2)

Both sites are located entirely within Zone A areas and the risk of flooding from all sources, with the exception the Site B existing drainage, has been determined as low. It is therefore considered that there is no justification test or further flood risk investigation required on either site.

5 Drainage Strategy

This section of report will provide information used in the development of the drainage design and the principles that were followed. The drainage strategy uses sustainable principles and will aim to promote approaches in keeping with the nature of the existing site and current legislation.

5.1 Design standards and guidance

The following design standards, industry guidance, government guidance and literature are used in the development of this drainage strategy.

British Standards and European Norms (BS EN)

- BS EN 752: Drain and sewer systems outside buildings
- BS EN 12056: Gravity drainage systems inside buildings

Construction Industry Research and Information Association (CIRIA)

- C753: The SuDS manual

Department of Communities and Local Government (DCLG)

- Building Regulations Approved Document H: drainage and waste disposal published 2010
- National Planning Policy Framework (NPPF) published 2012
- Flood risk and coastal change Planning Policy Guidance, published 6 March 2014
- Climate Change Planning Policy Guidance, published 12 June 2014
- Water supply, wastewater and water quality Planning Policy Guidance, published 23 March 2015

Department of Environment, Food and Rural Affairs (DEFRA)

- Non-Statutory Technical Standards for Sustainable Drainage – Practice Guidance published 2015

Water Research Centre

- Sewers for Adoption 6th & 7th Edition

5.2 Proposed Surface Water Drainage

All proposed drainage systems should give preference to the SuDS hierarchy, which sets out that schemes should aim to mimic natural drainage as closely as possible, and that discharge of surface runoff should be dealt with in the following ways (in order of preference) (Department for Communities and Local Government, 2014):

- Into the ground (infiltration)
- To a surface water body
- To a surface water sewer, highway drain, or another drainage system
- To a combined sewer

The site investigation found that both sites are underlain by firm clay. Therefore, infiltration is not proposed for either site.

The specific strategy for each location will be discussed in more detail below.

The proposed drainage layout drawings can be found enclosed in Appendix F.

5.2.1.1 Site A

It is proposed to discharge surface water from Site A into the watercourse located adjacent to the southwest boundary.

A separate below ground gravity surface water drainage system will collect flows from the two proposed buildings, the external yard and the carparking area. The surface water will discharge, via a flow control device into the watercourse. The connection and flow rate into the watercourse will be subject to a SAB application and approval from Gwynedd Council.

Below ground attenuation will be provided in the form of a geocellular attenuation tank and 2No. porous stone filter drains. A geocellular tank has been used due to the lack of space available to provide a pond, swale or basin with safe maintenance access.

The use of filter drains will help to remove and degrade contaminates from the surface water. All surface water collected from the external yard and car parking area will also pass through a hydrocarbon interceptor before entering the attenuation tank. All drainage runs will have pre-treatment catch pits in the form of trapped gullies and channel drains with silt traps outlets to remove debris before entering the underground drains. The final manholes prior to the attenuation tank will have a catchpit to reduce the chance of the tank silting up.

The drainage system will be designed so that there is no flooding to the development in a 1 in 30-year event and so that there is no property or off-site flooding in a 1 in 100 year plus 40% climate change event.

5.2.1.2 Site B

There is no watercourse within or adjacent to the Site B boundary. Therefore, it is proposed to continue to discharge surface water to the surrounding drainage systems, mimicking the existing site drainage strategy.

A separate below ground gravity surface water drainage system will collect flows from the building extension. This will connect to the existing surface water drainage system which previosuly collected flows from the smaller waste sorting building and external slab area which the extension is being constructed on.

Due to the face that Site B is an extension over an existing building and slab, it is not proposed at this time to apply a flow restriction. As the flow rate from Site A will be reduced, it is hoped that this proposal will be deemed acceptable.

The proposed external slab will be used for waste sorting and therefore any surface water in this location will be contaminated and will need to discharge into the foul water system.

The drainage system will be designed so that there is no flooding to the development in a 1 in 30-year event and so that there is no property or off-site flooding in a 1 in 100 year plus 40% climate change event.

5.2.2 Flow Rate

5.2.2.1 Site A

The existing site had a hardstanding area of approximately 0.632ha.

Using the modified rational method, (2.78 x A x i) this gives a flow rate of:

2.78 x 0.632 x 50 = 87.85 l/s.

It is proposed that a 30% betterment is applied to the flowrate.

This generates a peak flow rate of 0.7 x 87.85 = 61.5l/s.

5.2.2.2 Site B

As previously discussed in Section 5.2.1.2, it is not proposed to restrict the flow from Site B at this time.

5.2.3 Climate Change

In line with the NPPF and Mansfield District Council planning guidance, climate change should be considered for all developments. In accordance with this guidance, a climate change factor of 40% will be assessed for the 1 in 100-year event for the proposed surface water drainage system.

5.2.4 MicroDrainage Models

Preliminary MicroDrainage models have been produced for both site locations, based on the drainage layouts enclosed in Appendix F

5.2.4.1 Site A

The Site A results are enclosed in Appendix G. The results show that:

- No flooding occurs during any storm events up to 1in30 years.
- Approximately 1.7m^3 of flooding occurs during storm events up to 1in100 years + 40% climate. This volume is considered negligible and will disperse across the site with out leaving the site of flooding a building.
- The discharge rate is always restricted to a maximum rate of 61.5 l/s

5.2.4.2 Site B

The Site B results are enclosed in Appendix H. The results show that no flooding occurs during any storm events up to 1in100 years + 40% climate change in duration.

5.3 Proposed Foul Water Drainage

5.3.1 Strategy

On both Sites a new drainage system will be constructed for the proposed development in accordance with BS EN 752 and Approved Document H. The foul flows will be collected in a separate gravity foul water drainage system. The pipework will be 150mm diameter and laid at falls to suit self-cleansing velocities.

It is proposed that the foul water from Site A will discharge into the 225mm diameter Welsh Water foul water sewer located in Lôn Cae Darbi road. The connection and flow rate will be subject to a S106 Agreement with Welsh Water.

It is proposed that the foul water from Site B will discharge into the two existing private combined drainage systems, both located beneath the proposed slab area. This will mimic the existing site strategy and discharge location.

5.3.2 Proposed flow rates

The Site A drainage system will be designed to achieve a target self-cleansing velocity of 0.75m/s, but as a minimum will have a gradient of no flatter than 1 in 40 when the peak flow is less than 1l/s and no flatter than 1 in 150 when there are at least 5No. toilets connected to the pipe, in accordance with Approved Document Part H.

The Site B is only collecting contaminated surface water; therefore, it will be designed to achieve a target self-cleansing velocity of 1.0m/s.

5.3.2.1 Site A

Peak foul water flows will be calculated using BS EN 12056-2 once detailed information regarding the internal foul water fixtures is available.

5.3.2.2 Site B

Peak foul water flows can be calculated using the modified rational method based on the hardstanding slab area being drained. The area hardstanding area being collected by the proposed foul drainage is approximately 0.139ha. Using the modified rational method, (2.78 x A x i) this gives a flow rate of:

2.78 x 0.139 x 50 = 19.3 l/s.

6 Maintenance

Maintenance of the foul and surface water drains for the development will fall under a private maintenance plan and be the responsibility of the site owner.

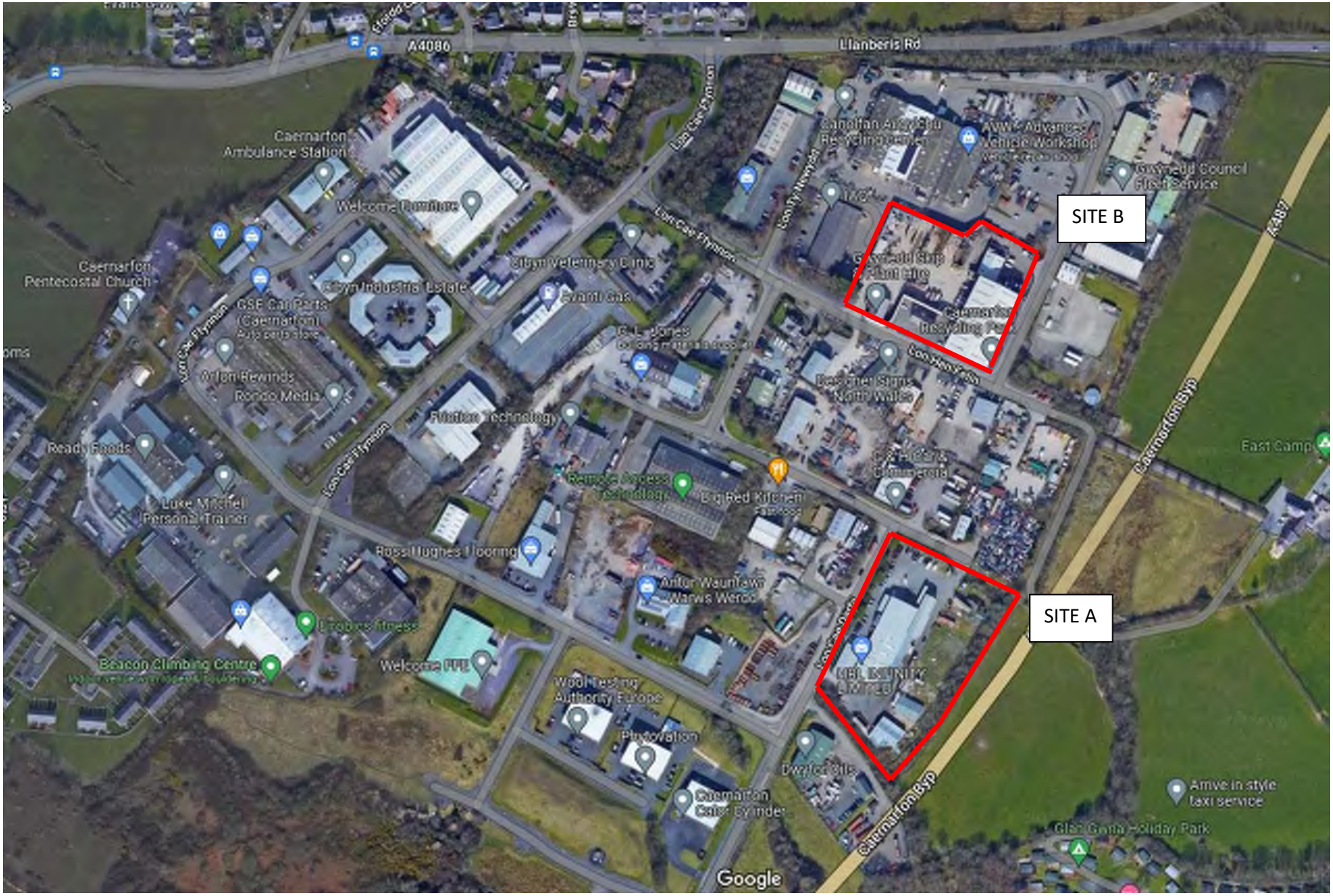
A maintenance regime should be enacted regularly as part of the normal facilities management duties. A maintenance schedule should be established following construction and updated as necessary throughout the lifetime of the building. A record maintenance log should be kept and updated accordingly.

The following schedule should be used as the basis of maintenance at the site.

	Maintenance Activity	Frequency of activity (months)				
		1	3	6	12	A/R
	Manholes (General)					
1	Check cover is not damaged and fits securely			X		
2	Check inlet and outlet are free flowing and not obstructed			X		
3	Check security of fitting for all manhole ironmongery			X		
4	Check benching for scour or build-up of debris			X		
5	Check joints in construction for damage or inflow				X	
6	Record maintenance inspection in log book			X		
	Gullies & drainage channels					
7	Check grating is undamaged and fits securely	X				
8	Inspect internal gully/sump chamber, remove debris from traps and check outfall is clear and free flowing			X		
9	Record maintenance inspection in log book	X				
	Conveyance Pipes					
10	Carry out flow test between manholes to ensure free flow of system				X	
11	Jetting and clearance of blockages, debris or silt					X
12	Inspection by CCTV – should problem arise as a result of the flow test					X
13	Cutting of growth into pipe					X
14	Record maintenance inspection in log book				X	X
	Flow Controls					
15	Check flow control mount to ensure secure fitting		X			
16	Check inlet to flow control is free flowing and not obstructed		X			
17	Remove silt from the sump			X		

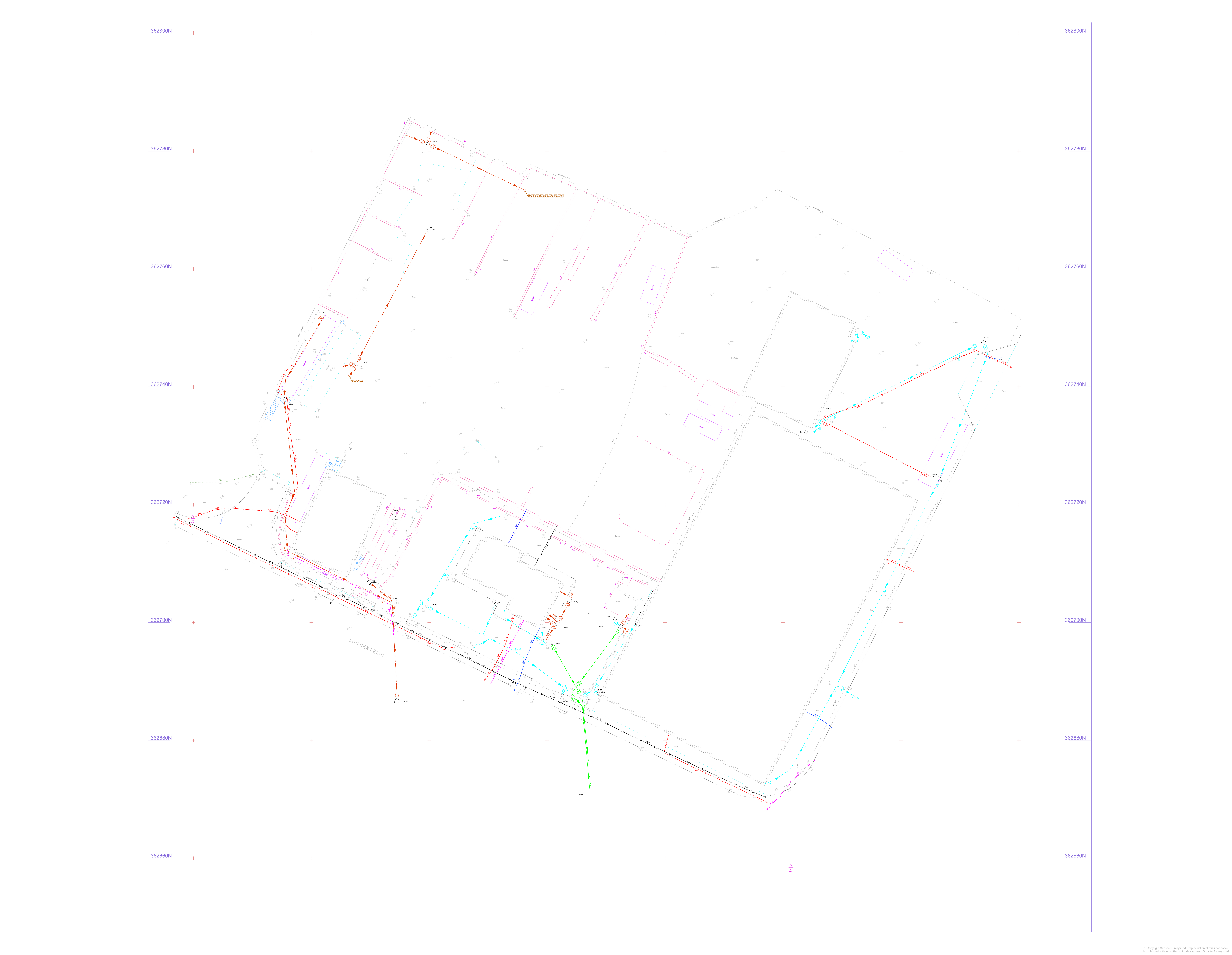
18	Record maintenance inspection in log book		X			
	Attenuation Structure					
19	Inspect inlet/outlet chambers for evidence of poor operation, and clear when necessary.			X		
20	Visual inspection of overflow pipes and vent pipes				X	
21	Remove sediment from pre-treatment sump chamber			X		
22	Monitor any inspection chambers. Check for water level and silt at base of tank				X	
23	Record maintenance inspection in log book			X		
	Filter Drains					
24	Remove litter (including leaf litter) and debris from filter drain surface, access chambers and pre-treatment devices	X				X
25	Inspect filter drain surface, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage	X				
26	Inspect pre-treatment systems, inlets and perforated pipework for silt accumulation, and establish appropriate silt removal frequency			X		
27	Remove sediment from pre-treatment devices			X		X
28	Remove or control tree roots where encroachment is occurring to the sides of the filter drain. Use method as recommended in NJUG or BS 3998.					X
29	At locations with high pollution loads, remove surface geotextile and replace or wash, and replace overlying filter material.					X
30	Clear perforated pipework of blockages					X
31	Record maintenance inspection in log book	X				X

Appendix A – Site Location Plan



Address: Cibyn Industrial Estate, Caernarfon, LL55 2BD

Appendix B – Topographical Survey



NOTES

SURVEY CO-ORDINATE SCHEDULE

STATION	EASTING	NORTHING	HEIGHT	STATION	EASTING	NORTHING	HEIGHT

LAND SURVEY INFORMATION

GRID: X

VERTICAL DATUM: X
HEIGHT ESTABLISHED VIA 'TRIMBLE VRS NOW NETWORK' COMMERCIAL RTK GPS CORRECTION SERVICE

LOCAL SCALE FACTOR: X

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ABBREVIATIONS (Land & Utilities)

AR	ASSUMED ROUTE	KO	KERB OUTLET	SiL	SIGNAL LOST
AV	AIR VALVE	Lby	LIFEBOUY	SP	SIGN POST
BB	BELISHA BEACON	Lck	LOCK GATE	SPil	SHEET PILING
BD	BACKDROP	Ldr	LADDER	Spr	SPRING
Bdl	BED LEVEL	LH	LAMP HOLE	SPt	SAMPLING POINT
BH	BOREHOLE	LP	LAMP POST	ST	STOP TAP
BHch	BASEMENT HATCH COVER	LV	LOW VOLTAGE	Stl	STILE
Bin	LITTER / GRIT SALT BIN	MgP	MOORING POST	Stl	STRUCTURE TOP LEVEL
BL	BASEMENT LIGHT	mH	METERS HIGH	Stp	STUMP (TREE)
Bol	BOLLARD	Mhcy	MACHINERY	StP	STAND PIPE
BP	BOUNDARY POST	MH	MANHOLE	StPo	STAY POST
BS	BUS STOP	Mkr	MARKER POST	StW	STAY WIRE
BTIC	BRITISH TELECOM CHAMBER	MkrE	MARKER POST (ELECTRIC)	SV	STOP VALVE
CatL	CATENARY LEVEL	MkrG	MARKER POST (GAS)	SVP	SOIL VENT PIPE
CATV	CABLE TV COVER	MkrR	MARKER POST (RAILWAY)	TBM	TEMPORARY BENCH MARK
CB	CONTROL BOX	MkrT	MARKER POST (TELECOM)	TCB	TELEPHONE CALL BOX
CBlt	CONVEYOR BELT	MkrW	MARKER POST (WATER)	TEL	TELECOM CHAMBER COVER
CC	COAL CHUTE	MP	MILE POST	TFR	TAKEN FROM RECORDS
CGrd	CATTLE GRID	MS	MILE STONE	Thl	THRESHOLD LEVEL
ChL	CHANNEL LEVEL	NL	NOT LOCATED	TL	TRAFFIC LIGHT
Chy	CHIMNEY	NP	NAME PLATE	TP	TELEGRAPH POLE
CI	CAST IRON	OSA	OUTSIDE SURVEY AREA	Tpt	TRIAL PIT
CL	COVER LEVEL	OSBM	O.S BENCH MARK	Tr	TROUGH
CO	CONCRETE	OGP	OVERGROUND PIPE	UTF	UNABLE TO FIND
CP	CABLE PIT	OHCu	O/H CABLE (UNIDENTIFIED)	UTGA	UNABLE TO GAIN ACCESS
CpL	COPING LEVEL	OHE	OVERHEAD CABLE (ELECTRIC)	UTL	UNABLE TO LIFT
Cpsn	CAPSTAN	OHG	OVERHEAD GANTRY	UTR	UNABLE TO ROD
Cpst	CAMERA POST	OHP	OVERHEAD PIPE	UTS	UNABLE TO SURVEY
CR	CABLE RISER	OHT	OVERHEAD CABLE (TELECOM)	UTT	UNABLE TO TRACE
CrL	CROWN LEVEL	OP	OUTLET PIPE	VC	VITREOUS CLAY
CulP	CULVERT PIPE	P	POST	VP	VENT PIPE
CWM	CABLE WINDING MACHINERY	Pb	PARK BENCH	VR	VAPOUR RECOVERY
d	DEPTH	PB	POST BOX	VS	VENTILATION SHAFT
Dia.	DIAMETER	PCsg	PEDESTRIAN CROSSING	VW	VALVE / SLUICE WHEEL
DS	DIRECTION SIGN	PE	POLYETHALINE	WB	WEIGHBRIDGE
EIC	ELECTRIC INSPECTION COVER	PF	PITCH FIBER	WL	WATER LEVEL
EoC	EDGE OF CANOPY	PI	PILE	WM	WATER METER
EOR	END OF RECORDS	Pir	MOVEMENT DETECTOR	WO	WASH OUT VALVE
EOT	END OF TRACE	Pmd	PLANT MOTOR DRIVE	Wr	WEIR
EP	ELECTRICITY POLE	PP	PETROL / DIESEL PUMP	WrL	WEIR LEVEL
ER	EARTH ROD	PR	PIPE RISER	WrPl	WEIR PLATE (TOP)
EShwr	EMERGENCY SHOWER	Psk	PENSTOCK	WWP	WASTE WATER PIPE
ESP	ELECTRICITY SUPPLY POINT	PU	PUMP		FENCE TYPES:
Esw	ELECTRICAL SWITCH	PV	PIPE (VERTICAL)	AMF	ARMCO
FB	FOOTBRIDGE	PVC	POLYVINYL CHLORIDE	BWF	BARBED WIRE
FH	FIRE HYDRANT	Pyl	PYLON	CBF	CLOSE BOARDED
FL	FLOOR LEVEL	Pz	PIEZOMETER	CIF	CORRUGATED IRON
FS	FLAG STAFF / POLE	RE	RODDING EYE	CLF	CHAIN LINK
G	GULLY	RG	RAIN GAUGE	CPF	CHESTNUT PALING
G=	GIRTH	RMP	RESERVOIR MONITORING PNT	IRF	IRON RAILING
GIP	GAS INLET PIPE	RP	REFLECTOR POST	IWF	INTERWOVEN
GP	GUIDE POST	RS	ROAD SIGN	PCF	POST & CHAIN
GPR	TRACED BY G.P.R	RSP	RAILWAY SIGNAL POST	PIF	POST & IRON RAIL
Grl	GRILLE	RWP	RAIN WATER PIPE	PRF	POST & RAIL
GV	GAS VALVE	S	SPREAD	PWF	POST & WIRE
Hgt	HEIGHT	SA	SURVEY ABANDONED	SPF	STEEL PALLISADE
Hrl	HANDRAIL	SB	SIGN BOARD	WMF	WIRE MESH
HV	HIGH VOLTAGE	Shlt	SHELTER (BUS / TRAM)		
IC	INSPECTION CHAMBER	SI	SPUN IRON		
IL	INVERT LEVEL	SL	SOFFIT LEVEL		
IP	INLET PIPE	SltL	SILT LEVEL (TOP)		
JN	JUNCTION	SMP	SETTLEMENT MONITORING PNT		

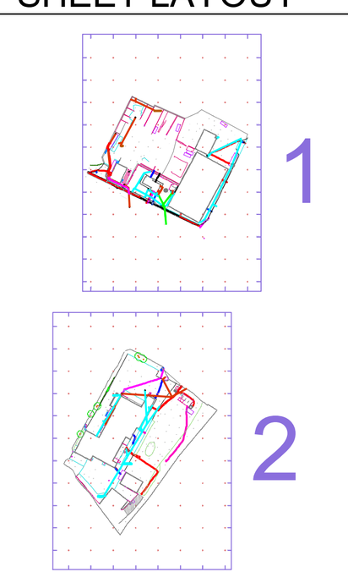
KEY

- TV — CCTV / CABLE TELEVISION
- Ø450 — COMBINED DRAINAGE
- COM — COMMUNICATIONS CABLE
- A — COMPRESSED AIR
- DUCTING
- E — EARTH CABLE
- ELECTRIC CABLE
- EOT — END OF TRACE
- Ø150 — FOUL DRAINAGE
- F — FUEL PIPE
- GAS PIPE
- G — GAUGE LINE
- H — HEATING
- O — OFFSET FILL PIPE
- PUMPING MAIN
- R — RADAR AREA ANOMALY
- R — RADAR UTILITY TRACE
- Ø300 — SURFACE DRAINAGE
- SURVEY BOUNDARY
- TELECOM CABLE
- TL — TRAFFIC LIGHTS
- U — UNIDENTIFIED
- VR — VAPOUR RECOVERY
- V — VENT PIPE
- WATER PIPE
- O.S BENCH MARK
- SURVEY CONTROL STATION

A SINGLE LINE INDICATING A UTILITY MAY INDICATE THE PRESENCE OF MULTIPLE SERVICES WITHIN CLOSE PROXIMITY TO EACH OTHER. WHERE A SINGLE LINE TYPE IS SHOWN WE RECOMMEND HAND DIGGING WITHIN 0.5m TO EXPOSE HIDDEN SERVICES.

ISSUE	DATE	DESCRIPTION

SHEET LAYOUT



CLIENT	DWG No	REV.
Kennedy Redford	0422-KEN-001	

TITLE

Gwynedd Skip & Plant Hire
Cibyn Industrial Estate
Caernarfon, LL55 2BD

(Sheet 1 of 2)

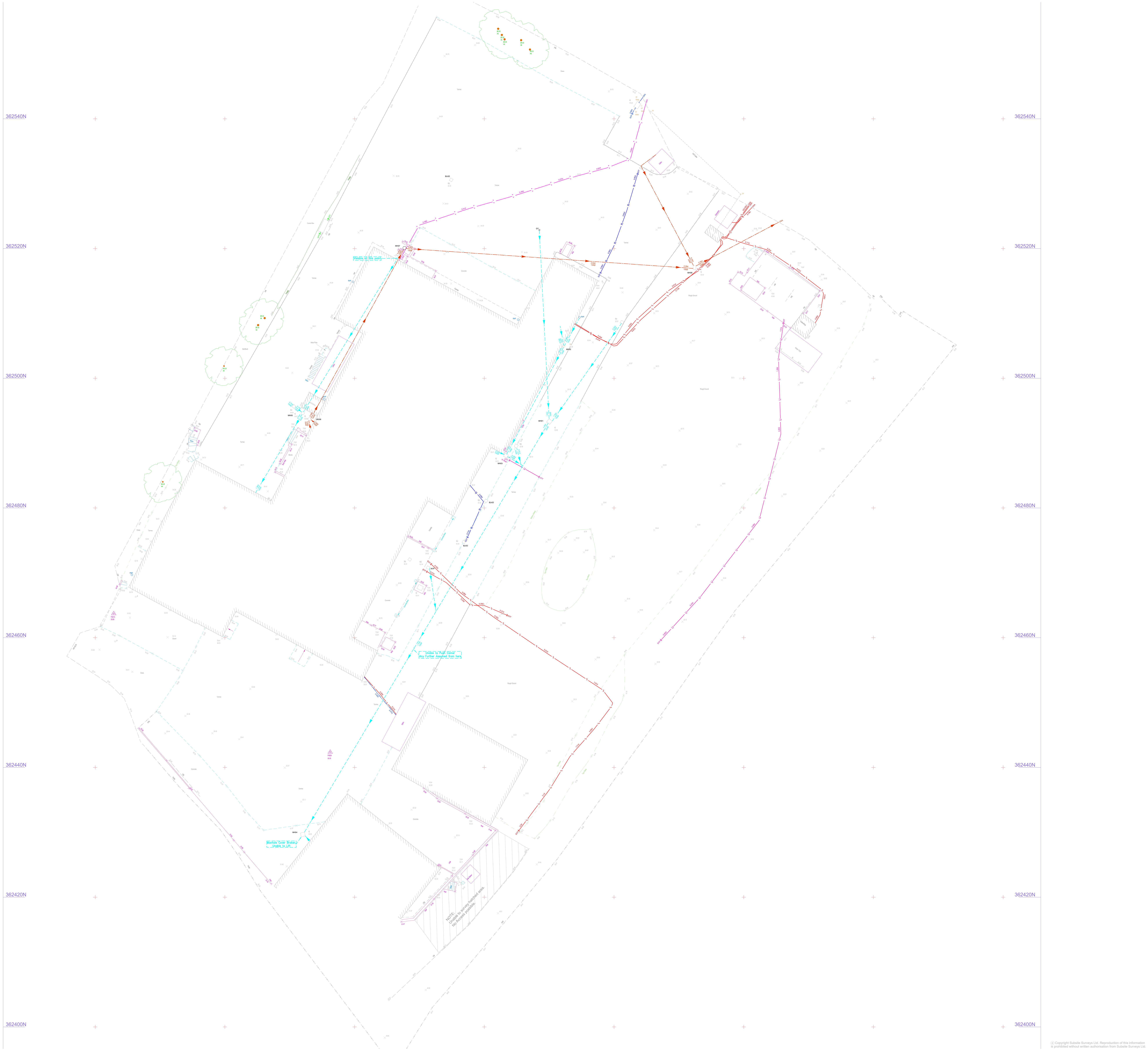
SCALE 1:200@A0
SURVEYOR PS
DRAWN DS
DATE 25.04.2022

SURVEY TYPE

- TOPOGRAPHICAL ☐
- DRAINAGE ☒
- UTILITY ☒

SUBSITE SURVEYS

m: +44 (0)7427 401344 o: +44 (0)1302 618690 w: subsitesurveys.co.uk
Registered Office: Willow House, Low Lane, Braithwaite, Doncaster, DN7 5SS



NOTES

SURVEY CO-ORDINATE SCHEDULE

STATION	EASTING	NORTHING	HEIGHT	STATION	EASTING	NORTHING	HEIGHT

LAND SURVEY INFORMATION

GRID: X

VERTICAL DATUM: X
HEIGHT ESTABLISHED VIA 'TRIMBLE VRS NOW NETWORK' COMMERCIAL RTK GPS CORRECTION SERVICE

LOCAL SCALE FACTOR: X

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ABBREVIATIONS (Land & Utilities)

AR ASSUMED ROUTE
AV AIR VALVE
BB BELISHA BEACON
BD BACKDROP
Bdl BED LEVEL
BH BOREHOLE
BHch BASEMENT HATCH COVER
Bin LITTER / GRIT SALT BIN
BL BASEMENT LIGHT
Bol BOLLARD
BP BOUNDARY POST
BS BUS STOP
BTIC BRITISH TELECOM CHAMBER
CatL CATENARY LEVEL
CATV CABLE TV COVER
CB CONTROL BOX
CBlt CONVEYOR BELT
CC COAL CHUTE
CGrd CATTLE GRID
ChL CHANNEL LEVEL
Chy CHIMNEY
CI CAST IRON
CL COVER LEVEL
CO CONCRETE
CP CABLE PIT
CpL COPING LEVEL
Cpsn CAPSTAN
Cpst CAMERA POST
CR CABLE RISER
CrL CROWN LEVEL
CulP CULVERT PIPE
CWM CABLE WINDING MACHINERY
d DEPTH
Dia. DIAMETER
DS DIRECTION SIGN
EIC ELECTRIC INSPECTION COVER
EoC EDGE OF CANOPY
EOR END OF RECORDS
EOT END OF TRACE
EP ELECTRICITY POLE
ER EARTH ROD
EShwr EMERGENCY SHOWER
ESP ELECTRICITY SUPPLY POINT
Esw ELECTRICAL SWITCH
FB FOOTBRIDGE
FH FIRE HYDRANT
FL FLOOR LEVEL
FS FLAG STAFF / POLE
G GULLY
G= GIRTH
GIP GAS INLET PIPE
GP GUIDE POST
GPR TRACED BY G.P.R
Grl GRILLE
GV GAS VALVE
Hgt HEIGHT
Hrl HANDRAIL
HV HIGH VOLTAGE
IC INSPECTION CHAMBER
IL INVERT LEVEL
IP INLET PIPE
JN JUNCTION

KO KERB OUTLET
Lby LIFEBOUY
Lck LOCK GATE
Ldr LADDER
LH LAMP HOLE
LP LAMP POST
LV LOW VOLTAGE
MgP MOORING POST
mH METERS HIGH
Mhcy MACHINERY
MH MANHOLE
Mkr MARKER POST
MkrE MARKER POST (ELECTRIC)
MkrG MARKER POST (GAS)
MkrR MARKER POST (RAILWAY)
MkrT MARKER POST (TELECOM)
MkrW MARKER POST (WATER)
MP MILE POST
MS MILE STONE
NL NOT LOCATED
NP NAME PLATE
OSA OUTSIDE SURVEY AREA
OSBM O.S BENCH MARK
OGP OVERGROUND PIPE
OHCu O/H CABLE (UNIDENTIFIED)
OHE OVERHEAD CABLE (ELECTRIC)
OHG OVERHEAD GANTRY
OHP OVERHEAD PIPE
OHT OVERHEAD CABLE (TELECOM)
OP OUTLET PIPE
P POST
Pb PARK BENCH
PB POST BOX
PCsg PEDESTRIAN CROSSING
PE POLYETHALINE
PF PITCH FIBER
PI PILE
Pir MOVEMENT DETECTOR
Pmd PLANT MOTOR DRIVE
PP PETROL / DIESEL PUMP
PR PIPE RISER
Psk PENSTOCK
PU PUMP
PV PIPE (VERTICAL)
PVC POLYVINYL CHLORIDE
Pyl PYLON
Pz PIEZOMETER
RE RODDING EYE
RG RAIN GAUGE
RMP RESERVOIR MONITORING PNT
RP REFLECTOR POST
RS ROAD SIGN
RSP RAILWAY SIGNAL POST
RWP RAIN WATER PIPE
S SPREAD
SA SURVEY ABANDONED
SB SIGN BOARD
Shlt SHELTER (BUS / TRAM)
SI SPUN IRON
SL SOFFIT LEVEL
SltL SILT LEVEL (TOP)
SMP SETTLEMENT MONITORING PNT

SiL SIGNAL LOST
SP SIGN POST
SPil SHEET PILING
Spr SPRING
SPt SAMPLING POINT
ST STOP TAP
Stl STILE
Stl STRUCTURE TOP LEVEL
Stp STUMP (TREE)
StP STAND PIPE
StPo STAY POST
StW STAY WIRE
SV STOP VALVE
SVP SOIL VENT PIPE
TBM TEMPORARY BENCH MARK
TCB TELEPHONE CALL BOX
TEL TELECOM CHAMBER COVER
TFR TAKEN FROM RECORDS
Thl THRESHOLD LEVEL
TL TRAFFIC LIGHT
TP TELEGRAPH POLE
Tpt TRIAL PIT
Tr TROUGH
UTF UNABLE TO FIND
UTGA UNABLE TO GAIN ACCESS
UTL UNABLE TO LIFT
UTR UNABLE TO ROD
UTS UNABLE TO SURVEY
UTT UNABLE TO TRACE
VC VITREOUS CLAY
VP VENT PIPE
VR VAPOUR RECOVERY
VS VENTILATION SHAFT
VW VALVE / SLUICE WHEEL
WB WEIGHBRIDGE
WL WATER LEVEL
WM WATER METER
WO WASH OUT VALVE
Wr WEIR
WrL WEIR LEVEL
WrPl WEIR PLATE (TOP)
WWP WASTE WATER PIPE

FENCE TYPES:
AMF ARMCO
BWF BARBED WIRE
CBF CLOSE BOARDED
CIF CORRUGATED IRON
CLF CHAIN LINK
CPF CHESTNUT PALING
IRF IRON RAILING
IWF INTERWOVEN
PCF POST & CHAIN
PIF POST & IRON RAIL
PRF POST & RAIL
PWF POST & WIRE
SPF STEEL PALLISADE
WMF WIRE MESH

KEY

TV — CCTV / CABLE TELEVISION
Ø450 — COMBINED DRAINAGE
COM — COMMUNICATIONS CABLE
A — COMPRESSED AIR
DUCTING
E — EARTH CABLE
ELECTRIC CABLE
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ISSUE	DATE	DESCRIPTION

SHEET LAYOUT

1

2

CLIENT: Kennedy Redford
DWG No: 0422-KEN-001
REV.

TITLE:
Gwynedd Skip & Plant Hire
Cibyn Industrial Estate
Caernarfon, LL55 2BD

(Sheet 2 of 2)

SCALE: 1:200@A0
SURVEYOR: PS
DRAWN: DS
DATE: 25.04.2022

SURVEY TYPE
TOPOGRAPHICAL ☐
DRAINAGE ☒
UTILITY ☒

SUBSITE SURVEYS

m: +44 (0)7427 401344 o: +44 (0)1302 618690 w: subsitesurveys.co.uk
Registered Office: Willow House, Low Lane, Braithwaite, Doncaster, DN7 5SS

Appendix C – Welsh Water Sewer Map

Dŵr Cymru
Welsh Water

Cibyn Industrial Estate Caernarfon Gwynedd
county LL55 2BD

N
W E
S

LEGEND(Representative of most common features)

Waste network:

- Foul chamber
- Surface water chamber
- Combined chamber
- Combined sewer overflow
- Special purpose chamber
- Treatment works
- Pumping station
- Outfall
- Lamphole
- Storm Overflow
- Rising main
- Gravity sewer
- Private sewer
- 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

Map Ref:	249949,362562
Map scale:	1:1250
Printed by:	Zara Howells
Printed on:	13 Apr 2022

Appendix D – Proposed Development

GRASSCRETE OVERSPILL CAR PARKING BAYS.

INTEGRATED ELECTRIC VEHICLE CHARGING POINTS

MODERN LOOK TO WAREHOUSE AND OFFICE FACILITY.

CURTAIN WALL GLAZING TO OFFICE AREA

GROSS AREA
806m2 / 8675ft2

Car access with barrier system.

Proposed welding/ workshop

Truck parking

Eco-screening with planting.

Trailer bays

Fuel and Adblu storage with pump

Staff and visitor parking bays.

Electric vehicle charging points.

WORKSHOP / WELDING
363m2 / 3907ft2

16500

BAY 1 BAY 2

22000

GROSS AREA
11891m2 / 127995ft2

30m yard
25m dia.
Turning Circle

21000

Entrance

cycle

BAY 1 BAY 2 BAY 3 BAY 4 BAY 5 BAY 6 BAY 7

75324

FE

23740

OFFICE & WORKSHOP
GF - 1680m2 / 18083ft2
MF - 414m2 / 4456ft2

10000

VEHICLE WASH
160m2 / 1722ft2

20000

EXTERNAL STORAGE AREA
501m2 / 5392ft2

Truck access with barrier system.

Existing electric substation

Proposed office and welfare block.

Proposed 7 bay workshop.

Indicates graded embankment

1500mm wide pedestrian and access equipment route

Vehicle wash

Indicative storage area

DOUBLE BAY STAND ALONE WORKSHOP.

AUTOMATIC BARRIER ACCESS SYSTEM.

VEHICLE WASHING FACILITY.

ECO BARRIER PLANTING TO VERGE

EXTERNAL SEATING AND PLANTING SCHEME

BICYCLE RACKS TO MAIN CAR PARK

PHOTOVOLTAIC PANELS TO ROOF.

SECURITY MESH FENCING.

.\Sample Images\Security mesh fencing.JPG

IMPORTANT NOTE:

ALL DIMENSIONS AND LEVELS SHOWN ON THIS DRAWING ARE TO BE CHECKED BY THE CONTRACTOR/ MANUFACTURER PRIOR TO THE COMMENCEMENT OF ANY WORKS ON SITE OR THE MANUFACTURE OF ANY SITE COMPONENTS.

THIS DRAWING IS NOT TO BE SCALED.

DIMENSIONS ARE INDICATED IN MILLIMETRES UNLESS CLEARLY STATED OTHERWISE.

LIMITATIONS & THIRD PARTY CLAUSE:

WHERE PARTS OF THE PROPERTY WERE COVERED OR INACCESSIBLE AT TIME OF SURVEY POSITIONS OF ELEMENTS ARE MARKED "ASSUMED" ACCORDINGLY.

- PROPOSED 7 BAY WORKSHOP
- PROPOSED OFFICES
- PROPOSED HOT WORKS / WELDING WORKSHOP
- PROPOSED VEHICLE WASHING FACILITY
- FUEL & ADBLU STORAGE
- EXTERNAL STORAGE AREA
- CONCRETE
- TARMAC ACCESS ROAD
- CAR PARKING
- LANDSCAPING

REV	DETAILS	DATE
B	UPDATED WITH AMENDED PLANS	18.03.22
A	UPDATED FOLLOWING CLIENT REVIEW	11.02.22

REVISIONS

CLIENT
GWYNEDD PLANT HIRE LTD

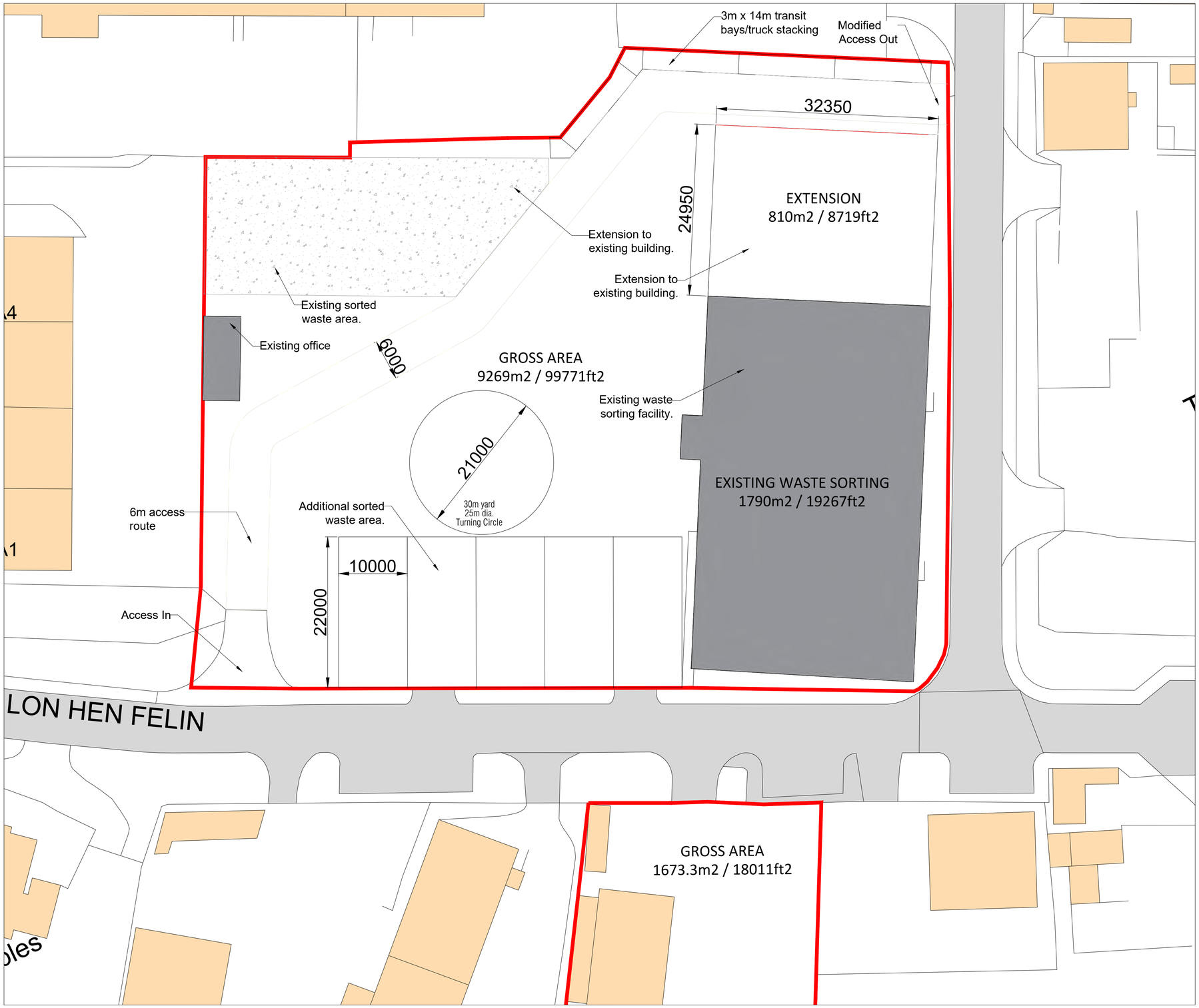
PROJECT
HRL Infinity
Cibyn Industrial Estate
Caernarfon LL55 2BD

DRAWING TITLE
SKETCH SITE PLAN

DRAWN BY	CHECKED BY
DL	SAP
DATE	SCALE
06.01.22	1:200@A0

DRAWING NO. CPS 21 147 101 B

cube.
Project Management | Building Surveyors
Heritage Consultants | Design Services
502 Birchwood One | Dewhurst Road | Warrington | WA3 7GB
t: 01925 831 710
e: admin@cubepsl.co.uk | w: www.cubepsl.co.uk



Location
Scale 1:500

0 10 20 30 40 50
Metres

IMPORTANT NOTE:

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DIMENSIONS ARE INDICATED IN MILLIMETRES UNLESS CLEARLY STATED OTHERWISE.

LIMITATIONS & THIRD PARTY CLAUSE:

WHERE PARTS OF THE PROPERTY WERE COVERED OR INACCESSIBLE AT TIME OF SURVEY POSITIONS OF ELEMENTS ARE MARKED 'ASSUMED' ACCORDINGLY.

- EXISTING BUILDINGS
- NEW EXTENSION
- TRAILER STACKING AREA
- EXISTING SORTED WASTE AREA
- NEW SINGLE DIRECTION ACCESS ROUTE

REV	DETAILS	DATE

REVISIONS

CLIENT
GWYNEDD PLANT HIRE LTD

PROJECT
HRL Infinity
Cibyn Industrial Estate
Caernarfon LL55 2BD

DRAWING TITLE
SKETCH SITE PLAN

DRAWN BY	CHECKED BY
DL	SAP
DATE	SCALE
06.01.22	1:200 @ A0

DRAWING NO.
CPS 21 147 SK101

cube.
Project Management | Building Surveyors
Heritage Consultants | Design Services
502 Birchwood One | Dewhurst Road | Warrington | WA3 7GB
t: 01925 831 710
e: admin@cubepsl.co.uk | w: www.cubepsl.co.uk

Appendix E – Flood Risk Maps

Cyfoeth Naturiol Cymru
Natural Resources Wales

Flood Risk Map - Gwynedd Skip Hire

Allwedd / Map Key

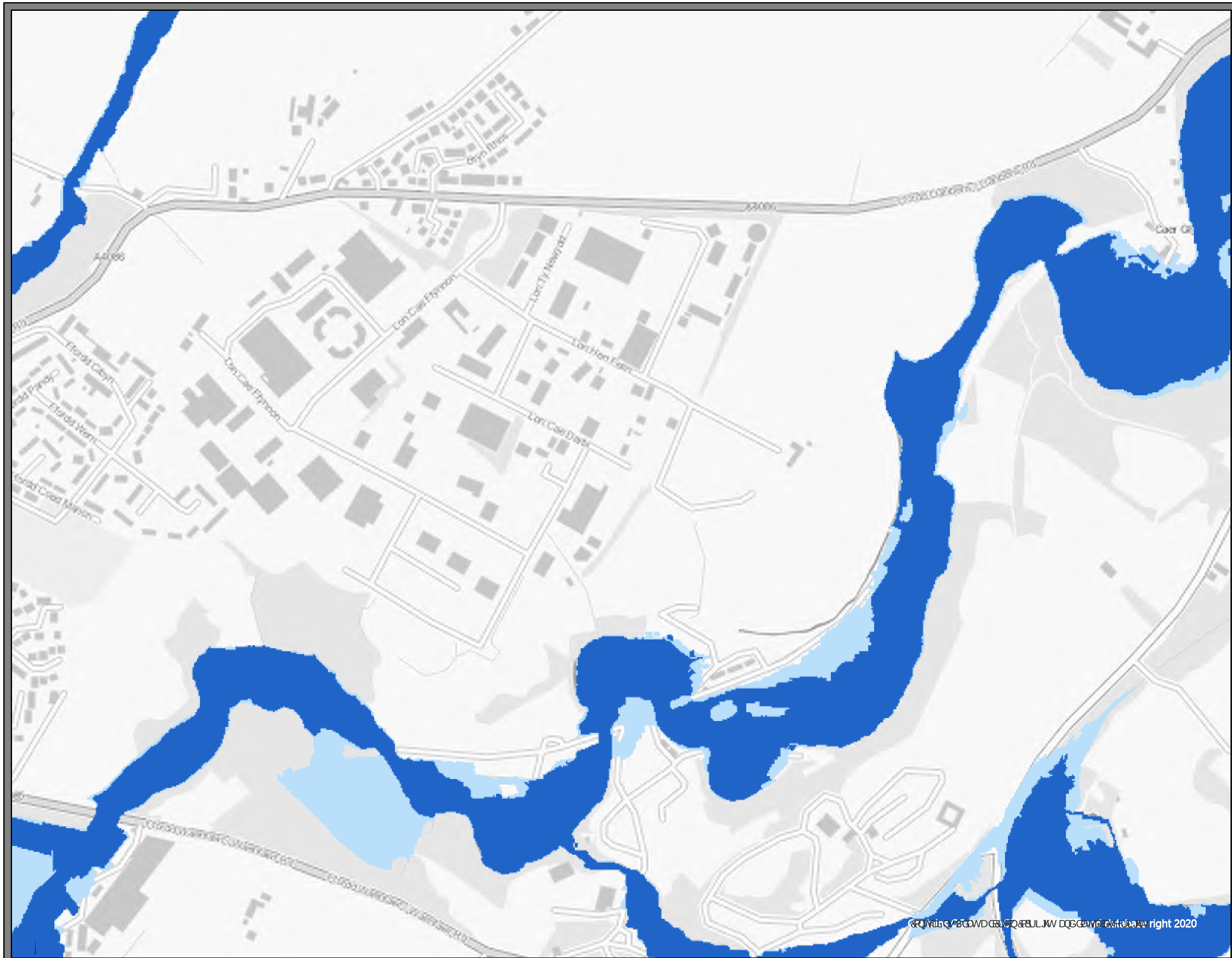
- Zone C1
- Zone C2
- Zone B
- Zone A

Graddfa / Scale at A3 1: 5,001

Dyddiad / Date
16/06/2022

0.3 0 0.13 0.3

British_National_Grid Kilometers



Cyfoeth Naturiol Cymru
Natural Resources Wales

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5LYHUVDQG6HD)ORRG5LVN0DS

/HJHQG

5LYHUVDQG6HD

5LYHUVDQG6HD

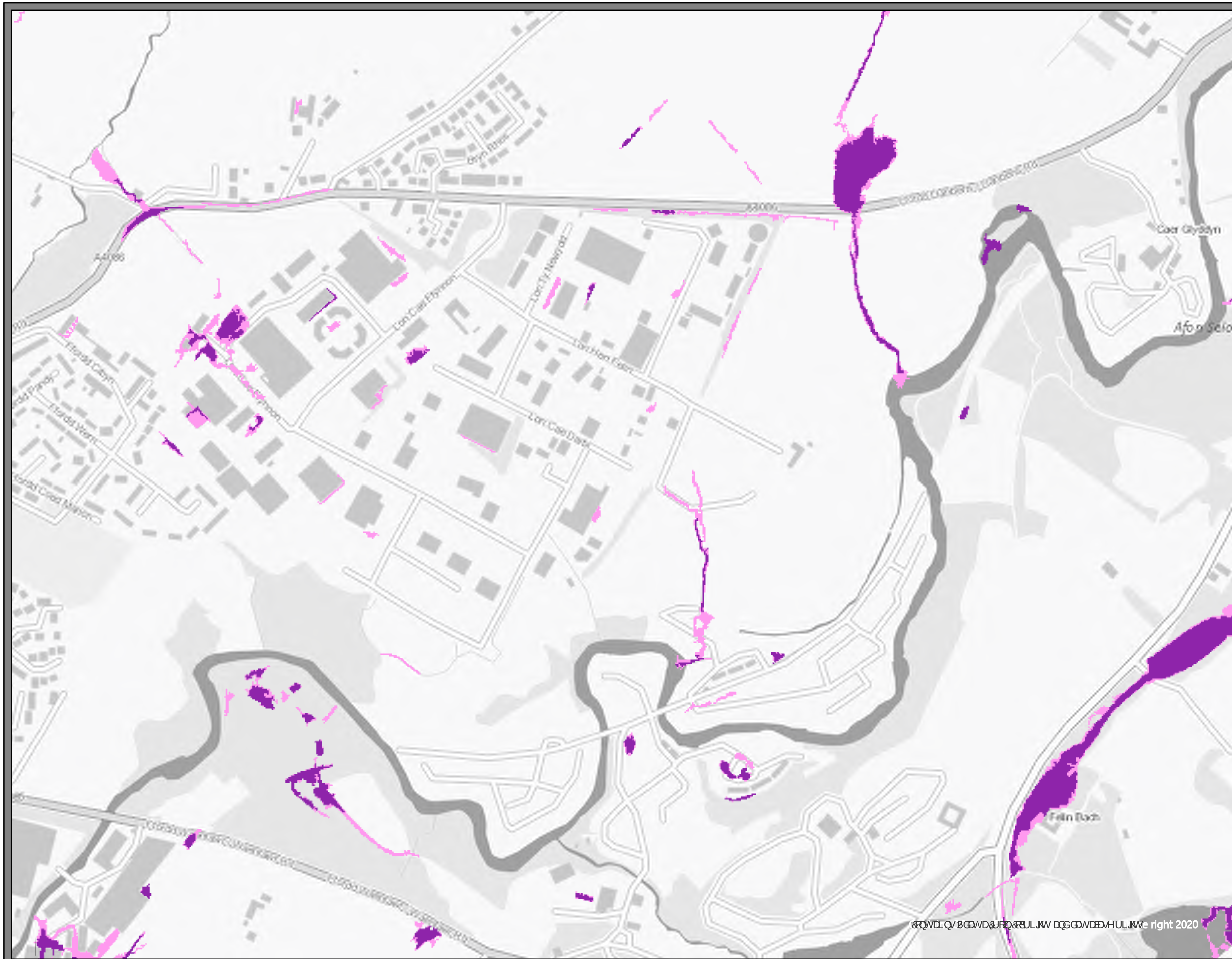
	)ORRG=RQH	)ORRG=RQH
	)ORRG=RQH	)ORRG=RQH

6FDOH

'DWH

NP

%ULWLVK1DWLRQDO*ULG



Cyfoeth Naturiol Cymru
Natural Resources Wales

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/HJHQG
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]ORRG=RQH]ORRG=RQH
]ORRG=RQH]ORRG=RQH

6FDOH
DWH

NP
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%&6PLFQRUPDWLRQGHULYHGIURP%&&QWUHIRUFRORJ\ GURORJ\
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+WWRQ,QWLWXWH %2GQDQFH6XUYH\ %DQG 3URSHUW\6HUYLFHV $OO ULJKWVUHVHUYHG

Cyfoeth Naturiol Cymru
Natural Resources Wales

)ORRG0DSIRU3ODQQLQJ

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A4086
A4086
Bryn Brios
Lon Ty Newydd
Lon Cae Ffynnon
Lon Cae Ffynnon
Lon Hen Felin
Lon Cae Darbi
Ffordd Cibyn
Ffordd Pandy
Ffordd Warm
Ffordd Coed Mawr
Caer Glyddyn
Afon Seio
Felin Bach
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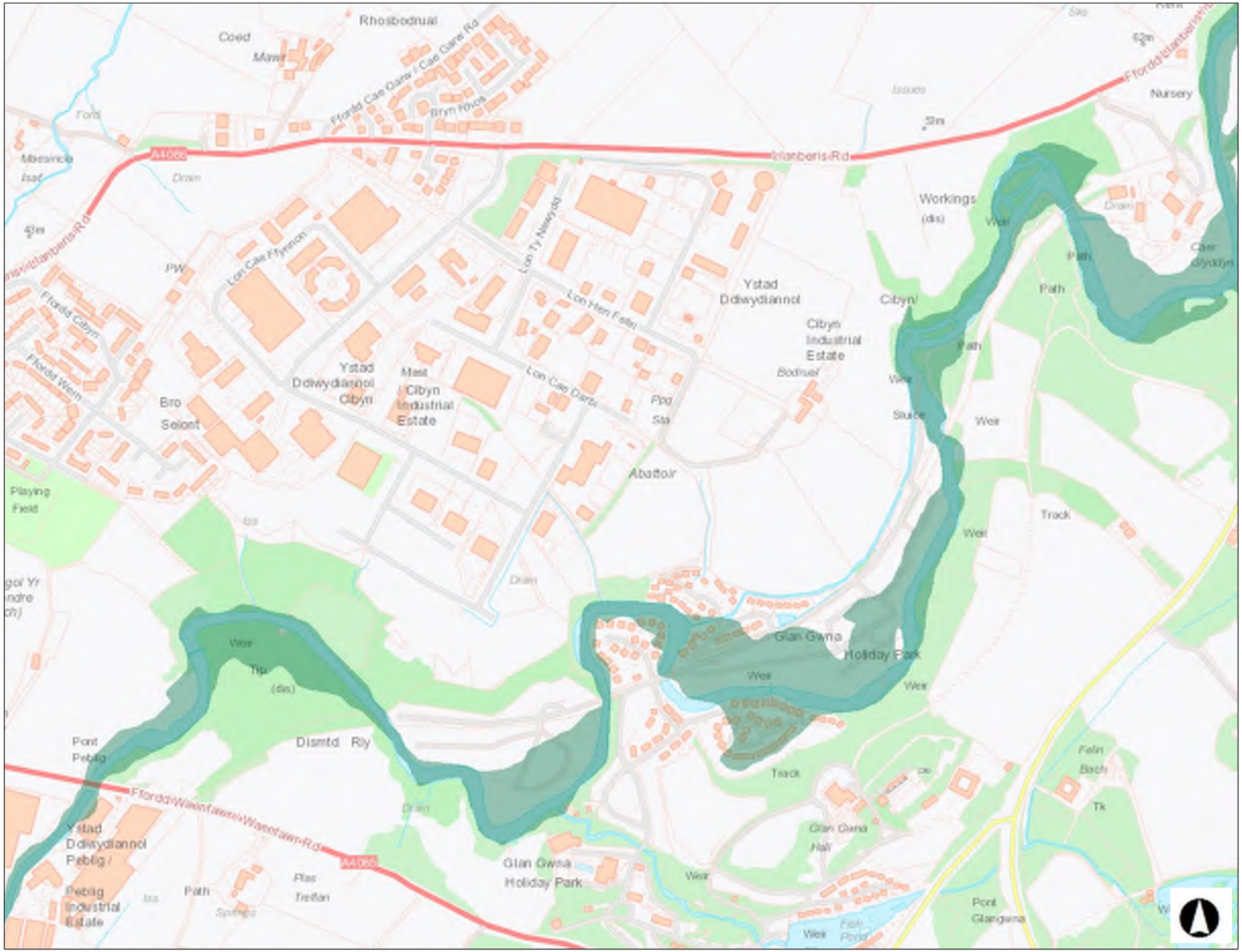
6FDOH

'DWH

NP

%ULWLVK1DWLRQDO*ULG



Cyfoeth Naturiol Cymru
Natural Resources Wales

Reservoir Flood Risk Map

Allwedd / Map Key

- Flood Risk from Reservoirs

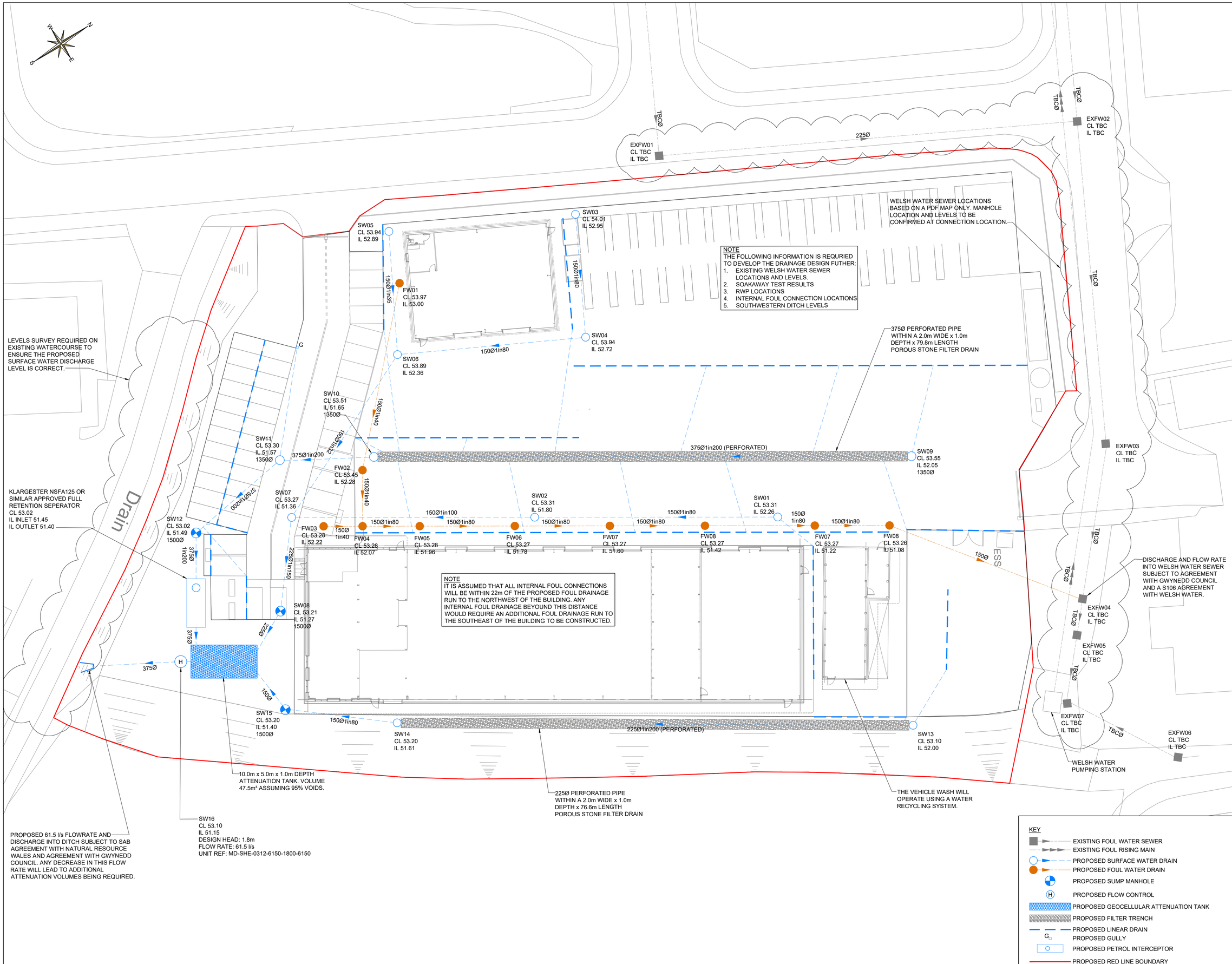
Graddfa / Scale at A3 1: 5,000

Dyddiad / Date
16/06/2022

0.3 0 0.13 0.3

British_National_Grid Kilometers

Appendix F – Proposed Drainage Layouts



NOTES

1. THIS DRAWING IS PRELIMINARY AND IS SUBJECT TO CHANGE DEPENDING ON FURTHER DEVELOPMENT OF THE G.A., SITE LAYOUT, PROPOSED LEVELS, INFILTRATION RATES, RWP LAYOUT AND FOUL CONNECTION LOCATIONS.
2. THIS DRAWING IS BASED ON THE CUBE ARCHITECT'S SKETCH SITE PLAN, DRAWING NO. CPS 21 147 101 B, DATED 06/01/2022
3. TO BE READ IN CONJUNCTION WITH ALL RELEVANT KENNEDY REDFORD DRAWINGS.
4. PRIVATE DRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH BUILDING REGULATIONS.
5. EXISTING SEWER AND DRAINAGE LOCATIONS AND LEVELS TO BE CONFIRMED BY CONTRACTOR ON SITE, PRIOR TO WORK COMMENCING.
6. IT IS ASSUMED THAT ALL EXISTING PRIVATE DRAINAGE WILL BE ABANDONED DURING THE EXISTING SITE DEMOLITION.
7. ALL MANHOLE AND PIPE POSITIONS ARE APPROXIMATE AND MAY BE UPDATED FOLLOWING FURTHER DISCUSSIONS WITH THE RELEVANT AUTHORITIES.
8. UNLESS INDICATED OTHERWISE ALL PIPES TO BE LAID SOFFIT TO SOFFIT.
9. WHERE PROPOSED DRAINS ARE IN PROXIMITY TO PROPOSED FOUNDATIONS, THE FOUNDATIONS SHALL BE TAKEN DEEPER TO BELOW THE DRAINS OR THE DRAIN SHOULD BE PROTECTED WITH A FULL CONCRETE SURROUND.
10. PROPOSED PIPEWORK WITH LESS THAN THE FOLLOWING DEPTHS TO SOFFIT REQUIRES A CONCRETE SURROUND:
- 1.2m IN ROADS
- 0.6m UNDER FOOTPATHS, CONCRETE SLAB AND BUILDINGS.
11. SETTING OUT OF RAINWATER PIPES AND FOUL CONNECTION LOCATIONS BY OTHERS.
12. RAINWATER PIPE AND FOUL CONNECTION LOCATIONS UNKNOWN AT PRESENT.
13. ALL CHANNEL DRAINAGE TO HAVE SILT BUCKETS ON OUTLETS.
14. CHANNEL DRAINS TO BE SPECIFIED AT DETAILED DESIGN STAGE.
15. ALL ROAD GULLIES ARE TO BE TRAPPED AND RODDABLE.
16. ALL GULLY LEADS TO BE 150mm DIAMETER.
17. ALL ROAD GULLIES & LEADS TO BE CLEARED OF DEBRIS UPON COMPLETION OF WORKS.
18. FOUL WATER DISCHARGE RATE AND CONNECTION TO SEWER SUBJECT TO AGREEMENT WITH WELSH WATER AND GWYNEDD COUNCIL, INCLUDING A 106 AGREEMENT WITH WELSH WATER.
19. SURFACE WATER DISCHARGE RATE AND CONNECTION TO WATERCOURSE SUBJECT TO SAB APPROVAL AND AGREEMENT WITH GWYNEDD COUNCIL. ANY REDUCTION IN FLOW RATE WILL LEAD TO AN INCREASE IN ATTENUATION VOLUMES.
20. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY WORKS AND CONSTRUCTION PROCEDURES.
21. CONTRACTOR TO APPLY FOR SEWER PERMITS AND ROAD OPENING PERMITS AS NECESSARY FROM THE APPROPRIATE AUTHORITIES, PRIOR TO COMMENCING WORKS.
22. THE CONTRACTOR SHALL ALLOW FOR ALL TRAFFIC MANAGEMENT IN CONNECTION WITH ROAD AND SEWER WORKS.
23. AT LEAST ONE SOIL PIPE AT THE HEAD OF EACH FOUL RUN SHALL VENT TO THE ATMOSPHERE.

KEY

- EXISTING FOUL WATER SEWER
- EXISTING FOUL RISING MAIN
- PROPOSED SURFACE WATER DRAIN
- PROPOSED FOUL WATER DRAIN
- PROPOSED SUMP MANHOLE
- PROPOSED FLOW CONTROL
- PROPOSED GEOCELLULAR ATTENUATION TANK
- PROPOSED FILTER TRENCH
- PROPOSED LINEAR DRAIN
- PROPOSED GULLY
- PROPOSED PETROL INTERCEPTOR
- PROPOSED RED LINE BOUNDARY

REV	DATE	DESCRIPTION	DRN	CHK	APR
P02	21.06.22	INTERCEPTOR UPDATED	R.B	R.K	R.K
P01	14.06.22	PRELIMINARY ISSUE	R.B	R.K	R.K

Kennedy Redford MANAGING VISION

CLIENT

GWYNEDD SKIP & PLANT HIRE

PROJECT NAME

GWYNEDD SKIP & PLANT HIRE

DRAWING TITLE

PROPOSED DRAINAGE LAYOUT ABATTOIR SITE (SITE A)

DATE	SCALE	SHEET SIZE	REV
14.06.22	1:250	A1	P02

DRAWING STATUS

S2 - ISSUED FOR INFORMATION

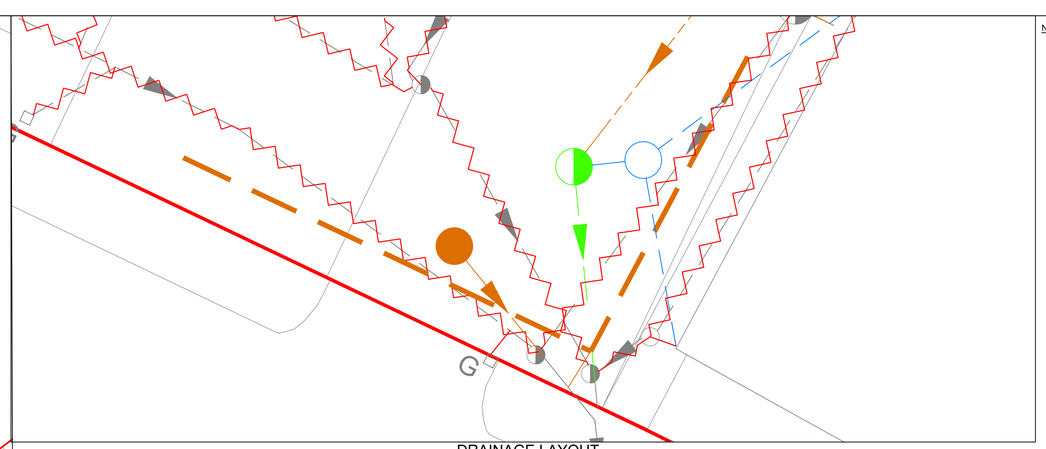
DRAWING NUMBER

220208 - KRD - XX - EX - DR - C - 0001

KEY

- EXISTING FOUL WATER SEWER
- EXISTING COMBINED WATER DRAIN
- EXISTING SURFACE WATER DRAIN
- EXISTING FOUL WATER DRAIN
- PROPOSED SURFACE WATER DRAIN
- PROPOSED FOUL WATER DRAIN
- PROPOSED COMBINED WATER DRAIN
- PROPOSED LINEAR DRAIN
- ABANDONED EXISTING DRAINAGE
- PROPOSED RED LINE BOUNDARY

N S W E



DRAINAGE LAYOUT
SCALE 1:100

EXFW01 CL 58.35 IL 56.80
EXFW02 CL 58.25 IL (TBC)
EXFW03 CL 58.47 IL 57.40
EXFW04 CL 58.55 IL (TBC)
EXFW05 CL 58.90 IL 58.39 TBC
EXFW06 CL IL BLOCKED
EXFW08 CL 58.28 IL 57.54
EXFW09 CL IL
EXFW09 CL IL
EXFW10 CL 58.08 IL 56.58
EXFW11 CL 57.55 IL 56.18
EXFW12 CL 57.84 IL 56.59
EXFW13 CL 58.01 IL TBC
EXFW13 CL 57.84 IL 56.69
EXCW14 CL 57.69 IL 56.48
EXCW15 CL 57.29 IL 56.09
EXCW16 CL 57.45 IL 56.00
EXSW17 CL 57.55 IL 56.18
EXSW18 CL 57.55 IL 56.18
EXSW19 CL 57.45 IL 56.48
EXSW20 CL 56.65 IL 55.58 (TBC)
EXSW21 CL 56.55 IL TBC
EXSW22 CL 56.06 IL 54.80
SW01 CL 57.40 IL 56.29
SW01 CL 57.27 IL 56.29
SW02 CL 57.10 IL 55.98
FW01 CL 57.45 IL 56.40
FW02 CL 57.26 IL 56.20
CW01 CL 57.30 IL 56.18

150Ø 100Ø 225Ø 150Ø1in80 150Ø1in37

NOTE

IT IS ASSUMED THAT THE EXTENSION DOES NOT HAVE ANY FOUL WATER CONNECTIONS. ADDITIONAL DRAINAGE RUNS WILL BE REQUIRED IF FOUL CONNECTIONS ARE PRESENT

EXISTING 100Ø PIPE TO BE REPLACED WITH 150Ø PIPE TO ACCOMMODATE PROPOSED SURFACE WATER DRAINAGE.

USE OF UNRESTRICTED FLOW RATE SUBJECT TO AGREEMENT WITH GWYNEDD COUNCIL AND A SAB APPLICATION. ANY RESTRICTION IN THE FLOW RATE WILL REQUIRE A FLOW CONTROL DEVICE AND ATTENUATION DEVICES.

ANY FLOW RATE RESTRICTION ON THE SURFACE WATER WILL REQUIRE A FLOW CONTROL DEVICE AND BELOW GROUND ATTENUATION.

INSPECTION CHAMBER TO BE SURVEYED. IT IS UNKNOWN AS TO WHETHER THIS CHAMBER SERVES ANYWHERE ELSE ON THE SITE

FURTHER UPSTREAM SURVEY REQUIRED ON FOUL PIPE TO ALLOW DIVERSION TO BE MADE.

EXISTING RWP DIVERTED TO PROPOSED DRAINAGE

EXISTING FOUL CONNECTION DIVERTED TO PROPOSED DRAINAGE

EXISTING RWP DIVERTED TO PROPOSED DRAINAGE

EXCW15 TO BE ABADONED. EXISTING PIPEWORK TO BE EXTENDED TO FW02, LINEAR DRAIN TO CONNECT TO THIS SYSTEM

EXCW16 TO BE ABADONED, EXISTING PIPEWORK TO BE EXTENDED TO CW01, LINEAR DRAIN TO CONNECT TO THIS SYSTEM

2No. EXISTING COMBINED DRAINAGE CONNECTIONS FROM SITE. ALL PROPOSED CONNECTIONS HAVE BEEN DESIGNED TO MIMIC THE EXISTING SITE DISCHARGE STRATEGY.

NOTES

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2. THIS DRAWING IS BASED ON THE CUBE ARCHITECT'S SKETCH SITE PLAN, DRAWING NO. CPS 21 147 SK101, DATED 06/01/2022
3. TO BE READ IN CONJUNCTION WITH ALL RELEVANT KENNEDY REDFORD DRAWINGS.
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    - 1.2m IN ROADS
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17. ALL ROAD GULLIES & LEADS TO BE CLEARED OF DEBRIS UPON COMPLETION OF WORKS.
18. DRAINAGE DISCHARGE RATE AND CONNECTION TO SEWER SUBJECT TO AGREEMENT WITH WELSH WATER AND GWYNEDD COUNCIL. ANY REDUCTION IN DISCHARGE RATES WILL MEAN AN INCREASE IN ATTENUATION VOLUMES.
19. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY WORKS AND CONSTRUCTION PROCEDURES.
20. CONTRACTOR TO APPLY FOR SEWER PERMITS AND ROAD OPENING PERMITS AS NECESSARY FROM THE APPROPRIATE AUTHORITIES, PRIOR TO COMMENCING WORKS.
21. THE CONTRACTOR SHALL ALLOW FOR ALL TRAFFIC MANAGEMENT IN CONNECTION WITH ROAD AND SEWER WORKS.
22. AT LEAST ONE SOIL PIPE AT THE HEAD OF EACH FOUL RUN SHALL VENT TO THE ATMOSPHERE.

REV	DATE	DESCRIPTION	DRN	CHK	APR
P02	21.06.22	NOTES UPDATED	R.B	R.K	R.K
P01	14.06.22	PRELIMINARY ISSUE	M.M	R.B	R.K

Kennedy Redford MANAGING VISION

CLIENT
GWYNEDD SKIP & PLANT HIRE

PROJECT NAME
GWYNEDD SKIP & PLANT HIRE

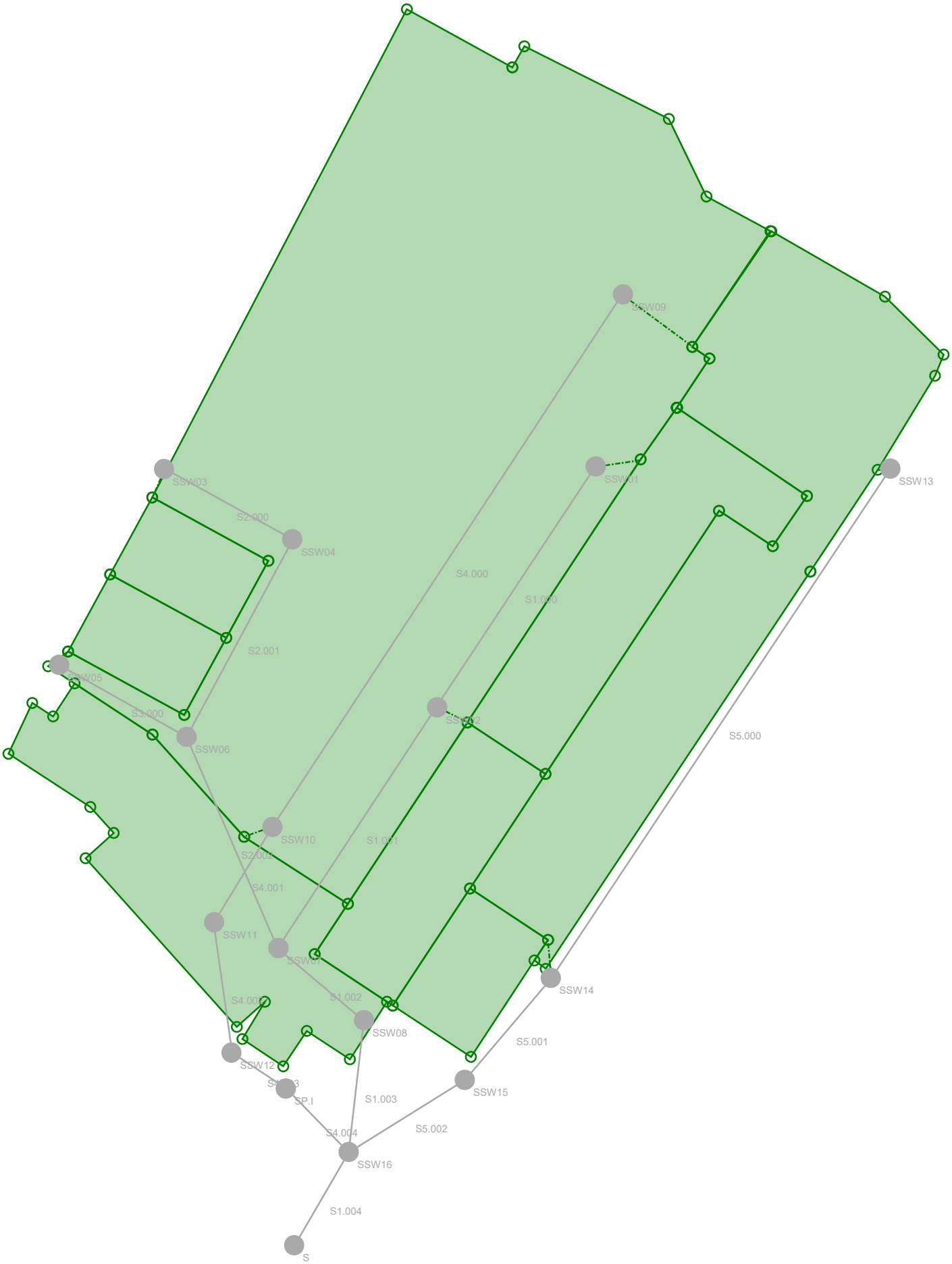
DRAWING TITLE
PROPOSED DRAINAGE LAYOUT
SKIP HIRE SITE (SITE 2)

DATE	SCALE	SHEET SIZE	REV
14.06.22	1:250	A1	P02

DRAWING STATUS
S2 - ISSUED FOR INFORMATION

DRAWING NUMBER
220208 - KRD - XX - EX - DR - C - 0030

Appendix G – Site A MicroDrainage Calculations


SSW03
S2.000
SSW04
S4.000
S1.000
S2.001
SSW05
S3.000
SSW06
SSW10
S1.001
S2.002
S4.001
SSW11
S4.002
S1.002
SSW08
SSW12
SP.I
S1.003
S4.004
S5.002
SSW16
S1.004
S
SSW09
SSW01
SSW13
S5.000
SSW14
S5.001
SSW15

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	17.200	Add Flow / Climate Change (%)	0
Ratio R	0.290	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.526	4-8	0.355

Total Area Contributing (ha) = 0.881

Total Pipe Volume (m³) = 24.722

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	36.651	0.458	80.0	0.063	4.00	0.0	0.600	o	150	Pipe/Conduit	
S1.001	36.651	0.367	99.9	0.042	0.00	0.0	0.600	o	150	Pipe/Conduit	
S2.000	18.598	0.232	80.2	0.019	4.00	0.0	0.600	o	150	Pipe/Conduit	
S2.001	28.492	0.356	80.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S3.000	18.620	0.528	35.3	0.019	4.00	0.0	0.600	o	150	Pipe/Conduit	
S2.002	29.282	0.927	31.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.002	14.231	0.095	149.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	41.61	4.54	52.260	0.063	0.0	0.0	0.0	1.12	19.9	7.2
S1.001	39.67	5.15	51.802	0.105	0.0	0.0	0.0	1.01	17.8	11.3
S2.000	42.53	4.28	52.950	0.019	0.0	0.0	0.0	1.12	19.9	2.2
S2.001	41.09	4.70	52.718	0.019	0.0	0.0	0.0	1.12	19.9	2.2
S3.000	42.85	4.18	52.890	0.019	0.0	0.0	0.0	1.70	30.1	2.2
S2.002	40.22	4.97	52.362	0.038	0.0	0.0	0.0	1.80	31.8	4.1
S1.002	39.01	5.37	51.360	0.143	0.0	0.0	0.0	1.07	42.4	15.1

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.003	16.860	0.115	146.6	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S4.000	81.063	0.405	200.2	0.475	4.00	0.0	0.600	o	375	Pipe/Conduit	
S4.001	14.186	0.071	199.8	0.087	0.00	0.0	0.600	o	375	Pipe/Conduit	
S4.002	16.732	0.084	200.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S4.003	8.265	0.041	200.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S4.004	11.370	0.249	45.7	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S5.000	77.802	0.389	200.0	0.154	4.00	0.0	0.600	o	225	Pipe/Conduit	
S5.001	16.966	0.212	80.0	0.021	0.00	0.0	0.600	o	225	Pipe/Conduit	
S5.002	17.364	0.249	69.7	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.004	13.733	0.137	100.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.003	38.27	5.63	51.265	0.143	0.0	0.0	0.0	1.08	42.8	15.1
S4.000	39.95	5.06	52.050	0.475	0.0	0.0	0.0	1.28	141.0	51.4
S4.001	39.39	5.24	51.645	0.562	0.0	0.0	0.0	1.28	141.2	60.0
S4.002	38.76	5.46	51.574	0.562	0.0	0.0	0.0	1.28	141.1	60.0
S4.003	38.45	5.57	51.490	0.562	0.0	0.0	0.0	1.28	141.1	60.0
S4.004	38.26	5.64	51.399	0.562	0.0	0.0	0.0	2.69	296.8	60.0
S5.000	38.91	5.41	52.000	0.154	0.0	0.0	0.0	0.92	36.6	16.3
S5.001	38.36	5.60	51.611	0.176	0.0	0.0	0.0	1.46	58.2	18.2
S5.002	37.86	5.79	51.399	0.176	0.0	0.0	0.0	1.57	62.4	18.2
S1.004	37.52	5.91	51.150	0.881	0.0	0.0	0.0	1.81	200.1	89.5

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
SSW01	53.310	1.050	Open Manhole	1200	S1.000	52.260	150				
SSW02	53.310	1.508	Open Manhole	1200	S1.001	51.802	150	S1.000	51.802	150	
SSW03	54.010	1.060	Open Manhole	1200	S2.000	52.950	150				
SSW04	53.940	1.222	Open Manhole	1200	S2.001	52.718	150	S2.000	52.718	150	
SSW05	53.940	1.050	Open Manhole	1200	S3.000	52.890	150				
SSW06	53.890	1.528	Open Manhole	1200	S2.002	52.362	150	S2.001	52.362	150	
								S3.000	52.362	150	
SSW07	53.270	1.910	Open Manhole	1200	S1.002	51.360	225	S1.001	51.435	150	
								S2.002	51.435	150	
SSW08	53.210	1.945	Open Manhole	1500	S1.003	51.265	225	S1.002	51.265	225	
SSW09	53.550	1.500	Open Manhole	1350	S4.000	52.050	375				
SSW10	53.510	1.865	Open Manhole	1350	S4.001	51.645	375	S4.000	51.645	375	
SSW11	53.300	1.726	Open Manhole	1350	S4.002	51.574	375	S4.001	51.574	375	
SSW12	52.980	1.490	Open Manhole	1500	S4.003	51.490	375	S4.002	51.490	375	
SP.I	53.020	1.621	Open Manhole	1350	S4.004	51.399	375	S4.003	51.449	375	50
SSW13	53.100	1.100	Open Manhole	1200	S5.000	52.000	225				
SSW14	53.200	1.589	Open Manhole	1200	S5.001	51.611	225	S5.000	51.611	225	
SSW15	53.200	1.801	Open Manhole	1500	S5.002	51.399	225	S5.001	51.399	225	
SSW16	53.100	1.950	Open Manhole	1350	S1.004	51.150	375	S1.003	51.150	225	
								S4.004	51.150	375	
								S5.002	51.150	225	
S	53.000	1.987	Open Manhole	0		OUTFALL		S1.004	51.013	375	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SSW01	249875.463	362498.388	249875.463	362498.388	Required	
SSW02	249855.295	362467.786	249855.295	362467.786	Required	
SSW03	249820.574	362498.077	249820.574	362498.077	Required	
SSW04	249836.888	362489.149	249836.888	362489.149	Required	
SSW05	249807.221	362473.181	249807.221	362473.181	Required	
SSW06	249823.438	362464.032	249823.438	362464.032	Required	
SSW07	249835.126	362437.184	249835.126	362437.184	Required	

Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SSW08	249845.996	362427.999	249845.996	362427.999	Required	
SSW09	249878.916	362520.270	249878.916	362520.270	Required	
SSW10	249834.345	362452.560	249834.345	362452.560	Required	
SSW11	249826.947	362440.456	249826.947	362440.456	Required	
SSW12	249829.147	362423.869	249829.147	362423.869	Required	
SP.I	249836.048	362419.321	249836.048	362419.321	Required	
SSW13	249912.911	362498.119	249912.911	362498.119	Required	
SSW14	249869.740	362433.394	249869.740	362433.394	Required	
SSW15	249858.800	362420.426	249858.800	362420.426	Required	
SSW16	249844.057	362411.251	249844.057	362411.251	Required	
S	249837.116	362399.400			No Entry	

Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	User	-	100	0.063	0.063	0.063
1.001	User	-	100	0.042	0.042	0.042
2.000	User	-	100	0.019	0.019	0.019
2.001	-	-	100	0.000	0.000	0.000
3.000	User	-	100	0.019	0.019	0.019
2.002	-	-	100	0.000	0.000	0.000
1.002	-	-	100	0.000	0.000	0.000
1.003	-	-	100	0.000	0.000	0.000
4.000	User	-	100	0.475	0.475	0.475
4.001	User	-	100	0.087	0.087	0.087
4.002	-	-	100	0.000	0.000	0.000
4.003	-	-	100	0.000	0.000	0.000
4.004	-	-	100	0.000	0.000	0.000
5.000	User	-	100	0.154	0.154	0.154
5.001	User	-	100	0.021	0.021	0.021
5.002	-	-	100	0.000	0.000	0.000
1.004	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.881	0.881	0.881

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S1.004	S	53.000	51.013	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 3 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	17.200	Storm Duration (mins)	30
Ratio R	0.290		

Online Controls for Storm

Hydro-Brake® Optimum Manhole: SSW16, DS/PN: S1.004, Volume (m³): 5.1

Unit Reference	MD-SHE-0312-6150-1800-6150
Design Head (m)	1.800
Design Flow (l/s)	61.5
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	312
Invert Level (m)	51.150
Minimum Outlet Pipe Diameter (mm)	375
Suggested Manhole Diameter (mm)	Site Specific Design (Contact Hydro International)

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.800	61.5	Kick-Flo®	1.249	51.5
Flush-Flo™	0.577	61.5	Mean Flow over Head Range	-	52.3

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)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	9.4	0.800	60.4	2.000	64.7	4.000	90.5	7.000	118.9
0.200	32.0	1.000	58.4	2.200	67.7	4.500	95.9	7.500	123.0
0.300	55.4	1.200	53.7	2.400	70.7	5.000	100.9	8.000	126.9
0.400	60.1	1.400	54.5	2.600	73.4	5.500	105.7	8.500	130.7
0.500	61.2	1.600	58.1	3.000	78.7	6.000	110.3	9.000	134.4
0.600	61.4	1.800	61.5	3.500	84.8	6.500	114.7	9.500	138.0

Storage Structures for Storm

Infiltration Trench Manhole: SSW10, DS/PN: S4.001

Infiltration Coefficient Base (m/hr)	0.00000	Trench Width (m)	2.0
Infiltration Coefficient Side (m/hr)	0.00000	Trench Length (m)	79.8
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	1.000
Invert Level (m)	51.645	Cap Infiltration Depth (m)	1.000

Infiltration Trench Manhole: SSW14, DS/PN: S5.001

Infiltration Coefficient Base (m/hr)	0.00000	Trench Width (m)	2.0
Infiltration Coefficient Side (m/hr)	0.00000	Trench Length (m)	76.6
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	1.000
Invert Level (m)	51.611	Cap Infiltration Depth (m)	1.000

Tank or Pond Manhole: SSW16, DS/PN: S1.004

Invert Level (m) 51.150

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	47.5	1.000	47.5	1.001	0.0

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 3 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	17.300
Region	England and Wales	Ratio R	0.289
Cv (Summer)	0.750		
Cv (Winter)	0.840		

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S1.000	SSW01	15 Winter	1	+0%	30/15 Summer	100/15 Summer			52.324	-0.086
S1.001	SSW02	15 Winter	1	+0%	30/15 Summer				51.890	-0.062
S2.000	SSW03	15 Winter	1	+0%					52.984	-0.116
S2.001	SSW04	15 Winter	1	+0%	100/60 Winter				52.751	-0.117
S3.000	SSW05	15 Summer	1	+0%					52.918	-0.122
S2.002	SSW06	15 Winter	1	+0%	100/15 Winter				52.399	-0.113
S1.002	SSW07	30 Winter	1	+0%	30/15 Summer				51.496	-0.089
S1.003	SSW08	15 Winter	1	+0%	30/15 Summer				51.482	-0.008
S4.000	SSW09	15 Winter	1	+0%	100/15 Summer				52.216	-0.209
S4.001	SSW10	15 Winter	1	+0%	30/15 Winter				51.838	-0.182
S4.002	SSW11	15 Winter	1	+0%	30/15 Winter				51.760	-0.189
S4.003	SSW12	15 Winter	1	+0%	30/15 Summer				51.693	-0.173
S4.004	SP.I	15 Winter	1	+0%	30/15 Summer				51.536	-0.238
S5.000	SSW13	15 Winter	1	+0%	30/15 Summer	100/15 Winter			52.112	-0.113
S5.001	SSW14	15 Winter	1	+0%	30/15 Summer				51.702	-0.134
S5.002	SSW15	15 Winter	1	+0%	30/15 Summer				51.488	-0.136
S1.004	SSW16	15 Winter	1	+0%	30/15 Summer				51.470	-0.055

PN	US/MH Name	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	SSW01	0.000	0.37			7.2	OK	5
S1.001	SSW02	0.000	0.63			10.9	OK	
S2.000	SSW03	0.000	0.12			2.2	OK	
S2.001	SSW04	0.000	0.11			2.1	OK	
S3.000	SSW05	0.000	0.08			2.2	OK	
S2.002	SSW06	0.000	0.14			4.2	OK	
S1.002	SSW07	0.000	0.33			12.2	OK	
S1.003	SSW08	0.000	0.36			13.8	OK	

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S4.000	SSW09	0.000	0.38			51.1	OK	
S4.001	SSW10	0.000	0.52		5	56.0	OK	
S4.002	SSW11	0.000	0.49			55.8	OK	
S4.003	SSW12	0.000	0.56			55.5	OK	
S4.004	SP.I	0.000	0.29			55.8	OK	
S5.000	SSW13	0.000	0.45			16.1	OK	1
S5.001	SSW14	0.000	0.34		6	17.6	OK	
S5.002	SSW15	0.000	0.32			17.6	OK	
S1.004	SSW16	0.000	0.40			58.0	OK	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 3 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm) 17.300	Cv (Summer) 0.750
Region	England and Wales	Ratio R 0.289	Cv (Winter) 0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S1.000	SSW01	15 Winter	30	+0%	30/15 Summer	100/15 Summer			52.511	0.101
S1.001	SSW02	15 Winter	30	+0%	30/15 Summer				52.281	0.329
S2.000	SSW03	15 Winter	30	+0%					53.004	-0.096
S2.001	SSW04	15 Winter	30	+0%	100/60 Winter				52.772	-0.096
S3.000	SSW05	15 Winter	30	+0%					52.934	-0.106
S2.002	SSW06	15 Winter	30	+0%	100/15 Winter				52.423	-0.089
S1.002	SSW07	30 Winter	30	+0%	30/15 Summer				52.010	0.425
S1.003	SSW08	30 Winter	30	+0%	30/15 Summer				51.986	0.496
S4.000	SSW09	15 Winter	30	+0%	100/15 Summer				52.355	-0.070
S4.001	SSW10	30 Winter	30	+0%	30/15 Winter				52.041	0.021
S4.002	SSW11	30 Winter	30	+0%	30/15 Winter				52.018	0.069
S4.003	SSW12	30 Winter	30	+0%	30/15 Summer				51.994	0.129
S4.004	SP.I	30 Winter	30	+0%	30/15 Summer				51.980	0.206
S5.000	SSW13	15 Winter	30	+0%	30/15 Summer	100/15 Winter			52.325	0.100
S5.001	SSW14	30 Winter	30	+0%	30/15 Summer				51.991	0.155
S5.002	SSW15	30 Winter	30	+0%	30/15 Summer				51.975	0.351
S1.004	SSW16	30 Winter	30	+0%	30/15 Summer				51.962	0.437

PN	US/MH Name	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	SSW01	0.000	0.79			15.1	SURCHARGED	5
S1.001	SSW02	0.000	1.27			21.9	SURCHARGED	
S2.000	SSW03	0.000	0.28			5.3	OK	
S2.001	SSW04	0.000	0.27			5.1	OK	
S3.000	SSW05	0.000	0.19			5.3	OK	
S2.002	SSW06	0.000	0.34			10.3	OK	
S1.002	SSW07	0.000	0.60			22.1	SURCHARGED	
S1.003	SSW08	0.000	0.54			20.4	SURCHARGED	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S4.000	SSW09	0.000	0.93			124.5	OK	
S4.001	SSW10	0.000	0.98		12	105.1	SURCHARGED	
S4.002	SSW11	0.000	0.91			102.6	SURCHARGED	
S4.003	SSW12	0.000	1.00			98.9	SURCHARGED	
S4.004	SP.I	0.000	0.48			94.0	SURCHARGED	
S5.000	SSW13	0.000	1.06			37.6	SURCHARGED	1
S5.001	SSW14	0.000	0.61		12	31.4	SURCHARGED	
S5.002	SSW15	0.000	0.45			25.3	SURCHARGED	
S1.004	SSW16	0.000	0.42			61.4	SURCHARGED	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 3 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm) 17.300	Cv (Summer) 0.750
Region	England and Wales	Ratio R 0.289	Cv (Winter) 0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

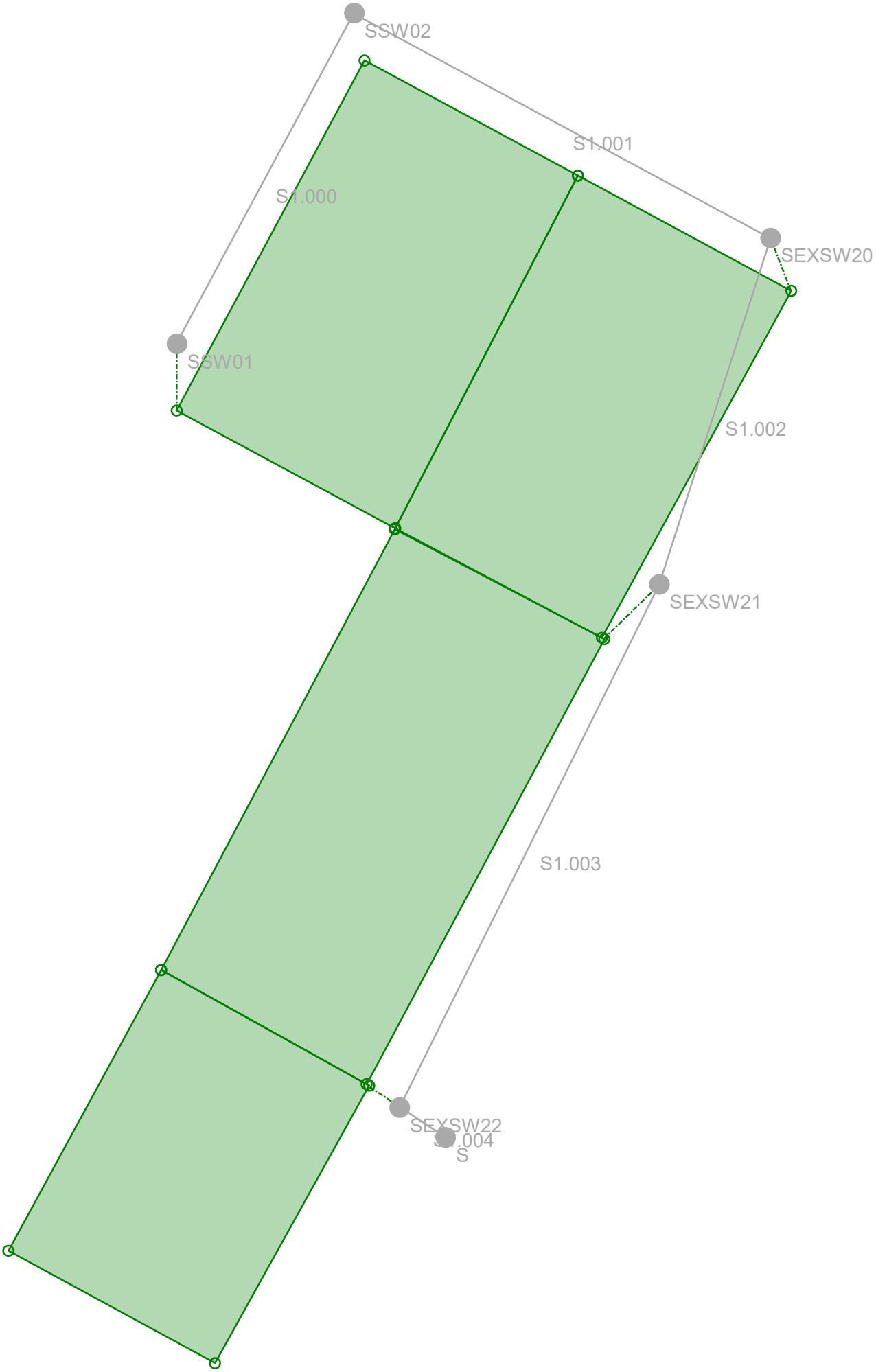
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S1.000	SSW01	30 Winter	100	+40%	30/15 Summer	100/15 Summer			53.312	0.902
S1.001	SSW02	60 Winter	100	+40%	30/15 Summer				53.144	1.192
S2.000	SSW03	15 Winter	100	+40%					53.026	-0.074
S2.001	SSW04	60 Winter	100	+40%	100/60 Winter				52.928	0.060
S3.000	SSW05	15 Winter	100	+40%					52.950	-0.090
S2.002	SSW06	60 Winter	100	+40%	100/15 Winter				52.922	0.410
S1.002	SSW07	60 Winter	100	+40%	30/15 Summer				52.908	1.323
S1.003	SSW08	60 Winter	100	+40%	30/15 Summer				52.887	1.397
S4.000	SSW09	15 Winter	100	+40%	100/15 Summer				53.190	0.765
S4.001	SSW10	60 Winter	100	+40%	30/15 Winter				52.939	0.919
S4.002	SSW11	60 Winter	100	+40%	30/15 Winter				52.918	0.969
S4.003	SSW12	60 Winter	100	+40%	30/15 Summer				52.896	1.031
S4.004	SP.I	60 Winter	100	+40%	30/15 Summer				52.882	1.108
S5.000	SSW13	15 Winter	100	+40%	30/15 Summer	100/15 Winter			53.100	0.875
S5.001	SSW14	60 Winter	100	+40%	30/15 Summer				52.902	1.066
S5.002	SSW15	60 Winter	100	+40%	30/15 Summer				52.883	1.259
S1.004	SSW16	60 Winter	100	+40%	30/15 Summer				52.865	1.340

PN	US/MH Name	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	SSW01	1.569	0.79			15.1	FLOOD	5
S1.001	SSW02	0.000	1.28			21.9	FLOOD RISK	
S2.000	SSW03	0.000	0.51			9.5	OK	
S2.001	SSW04	0.000	0.28			5.3	SURCHARGED	
S3.000	SSW05	0.000	0.34			9.5	OK	
S2.002	SSW06	0.000	0.35			10.5	SURCHARGED	
S1.002	SSW07	0.000	0.83			30.6	SURCHARGED	
S1.003	SSW08	0.000	0.75			28.7	SURCHARGED	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S4.000	SSW09	0.000	1.51			202.1	SURCHARGED	
S4.001	SSW10	0.000	0.92		36	98.4	SURCHARGED	
S4.002	SSW11	0.000	0.83			94.1	SURCHARGED	
S4.003	SSW12	0.000	0.89			88.0	FLOOD RISK	
S4.004	SP.I	0.000	0.43			84.5	FLOOD RISK	
S5.000	SSW13	0.171	1.68			59.8	FLOOD	1
S5.001	SSW14	0.000	0.50		35	25.9	FLOOD RISK	
S5.002	SSW15	0.000	0.41			22.9	SURCHARGED	
S1.004	SSW16	0.000	0.42			61.4	FLOOD RISK	

Appendix H – Site B MicroDrainage Calculations


SSW02
S1.001
S1.000
SEXSW20
SSW01
S1.002
SEXSW21
S1.003
SEXSW22
S1.004

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	17.300	Add Flow / Climate Change (%)	0
Ratio R	0.286	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.133	4-8	0.039

Total Area Contributing (ha) = 0.172

Total Pipe Volume (m³) = 2.186

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	25.076	0.312	80.4	0.044	4.00	0.0	0.600	o	150	Pipe/Conduit	
S1.001	31.610	0.395	80.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.002	24.305	0.300	81.0	0.042	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.003	39.024	0.482	81.0	0.053	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.004	3.670	0.045	81.5	0.034	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	42.12	4.37	56.287	0.044	0.0	0.0	0.0	1.12	19.8	5.0
S1.001	40.57	4.84	55.975	0.044	0.0	0.0	0.0	1.12	19.9	5.0
S1.002	39.46	5.20	55.580	0.086	0.0	0.0	0.0	1.12	19.8	9.2
S1.003	37.82	5.78	55.280	0.138	0.0	0.0	0.0	1.12	19.8	14.2
S1.004	37.68	5.84	54.798	0.172	0.0	0.0	0.0	1.11	19.7	17.6

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
SSW01	57.400	1.113	Open Manhole	1200	S1.000	56.287	150				
SSW02	57.100	1.125	Open Manhole	1200	S1.001	55.975	150	S1.000	55.975	150	
SEXSW20	56.650	1.070	Open Manhole	1200	S1.002	55.580	150	S1.001	55.580	150	
SEXSW21	56.550	1.270	Open Manhole	1200	S1.003	55.280	150	S1.002	55.280	150	
SEXSW22	56.060	1.262	Open Manhole	1200	S1.004	54.798	150	S1.003	54.798	150	
S	56.060	1.307	Open Manhole	0		OUTFALL		S1.004	54.753	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SSW01	249914.285	362740.437	249914.285	362740.437	Required	
SSW02	249926.132	362762.538	249926.132	362762.538	Required	
SEXSW20	249953.942	362747.511	249953.942	362747.511	Required	
SEXSW21	249946.509	362724.370	249946.509	362724.370	Required	
SEXSW22	249929.158	362689.415	249929.158	362689.415	Required	
S	249932.238	362687.419			No Entry	

Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	User	-	100	0.044	0.044	0.044
1.001	-	-	100	0.000	0.000	0.000
1.002	User	-	100	0.042	0.042	0.042
1.003	User	-	100	0.053	0.053	0.053
1.004	User	-	100	0.034	0.034	0.034
				Total	Total	Total
				0.172	0.172	0.172

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S1.004	S	56.060	54.753	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	17.200	Storm Duration (mins)	30
Ratio R	0.290		

Online Controls for Storm

Hydro-Brake® Optimum Manhole: SEXSW20, DS/PN: S1.002, Volume (m³): 1.7

Unit Reference	MD-SHE-0105-5000-1000-5000
Design Head (m)	1.000
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	105
Invert Level (m)	55.580
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	5.0	Kick-Flo®	0.637	4.1
Flush-Flo™	0.296	5.0	Mean Flow over Head Range	-	4.3

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)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.6	0.800	4.5	2.000	6.9	4.000	9.6	7.000	12.5
0.200	4.8	1.000	5.0	2.200	7.2	4.500	10.1	7.500	12.9
0.300	5.0	1.200	5.4	2.400	7.5	5.000	10.6	8.000	13.3
0.400	4.9	1.400	5.8	2.600	7.8	5.500	11.1	8.500	13.7
0.500	4.7	1.600	6.2	3.000	8.4	6.000	11.6	9.000	14.1
0.600	4.3	1.800	6.6	3.500	9.0	6.500	12.1	9.500	14.5

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm) 17.300	Cv (Summer) 0.750
Region	England and Wales	Ratio R 0.289	Cv (Winter) 0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S1.000	SSW01	15 Winter	1	+0%	30/15 Summer				56.339	-0.098
S1.001	SSW02	15 Winter	1	+0%	30/15 Summer				56.027	-0.098
S1.002	SEXSW20	15 Winter	1	+0%	1/15 Summer	30/15 Summer			55.992	0.262
S1.003	SEXSW21	15 Winter	1	+0%	30/15 Summer				55.356	-0.074
S1.004	SEXSW22	15 Winter	1	+0%	30/15 Summer				54.914	-0.034

PN	US/MH Name	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	SSW01	0.000	0.26			5.0	OK	
S1.001	SSW02	0.000	0.26			4.9	OK	
S1.002	SEXSW20	0.000	0.26			4.9	SURCHARGED	21
S1.003	SEXSW21	0.000	0.50			9.6	OK	
S1.004	SEXSW22	0.000	0.94			12.5	OK	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm) 17.300	Cv (Summer) 0.750
Region	England and Wales	Ratio R 0.289	Cv (Winter) 0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S1.000	SSW01	15 Winter	30	+0%	30/15 Summer				56.764	0.327
S1.001	SSW02	15 Winter	30	+0%	30/15 Summer				56.713	0.588
S1.002	SEXSW20	30 Winter	30	+0%	1/15 Summer	30/15 Summer			56.653	0.923
S1.003	SEXSW21	15 Winter	30	+0%	30/15 Summer				55.478	0.048
S1.004	SEXSW22	15 Winter	30	+0%	30/15 Summer				55.071	0.123

PN	US/MH Name	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	SSW01	0.000	0.55			10.5	SURCHARGED	
S1.001	SSW02	0.000	0.38			7.3	SURCHARGED	
S1.002	SEXSW20	2.554	0.28			5.2	FLOOD	21
S1.003	SEXSW21	0.000	0.92			17.6	SURCHARGED	
S1.004	SEXSW22	0.000	1.95			25.9	SURCHARGED	

Appendix I – Site Investigation

GROUNDTECH
CONSULTING

Job title:	Gwynedd Skips
Report type:	Geo-Environmental Appraisal
Prepared for:	Gwynedd Skip & Plant Hire
Date:	18 May 2022

Document Control Form	
PROJECT	*GWYNEDD SKIPS*
REPORT NAME	*GEO-ENVIRONMENTAL APPRAISAL*
REPORT REFERENCE	*GRO-22013-3516*
STATUS	*FINAL*
ISSUE DATE	*18 MAY 2022*
REVISION	
CLIENT	*GWYNEDD SKIP & PLANT HIRE*
CLIENT CONTACT	-
For and Behalf of Groundtech Consulting	
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SIGNATURE	
REVIEWED	James Doyle BSc (Hons) CGeol FGS

SUMMARY

Site Details	
Site Location	*The two site locations are located on Cibyn industrial estate which is approximately 2 miles east of Caernarfon town centre. Both sites are located to the east of the industrial estate.*
Site Area	*The skip yard (Site A) almost square in shape and approximately 0.9 hectares in area. The site is an existing skip and plant hire facility which processes the skip waste as well as also housing welfare and offices. The site is split up into 3 separate areas all being topographically level. The first section of the site is the waste process area located to the west, which comprises concrete surfacing. The second is the garage and yard along the north east of the site which comprises tarmac surfacing. The final area of site A, the office building and car park located to the south east comprised concrete surfacing.* *The abattoir (Site B) is roughly rectangular in shape and encompasses approximately 1.05 hectares in area. The site is currently occupied by a former abattoir, the site has a slight incline to the west and has areas comprising topsoil and hardsurfacing of concrete and slate. The main feature of the site is the former abattoir located in the centre – west of the site with other features such as farm sheds to the south.*
Preliminary Risk Assessment	
History	*The site was undeveloped until the 1986/89 when a small building (shed) was constructed in the south western area of site A. Further development took place in 1994 for Area A as additional buildings were constructed in the south east and north east.* *Development began on Area B in 2001 with a warehouse constructed at the centre as well as a small building to the north east.* *In 2003 an office building was constructed to the south of site A and site B is now labelled 'Abattoir' with extensions present to the north east and south west of the warehouse.*
Geology/Hydrogeology	*The site is indicated to be underlain by Glacial Till (Devensian), this strata characteristically comprises clay, silt, sand and gravel. The bedrock is the Nant Ffrancon Subgroup which comprises siltstone.* *The superficial deposits in this area are classified by the Environment Agency as an Unknown aquifer however Glacial Till deposits are typically characterised as a Secondary Undifferentiated aquifer (This is assigned where it is not possible to attribute either category A or B to a soil type. In general, these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the soil type).* *The bedrock is also classified as a Secondary Undifferentiated aquifer.* *Two historic potable water abstractions are present 868m southeast of site and are both associated within household use from a pond at Glan Gwna Holiday Park Ltd, dated 2006.* *No groundwater abstractions are indicated within 2km of site.*
Mining	*The site is not located within a coal mining area.*
Environmental Setting	*The site is not indicated to lie within a SPZ.* *The nearest watercourse is an unnamed tributary to Afon Seiont immediately south of the abattoir area.* *Radon precautions are not required.*

Pollution Linkage (PL) Assessment	Human Health	*Nearby sources of contamination have been identified as well as onsite sources associated with the skip waste site and abattoir. The risk has been assessed as Low due to the proposed development to be covered in hardsurfacing.*
	Controlled Waters	*The risk to controlled waters was assessed as Low.*
	Permanent Ground Gas	*Several sources of permanent ground gases have been identified within influencing distance of site and the risk is considered to be Moderate.*
Ground Model		
Made Ground Soils		*Made Ground was encountered across the site to depths of between 0.1m and 2.3m bgl and was generally granular with minor constituents of slate and brick.*
Natural Soils		*Firm Clay was typically recorded beneath the Made Ground soils, the gravel and cobble content of the Clay increased with depth and boulders were encountered typically becoming too dense for the borehole to be progressed at 3.0m bgl across the Skip Yard (Area A) and 5.5m bgl across the abattoir (Area B).*
Bedrock		*Bedrock was not encountered during the Ground Investigation.*
Groundwater		*Groundwater was not encountered within any exploratory hole locations.*
Ground Engineering Assessment		
Foundations		*The most suitable foundations are considered to be pads constructed within the natural firm to stiff Clay deposits. All foundations should be deepened through the Made Ground.*
Highways		*CBR values of 2 to 3% are likely to be achieved within natural cohesive strata. Made Ground should be assumed to be at formation level and achieve a CBR value of less than 2.5% unless proven otherwise by in-situ testing.*
SuDS		*SuDS drainage testing was not carried out however it is unlikely feasible due to the natural Clay present beneath the entire site.*
Constraints		*The main development constraint is the cobble and boulder content within the natural Clay deposits encountered beath the site.* *Limited investigation was undertaken at the position of the proposed workshop within the abattoir (Area B) due to alterations in proposed development plans. Confirmatory trial pits at this position are recommended to confirm foundation recommendations.* *There is a risk of differential settlement within the proposed warehouse extension and movement joints are recommended along with consideration of angle of distortion.*
GQRA and Revised (PL) Assessment		

Human Health	*No elevated contaminants of concern have been recorded, asbestos was detected in one sample of Made Ground. The site is to be completely covered in hardsurfacing and therefore the risk to human health is considered to be Low.*
Controlled Waters	*Mobile contamination has not been recorded and groundwater is not considered to be a sensitive resource at the site. The risk to controlled waters is considered to be Low.*
Permanent Ground Gas	*Interim ground gas monitoring results place the abattoir (Area B) within CS2 and ground gas precaution measures are required due to a single elevated concentration of CO_2 beneath the footprint of the proposed development.* *The skipyard (Area A) falls within CS1 and no ground gas precaution measures are required based on the first monitoring visit.* *The site is not located within an area whereby radon precautions are required.*

Final Appraisal

The following further work is recommended to progress the development to the construction phase:

- *Completion of gas monitoring programme.*
- *Issue gas assessment.*
- *Confirmatory investigation at position of workshop in abattoir (Area B) post demolition.*
- *Additional topsoil sampling if material is proposed for reuse.*
- *Demolition and Refurbishment Asbestos survey.*
- *Tree survey by qualified arboriculturist.*
- *Detailed foundation design.*
- *Confirmation of remedial recommendations with regulators.*

TABLE OF CONTENTS

Plans		
Plan Reference	*Revision*	*Title*
GRO-22013-P01	-	*Project Location Plan*
GRO-22013-P02	-	*Preliminary Findings and Constraints Plan*
GRO-22013-P03	-	*Illustrative Preliminary CSM*
GRO-22013-P04	-	*Exploratory Hole Location Plan*
GRO-22013-P05	-	*Generalised Ground Model*
GRO-22013-P06	-	*Revised Illustrative CSM*

1.0 INTRODUCTION

1.1 Project Objectives

Groundtech Consulting Limited have been instructed by Gwynedd Holdings Ltd and their consultant Kennedy Redford Limited to undertake a Geo-Environmental Appraisal for a site at Gwynedd Skips and Plant Hire in Caernarfon.

The objectives of the Preliminary Risk Assessment were to establish the sites environmental and geotechnical background in order to generate a Conceptual Site Model to identify any potential constraints and linkages which may affect the redevelopment of the site.

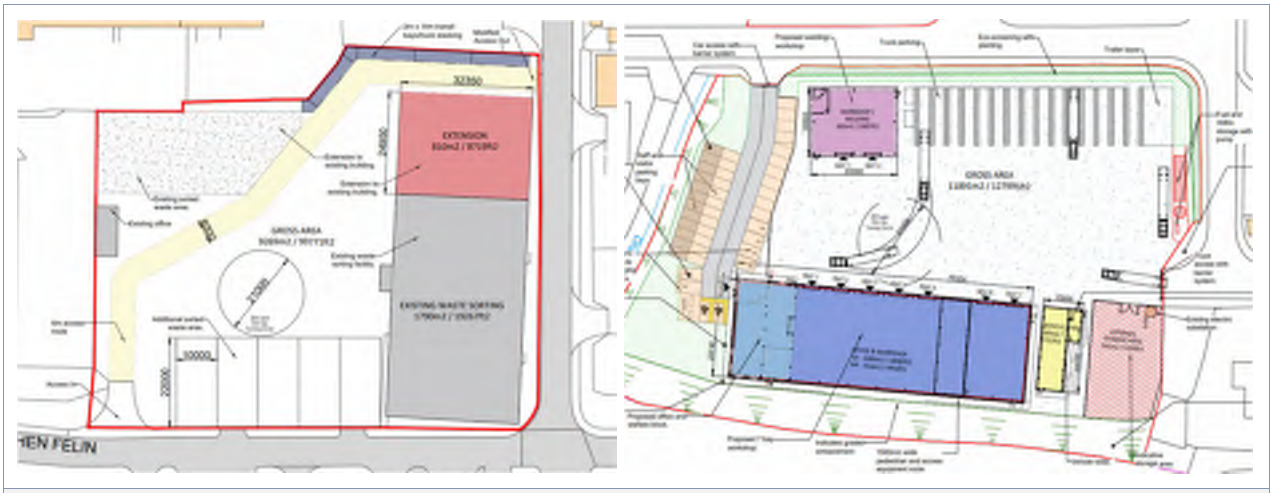
A main investigation was undertaken in accordance with BS 5930:2015, BS 10175:2017, BS 8576:2013 and Eurocode 7 to revise the CSM and quantify the level of risk identified in the PRA. The Appraisal has been prepared in accordance with current UK Legislation and to discharge Land Quality pre-commencement planning conditions.

The report has been undertaken to fulfil the requirements of a preliminary risk assessment in accordance with current risk assessment guidance.

1.2 Proposed Development

The proposed development is commercial end use comprising the following:

- *Area A*
  - *Extend the existing warehouse facility*
  - *Demolish the office and extend the warehouse*
  - *Demolish the workshop*
- *Area B*
  - *Demolish existing buildings to make way for development*
  - *Construct 7 bay workshop facility including 2 ½ vehicle pits*
  - *Staff office and welfare*
  - *Separate vehicle wash*
  - *Yard*
  - *Fuel storage (client preference underground)*



Proposed Development Layout (Area A – left) and (Area B – Right)

1.3 Limitations

This Preliminary Risk Assessment is based on information obtained from a number of sources, and the information is assumed to be correct.

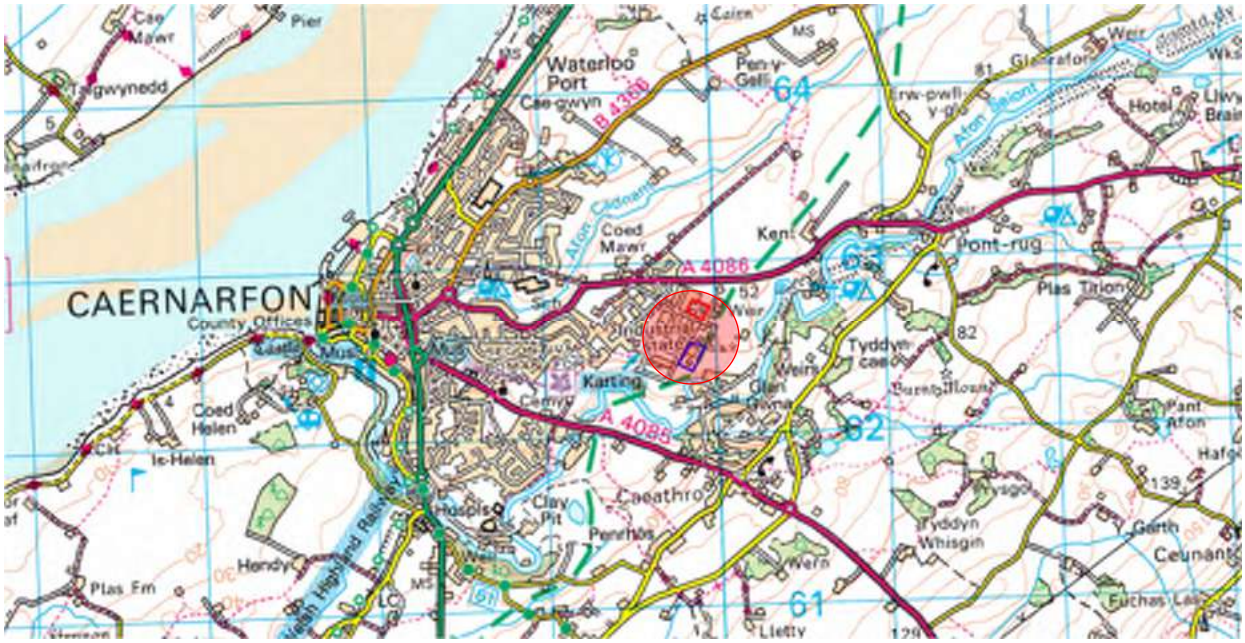
Other conditions may exist on the site that have not been taken into account in this assessment as they are outside the scope of works. Groundtech Consulting are not responsible for these circumstances that are not outlined in the report.

The assessment has been prepared for the exclusive use of the client. No third parties may rely on or reproduce the contents of the report without the written permission of Groundtech Consulting Limited. If any unauthorised third party comes into possession of the report they rely on it at their own risk and Groundtech Consulting Limited will not be obliged to provide a duty of care.

2.0 SITE SETTING

2.1 Location

The site areas are located circa 1.8 kilometres east of Caernarfon Town Centre, as shown on the Project Location Plan *GRO-22013-P01*. The site areas are approximately centred on National Grid Reference *249896, 362735 (Gwynedd Skips and Plant Hire)* and *249859, 362483* (*Abattoir*).



Project Location

Access to the site is gained off Lon Hen Felin (*Gwynedd Skips and plant hire*) and Lon Cae Darbi (*Abattoir*).

2.2 Site Description

The site is separated into two main areas - Gwynedd Skip and plant hire yard (Area A) and an abattoir warehouse and yard (Area B).

Area A - Gwynedd Skip & Plant Hire
This area of site is almost square in shape and approximately 0.9 hectares in area, the topography of site is generally level.

This area of site comprises a large skip yard which completely covered in tarmac and concrete hardsurfacing for HGV, heavy plant and machinery usage. A large warehouse is present to the east as well as a smaller building immediately north utilised for repairs and storage. The large warehouse is currently utilised as a recycling plant/warehouse.

A small workshop is present at the south western area of site accessed via the main skip yard area to the centre.

A two-storey office building and café is present to the south surrounded by a tarmac surfacing drive/car park and separated from the main section of site by a two-storey tall corrugated iron wall.

The site is predominantly boarded by a two-storey tall wall however palisade fencing is present to the south at the office/café. The south east boundary is distinguished by the extent of the warehouse.

The site is surrounded by following features/land uses:

- *North* - *Vehicle workshop and access road.*
- *East* - *Unnamed road followed by an HGV fuelling yard (Shell Gas).*
- *South* - *Lon Hen Felin road followed by industrial land use.*
- *West* - *Industrial land use.*

Area B- Abattoir

This area of site is approximately 1.05 hectares in area, rectangular in shape and the topography is level.

The main feature of this site is the existing abattoir to the centre-west section with associated buildings attached to the south west, south and east. This western area of site is completely covered in concrete hardsurfacing.

The eastern section of site is predominantly soft landscaped. Two buildings are present in the south east, one comprises a animal shed for temporarily holding animals and with the other being a storage warehouse. The northern area is utilised as outdoor storage with an area designated as part of a pumping station comprising a small concrete pit filled with water. A small electrical substation is visible in the northern area.

Palisade fencing distinguishes all site boundaries alongside semi-mature to mature trees. Although the site is level, Lon Car Darbi sits at a higher level due to a steep slope at the immediate western site boundary. An embankment is also present along the eastern boundary with site levels reducing by approximately 1.5m.

The abattoir area is surrounded by following features/land uses:

- *North* - *Vehicle service & repairs workshop with hardsurfacing car park.*
- *East* - *Fields and Caernarfon Bypass (A487).*
- *South* - *Industrial land use (Dwyfor Oils) followed by fields.*
- *West* - *Lon Cae Darbi followed by skip yard and industrial land use.*

Site photographs are presented in *Appendix 2* and relevant features are recorded on the Preliminary Development Constraints Plan *GRO-22013-P02.*

For the remainder of the appraisal, the skipyard is referred to as 'Area A' and the abattoir is referred to as 'Area B'.

3.0 ENVIRONMENTAL SETTING

3.1 Site History

Available historical maps have been obtained, a list of dates and scale are listed in the table below:

Scale	Date
1:1,250	*2003.*
1:2,500	*1889, 1900, 1914, 1965, 1972, 1974, 1980, 1977/80, 1983, 1986/89, 1994, 1994/95, 1995.*
1:10,000/10,560	*1888, 1899/91, 1913, 1949, 1959, 1976, 1990, 2001, 2010, 2022.*

The plans were examined and potential issues have been identified and summarised in the table below:

Date	Site	Surrounding Area
1888	*Undeveloped land comprising fields.*	*Surrounding area is predominantly fields with sparse agricultural buildings and associated pumps present c.125m east and c.100m west.* *There are also two wells indicated c.100m north west and c.100m east. A single road passes between the two areas in a NW to SE direction.* ***Bod Chual Flour Mill** sits c.200m south east of site with associated weirs and sluices.*
1913	-	*Spring present c.25m north.* *Bod Chaual Flour Mill is now labelled 'Old Mill' on maps.*
1972	-	*Agricultural buildings/land use to west no longer present.* ***Vehicle Testing Station (MOT)** constructed c.220m west.*
1976	-	*Significant housing development c.100m south of site and replacing former mill c.200m south east.* *Surrounding areas to the North, East and South West remain predominantly fields.*
1980	-	***Warehouse** developed immediately north of Area A. Further industrial and commercial development from west spanning towards site comprising mostly **warehouses** and unspecified buildings.* *Areas to north east and south east of site remain occupied by fields.*
1983	-	***Garage, depot, works and depot** are indicated immediately west of Area A.* ***Electrical Substation** present 100m north.* *Council depot and further surrounding unspecified depots, warehouses and commercial buildings constructed to west.*
1986/89	*Small building (Shed) constructed at south western section of Area A.*	***Pumping station** visible immediately north of Area B. Additional three buildings developed between Area A and Area B, all considered to be commercial/industrial associated with the expansion of the industrial estate replacing track.* *Significant road network development between two Areas of site.*
1990	-	*Industrial estate now labelled Cibyn Industrial Estate.*

1994	*Area A split up into three sections and additional buildings constructed within the south east and north east.*	*Industrial estate expansion surrounding site.* *Section of fields immediately east of Area A now developed with industrial/commercial land use.* *Majority of land use to east remains fields.*
2001	***Warehouse** constructed within Area B at centre. Small building indicated to the north east.*	*Further industrial building development surrounding site.*
2003	*Office building constructed within Area A to the south.* *Area B is now labelled '**Abattoir**' and extensions are presented to the north east and south west of the warehouse.*	*No significant changes.*
2010	*Small building situated at the south east area of Area B.*	***Warehouses** present to north east and south west in previously undeveloped areas.*
2022	*Further building constructed at south east of Area B.*	*Both Areas of site situated within Industrial estate and are surrounded by unspecified warehouses and commercial buildings.* *Fields are present to the east with the exception of immediately east at Area A.*

The historical plans are presented in *Appendix 3*.

3.2 Geology

The following British Geological Survey (BGS) records and other available information were inspected to accurately determine the geology underlying the site:

- *1:50,000 Scale Geological Sheet Anglesey Sheets 92, & 93 - Solid and Drift Edition.*
- *1:50,000 Scale Geological Sheet 94, 105 & 106 - Solid and Drift Edition.*
- *Memoir.*
- *BGS Records.*

Made Ground
BGS records indicate no Made Ground is present on the site, however due to the historic developments Made Ground is anticipated.

Superficial Deposits
The site is indicated to be underlain by Glacial Till (Devensian), this strata characteristically comprises clay, silt, sand and gravel.

Solid Geology
The bedrock is the Nant Ffrancon Subgroup which comprises siltstone.

BGS Records
The nearest borehole record is located circa 550m from both areas of site and was drilled to a depth of 61m bgl. The geology comprised soils and stones to 1.5m bgl underlain by brown clay and stones (Glacial Till) to 7.0m bgl followed by dark grey fractured Mudstone. Water strikes were observed at 9m, 12m, 21m, 36m, 42m and 55m bgl.

The BGS records are presented in *Appendix 4.*

3.3 Hydrogeology

The superficial deposits in this area are classified by the Environment Agency as an Unknown Aquifer however Glacial Till deposits are typically characterised as a Secondary Undifferentiated aquifer (This is assigned where it is not possible to attribute either category A or B to a soil type. In general, these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the soil type).

The bedrock is also classified as a Secondary Undifferentiated Aquifer.

The site is not indicated to lie within 500m of a Source Protection Zone and no groundwater abstractions are indicated within 2km of site.

3.4 Hydrology

The nearest named watercourse is Afon Seiont which is located 109m south of site.

Two historic potable water abstractions were present 868m south east of site, both are from surface waters and are associated within household use from a pond at Glan Gwna Holiday Park Ltd, dated 2006.

Environment Agency information indicates that the site is outside a flood risk zone and is not at risk of flooding.

3.5 Environmental Consultations

A request has been submitted to the Contaminated Land Officer at Gwynedd County Council for information pertaining to the site. Relevant information pertained will be forwarded upon receipt.

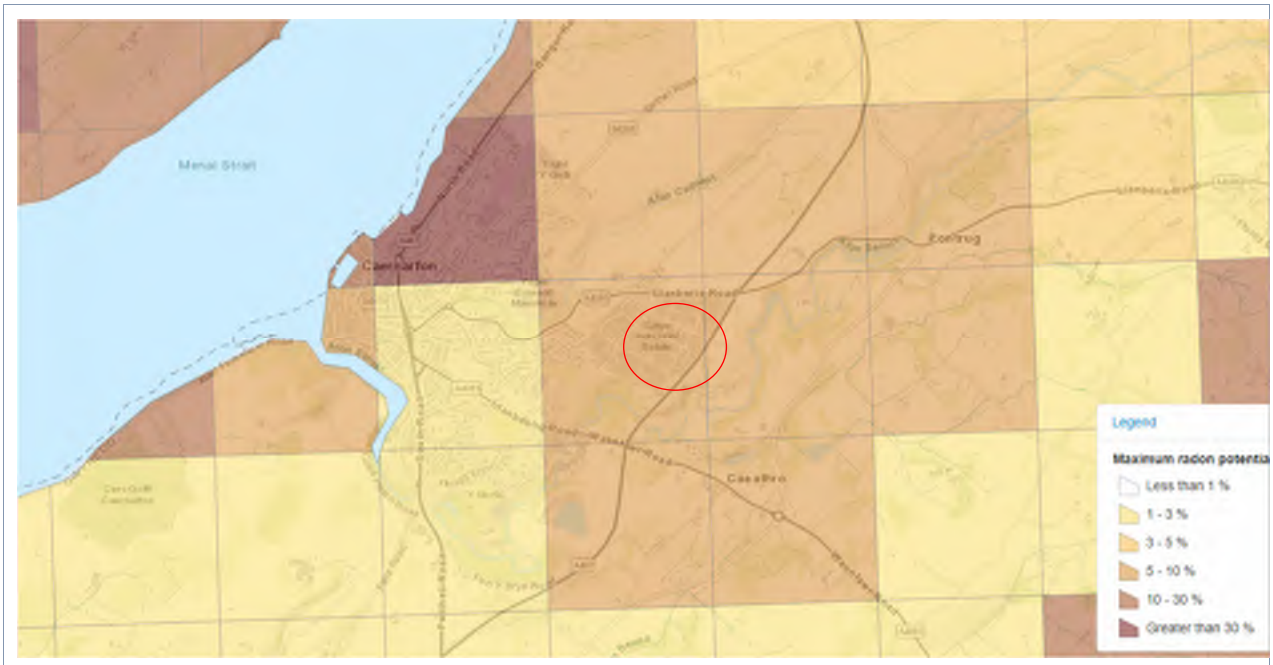
An environmental consultation has been conducted through Groundsure, which accesses British Geological Survey and Environment Agency databases. The complete EnviroInsight Report can be found in *Appendix 5*, a summary of the more relevant points are presented in the table below.

Record	<250m	250 – 500m	Description
Authorised Processes	*1*	*1*	*Nearest situated 226m west associated with respraying of road vehicles.* *Timber manufacturer 285m west.*
Control of Major Accident Hazards (COMAH)	*2*	*-*	*Former NIHHS site indicated onsite and current COMAH site present c.6m north east of site (COMAH Lower Tier Operator).*
Hazardous Substance Storage/Usage	4	*-*	*Four hazardous substance consents granted between 30m and 209m west of site associated with Dwyfor Oils Ltd, Avanti Gas Ltd and Calor Gas Ltd.*
Historical Tanks	*2*	*7*	*Nearest tanks c.31m north east, 130m west and 306m west from site and are unspecified.*
Historical Garages	*4*	*-*	*Garage indicated 17m north west and vehicle testing stations present 102m west, 137m west and 138m west.*
Historic Landfill	*2*	*2*	*Refuse Tips present c.233m east, 232m east, 345m east and 360m south west.*
Historical Energy Features	*3*	*6*	*Electricity substations situated from 92m north of site, dated between 1971 and 1995.*

Record	<250m	250 – 500m	Description
Historic Waste Sites	*6*	*-*	*Historic waste transport site present immediately south east of Area A. Several waste transfer sites in surrounding areas.*
Pollution Incidents	*12*	*7*	*Several pollution incidents present onsite (Area A) associated with construction and demolition wastes, vehicle and vehicle parts and atmospheric pollutants with no impact to minor impact to land, dated between 2001 and 2007.*
Active Landfill Sites	*1*	*-*	*Landfill site taking Non-Biodegradable wastes at Watkin Jones & Son Ltd c.233m east.*
Active Waste Sites/Exemptions	*91*	*11*	*Gwynedd Skip & Waste site is an active waste site (onsite). Other waste sites c.92m east and 225m south west.*
Discharge Consents	*1*	*4*	*Nearest discharge consent 129m north east of site.*
Petrol Filling Stations	*-*	*-*	*-*
Current industrial Uses	*19*	*-*	*Gwynedd skip & plant hire and Shon Eilian Iron works indicated at Area A.* *Menai Meats present at Area B.* *Nearby industrial land use includes electricity substations, pumping station, tanks, and commercial land use.*

3.6 Radon

Map 12 Northwest Wales from BRE 211 and HPA was examined which defines areas which require radon protective measures. The probability is between 5% and 10% and Gwynedd Skips is located within area requiring radon precautions in foundations in accordance with BRE Report 211 'Radon – Guidance on protective measures for new dwellings' 2015 Edition.



Radon Map

The radon data in the Groundsure report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The Groundsure report contradicts the radon map data and places the radon risk as less than 1% - ***no radon protection measures are required***. The

dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supersede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square.

3.7 Coal Authority Consultation

The site is outside the area of a designated coalfield, the Law Society and Coal Authority state a mining search is not required.

4.0 CONCEPTUAL SITE MODEL AND RISK ASSESSMENT

4.1 Introduction

The potential level of risk posed by contaminants in soil and/or groundwater will be influenced by the type and concentration of the contamination at source, the likelihood of exposure occurring, the potential pollution linkages and the likely chronic or acute effects on the receptors.

A contaminant is defined as a substance that has the potential to cause harm, a risk is considered to exist if such a substance is present at sufficient concentrations to cause harm and if a pathway is present a receptor could be exposed to the contaminant.

Section 4.0 compiles the information from the previous sections to assemble a Conceptual Site Model to inform the risk assessment process. The potential sources identified on the site and off the site that are within influencing distance are assessed to determine if pollution linkages exist and an unacceptable risk is posed to human health and controlled waters. The assessment has been carried out on a qualitative basis and aims to produce a complete and comprehensive Preliminary Conceptual Site Model, the potential pollution linkages are displayed on *GRO-22013-P03 Illustrative Preliminary CSM.*

Three potential types of impacts exist for a site and all three need to be considered in the qualitative preliminary risk assessment:

- *Impacts from sources on the subject site.*
- *Impacts to the surrounding area from the subject site.*
- *Impacts to the subject site from the surrounding area.*

4.2 Potential Contamination Sources

On-Site Sources and Associated Contaminants of Concern (CoC)
From the information obtained during the preliminary risk assessment some onsite sources of contamination have been identified which may affect the redevelopment of the site for commercial end use, these include:

- *Gwynedd Skips Waste Site and Workshop/repair garage (Area A)*
- *Shon Eilian Iron works (Area A)*
- *Pollution incidents associated with demolition, construction and vehicle part repair waste (Area A)*
- *Abattoir (Area B)*
- *Made Ground (Area A & B)*
- *Substation (Area B)*

Limited Made Ground is anticipated associated with the construction of warehouses/offices/commercial buildings at both areas of site and could be a source of metals, Speciated Polycyclic Aromatic Hydrocarbons (PAHs), ground gases and asbestos.

The iron works present at the small building within Area A is considered to be a source of heavy metals, cyanide, sulphates, phosphates, asbestos, fuel/oils and PAHs.

The Gwynedd Skips Waste Site and the former pollution incidents located in Area A present a source of contamination in the form of metals, hydrocarbons, speciated PAHs, and asbestos. The workshop/repair garage is considered to be a source of fuels/oils as well as metals, PAHs and SVOCs/VOCs.

Contaminants associated with the abattoir in Area B may include organics, anthrax, fuels/oils and PAHs.

The electrical substation could be a source of PolyChlorinated Biphenyls (PCBs) used as coolants in the transformers.

Offsite Sources and Associated Contaminants of Concern (CoC)
Several offsite sources of contamination have been identified through the PRA and include the following:

- *Historic Bod Chaul Flour Mill c.200m south/south east*
- *Vehicle Testing Station c.220m west*
- *Surrounding Industrial works*
- *Garage, depot, works and depot immediately west of Area A*
- *Nearby electrical substations (92m north nearest)*
- *Pumping station immediately north at Area B*
- *Refuse tips c.232m east*
- *Hazardous substance licenses c.30m to 209m from site*
- *Unspecified tanks c.31m north east and 130m west*
- *Non-Biodegradable Landfill c.233m east*
- *Waste sites c.92m east and 225m south*
- *Discharge consent c.129m north east*

The garage and vehicle testing station are potential sources of metals, acids, asbestos, speciated PAHs, solvents, fuels, and oils.

Bod Chual Flour Mill may be a source of contaminants such as organics, metals, fuels/oils, asbestos, permanent ground gases and asbestos.

The nearby industrial estate and warehouse present sources of contaminants such as heavy metals, speciated PAHs, Volatile Organic Compounds (VOC), Semi Volatile Organic Compounds (SVOCs), sizing agents, water repellents, soaps, detergents, pesticides, herbicides, organics, fuels/oils, ash, mineral oils, asbestos, PCBs and ground gases.

Electrical substations may be a source of PCBs depending on the age of the transformers.

The active pumping station presents a source of contaminants such as organic materials, methane, fuel/oils, metals and speciated PAHs.

The refuse tips and active landfill site are considered to be a source of permanent ground gases including carbon dioxide, carbon monoxide and methane.

Hazardous substance licenses may be a source of hazardous material such as fuel derived hydrocarbons depending on if any leaks/spills have occurred and migrated into the ground. The tanks are also a source of fuels/oils.

4.3 Pollution Linkages

The definition of a pollution linkage is a medium which allows a contaminant to impact a receptor. Potential pollution linkages have been recognized for the commercial development from the identified contamination sources that exist.

At this stage the potential contaminants identified above are considered to pose an unacceptable risk human health and controlled waters through the following pollution linkages:

- *Direct soil and dust ingestion.*
- *Dermal contact with soil both indoor and outdoors.*
- *Indoor air inhalation from soil and vapour.*
- *Outdoor inhalation of soil and vapour.*
- *Migration and accumulation of ground gas into internal spaces.*
- *Impaction of groundwater from soil contamination (diffuse and point).*
- *Impaction of groundwater from groundwater plume.*
- *Migration of soil and groundwater contamination impacting surface waters.*

4.4 Receptors

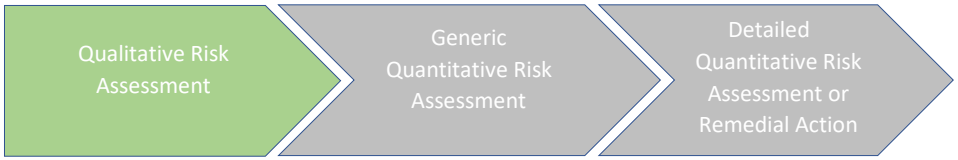
Receptors generally fall into the categories of human health or controlled waters within the river basin system. The recognized receptors are listed below:

- *End site users*
- *Adjacent site users*
- *Afon Sioent 109m south of site*
- *Secondary Undifferentiated Aquifers*
- *Clean potable water supply pipe.*

4.5 Preliminary Conceptual Site Model (CSM)

The factual information obtained from the consultations and summarised in Section 2.0 and 3.0 has been used to compile a Preliminary CSM. Using Source-Pathway-Receptor assessment criteria that is applicable in the UK, a risk assessment has been completed to determine if a plausible pollution linkage exists between the identified contaminants and receptors. The risk classification has been estimated in accordance with the CIRIA C552 assessment criteria outlined in *Appendix 6*.

Human Health Pollution Linkage Assessment



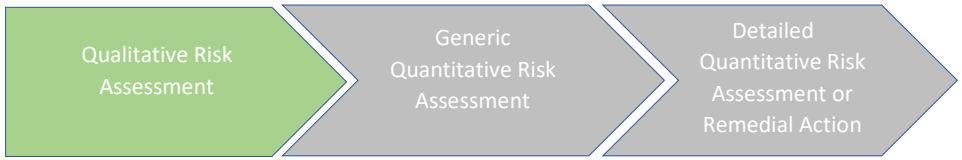
- The table below represents the first stage in the land quality risk assessment process - **the Qualitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					*Qualitative Risk Assessment*	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
PL1	Contaminated Soils	Ingestion of soil and dust. Dermal contact with soil.	Unlikely	Medium	Low	*Pollution Linkage 1 refers to proposed site users coming into contact with contaminated soils on the site.* *The Gwynedd Skip area has historically been utilised as a skipyard and was first developed in 1986. The abattoir area has solely been utilised as an abattoir with unspecified surrounding buildings.* *Limited Made Ground is anticipated associated with the construction of the skip yard and abattoir.* *Onsite sources of contamination include the abattoir which is considered to be a source of organics, pathogens (if animal waste present), fuels/oils and PAHs and the skipyard which may be a source of heavy metals, hydrocarbons, PAHs and asbestos.* *Nearby offsite sources of contamination include a garage/depot immediately west, hazardous substance license, unspecified tank 31m north east. These features present*

Conceptual Site Model						*Qualitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
						a source of heavy metals, VOCs/SVOCs, asbestos and hydrocarbons. All other sources are considered to be outside an influencing distance of site. *The proposed development is commercial and will be entirely covered in hardsurfacing and a pollution linkage is not considered to exist.*
PL2	Contaminated Soils	Inhalation of vapour.	Low likelihood	Medium to Severe	Moderate to Low	*If present vapours have the potential to migrate into confined spaces within the proposed development. At the skipyard, hydrocarbon contamination may be present within the shallow Made Ground due to spills/leakages with machines onsite, ironworks onsite, vehicle repair garage immediately west, and Dwyfor Oils c.34m south west. Sources of hydrocarbons have been identified on the site, however the hardsurfacing will have restricted impaction of then soils and any contamination is likely to be heavier range, a minor pollution linkage is considered to exist at this stage.* *No significant sources of hydrocarbons/vapours have ben identified within the abattoir (Area B) and no pollution linkage is considered to exist.*
PL3	Contaminated Soils	Inhalation of soil dust by adjacent site users.	Unlikely	Medium	Low	*Pollution Linkage 3 relates to contamination on the subject site affecting adjacent site users. All the contaminative sources identified on site are indictive of the surrounding industrial area and potentially less impactful sources than most surrounding sources such as vehicle and industrial workshops, therefore no pollution linkage is considered to exist.*

Conceptual Site Model						*Qualitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
PL4	Contaminated Soils	Attacking potable water supply pipe.	Low Likelihood to Likely	Medium	Moderate to Low	*Pollution Linkage 4 refers to the possible contaminants permeating potable water pipes and consumption by the future site end users of the tainted water supply. Deep Made Ground may be present at installation depth which may be contaminated with a range of organic contaminants.* *A viable pollution linkage is considered to exist and further investigation is required if new potable water supply pipes are to be installed.*
PL5	Ground Gas	Migration and accumulation of ground gas in internal spaces.	Likely	Medium to Severe	Moderate	*Made Ground is likely present beneath much of the areas of site due to the presence of the current industrial land use in the form of a skip yard and abattoir.* *Nearby sources of permanent ground gases include waste sites c.92m east and c.225m south, non-biodegradable landfill c.233m east and refuse tip c.232m.* *Glacial Till underlies the site which will inhibit migration of ground gases however due to the amount of sources present, a linkage is considered to exist and an intrusive investigation comprising the installation of gas monitoring wells is recommended.* *The site is not within an area requiring radon precautions within foundations.*

Controlled Waters Pollution Linkage Assessment



- The table below represents the first stage in the land quality risk assessment process – **Qualitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					*Qualitative Risk Assessment*	
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	*Rationale*
PL6	Contaminated Soils	Impaction of groundwater from soil contamination (diffuse and point). Impaction of groundwater from groundwater plume.	Unlikely	Medium	Low	*Potentially contaminated Made Ground is likely to be present beneath the site associated with the skip and plant yard and abattoir.* *Geological maps indicate that the superficial deposits at site are Glacial Till (Secondary Undifferentiated) and the solid geology is the Nant Ffrancon Subgroup (Secondary Undifferentiated).* *The site is not located within 500m of a Source Protection Zone and there are no surface water, groundwater or potable water abstractions within 500m of site.* *Furthermore, the proposed development will be completely covered with hardsurfacing and groundwater is not considered a sensitive resource. This will considerably reduce infiltration and leaching of potential contaminants, therefore no pollution linkage is considered to exist.*

Conceptual Site Model						*Qualitative Risk Assessment*
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	*Rationale*
PL7	Contaminated Soils	Migration of soil and groundwater contamination impacting surface waters.	Likely	Medium	Low	*Pollution Linkage 7 refers to the impaction of Afon Seiont 109m south of the site and nearby unnamed water features from contaminated soils and groundwater.* *No significant evidence of mobile contamination has been identified through the PRA. No pollution linkage is considered to exist.*

5.0 SCOPE OF INVESTIGATION AND RATIONALE

5.1 Project Objectives

The aim of the fieldwork was to:

Determine the stratification beneath the site.
Maintain watching brief for visual and olfactory evidence of contamination.
Obtain samples using methodology in current guidance for contamination analysis.
Identify realistic pollution linkages to groundwater.
Obtain relevant geotechnical parameters for preliminary foundation design to address both ULS and SLS conditions.
Determine if targeted supplementary investigation in areas of concern is required and for remedial design.
Install monitoring standpipes for gas and groundwater monitoring.
Assess the identified pollution linkages in the CSM.

5.2 Scope of Works

The following scope of works was completed between the dates of 14th March to 19th March 2022.

- *5 No. cable percussive boreholes (CP01 to CP05) were drilled to depths of between 2.0m and 5.5m bgl.*
- *18 No. windowless sampling boreholes (WS01 to WS18) to depths of between 0.3m and 3.0m bgl.*

The exploratory hole locations are presented on Groundtech Plan *GRO-22013-P04* and the exploratory hole logs are in *Appendix 7*.

The exploratory holes were positioned to establish the stratification beneath the site and target areas of concern as summarised in the table below:

Location	Target Rationale
WS01 to WS02	*Proposed yard development (Area A)*
WS03	*Proposed fuel storage (Area A)*
WS04 to WS05, CP01	*Proposed vehicle wash*
WS06 to WS10, CP02 to CP03	*Proposed workshop and office*
WS11 to WS12	*Proposed yard development*
WS13, CP04 to CP05	*Proposed extension*
WS14 to WS16	*Possible contamination beneath existing yard (Area A)*
WS17 to WS18	*Demolish existing office and extend existing yard (Area A)*

The exploratory holes were logged by a suitably experienced geo-environmental engineer in general accordance with the following current guidance:

- *BS 5930 'Code of Practice for Site Investigations' 2015.*
- *BS EN 14688-1:2002 'Geotechnical Investigation and Testing – Identification and classification of soil'.*

- *BS EN ISO 14689:2002 "Geotechnical investigation and testing – Identification and classification of rock".*

5.3 Soil Sampling

During the intrusive investigation, representative samples were taken at regular intervals, changes of strata and where evidence of contamination existed. Laboratory analysis was scheduled on the samples obtained.

The samples obtained are summarised in the table below:

Soil Sample	Number
Environmental Sample	*18*
Disturbed Sample	*5*
Bulk Sample	*3*
Undisturbed U100 Sample	*3*

The samples have been obtained in accordance with current environmental and geotechnical guidance. The sampling plan has been designed obtain samples from all required strata using the correct methodology.

Disturbed samples of soil for geo-environmental testing were placed in the correct sampling containers as required by the laboratory in accordance with their MCERTS and UKAS Accreditation. Transportation was arranged in a timely manner and the samples were at the correct temperature

The sample locations and depths are recorded on the exploratory logs.

5.4 Geo-Environmental Testing

To inform the Generic Quantitative Risk Assessment, the following geo-environmental testing was scheduled to assess the risk from contamination on the site. The testing is based on the potential sources identified in the PRA and observations during the Ground Investigation.

Contaminant of Concern	Matrix	Number
Arsenic, cadmium, chromium (total and hexavalent), copper, lead, mercury, nickel, selenium, zinc, sulphate and pH.	*Soil*	*18*
Asbestos Screening	*Soil*	*18*
Asbestos Quantification	*Soil*	*1*
Total Petroleum Hydrocarbons (TPH CWG)	*Soil*	*5*
Speciated Polycyclic Aromatic Hydrocarbons (PAHs)	*Soil*	*18*
Volatile Organic Compounds (VOCs)	*Soil*	*5*
Semi-Volatile Organic Compounds (SVOCs)	*Soil*	*5*

The Geo-Environmental Laboratory Testing Results are presented in *Appendix 8*.

Representative disturbed samples were obtained for all soil types encountered. Selected samples were scheduled for testing at an approved laboratory in accordance with BS 1377 'Method of Test for Soils for Civil Engineering Purposes' 1990. The following tests were scheduled:

BS 1377	Test Method	Number
Part 2	*Water Content*	*7*
Part 2	*Plasticity Index Analysis*	*7*
Part 2	*Particle Size Distribution by Wet Sieve*	*2*
Part 3	*pH Value*	*7*
Part 3	*Water Soluble Sulphate Content*	*7*
Part 7	*Determination of Undrained Shear Strength in Triaxial Compression*	*1*

The Geotechnical Laboratory Testing Results are presented in *Appendix 9*.

5.5 Gas and Groundwater Monitoring/Sampling

Gas and groundwater monitoring installations were constructed in the boreholes. The standpipes consisted of high-density polyethylene (HDPE) pipe - a bentonite seal was placed around the plain pipe and a clean gravel pack was placed around the slotted pipe. A summary of the installation construction is presented in the table below:

Location	Depth	Response Zone (m bgl)	Targeted Strata	Reason
CP05	*3.00m*	*1.0 - 3.0*	*Made Ground & Natural clay*	*Ground Gas*
WS04	*3.00m*	*1.0 - 3.0*	*Natural Clay*	*Ground Gas*
WS06	*2.20m*	*0.5 - 2.2*	*Made Ground & Natural clay*	*Ground Gas*
WS08	*2.35m*	*1.0 - 2.35*	*Natural Clay*	*Ground Gas*
WS09	*3.00m*	*1.0 - 3.0*	*Natural Clay*	*Ground Gas*
WS13	*2.00m*	*0.5 - 2.0*	*Made Ground & Natural Clay*	*Ground Gas*
WS15	*1.70m*	*0.5 - 1.7*	*Made Ground & Natural Clay*	*Ground Gas*

Permanent gas and flow rate monitoring was carried out using GFM 436 infrared gas monitor with integral electronic flow analyser. The measurements taken are listed below:

- *Oxygen (O_2), carbon dioxide (CO_2) and methane (CH_4) as the percentage volume in air (%v/v).*
- *Hydrogen sulphide (H_2S) and carbon monoxide (CO) as the percentage volume in air (%v/v).*
- *Lower Explosive Limit (%LEL) of methane.*
- *Atmospheric and borehole pressure, including pressure trend.*
- *Flow measurements (l/hr).*
- *Weather and ground surface conditions.*

Both peak and steady state conditions were monitored to understand the behaviour of the permanent ground gas, the steady state conditions were recorded by allowing the gas monitor to run for a minimum of 3 minutes.

Interim permanent gas and groundwater monitoring results are presented in *Appendix 10*.

6.0 GROUND MODEL

6.1 Made Ground

Made Ground was encountered beneath the site to a maximum depth of 2.3m bgl. The surfacing of site comprised concrete and tarmac to a maximum depth of 0.5m bgl across the areas of hardsurfacing (Area A) and sandy topsoil to a maximum depth of 0.5m bgl within the abattoir (Area B).

Two main Made Ground populations were encountered during the investigation and are described below:

- *Dark grey/blue occasionally sandy gravel of slate was encountered within CP01 to CP04, WS03, WS04, WS06, WS14, WS15-WS18 from depths of between ground level and 0.3m bgl to depths of between 0.3m and 2.0m bgl.*

- *Red brown slightly sandy occasionally slightly clayey gravel of brick and slate was present within CP05, WS06, WS13, WS14 and WS15 from depths of between ground level and 0.5m bgl to depths of between 0.8m and 2.3m bgl.*

Locally to WS15, black and red gravelly clay with minor constituents of brick and slate was observed between 0.8m and 0.9m bgl.

Exploratory Hole Locations

6.2 Natural Ground

The natural strata encountered generally confirmed the published geological records. One main natural stratification encountered during the investigation and are described below:

- *Firm becoming stiff at depth brown occasionally gravelly Clay with low cobble and boulder content was encountered in all exploratory holes from depths of between 0.1m and 2.3m bgl to depths of between 1.2m and 5.5m bgl where the natural ground was penetrated.*

6.3 Bedrock

Bedrock was not encountered during this investigation.

6.4 Groundwater

No groundwater strikes were observed during the investigation.

6.5 Watching Brief

A watching brief was maintained during the Ground Investigation for visual and olfactory evidence of contamination.

Evidence of visual contamination was recorded in WS14 and comprised black staining within the Made Ground.

6.6 Excavation Stability

No evidence of collapse was noted during the drilling of the boreholes.

6.7 Excavation/Borehole Progress

Obstructions in the form of natural cobbles and boulders within the Glacial Till were encountered during the drilling of the boreholes at depths between 0.3m and 2.5m bgl, where these were encountered the boreholes were typically terminated as it could not progress further.

Made Ground was not fully penetrated within WS14 at 1.0m bgl due to boulder obstruction and WS16 at 0.3m bgl due to a concrete obstruction.

7.0 GROUND ENGINEERING

7.1 Geotechnical Testing Results

Comparison of water content and the value of 0.4 times the Liquid Limit in accordance with BRE Digest 412 'Desiccation in Clay Soils' suggests significant desiccation has taken place when 0.4 times the Liquid Limit is greater than the actual water measured water content. This is a rudimentary method but also a good guide.

Results of the plasticity testing and the volume change potential of the Clay is summarised in the table below:

Reference	Depth	Modified PI	Volume Change Potential	Desiccated Y/N
CP02	*3.0*	*24*	*Moderate*	*N*
CP04	*2.5*	*18*	*Low*	*Y*
CP05	*2.5*	*37*	*Moderate*	*N*
WS04	*1.5*	*29*	*Moderate*	*N*
WS06	*1.0*	*31*	*Moderate*	*Y*

An additional plasticity index test was scheduled on CP03 at 4.0m bgl however the sample has no displayable plasticity due to the granular nature of the sample.

Particle size distribution testing was undertaken on two of the natural cohesive superficial deposits taken beneath the site and the results are summarised in the table below:

Reference	Depth (m bgl)	Description	Soil Fraction (%)			
			Cobbles	Gravel	Sand	Silt/Clay
CP02	*4.0*	*Brown slightly sandy slightly gravelly CLAY with cobbles.*	*44*	*16*	*12*	*28*
CP05	*2.5 – 3.0*	*Brown slightly sandy slightly gravelly CLAY with cobbles.*	*34*	*18*	*21*	*27*

7.2 Assessment Background

The ground engineering investigation has been undertaken to formulate an accurate ground model in order to undertake preliminary foundation design. The ground model has been constructed with a moderate to high level of confidence, the ground model has evolved from the information obtained by the PRA.

Area A - Skip & Plant Hire

This area of site is currently utilised as a skip yard with a workshop to the south west, recycling warehouse to the east and offices to the south. The proposed development is to demolish the office building and workshop and extend the warehouse to the north by an additional 810m^2.

At this area of site, Made Ground was encountered to a maximum depth of 2.3m bgl at the position of the proposed warehouse and was also underlain by firm to stiff cobbly Clay with low boulder content to a maximum depth of 3.0m bgl.

No groundwater was encountered within any of the boreholes.

As part of the enabling works, the existing office and workshop are to be demolished and foundations are to be grubbed up.

The development constraints in this area of site include the cobble and boulder content within the natural soils which require heavy plant and machinery for excavations as part of the construction works. The deepest boreholes were terminated at 3.0m bgl due to the boulder content forcing the drilling to terminate despite chiselling for significant lengths of time.

As the development in this area comprises an extension to the existing building differential settlement is another development constraint to be considered as there are cohesive ground conditions at the position of the proposed extension.

Area B - Abattoir

The entire western area of site is currently occupied by an abattoir warehouse surrounded by concrete hardsurfacing. The eastern section is unoccupied at the centre with two buildings present at the south and a pumping station area with electricity substation to the north.

The proposed development comprises the construction of a new warehouse and office building on the eastern area of the site, the current abattoir will be demolished. A vehicle wash area is proposed in the north east and a fuel storage area is proposed along the northern boundary.

Made Ground was encountered to a maximum depth of 1.5m bgl and was generally granular in nature underlain by slightly sandy gravelly Clay with cobble content of mudstone to a maximum depth of 5.5m bgl whereby the boreholes were terminated due to boulder obstructions.

Groundwater was not encountered during the Ground Investigation.

The existing abattoir, workshops and pumping area are to be demolished as part of the proposed development, all foundations and hardsurfacing should be grubbed up.

The main limitation associated with the site considered to be the ground conditions comprising cobble and boulder content within the firm to stiff Clay, therefore heavy plant and machinery will be required as part of the construction phase to achieve the required excavation depths. Excavations are likely to be enlarged due to the presence of the cobbles and boulders within the founding stratum resulting in wider trenches and increased concrete volumes required.

Another limitation is that only minimal investigation was undertaken at the position of the proposed warehouse in the area of the former abattoir (Area B) due to alterations in the proposed development. It is recommended that supplementary investigation comprising confirmatory trial pits is undertaken post demolition to ensue ground conditions do not differ and confirm geotechnical recommendations.

A small void is present at the north eastern area of the site associated with pumping station and will need to be backfilled with suitable engineered fill. This area does not fall within the footprint of the proposed development buildings however provides a potential constraint depending on the depth of the void.

7.3 Geotechnical Parameters

The geotechnical test results have been evaluated to derive geotechnical parameters for the soils underlying the site. A depth to '*SPT N value*' graph is presented in plan *GRO-22013-P05* to provide a generalised ground model for the site.

Characterization of the geotechnical parameters above has been undertaken to select a characteristic value, which is a cautious estimate of the value affecting the occurrence of the limit state.
The characteristic values of cohesive strata at each site have been selected based on correlation with SPT values. The characteristic values for Ultimate Limit State (ULS) selected are presented in the table below:

Stratum	Parameter	Selected Characteristic Value
Firm to stiff Clay	*Undrained Shear Strength*	*45kPa*

7.4 Preliminary Foundation Design

The following preliminary design is based on existing levels at the time of the Ground Investigation.

Area A - Skip and Plant Hire
The most suitable foundations for the proposed development at the skip yard are considered to be pad foundations constructed within the firm to stiff gravelly cobbly Clay at a minimum depth of 2.0m bgl. It is recommended that foundations are deepened through the Made Ground deposits.

Preliminary foundation design has been undertaken by calculation, a safe allowable bearing capacity of 100kN/m^2 is provided for ultimate limit state design for a 1.5m wide pad foundation constructed within the firm to stiff natural Clay at a depth of 2.5m bgl.

Using the above pressures, settlement criteria of 25mm will not be exceeded and Serviceability Limit State conditions will be satisfied. If variable strata are encountered at the base of foundation excavations, then foundations should be deepened to found on the similar strata or reinforced to mitigate the potential for differential settlement.

As the proposed development in this area is an extension consideration should be given to issues arising from differential settlement, movement joints should be installed between the existing warehouse and proposed extension and the angle of distortion taken into consideration to ensure settlement will be within an allowable tolerance.

Area B - Abattoir
The most suitable foundations for the proposed development at the abattoir are also considered to be pads constructed within the firm to stiff gravelly cobbly Clay at a minimum depth of 1.0m bgl. It is recommended that foundations are deepened through the Made Ground deposits.

Preliminary foundation design has been undertaken by calculation and a safe allowable bearing capacity of 125kN/m^2 is provided for ultimate state design for a 1.5m wide pad footing constructed within the natural Clay at a depth of 2.0m bgl.

Using the above pressures, settlement criteria of 25mm will not be exceeded and Serviceability Limit State conditions will be satisfied. If variable strata are encountered at the base of foundation excavations, then foundations should be deepened to found on the similar strata or reinforced to mitigate the potential for differential settlement.

Construction Requirements
If the ground conditions encountered during the construction phase differ significantly to the conditions encountered during the Ground Investigation, work should cease and Groundtech Consulting contacted for further advice.

During the construction phase supervision should be on a continuous basis to check the design assumptions are correct and construction conforms to design in accordance with EC7. Supervision should include inspections, Control Ground Investigations and monitoring by Groundtech Consulting.

7.5 Building Near Trees

Foundation excavations will encounter cohesive strata in the vicinity of existing, proposed or recently removed trees, foundations should be adjusted in full accordance with appropriate Guidance. Recently removed semi-mature to mature trees have been identified alongside the boundaries of the Area B and foundations may be in the area of influence.

All foundations should be deepened below roots of greater than 5mm diameter during excavations for footings. The clay is of a low to moderate volume change potential.

A survey of all trees and hedges on the site and within 30m of the site boundary should be undertaken to identify tree species, locations and heights. This information will be required in order to assess the effects of trees on the cohesive strata and inform a foundation schedule.

Where foundation depths due to trees already present or recently removed exceeds 1.5m there is a possibility for heave to occur on removal of the tree. Guidance states that in areas where volume change potential is medium, the void dimension against the side of foundations should be 25mm.

7.6 Floor Slabs

Greater than 600mm of Made Ground is present beneath the site and therefore a suspended floor slab is recommended.

Suspended in-situ concrete ground floors with a minimum void of 100mm in thickness should be utilised where heave can occur in accordance with current guidance.

7.7 Construction

Instability of the Made Ground is a possibility and should be considered in the groundworks method statements.

The natural ground is also considered to be unstable due to the cobble and boulder content present, increasing with depth. Additional volumes of concrete may be required due to foundation excavations being oversized.

Tracked high specification heavy plant is recommended to maintain the build programme. Breaking equipment may also be required locally to penetrate obstructions identified by the Ground Investigation.

Groundwater was not encountered during the Ground Investigation however it has been recorded in the standpipes during the monitoring period. Additionally, a spring has been encountered nearby site and therefore groundwater is present at shallow depths, which is a potential constraint if encountered during groundworks/construction.

7.8 Concrete Classification

Made Ground

Water soluble sulphate testing was undertaken on eight samples of the Made Ground. The range of soluble sulphate (SO_4) recorded is 17.1mgl/l to 1457.1mg/l. Associated pH values ranged between 6.93 and 9.23 indicating slightly alkaline conditions.

For a dataset of five to nine results, the mean of the highest two of the sulphate test results and the mean of the lowest two pH results should be taken as the characteristic value. The characteristic water soluble sulphate value is 1440mg/l and the characteristic pH value is 7.26.

Natural Strata

Water soluble sulphate testing was also undertaken on seven samples of the natural ground. The range of soluble sulphate (SO_4) recorded is 6.6mg/l to 94.0mg/l. Associated pH values ranged between 6.42 and 7.62 indicating slightly acidic conditions.

For a dataset containing five to nine results, the mean of the highest two of the sulphate test results and the mean of the lowest two pH results should be taken as the characteristic value. The selected characteristic sulphate value is 69mg/l and the pH value is 6.7.

Groundwater is considered to be static due to the natural ground being cohesive and therefore impermeable.

The results of laboratory pH and sulphate content indicate that ACEC Class AC-1s and sulphate class DS-2 conditions prevail in the Made Ground soils with ACEC Class AC-1 and sulphate class DS-1s accordance with BRE Special Digest 1 "Concrete in aggressive ground" 2005. The specific concrete mixes (the Design Concrete Class) to be used on site will be determined by the site specific concrete requirements in terms of the durability and structural performance. These are assessed in terms of the Structural Performance Level (SPL) and any need for Additional Protective Measures (APM) detailed in Part D of BRE Special Digest 1 with further guidance in Pt E and F.

7.9 Highway Design

CBR values of 2 to 3% are likely to be achieved in natural cohesive soils for pavement design purposes, unless proven otherwise by in-situ testing at sub-base level by a specialist geotechnical engineer. Some reengineering of the subgrade is required prior to highway construction to achieve the required design CBR value.

Untreated Made Ground should be assumed to have a CBR value of <2.5%, unless proven otherwise. Highways Agency document HD25 'Interim Advice Note 73/06 Revision 1' (2009) states that where a subgrade has a CBR value lower than 2.5%, it is considered unsuitable support for a pavement foundation since it would tend to deform under construction traffic, and must be improved.

Where highways are proposed in areas underlain by Made Ground, it is recommended that Made Ground to a depth of 1.0m below subgrade level is excavated, sorted and classified in accordance with Series 600 (Earthworks) of the Highways Agency "Specification for Highways Works". Following the above, any suitable material which can be used as part of highway construction shall be compacted in accordance with the earthworks specification.

The soils are considered to frost susceptible due to the fines content, highway construction should be a minimum thickness of 450mm to mitigate against the risk.

7.10 Soil Percolation Testing

Soil percolation testing was not within the scope of the works of this Investigation, however the use of SuDS drainage within the natural ground is unlikely to be a viable option at the site due to the presence of impermeable cohesive deposits underlying both areas of site which possesses poor drainage properties.

If SuDS drainage is to be considered, soil infiltration testing should be carried out in accordance with BRE Digest 365.

7.11 Overall Stability

Two slopes are present alongside the eastern and western site boundary of Area B (Abattoir) which could pose a potential issue to stability.

Alongside the western boundary an upwards slope of c.1.0m is present from the abattoir towards Lon Car Darbi. At this position, an eco-screening layer is proposed and stability is not considered a significant risk due to the height of the wall and the distance of the proposed workshop.

Along the eastern boundary, a c.1.5m slope trends downwards into an embankment, the crest of this slope is located approximately 1.5m east of the proposed warehouse and offices. Foundations should be constructed to ensure that their zone of influence is outside the area of the embankment and the slope is not surcharged by the proposed development.

8.0 LAND QUALITY

8.1 Geo-Environmental Testing Results - Soils

Eighteen samples of Made Ground and natural strata have been tested for a range of relevant Contaminants of Concern. In accordance with LCRM, a Generic Quantitative Risk Assessment (GQRA) has been undertaken to determine the significance of the concentrations as derived through Geo-Environmental analysis.

The GQRA process comprises the comparison of the actual concentrations measured on site with Generic Assessment Criteria (GACs) for the protection of human health.

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The GACs used for the assessment of soil concentrations have been derived using the CLEA model. The GACs used and their ranking of importance are listed below:

- *Soil Guideline Values (SGVs) which demonstrate minimal risk,*
- *LQM/CIEH S4ULs which use the same toxicological data as the SGVs but different exposure criteria.*
- *C4SLs which demonstrate low risk.*

In deriving the GACs for use on Brownfield sites we have assumed a 1% Soil Organic Matter, unless the results indicate otherwise.

The proposed end-use for the site is a commercial development at both areas and we have therefore undertaken the GQRA on the basis that the proposed development site falls under the Commercial land-use scenario as defined in SR3 (EA, 2009b).

The strata or sources of contamination targeted by the laboratory testing scheduled is summarised in the table below:

Skipyard (Area A)

Strata	Number	Locations
Granular Made Ground (Population 1)	*6*	*WS13 – WS18*

Abattoir (Area B)

Strata	Number	Locations
Granular Made Ground (Population 1)	*2*	*WS03, WS06*
Made Ground Topsoil	*3*	*WS05, WS07, WS08*
Natural Clay	*7*	*WS01, WS02, WS04, WS09, WS10, WS11, WS12*

A summary of the Geo-Environmental Testing results is presented below and the GQRA screening values are presented in *Appendix 11*:

Metals				
Contaminant	Range (mg/kg)	Screening Value (mg/kg)	Exceedances	Locations
Arsenic	*0.8 – 52.6*	*640*	-	-
Cadmium	*<0.1 – 0.3*	*230*	-	-
Chromium	*38.9 – 131.1*	*8600*	-	-
Hexavalent Chromium	*<0.3*	*49*	-	-
Copper	*10 – 54*	*68000*	-	-

Lead	*<5 – 355*	*2300*	-	-
Mercury	*<0.1 – 0.3*	*26*	-	-
Nickel	*11.3 – 31.3*	*1800*	-	-
Selenium	*<1 – 2*	*13000*	-	-
Zinc	*36 – 118*	*730000*	-	-
Polycyclic Aromatic Hydrocarbons (PAHs)				
Contaminant	Range (mg/kg)	Screening Value (mg/kg)	Exceedances	Locations
Naphthalene	*<0.04-0.4*	*190*	-	-
Acenaphthylene	*<0.03-0.3*	*83000*	-	-
Acenaphthene	*<0.05-0.59*	*84000*	-	-
Fluorene	*<0.04-0.55*	*63000*	-	-
Phenanthrene	*<0.03-3.98*	*22000*	-	-
Anthracene	*<0.04-0.83*	*520000*	-	-
Fluoranthene	*<0.03-3.68*	*23000*	-	-
Pyrene	*<0.03-3.86*	*54000*	-	-
Benzo(a)anthracene	*<0.06-2.14*	*170*	-	-
Chrysene	*<0.02-2.07*	*350*	-	-
Benzo(b)fluoranthene	*<0.05 – 4.02*	*44*	-	-
Benzo(k)fluoranthene	*<0.02 – 1.57*	*120*	-	-
Benzo(a)pyrene	*<0.04-3.25*	*1200*	-	-
Indeno(123cd)pyrene	*<0.04-2.46*	*35*	-	-
Dibenzo(ah)anthracene	*<0.04-0.49*	*500*	-	-
Benzo(ghi)perylene	*<0.04-2.24*	*3900*	-	-
TPH CWG - Aliphatics				
Contaminant	Range (mg/kg)	Screening Value (mg/kg)	Exceedances	Locations
>C5-C6	*<0.10*	*3200*	-	-
>C6-C8	*<0.10*	*7800*		-
>C8-C10	*<0.10*	*2000*		-
>C10-C12	*<0.20*	*9700*		-
>C12-C16	*<4.00*	*59000*		-
>C16-C21	*<7.00*	*1600000*		-
>C21-C35	*<7.00*	*1600000*		-
Total aliphatics C5-35	*<19.00*	*n/a*		-
TPH CWG - Aromatics				
Contaminant	Range (mg/)	Screening Value (mg/kg)	Exceedances	Locations
>C5-EC7	*<0.10*	*26000*	-	-
>EC7-EC8	*<0.10*	*56000*	-	-
>EC8-EC10	*<0.10*	*3500*	-	-
>EC10-EC12	*<0.20*	*16000*	-	-
>EC12-EC16	*<4.00*	*36000*	-	-
>EC16-EC21	*<7.00 – 14*	*28000*	-	-
>EC21-EC35	*<7.00 – 89*	*28000*	-	-
Total aromatics C5-35	*<19.0 – 93.0*			-

Total aliphatics and aromatics(C5-35)	*<38.00 – 171.0*			-
MTBE	*<2.00 ug/kg*	*7900*	-	-
Benzene	*<3.00 ug/kg*	*95*	-	-
Toluene	*<3.00–4.00 ug/kg*	*4400*	-	-
Ethylbenzene	*<3.00-5.00 ug/kg*	*2800*	-	-
m/p-Xylene	*<5.00-8.00 ug/kg*	*3200*	-	-
o-Xylene	*<3.00-4.00 ug/kg*	*2600*	-	-
Others				
Organic Matter		*<0.2 – 5.4*		
pH		*5.89 – 10.20*		
Asbestos Screen				
Position	Depth (m bgl)	Result	Quantification	
WS01	*0.20*	*None Detected*	-	
WS02	*0.50*	*None Detected*	-	
WS03	*0.50*	*None Detected*	-	
WS04	*0.80*	*None Detected*	-	
WS05	*0.20*	*None Detected*	-	
WS06	*0.60*	*None Detected*	-	
WS07	*0.20*	*None Detected*	-	
WS08	*0.20*	*None Detected*	-	
WS09	*0.60*	*None Detected*	-	
WS10	*0.50*	*None Detected*	-	
WS111	*0.20*	*None Detected*	-	
WS12	*0.60*	*None Detected*	-	
WS13	*0.50*	*None Detected*	-	
WS14	*0.20*	*None Detected*	-	
WS15	*0.60*	*Chrysotile Fibre Bundles*	*Pending*	
WS16	*0.5*	*None Detected*	-	
WS17	*0.30*	*None Detected*	-	
WS18	*0.60*	*None Detected*	-	

8.2 Generic Quantitative Risk Assessment - Soils

Made Ground has been encountered beneath the site to depths of between 0.1m and 2.3m bgl and comprised hardsurfacing concrete/tarmac and topsoil underlain by gravelly sand with minor constituents of brick and slate. The Made Ground was typically shallower within the abattoir area.

No visual or olfactory evidence of contamination was encountered across both areas of site with the exception of black staining within the WS14 at 0.1m bgl.

No elevated contaminants of concern have been detected through laboratory testing in any of the eighteen samples screened based on the site having commercial end use.

Asbestos screening was undertaken eighteen samples from the Made Ground and natural ground and asbestos was not detected in seventeen of the samples. One sample within the granular Made Ground in TP15 in the north west of the skip yard (Area A) at a depth of 0.6m bgl tested positive for asbestos in the form of chrysolite fibre bundles. Quantification results are currently pending and will be included in a revision to this document.

No evidence of animal remains were found during the investigation at the abattoir area.

The electricity substation situated within the abattoir area (Area B) is dated post 1990 and is therefore not a risk of PCBs.

Good housekeeping was typically observed across the site, specifically within the skipyard. No evidence of spills or leakages was observed at the vehicle repair workshop (Area A) or the waste treatment area (Area B) due to relatively good housekeeping. The concrete slab located beneath the skipyard was observed as fully intact and underlain by a mesh net layer inhibiting migration of any contamination into the underlying Made Ground and natural soils. The concrete slab at the abattoir also remained undamaged.

8.3 Permanent Ground Gases

A single ground gas monitoring visit has been carried out to date on 13th April 2022.

No concentrations of methane (CH_4) have been recorded within the boreholes, however detectable levels of carbon dioxide (CO_2) were recorded within the standpipes up to a value of 9.6% v/v together with depleted oxygen (O_2) concentrations of 0.0% v/v.

No positive gas flow rates were recorded and the atmospheric pressure was 1009mb. The monitoring was carried out during a period of rising barometric pressure.

Groundwater was recorded within five of the seven standpipes from depths of between 0.63m and 1.4m bgl and were all recorded within the response zone of the standpipes.

Characterisation of the Gas Screening Value (GSV)
In accordance with CIRIA Report C665, November 2007 it is felt that an adequate risk assessment can be undertaken based on the following limiting factors:

- *The proposed development has been considered as low sensitivity based on the site being developed commercially (Table 5.5 – Typical/Idealised frequency and period of monitoring, after Wilson et al, 2005).*
- *The risk associated with the generation potential of a source is considered as moderate, (assessment based on the environmental setting).*
- *No positive flow have been recorded to date (Table 8.5 – Modified Wilson & Card classification).*

Based upon the results recorded to date, in accordance with CIRIA Report C665, the risk to the site from the ground gases has been assessed by converting the results to gas screening values (GSVs), calculated by multiplying the typical maximum gas concentrations with the recorded maximum positive flow rates. In addition, individual "hazardous gas flow rates" (Qhg) have been derived for each monitoring point. As no levels of methane have been recorded, a GSV for carbon dioxide only has been calculated.

GSV (l/hr) = max borehole flow rate (l/hr) x max gas concentration (%)

For this assessment, the maximum recorded concentration of carbon dioxide of 9.6% v/v has been used to calculate the GSV together with a gas flow rate of 0.1l/hr (the limit of detection of the gas analyser).

Carbon Dioxide GSV = 0.096 (9.6%) x 0.1 = 0.0096 l/hr

In order to assess the ground gas regime beneath the site and the need to incorporate ground gas precautions, guidance was taken from CIRIA C665 'Assessing risks posed by hazardous ground gases to buildings'. Based on the site being developed for a commercial end use, the Wilson and Card method has been used to carry out the assessment.

When considering the results in accordance with CIRIA C665 (Section A Development and Table 8.5 – Modified Wilson and Card Classification) it can be seen that the GSV value for carbon dioxide is below the assessment GSV of 0.07 l/hr and falls within Characteristic Situation 1. However, a single elevated concentration of 9.6% v/v has been recorded (WS06) within the footprint of the proposed warehouse in the abattoir (Area B) due to Made Ground being present which has potential to generate ground gas. At this stage the abattoir site has been classified as CS2 until further monitoring visits have been undertaken. It may be possible to downgrade the site to CS1 if carbon dioxide concentrations at this location reduce over the monitoring period.

Abattoir (Area B)

Characteristic Situation 2

The proposed development is classified as a Building Type C in accordance with BS 8485:2015 and the abattoir (Area B) falls in CS2 in accordance with Table 2 of the above guidance and gas protection measures will be required within the warehouse based on the dataset to date. A minimum of two out of three points of protection will be required in accordance with Table 8.6 - Typical scope of gas protective measures from CIRIA C665.

Skipyard (Area A)

Characteristic Situation 2

The proposed development is classified as a Building Type C in accordance with BS 8485:2015 and the skipyard (Area A) falls in CS1 in accordance with Table 2 of the above guidance and gas protection measures will not be required within the warehouse extension at the skipyard based on the initial ground gas monitoring visit.

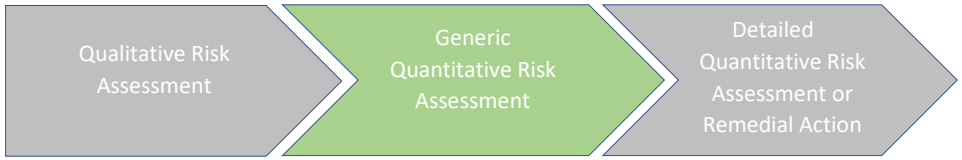
Radon

The site is located in an area where no radon precautions are required within proposed developments.

8.4 Revised Pollution Linkage Assessment

A revised pollution linkage assessment has been undertaken based on the findings of the Ground Investigation in accordance with CIRIA C552 to identify any realistic pollution linkages in order to quantify the risks to human health and controlled waters. An Illustrative CSM is presented on *GRO-22013-P06.*

Human Health Pollution Linkage Assessment



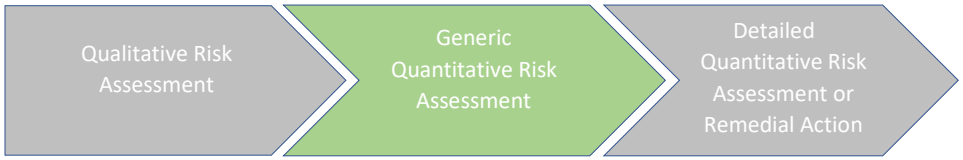
- The table below represents the second stage in the land quality risk assessment process - **the Generic Quantitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					*Generic Quantitative Risk Assessment*	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
PL1	Contaminated Soils	Ingestion of soil and dust. Dermal contact with soil.	Unlikely	Medium	Low	*Pollution Linkage 1 refers to proposed site users coming into contact with contaminated soils on the site.* *Made Ground has been encountered across the site to a maximum depth of 2.3m bgl and was generally granular with minor constituents of slate and brick.* *No visual or olfactory evidence of contamination was observed during the Ground Investigation. No evidence of animal remains noted but watching brief is required during construction phase.* *Geo-Environmental testing of soils has detected no elevated concentrations of contaminants above generic screening values for a commercial end use.* *A single concentration of asbestos was recorded within one of the 18 samples screened and was located beneath the skip yard (Area A). Asbestos containing Made Ground is localised and will be beneath hardsurfacing, no pollution linkage is present.*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
					Low	*No source of contamination has been identified in Area B and no pollution linkage is considered to exist.*
PL2	Contaminated Soils	Inhalation of vapour.	Low likelihood	Medium to Severe		*No visual or olfactory evidence of contamination was identified during the investigation. Laboratory testing has not recorded any elevated levels of hydrocarbons based on the site being developed commercially with the majority of results falling below laboratory detection limits. No pollution linkage is considered to exist.*
PL3	Contaminated Soils	Inhalation of soil dust by adjacent site users.	Unlikely	Medium	Low	*Pollution Linkage 3 relates to contamination on the subject site affecting adjacent site users. No mobile contamination has been recorded through laboratory testing or observed during the Ground Investigation.* *Therefore, a plausible pollution linkage is not considered to exist.*
PL4	Contaminated Soils	Attacking potable water supply pipe.	Low Likelihood	Medium	Low to Moderate	*Pollution Linkage 4 refers to the possible contaminants permeating potable water pipes and consumption by the future site end users of the tainted water supply. Made Ground is present at installation depth, it is likely that existing pipes are to be used for the extension, a water company risk assessment is recommended.*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	*Rationale and Action*
PL5	Ground Gas	Migration and accumulation of ground gas in internal spaces.	Likely	Medium to Severe	Moderate	*Made Ground has been encountered to a maximum depth of 2.3m bgl.* *Interim ground gas monitoring results place the site within CS2 due to a single elevation of CO_2 (9.6%v/v) within the abattoir (Area B), therefore gas precaution measures may be required.* *The skip yard (Area A) is considered to fall within CS1 and no gas precaution measures are required based on the interim results. This is subject to the completion of the gas monitoring programme.* *The site is not within an area requiring radon precautions within foundations.*

Controlled Waters Pollution Linkage Assessment



- The table below represents the second stage in the land quality risk assessment process – **Generic Quantitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					*Generic Quantitative Risk Assessment*	
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	*Rationale*
PL6	Contaminated Soils	Impaction of groundwater from soil contamination (diffuse and point). Impaction of groundwater from groundwater plume.	Unlikely	Mild	Very Low	*Made Ground has been encountered beneath both sites to a maximum depth of 2.3m bgl due to the historical industrial development.* *Mobile contamination was not identified through the Ground Investigation and very low concentrations of total TPH were recorded.* *Groundwater was not encountered within any of the boreholes.* *Natural Clay deposits underlie both sites which will have limited the downward migration of any potential contamination. The Undifferentiated Secondary Aquifers are not considered to be a sensitive resource.* *The proposed development commercial/industrial which encompasses the entirety of the site with hardsurfacing. Therefore, a pollution linkage is not considered to exist as a source of mobile contamination has not been identified.*

Conceptual Site Model						*Generic Quantitative Risk Assessment*
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	*Rationale*
PL7	Contaminated Soils	Migration of soil and groundwater contamination impacting surface waters.	Unlikely	Mild	Very Low	*Pollution Linkage 7 refers to the impaction of Afon Seiont 109m south and nearby tributaries/water features.* *No sources of mobile contamination have been identified and a viable pollution linkage is not considered to exist.*

8.5 Outline Remedial Strategy

Soils and Groundwater
Based on the results of the Ground Investigation, no specific remedial measures are required with respect to the contaminated soils or groundwater as no elevated contaminants of concern have been recorded at the site. Asbestos has been recorded in a single location.

The site is to be covered with hardsurfacing which will effectively act as a cover system. If soft landscaping areas are proposed, a cover system comprising 300mm of suitably clean soils with a demarcation layer should be placed.

Topsoil
If required, the topsoil is considered to be suitable for reuse as part of a commercial development based on the results of the three topsoil samples tested. Additional testing is recommended prior to reuse once the material has been stripped and stockpiled.

Ground Gas
Preliminary ground gas monitoring results place the abattoir (Area B) in CS2 due to a single elevation of carbon dioxide being recorded within WS06 beneath the footprint of the proposed warehouse, and gas precaution measures may be required as part of the proposed development.

The monitoring results from the skip yard (Area A) place it into CS1 based on the monitoring undertaken to date, as the development in this area is an extension it is recommended that as a minimum the precautions present in the existing building are also incorporated into the proposed extension.

The gas monitoring programme is ongoing and the level of protection will be confirmed upon completion.

The site does not lie within an area where radon precautions are required for foundations.

Watching Brief and Regulatory Liaison
A watching brief is recommended during future ground works for any previously unseen contamination. If identified, work should cease in that area and advice sought from Groundtech Consulting Limited.

Approval from the regulators should be obtained prior to the development commencing to avoid any delays at the construction stage. A Remedial Specification is recommended which will include a protocol for dealing with the risk from asbestos in soils.

8.6 Asbestos in Soils

Asbestos has been encountered within one of the eighteen samples screened and was present within the gravel of slate and brick of WS14 at 0.6m bgl. The asbestos is likely to be present at trace quantity depending on the quantification of the sample. The JIWG receptor tool characterises the risk as negligible.

The JIWG receptor results are present in *Appendix 12.*

The presence of asbestos within the ground will require, a safe system of work to be set up on site to deal with the asbestos risk from the made ground. This may include but be not limited to:

- *The use of qualified personnel where required.*

- *Careful segregation of stockpiles on site.*
- *Defining transport routes.*
- *Cleaning down of machinery in designated areas.*
- *Decontamination unit for ground workers.*
- *Damping down of soils to prevent dust migration.*

All such works will need to be agreed with the regulatory bodies (HSE, LA)

8.7 Health and Safety - Construction and Ground Workers

During the reclamation and construction phases of the site development it will be necessary to protect the health and safety of site personnel. The risk to construction and ground workers is assessed in the table below:

PL Ref	Potential Source	Pollution Linkage	Likelihood	Severity	Level of Risk
PL8	*Made Ground*	*Ingestion, direct contact, inhalation of dusts.*	*Unlikely*	*Medium*	***Low***
PL8	*Asbestos*	*Ingestion, direct contact, inhalation of dusts.*	*Unlikely*	*Medium*	***Low***

No elevated contaminants have been recorded, asbestos has been detected at a single location within the north western section of the skip yard (Area A). The risk should be communicated to ground workers through a site induction and information should be made available through site noticeboards.

General guidance on these matters is given in the Health and Safety Executive (HSE) document "Protection of Workers and the General Public during the Redevelopment of Contaminated Land". In summary, the following measures are suggested to provide a minimum level of protection:

- *All ground workers should be issued with the relevant protective clothing, footwear and gloves. These protective items should not be removed from the site and personnel should be instructed as to why and how they are to be used.*
- *Hand-washing and boot-washing facilities should be provided.*
- *Care should be taken to minimise the potential for off-site migration of contamination by the provision of dust suppression control and wheel cleaning equipment during the construction works.*
- *Good practices relating to personal hygiene should be adopted on the site.*
- *The contractor shall satisfy the Health and Safety Executive with regard to any other matters concerning the health, safety and welfare of persons on the site.*

8.8 Waste Classification by Assessment

We have reviewed the testing results and inputted them into the HazWasteOnline model which allows users to code and classify waste as defined in the EWC (European Waste Catalogue 2002) based on EC Regulation 1272/2008 on the Classification, labelling and packaging of substances and mixtures (CLP) and latest Environment Agency guidance (WM3 "Guidance on the classification and assessment of waste (1st edition 2015)-Technical Guidance").

This is a useful tool as waste producers have the legal responsibility to classify any waste they produce.

Eighteen samples were tested to assess whether they contained any contaminants in the hazardous range when screened against assessment criteria within WM3. The results are in the Waste Classification Report presented in *Appendix 13*.

Based on the assessment tool the Made Ground and natural soils have been classified as *Non-Hazardous*. The asbestos is unlikely to exceed the hazardous threshold of 0.1%, subject to the results of the quantification.

8.9 Waste Acceptance Criteria (WAC) Results

Waste Acceptance Criteria (WAC) testing was outside the scope of this investigation and the guidance given below is general.

The Landfill Directive (Directive 1999/31/EC on the landfilling of waste) led to the establishment of a methodology for classifying wastes. Wastes can only be accepted at a landfill if they meet the relevant Waste Acceptance Criteria (WAC) for that type of landfill. There are three different WAC, these are for:

- *Inert waste*
- *Non–Hazardous waste*
- *Hazardous waste*

Wastes should first be classified based on their total concentrations as detailed in the previous section. WAC testing is then required if the end disposal route is a landfill.

The possibility of automatic inert classification of the natural soils should be explored in accordance with Section 4.3 of the EA guidance document. The Council Decision includes a list of wastes in Section 2.1.1 of the document that are assumed to be inert and therefore acceptable at a landfill for inert waste without testing, this is the case if:

- *They are single stream waste of a single waste type (although different waste types from the list may be accepted together if they are from a single source)*
  and
- *There is no suspicion of material or substances such as metals, asbestos, plastics, chemicals, etc to an extent which increases the risk associated with the waste sufficiently to justify contamination and they do not contain other their disposal in other classes of landfill.*

If any organic contaminated material is encountered during the construction phase, it is possible that this may be classified as hazardous and testing should be undertaken at that time.

Materials should segregated and where necessary sufficient time is allowed to further classify the material properly, including discussion with landfill sites and waste transfer stations to find the best disposal route. It is recommended that where possible that the soils could be recycled at a suitable local waste treatment plant or transfer station rather than a landfill disposal route.

The reuse of soils on the site this should be done in accordance with the CL:AIRE "Development Industry Code of Practice for the Definition of Waste" (CL:AIRE CoP). Any re-use scheme should be designed to minimise disposal costs.

After a cut and fill balance plan/volume calculation has been carried out, a U1 and T5 exemption could be registered. This will allow the use of the following soils without a waste permit or under Dow CoP MMP:

- *1,000 tonnes (c. 600m^3) of non-hazardous soil*
- *5,000 tonnes (c. 3,000m^3) of natural sand and gravels.*
- *50,000 tonnes (c. 25,000m^3) of bituminous material to be used in roadways.*
- *5,000 tonnes (c. 3,000m^3) of crushed concrete / stone.*

9.0 FINAL APPRAISAL

9.1 Land Quality

Made Ground has been encountered across both sites (Area A and B) to depths of between 0.1m and 2.3m bgl and was generally granular and consistently underlain by natural cohesive clay deposits.

No elevated contaminants of concern were recorded through laboratory testing based on the site being developed commercially. Asbestos was recorded in a single location beneath the skip yard (Area A) in the form of chrysotile fibre bundles.

The proposed commercial development will be covered in hardsurfacing eliminating a pathway to site end users, therefore the risk to human health is considered to be *Low*.

No sources of mobile contamination were identified by the Ground Investigation and the risk to controlled waters is considered to be *Low*.

Preliminary ground gas monitoring results place the abattoir (Area B) within Characterisation Situation 2 and gas precaution measures may be required within the abattoir site as part of the development. The skip yard (Area A) currently falls within CS1 and no gas precaution measures are required. The level of precautions for both areas will be confirmed upon completion of the gas monitoring programme.

The Made Ground and natural soils have been classified as *Non-Hazardous* for waste disposal purposes and the topsoil is suitable for reuse as part of the development.

9.2 Ground Engineering

The most suitable foundations are considered to be pads constructed within the natural Clay deposits encountered in both areas. Foundations should be deepened through the Made Ground encountered during foundation excavations. Provisions should be made for large plant and potential over dig due to the presence of large cobbles and boulders within the founding strata.

A suspended floor slab is recommended due to their being greater than 600mm of Made Ground beneath the footprint of the proposed developments.

The results of laboratory pH and sulphate content indicate that ACEC Class AC-1s and sulphate class DS-2 conditions prevail at the abattoir (Area B) while AC-1 ad DS-1s conditions prevail at the skip yard (Area A) in accordance with BRE Special Digest 1 “Concrete in aggressive ground” 2005.

SuDS drainage is unlikely to be feasible at the site due to cohesive natural ground being encountered across the site which will provide poor drainage properties.

9.3 Required Supplementary Investigation

The following further work is considered necessary to progress the site to construction phase:

Completion of gas monitoring programme.
Issue gas assessment.
Confirmatory investigation at position of workshop in abattoir (Area B) post demolition.
Additional topsoil sampling if material is proposed for reuse.
Demolition and Refurbishment Asbestos survey.
Tree survey by qualified arboriculturist.
Detailed foundation design.
Confirmation of remedial recommendations with regulators.

10.0 RELEVANT INDUSTRY REFERENCES

British Standards Institution. *Investigation of Potentially Contaminated sites - code of practice*. BS 10175:2017.

British Standards Institution '*Code of Practice for Site Investigations*' BS 5930:2015

British Standards Institution "*Geotechnical investigation and testing – Identification and classification of soil*" BS EN ISO 14688:2002.

British Standards Institution "*Geotechnical investigation and testing – Identification and classification of rock*" BS EN ISO 14689:2002.

BRE Report BR211 '*Radon – Guidance on protective measures for new buildings'* 2015 Edition.

BRE Special Digest 1: "*Concrete in Aggressive Ground*" 3rd Ed 2005.

CIRIA 552 "Contaminated Land Risk Assessment – A guide to good practice" 2001.

CIRIA C665 "Assessing Risks Posed by Hazardous Ground Gases to Buildings" 2016.

Wilson & Card "*Proposed method classifying gassing sites*" Ground Engineering 1999.

Card & Steve Wilson in *"A pragmatic approach to ground gas risk assessment for the 21st Century"* - CIRIA/Environmental Protection UK Ground gas seminar 2011

BS 8576:2013 '*Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs)'*

BS 8485:2015 '*Code of practise for the design of protective measures for methane and carbon dioxide ground gases for new buildings'*

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Water Framework Directive.

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UK Drinking Water Standards: Water Supply (Water Quality) Regulations 1989 (SI 1989/1147) and Water Supply (Water Quality) Regulations

UKWIR Report 10/WM/03/21 2010 "Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites"

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Environment Agency & NHBC, 2000. R&D Publication 66. Guidance for the Safe Development of Housing on Land Affected by Contamination.

Environment Agency "Guidance on the classification and assessment of waste (1st edition 2015) Technical Guidance WM3"

CL:AIRE "*The Definition of Waste: Development Industry Code of Practice*" Version 2 March 2011.

CIRIA "*Asbestos in soil and made ground: a guide to understanding and managing risks*" C733 2014.

Control of Asbestos Regulations (CAR) 2012

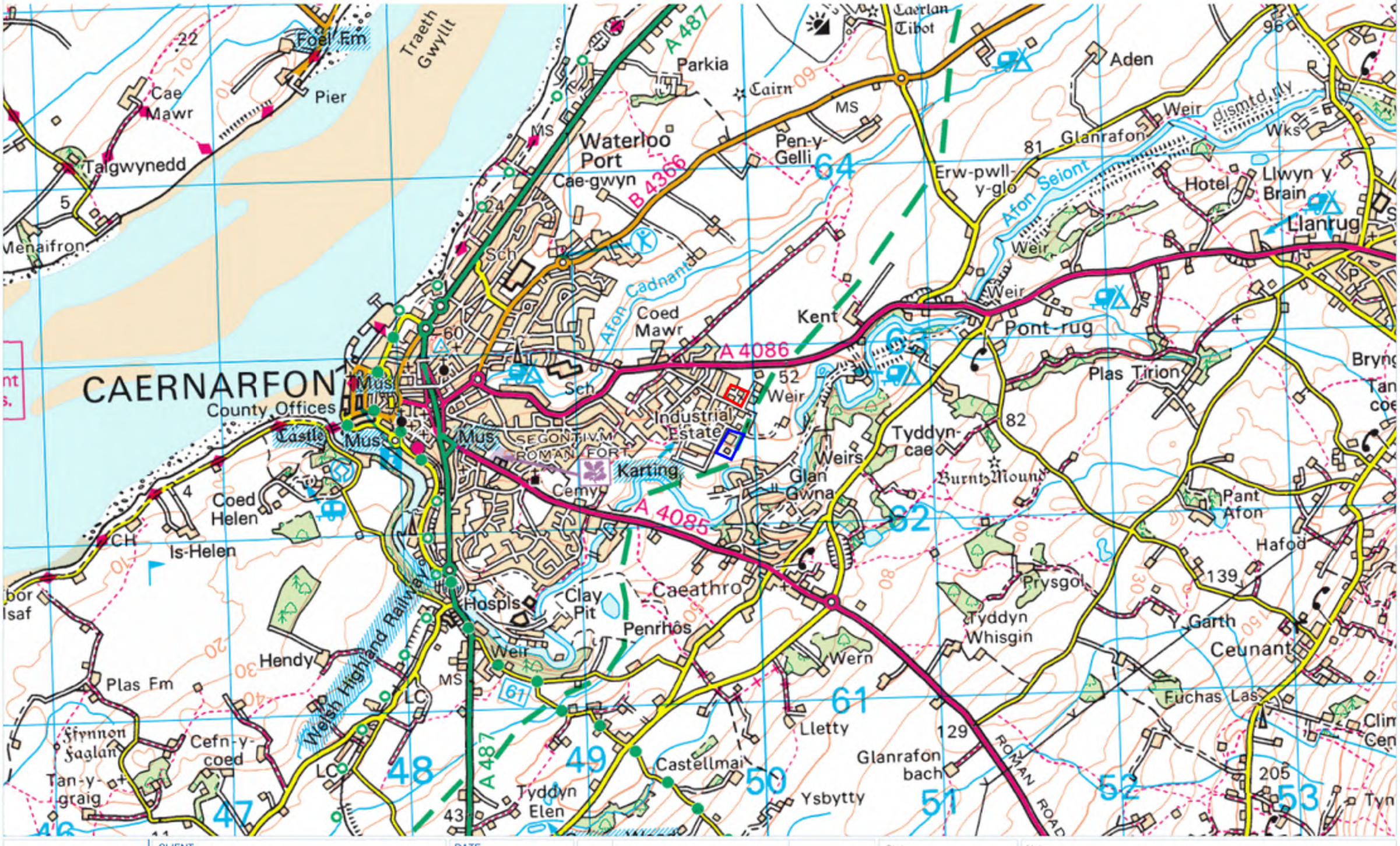
Harris, M R, Herbert, S. M, Smith, M A 'Remedial Treatment for Contaminated Land' (twelve volumes), special publications 101-112, CIRIA 1996.

Department of the Environment. 1995. Industry Profiles - 48 separate publications available from The Stationery Office, London

Environment Agency. R&D Publication 20. Methodology for the Derivation of Remedial Targets for Soil and Groundwater to Protect Water Resources. 1999.

Specification for Highways Works – Series 600 Earthworks November 2016.

APPENDIX 1 - Plans



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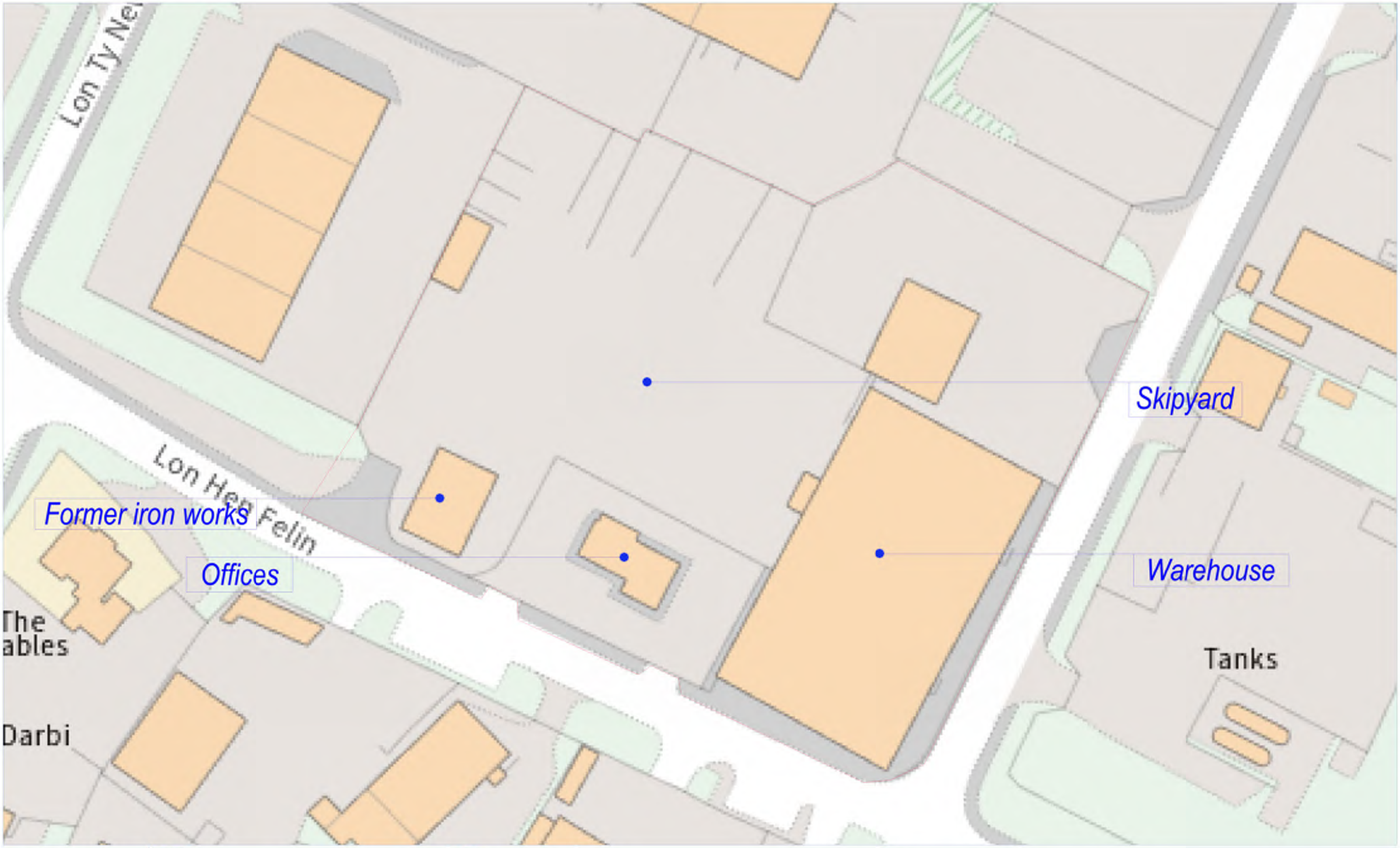

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PLAN TITLE	PRELIMINARY DEVELOPMENT CONSTRAINTS PLAN
DATE	MAY 2022
SCALE	NTS
PLAN NUMBER	GRO-22013-P02_A

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

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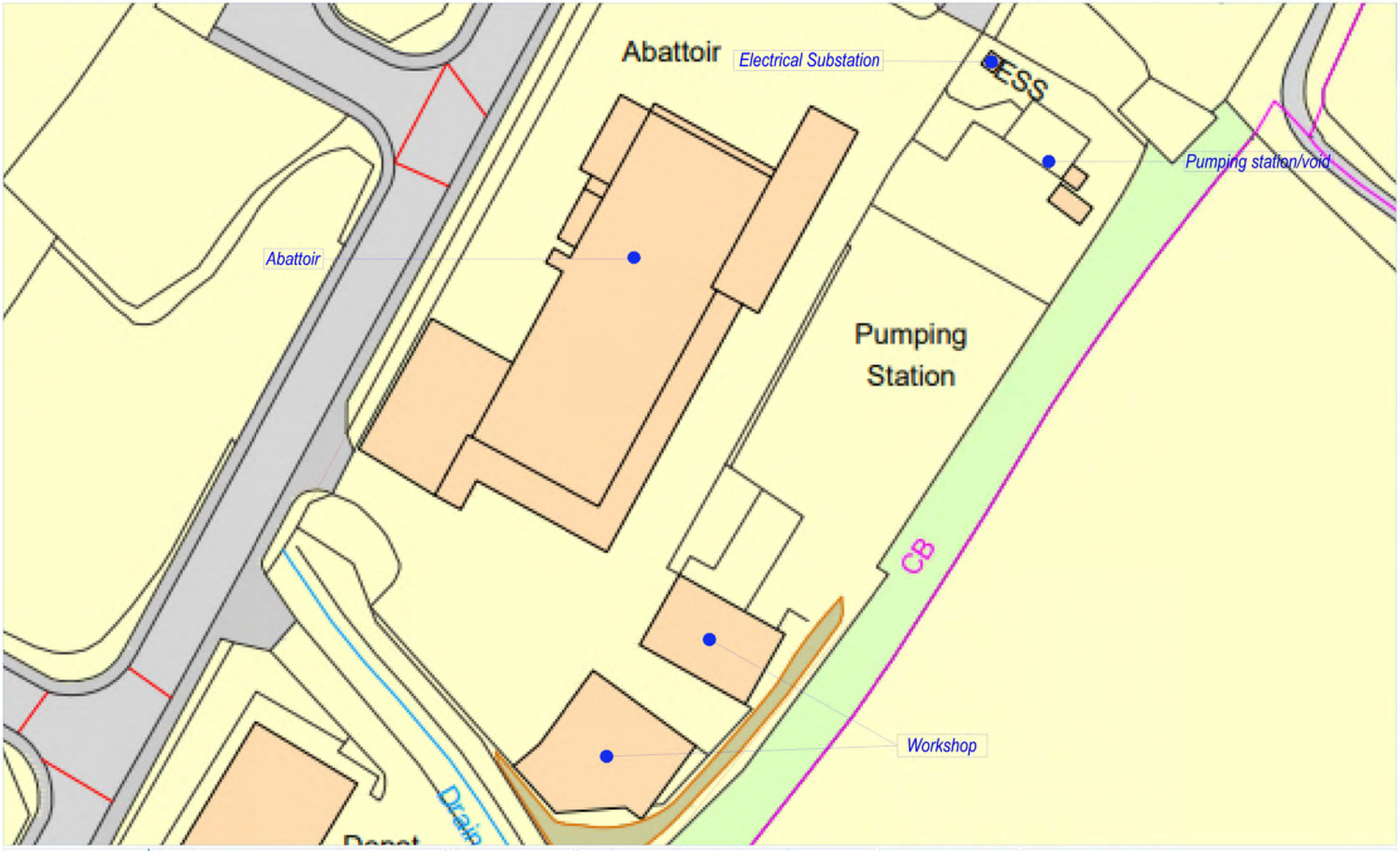

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SCALE	NTS
PLAN NUMBER	GRO-22013-P02_B

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

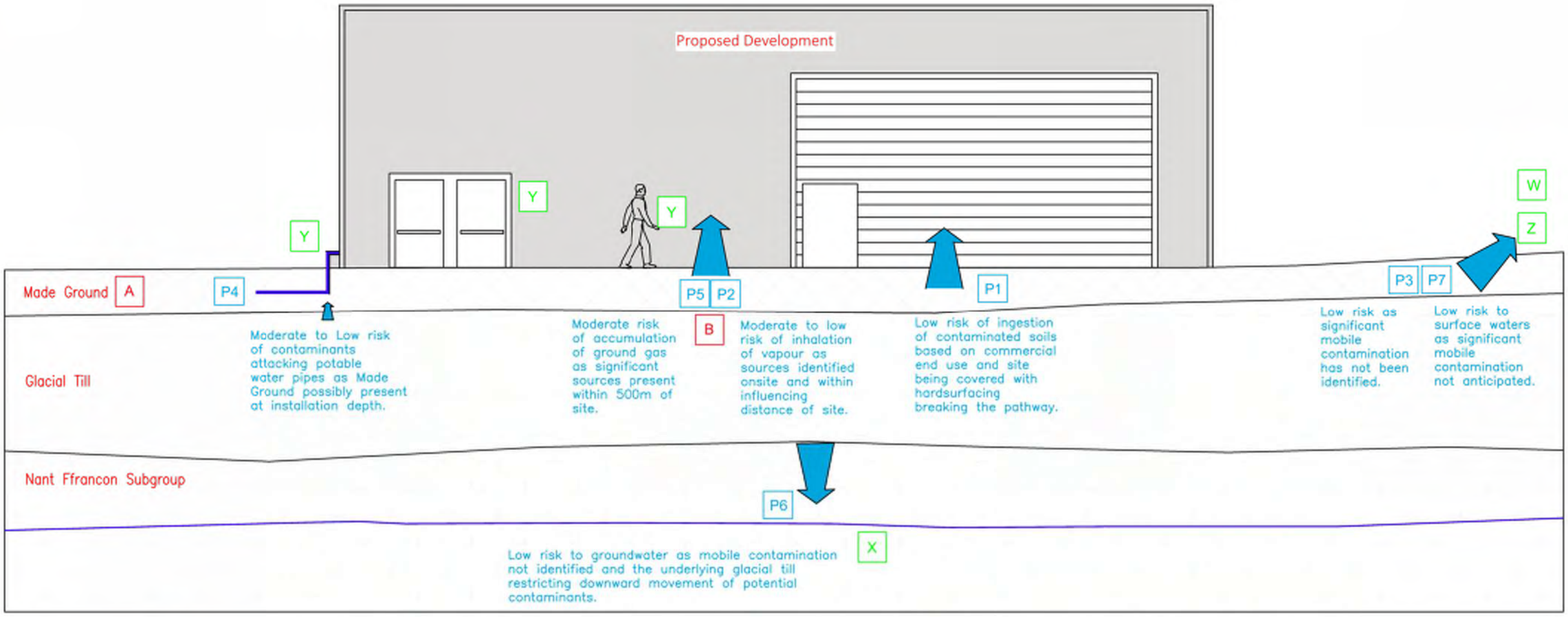
Notes

Approximate site boundary

SOURCES
A. Contaminated soils / Made Ground. B. Ground gas.

POLLUTION LINKAGES
P1. Ingestion of soil and dust. P2. Inhalation of vapour. P3. Inhalation of soil dust by adjacent site users. P4. Attacking of potable water supply pipe. P5. Migration and accumulation of ground gas in internal places. P6. Impaction of groundwater from soil contamination. P7. Migration of soil and groundwater contamination impacting surface waters.

RECEPTORS
W. Nearby surface waters incuding Afon Seiont 109m south. X. Groundwater within the Seconday Undifferenciated Aquifers. Y. Site end users. Z. Adjacent site users.



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PLAN NUMBER	GRO-22013-P03

Rev.	Details	Date

Status	
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Draft	
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For Comment	
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PROJECT TITLE	GWYNEDD SKIPS
PLAN TITLE	EXPLORATORY HOLE LOCATION PLAN
DATE	FEBRUARY 2022
SCALE	NTS
PLAN NUMBER	GRO-22013-P04_A

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

Proposed cable percussive borehole position

Proposed windowless sample borehole position

GROUNDTECH CONSULTING	CLIENT	DATE				Status	Notes
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	PROJECT TITLE	SCALE				Draft	Proposed windowless sample borehole position
	GWYNEDD SKIPS	NTS				Issued	
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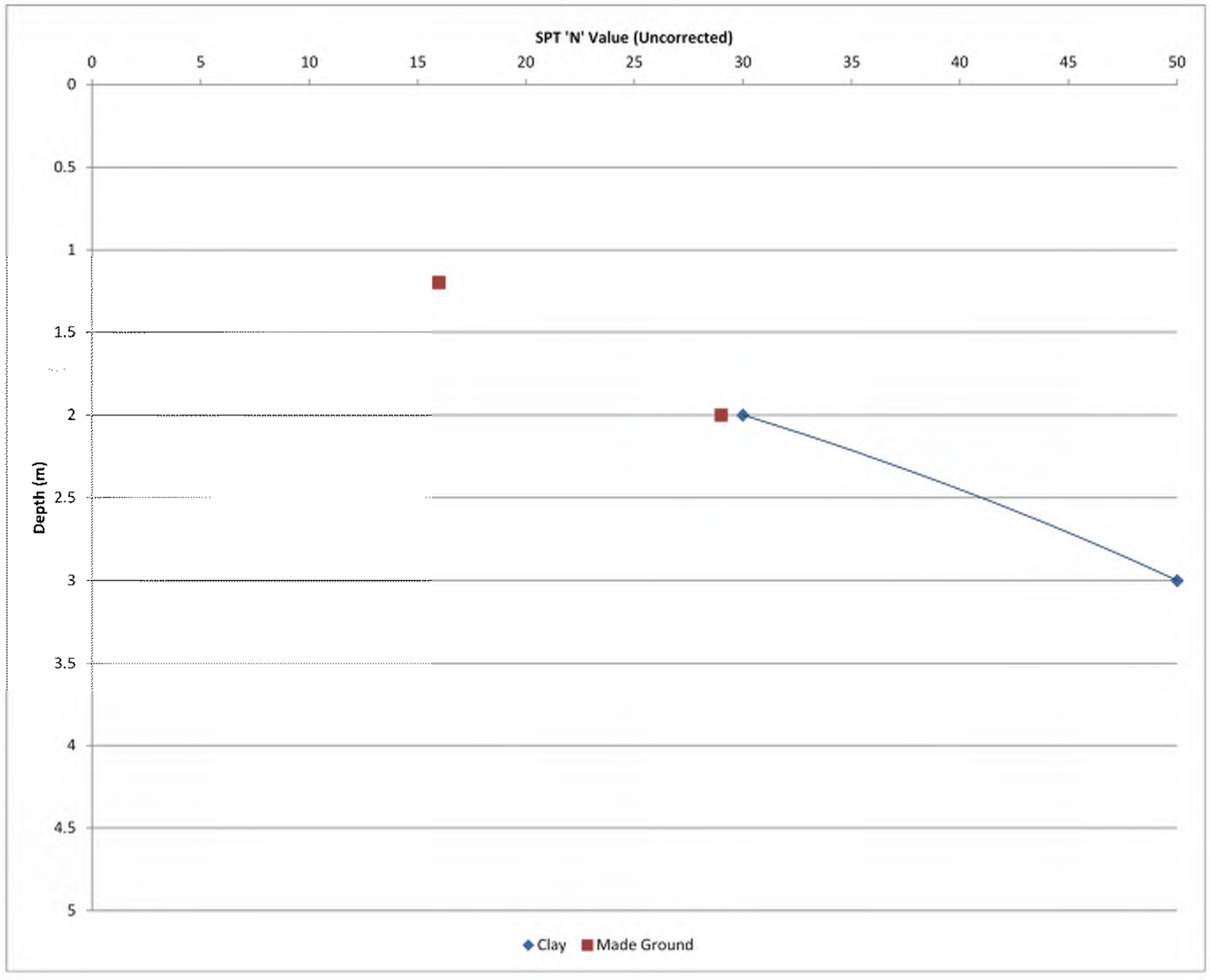

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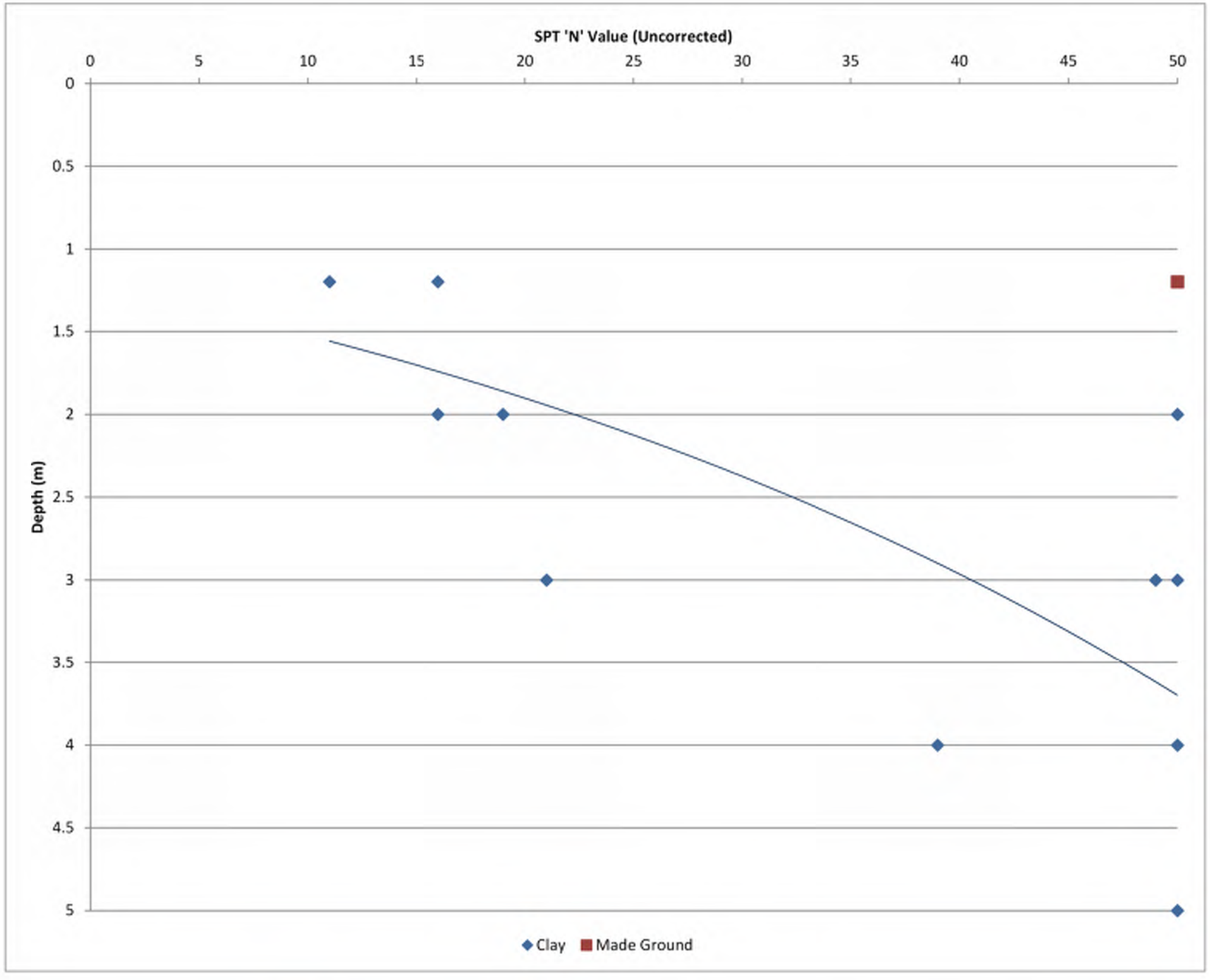

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GWYNEDD SKIPS	NTS					Issued	●	
PLAN TITLE	PLAN NUMBER					For Comment		
GENERALISED GROUND MODEL	GRO-22013-P05_B	Rev.	Details	Date		Approved		

SOURCES	POLLUTION LINKAGES	RECEPTORS
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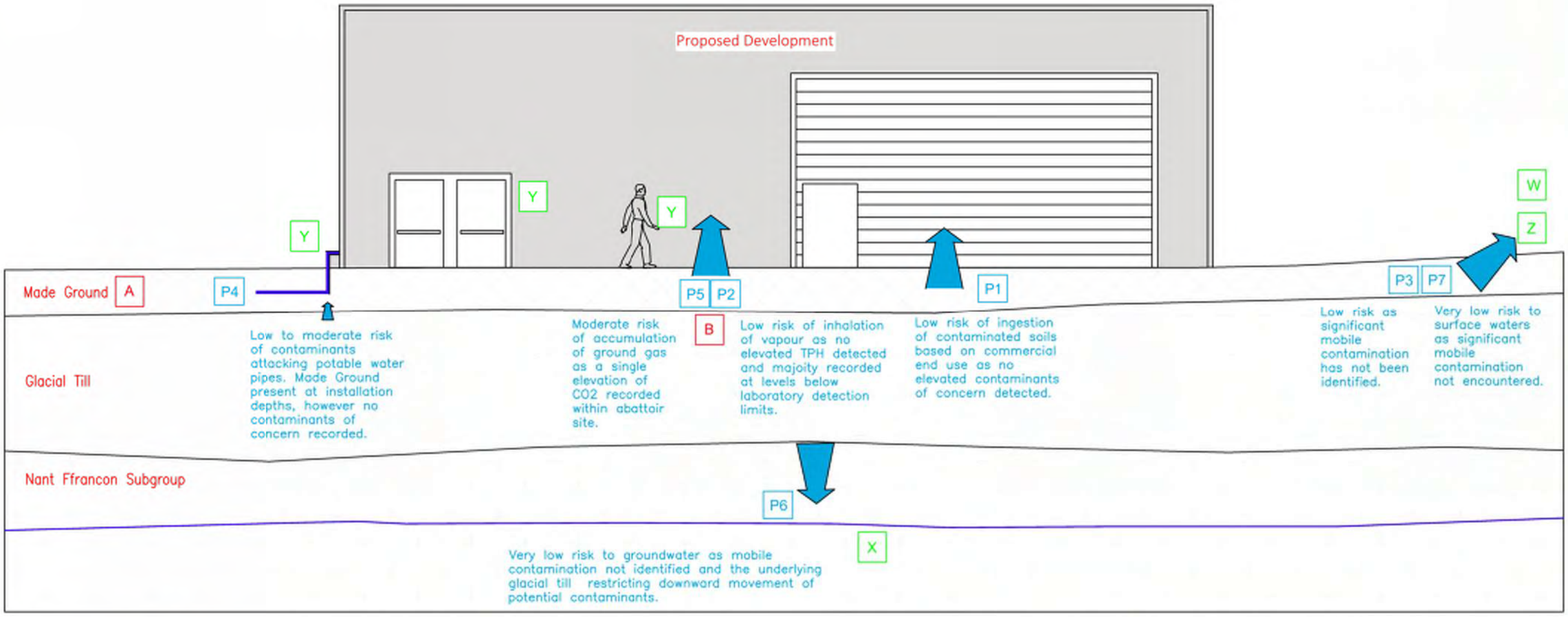

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PLAN NUMBER	GRO-22013-P06

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

APPENDIX 2 - Site Photographs

Photograph 1 – Skip yard (warehouse to right)

Photograph 2 – Skip yard

Photograph 3 – Skip yard (waste stockpile)

Photograph 4 - Skip yard waste disposal

Photograph 5 – North eastern area of Abattoir

Photograph 6 – Stockpile of recently stripped topsoil at abattoir

Photograph 7 – Abattoir

Photograph 8 – Western area of site (facing south)

Photograph 9 – Recently stripped area east of abattoir (position of proposed warehouse)

Photograph 10 – Eastern section of abattoir

Photograph 11 – Skip storage area

Photograph 12 – Abattoir (left) and workshops (right)

Photograph 13 – Position of proposed warehouse

Photograph 14 – Abattoir and associated buildings

Photograph 15 – Western site boundary (Abattoir)

Photograph 16 – Northern site entrance at abattoir

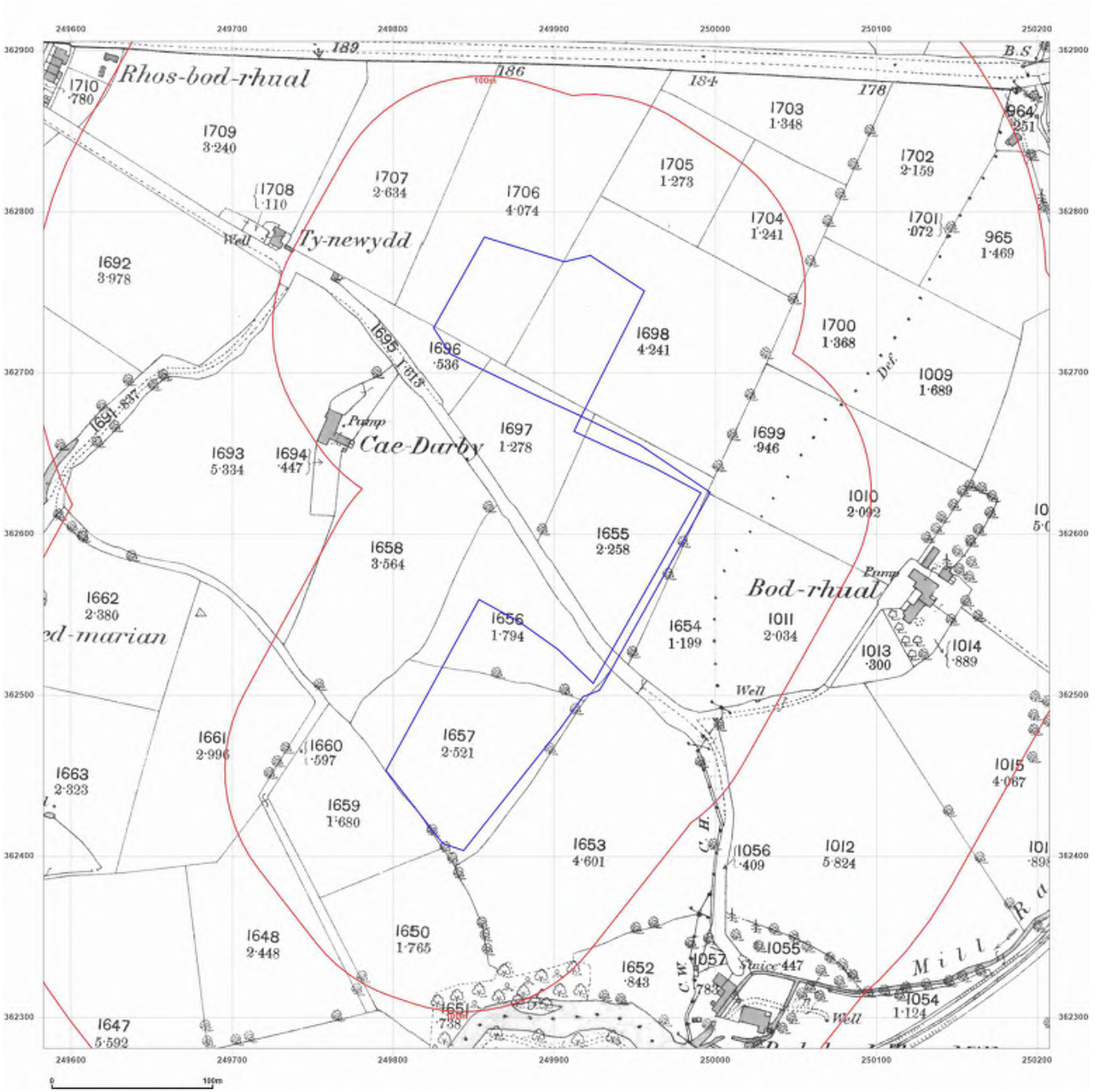
Photograph 17 – Entrance to skip yard

Photograph 18 – Site offices and cafe

Photograph 19 – Eastern extent of warehouse at skip yard

Photograph 20 – North eastern access to skip yard

APPENDIX 3 - Historical Plans



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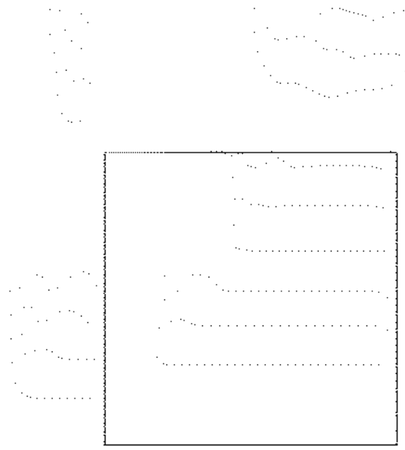

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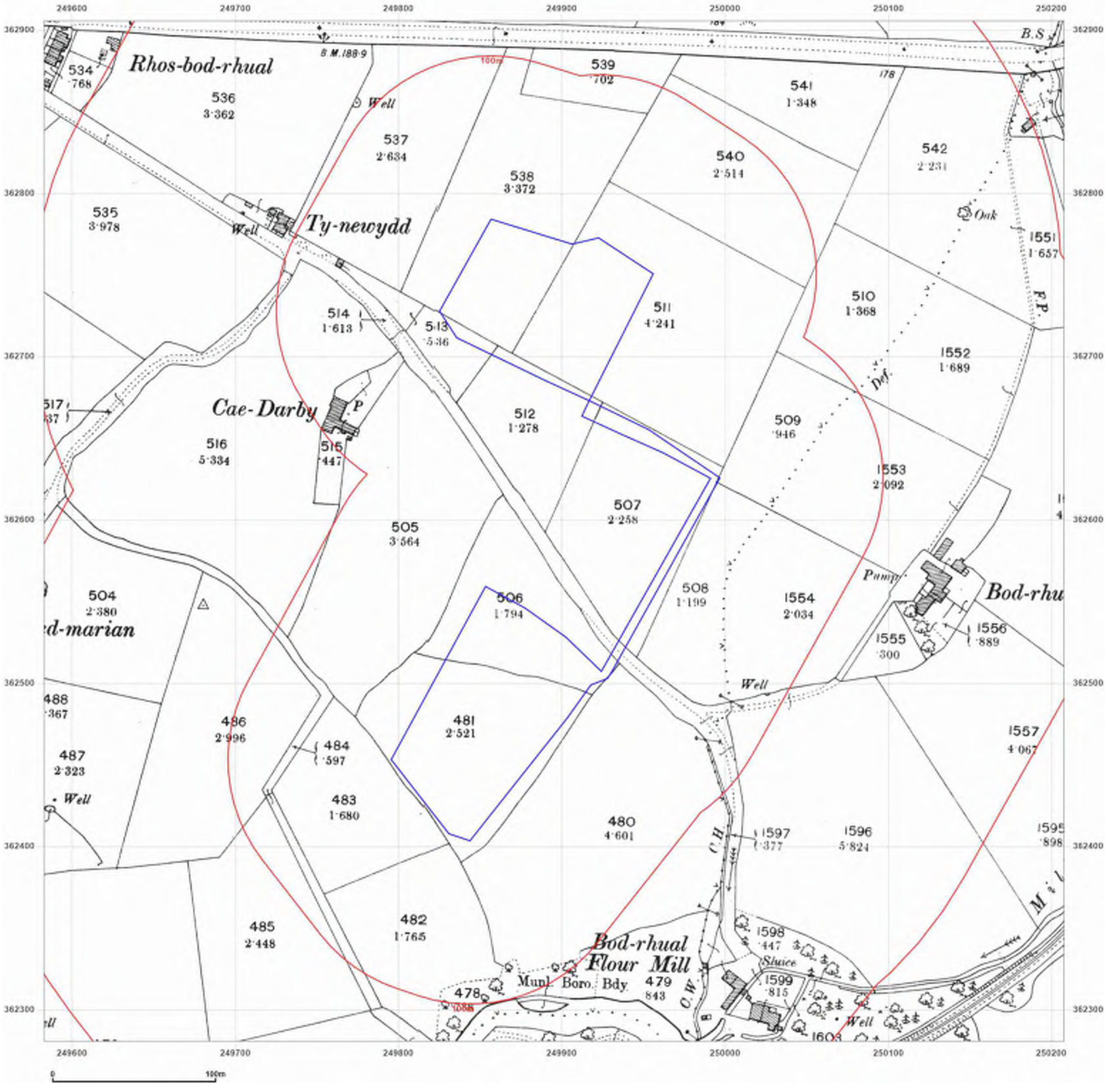

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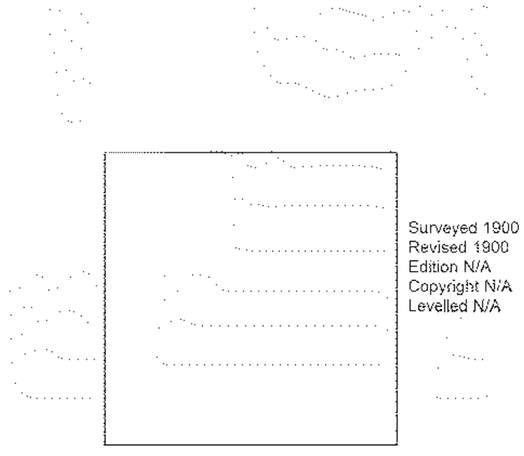

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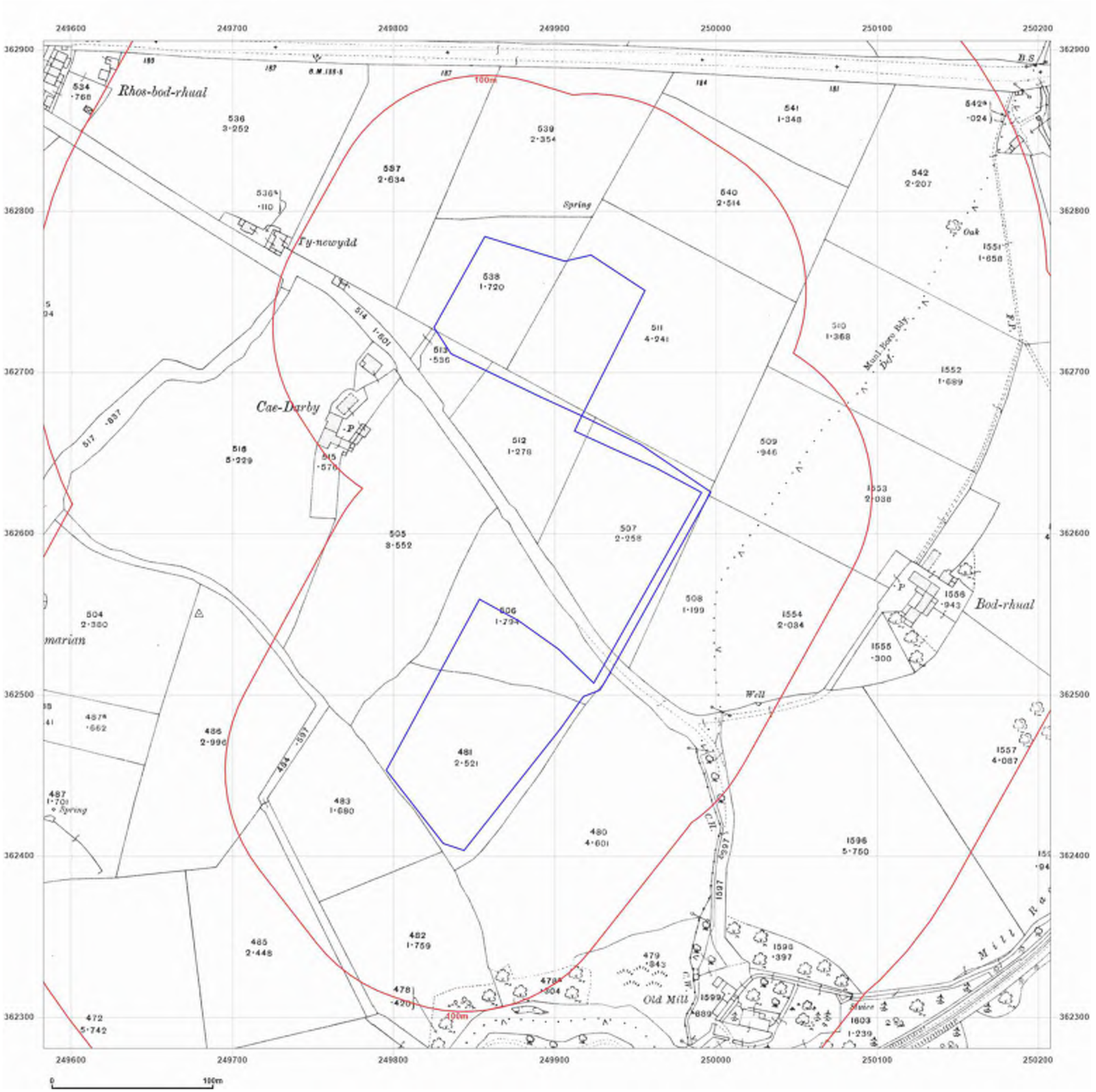

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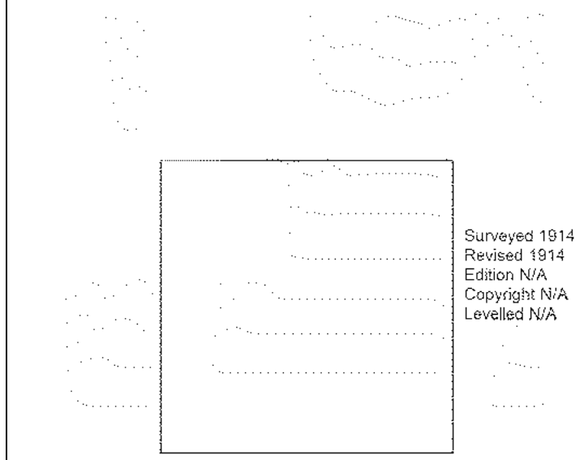

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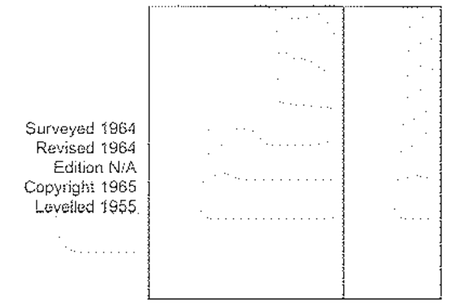

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Edition N/A
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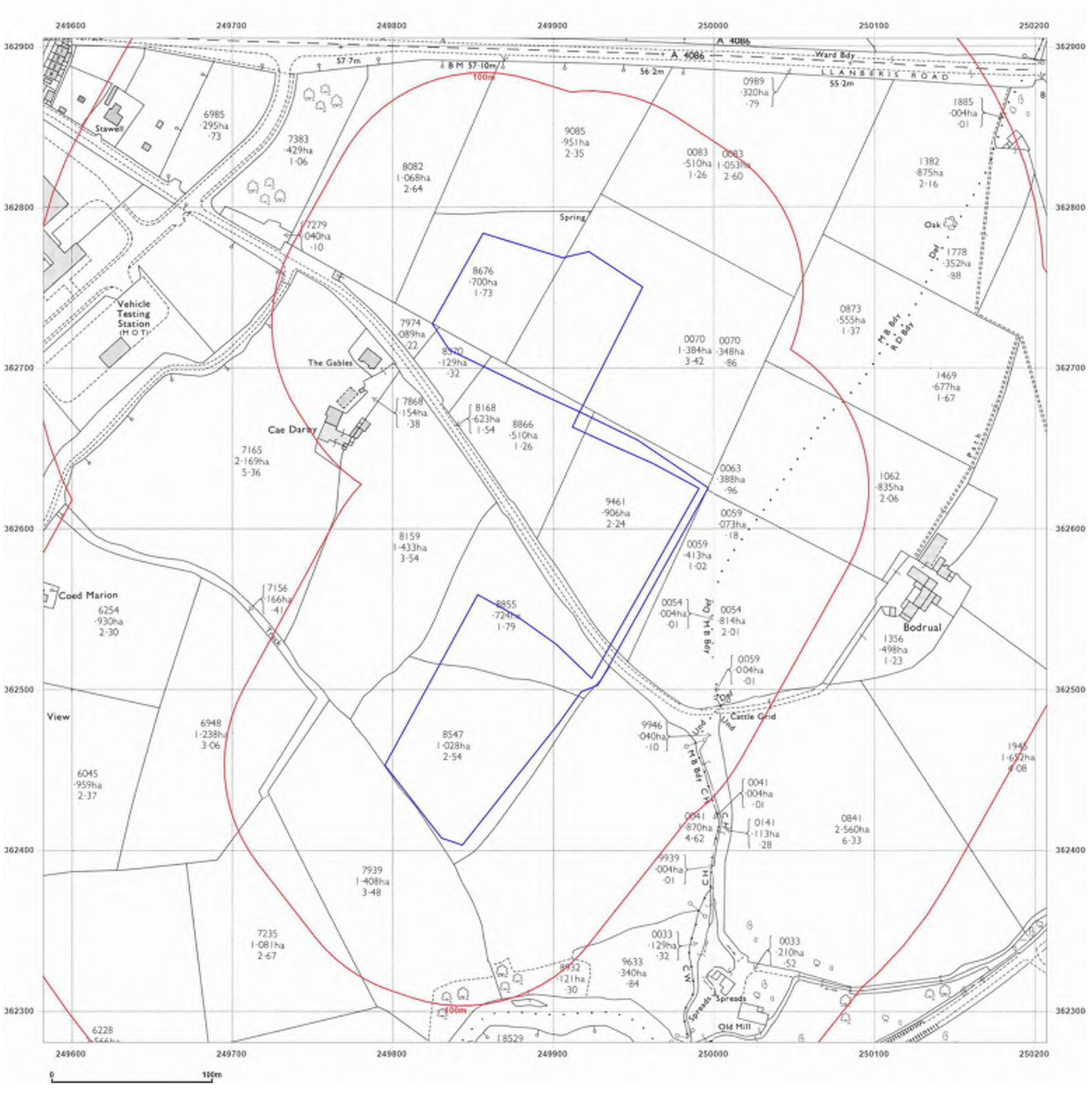

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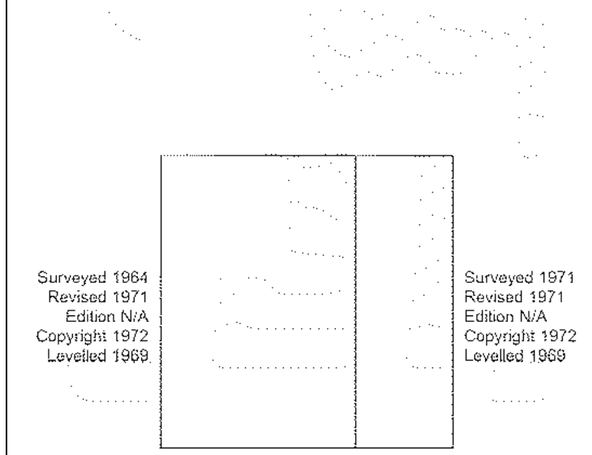

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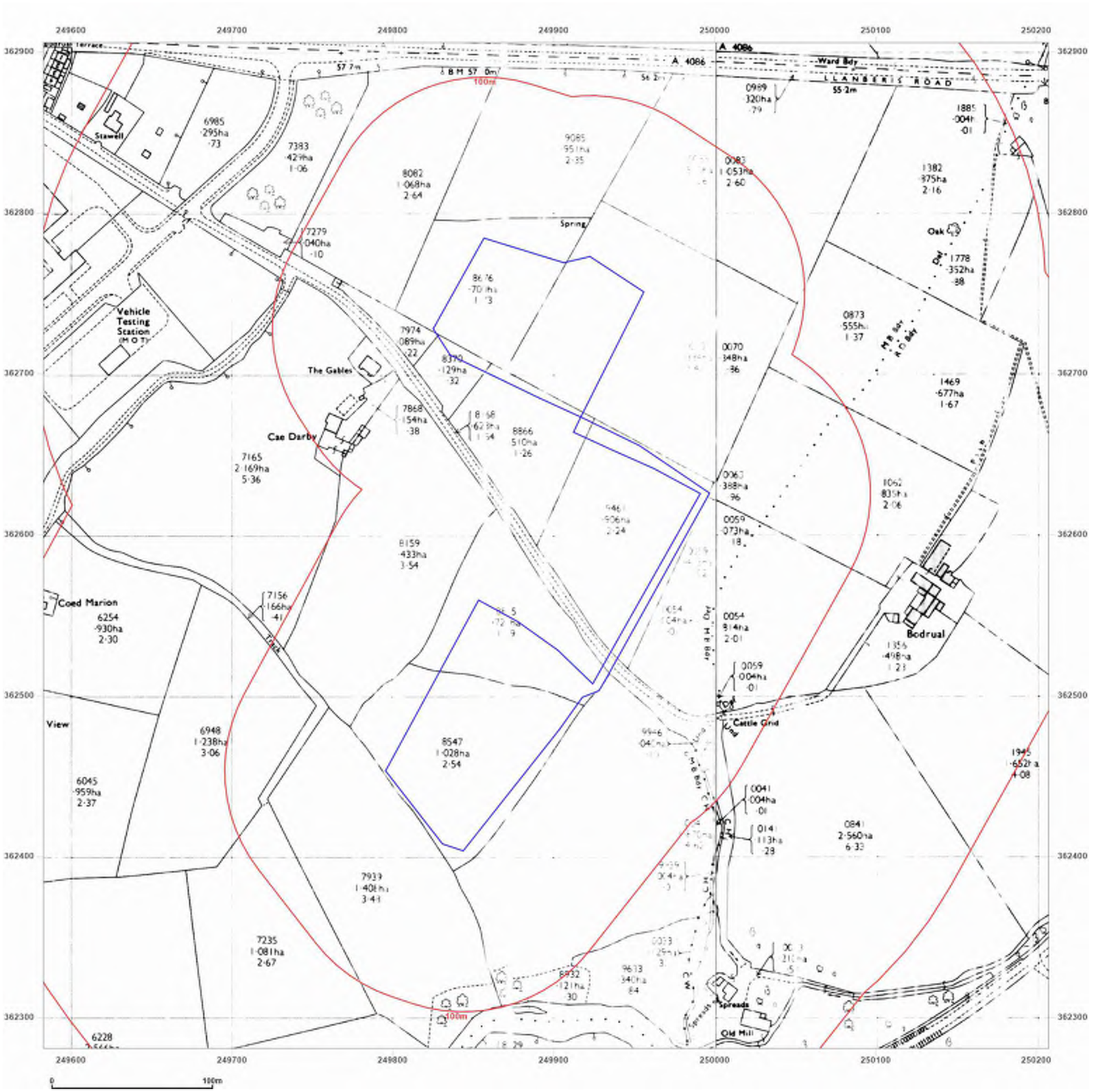

Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid
Map date: **1972**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
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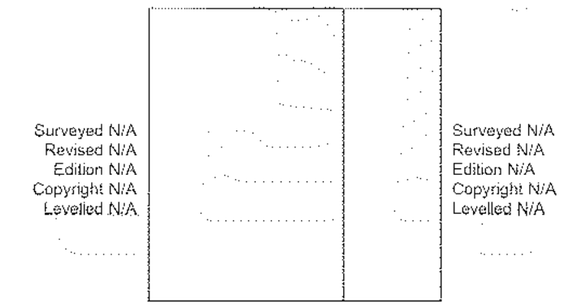

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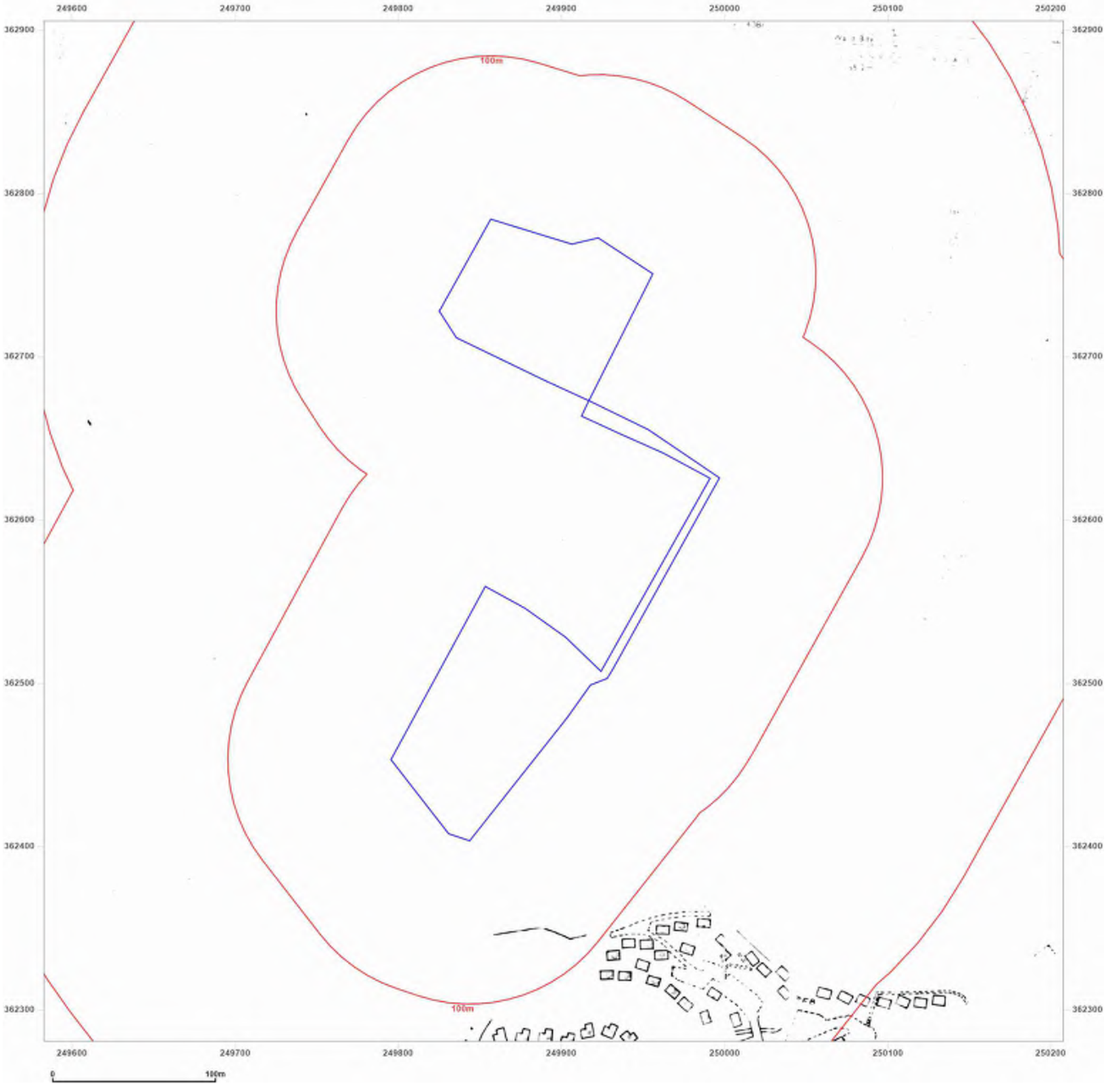

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid
Map date: **1974**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
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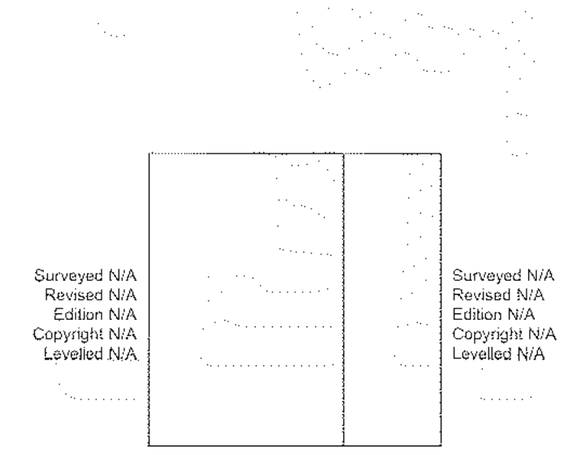

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid
Map date: **1980**
Scale: 1:2,500
Printed at: 1:2,500

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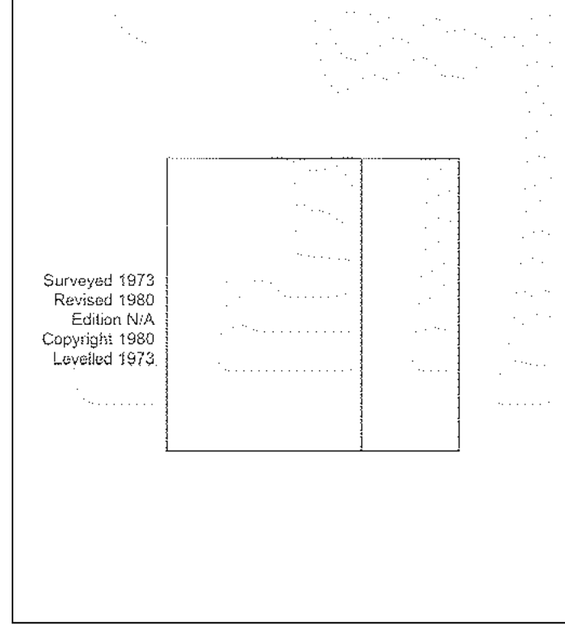

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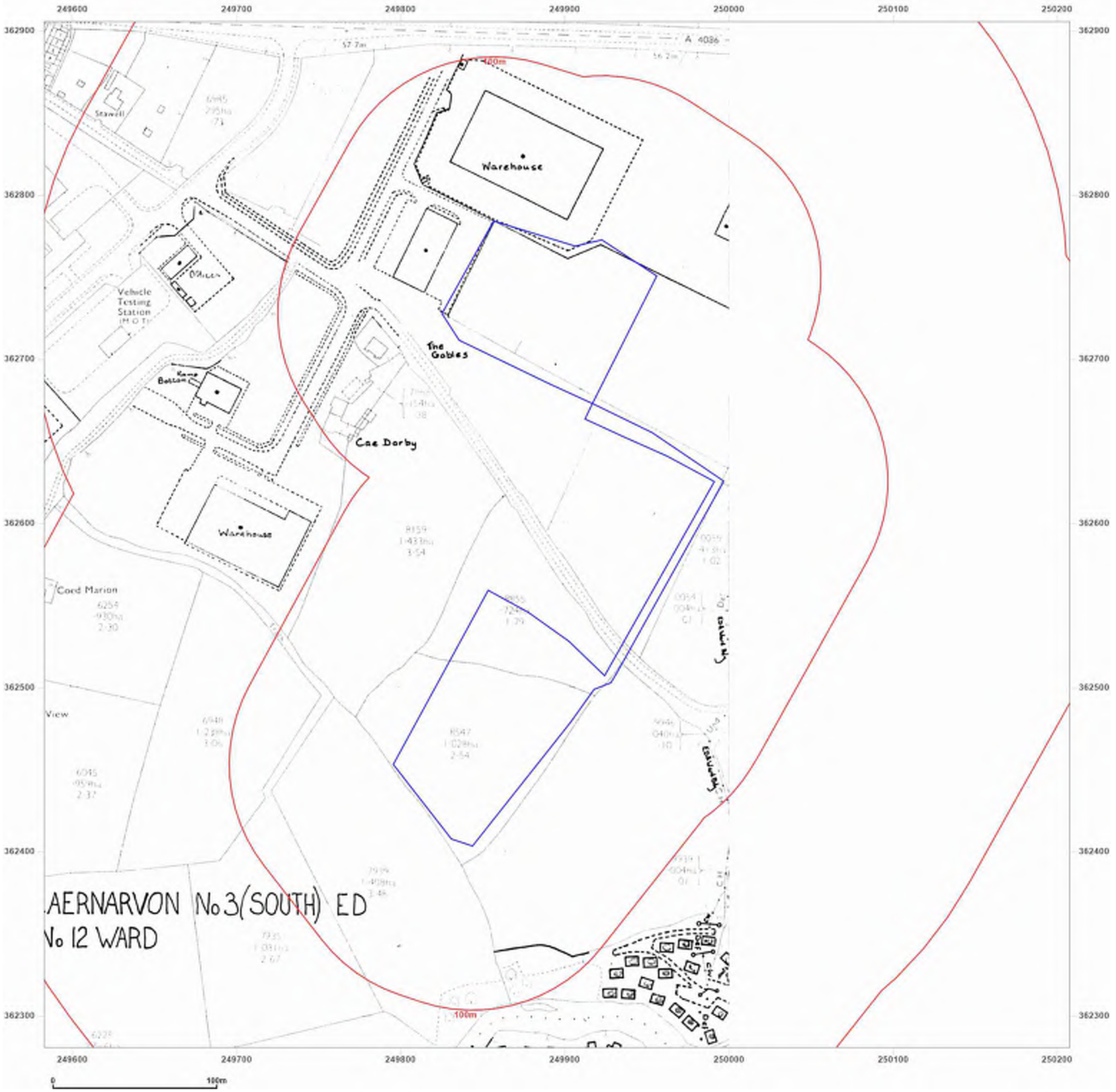

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid
Map date: **1980**
Scale: 1:2,500
Printed at: 1:2,500

N
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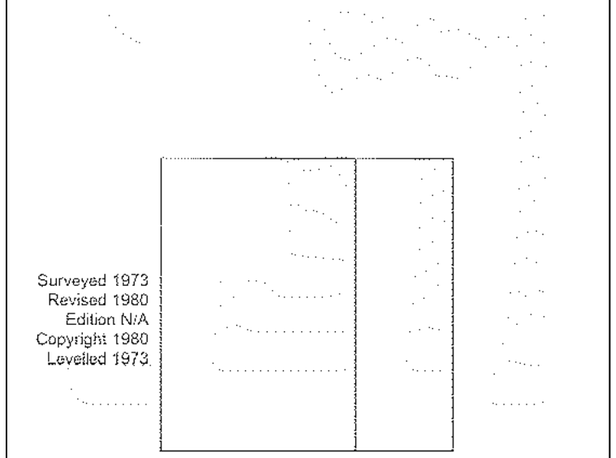

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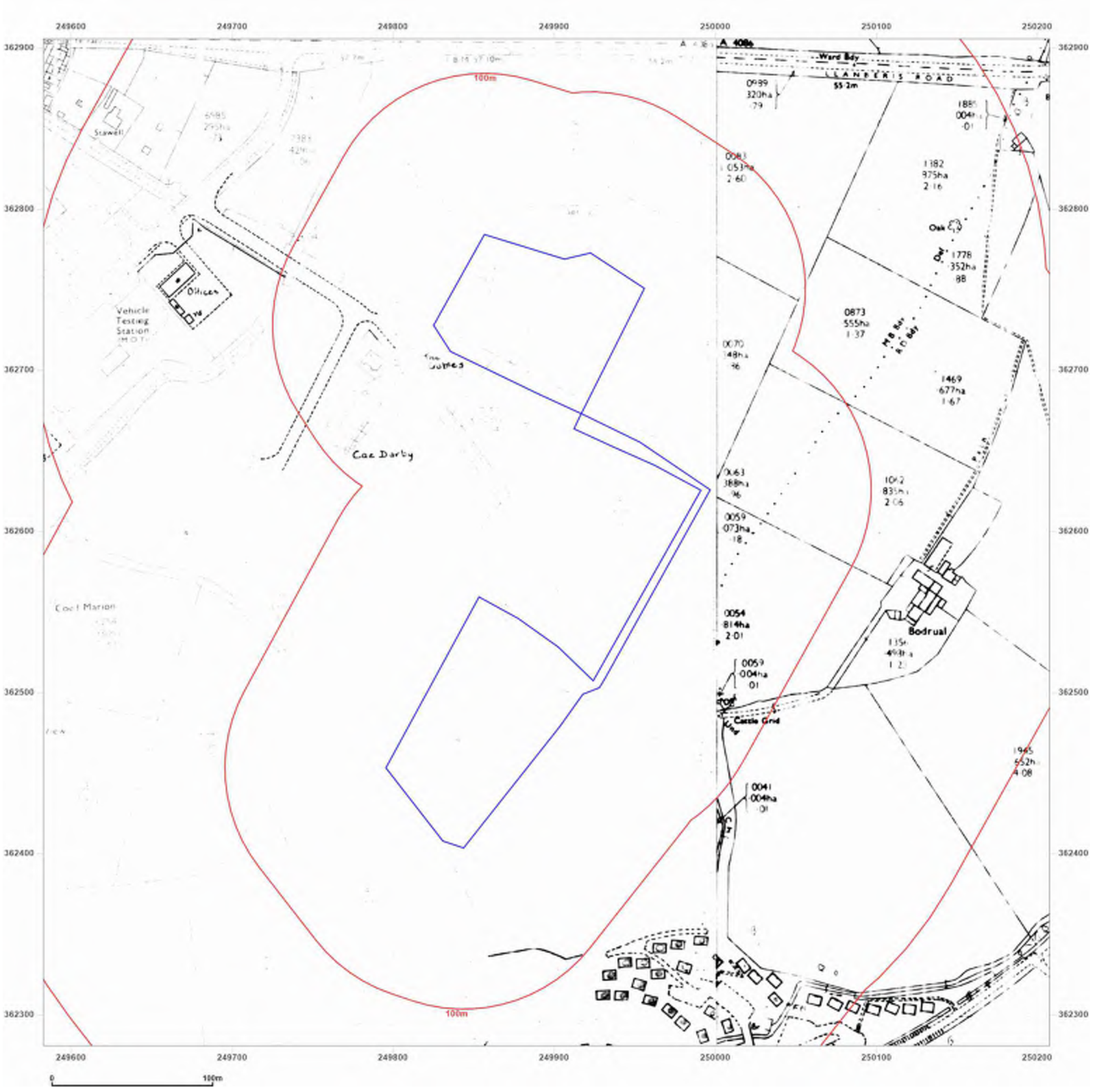

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid
Map date: **1977-1980**
Scale: 1:2,500
Printed at: 1:2,500

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid

Map date: **1983**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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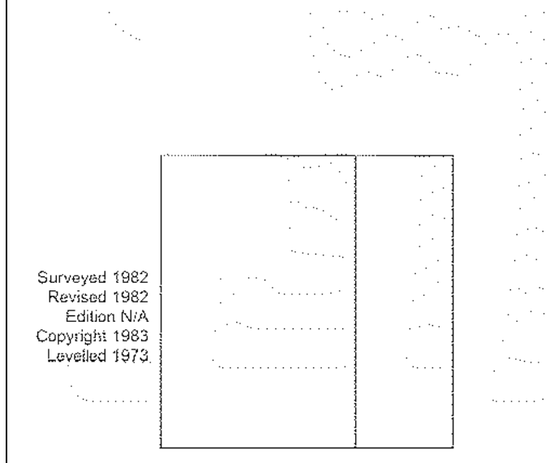

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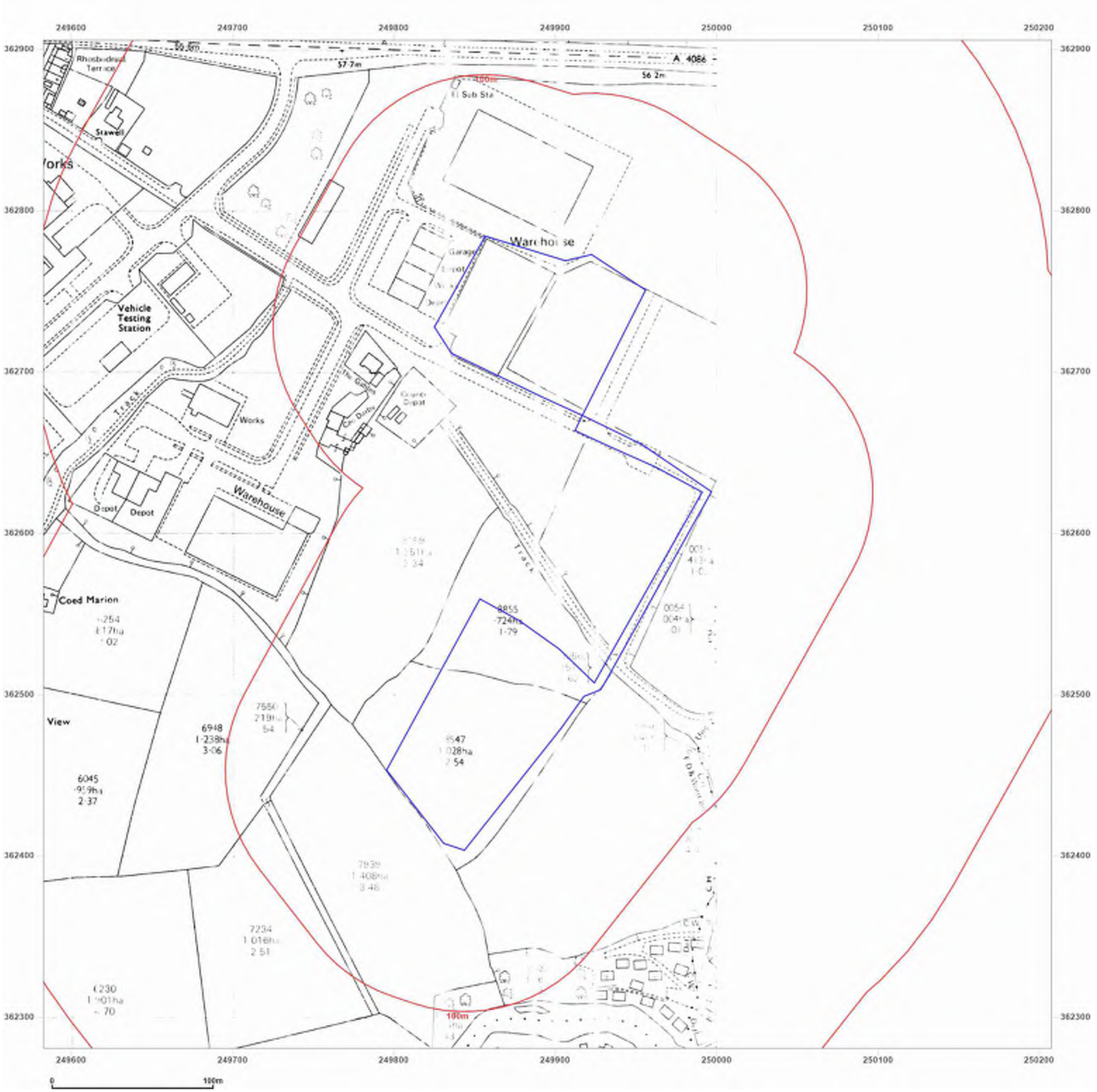

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid

Map date: **1983**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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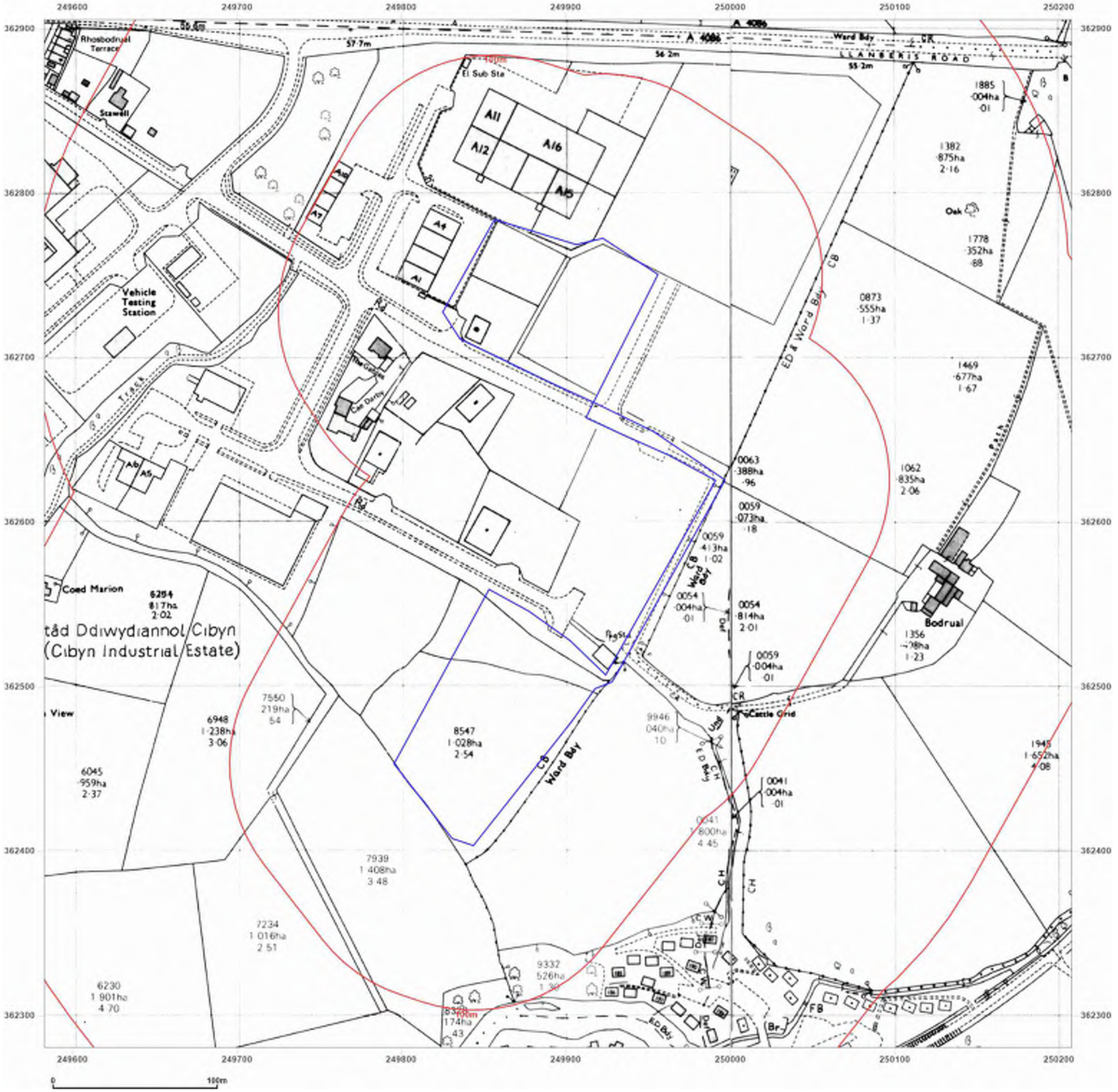

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid

Map date: **1986-1989**

Scale: 1:2,500

Printed at: 1:2,500

N
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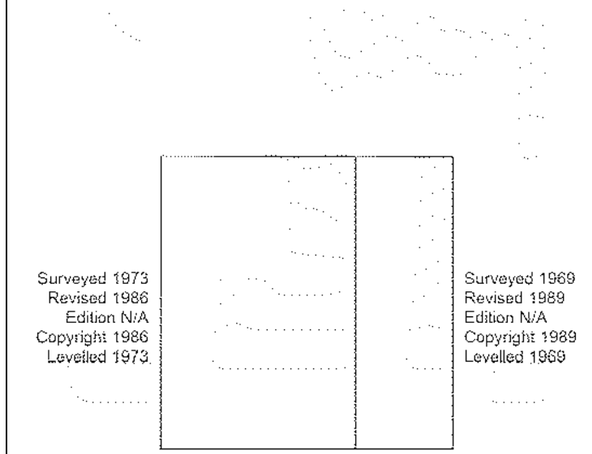

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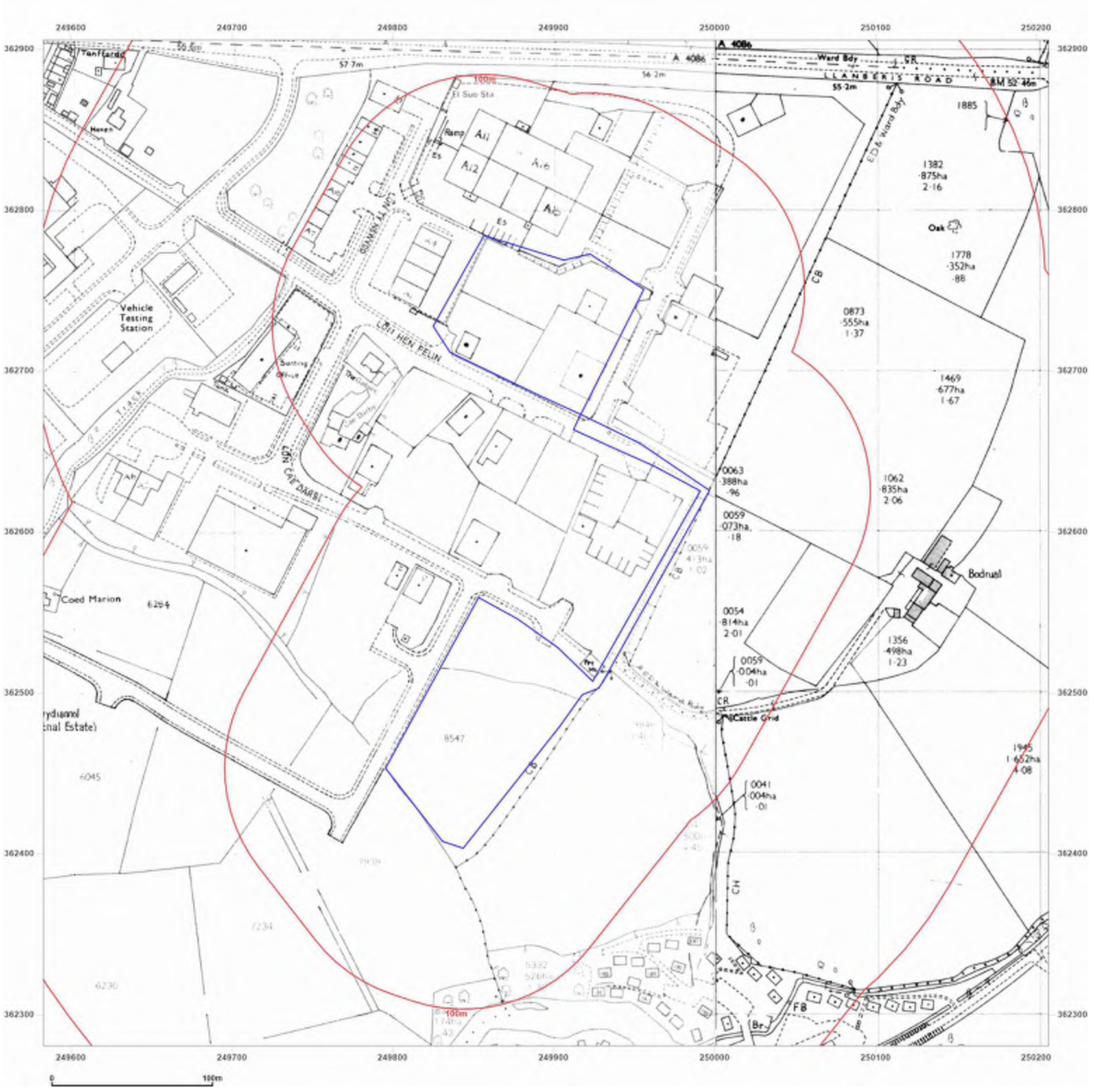

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid

Map date: **1994**

Scale: 1:2,500

Printed at: 1:2,500

N
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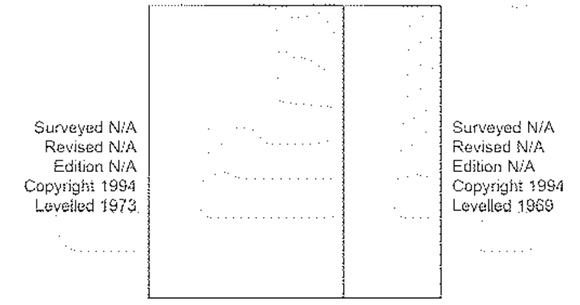

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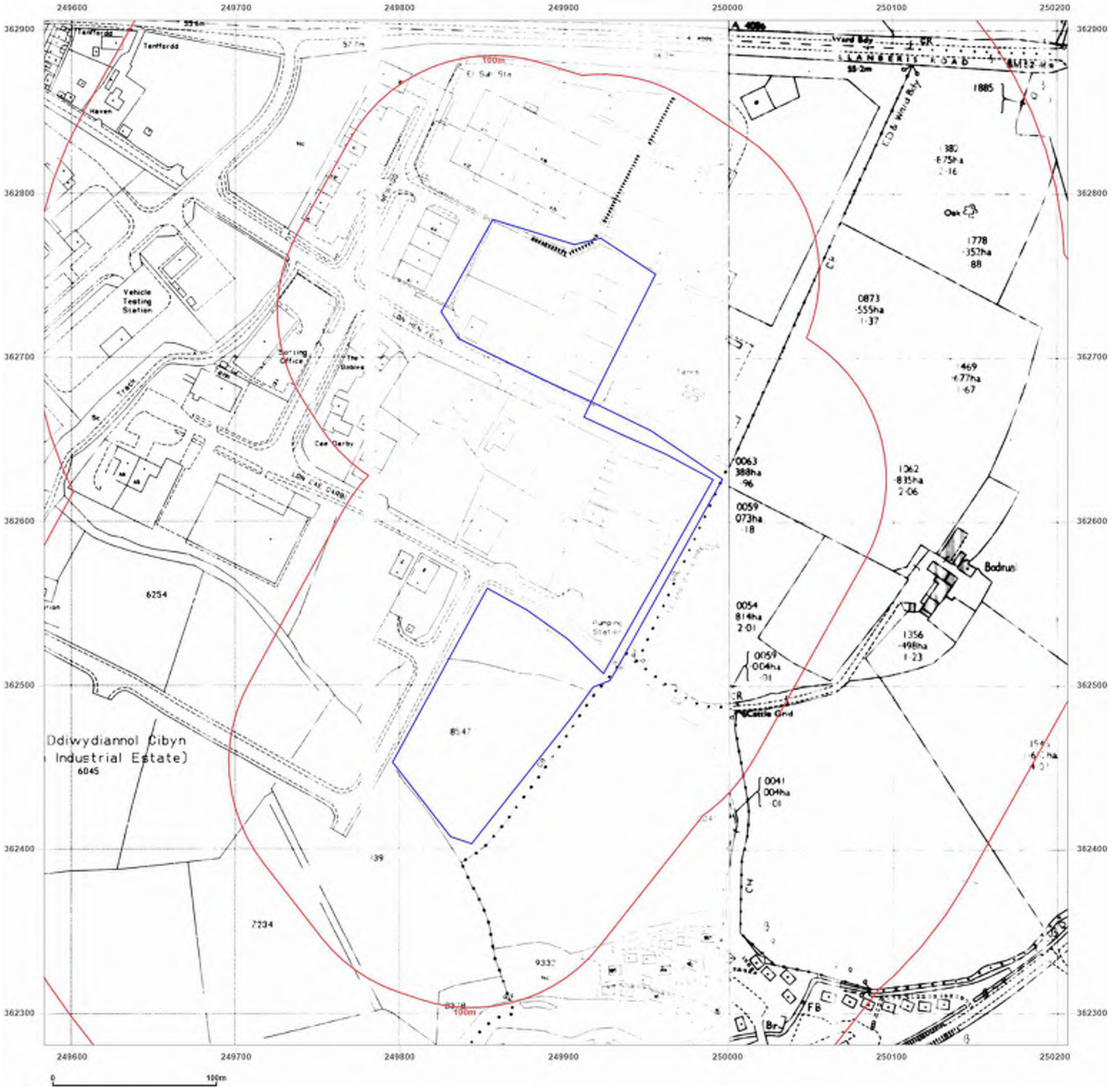

Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid

Map date: **1994-1995**

Scale: 1:2,500

Printed at: 1:2,500

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W E
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Revised N/A
Edition N/A
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Levelled N/A

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Revised N/A
Edition N/A
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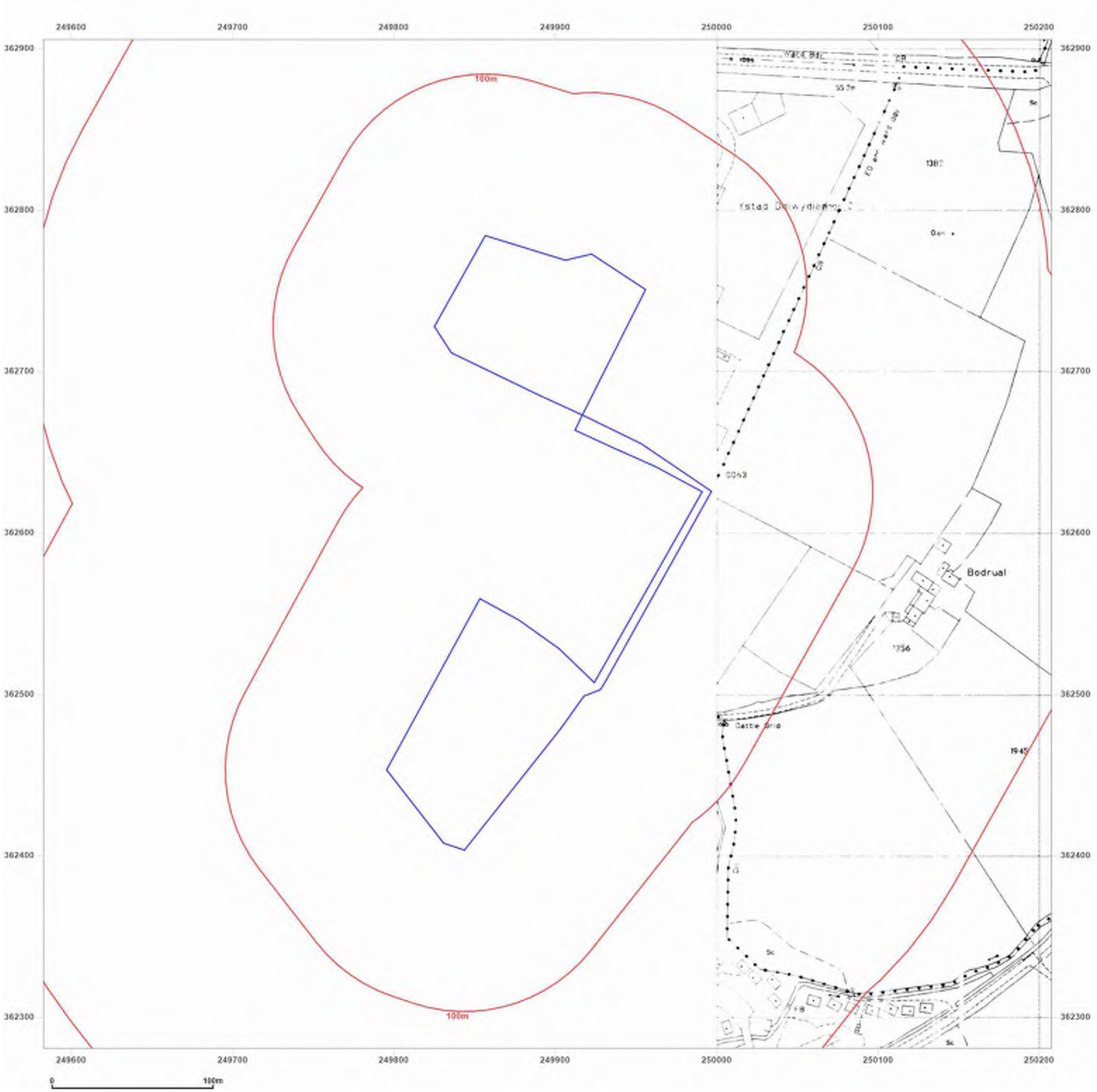

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367_2500
Grid Ref: 249895, 362593

Map Name: National Grid
Map date: **1995**
Scale: 1:2,500
Printed at: 1:2,500

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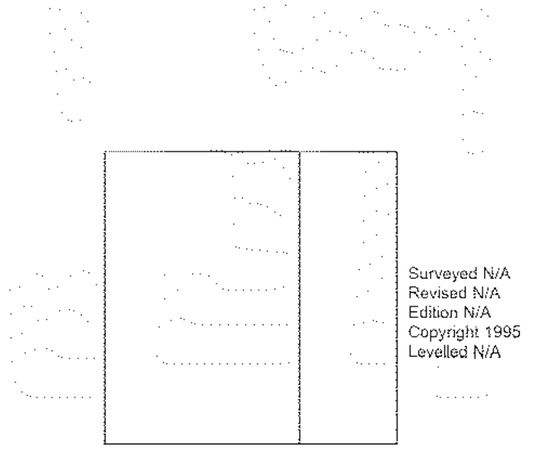

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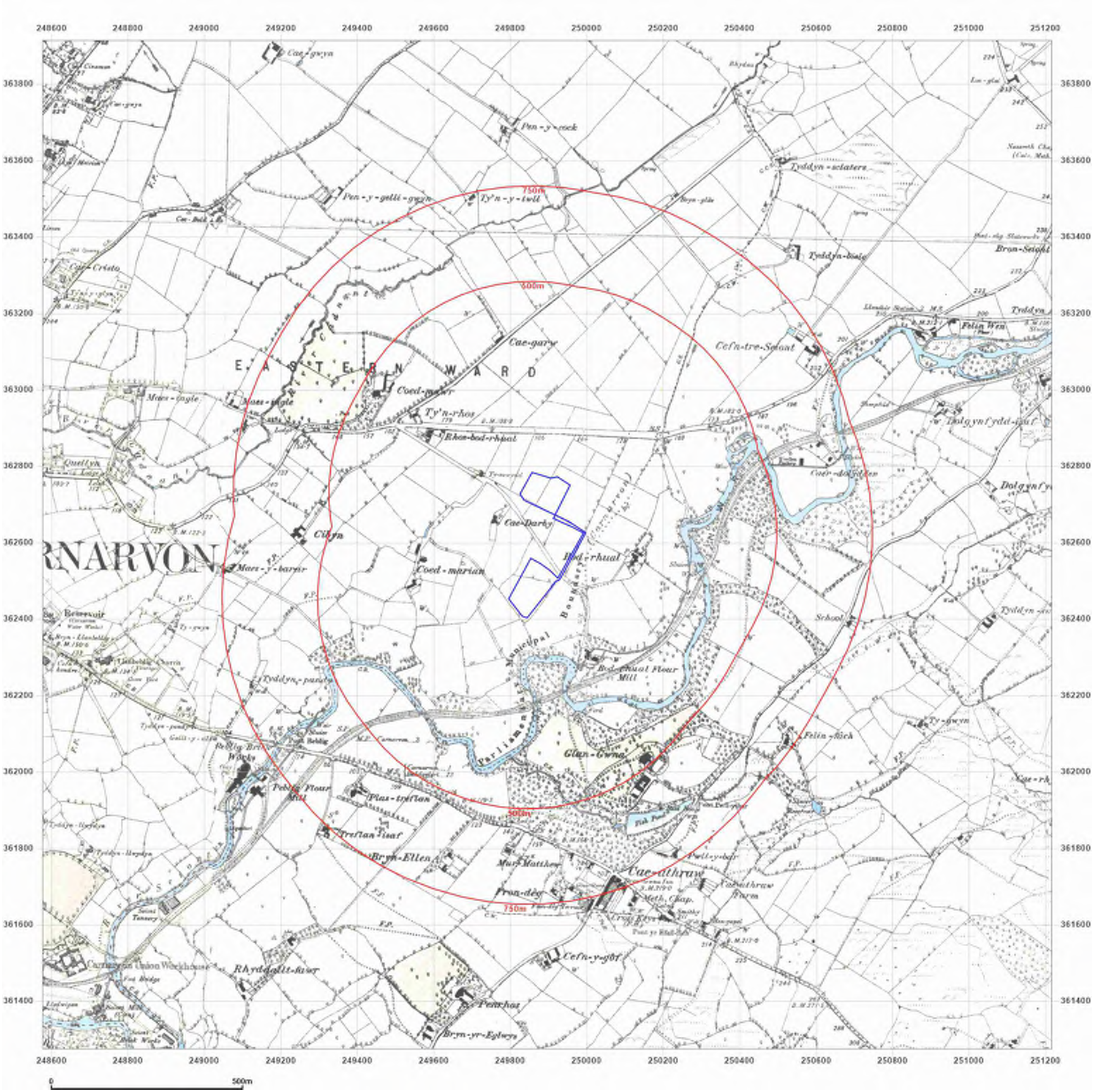

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367
Grid Ref: 249896, 362594

Map Name: County Series

Map date: **1888**

Scale: 1:10,560

Printed at: 1:10,560

N
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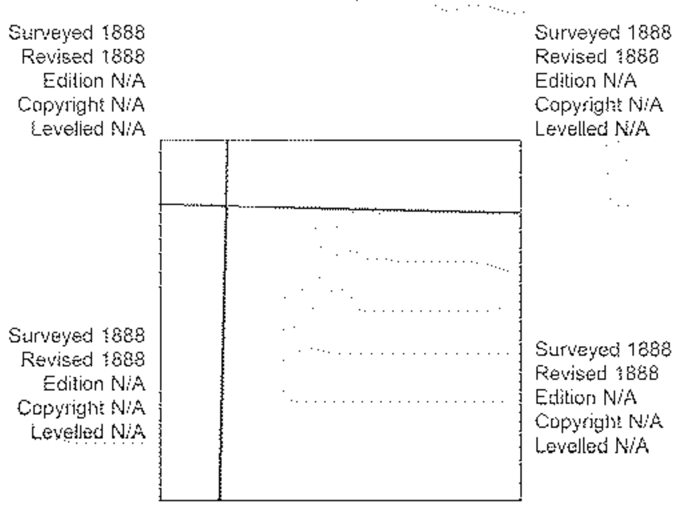

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Map legend available at:
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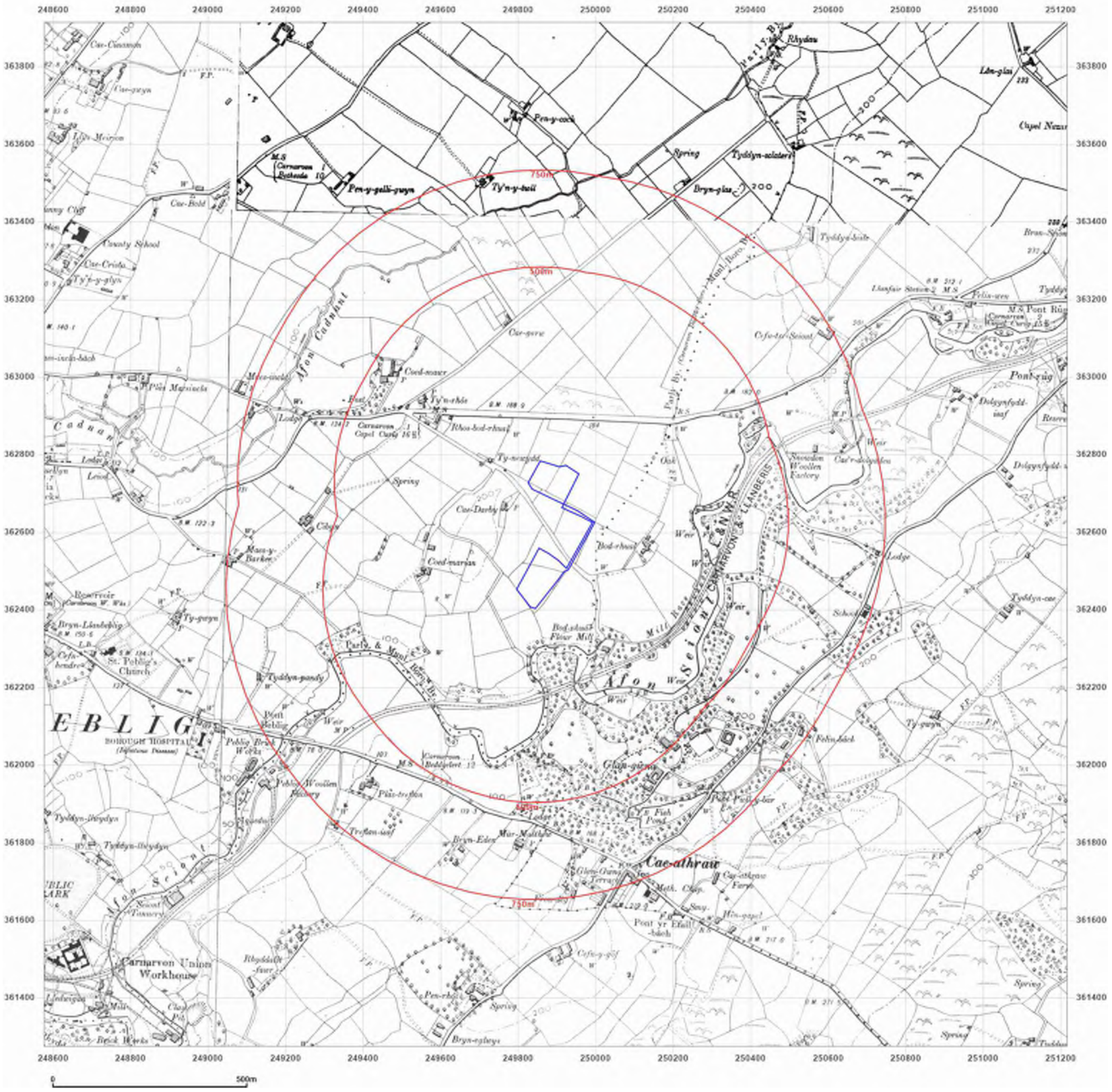

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367
Grid Ref: 249896, 362594

Map Name: County Series

Map date: **1899-1901**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1887
Revised 1899
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1888
Revised 1899
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1888
Revised 1899
Edition N/A
Copyright N/A
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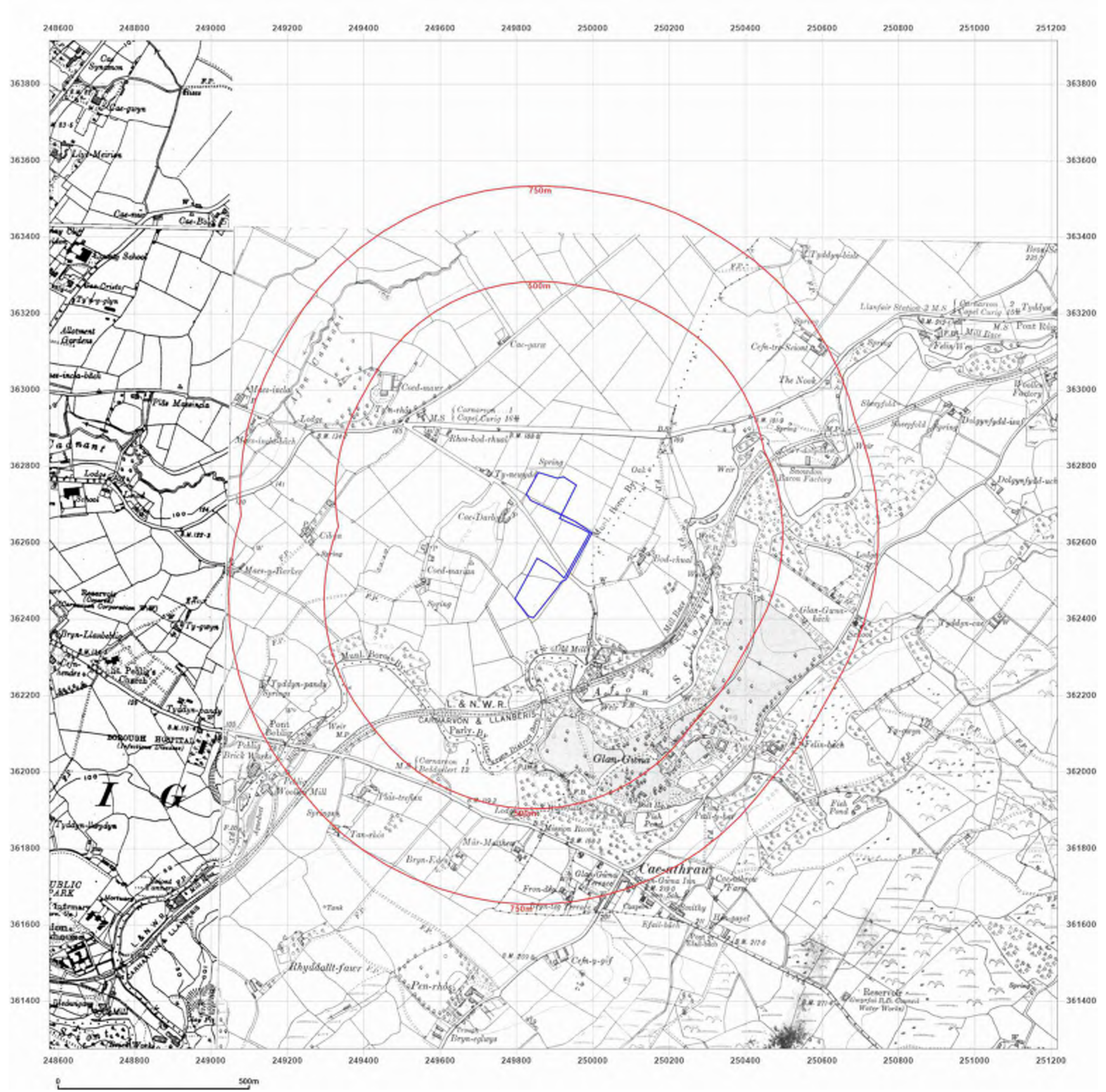

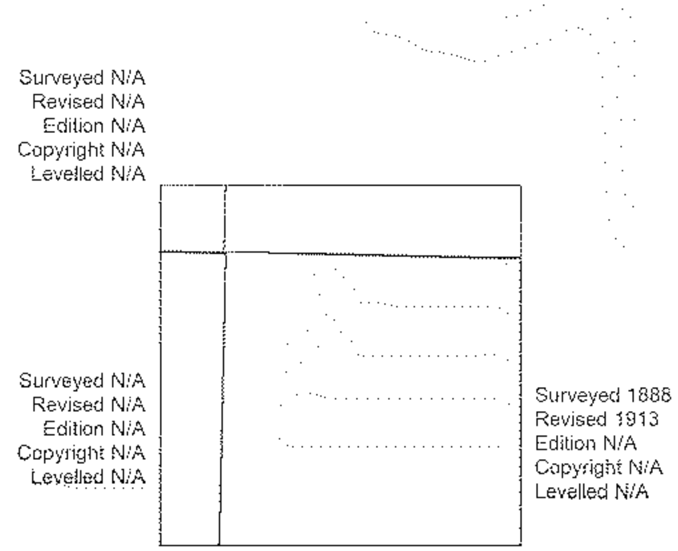

Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367
Grid Ref: 249896, 362594

Map Name: County Series

Map date: **1913**

Scale: 1:10,560

Printed at: 1:10,560

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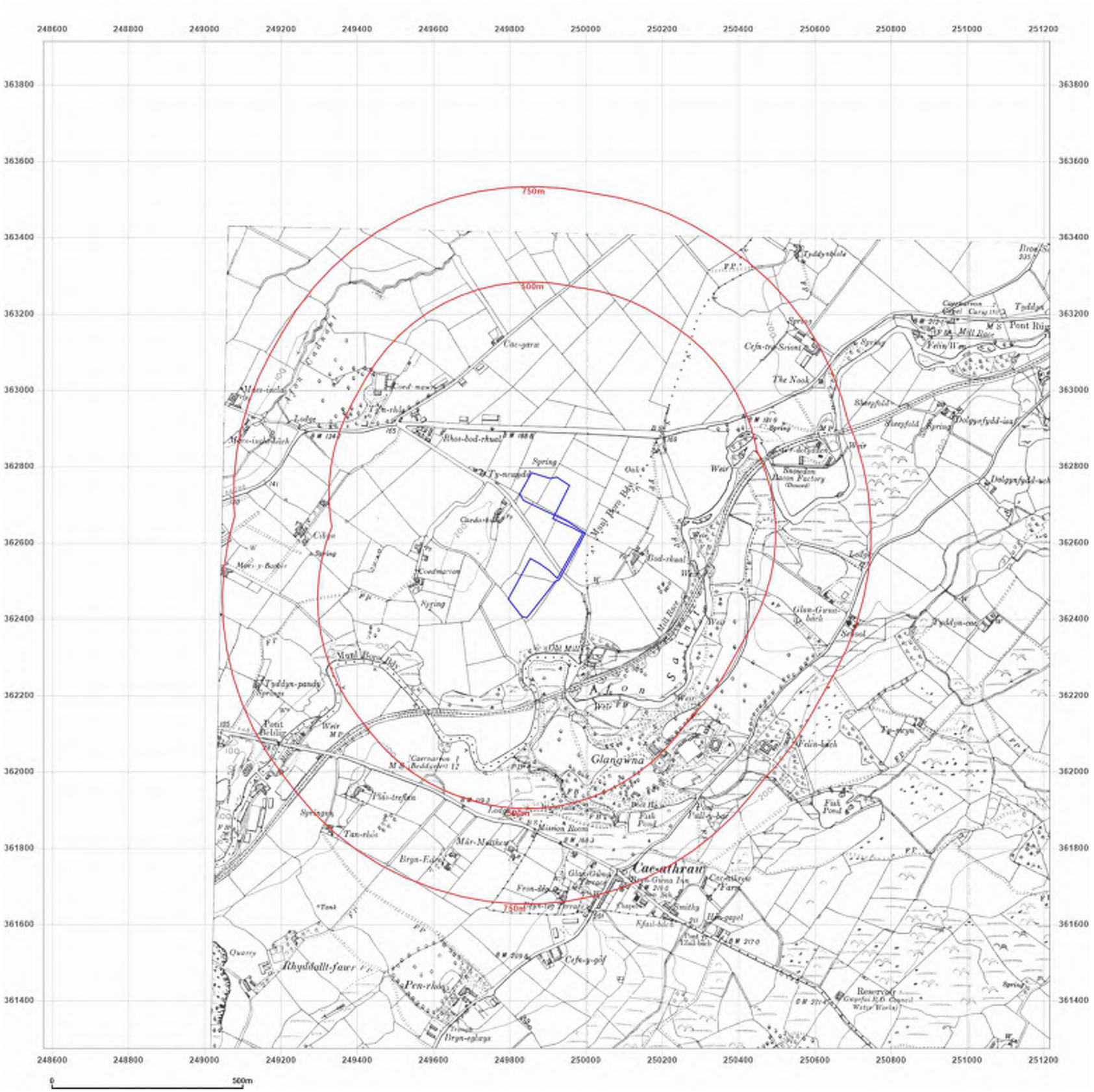

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367
Grid Ref: 249896, 362594

Map Name: County Series

Map date: **1949**

Scale: 1:10,560

Printed at: 1:10,560

N
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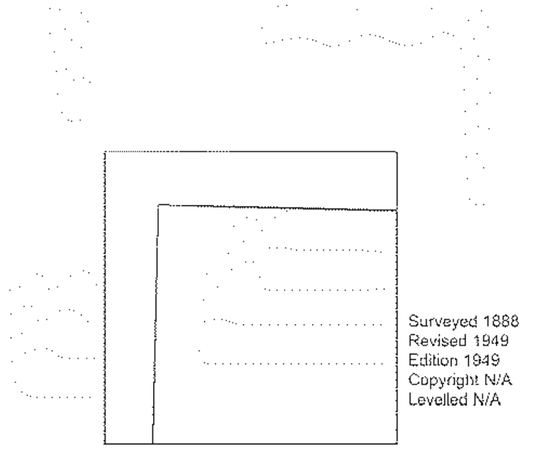

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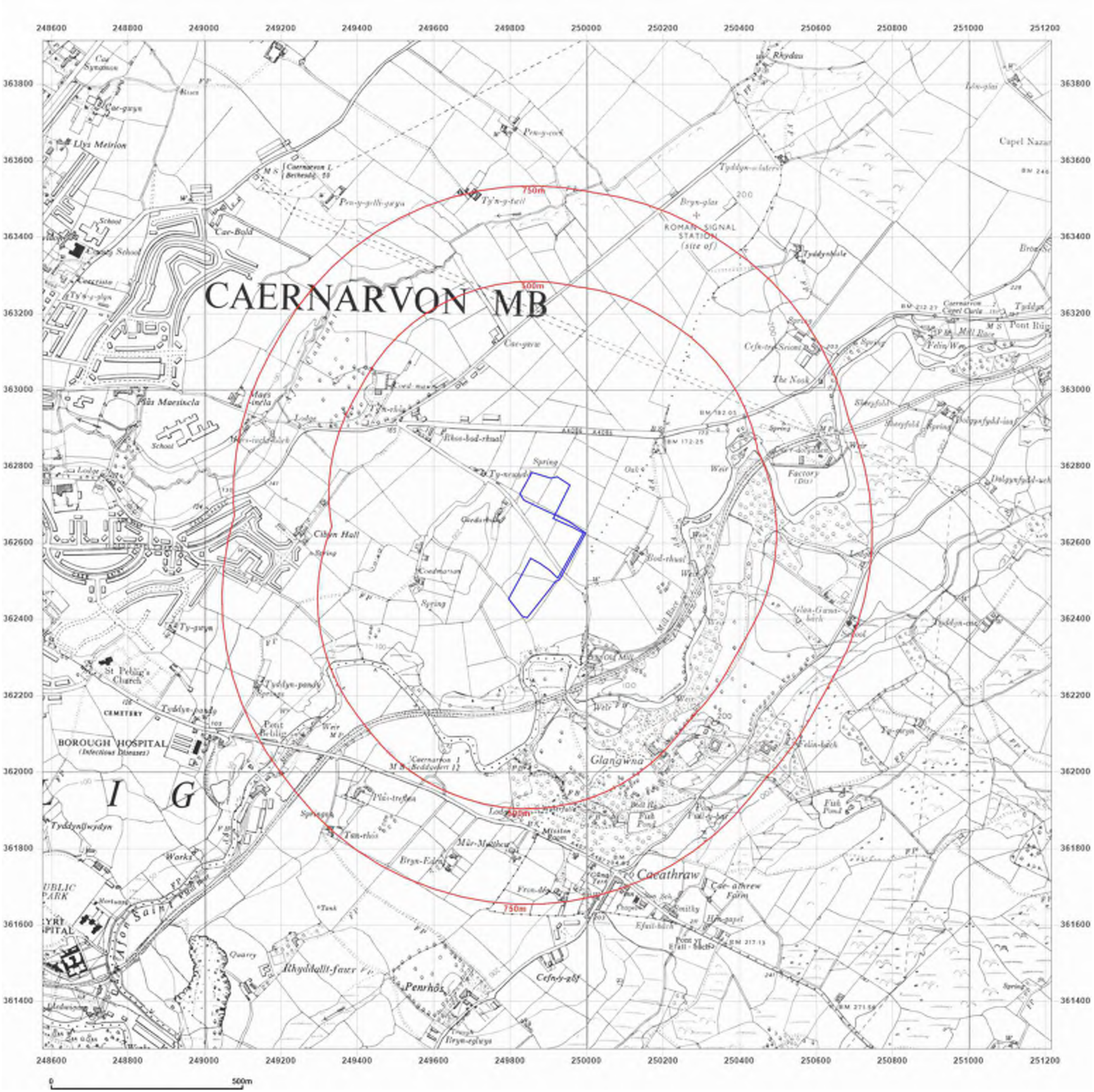


Site Details:

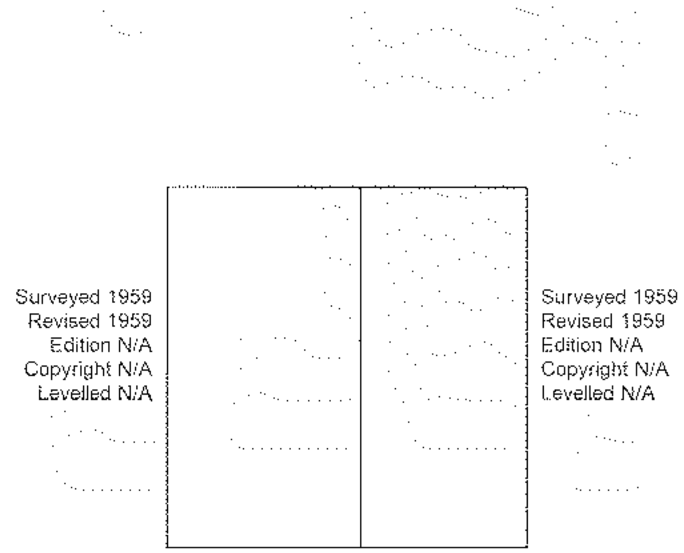
Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367
Grid Ref: 249896, 362594

Map Name: Provisional

Map date: **1959**

Scale: 1:10,560

Printed at: 1:10,560



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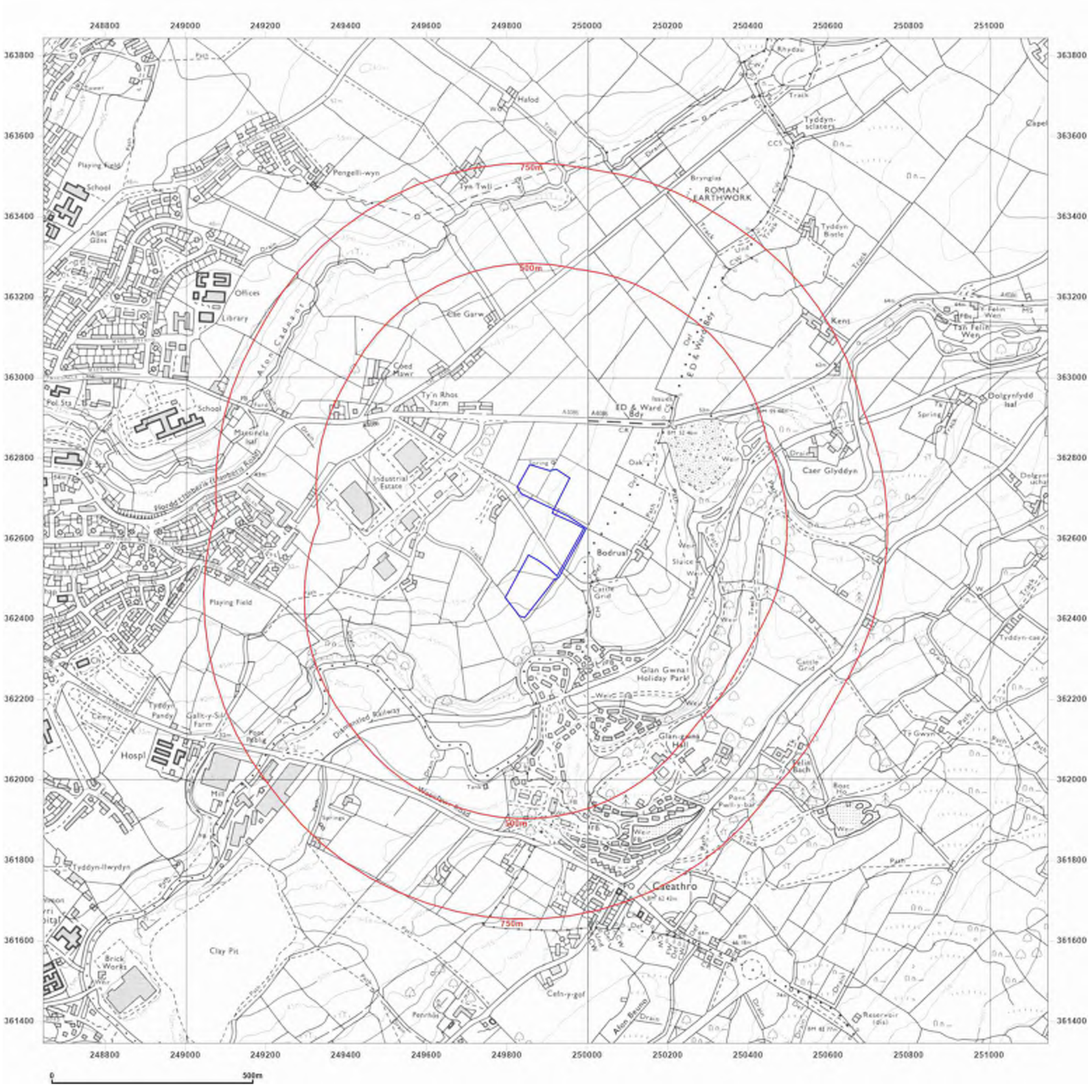

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367
Grid Ref: 249896, 362594

Map Name: National Grid

Map date: **1976**

Scale: 1:10,000

Printed at: 1:10,000

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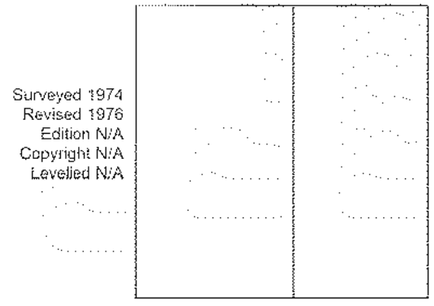

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Production date: 02 March 2022

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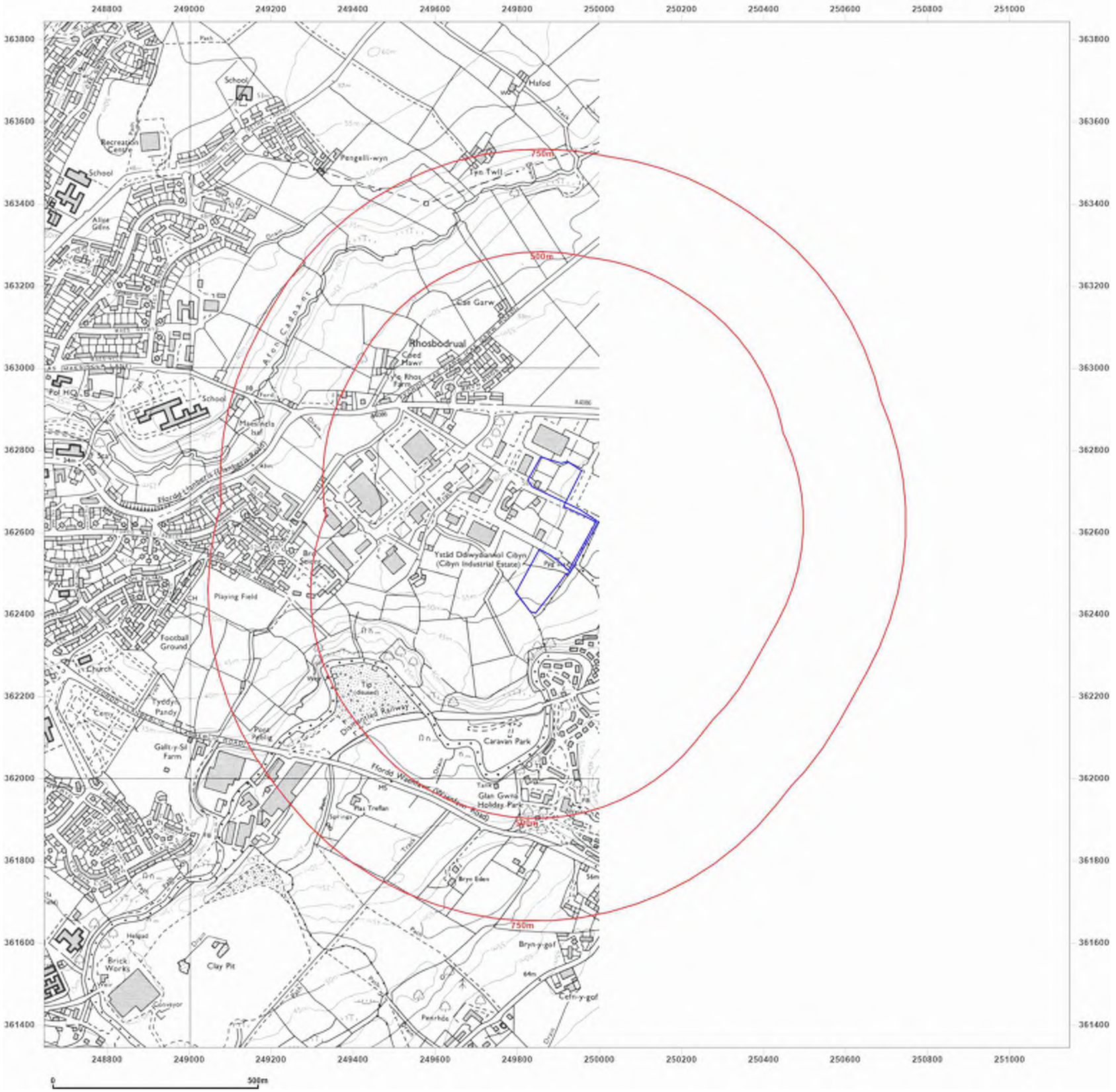

Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367
Grid Ref: 249896, 362594

Map Name: National Grid

Map date: **1990**

Scale: 1:10,000

Printed at: 1:10,000

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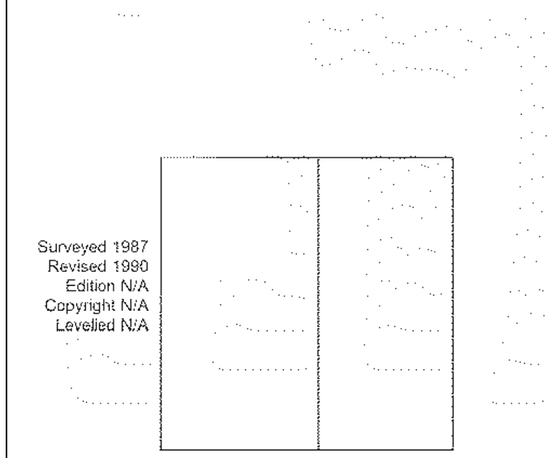

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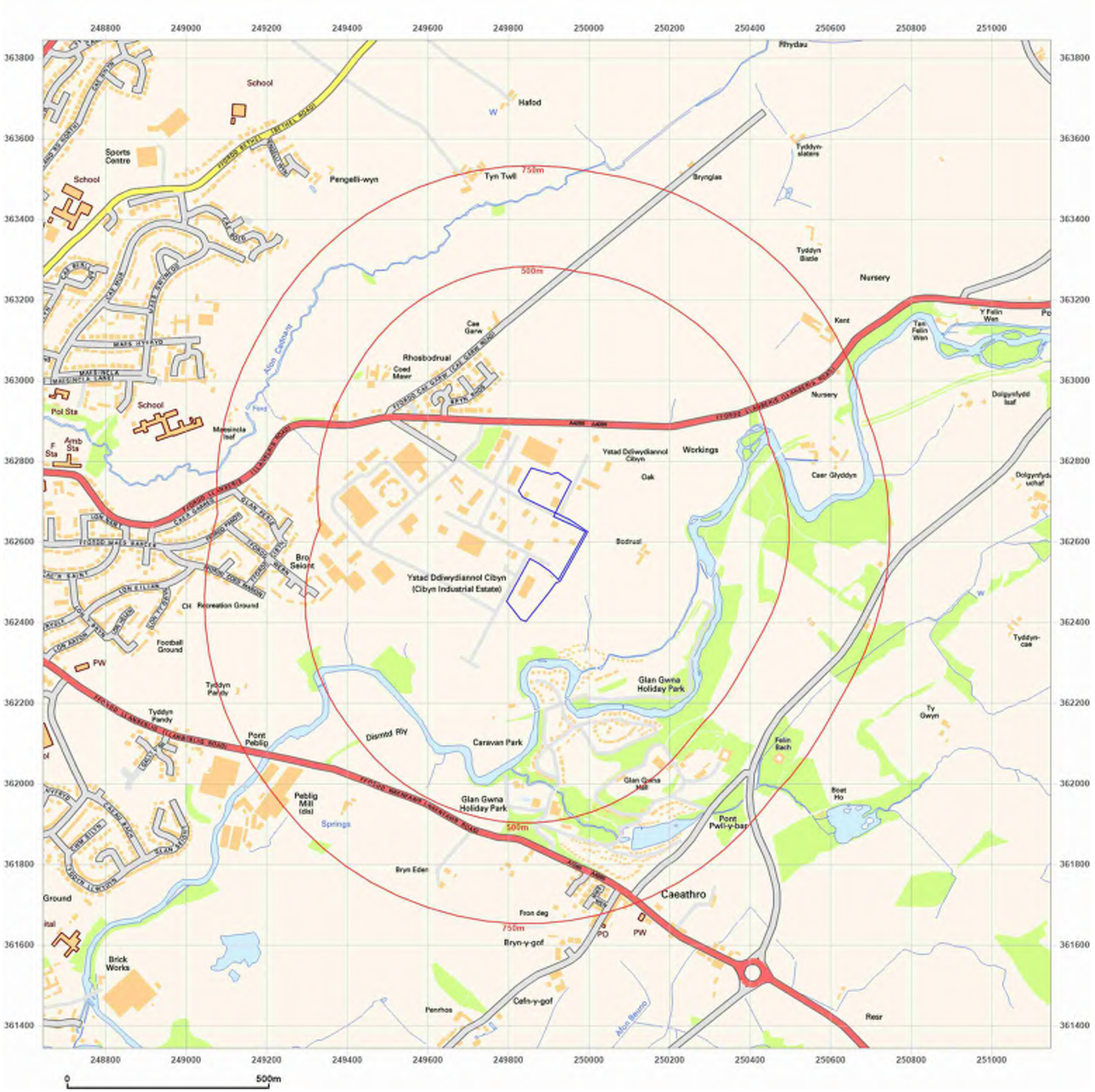

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367
Grid Ref: 249896, 362594

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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W E
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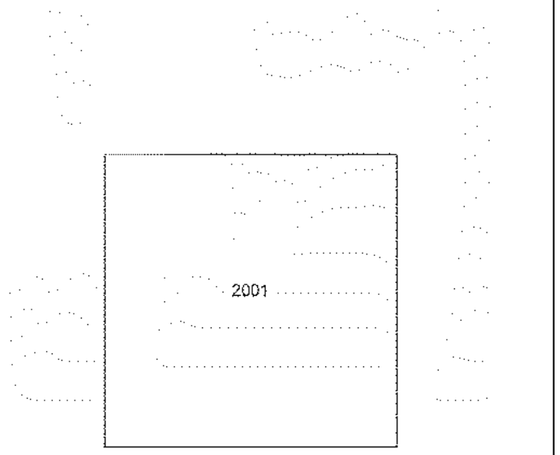

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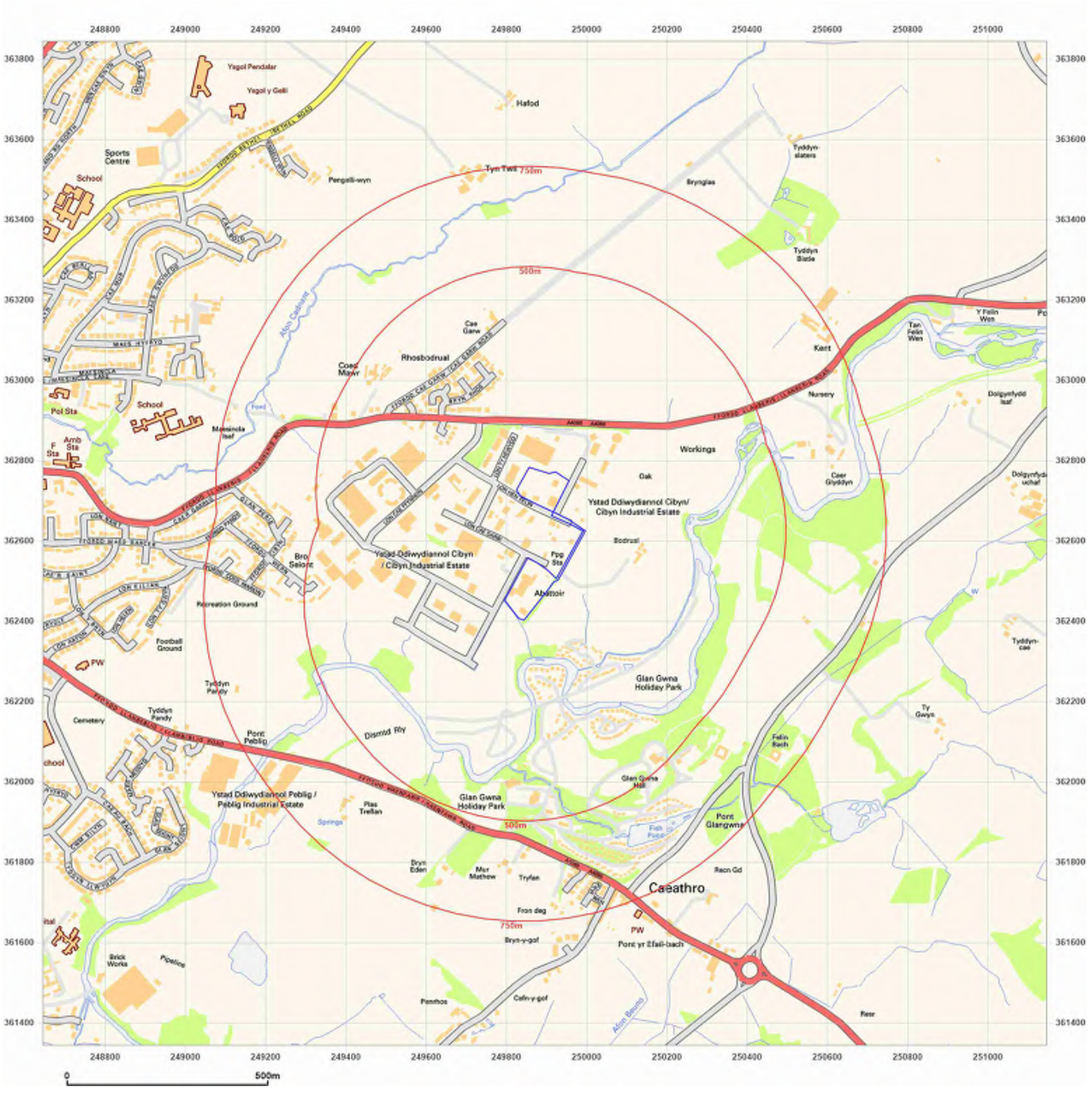

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Site Details:

Client Ref: EMS_763685_988367
Report Ref: EMS-763685_988367
Grid Ref: 249896, 362594

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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W E
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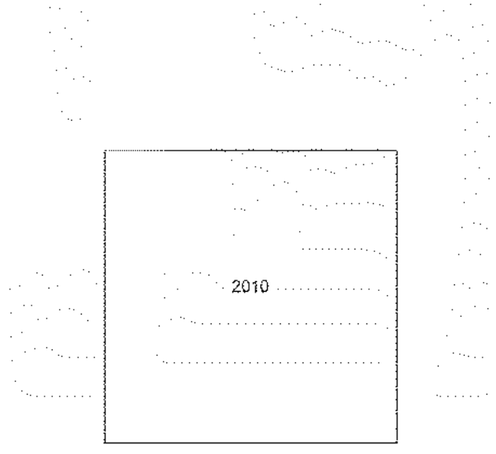

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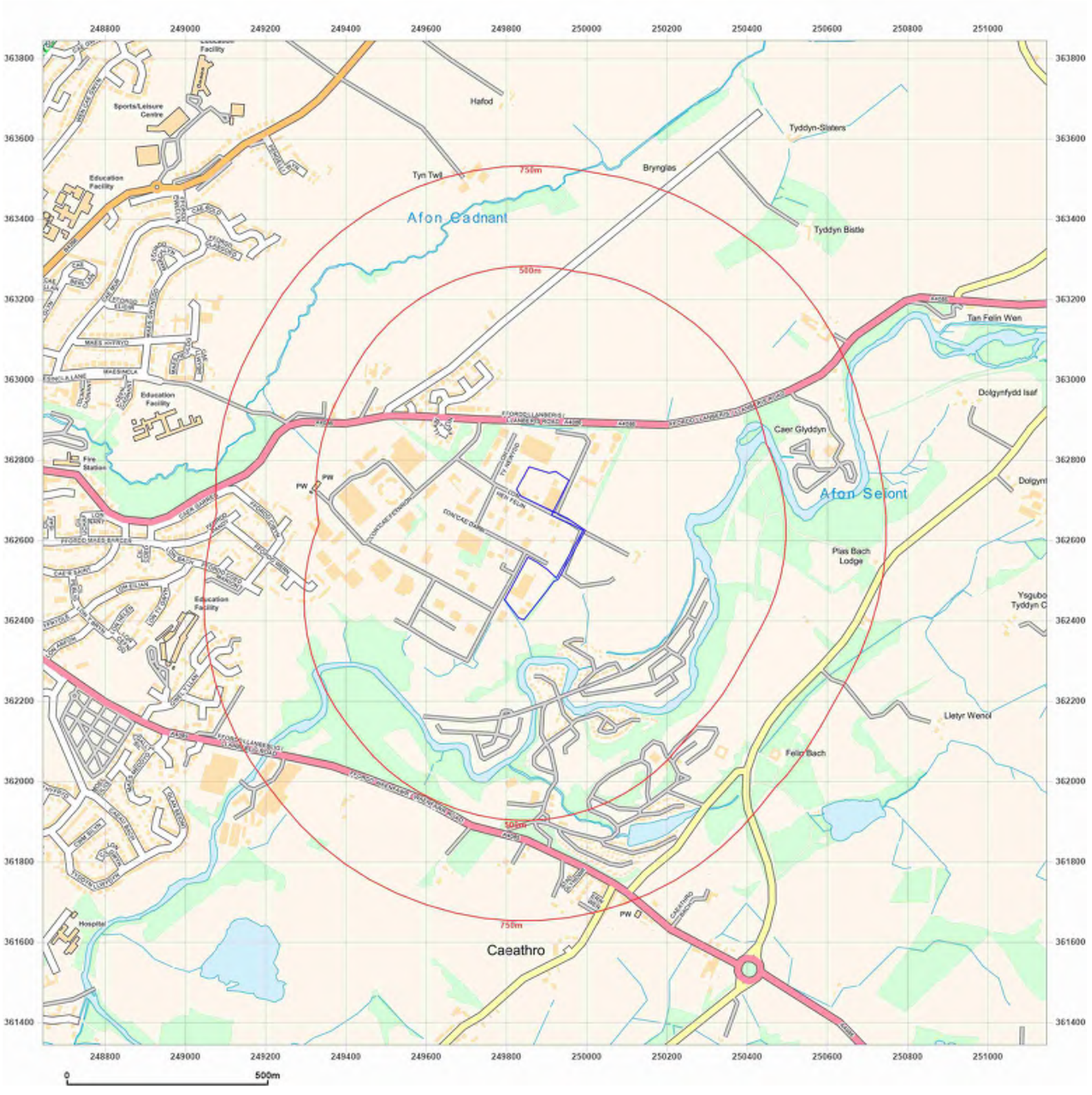

emapsite™

Site Details:

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Report Ref: EMS-763685_988367
Grid Ref: 249896, 362594

Map Name: National Grid
Map date: **2022**
Scale: 1:10,000
Printed at: 1:10,000

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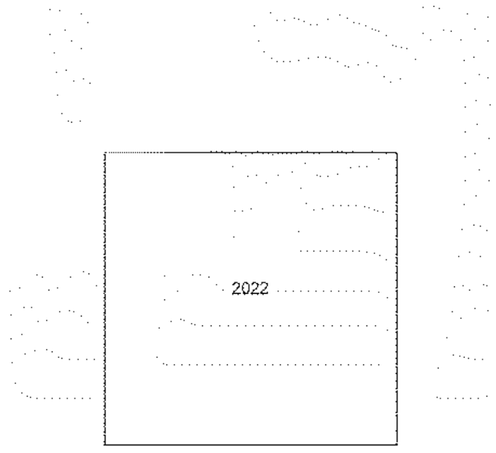

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Production date: 02 March 2022

Map legend available at:
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APPENDIX 4 - BGS Records

DRILLING LOG

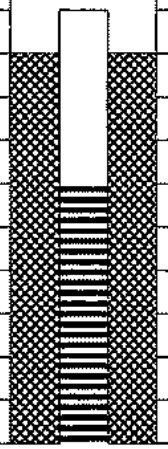
LOG NUMBER 9WB 311

DRAGON DRILLING (WATER & ENERGY) LIMITED
GRAIG LELO INDUSTRIAL ESTATE
CORWEN
LL21 9SD
TEL: 01824 707777

SITE: Ready foods Ltd JOB REFERENCE: 662 SITE BH NUMBER: 1 BGS No: sn17/129 GRID REF: SH49326260 DATE: 20/7/17

OPERATION	SIZE (MM)	FROM DEPTH (M)	TO DEPTH (M)	TOTAL
Set up				1
Symmetrix drilling	198	GL	7.5	7.5
Open hole drilling	150	7.5	61	53.5
Mud drilling				
CFA drilling				
Airlift				3

DEPTH (M)	DESCRIPTION	MATERIAL & DEPTH (M)
0 – 1.5	Soil and stones	
1.5 - 7	Brown clay and stones	
7 - 61	Dark grey fractured mudstone	Solid casing size - 113mm
		Bentonite type – Granules
	Standing time 2 hours – Lightning storm	Slotted casing size - 113/1mm
		Gravel pack size - 6mm
	Water strike depths - 9 , 12, 21 , 36, 42, 55m	Glass media size - n/a



PREDICTED DEPTH (M)	ACTUAL DEPTH (M)	WATER STRIKE (MBGL)	LITRES PER MINUTE	SLOTTED (M)	PLAIN (M)	END CAP	GRAVEL/GLASS PACK (MBGL)	BENTONITE (MBGL)
60	61	Multiple	40	58 - 9	61 – 58 9 - GL	Yes	61 – 7.5	7.5 - GL

DRILLING FOR: Commercial water supply

NAME: Ben Ellison (LEAD DRILLER)

APPENDIX 5 - Groundsure Report

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

Order Details

Date: 02/03/2022

Your ref: EMS_763685_988368

Our Ref: EMS-763685_988368

Client: emapsite

Site Details

Location: 249877 362597

Area: 2.05 ha

Authority: Gwynedd County Council

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	Historical industrial land uses	2	0	7	7	-
15	1.2	Historical tanks	0	1	1	7	-
16	1.3	Historical energy features	0	0	3	6	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	Historical garages	0	1	3	0	-
17	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
18	2.1	Historical industrial land uses	2	0	8	9	-
19	2.2	Historical tanks	0	1	2	18	-
20	2.3	Historical energy features	0	0	7	19	-
22	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	1	4	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	1	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	1	-
24	3.3	Historical landfill (LA/mapping records)	0	0	1	0	-
24	3.4	Historical landfill (EA/NRW records)	0	0	1	1	-
25	3.5	Historical waste sites	1	2	3	0	-
27	3.6	Licensed waste sites	0	13	20	10	-
39	3.7	Waste exemptions	13	1	45	2	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
47	4.1	Recent industrial land uses	5	5	9	-	-
49	4.2	Current or recent petrol stations	0	0	0	0	-
49	4.3	Electricity cables	0	0	0	0	-
49	4.4	Gas pipelines	0	0	0	0	-
49	4.5	Sites determined as Contaminated Land	0	0	0	0	-

49	4.6	Control of Major Accident Hazards (COMAH)	1	1	0	0	-
50	4.7	Regulated explosive sites	0	0	0	0	-
50	4.8	Hazardous substance storage/usage	0	2	2	0	-
51	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
51	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
51	4.11	Licensed pollutant release (Part A(2)/B)	0	0	1	1	-
52	4.12	Radioactive Substance Authorisations	0	0	0	0	-
52	4.13	Licensed Discharges to controlled waters	0	0	1	4	-
53	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
53	4.15	Pollutant release to public sewer	0	0	0	0	-
53	4.16	List 1 Dangerous Substances	0	0	0	0	-
53	4.17	List 2 Dangerous Substances	0	0	0	0	-
54	4.18	Pollution Incidents (EA/NRW)	5	4	3	7	-
56	4.19	Pollution inventory substances	0	0	0	0	-
56	4.20	Pollution inventory waste transfers	0	0	0	0	-
56	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
57	5.1	Superficial aquifer	Identified (within 500m)				
58	5.2	Bedrock aquifer	Identified (within 500m)				
60	5.3	Groundwater vulnerability	Identified (within 50m)				
61	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
61	5.5	Groundwater vulnerability- local information	None (within 0m)				
62	5.6	Groundwater abstractions	0	0	0	0	0
63	5.7	Surface water abstractions	0	0	0	0	9
65	5.8	Potable abstractions	0	0	0	0	3
66	5.9	Source Protection Zones	0	0	0	0	-
66	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
67	6.1	Water Network (OS MasterMap)	0	1	24	-	-

70	6.2	Surface water features	0	1	11	-	-
70	6.3	WFD Surface water body catchments	1	-	-	-	-
70	6.4	WFD Surface water bodies	0	0	1	-	-
71	6.5	WFD Groundwater bodies	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
72	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
72	7.2	Historical Flood Events	0	0	0	-	-
72	7.3	Flood Defences	0	0	0	-	-
73	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
73	7.5	Flood Storage Areas	0	0	0	-	-
74	7.6	Flood Zone 2	None (within 50m)				
74	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding	
75	8.1	Surface water flooding	1 in 30 year, 0.1m - 0.3m (within 50m)

Page	Section	Groundwater flooding	
77	9.1	Groundwater flooding	Low (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
78	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	2
79	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
79	10.3	Special Areas of Conservation (SAC)	0	0	0	0	1
79	10.4	Special Protection Areas (SPA)	0	0	0	0	0
80	10.5	National Nature Reserves (NNR)	0	0	0	0	0
80	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
80	10.7	Designated Ancient Woodland	0	0	2	2	16
81	10.8	Biosphere Reserves	0	0	0	0	0
81	10.9	Forest Parks	0	0	0	0	0
82	10.10	Marine Conservation Zones	0	0	0	0	0
82	10.11	Green Belt	0	0	0	0	0
82	10.12	Proposed Ramsar sites	0	0	0	0	0

82	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
82	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
83	10.15	Nitrate Sensitive Areas	0	0	0	0	0
83	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
84	10.17	SSSI Impact Risk Zones	0	-	-	-	-
84	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
85	11.1	World Heritage Sites	0	0	0	-	-
85	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
85	11.3	National Parks	0	0	0	-	-
85	11.4	Listed Buildings	0	0	0	-	-
86	11.5	Conservation Areas	0	0	0	-	-
86	11.6	Scheduled Ancient Monuments	0	0	0	-	-
86	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
87	**12.1**	**Agricultural Land Classification**	Grade 4 (within 250m)				
88	12.2	Open Access Land	0	0	0	-	-
89	12.3	Tree Felling Licences	0	0	0	-	-
89	12.4	Environmental Stewardship Schemes	0	0	0	-	-
89	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
90	13.1	Priority Habitat Inventory	0	0	0	-	-
90	13.2	Habitat Networks	0	0	0	-	-
90	13.3	Open Mosaic Habitat	0	0	0	-	-
90	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
91	**14.1**	**10k Availability**	Identified (within 500m)				
92	14.2	Artificial and made ground (10k)	0	0	0	0	-
93	14.3	Superficial geology (10k)	0	0	0	0	-

93	14.4	Landslip (10k)	0	0	0	0	-
94	14.5	Bedrock geology (10k)	0	0	0	0	-
94	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
95	**15.1**	**50k Availability**	Identified (within 500m)				
96	15.2	Artificial and made ground (50k)	0	0	0	0	-
96	15.3	Artificial ground permeability (50k)	0	0	-	-	-
97	**15.4**	**Superficial geology (50k)**	1	0	1	6	-
98	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
98	**15.6**	**Landslip (50k)**	0	0	0	1	-
99	15.7	Landslip permeability (50k)	None (within 50m)				
100	**15.8**	**Bedrock geology (50k)**	1	0	0	0	-
101	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
101	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
102	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
103	**17.1**	**Shrink swell clays**	Negligible (within 50m)				
104	**17.2**	**Running sands**	Very low (within 50m)				
106	**17.3**	**Compressible deposits**	Negligible (within 50m)				
107	**17.4**	**Collapsible deposits**	Very low (within 50m)				
108	**17.5**	**Landslides**	Low (within 50m)				
110	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
112	18.1	Natural cavities	0	0	0	0	-
113	18.2	BritPits	0	0	0	0	-
113	**18.3**	**Surface ground workings**	0	0	2	-	-
113	18.4	Underground workings	0	0	0	0	0
113	18.5	Historical Mineral Planning Areas	0	0	0	0	-

114	**18.6**	**Non-coal mining**	1	1	0	0	1
114	18.7	Mining cavities	0	0	0	0	0
114	18.8	JPB mining areas	None (within 0m)				
115	18.9	Coal mining	None (within 0m)				
115	18.10	Brine areas	None (within 0m)				
115	18.11	Gypsum areas	None (within 0m)				
115	18.12	Tin mining	None (within 0m)				
115	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
116	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
117	**20.1**	**BGS Estimated Background Soil Chemistry**	2	1	-	-	-
117	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
117	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
118	21.1	Underground railways (London)	0	0	0	-	-
118	21.2	Underground railways (Non-London)	0	0	0	-	-
119	21.3	Railway tunnels	0	0	0	-	-
119	21.4	Historical railway and tunnel features	0	0	0	-	-
119	21.5	Royal Mail tunnels	0	0	0	-	-
119	**21.6**	**Historical railways**	0	0	1	-	-
120	21.7	Railways	0	0	0	-	-
120	21.8	Crossrail 1	0	0	0	0	-
120	21.9	Crossrail 2	0	0	0	0	-
120	21.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 06/06/2018

Site Area: 2.05ha

Recent site history - 2016 aerial photograph

Capture Date: 12/05/2016

Site Area: 2.05ha

Recent site history - 2013 aerial photograph

Capture Date: 04/06/2013

Site Area: 2.05ha

Recent site history - 2009 aerial photograph

Capture Date: 11/05/2009

Site Area: 2.05ha

Recent site history - 2000 aerial photograph

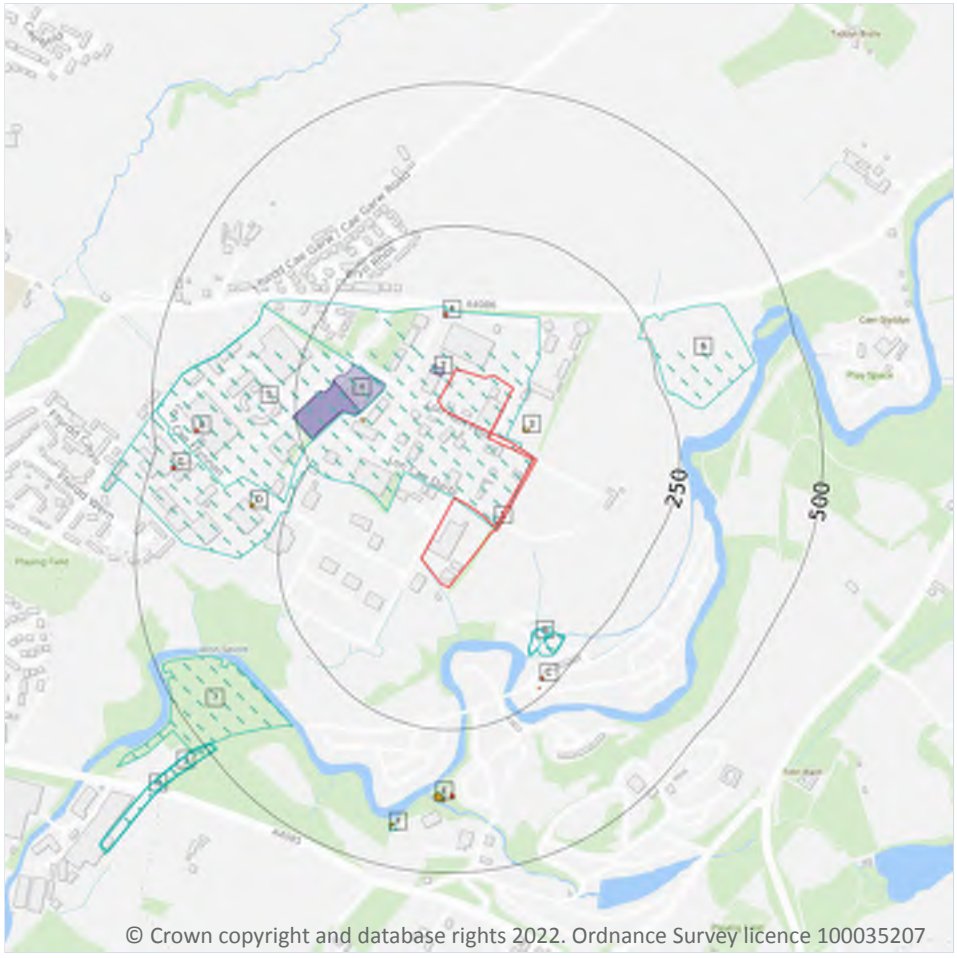
Capture Date: 21/07/2000

Site Area: 2.05ha

OS MasterMap site plan

Site Area: 2.05ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	16

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Pumping Station**	**1990**	**211341**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Industrial Estate**	**1990**	**222435**
5	96m W	Industrial Estate	1976	241316
B	164m SE	Unspecified Old Mill	1949	233166
B	164m SE	Flour Mill	1888 - 1899	232289
B	164m SE	Unspecified Old Mill	1913	237320
B	189m SE	Unspecified Commercial/Industrial	1976	217848
B	189m SE	Unspecified Old Mill	1959	229286
6	236m E	Refuse Heap	1976	222083
7	359m SW	Unspecified Disused Tip	1990	219176
E	360m S	Unspecified Tank	1976 - 1990	243614
F	424m S	Unspecified Tank	1976 - 1990	248524
H	486m SW	Cuttings	1949	235742
9	488m SW	Cuttings	1888	242122
H	490m SW	Cuttings	1913	225272
H	498m SW	Cuttings	1959	247701

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**9**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
3	28m NE	Tanks	1995	31204
A	132m W	Unspecified Tank	1994 - 1995	32142
D	306m W	Unspecified Tank	1982	31813

ID	Location	Land use	Dates present	Group ID
D	307m W	Unspecified Tank	1980 - 1995	32870
E	361m S	Unspecified Tank	1980 - 1995	32361
E	362m S	Unspecified Tank	1971	31947
E	362m S	Unspecified Tank	1982	32091
F	424m S	Unspecified Tank	1964 - 1987	32523
F	427m S	Unspecified Tank	1995	32090

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**9**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
4	92m N	Electricity Substation	1982 - 1995	17243
C	226m SE	Electricity Substation	1995	15672
C	235m SE	Electricity Substation	1989 - 1994	16185
E	362m S	Electricity Substation	1980 - 1994	16469
E	363m S	Electricity Substation	1971	16181
E	368m S	Electricity Substation	1982 - 1995	16919
8	422m W	Electricity Substation	1971 - 1995	16507
G	457m W	Electricity Substation	1986 - 1994	16820
G	461m W	Electricity Substation	1995	17142

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	4

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
2	16m NW	Garage	1982	5078
A	99m W	Vehicle Testing Station	1995	5184
A	138m W	Vehicle Testing Station	1982	5215
A	138m W	Vehicle Testing Station	1986 - 1994	5680

This data is sourced from Ordnance Survey / Groundsure.

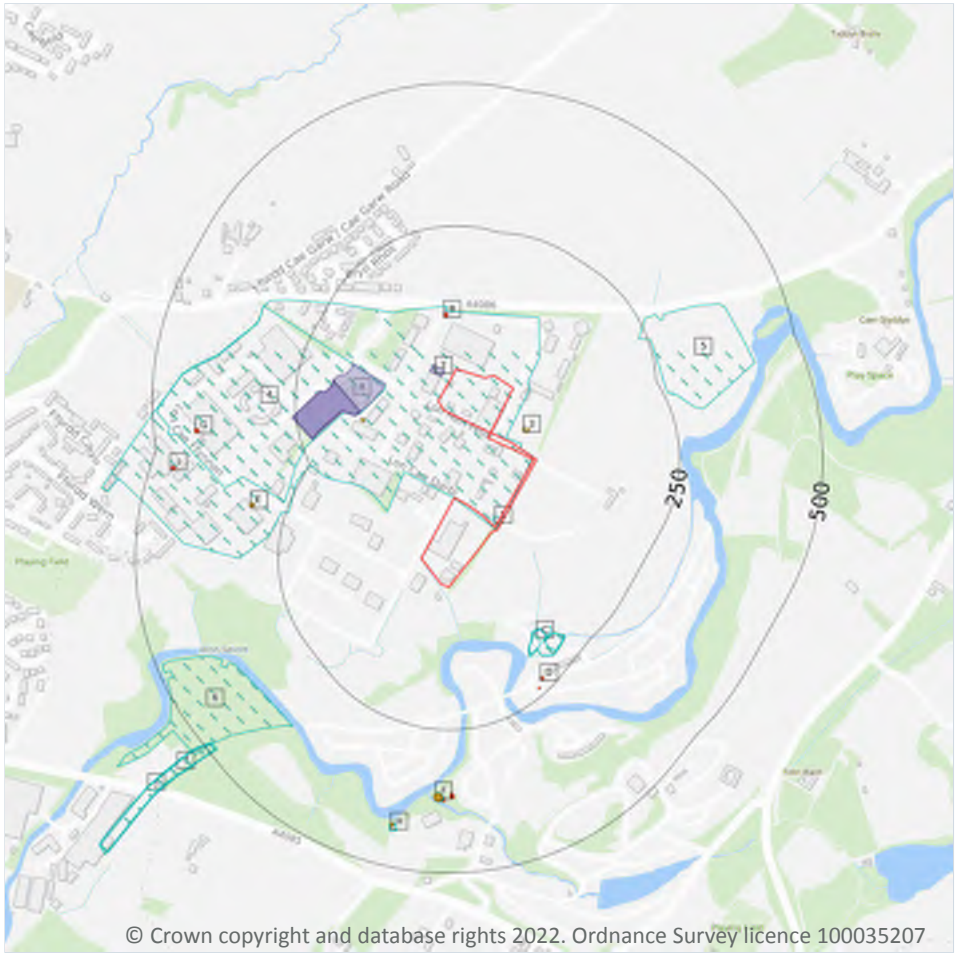
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	19

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Pumping Station**	**1990**	**211341**
A	**On site**	**Industrial Estate**	**1990**	**222435**
4	96m W	Industrial Estate	1976	241316

ID	Location	Land Use	Date	Group ID
C	164m SE	Unspecified Old Mill	1949	233166
C	164m SE	Unspecified Old Mill	1913	237320
C	164m SE	Flour Mill	1899	232289
C	164m SE	Flour Mill	1888	232289
C	189m SE	Unspecified Commercial/Industrial	1976	217848
C	189m SE	Unspecified Old Mill	1959	229286
5	236m E	Refuse Heap	1976	222083
6	359m SW	Unspecified Disused Tip	1990	219176
F	360m S	Unspecified Tank	1976	243614
F	363m S	Unspecified Tank	1990	243614
H	424m S	Unspecified Tank	1990	248524
H	424m S	Unspecified Tank	1976	248524
J	486m SW	Cuttings	1949	235742
7	488m SW	Cuttings	1888	242122
J	490m SW	Cuttings	1913	225272
J	498m SW	Cuttings	1959	247701

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**21**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
3	28m NE	Tanks	1995	31204
A	132m W	Unspecified Tank	1994	32142
A	134m W	Unspecified Tank	1995	32142
E	306m W	Unspecified Tank	1982	31813

ID	Location	Land Use	Date	Group ID
E	307m W	Unspecified Tank	1995	32870
E	307m W	Unspecified Tank	1980	32870
E	307m W	Unspecified Tank	1994	32870
E	307m W	Unspecified Tank	1986	32870
E	307m W	Unspecified Tank	1980	32870
F	361m S	Unspecified Tank	1980	32361
F	361m S	Unspecified Tank	1994	32361
F	361m S	Unspecified Tank	1986	32361
F	361m S	Unspecified Tank	1980	32361
F	362m S	Unspecified Tank	1982	32091
F	362m S	Unspecified Tank	1971	31947
F	362m S	Unspecified Tank	1971	31947
F	362m S	Unspecified Tank	1995	32361
H	424m S	Unspecified Tank	1964	32523
H	424m S	Unspecified Tank	1987	32523
H	424m S	Unspecified Tank	1965	32523
H	427m S	Unspecified Tank	1995	32090

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**26**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
B	92m N	Electricity Substation	1994	17243
B	92m N	Electricity Substation	1986	17243
B	93m N	Electricity Substation	1995	17243

ID	Location	Land Use	Date	Group ID
B	93m N	Electricity Substation	1982	17243
D	226m SE	Electricity Substation	1995	15672
D	235m SE	Electricity Substation	1994	16185
D	235m SE	Electricity Substation	1989	16185
F	362m S	Electricity Substation	1980	16469
F	362m S	Electricity Substation	1994	16469
F	362m S	Electricity Substation	1986	16469
F	362m S	Electricity Substation	1980	16469
F	363m S	Electricity Substation	1971	16181
F	363m S	Electricity Substation	1971	16181
F	368m S	Electricity Substation	1995	16919
F	369m S	Electricity Substation	1982	16919
G	422m W	Electricity Substation	1982	16507
G	422m W	Electricity Substation	1971	16507
G	422m W	Electricity Substation	1971	16507
G	423m W	Electricity Substation	1980	16507
G	423m W	Electricity Substation	1994	16507
G	423m W	Electricity Substation	1986	16507
G	423m W	Electricity Substation	1980	16507
G	423m W	Electricity Substation	1995	16507
I	457m W	Electricity Substation	1994	16820
I	457m W	Electricity Substation	1986	16820
I	461m W	Electricity Substation	1995	17142

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	5

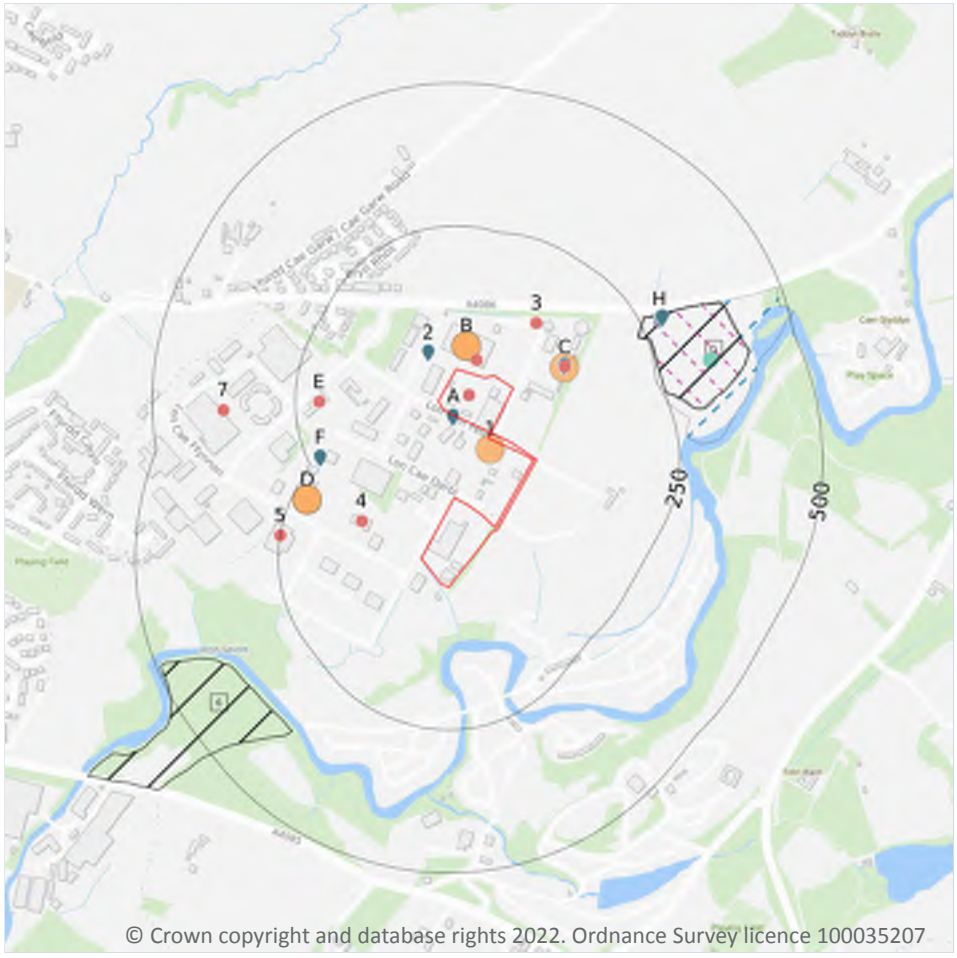
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
2	16m NW	Garage	1982	5078
A	99m W	Vehicle Testing Station	1995	5184
A	138m W	Vehicle Testing Station	1982	5215
A	138m W	Vehicle Testing Station	1994	5680
A	138m W	Vehicle Testing Station	1986	5680

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Active or recent landfill

Historical landfill (EA/NRW)

Historical landfill (BGS)

Historical landfill (LA/OS)

Historical waste sites

Licensed waste sites

Waste exemptions

3.1 Active or recent landfill

Records within 500m	**1**

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Details	
G	237m NE	Operator: Watkin Jones & Son Ltd Site Address: Pontrug, Nantlle, Caernarfon, Gwynedd, LL55 2BF	WML Number: 37061 EPR Reference: WAT002 Landfill type: A5 : Landfill taking Non-Biodegradeable Wastes Status: Closure IPPC Reference: - EPR Number: EAEPR\EA/EPR/XP3094FS/A001

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	1

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Address	BGS Number	Risk	Waste Type
G	348m E	Council Refuse Tip, Rhosbodvral, Caernarvon	1953	No risk to aquifer	N/A

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	1

Landfill sites identified from Local Authority records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Site address	Source	Data type
G	236m E	Refuse Tip	1971 mapping	Polygon

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	2

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Details		
G	236m E	Site Address: Council Refuse Tip Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: Caernarvon Royal Borough Council Licence Holder: County Council First Recorded 31/12/1954 Last Recorded: 31/12/1974
6	365m SW	Site Address: Peblig Mill Tip Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded 31/12/1981 Last Recorded: 31/12/1990

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	**6**

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Address	Further Details	Date
1	**On site**	**Site Address: Coal Yard,Lon Hen Felin Stad, Cibyn Industrial Estate, CAERNARFON, Gwynedd, LL55 2BD**	**Type of Site: Waste Transfer Depot (Conversion)** **Planning application reference: C00A/0428/14/LL** **Description: Conversion to waste transfer depot. An application for detailed planning permission (Ref:C00A/0428/14/LL) was submitted to Caernarfon & Merionydd C.C. on Friday, 11th August 2000.** **Data source: Historic Planning Application** **Data Type: Point**	**-**

ID	Location	Address	Further Details	Date
B	18m N	Site Address: Cibyn Industrial Estate, CAERNARFON, Gwynedd, LL55 2BD	Type of Site: Waste Transfer Building Planning application reference: C06A/0360/14/LL Description: Scheme comprises extension of recycling site with construction of new waste transfer building. An application (ref: C06A/0360/14/LL) for detailed planning permission was refused by Gwynedd Arfon D.C. Planning decision obtained Data source: Historic Planning Application Data Type: Point	-
B	18m N	Site Address: Waste Recycling Centre, Cibyn Industrial Estate, CAERNARFON, Gwynedd, LL55 2BD	Type of Site: Waste Transfer Building Planning application reference: C07A/0054/14/LL Description: Scheme comprises extension of recycling site with construction of new waste transfer building, parking facilities, and construction of 5 metre perimeter screen. Construction - black top surfacing site works. An application (ref: C07A/0054/14/LL) for de iled planning permission was granted by Gwynedd Arfon D.C. Planning decision obtained Data source: Historic Planning Application Data Type: Point	-
C	71m E	Site Address: Cibyn Industrial Estate, CAERNARFON, Gwynedd, LL55 2BF	Type of Site: Waste Transfer Station/Workshop Planning application reference: C05A/0663/14/R3 Description: Scheme comprises proposed conversion of part of the council depot to a waste transfer station, new workshop, access and office. An application (ref: C05A/0663/14/R3) for Detailed Planning permission was granted by Gwynedd Arfon D.C. Detailed plans grant ed. Data source: Historic Planning Application Data Type: Point	-

ID	Location	Address	Further Details	Date
D	199m NW	Site Address: Stad Ddiwydiannol Cibyn Indust, A15,Cibyn Industrial Estate, CAERNARFON, Gwynedd, LL55 2BD	Type of Site: Waste Transfer Station Planning application reference: C11/0980/14/R3 Description: Scheme comprises part retrospective application from a use previously granted for the storage of recycling materials to a mixed waste transfer station with external alterations to the building and site boundary. Construction - external refurbishment. A application (ref: C11/0980/14/R3) for detailed planning permission was submitted to Gwynedd Dwyfor D.C. A detailed planning application has been submitted. Data source: Historic Planning Application Data Type: Point	31/05/2012
D	199m NW	Site Address: Cibyn Industrial Estate, CAERNARFON, Gwynedd, LL55 2B	Type of Site: Waste Transfer Station Planning application reference: C96A/0272/14/CL Description: Change of use of land with the erection of a workshop and office totalling 189 sqm with 2 roller shutter doors. Construction - 2 roller shutter doors. An application (ref: C96A/0272/14/CL) for Detailed Planning permission was submitted to Caernarfon & Merionydd C.C. on 22nd August 1996. Data source: Historic Planning Application Data Type: Point	-

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	**43**

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Details		
A	2m SW	Site Name: Gwynedd Skip And Plant Hire Ltd Site Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: 75kte HCI Waste TS + treatment + asbestos Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: GWY035 EPR reference: CB3237AP/T001 Operator: Gwynedd Skip And Plant Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 0	Issue Date: 24/01/2002 Effective Date: 27/09/2011 Modified: 15/09/2011 Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Transferred
A	4m SW	Site Name: Gwynedd Skip Hire Limited Site Address: Gwynedd Skip Hire Limited, Lon Hen Felin, Cibyn Industrial Estat, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: Gwynedd Skip Hire Limited, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY005 EPR reference: - Operator: Gwynedd Skip Hire Limited Waste Management licence No: 37229 Annual Tonnage: 0	Issue Date: 24/01/2002 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
A	4m SW	Site Name: Gwynedd Skip And Plant Hire Ltd Site Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: 75kte HCI Waste TS + treatment + asbestos Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY035 EPR reference: EA/EPR/CB3237AP/T001 Operator: Gwynedd Skip And Plant Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 74999	Issue Date: 24/01/2002 Effective Date: 27/09/2011 Modified: 15/09/2011 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred

ID	Location	Details		
A	4m SW	Site Name: Gwynedd Skip Hire Limited Site Address: Gwynedd Skip Hire Limited, Lon Hen Felin, Cibyn Industrial Estat, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: Gwynedd Skip Hire Limited, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY005 EPR reference: - Operator: Gwynedd Skip Hire Limited Waste Management licence No: 37229 Annual Tonnage: 367905	Issue Date: 24/01/2002 Effective Date: - Modified: 10/03/2006 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
A	4m SW	Site Name: - Site Address: Gwynedd Skip And Plant Hire Ltd, Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: CB3237AP EPR reference: - Operator: Gwynedd Skip And Plant Hire Ltd Waste Management licence No: 0 Annual Tonnage: 74999	Issue Date: 24/01/2002 Effective Date: 24/01/2002 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
A	4m SW	Site Name: Gwynedd Skip Hire Ltd Site Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL65 2BD	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY005 EPR reference: - Operator: Gwynedd Skip Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 0	Issue Date: 1/24/2002 Effective Date: - Modified: 9/4/2008 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
A	4m SW	Site Name: Gwynedd Skip Hire Ltd Site Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL65 2BD	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY005 EPR reference: EA/EPR/BP3196LV/V007 Operator: Gwynedd Skip Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 0	Issue Date: 1/24/2002 Effective Date: - Modified: 9/4/2008 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified

ID	Location	Details		
A	4m SW	Site Name: Gwynedd Skip Hire Ltd Site Address: Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: 75kte HCI Waste TS + treatment + asbestos Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY005 EPR reference: EA/EPR/BP3196LV/V008 Operator: Gwynedd Skip Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 74999	Issue Date: 24/01/2002 Effective Date: - Modified: 15/09/2011 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
A	4m SW	Site Name: - Site Address: Gwynedd Skip And Plant Hire Ltd, Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Special Waste Transfer Station Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: CB3237AP EPR reference: - Operator: - Waste Management licence No: 37229 Annual Tonnage: 75000	Issue Date: 30/06/2017 Effective Date: 30/06/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
A	4m SW	Site Name: - Site Address: Gwynedd Skip And Plant Hire Ltd, Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Special Waste Transfer Station Size: - Environmental Permitting Regulations (Waste) Licence Number: CB3237AP EPR reference: - Operator: Gwynedd Skip And Plant Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 75000	Issue Date: 30/06/2017 Effective Date: 30/06/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
A	4m SW	Site Name: - Site Address: Gwynedd Skip And Plant Hire Ltd, Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Special Waste Transfer Station Size: - Environmental Permitting Regulations (Waste) Licence Number: CB3237AP EPR reference: - Operator: Gwynedd Skip And Plant Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 75000	Issue Date: 30/06/2017 Effective Date: 30/06/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective

ID	Location	Details		
A	4m SW	Site Name: - Site Address: Gwynedd Skip And Plant Hire Ltd, Lon Hen Felin, Cibyn Ind Est, Gwynedd, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: CB3237AP EPR reference: - Operator: Gwynedd Skip And Plant Hire Ltd Waste Management licence No: 37229 Annual Tonnage: 75000	Issue Date: 30/06/2017 Effective Date: 30/06/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
A	4m SW	Site Name: - Site Address: Gwynedd Skip And Plant Hire Ltd, Lon Hen Felin, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: - Environmental Permitting Regulations (Waste) Licence Number: CB3237AP EPR reference: - Operator: Gwynedd Skip and Plant Hire Ltd Waste Management licence No: 37229 Annual Tonnage: -	Issue Date: 30/06/2017 Effective Date: 30/06/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
2	56m NW	Site Name: Cibyn Waste Transfer Station Site Address: Cibyn Waste Transfer Station, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Special Waste Transfer Station Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY016 EPR reference: EA/EPR/QP3994FZ/V002 Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: 24999	Issue Date: 05/06/2006 Effective Date: - Modified: 22/08/2011 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
C	95m NE	Site Name: - Site Address: Caerglychu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 0 Annual Tonnage: 40000	Issue Date: 05/06/2006 Effective Date: 05/06/2006 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective

ID	Location	Details		
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: - Waste Management licence No: 37292 Annual Tonnage: 40000	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: - Waste Management licence No: 37292 Annual Tonnage: 40000	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: - Waste Management licence No: 37292 Annual Tonnage: 40000	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: - Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: -	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective

ID	Location	Details		
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: - Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: -	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: - Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: -	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: - Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: 40000	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: - Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: 40000	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective

ID	Location	Details		
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Material Recycling Treatment Facility Size: - Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: 40000	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Gwynedd, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: 40000	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Gwynedd, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: 40000	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
C	95m NE	Site Name: - Site Address: Caergylchu Waste Management Facility, Cibyn Industrial Estate, Gwynedd, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: QP3994FZ EPR reference: - Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: 40000	Issue Date: 03/03/2017 Effective Date: 03/03/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective

ID	Location	Details		
C	97m NE	Site Name: Caerglychu Waste Management Facility Site Address: Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: GWY016 EPR reference: QP3994FZ/V004 Operator: Gwynedd Council Waste Management licence No: 37292 Annual Tonnage: 24999	Issue Date: 05/06/2006 Effective Date: - Modified: 06/05/2014 Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Modified
F	229m SW	Site Name: - Site Address: Unit A6, Zone 3, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: AB3097ZB EPR reference: - Operator: C & A Asbestos Removal Ltd Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 03/03/2016 Effective Date: 03/03/2016 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
F	229m SW	Site Name: - Site Address: Unit A6, Zone 3, Cibyn Ind Est, Caernarfon, LL55 2BD Correspondence Address: -	Type of Site: Asbestos Waste Transfer Station Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: AB3097ZB EPR reference: - Operator: - Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 03/03/2016 Effective Date: 03/03/2016 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
F	229m SW	Site Name: - Site Address: Unit A6, Zone 3, Cibyn Ind Est, Caernarfon, Gwynedd, LL55 2BD Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: AB3097ZB EPR reference: - Operator: C & A Asbestos Removal Ltd Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 03/03/2016 Effective Date: 03/03/2016 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective

ID	Location	Details		
F	229m SW	Site Name: - Site Address: Unit A6, Zone 3, Cibyn Ind Est, Caernarfon, LL55 2BD Correspondence Address: -	Type of Site: Asbestos Waste Transfer Station Size: - Environmental Permitting Regulations (Waste) Licence Number: AB3097ZB EPR reference: - Operator: C & A Asbestos Removal Ltd Waste Management licence No: 0 Annual Tonnage: -	Issue Date: 03/03/2016 Effective Date: 03/03/2016 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
F	229m SW	Site Name: - Site Address: Unit A6, Zone 3, Cibyn Ind Est, Caernarfon, LL55 2BD Correspondence Address: -	Type of Site: Asbestos Waste Transfer Station Size: - Environmental Permitting Regulations (Waste) Licence Number: AB3097ZB EPR reference: - Operator: C & A Asbestos Removal Ltd Waste Management licence No: 0 Annual Tonnage: -	Issue Date: 03/03/2016 Effective Date: 03/03/2016 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
H	282m NE	Site Name: Pontrug - Part Ordnance Survey 3990 Site Address: Nantlle, Gwynedd, LL55 2BF Correspondence Address: Unit 21, Llanegai Ind Est, Bangor, Gwynedd, LL57 4YH	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAT002 EPR reference: - Operator: Watkin Jones & Sons Waste Management licence No: 37061 Annual Tonnage: 0	Issue Date: 25/02/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure
H	282m NE	Site Name: Pontrug - Part Ordnance Survey 3990 Site Address: Nantlle, Caernarfon, Gwynedd, LL55 2BF Correspondence Address: J Mendoza, Unit 21, Llandegai Industrial Estate, Bangor, Gwynedd, LL57 4YH	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAT002 EPR reference: - Operator: Watkin Jones & Son Limited Waste Management licence No: 37061 Annual Tonnage: 0	Issue Date: 25/02/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure

ID	Location	Details		
H	285m NE	Site Name: Pontrug - Part Ordnance Survey 3990 Site Address: Nantlle, Caernarfon, Gwynedd, LL55 2BF Correspondence Address: Unit 21, Llandegai Industrial Estate, Bangor, Gwynedd, LL57 4YH	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAT002 EPR reference: - Operator: Watkin Jones & Son Limited Waste Management licence No: 37061 Annual Tonnage: 0	Issue Date: 25/02/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure
H	285m NE	Site Name: Pontrug Landfill - Part Ordnance Survey 3990 Site Address: Pontrug, Nantlle, Caernarfon, Gwynedd, LL55 2BF Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAT002 EPR reference: EA/EPR/XP3094FS/A001 Operator: Watkin Jones & Son Ltd Waste Management licence No: 37061 Annual Tonnage: 150000	Issue Date: 25/02/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure
H	285m NE	Site Name: - Site Address: Pontrug Landfill - Part Ordnance Survey 3990, Nantlle, Caernarfon, Gwynedd, LL55 2BF Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: XP3094FS EPR reference: - Operator: - Waste Management licence No: 37061 Annual Tonnage: 0	Issue Date: 25/02/1993 Effective Date: 25/02/1993 Modified: - Surrendered Date: - Expiry Date: 25/01/2002 Cancelled Date: - Status: Effective
H	285m NE	Site Name: - Site Address: Pontrug Landfill - Part Ordnance Survey 3990, Nantlle, Caernarfon, Gwynedd, LL55 2BF Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: XP3094FS EPR reference: - Operator: Watkin Jones & Son Ltd Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 25/02/1993 Effective Date: 25/02/1993 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective

ID	Location	Details		
H	285m NE	Site Name: - Site Address: Pontrug Landfill - Part Ordnance Survey 3990, Nantlle, Caernarfon, Gwynedd, LL55 2BF Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: - Environmental Permitting Regulations (Waste) Licence Number: XP3094FS EPR reference: - Operator: Watkin Jones & Son Ltd Waste Management licence No: 37061 Annual Tonnage: 0	Issue Date: 25/02/1993 Effective Date: 25/02/1993 Modified: - Surrendered Date: - Expiry Date: 25/01/2002 Cancelled Date: - Status: Effective
H	285m NE	Site Name: - Site Address: Pontrug Landfill - Part Ordnance Survey 3990, Nantlle, Gwynedd, Caernarfon, Gwynedd, LL55 2BF Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: XP3094FS EPR reference: - Operator: Watkin Jones & Son Ltd Waste Management licence No: 37061 Annual Tonnage: 0	Issue Date: 25/02/1993 Effective Date: 25/02/1993 Modified: - Surrendered Date: - Expiry Date: 25/01/2002 Cancelled Date: - Status: Effective
H	285m NE	Site Name: - Site Address: Pontrug Landfill - Part Ordnance Survey 3990, Nantlle, Caernarfon, Gwynedd, LL55 2BF Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: - Environmental Permitting Regulations (Waste) Licence Number: XP3094FS EPR reference: - Operator: Watkin Jones & Son Ltd Waste Management licence No: 37061 Annual Tonnage: -	Issue Date: 25/02/1993 Effective Date: 25/02/1993 Modified: - Surrendered Date: - Expiry Date: 25/01/2002 Cancelled Date: - Status: Effective
H	287m NE	Site Name: Pontrug Landfill - Part Ordnance Survey 3990 Site Address: Pontrug, Nantlle, Caernarfon, Gwynedd, LL55 2BF Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WAT002 EPR reference: XP3094FS/A001 Operator: Watkin Jones & Son Ltd Waste Management licence No: 37061 Annual Tonnage: 150000	Issue Date: 25/02/1993 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Closure

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	61

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 23**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Using waste exemption	Not on a farm	Use of waste in construction
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Treating waste exemption	Not on a farm	Screening and blending of waste
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Treating waste exemption	Not on a farm	Recovery of scrap metal
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Treating waste exemption	Not on a farm	Treatment of waste food
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Treating waste exemption	Not on a farm	Sorting mixed waste

ID	Location	Site	Reference	Category	Sub-Category	Description
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Treating waste exemption	Not on a farm	Mechanical treatment of end-of-life tyres
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Treating waste exemption	Not on a farm	Recovery of textiles
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Treating waste exemption	Not on a farm	Manual treatment of waste
A	On site	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME048626	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising

ID	Location	Site	Reference	Category	Sub-Category	Description
B	24m N	Antur Waunfawr, Caergylchu, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME053530	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	96m E	Cyngor Gwynedd, Gwasanaethau Priffyrdd a Bwrdeistrefol, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BF	NRW-WME043321	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	96m E	Cyngor Gwynedd, Gwasanaethau Priffyrdd a Bwrdeistrefol, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BF	NRW-WME031559	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
3	117m NE	Cyngor Gwynedd, Caergylchu, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME059057	Storing waste exemption	Not on a farm	Storage of waste in a secure place
4	123m NW	Antur Waunfawr, Warws Werdd, Parth 4 Stad Ddiwydiannol Cibyn, Caernarfon, Gwynedd, LL55 2BD	NRW-WME053531	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	209m W	Antur Waunfawr, Wawrs Werdd, Parth 4 Stad Ddiwydiannol Cibyn, Caernarfon, Gwynedd, LL55 2BD	NRW-WME068502	Treating waste exemption	Not on a farm	Manual treatment of waste
E	209m W	Antur Waunfawr, Wawrs Werdd, Parth 4 Stad Ddiwydiannol Cibyn, Caernarfon, Gwynedd, LL55 2BD	NRW-WME068502	Treating waste exemption	Not on a farm	Sorting mixed waste
E	209m W	Antur Waunfawr, Warws Werdd, Parth 4 Stad Cibyn, Caernarfon, Gwynedd, LL55 2BD	NRW-WME044372	Treating waste exemption	Not on a farm	Recovery of textiles

ID	Location	Site	Reference	Category	Sub-Category	Description
E	209m W	Gwynedd Skip & Plant Hire Ltd, Plot C1, Cibyn Industrial Estate, Caernarfon, Gwynedd, ll552bd	NRW-WME004908	Storing waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Storage of waste in secure containers
E	209m W	Gwynedd Skip & Plant Hire Ltd, Plot C1, Cibyn Industrial Estate, Caernarfon, Gwynedd, ll552bd	NRW-WME004908	Storing waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Storage of waste in a secure place
E	209m W	Gwynedd Skip & Plant Hire Ltd, Plot C1, Cibyn Industrial Estate, Caernarfon, Gwynedd, ll552bd	NRW-WME004908	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Use of waste in construction
E	209m W	Warws Werdd Parth 4 Stad Ddiwydiannol Cibyn Caernarfon Gwynedd LL552BD	NRW-WME006212	Treating waste exemption	Not on a farm	Sorting mixed waste
E	209m W	Warws Werdd Parth 4 Stad Ddiwydiannol Cibyn Caernarfon Gwynedd LL552BD	NRW-WME006212	Treating waste exemption	Not on a farm	Manual treatment of waste
E	209m W	Antur Waunfawr, Caergylchu, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552bd	NRW-WME007651	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
E	209m W	W & M & T Parry, Fferm Bodrual, Cibyn, Caernarfon, Gwynedd, ll552bd	NRW-WME017496	Disposing of waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Burning waste in the open
E	209m W	W & M & T Parry, Fferm Bodrual, Cibyn, Caernarfon, Gwynedd, ll552bd	NRW-WME017496	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Spreading waste on agricultural land to confer benefit
E	209m W	W & M & T Parry, Fferm Bodrual, Cibyn, Caernarfon, Gwynedd, ll552bd	NRW-WME017496	Disposing of waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Deposit of waste from dredging of inland waters

ID	Location	Site	Reference	Category	Sub-Category	Description
E	209m W	W & M & T Parry, Fferm Bodrual, Cibyn, Caernarfon, Gwynedd, ll552bd	NRW-WME017496	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Use of waste in construction
E	209m W	W & M & T Parry, Fferm Bodrual, Cibyn, Caernarfon, Gwynedd, ll552bd	NRW-WME017496	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Use of waste for a specified purpose
E	209m W	Cyngor Gwynedd, Caergylchu, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020326	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Treating waste exemption	Not on a farm	Recovery of textiles
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Treating waste exemption	Not on a farm	Recovery of scrap metal
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Treating waste exemption	Not on a farm	Screening and blending of waste
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Treating waste exemption	Not on a farm	Manual treatment of waste
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Treating waste exemption	Not on a farm	Sorting mixed waste

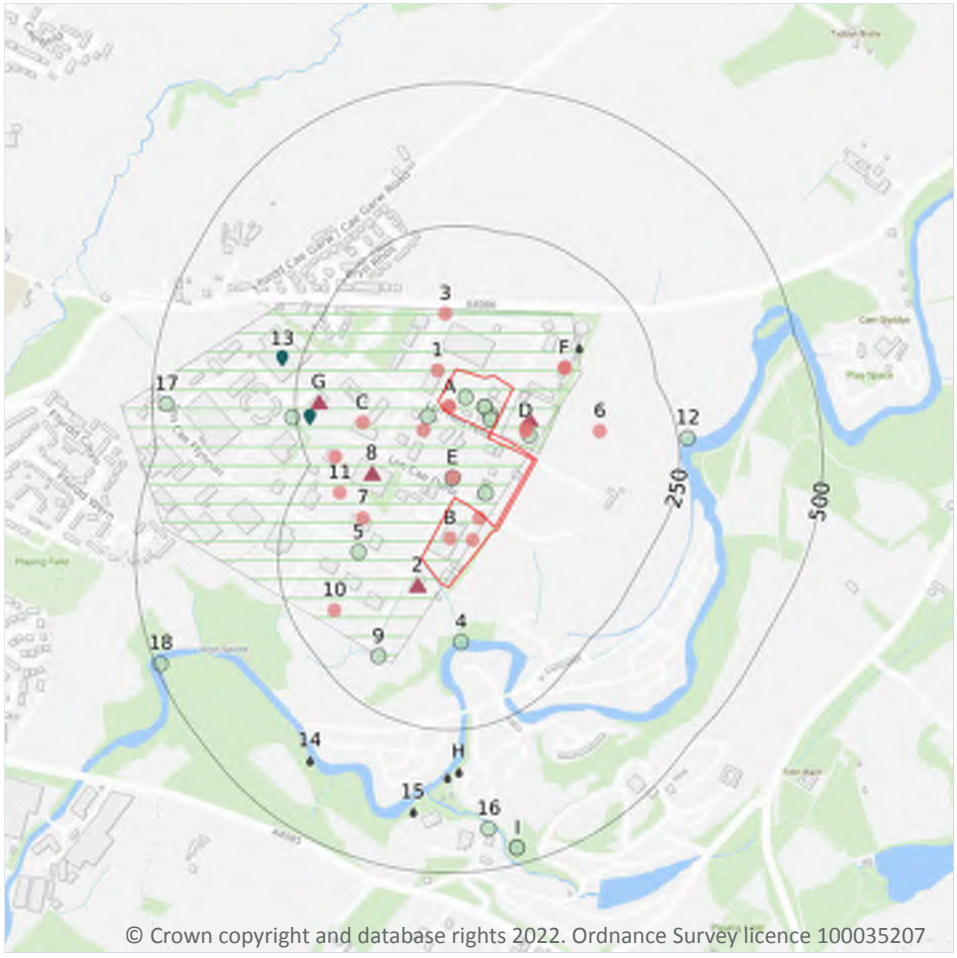
ID	Location	Site	Reference	Category	Sub-Category	Description
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Storing waste exemption	Not on a farm	Storage of waste in secure containers
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Treating waste exemption	Not on a farm	Mechanical treatment of end-of-life tyres
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Treating waste exemption	Not on a farm	Treatment of waste food
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Using waste exemption	Not on a farm	Use of waste in construction
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)

ID	Location	Site	Reference	Category	Sub-Category	Description
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME020982	Treating waste exemption	Not on a farm	Cleaning, washing, spraying or coating relevant waste
E	209m W	Antur Waunfawr, Caergylchu, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME024883	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	209m W	Antur Waunfawr, Warws Werdd, Parth 4 Stad Ddiwydiannol Cibyn, Caernarfon, Gwynedd, LL552BD	NRW-WME024904	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Cae Darbi, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME030912	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Use of waste in construction
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Cae Darbi, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME030912	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip & Plant Hire Ltd, Lon Cae Darbi, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME030912	Storing waste exemption	Not on a farm	Storage of waste in secure containers
E	209m W	Antur Waunfawr, Wawrs Werdd, Parth 4 Stad Ddiwydiannol Cibyn, Caernarfon, Gwynedd, LL552BD	NRW-WME035127	Treating waste exemption	Not on a farm	Sorting mixed waste
E	209m W	Antur Waunfawr, Wawrs Werdd, Parth 4 Stad Ddiwydiannol Cibyn, Caernarfon, Gwynedd, LL552BD	NRW-WME035127	Treating waste exemption	Not on a farm	Manual treatment of waste

ID	Location	Site	Reference	Category	Sub-Category	Description
E	209m W	Welcome Furniture, Welcome Furniture Ltd, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME035226	Using waste exemption	Not on a farm	Use of waste in construction
E	209m W	Dwyfor Oils, Dwyfor Oils Ltd, Lon Cae Darbi, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME036811	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Use of waste in construction
E	209m W	Antur Waunfawr, Caergylchu, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552bd	NRW-WME037050	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip Hire, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME037231	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Use of waste in construction
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip Hire, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME037231	Storing waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Storage of waste in a secure place
E	209m W	Gwynedd Skip & Plant Hire Ltd, Gwynedd Skip Hire, Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL552BD	NRW-WME037231	Storing waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Storage of waste in secure containers
5	250m W	Welcome Furniture, Redline Indoor Karting, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME053983	Using waste exemption	Waste Exemption - Agricultural and Non-Agricultural	Use of waste in construction
7	377m W	BEESPEED LTD, Unit 1G, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	NRW-WME067303	Storing waste exemption	Not on a farm	Storage of waste in secure containers

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use



Site Outline

Search buffers in metres (m)

Recent industrial land uses

Control of Major Accident Hazards

Hazardous substance storage/usage

Licensed pollutant release (Part A(2)/B)

Licensed Discharges to controlled waters

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	**19**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 47**

ID	Location	Company	Address	Activity	Category
A	**On site**	**Shon Eilian Iron Works**	**Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD**	**Cutting, Drilling and Welding Services**	**Construction Services**
A	**On site**	**Gwynedd Skip & Plant Hire Ltd**	**Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD**	**Recycling, Reclamation and Disposal**	**Recycling Services**

ID	Location	Company	Address	Activity	Category
B	**On site**	**Menai Meats Wales Ltd**	**Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD**	**Fish, Meat and Poultry Products**	**Foodstuffs**
B	**On site**	**Pumping Station**	**Gwynedd, LL55**	**Water Pumping Stations**	**Industrial Features**
B	**On site**	**Electricity Sub Station**	**Gwynedd, LL55**	**Electrical Features**	**Infrastructure and Facilities**
1	28m NW	I A Q Ltd	Unit A4, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	Precision Engineers	Engineering Services
D	31m NE	Tank	Gwynedd, LL55	Tanks (Generic)	Industrial Features
D	35m NE	Tank	Gwynedd, LL55	Tanks (Generic)	Industrial Features
E	35m N	G & H Car & Commercial Ltd	Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	Vehicle Repair, Testing and Servicing	Repair and Servicing
A	50m SW	Coultons Bread Ltd	Cadnant House Lon Hen Felin, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	Baking and Confectionery	Foodstuffs
F	96m E	Gwynedd Civil Engineering	Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BF	Civil Engineers	Engineering Services
F	96m E	Gwynedd Council Vehicle Repairs	Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BF	Vehicle Repair, Testing and Servicing	Repair and Servicing
3	99m N	Electricity Sub Station	Gwynedd, LL55	Electrical Features	Infrastructure and Facilities
6	121m NE	Cibyn Industrial Estate	Gwynedd, LL55	Business Parks and Industrial Estates	Industrial Features
7	124m NW	Antur Waunfawr	Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	Recycling, Reclamation and Disposal	Recycling Services
C	138m W	Tank	Gwynedd, LL55	Tanks (Generic)	Industrial Features
10	177m SW	Pump House	Gwynedd, LL55	Water Pumping Stations	Industrial Features
11	180m NW	Mast (Telecommunication)	Gwynedd, LL55	Telecommunications Features	Infrastructure and Facilities
C	205m SW	Owen's Autospray	Unit A5, Cibyn Industrial Estate, Caernarfon, Gwynedd, LL55 2BD	Vehicle Repair, Testing and Servicing	Repair and Servicing

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	2

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

Features are displayed on the Current industrial land use map on **page 47**

ID	Location	Company	Address	Operational status	Tier
C	**On site**	**Amazon Gas Ltd**	**Amazon Gas Ltd, Cibyn Industrial Estate, Caernarfon, LL55 2BD**	**Historical NIHHS Site**	**-**

ID	Location	Company	Address	Operational status	Tier
D	4m NE	Avanti Gas Limited	Avanti Gas Limited, Cibyn Industrial Estate, Unit A5 Cibyn Industrial Estat, Llanberis Road, Caernarfon, Gwynedd, LL55 2BD	Current COMAH Site	COMAH Lower Tier Operator

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	4

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

Features are displayed on the Current industrial land use map on **page 47**

ID	Location	Details	
2	34m SW	Application reference number: No Details Application status: Approved Application date: No Details Address: Dwyfor Oils Ltd, Zone 4, Cibyn Industrial Estate, Caernarfon, Gwynedd, Wales, LL55 2BD	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details
D	48m SE	Application reference number: No Details Application status: Approved Application date: No Details Address: Avanti Gas Ltd, Unit A5 Cibyn Industrial Estat, Llanberis Road, Caernarfon, Gwynedd, Wales, LL55 2BF	Details: No Details Enforcement: Data requested, not received. Date of enforcement: Data requested, not received. Comment: Data requested, not received.
8	147m NW	Application reference number: No Details Application status: Approved Application date: No Details Address: Dwyfor Oils Ltd, Land Adjacent to, Zone 4, Cibyn Industrial Estate, Caernarfon, Gwynedd, Wales, LL55 2BD	Details: No Details Enforcement: Data requested, not received. Date of enforcement: Data requested, not received. Comment: Data requested, not received.

ID	Location	Details	
G	208m W	Application reference number: No Details Application status: Approved Application date: No Details Address: Calor Gas Ltd, Site adjacent to Cibyn Industrial Estate, Caernarfon, Gwynedd, Wales, LL55 2HB	Details: No Details Enforcement: Data requested, not received. Date of enforcement: Data requested, not received. Comment: Data requested, not received.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	**0**

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	**0**

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m	**2**

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 47**

ID	Location	Address	Details	
G	227m W	A. & G. Carbody Repairs, Unit 4, Cibyn Industrial Estate, Caernarfon, LL55 2BD	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
13	282m W	Welcome Furniture Ltd, Lon Cae Ffynnon, Ystad Diwydiannol Cibyn, Caernarfon, LL55 2BD	Process: Timber Manufacture Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	5

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 47**

ID	Location	Address	Details	
F	133m NE	GWYNEDD CIVIL ENGINEERING, CIBYN INDUSTRIAL ESTATE, CAERNARFON, LL55 2BF	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: CG0391601 Permit Version: 1 Receiving Water: UNNAMED TRIB OF AFON SEIONT	Status: Effective Issue date: 02/03/2001 Effective Date: 02/03/2001 Revocation Date: -
H	324m S	CAEATHRO STW	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: CG0060401 Permit Version: 1 Receiving Water: SEIONT	Status: Surrendered Issue date: 31/12/1965 Effective Date: 31/12/1965 Revocation Date: -
H	333m S	GLAN GWNA HOLIDAY PARK	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CG0075001 Permit Version: 1 Receiving Water: SEIONT	Status: Effective Issue date: 27/06/1968 Effective Date: 27/06/1968 Revocation Date: -
14	384m SW	CAEATHRAW NEW SD.SCHEME (OBSOL	Effluent Type: UNSPECIFIED Permit Number: CG0060301 Permit Version: 1 Receiving Water: SEIONT	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 31/12/1965 Effective Date: 31/12/1965 Revocation Date: 17/02/1986

ID	Location	Address	Details	
15	398m S	CAEATHRO STW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CG0023601 Permit Version: 2 Receiving Water: SEIONT	Status: Surrendered Issue date: 16/12/1988 Effective Date: 16/12/1988 Revocation Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	**0**

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	**0**

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	**0**

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	**0**

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	19

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 47**

ID	Location	Details	
A	**On site**	**Incident Date: 09/07/2001** **Incident Identification: 15149** **Pollutant: Atmospheric Pollutants and Effects** **Pollutant Description: Other Atmospheric Pollutant or Effect**	**Water Impact: Category 4 (No Impact)** **Land Impact: Category 4 (No Impact)** **Air Impact: Category 3 (Minor)**
A	**On site**	**Incident Date: 03/04/2007** **Incident Identification: 482223** **Pollutant: Atmospheric Pollutants and Effects** **Pollutant Description: Other Atmospheric Pollutant or Effect**	**Water Impact: Category 4 (No Impact)** **Land Impact: Category 4 (No Impact)** **Air Impact: Category 2 (Significant)**
A	**On site**	**Incident Date: 12/04/2001** **Incident Identification: 2281** **Pollutant: Inert Materials and Wastes** **Pollutant Description: Construction and Demolition Materials and Wastes**	**Water Impact: Category 4 (No Impact)** **Land Impact: Category 3 (Minor)** **Air Impact: Category 4 (No Impact)**
A	**On site**	**Incident Date: 12/04/2001** **Incident Identification: 2281** **Pollutant: Inert Materials and Wastes** **Pollutant Description: Construction and Demolition Materials and Wastes**	**Water Impact: Category 4 (No Impact)** **Land Impact: Category 3 (Minor)** **Air Impact: Category 4 (No Impact)**
A	**On site**	**Incident Date: 24/07/2003** **Incident Identification: 176451** **Pollutant: Specific Waste Materials** **Pollutant Description: Vehicles and Vehicle Parts**	**Water Impact: Category 3 (Minor)** **Land Impact: Category 3 (Minor)** **Air Impact: Category 4 (No Impact)**
D	27m NE	Incident Date: 18/07/2001 Incident Identification: 17232 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Fumes	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
A	29m SW	Incident Date: 18/07/2014 Incident Identification: 1257565 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
B	34m NE	Incident Date: 26/04/2001 Incident Identification: 3557 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

ID	Location	Details	
E	34m N	Incident Date: 12/11/2014 Incident Identification: 1293787 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
4	99m S	Incident Date: 11/12/2002 Incident Identification: 125594 Pollutant: Specific Waste Materials Pollutant Description: Other Specific Waste Material	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
5	110m W	Incident Date: 25/11/2001 Incident Identification: 44814 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
9	167m SW	Incident Date: 09/01/2016 Incident Identification: 1401518 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
G	256m W	Incident Date: 27/06/2002 Incident Identification: 87806 Pollutant: Organic Chemicals/Products Pollutant Description: Other Organic Chemical or Product	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
12	267m E	Incident Date: 02/04/2003 Incident Identification: 148134 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
16	428m S	Incident Date: 02/01/2004 Incident Identification: 208727 Pollutant: Contaminated Water Pollutant Description: Suspended Solids	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
I	472m S	Incident Date: 08/11/2016 Incident Identification: 1606766 Pollutant: Contaminated Water Pollutant Description: Suspended Solids	Water Impact: Category 3 (Minor) Land Impact: Other Air Impact: Other
I	472m S	Incident Date: 08/11/2016 Incident Identification: 1606766 Pollutant: - Pollutant Description: -	Water Impact: Category 3 (Minor) Land Impact: Other Air Impact: Other
17	474m W	Incident Date: 02/08/2013 Incident Identification: 1142791 Pollutant: Specific Waste Materials Pollutant Description: Commercial Waste	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

ID	Location	Details	
18	490m W	Incident Date: 01/10/2002 Incident Identification: 112642 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

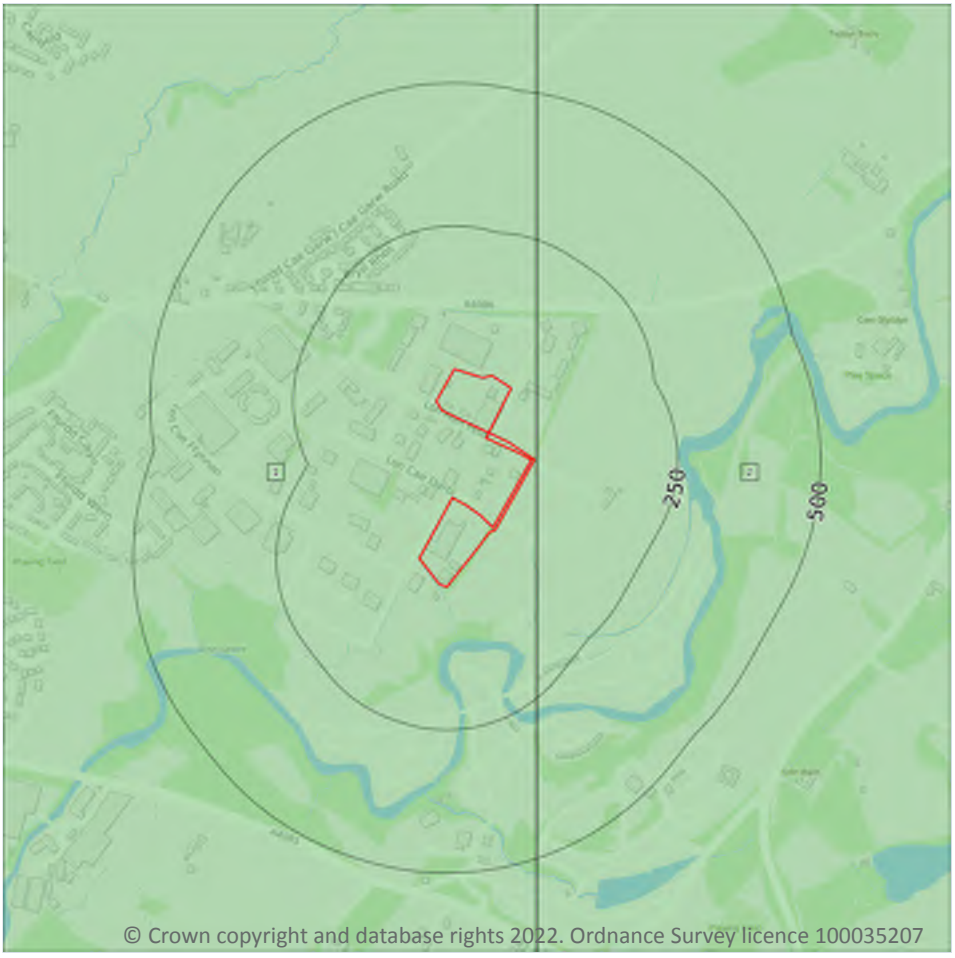
4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	2

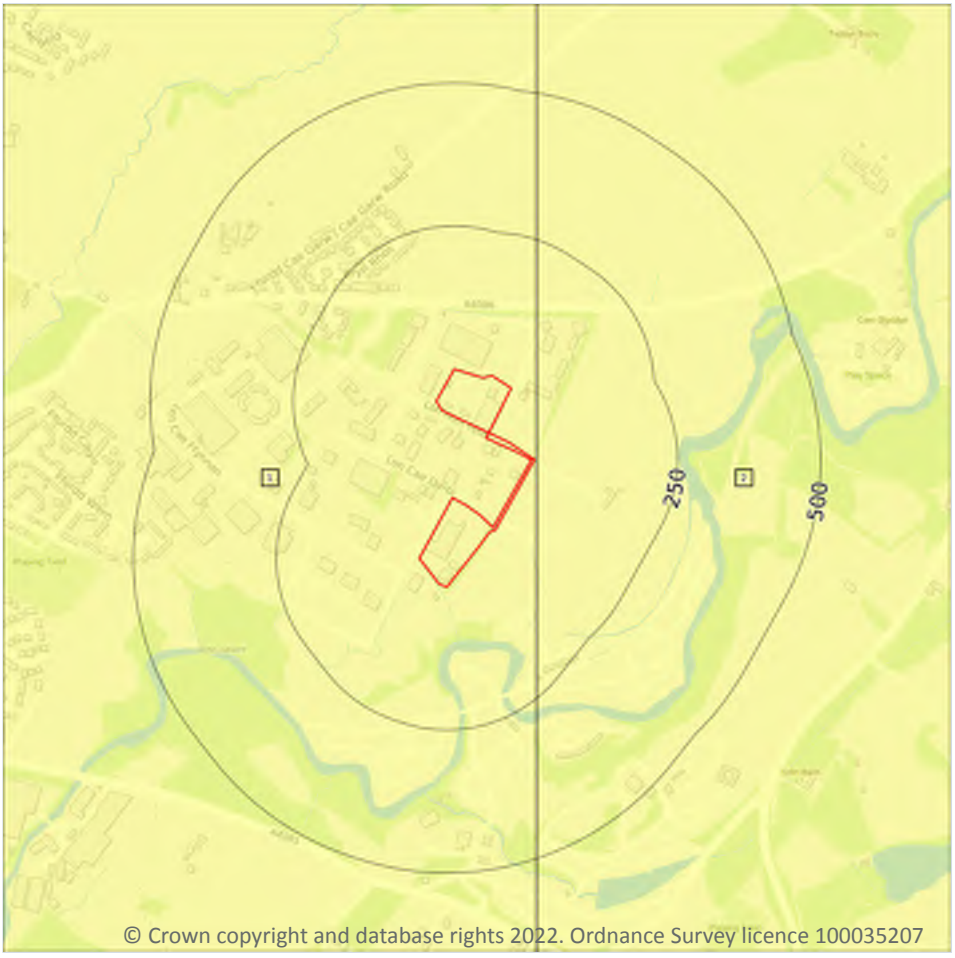
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 57**

ID	Location	Designation	Description
1	**On site**	**Unknown**	**Unknown**
2	3m E	Unknown	Unknown

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	2

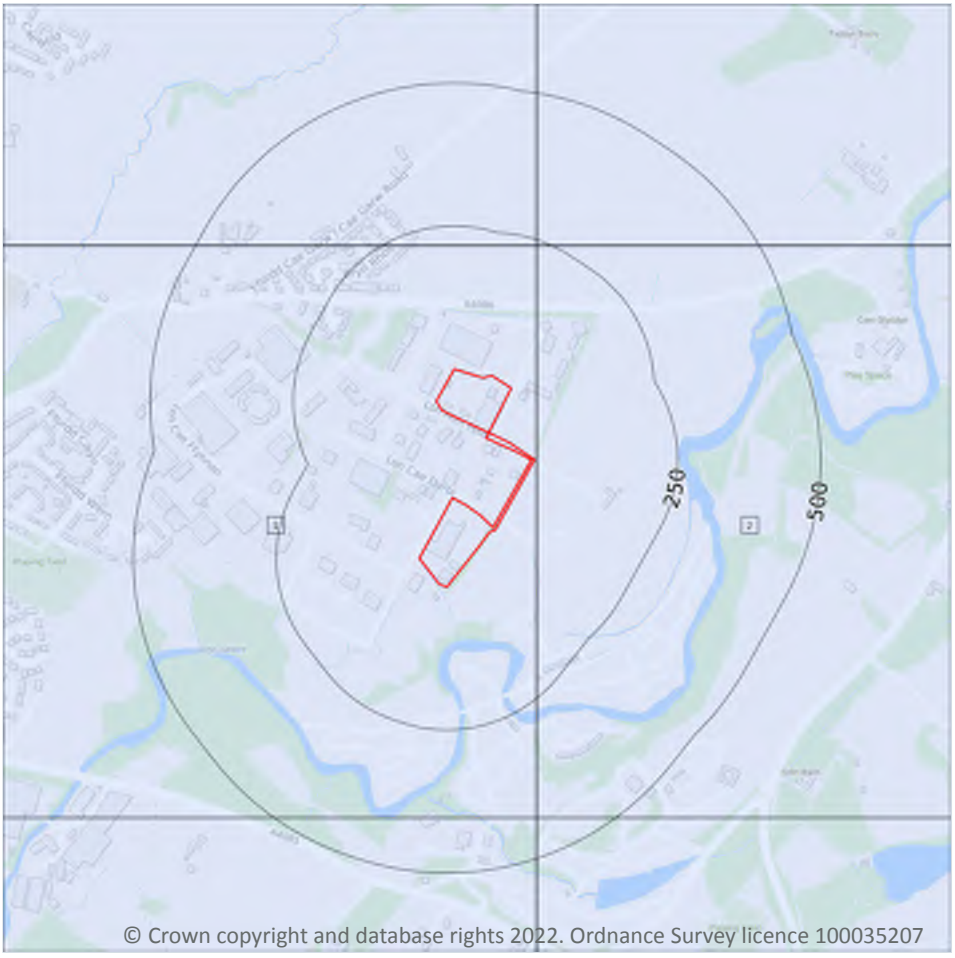
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 58**

ID	Location	Designation	Description
1	**On site**	**Secondary (undifferentiated)**	**Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type**
2	3m E	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	2

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 60**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: Unknown (lakes+landslip) Thickness: >10m Patchiness value: >90% Recharge potential: Low**	**Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures**
2	3m E	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: - Aquifer type: Unknown (lakes+landslip) Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**0**

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

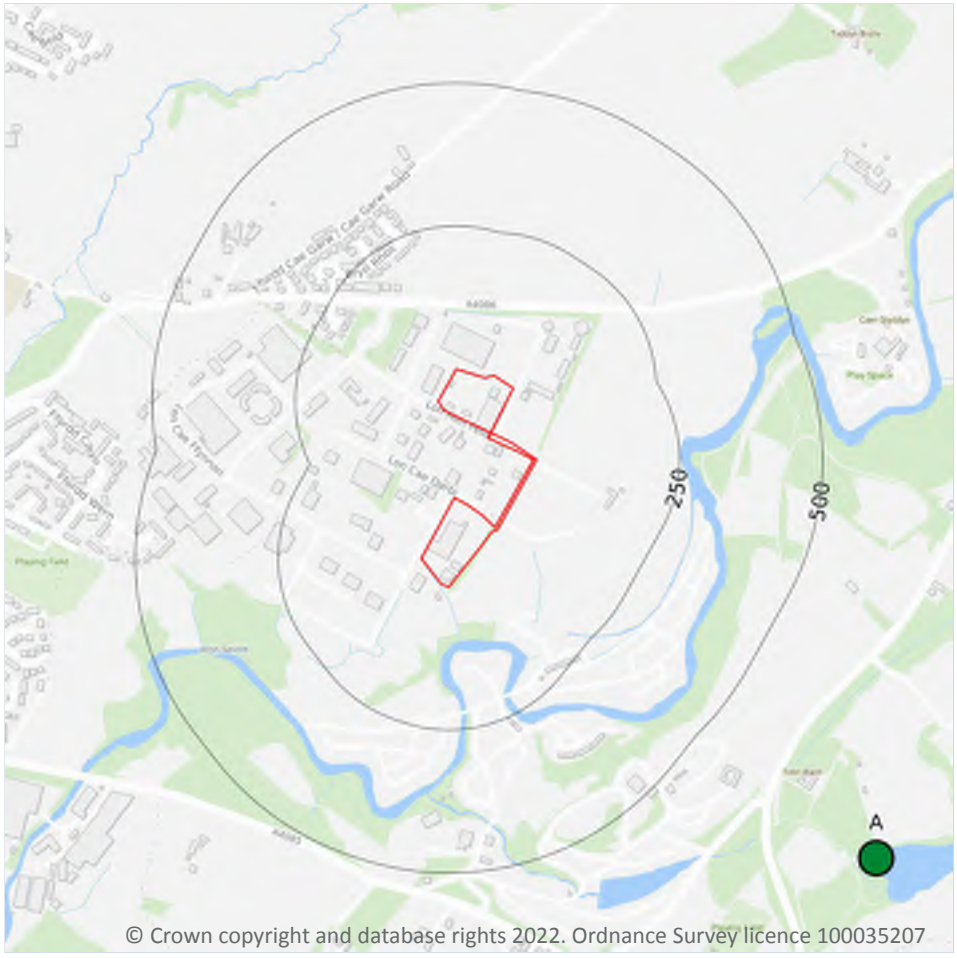
5.5 Groundwater vulnerability- local information

Records on site	**0**

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



Site Outline

Search buffers in metres (m)

Source Protection Zone 1
Inner catchment

Source Protection Zone 2
Outer catchment

Source Protection Zone 3
Total catchment

Source Protection Zone 4
Zone of Special Interest

Source Protection Zone 1c
Inner catchment - confined aquifer

Source Protection Zone 2c
Outer catchment - confined aquifer

Source Protection Zone 3c
Total catchment - confined aquifer

Drinking water abstraction licences

Drinking water abstraction licences
Polygon features

Drinking water abstraction licences
Linear features

Groundwater abstraction licence (point)

Groundwater abstraction licence (area)

Groundwater abstraction licence (linear)

Surface Water Abstractions (point)

Surface Water Abstractions (area)

Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	0

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	9

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 62**

ID	Location	Details	
A	875m SE	Status: Historical Licence No: 23/65/16/0039 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: EAW Surface Water Point: POND AT GLAN GWNA, CAEATHRAW Data Type: Point Name: Glan Gwna Holiday Park Ltd Easting: 250590 Northing: 361930	Annual Volume (m^3): 93502.1 Max Daily Volume (m^3): 256.17 Original Application No: - Original Start Date: 24/06/1968 Expiry Date: - Issue No: 100 Version Start Date: 11/09/2006 Version End Date: -
A	875m SE	Status: Historical Licence No: 23/65/16/0039 Details: Drinking, Cooking, Sanitary Washing (small garden) - Household - Medium Direct Source: - Point: - Data Type: Point Name: - Easting: 250590 Northing: 361930	Annual Volume (m^3): 93,502.10 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Sep 11 2006 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1135m SW	Status: Historical Licence No: 23/65/16/0070 Details: Process Water Direct Source: EAW Surface Water Point: ON SITE LAGOON AT SEIONT BRICKWORKS Data Type: Point Name: Hanson Brick Easting: 249110 Northing: 361530	Annual Volume (m^3): 12000 Max Daily Volume (m^3): 35 Original Application No: - Original Start Date: 20/06/2006 Expiry Date: 31/03/2013 Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
-	1389m SW	Status: Historical Licence No: 23/65/16/0019 Details: Lake & Pond Throughflow Direct Source: EAW Surface Water Point: ORNAMENTAL PARK LAKE Data Type: Point Name: Cyngor Gwynedd Easting: 248770 Northing: 361510	Annual Volume (m^3): 382300 Max Daily Volume (m^3): 1047.4 Original Application No: - Original Start Date: 29/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2005 Version End Date: -

ID	Location	Details	
-	1389m SW	Status: Active Licence No: 23/65/16/0019 Details: Lake & Pond Throughflow - Very Low Direct Source: - Point: - Data Type: Point Name: - Easting: 248770 Northing: 361510	Annual Volume (m^3): 382,300.42 Max Daily Volume (m^3): 1,047.36 Original Application No: - Original Start Date: Apr 1 2005 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1422m SW	Status: Historical Licence No: 23/65/16/0008 Details: General Washing/Process Washing Direct Source: EAW Surface Water Point: RIVER SEIONT, CAERNARFON Data Type: Point Name: Hanson Brick Easting: 248770 Northing: 361460	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 25/10/1965 Expiry Date: - Issue No: 100 Version Start Date: 01/01/2000 Version End Date: -
-	1422m SW	Status: Historical Licence No: 23/65/16/0008 Details: Process Water Direct Source: EAW Surface Water Point: AFON SEIONT Data Type: Point Name: Hanson Brick Easting: 248770 Northing: 361460	Annual Volume (m^3): 6819 Max Daily Volume (m^3): 27.276 Original Application No: - Original Start Date: 25/10/1965 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1681m SE	Status: Historical Licence No: 23/65/16/0015 Details: General Farming & Domestic Direct Source: EAW Surface Water Point: SPRING AT PRYSGOL FARM, CAEATHRAW Data Type: Point Name: Glan Gwna Holiday Park Ltd Easting: 251340 Northing: 361590	Annual Volume (m^3): 2556.44 Max Daily Volume (m^3): 7.004 Original Application No: - Original Start Date: 29/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 08/02/2008 Version End Date: -
-	1681m SE	Status: Historical Licence No: 23/65/16/0015 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: EAW Surface Water Point: SPRING AT PRYSGOL FARM, CAEATHRAW Data Type: Point Name: Glan Gwna Holiday Park Ltd Easting: 251340 Northing: 361590	Annual Volume (m^3): 2556.44 Max Daily Volume (m^3): 7.004 Original Application No: - Original Start Date: 29/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 08/02/2008 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	3

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 62**

ID	Location	Details	
A	875m SE	Status: Historical Licence No: 23/65/16/0039 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: EAW Surface Water Point: POND AT GLAN GWNA, CAEATHRAW Data Type: Point Name: Glan Gwna Holiday Park Ltd Easting: 250590 Northing: 361930	Annual Volume (m^3): 93502.1 Max Daily Volume (m^3): 256.17 Original Application No: - Original Start Date: 24/06/1968 Expiry Date: - Issue No: 100 Version Start Date: 11/09/2006 Version End Date: -
A	875m SE	Status: Historical Licence No: 23/65/16/0039 Details: Drinking, Cooking, Sanitary Washing (small garden) - Household - Medium Direct Source: - Point: - Data Type: Point Name: - Easting: 250590 Northing: 361930	Annual Volume (m^3): 93,502.10 Max Daily Volume (m^3): - Original Application No: - Original Start Date: Sep 11 2006 12:00AM Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1681m SE	Status: Historical Licence No: 23/65/16/0015 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: EAW Surface Water Point: SPRING AT PRYSGOL FARM, CAEATHRAW Data Type: Point Name: Glan Gwna Holiday Park Ltd Easting: 251340 Northing: 361590	Annual Volume (m^3): 2556.44 Max Daily Volume (m^3): 7.004 Original Application No: - Original Start Date: 29/11/1965 Expiry Date: - Issue No: 100 Version Start Date: 08/02/2008 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

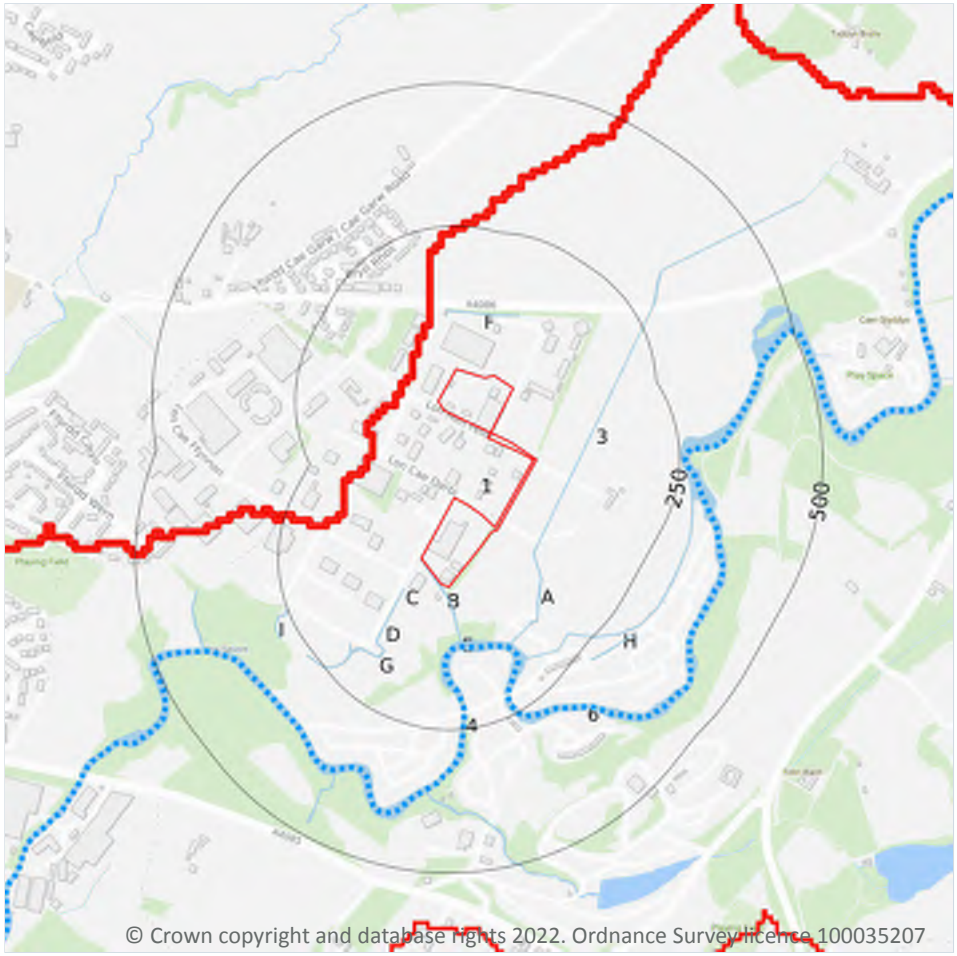
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	**25**

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on **page 67**

ID	Location	Type of water feature	Ground level	Permanence	Name
B	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**

ID	Location	Type of water feature	Ground level	Permanence	Name
C	55m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	59m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	61m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	66m SE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
A	75m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	83m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	97m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	100m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	102m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Seiont
4	104m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Seiont
E	105m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Seiont
E	120m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Seiont
E	146m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
E	146m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	151m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Seiont
G	168m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	169m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	174m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Seiont
E	174m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	189m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	199m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	206m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
H	214m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	249m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	12

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 67**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 67**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River WB catchment**	**Seiont**	**GB110065054040**	**Gwyrfai Seiont**	**Llyn and Eryri**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site.

Features are displayed on the Hydrology map on **page 67**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
5	107m S	River	Seiont	GB110065054040	Good	Good	Good	2016

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place.

Features are displayed on the Hydrology map on **page 67**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	**On site**	**Llyn and Eryri**	**GB41002G204600**	**Poor**	**Poor**	**Good**	**2017**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

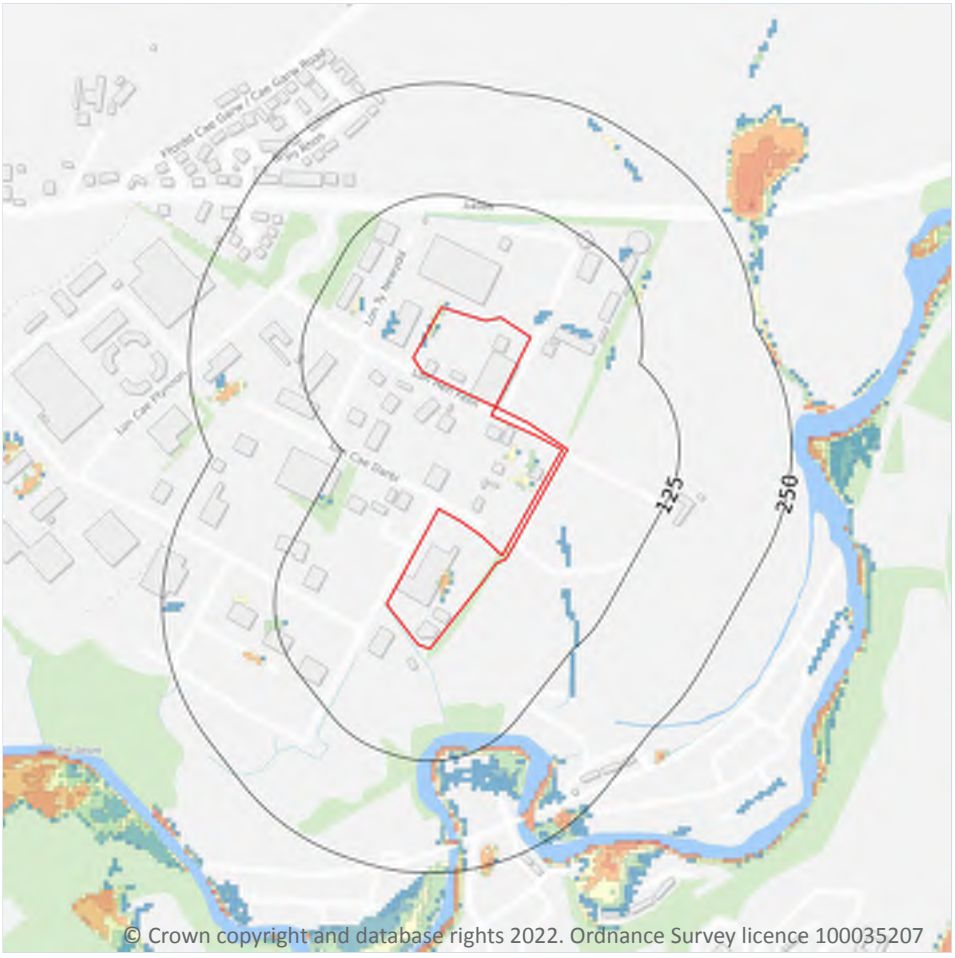
7.7 Flood Zone 3

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



Site Outline
Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 30 year, 0.1m - 0.3m**
Highest risk within 50m	**1 in 30 year, 0.1m - 0.3m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 75**

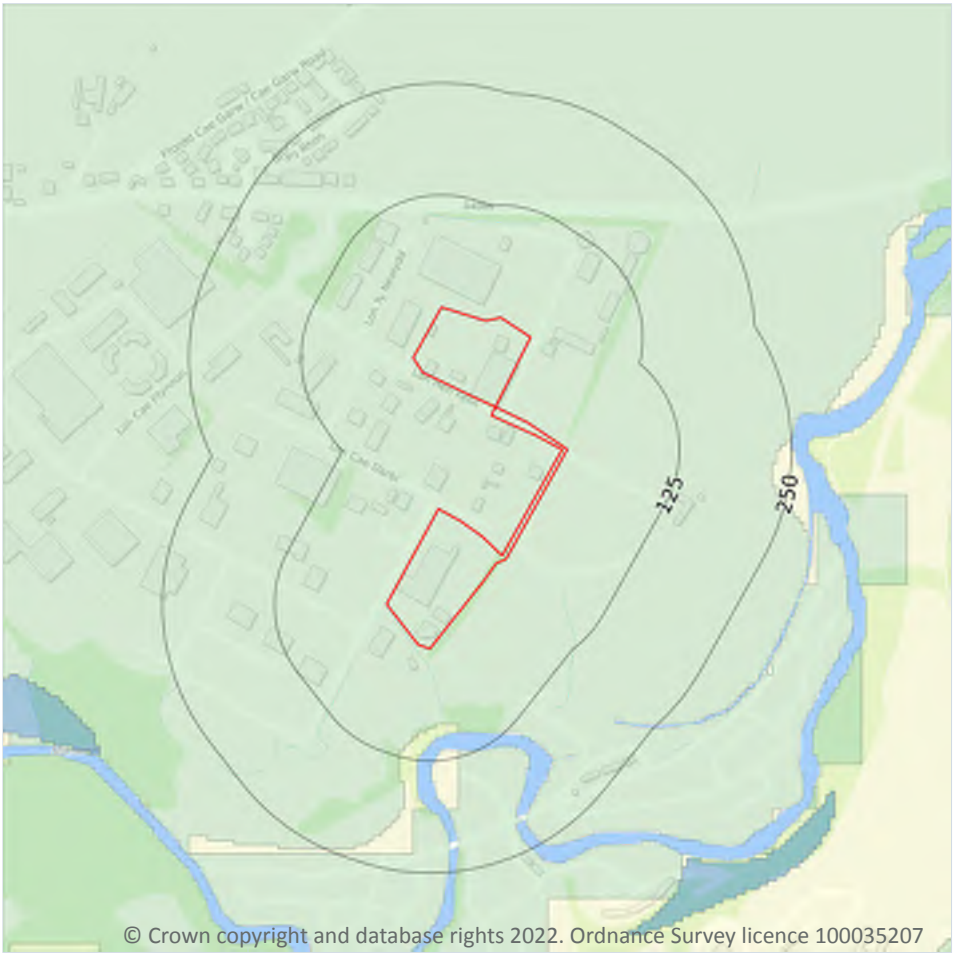
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

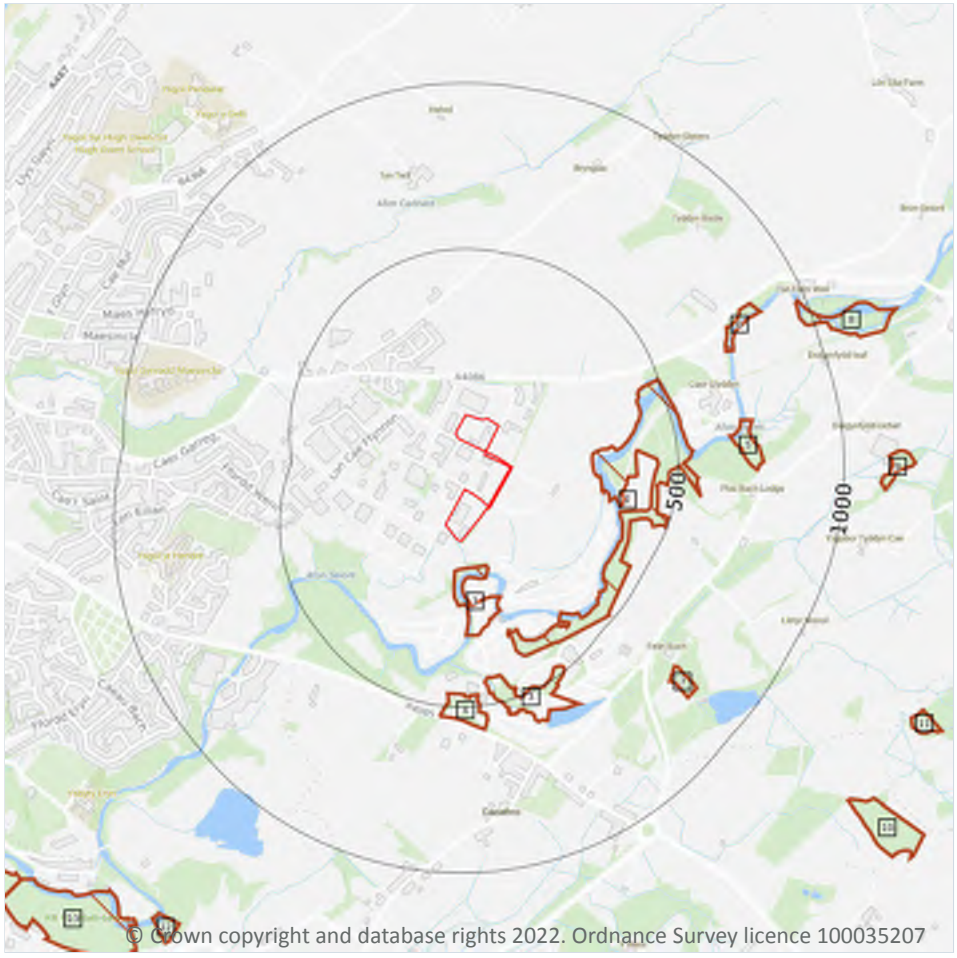
Highest risk on site	**Low**
Highest risk within 50m	**Low**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 77**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Special Areas of Conservation (SAC)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	2

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on **page 78**

ID	Location	Name	Data source
-	1548m SW	AFON SEIONT	Natural Resources Wales

ID	Location	Name	Data source
-	1694m W	AFON SEIONT	Natural Resources Wales

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	**0**

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	**1**

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

Features are displayed on the Environmental designations map on **page 78**

ID	Location	Name	Features of interest	Habitat description	Data source
-	1815m NW	Y Fenai a Bae Conwy / Menai Strait and Conwy Bay	Subtidal sandbanks; Estuaries; Intertidal mudflats and sandflats; Shallow inlets and bays; Reefs; Atlantic salt meadows; Sea caves; Sea lamprey; River lamprey; Allis shad; Twaite shad; Grey seal.	Shingle, Sea cliffs, Islets; Salt marshes, Salt pastures, Salt steppes; Marine areas, Sea inlets; Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins)	Natural Resources Wales

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	**0**

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	20

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 78**

ID	Location	Name	Woodland Type
1	83m S	Unknown	Ancient Semi Natural Woodland
2	242m E	Unknown	Restored Ancient Woodland Site
3	418m S	Unknown	Restored Ancient Woodland Site
4	460m S	Unknown	Ancient Semi Natural Woodland
5	662m E	Unknown	Ancient Semi Natural Woodland
6	720m E	Unknown	Ancient Semi Natural Woodland
7	733m SE	Unknown	Restored Ancient Woodland Site
8	963m E	Unknown	Ancient Semi Natural Woodland
9	1112m E	Unknown	Ancient Semi Natural Woodland
10	1394m SE	Unknown	Restored Ancient Woodland Site

ID	Location	Name	Woodland Type
11	1418m SE	Unknown	Ancient Semi Natural Woodland
12	1429m SW	Unknown	Ancient Semi Natural Woodland
13	1488m SW	Unknown	Restored Ancient Woodland Site
-	1513m NE	Unknown	Ancient Semi Natural Woodland
-	1574m E	Unknown	Restored Ancient Woodland Site
-	1601m S	Unknown	Ancient Semi Natural Woodland
18	1666m SW	Unknown	Ancient Semi Natural Woodland
-	1696m NE	Unknown	Ancient Semi Natural Woodland
-	1756m W	Unknown	Ancient Semi Natural Woodland
-	1778m SE	Unknown	Restored Ancient Woodland Site

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	0

Areas designated to prevent urban sprawl by keeping land permanently open.

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or ‘classified’) under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

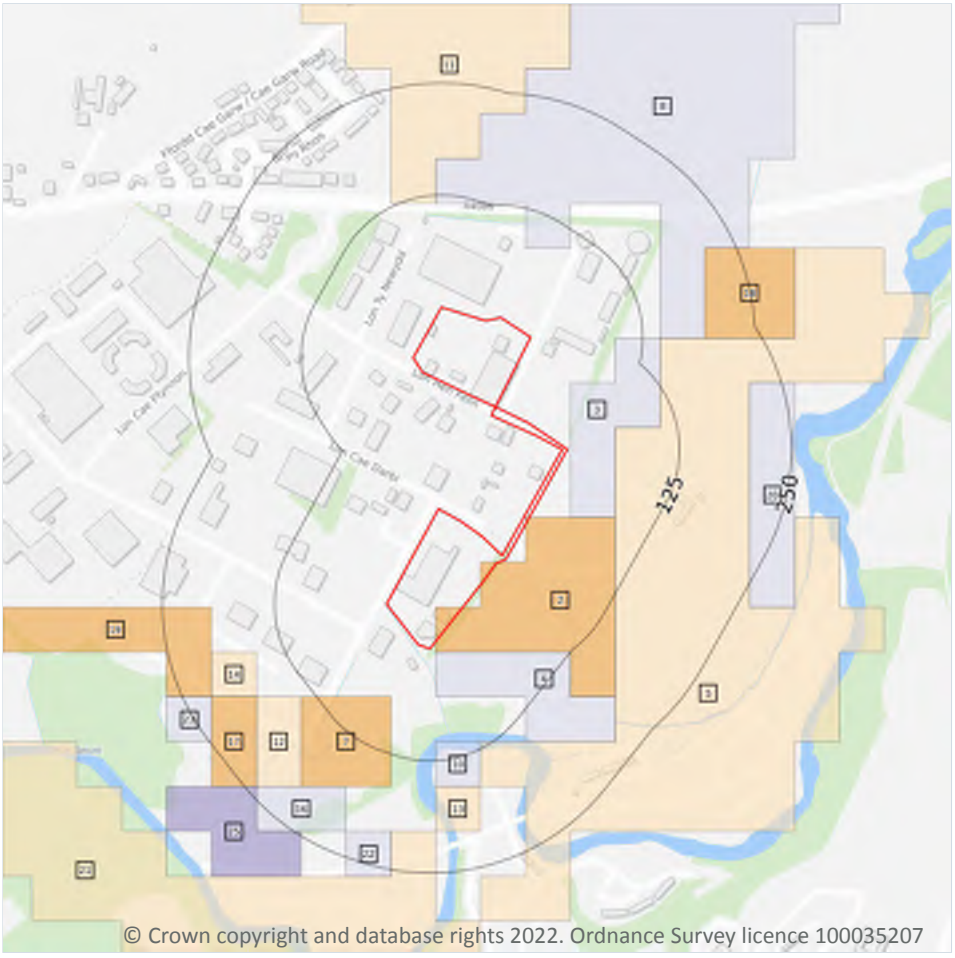
11.7 Registered Parks and Gardens

Records within 250m	0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Timber felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	20

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 87**

ID	Location	Classification	Description
2	**On site**	**Grade 2**	**Good quality agricultural land**
3	3m E	Grade 3b	Moderate quality agricultural land
4	7m SE	Grade 3b	Moderate quality agricultural land

ID	Location	Classification	Description
5	53m E	Grade 3a	Good to moderate quality agricultural land
7	66m SW	Grade 2	Good quality agricultural land
8	82m N	Grade 3b	Moderate quality agricultural land
10	104m S	Grade 3b	Moderate quality agricultural land
11	116m N	Grade 3a	Good to moderate quality agricultural land
12	139m SW	Grade 3a	Good to moderate quality agricultural land
13	154m S	Grade 3a	Good to moderate quality agricultural land
14	155m W	Grade 3a	Good to moderate quality agricultural land
16	177m SW	Grade 3b	Moderate quality agricultural land
17	178m SW	Grade 2	Good quality agricultural land
18	194m E	Grade 2	Good quality agricultural land
19	195m W	Grade 2	Good quality agricultural land
20	203m E	Grade 3b	Moderate quality agricultural land
21	204m S	Grade 3a	Good to moderate quality agricultural land
22	208m S	Grade 3b	Moderate quality agricultural land
23	221m SW	Grade 3b	Moderate quality agricultural land
25	240m SW	Grade 4	Poor quality agricultural land

This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m	0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability

Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 91**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**No coverage**	**No coverage**	**No coverage**	**NoCov**

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground

14.2 Artificial and made ground (10k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

14.5 Bedrock geology (10k)

Records within 500m	0

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

This data is sourced from the British Geological Survey.

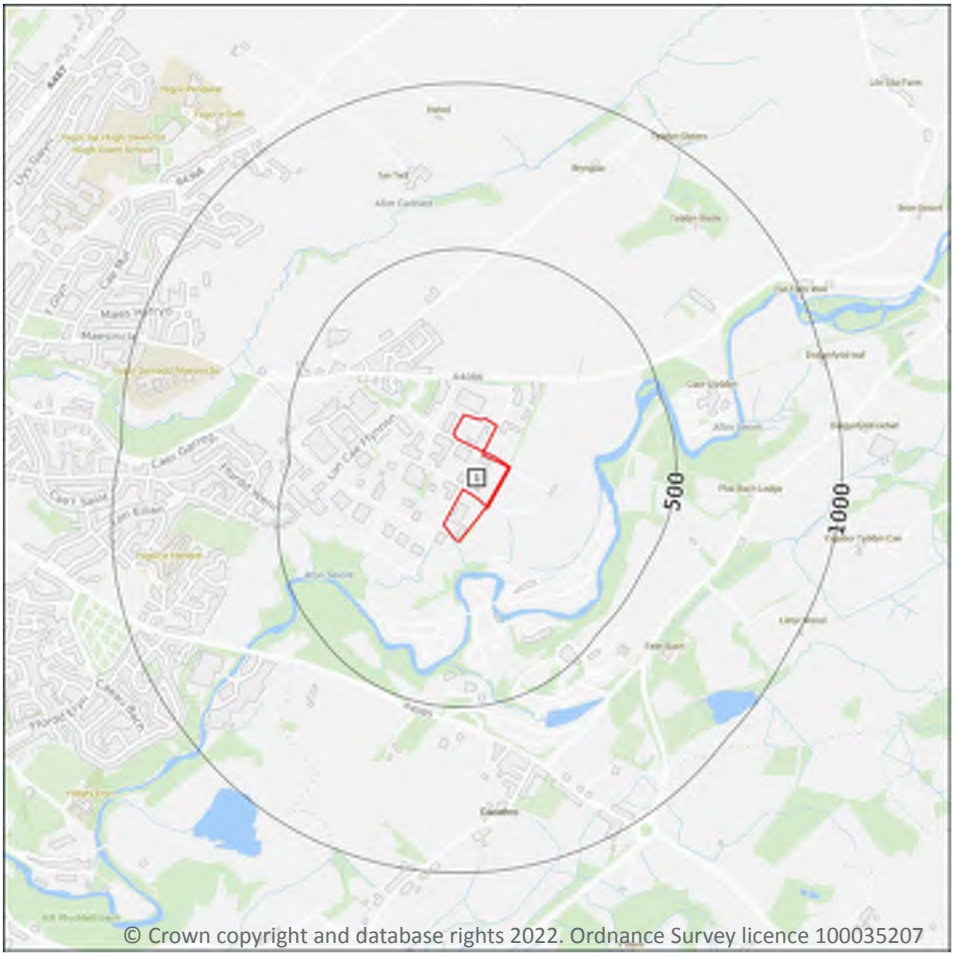
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 95**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW105_anglesey_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

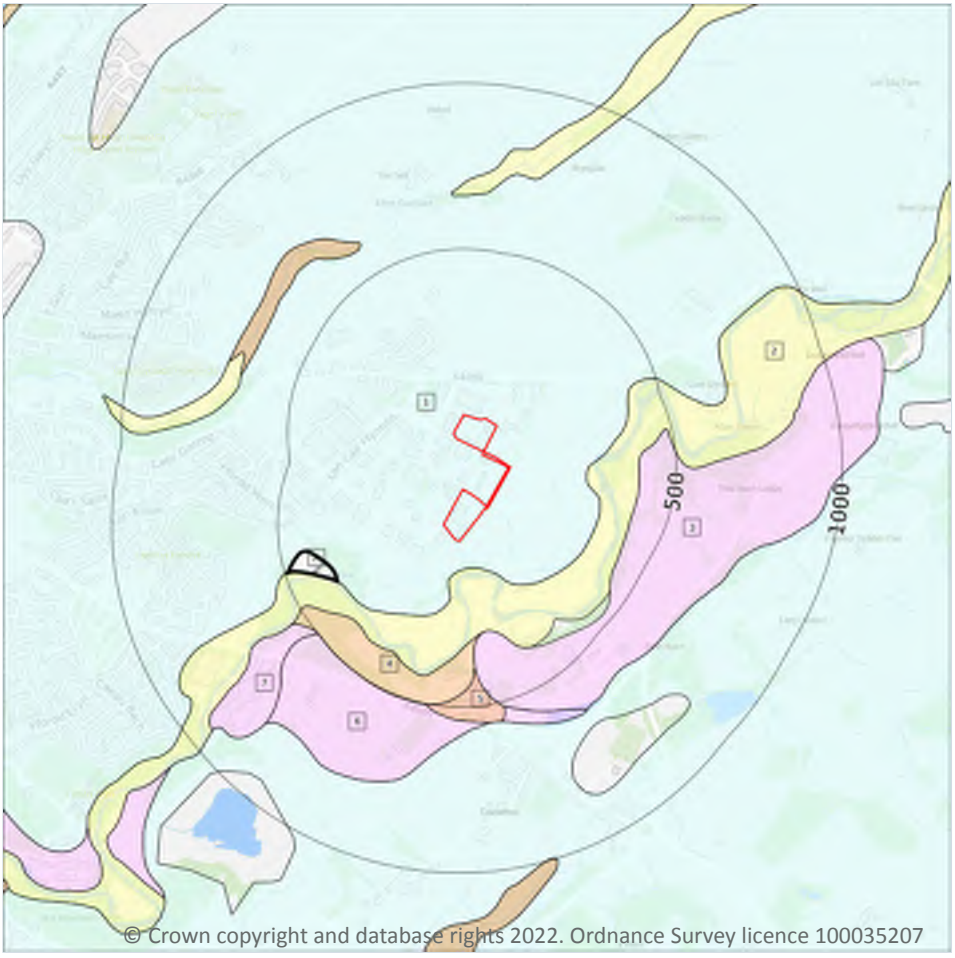
15.3 Artificial ground permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m	8

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 97**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**
2	86m S	ALV-XVSZC	ALLUVIUM	GRAVEL, SAND, SILT AND CLAY
3	283m S	GFICD-XSV	GLACIOFLUVIAL ICE CONTACT DEPOSITS, DEVENSIAN	SAND AND GRAVEL

ID	Location	LEX Code	Description	Rock description
4	285m S	RTDU-XVSZ	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	GRAVEL, SAND AND SILT
A	359m SW	SUPNM-UKNOWN	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY
5	381m S	ALF-XSV	ALLUVIAL FAN DEPOSITS	SAND AND GRAVEL
6	499m SW	GFTDD-XSV	GLACIOFLUVIAL TERRACE DEPOSITS, DEVENSIAN	SAND AND GRAVEL
7	500m SW	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	**2**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Low**
3m NE	Mixed	High	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	**1**

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 97**

ID	Location	LEX Code	Description	Rock description
A	359m SW	SLIP-UKNOWN	LANDSLIDE DEPOSITS	UNKNOWN/UNCLASSIFIED ENTRY

This data is sourced from the British Geological Survey.

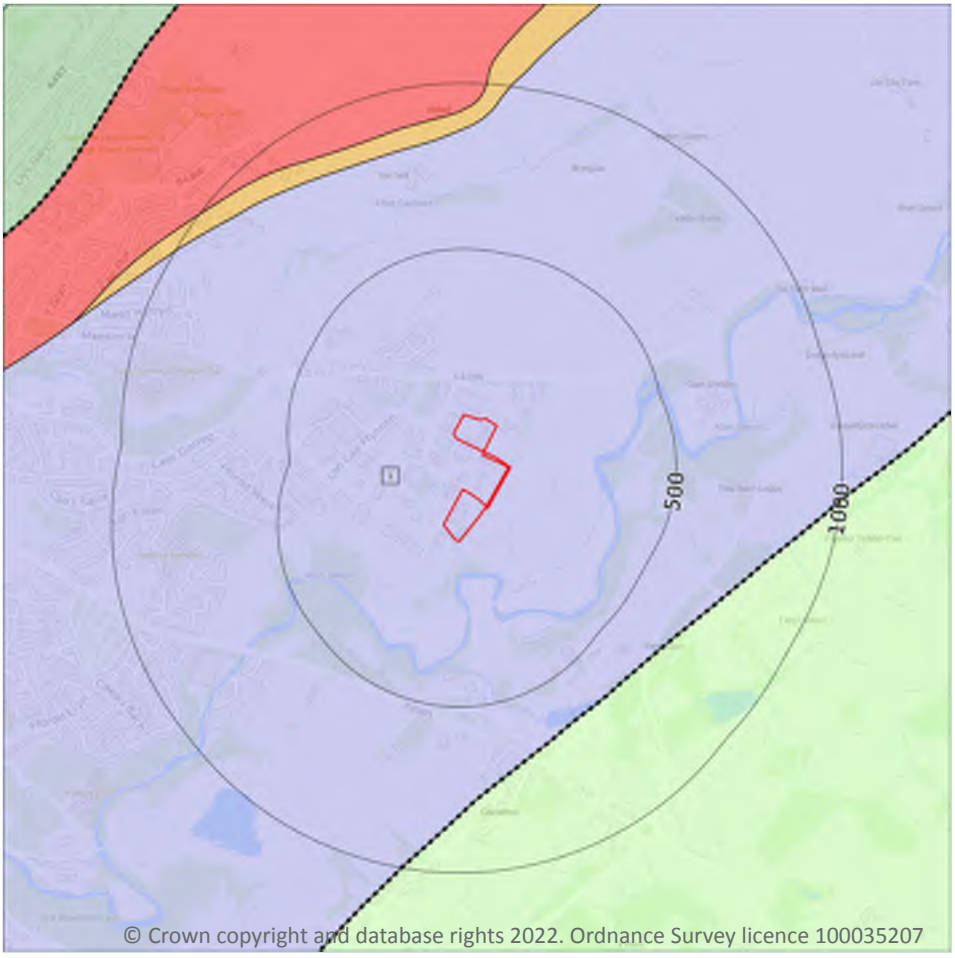
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	1

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 100**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**NFR-SLST**	**NANT FFRANCON SUBGROUP - SILTSTONE**	**-**

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Moderate**	**Low**
3m NE	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

16 Boreholes

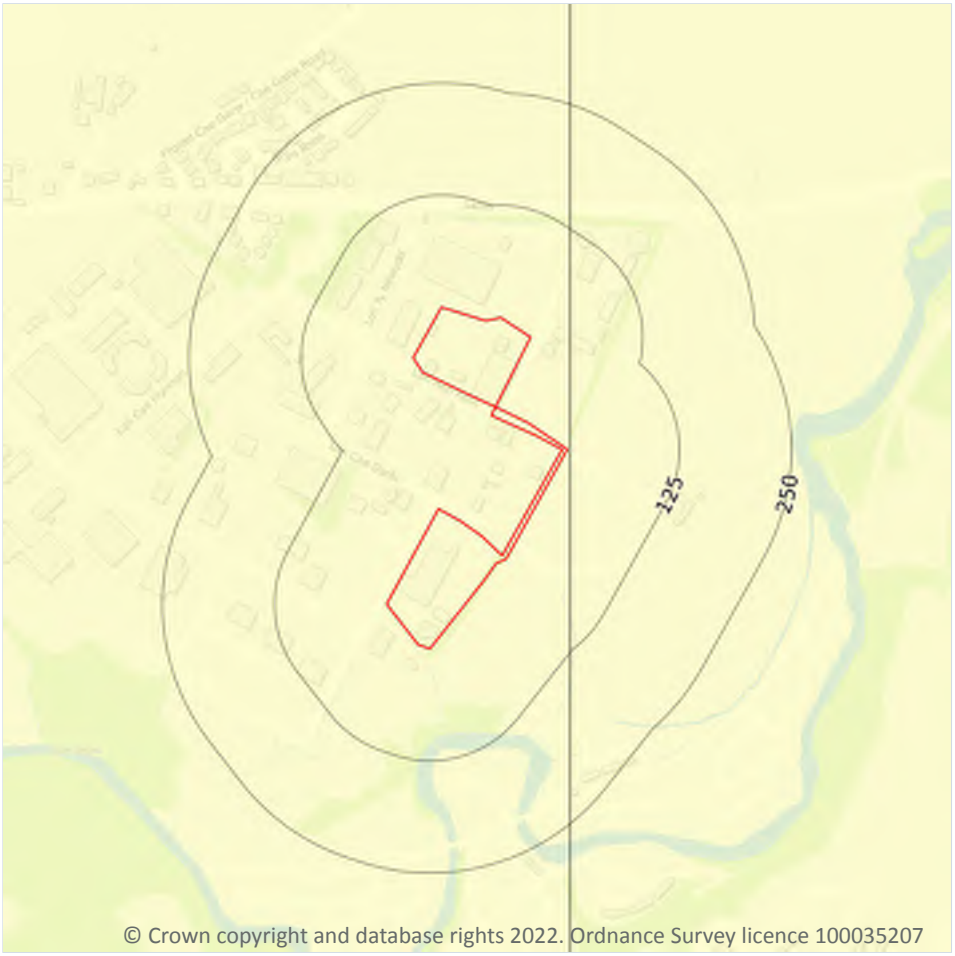
16.1 BGS Boreholes

Records within 250m	0

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	2

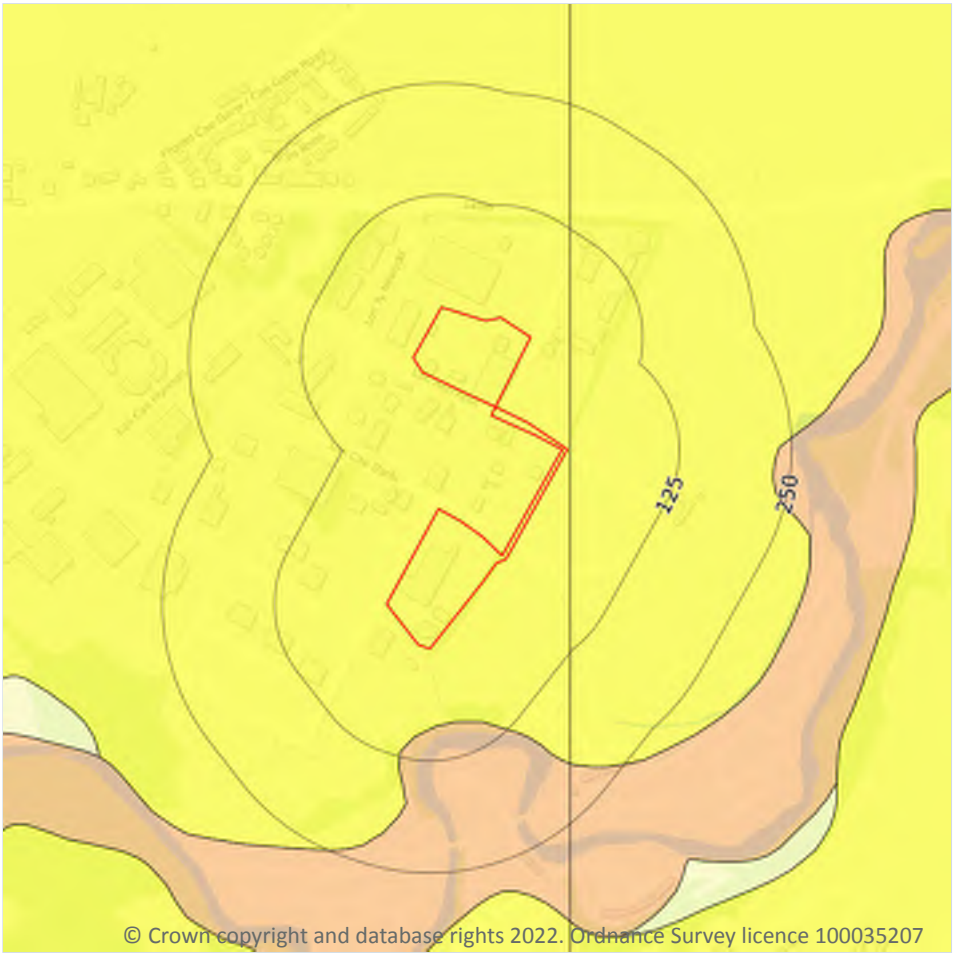
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 103**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**
3m E	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	2

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

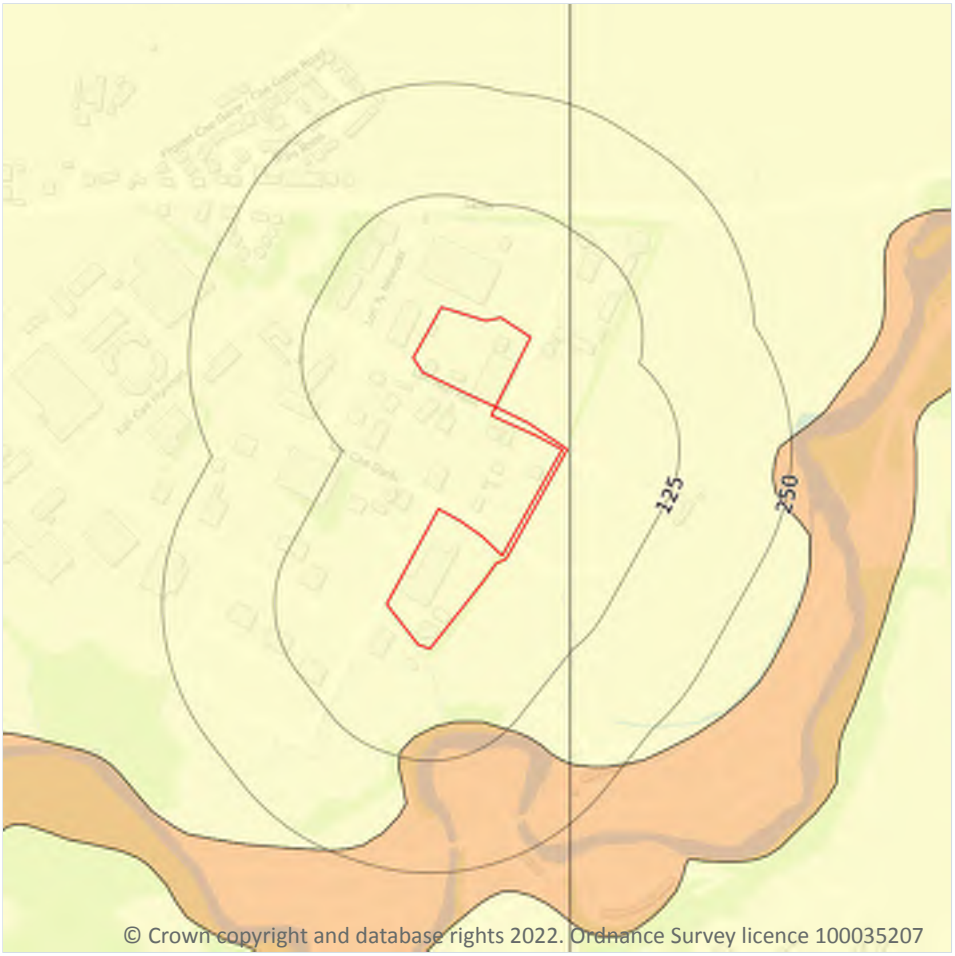
Features are displayed on the Natural ground subsidence - Running sands map on **page 104**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

Location	Hazard rating	Details
3m E	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	2

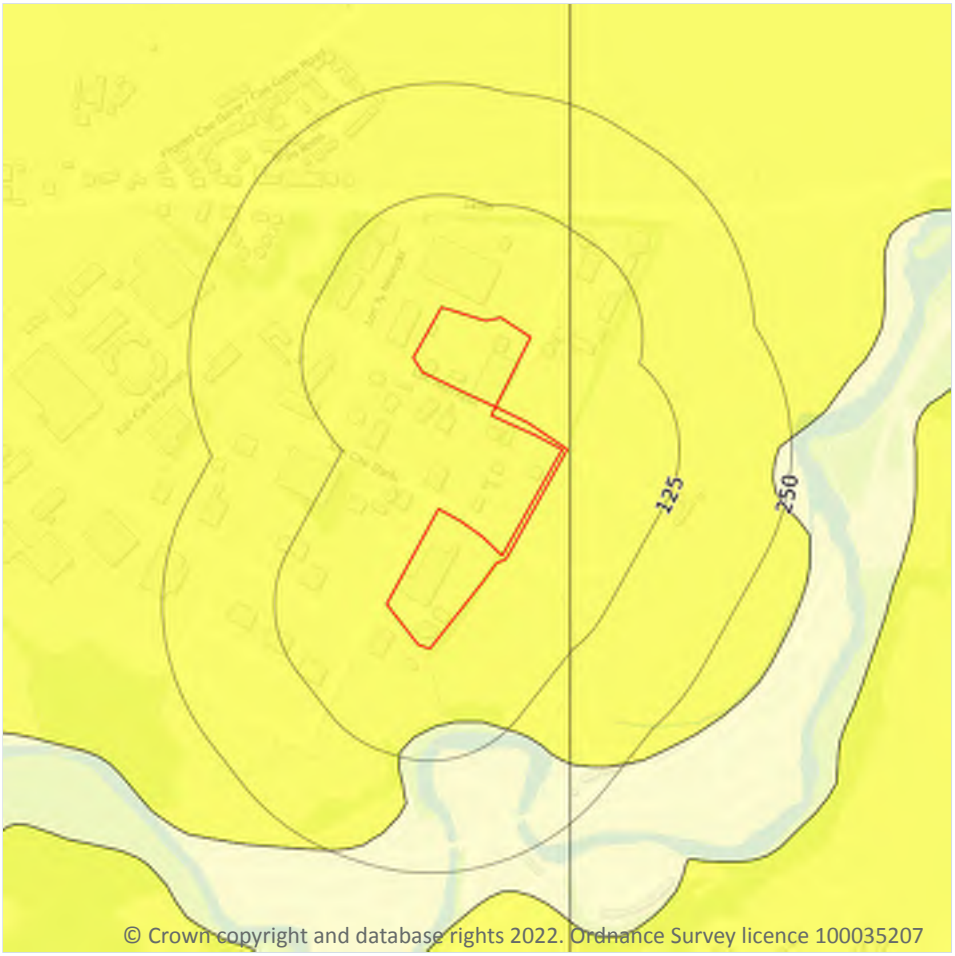
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 106**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
3m E	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	2

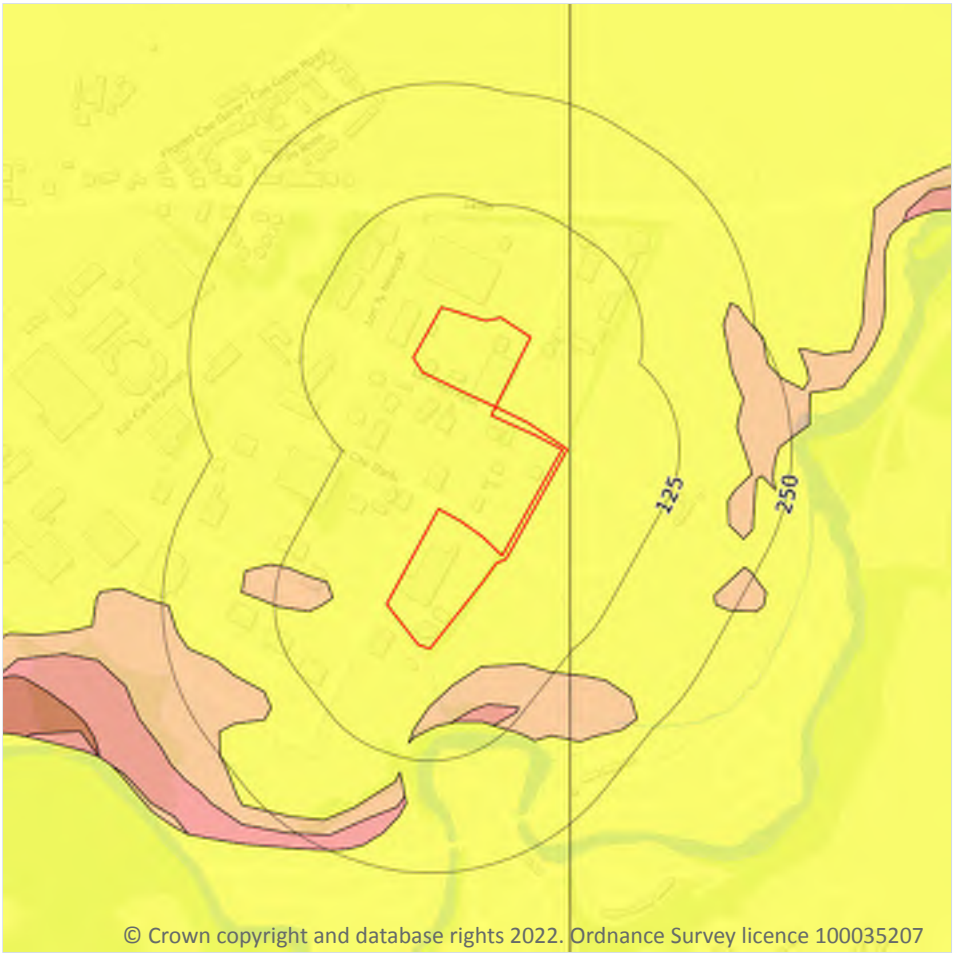
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 107**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**
3m E	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	3

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

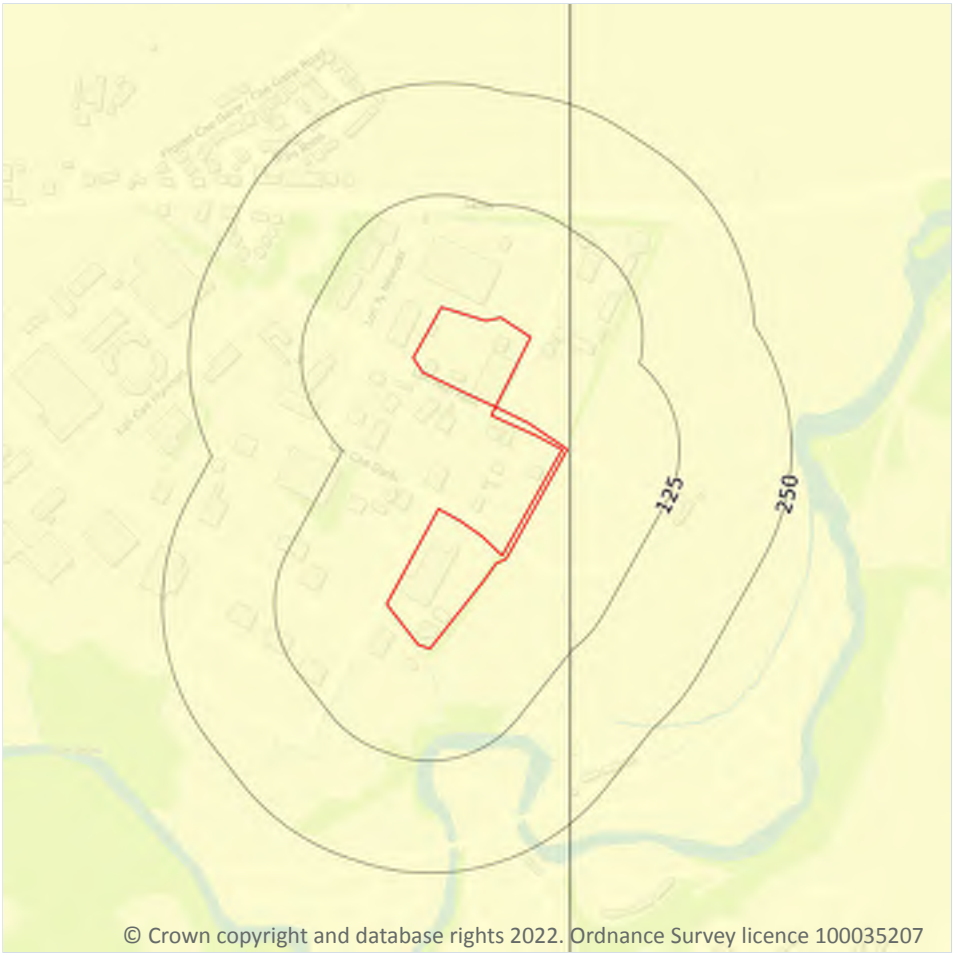
Features are displayed on the Natural ground subsidence - Landslides map on **page 108**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

Location	Hazard rating	Details
3m E	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.
48m SE	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	2

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

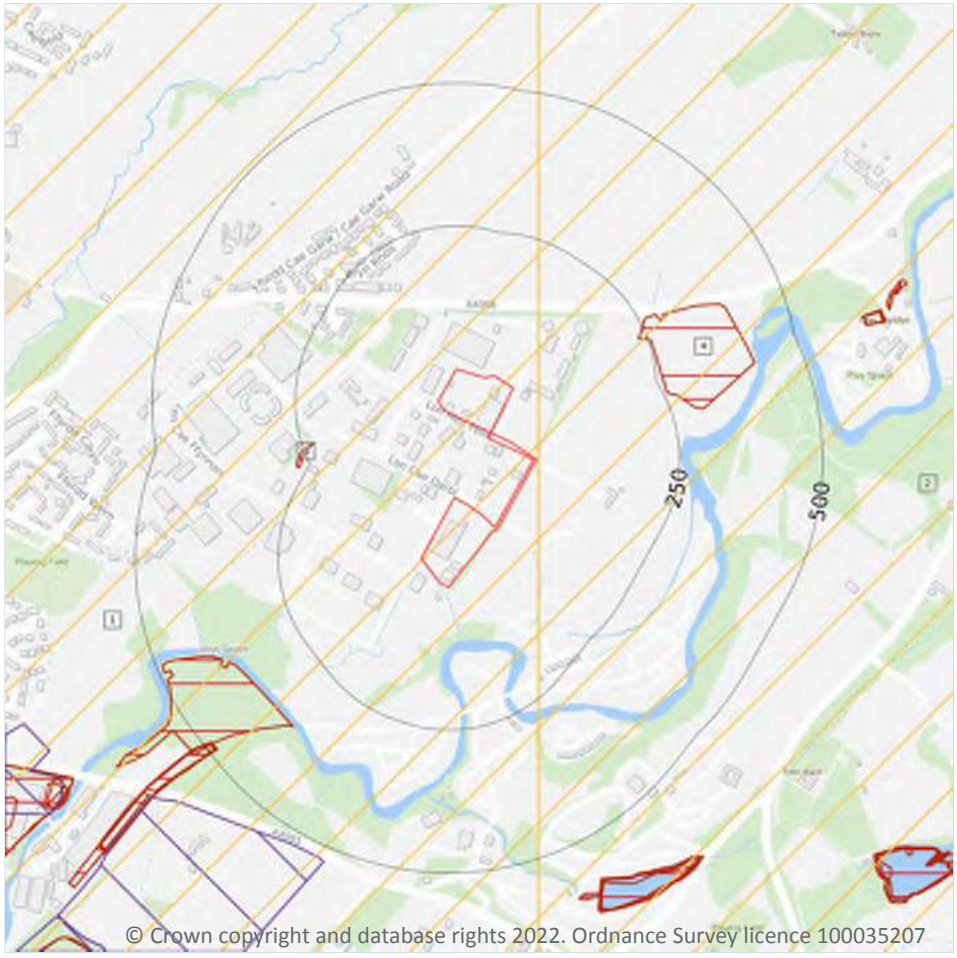
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 110**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

Location	Hazard rating	Details
3m E	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

BritPits

Surface ground workings

Underground workings

Historical Mineral Planning Areas

Mining Cavities

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	2

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 112**

ID	Location	Land Use	Year of mapping	Mapping scale
3	233m W	Pond	1888	1:10560
4	236m E	Refuse Heap	1976	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	0

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	3

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining, ground workings and natural cavities map on **page 112**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Vein Mineral**	**B**	**Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered**
2	3m E	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
-	904m N	Not available	Vein Mineral	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

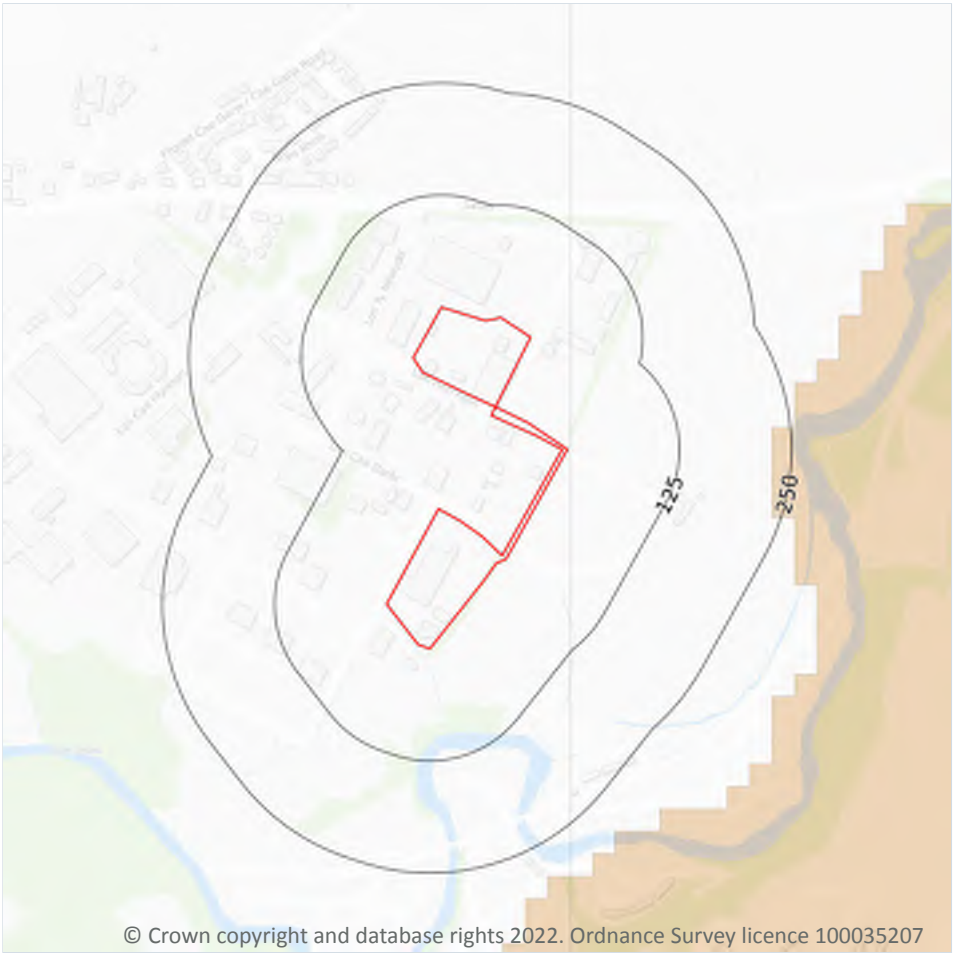
18.13 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Radon



Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 116**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None****

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	3

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 - 30 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**40 - 60 mg/kg**	**15 - 30 mg/kg**
3m NE	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

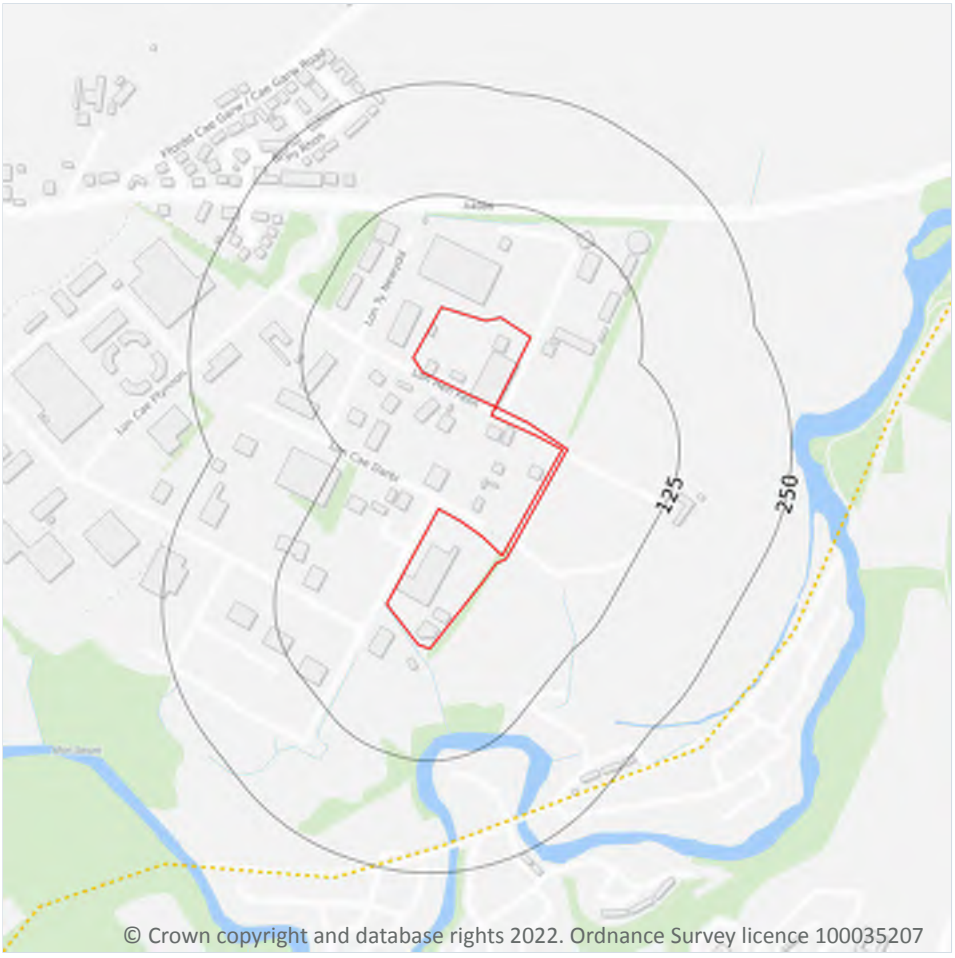
20.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



Site Outline
Search buffers in metres (m)
Crossrail 1 Stations
Crossrail 1 Route
Crossrail 1 Worksites
Crossrail 2 Stations
Crossrail 2 Route
Crossrail 2 Worksites
Crossrail 2 Safeguarding
Crossrail 2 Headhouses
Railway stations
Active railways
Active tunnels
Abandoned railways
Historic railways
Historic tunnels
Underground stations
Underground Lines
Royal Mail tunnels
HS2 optimised route
HS2 Stations
HS2 Depots
HS2 Surface Safeguarding
HS2 Subsurface Safeguarding

21.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	1

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

Features are displayed on the Railway infrastructure and projects map on **page 118**

Location	Description
210m S	Abandoned

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-jan-2020/.

APPENDIX 6 - CIRIA Risk Assessment Methodology

Contaminated Land Risk Assessment

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:

Hazard Identification ⇨ Hazard Assessment ⇨ Risk Estimation ⇨ Risk Evaluation

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process.

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552:

- High likelihood: There is a pollution linkage and an event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution;

- Likely: There is a pollution linkage and all the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;

- Low likelihood: There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain even over a longer period such event would take place, and is less likely in the short term;

- Unlikely: There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.

The severity is also classified using a system based on CIRIA C552. The terms and definitions are:

- Severe: Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
  Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse;

- Medium: Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
  Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve;

- Mild: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment;
  Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.

- Minor: harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.
  Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

- Very high: There is a high probability that severe harm could arise to a designated receptor from an identified hazard or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required;

- High: Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the longer term;

- Moderate: It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term;

- Low: It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild;

- Very Low: There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

APPENDIX 7 - Exploratory Hole Logs

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **CP01**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type CP
Location: CAERNARFON		Level:	Scale 1:50
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 18/03/2022 - 18/03/2022	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	D		0.50			MADE GROUND: Dark grey fine to coarse angular to subangular gravel of slate.
		0.50	ES					
		1.00	D		1.00			MADE GROUND: Grey fine to coarse angular to subangular gravel of slate.
		1.00	ES					
		1.20		N=50 (25 for 25mm/50 for 50mm)				MADE GROUND: Blue fine to coarse sandy fine to coarse angular to subangular gravel of slate.
		1.50	D		1.50			
		1.50	ES					Firm to stiff brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of mixed lithologies including mudstone.
		2.00	D					
		2.00	ES					
		2.00		N=16 (3,3/3,4,4,5)				
		3.00	D					
		4.00	D					
		4.00		N=21 (4,4/5,5,6,5)				
		5.00	D		5.00			End of borehole at 5.00 m

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **CP02**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type CP
Location: CAERNARFON		Level:	Scale 1:50
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 15/03/2022 - 15/03/2022	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	D		0.50			MADE GROUND: Dark grey fine to coarse angular to subangular gravel of slate.
		0.50	ES					
		1.00	D					Firm brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is subangular to subrounded medium to coarse of mixed lithologies including mudstone.
		1.00	ES					
		1.20		N=16 (5,4/3,4,4,4,5)				
		1.50	D					
		1.50	ES					
		2.00	D					*Becoming stiff from 2.0m bgl.*
		2.00	ES					
		2.00		N=50 (25 for 75mm/50 for 75mm)				
		2.00 - 2.45	U					
		3.00	D					
		3.00		N=49 (4,5/7,7,10,25)				
		3.00 - 3.45	B					
		4.00	D					
		4.00		N=39 (4,3/7,10,10,12)				
		4.00 - 4.45	B					
		5.00	D					
		5.00		N=50 (25 for 10mm/50 for 16mm)				
					5.50			End of borehole at 5.50 m

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **CP03**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type CP
Location: CAERNARFON		Level:	Scale 1:50
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 14/03/2022 - 14/03/2022	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	D		0.50			MADE GROUND: Dark grey fine to coarse angular to subangular gravel of slate.
		0.50	ES					MADE GROUND: Dark brown sandy clayey angular fine to coarse gravel of slate.
		1.00	ES		1.00			Firm brown slightly sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of mixed lithologies including mudstone.
		1.20	D					
		1.20		N=11 (2,2/2,2,3,4)				
		1.50	ES					
		2.00	D					
		2.00	D					
		2.00		N=19 (2,2/4,5,5,5)				
		3.00	D					*Becoming stiff from 3.0m bgl.*
		3.00		N=50 (25 for 75mm/50 for 75mm)				
		3.00 - 3.45	U					
		3.50	D					
		4.00	D					
		4.00	D					
		4.00		50 (25 for 75mm/50 for 75mm)				
		4.00 - 4.45	B					
		5.00	D					
		5.00	D					
		5.00 - 5.45	U					
		5.50		N=50 (25 for 75mm/50 for 75mm)	5.50			End of borehole at 5.50 m

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **CP04** Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type CP
Location: CAERNARFON		Level:	Scale 1:50
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 17/03/2022 - 17/03/2022	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20			MADE GROUND: Tarmac.
		0.50	ES					MADE GROUND: Grey brown sandy clayey gravel of slate. Sand is fine to coarse.
		1.00	ES					
		1.20		N=16 (1,3/4,4,5,3)				
		1.50	ES					
		2.00	D		2.00			Firm brown slightly sandy gravelly CLAY with low cobble content of mudstone. Gravel is angular to subrounded fine to coarse of mixed lithologies including mudstone and siltstone.
		2.00		N=30 (4,4/5,5,7,13)				
		2.50 - 3.00	B					
		3.00		N=50 (25 for 75mm/50 for 127mm)	3.00			End of borehole at 3.00 m

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **CP05** Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type CP
Location: CAERNARFON		Level:	Scale 1:50
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 17/03/2022 - 17/03/2022	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20			MADE GROUND: Tarmac.
		0.50	D					MADE GROUND: Red brown slightly sandy angular to subangular fine to coarse gravel of mixed lithologies including brick.
		0.50	ES					
		1.00	D					
		1.00	ES					
		1.20		N=16 (2,4/4,3,5,4)				
		1.30	D					
		1.50	ES					*Becoming clayey from 1.6m bgl.*
		2.00	D					
		2.00		N=29 (3,4/6,6,8,9)				
		2.00 - 2.25	B		2.30			Firm brown slightly sandy slightly gravelly CLAY with high cobble content and occasional boulders. Gravel is subangular to rounded fine to coarse of mixed lithologies.
		2.50 - 3.00	B					
		3.00		N=50 (25 for 50mm/50 for 70mm)	3.00			End of borehole at 3.00 m

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Monitoring standpipe installed to 3.0m bgl. (1.0m plain, 2.0m slotted.).

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS01**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 15/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Concrete.
		0.20	ES					Firm brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of slate.
		0.40	D					
					0.55			Firm dark brown slightly silty CLAY with moderate cobble content of mixed lithologies including mudstone.
		0.70	ES					
		1.20		N=50 (5,5/50 for 255mm)				
		1.50	D					
					1.60			End of borehole at 1.60 m

1
2
3
4
5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS02**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 15/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Concrete.
		0.20	ES					Firm brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse.
		0.50	ES					
		0.70	D					*Becoming sandy at 0.6m bgl.*
					1.10			
		1.20		N=8 (3,2/2,2,2,2)				Firm brown sandy CLAY with moderate cobble content of mudstone and quartzite. Sand is fine to coarse.
		1.50	D					
		2.00		N=14 (2,3/3,3,4,4)	2.00			Firm dark brown to grey silty CLAY.
		2.30	D					
		2.80	D					
		3.00		N=9 (2,2/2,2,2,3)				
					3.55			End of borehole at 3.55 m

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Hole backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS03** Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 15/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30			MADE GROUND: Grass over brown sandy slightly gravelly topsoil. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of slate.
		0.50	ES					MADE GROUND: Grey and blue angular to subangular fine to coarse gravel of slate.
		0.70	D		0.60			Firm dark brown sandy slightly silty CLAY. Sand is fine to coarse.
		1.20		N=14 (3,3/4,3,3,4)	0.90			Firm dark brown very sandy slightly silty CLAY with moderate cobble content of mixed lithologies including mudstone.
		1.70	D					
		1.70		50 (25 for 105mm/50 for 0mm)	1.80			End of borehole at 1.80 m

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS04**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 17/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.40			MADE GROUND: Dark grey angular to subangular fine to coarse gravel of slate.
		0.80	ES		0.70			MADE GROUND: Brown sandy angular to sub angular fine to coarse gravel. Sand is fine to coarse.
		1.20		N=7 (2,2/1,2,2,2)				Firm dark brown gravelly CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies including slate.
		1.50	D					
		2.00		N=7 (1,2/1,2,2,2)	1.90			Firm brown gravelly CLAY. Gravel is angular to subangular fine to coarse of slate.
		2.50	D		2.50			Firm dark brown CLAY.
		3.00		N=11 (2,3/3,2,3,3)				
					4.00			End of borehole at 4.00 m

1 2 3 4 5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Monitoring pipe installed to 3.0m bgl (1.0m plain, 2.0m slotted).

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS05**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 17/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.40			MADE GROUND: Brown sandy gravelly topsoil. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of slate.
		0.60	ES		0.80			Firm light brown to brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of slate.
		1.00	D					Firm dark brown grey silty CLAY with moderate cobble content of mudstone.
		1.20		N=15 (2,3/3,3,4,5)				
		2.00	D					
		2.00		N=25 (5,6/4,5,6,10)				
		2.50		N=50 (25 for 115mm/50 for 200mm)	2.50			End of borehole at 2.50 m

1
2
3
4
5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS06**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 17/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.40			MADE GROUND: Blue and black angular to subangular fine to coarse gravel of slate.
		0.60	ES		0.90			MADE GROUND: Brown to red sandy clayey gravel including brick.
		1.00	D					Firm brown CLAY with moderate cobble content of mudstone.
		1.20		N=14 (2,2/2,3,6,3)				
		2.00	D		2.20			End of borehole at 2.20 m
		2.00		N=50 (4,7/50 for 200mm)				

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Monitoring standpipe installed to 2.2m bgl (0.5m plain, 1.7m slotted).

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS07**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 17/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.40			MADE GROUND: Black sandy gravelly topsoil with rootlets. Sand is fine to coarse. Gravel is angular to sub angular fine to coarse of slate.
		1.20		N=29 (6,6/9,6,7,7)				Firm light brown fine to coarse sandy CLAY with moderate cobble content.
		1.70	D		1.70			End of borehole at 1.70 m
		1.70		N=50 (9,11/50 for 170mm)				

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS08**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 17/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.40			MADE GROUND: Black sandy gravelly topsoil. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of slate.
		0.60	ES					Firm brown to dark brown slightly silty CLAY with moderate cobble content of mixed lithologies including mudstone.
		1.00	D		1.10			
		1.20		N=22 (3,4/5,4,6,7)				Firm brown sandy slightly silty CLAY with moderate cobble content. Sand is fine to coarse.
		1.90		N=39 (9,11/14,12,5,8)				
		2.00	D		2.35			End of borehole at 2.35 m

1 2 3 4 5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Monitoring standpipe installed to 2.35m bgl (1.0m plain, 1.35m slotted).

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS09**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 15/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Concrete.
		0.20	ES					Firm brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mixed lithologies.
		0.50	D		0.40			Firm brown grey sandy CLAY. Sand is fine to coarse.
		0.60	ES					
		1.20		N=10 (4,3/3,2,3,2)	1.10			Firm brown to dark brown sandy CLAY with moderate cobble content. Sand is fine to coarse.
		1.50	D		1.60			Firm dark brown CLAY with moderate cobble content.
		2.00		N=11 (2,2/2,3,3,3)				
		2.50	D					
		3.00		N=14 (2,3/3,4,3,4)				
					3.80			End of borehole at 3.80 m

1 2 3 4 5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Monitoring standpipe installed to 3.0m bgl (1.0m plain, 2.0m slotted).

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS10** Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 15/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.25			MADE GROUND: Concrete.
		0.50	ES		0.60			Firm brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mixed lithologies.
		1.00	D					Firm dark brown gravelly CLAY. Gravel is angular to subangular fine to coarse of slate.
		1.20		N=11 (3,4/3,2,3,3)				
		1.80	D		1.80			End of borehole at 1.80 m
		1.80		N=50 (11,9/50 for 85mm)				

1 2 3 4 5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS11**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 15/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.10			MADE GROUND: Concrete.
		0.50	D		0.40			Firm brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mixed lithologies.
		0.60	ES					Firm dark brown sandy slightly silty CLAY. Sand is fine to coarse.
		1.20		N=50 (2,3/50 for 235mm)	1.00			Firm brown sandy CLAY with low cobble content of gabbro and mudstone. Sand is fine to coarse.
		1.50	D		1.50			End of borehole at 1.50 m

1 2 3 4 5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS12**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 15/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.10			MADE GROUND: Concrete.
					0.40			Firm brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of slate.
		0.60	ES					Firm brown to dark brown slightly silty CLAY with moderate cobble content of mixed lithologies including mudstone.
		0.70	D					
		1.20		N=8 (2,2/2,2,2,2)				
		1.60	D					
					1.90			
		2.00		N=11 (2,2/3,2,3,3)				Firm dark brown to grey silty CLAY.
		2.50	D					
		3.00		N=11 (2,2/3,3,2,3)				
					4.00			End of borehole at 4.00 m

1 2 3 4 5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS13**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 16/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					MADE GROUND: Grey black angular to subangular fine to coarse gravel of slate and brick.
		1.00	D		0.80			Firm dark brown CLAY with moderate cobble and low boulder content.
		1.20		N=9 (1,2/2,3,2,2)				
		2.00	D		1.60			Firm to stiff dark brown mottled grey slightly silty CLAY with moderate cobble content.
		2.00		N=50 (5,7/50 for 255mm)	2.30			End of borehole at 2.30 m

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Monitoring standpipe installed to 2.3m bgl (0.5m plain, 1.3m slotted).

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS14**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 16/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20 0.20	D ES		0.10			MADE GROUND: Concrete.
					0.35			MADE GROUND: Black angular to subangular fine to coarse gravel of slate.
								MADE GROUND: Black red angular to subangular gravel of slate and brick.
					1.00			End of borehole at 1.00 m

1
2
3
4
5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.0m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS15**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 16/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.15			MADE GROUND: Concrete.
					0.30			MADE GROUND: Blue angular to subangular fine to coarse of slate.
		0.60	ES					MADE GROUND: Black red angular to subangular fine to coarse gravel of slate and brick.
		0.85	D		0.80			
					0.90			MADE GROUND: Black red angular to subangular fine to coarse gravelly clay. Gravel is of slate and brick.
		1.20	D					Firm brown grey CLAY with moderate cobble content.
		1.20		N=11 (2,2/3,2,3,3)				
		1.70	D		1.70			End of borehole at 1.70 m
		1.70		N=50 (25 for 50mm/50 for 75mm)				

1 2 3 4 5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Monitoring standpipe installed to 1.7m bgl (0.5m plain, 1.2m slotted).

GROUNDTECH CONSULTING

Borehole Log

Borehole No. **WS16**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 16/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.25 0.25	D ES		0.15 0.20 0.30			MADE GROUND: Concrete. MADE GROUND: Blue angular to subangular fine to coarse gravel of slate. MADE GROUND: Black angular to subangular fine to coarse gravel of slate. End of borehole at 0.30 m

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS17**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 16/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Concrete.
		0.30	ES		0.30			MADE GROUND: Grey angular to subangular fine to coarse gravel of slate.
		0.50	ES					MADE GROUND: Blue angular to subangular fine to coarse gravel of slate.
					0.80			Firm brown CLAY with moderate cobble content.
		1.20		N=10 (2,2/4,3,2,1)				
		1.70		N=50 (25 for 105mm/50 for 0mm)				
		1.80	D		1.80			End of borehole at 1.80 m

1 2 3 4 5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

Borehole Log

GROUNDTECH CONSULTING

Borehole No. **WS18**

Sheet 1 of 1

Project Name: GWYNEDD SKIPS	Project No. GRO-22013	Co-ords: -	Hole Type WS
Location: CAERNARFON		Level:	Scale 1:25
Client: GWYNEDD SKIP & PLANT HIRE		Dates: 16/03/2022 -	Logged By AW

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10			MADE GROUND: Concrete.
		0.20	ES					MADE GROUND: Grey angular to subangular fine to coarse gravel of slate.
					0.40			MADE GROUND: Blue angular to subangular fine to coarse gravel of slate.
		0.60	ES					
					0.70			Firm brown CLAY with moderate cobble content.
		1.00	D					
		1.20		N=50 (35 for 105mm/50 for 0mm)	1.20			End of borehole at 1.20 m

1
2
3
4
5

Remarks

1. Location cleared using hand held CAT. 2. Hand pit dug to 1.2m bgl. 3. No groundwater encountered. 4. Location terminated due to boulder obstruction. 5. Hole backfilled with arisings.

APPENDIX 8 - Geo-Environmental Testing Results

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
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Groundtech Consulting Limited
PO Box 499
Manchester
M28 8EE

Attention :	Adam White
Date :	8th April, 2022
Your reference :	GRO-22013
Our reference :	Test Report 22/4931 Batch 1
Location :	Gwynedd skip
Date samples received :	26th March, 2022
Status :	Final Report
Issue :	1

Twenty seven samples were received for analysis on 26th March, 2022 of which twenty five were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Bruce Leslie
Project Manager

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White
EMT Job No: 22/4931

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-11	12-14	15-17	18-20	21-22	23-25	26-28	LOD/LOR	Units	Method No.
Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07	WS08	WS09	WS10			
Depth	0.20	0.50	0.50	0.80	0.20	0.60	0.20	0.20	0.60	0.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J	V J T	V J B	V J T	V J	V J T	V J B			
Sample Date	15/03/2022	15/03/2022	15/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022	15/03/2022	15/03/2022	15/03/2022			
Sample Type	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022			
Arsenic	3.5	21.4	52.6	12.6	18.3	35.3	16.2	21.3	18.4	10.1	<0.5	mg/kg	TM30/PM15
Cadmium	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Chromium	62.6	131.1	62.3	107.5	52.5	77.3	38.9	44.6	51.3	50.6	<0.5	mg/kg	TM30/PM15
Copper	22	12	10	10	18	18	16	25	21	20	<1	mg/kg	TM30/PM15
Lead	8	20	23	23	19	21	25	20	18	14	<5	mg/kg	TM30/PM15
Mercury	<0.1	0.1	0.3	<0.1	0.1	<0.1	0.2	<0.1	0.1	0.2	<0.1	mg/kg	TM30/PM15
Nickel	31.6	21.2	18.7	15.6	18.2	24.1	13.8	26.5	24.7	25.8	<0.7	mg/kg	TM30/PM15
Selenium	<1	2	2	2	2	2	2	2	1	1	<1	mg/kg	TM30/PM15
Zinc	86	52	36	40	69	52	81	71	63	88	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.11	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.08	<0.03	mg/kg	TM4/PM8
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.59	<0.05	mg/kg	TM4/PM8
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.42	<0.04	mg/kg	TM4/PM8
Phenanthrene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	2.28	<0.03	mg/kg	TM4/PM8
Anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.72	<0.04	mg/kg	TM4/PM8
Fluoranthene	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	4.27	<0.03	mg/kg	TM4/PM8
Pyrene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.43	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	1.30	<0.06	mg/kg	TM4/PM8
Chrysene	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	1.32	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2.10	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	1.01	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.76	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.13	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.65	<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	19.2	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.51	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.59	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	94	94	95	81	93	96	96	82	95	93	<0	%	TM4/PM8
Methyl Tertiary Butyl Ether	-	<2	-	-	-	<2	-	-	-	-	<2	ug/kg	TM15/PM10
Benzene	-	<3	-	-	-	<3	-	-	-	-	<3	ug/kg	TM15/PM10
Toluene	-	<3	-	-	-	<3	-	-	-	-	<3	ug/kg	TM15/PM10
Ethylbenzene	-	<3	-	-	-	<3	-	-	-	-	<3	ug/kg	TM15/PM10
m/p-Xylene	-	<5	-	-	-	<5	-	-	-	-	<5	ug/kg	TM15/PM10
o-Xylene	-	<3	-	-	-	<3	-	-	-	-	<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	102	-	-	-	103	-	-	-	-	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	101	-	-	-	95	-	-	-	-	<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White
EMT Job No: 22/4931

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-11	12-14	15-17	18-20	21-22	23-25	26-28	LOD/LOR	Units	Method No.
Sample ID	WS01	WS02	WS03	WS04	WS05	WS06	WS07	WS08	WS09	WS10			
Depth	0.20	0.50	0.50	0.80	0.20	0.60	0.20	0.20	0.60	0.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J	V J T	V J B	V J T	V J	V J T	V J B			
Sample Date	15/03/2022	15/03/2022	15/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022	15/03/2022	15/03/2022	15/03/2022			
Sample Type	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022			
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)	-	<0.1	-	-	-	<0.1	-	-	-	-	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)	-	<0.1	-	-	-	<0.1	-	-	-	-	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	-	<0.1	-	-	-	<0.1	-	-	-	-	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)	-	<0.2	-	-	-	<0.2	-	-	-	-	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)	-	<4	-	-	-	<4	-	-	-	-	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)	-	<7	-	-	-	<7	-	-	-	-	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)	-	<7	-	-	-	<7	-	-	-	-	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	-	<19	-	-	-	<19	-	-	-	-	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)	-	<0.1	-	-	-	<0.1	-	-	-	-	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)	-	<0.1	-	-	-	<0.1	-	-	-	-	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)	-	<0.1	-	-	-	<0.1	-	-	-	-	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)	-	<0.2	-	-	-	<0.2	-	-	-	-	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)	-	<4	-	-	-	<4	-	-	-	-	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)	-	<7	-	-	-	<7	-	-	-	-	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)	-	<7	-	-	-	<7	-	-	-	-	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR)	-	<19	-	-	-	<19	-	-	-	-	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	-	<38	-	-	-	<38	-	-	-	-	<38	mg/kg	TM5/TM36/PM8/PM12/PM16
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext)	0.0082	0.0161	0.0287	0.0115	0.0207	0.0220	0.0230	0.0184	0.0141	0.0995	<0.0015	g/l	TM38/PM20
Organic Matter	<0.2	0.6	0.6	1.2	1.2	0.3	2.2	0.2	<0.2	0.8	<0.2	%	TM21/PM24
pH	8.80	7.22	7.59	6.84	5.89	6.93	6.53	6.20	7.65	10.20	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White
EMT Job No: 22/4931

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	29-31	32-34	35-37	38-41	42-44	45-47	48-50	51-53	54	55	LOD/LOR	Units	Method No.
Sample ID	WS11	WS12	WS13	WS14	WS15	WS16	WS17	WS18	WS15	WS02			
Depth	0.20	0.60	0.50	0.20	0.60	0.25	0.30	0.60	1.70	1.50			
COC No / misc													
Containers	V J B	V J B	V J T	V J T	V J T	V J T	V J T	V J B	T	T			
Sample Date	15/03/2022	15/03/2022	16/03/2022	16/03/2022	16/03/2022	16/03/2022	16/03/2022	17/03/2022	18/03/2022	15/03/2022			
Sample Type	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022			
Arsenic	7.7	21.9	6.7	6.4	8.9	5.9	0.8	4.9	-	-	<0.5	mg/kg	TM30/PM15
Cadmium	<0.1	<0.1	<0.1	<0.1	0.3	0.1	<0.1	<0.1	-	-	<0.1	mg/kg	TM30/PM15
Chromium	39.0	54.3	40.9	108.7	54.9	69.2	130.7	94.6	-	-	<0.5	mg/kg	TM30/PM15
Copper	46	19	23	12	54	34	45	34	-	-	<1	mg/kg	TM30/PM15
Lead	9	23	163	20	355	23	<5	10	-	-	<5	mg/kg	TM30/PM15
Mercury	0.1	<0.1	<0.1	<0.1	0.2	0.1	0.1	0.2	-	-	<0.1	mg/kg	TM30/PM15
Nickel	31.3	26.2	11.3	19.7	16.6	24.9	31.2	24.0	-	-	<0.7	mg/kg	TM30/PM15
Selenium	1	2	<1	1	<1	<1	1	1	-	-	<1	mg/kg	TM30/PM15
Zinc	100	62	118	75	154	108	59	56	-	-	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene	<0.04	<0.04	0.18	<0.04	<0.04	<0.40$_{AA}$	<0.04	<0.04	-	-	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.30$_{AA}$	<0.03	<0.03	-	-	<0.03	mg/kg	TM4/PM8
Acenaphthene	<0.05	<0.05	0.47	<0.05	<0.05	<0.50$_{AA}$	<0.05	<0.05	-	-	<0.05	mg/kg	TM4/PM8
Fluorene	<0.04	<0.04	0.55	<0.04	<0.04	<0.40$_{AA}$	<0.04	<0.04	-	-	<0.04	mg/kg	TM4/PM8
Phenanthrene	<0.03	<0.03	3.98	0.07	0.11	0.96$_{AA}$	<0.03	<0.03	-	-	<0.03	mg/kg	TM4/PM8
Anthracene	<0.04	<0.04	0.83	<0.04	0.04	0.66$_{AA}$	<0.04	<0.04	-	-	<0.04	mg/kg	TM4/PM8
Fluoranthene	<0.03	<0.03	2.89	0.15	0.24	3.68$_{AA}$	<0.03	0.05	-	-	<0.03	mg/kg	TM4/PM8
Pyrene	<0.03	<0.03	3.01	0.15	0.21	3.86$_{AA}$	<0.03	0.05	-	-	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene	<0.06	<0.06	1.11	0.08	0.13	2.14$_{AA}$	<0.06	<0.06	-	-	<0.06	mg/kg	TM4/PM8
Chrysene	<0.02	<0.02	1.43	0.10	0.15	2.07$_{AA}$	<0.02	0.04	-	-	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene	<0.07	<0.07	1.99	0.16	0.24	5.59$_{AA}$	<0.07	0.07	-	-	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene	<0.04	<0.04	1.36	0.09	0.13	3.25$_{AA}$	<0.04	<0.04	-	-	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene	<0.04	<0.04	0.95	0.07	0.10	2.46$_{AA}$	<0.04	<0.04	-	-	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene	<0.04	<0.04	0.20	<0.04	<0.04	0.49$_{AA}$	<0.04	<0.04	-	-	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene	<0.04	<0.04	1.05	0.07	0.10	2.24$_{AA}$	<0.04	<0.04	-	-	<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6	20.0	0.9	1.5	27.4$_{AA}$	<0.6	<0.6	-	-	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	1.43	0.12	0.17	4.02$_{AA}$	<0.05	0.05	-	-	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.56	0.04	0.07	1.57$_{AA}$	<0.02	<0.02	-	-	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	96	89	93	89	95	93$_{AA}$	98	95	-	-	<0	%	TM4/PM8
Methyl Tertiary Butyl Ether	<2	-	<2	<2	-	-	-	-	-	-	<2	ug/kg	TM15/PM10
Benzene	<3	-	<3	<3	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Toluene	<3	-	<3	4	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Ethylbenzene	<3	-	<3	5	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
m/p-Xylene	<5	-	<5	8	-	-	-	-	-	-	<5	ug/kg	TM15/PM10
o-Xylene	<3	-	<3	4	-	-	-	-	-	-	<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	104	-	93	84	-	-	-	-	-	-	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	100	-	82	76	-	-	-	-	-	-	<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White
EMT Job No: 22/4931

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	29-31	32-34	35-37	38-41	42-44	45-47	48-50	51-53	54	55	LOD/LOR	Units	Method No.
Sample ID	WS11	WS12	WS13	WS14	WS15	WS16	WS17	WS18	WS15	WS02			
Depth	0.20	0.60	0.50	0.20	0.60	0.25	0.30	0.60	1.70	1.50			
COC No / misc													
Containers	V J B	V J B	V J T	V J T	V J T	V J T	V J T	V J B	T	T			
Sample Date	15/03/2022	15/03/2022	16/03/2022	16/03/2022	16/03/2022	16/03/2022	16/03/2022	17/03/2022	18/03/2022	15/03/2022			
Sample Type	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022			
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	-	<0.1	0.2	-	-	-	-	-	-	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)	<0.2	-	<0.2	<0.2	-	-	-	-	-	-	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)	<4	-	<4	<4	-	-	-	-	-	-	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)	<7	-	<7	<7	-	-	-	-	-	-	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)	<7	-	34	82	-	-	-	-	-	-	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19	-	34	82	-	-	-	-	-	-	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)	<0.2	-	<0.2	<0.2	-	-	-	-	-	-	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)	<4	-	<4	<4	-	-	-	-	-	-	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)	<7	-	14	<7	-	-	-	-	-	-	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)	<7	-	79	89	-	-	-	-	-	-	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR)	<19	-	93	89	-	-	-	-	-	-	<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	<38	-	127	171	-	-	-	-	-	-	<38	mg/kg	TM5/TM36/PM8/PM12/PM16
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext)	0.0209	<0.0015	1.4221	0.2586	1.4571	0.3505	0.0173	0.0171	0.0940	0.0079	<0.0015	g/l	TM38/PM20
Organic Matter	<0.2	0.5	0.9	0.4	0.8	5.4	<0.2	<0.2	-	-	<0.2	%	TM21/PM24
pH	9.85	7.19	7.94	8.46	8.09	7.98	9.23	8.90	7.33	7.62	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White
EMT Job No: 22/4931

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	56	57	58	59	60							
Sample ID	WS07	WS05	WS13	WS14	WS17							
Depth	1.70	2.00	1.00	1.50	1.80							
COC No / misc												
Containers	T	T	T	T	T							
Sample Date	17/03/2022	17/03/2022	<>	17/03/2022	16/03/2022							
Sample Type	Solid	Solid	Solid	Solid	Solid							
Batch Number	1	1	1	1	1							
Date of Receipt	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Arsenic	-	-	-	-	-						<0.5	mg/kg	TM30/PM15
Cadmium	-	-	-	-	-						<0.1	mg/kg	TM30/PM15
Chromium	-	-	-	-	-						<0.5	mg/kg	TM30/PM15
Copper	-	-	-	-	-						<1	mg/kg	TM30/PM15
Lead	-	-	-	-	-						<5	mg/kg	TM30/PM15
Mercury	-	-	-	-	-						<0.1	mg/kg	TM30/PM15
Nickel	-	-	-	-	-						<0.7	mg/kg	TM30/PM15
Selenium	-	-	-	-	-						<1	mg/kg	TM30/PM15
Zinc	-	-	-	-	-						<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene	-	-	-	-	-						<0.04	mg/kg	TM4/PM8
Acenaphthylene	-	-	-	-	-						<0.03	mg/kg	TM4/PM8
Acenaphthene	-	-	-	-	-						<0.05	mg/kg	TM4/PM8
Fluorene	-	-	-	-	-						<0.04	mg/kg	TM4/PM8
Phenanthrene	-	-	-	-	-						<0.03	mg/kg	TM4/PM8
Anthracene	-	-	-	-	-						<0.04	mg/kg	TM4/PM8
Fluoranthene	-	-	-	-	-						<0.03	mg/kg	TM4/PM8
Pyrene	-	-	-	-	-						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene	-	-	-	-	-						<0.06	mg/kg	TM4/PM8
Chrysene	-	-	-	-	-						<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene	-	-	-	-	-						<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene	-	-	-	-	-						<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene	-	-	-	-	-						<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene	-	-	-	-	-						<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene	-	-	-	-	-						<0.04	mg/kg	TM4/PM8
PAH 16 Total	-	-	-	-	-						<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	-	-	-	-	-						<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	-	-	-	-	-						<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	-	-	-	-	-						<0	%	TM4/PM8
Methyl Tertiary Butyl Ether	-	-	-	-	-						<2	ug/kg	TM15/PM10
Benzene	-	-	-	-	-						<3	ug/kg	TM15/PM10
Toluene	-	-	-	-	-						<3	ug/kg	TM15/PM10
Ethylbenzene	-	-	-	-	-						<3	ug/kg	TM15/PM10
m/p-Xylene	-	-	-	-	-						<5	ug/kg	TM15/PM10
o-Xylene	-	-	-	-	-						<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-	-	-	-						<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	-	-	-	-						<0	%	TM15/PM10

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White
EMT Job No: 22/4931

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	56	57	58	59	60						LOD/LOR	Units	Method No.
Sample ID	WS07	WS05	WS13	WS14	WS17								
Depth	1.70	2.00	1.00	1.50	1.80								
COC No / misc													
Containers	T	T	T	T	T								
Sample Date	17/03/2022	17/03/2022	<>	17/03/2022	16/03/2022								
Sample Type	Solid	Solid	Solid	Solid	Solid								
Batch Number	1	1	1	1	1								
Date of Receipt	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022								
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)	-	-	-	-	-						<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)	-	-	-	-	-						<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	-	-	-	-	-						<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)	-	-	-	-	-						<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)	-	-	-	-	-						<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)	-	-	-	-	-						<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)	-	-	-	-	-						<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	-	-	-	-	-						<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)	-	-	-	-	-						<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)	-	-	-	-	-						<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)	-	-	-	-	-						<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)	-	-	-	-	-						<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)	-	-	-	-	-						<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)	-	-	-	-	-						<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)	-	-	-	-	-						<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR)	-	-	-	-	-						<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	-	-	-	-	-						<38	mg/kg	TM5/TM36/PM8/PM12/PM16
Hexavalent Chromium	-	-	-	-	-						<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext)	0.0293	0.0066	0.0318	0.0176	0.0439						<0.0015	g/l	TM38/PM20
Organic Matter	-	-	-	-	-						<0.2	%	TM21/PM24
pH	6.90	6.42	7.20	6.93	7.05						<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White
EMT Job No: 22/4931

SVOC Report : **Solid**

EMT Sample No.	4-6	15-17	29-31	35-37	38-41						LOD/LOR	Units	Method No.
Sample ID	WS02	WS06	WS11	WS13	WS14								
Depth	0.50	0.60	0.20	0.50	0.20								
COC No / misc													
Containers	V J T	V J B	V J B	V J T	V J T								
Sample Date	15/03/2022	17/03/2022	15/03/2022	16/03/2022	16/03/2022								
Sample Type	Solid	Solid	Solid	Solid	Solid								
Batch Number	1	1	1	1	1								
Date of Receipt	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022								
SVOC MS													
Phenols													
2-Chlorophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2-Methylphenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2,4-Dichlorophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<10	<10	16	<10						<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Methylphenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Phenol	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2-Methylnaphthalene	<10	<10	<10	71	<10						<10	ug/kg	TM16/PM8
Naphthalene	<10	<10	<10	87	<10						<10	ug/kg	TM16/PM8
Acenaphthylene	<10	<10	<10	80	<10						<10	ug/kg	TM16/PM8
Acenaphthene	<10	<10	<10	200	<10						<10	ug/kg	TM16/PM8
Fluorene	<10	<10	<10	206	21						<10	ug/kg	TM16/PM8
Phenanthrene	<10	<10	<10	2013	76						<10	ug/kg	TM16/PM8
Anthracene	<10	<10	<10	582	33						<10	ug/kg	TM16/PM8
Fluoranthene	<10	<10	<10	4122	181						<10	ug/kg	TM16/PM8
Pyrene	<10	<10	<10	4123	187						<10	ug/kg	TM16/PM8
Benzo(a)anthracene	<10	<10	<10	2071	119						<10	ug/kg	TM16/PM8
Chrysene	<10	<10	<10	1953	98						<10	ug/kg	TM16/PM8
Benzo(bk)fluoranthene	<10	<10	<10	3391	175						<10	ug/kg	TM16/PM8
Benzo(a)pyrene	<10	<10	<10	2277	104						<10	ug/kg	TM16/PM8
Indeno(123cd)pyrene	<10	<10	<10	1147	56						<10	ug/kg	TM16/PM8
Dibenzo(ah)anthracene	<10	<10	<10	386	25						<10	ug/kg	TM16/PM8
Benzo(ghi)perylene	<10	<10	<10	1246	69						<10	ug/kg	TM16/PM8
Benzo(b)fluoranthene	<10	<10	<10	2442	126						<10	ug/kg	TM16/PM8
Benzo(k)fluoranthene	<10	<10	<10	949	49						<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	<100	<100	<100	<100	561						<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<100	<100	<100	<100						<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100	<100	<100	<100	<100						<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<100	<100	<100	<100						<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<100	<100	<100	<100						<100	ug/kg	TM16/PM8
Dimethyl phthalate	<100	<100	<100	<100	<100						<100	ug/kg	TM16/PM8

Please see attached notes for all abbreviations and acronyms

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White
EMT Job No: 22/4931

SVOC Report : **Solid**

EMT Sample No.	4-6	15-17	29-31	35-37	38-41						LOD/LOR	Units	Method No.
Sample ID	WS02	WS06	WS11	WS13	WS14								
Depth	0.50	0.60	0.20	0.50	0.20								
COC No / misc													
Containers	V J T	V J B	V J B	V J T	V J T								
Sample Date	15/03/2022	17/03/2022	15/03/2022	16/03/2022	16/03/2022								
Sample Type	Solid	Solid	Solid	Solid	Solid								
Batch Number	1	1	1	1	1								
Date of Receipt	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022								
SVOC MS													
Other SVOCs													
1,2-Dichlorobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Bromophenylphenylether	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Azobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Carbazole	<10	<10	<10	218	<10						<10	ug/kg	TM16/PM8
Dibenzofuran	<10	<10	<10	89	11						<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Hexachlorobutadiene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Isophorone	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Nitrobenzene	<10	<10	<10	<10	<10						<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	110	113	114	113	112						<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	108	112	111	120	119						<0	%	TM16/PM8

Please see attached notes for all abbreviations and acronyms

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White
EMT Job No: 22/4931

VOC Report : **Solid**

EMT Sample No.	4-6	15-17	29-31	35-37	38-41							
Sample ID	WS02	WS06	WS11	WS13	WS14							
Depth	0.50	0.60	0.20	0.50	0.20							
COC No / misc												
Containers	V J T	V J B	V J B	V J T	V J T							
Sample Date	15/03/2022	17/03/2022	15/03/2022	16/03/2022	16/03/2022							
Sample Type	Solid	Solid	Solid	Solid	Solid							
Batch Number	1	1	1	1	1							
Date of Receipt	26/03/2022	26/03/2022	26/03/2022	26/03/2022	26/03/2022							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2	<2						<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether	<2	<2	<2	<2	<2						<2	ug/kg	TM15/PM10
Chloromethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2	<2						<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1	<1	<1						<1	ug/kg	TM15/PM10
Chloroethane	<2	<2	<2	<2	<2						<2	ug/kg	TM15/PM10
Trichlorofluoromethane	<2	<2	<2	<2	<2						<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE)	<6	<6	<6	<6	<6						<6	ug/kg	TM15/PM10
Dichloromethane (DCM)	<7	<7	<7	<7	<7						<7	ug/kg	TM15/PM10
trans-1-2-Dichloroethene	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1-Dichloroethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
Bromochloromethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Chloroform	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1-Dichloropropene	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Carbon tetrachloride	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
1,2-Dichloroethane	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
Benzene	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Trichloroethene (TCE)	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,2-Dichloropropane	<6	<6	<6	<6	<6						<6	ug/kg	TM15/PM10
Dibromomethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Bromodichloromethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
Toluene	<3	<3	<3	<3	4						<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE)	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,3-Dichloropropane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Dibromochloromethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,2-Dibromoethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Chlorobenzene	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Ethylbenzene	<3	<3	<3	<3	5						<3	ug/kg	TM15/PM10
m/p-Xylene	<5	<5	<5	<5	8						<5	ug/kg	TM15/PM10
o-Xylene	<3	<3	<3	<3	4						<3	ug/kg	TM15/PM10
Styrene	<3	<3	<3	<3	<3						<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Isopropylbenzene	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2	<2						<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
Propylbenzene	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene	<3	<3	<3	<3	4						<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3	<3						<3	ug/kg	TM15/PM10
tert-Butylbenzene	<5	<5	<5	<5	<5						<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene	<6	<6	<6	<6	14						<6	ug/kg	TM15/PM10
sec-Butylbenzene	<4	<4	<4	<4	5						<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene	<4	<4	<4	<4	92						<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	<4	<4	<4	11						<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7	<7	<7	<7						<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4	<4	<4						<4	ug/kg	TM15/PM10
Naphthalene	<27	<27	<27	<27	<27						<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7	<7	<7	<7						<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	102	103	104	93	84						<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	101	95	100	82	76						<0	%	TM15/PM10

Client Name: Groundtech Consulting Limited

Reference: GRO-22013

Location: Gwynedd skip

Contact: Adam White

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
22/4931	1	WS02	0.50	4-6	No interpretation possible
22/4931	1	WS06	0.60	15-17	No interpretation possible
22/4931	1	WS11	0.20	29-31	No interpretation possible
22/4931	1	WS13	0.50	35-37	PAH's & Possible trace of lubricating oil
22/4931	1	WS14	0.20	38-41	Possible lubricating oil

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
22/4931	1	WS01	0.20	3	Simon Postlewhite	04/04/2022	**General Description (Bulk Analysis)**	Soil/Stones
					Simon Postlewhite	04/04/2022	**Asbestos Fibres**	NAD
					Simon Postlewhite	04/04/2022	**Asbestos ACM**	NAD
					Simon Postlewhite	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS02	0.50	6	Simon Postlewhite	04/04/2022	**General Description (Bulk Analysis)**	Soil/Stones
					Simon Postlewhite	04/04/2022	**Asbestos Fibres**	NAD
					Simon Postlewhite	04/04/2022	**Asbestos ACM**	NAD
					Simon Postlewhite	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS03	0.50	9	Simon Postlewhite	04/04/2022	**General Description (Bulk Analysis)**	Soil/Stones
					Simon Postlewhite	04/04/2022	**Asbestos Fibres**	NAD
					Simon Postlewhite	04/04/2022	**Asbestos ACM**	NAD
					Simon Postlewhite	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS04	0.80	11	Andrew Alker	04/04/2022	**General Description (Bulk Analysis)**	soil
					Andrew Alker	04/04/2022	**Asbestos Fibres**	NAD
					Andrew Alker	04/04/2022	**Asbestos ACM**	NAD
					Andrew Alker	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS05	0.20	14	Catherine Coles	04/04/2022	**General Description (Bulk Analysis)**	soil/stone
					Catherine Coles	04/04/2022	**Asbestos Fibres**	NAD
					Catherine Coles	04/04/2022	**Asbestos ACM**	NAD
					Catherine Coles	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS06	0.60	17	Matthew Turner	05/04/2022	**General Description (Bulk Analysis)**	Soil/Stone
					Matthew Turner	05/04/2022	**Asbestos Fibres**	NAD
					Matthew Turner	05/04/2022	**Asbestos ACM**	NAD
					Matthew Turner	05/04/2022	**Asbestos Type**	NAD
22/4931	1	WS07	0.20	20	Catherine Coles	04/04/2022	**General Description (Bulk Analysis)**	soil/stone
					Catherine Coles	04/04/2022	**Asbestos Fibres**	NAD
					Catherine Coles	04/04/2022	**Asbestos ACM**	NAD
					Catherine Coles	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS08	0.20	22	Matthew Turner	05/04/2022	**General Description (Bulk Analysis)**	Soil/Stone
					Matthew Turner	05/04/2022	**Asbestos Fibres**	NAD
					Matthew Turner	05/04/2022	**Asbestos ACM**	NAD
					Matthew Turner	05/04/2022	**Asbestos Type**	NAD

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
22/4931	1	WS09	0.60	25	Catherine Coles	04/04/2022	**General Description (Bulk Analysis)**	soil/stone
					Catherine Coles	04/04/2022	**Asbestos Fibres**	NAD
					Catherine Coles	04/04/2022	**Asbestos ACM**	NAD
					Catherine Coles	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS10	0.50	28	Matthew Turner	05/04/2022	**General Description (Bulk Analysis)**	Soil/Stone
					Matthew Turner	05/04/2022	**Asbestos Fibres**	NAD
					Matthew Turner	05/04/2022	**Asbestos ACM**	NAD
					Matthew Turner	05/04/2022	**Asbestos Type**	NAD
22/4931	1	WS11	0.20	31	Matthew Turner	05/04/2022	**General Description (Bulk Analysis)**	Soil/Stone
					Matthew Turner	05/04/2022	**Asbestos Fibres**	NAD
					Matthew Turner	05/04/2022	**Asbestos ACM**	NAD
					Matthew Turner	05/04/2022	**Asbestos Type**	NAD
22/4931	1	WS12	0.60	34	Matthew Turner	05/04/2022	**General Description (Bulk Analysis)**	Soil/Stone
					Matthew Turner	05/04/2022	**Asbestos Fibres**	NAD
					Matthew Turner	05/04/2022	**Asbestos ACM**	NAD
					Matthew Turner	05/04/2022	**Asbestos Type**	NAD
22/4931	1	WS13	0.50	37	Anthony Carman	04/04/2022	**General Description (Bulk Analysis)**	Soil/Stones
					Anthony Carman	04/04/2022	**Asbestos Fibres**	NAD
					Anthony Carman	04/04/2022	**Asbestos ACM**	NAD
					Anthony Carman	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS14	0.20	40	Anthony Carman	04/04/2022	**General Description (Bulk Analysis)**	Soil/Stones
					Anthony Carman	04/04/2022	**Asbestos Fibres**	NAD
					Anthony Carman	04/04/2022	**Asbestos ACM**	NAD
					Anthony Carman	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS15	0.60	44	Anthony Carman	04/04/2022	**General Description (Bulk Analysis)**	Soil/Stones
					Anthony Carman	04/04/2022	**Asbestos Fibres**	Fibre Bundles
					Anthony Carman	04/04/2022	**Asbestos ACM**	ACM Debris
					Anthony Carman	04/04/2022	**Asbestos Type**	Chrysotile
22/4931	1	WS16	0.25	47	Andrew Alker	04/04/2022	**General Description (Bulk Analysis)**	soil/stone
					Andrew Alker	04/04/2022	**Asbestos Fibres**	NAD
					Andrew Alker	04/04/2022	**Asbestos ACM**	NAD
					Andrew Alker	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS17	0.30	50	Andrew Alker	04/04/2022	**General Description (Bulk Analysis)**	soil/stone
					Andrew Alker	04/04/2022	**Asbestos Fibres**	NAD
					Andrew Alker	04/04/2022	**Asbestos ACM**	NAD
					Andrew Alker	04/04/2022	**Asbestos Type**	NAD
22/4931	1	WS18	0.60	53	Matthew Turner	05/04/2022	**General Description (Bulk Analysis)**	Soil/Stone
					Matthew Turner	05/04/2022	**Asbestos Fibres**	NAD
					Matthew Turner	05/04/2022	**Asbestos ACM**	NAD
					Matthew Turner	05/04/2022	**Asbestos Type**	NAD

Client Name: Groundtech Consulting Limited
Reference: GRO-22013
Location: Gwynedd skip
Contact: Adam White

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 22/4931						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

EMT Job No.: 22/4931

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x10 Dilution

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 22/4931

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AD	Yes

EMT Job No: 22/4931

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.			AR	No
TM15_A	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds, Vinyl Chloride & Styrene by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

APPENDIX 9 - Geotechnical Testing Results

LABORATORY REPORT

4043

Contract Number: PSL22/2998

Report Date: 04 May 2022

Client's Reference: GRO-22013

Client Name: Groundtech Consulting
First Floor
Lloyd House
Orford Court
Greenfold Way
WN7 3XJ

For the attention of: Adam White

Contract Title: Gwynedd Skips

Date Received: 26/4/2022
Date Commenced: 26/4/2022
Date Completed: 4/5/2022

Notes: Opinions and Interpretations are outside the UKAS Accreditation

Checked and Approved Signatories:

A Watkins (Director)	R Berriman (Quality Manager)	S Royle (Laboratory Manager)
L Knight (Assistant Laboratory Manager)	S Eyre (Senior Technician)	T Watkins (Senior Technician)

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e-mail: rgunson@prosoils.co.uk
awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
CP02		D	3.00		Brown very gravelly very sandy CLAY.
CP03		D	4.00		Brown sandy slightly clayey GRAVEL.
CP04		B	2.50	3.00	Brown gravelly very sandy CLAY.
CP05		B	2.50	3.00	Brown very sandy clayey GRAVEL of cobbles.
WS04		D	1.50		Brown slightly gravelly sandy CLAY.
WS06		D	1.00		Brown mottled grey gravelly sandy CLAY.
CP02		U	2.00	2.45	Soft brown gravelly very sandy CLAY.
CP03		U	3.00	3.45	Brown slightly gravelly slightly sandy CLAY.
CP03		U	5.00	5.45	Brown slightly gravelly slightly sandy CLAY.
CP02		B	4.00		Brown sandy very clayey GRAVEL of cobbles.

SUMMARY OF SOIL CLASSIFICATION TESTS

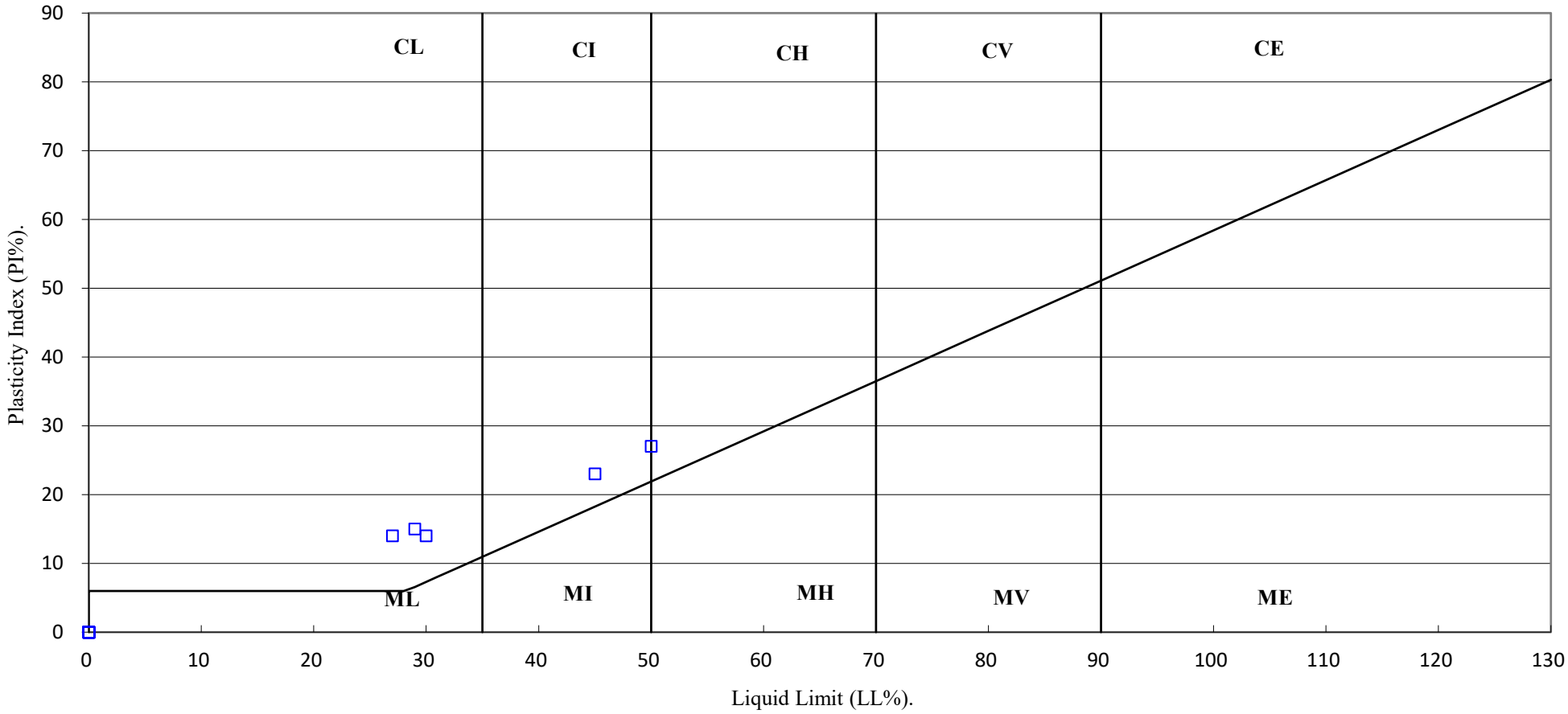
(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
CP02		D	3.00		14			27	13	14	58	Low Plasticity CL
CP03		D	4.00		1.9				NP			
CP04		B	2.50	3.00	10			29	14	15	82	Low Plasticity CL
CP05		B	2.50	3.00	12			30	16	14	38	Low Plasticity CL
WS04		D	1.50		25			50	23	27	93	High Plasticity CH
WS06		D	1.00		15			45	22	23	74	Intermediate Plasticity CI

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043	PSL Professional Soils Laboratory	**Gwynedd Skips**	**Contract No:** PSL22/2998 **Client Ref:** GRO-22013

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL Professional Soils Laboratory	Gwynedd Skips	Contract No: PSL22/2998 Client Ref: GRO-22013

PARTICLE SIZE DISTRIBUTION TEST

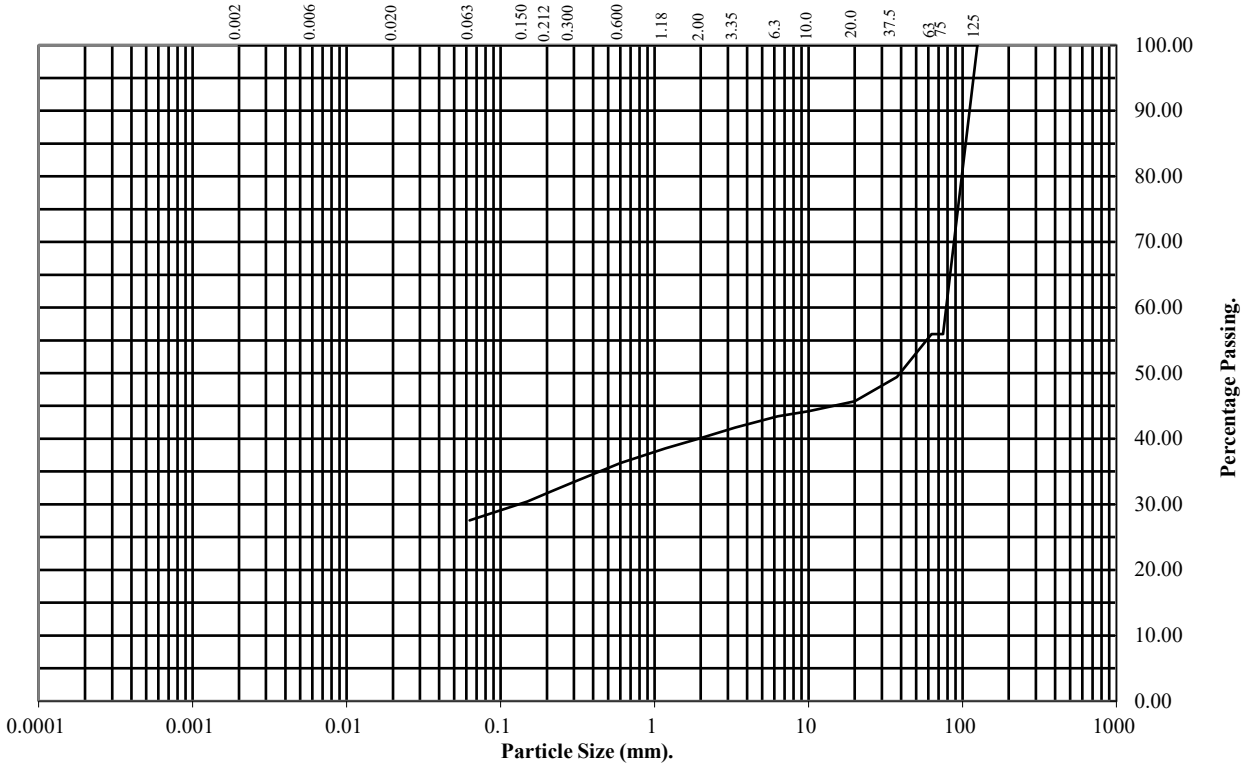
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: CP02 **Top Depth (m):** 4.00

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	56
63	56
37.5	49
20	46
10	44
6.3	43
3.35	42
2	40
1.18	39
0.6	36
0.3	33
0.212	32
0.15	30
0.063	28

Soil Fraction	Total Percentage
Cobbles	44
Gravel	16
Sand	12
Silt/Clay	28

Remarks:

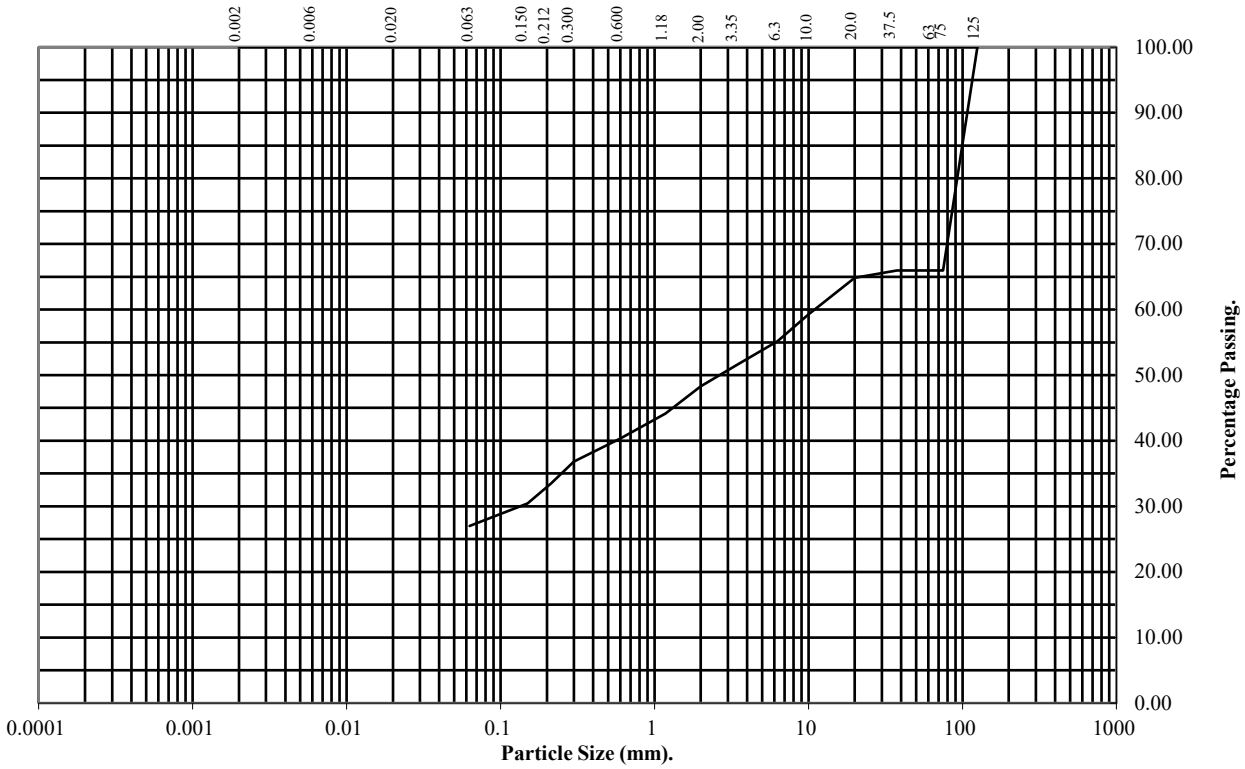
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number:	**CP05**	**Top Depth (m):**	**2.50**
Sample Number:		**Base Depth(m):**	**3.00**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	66
63	66
37.5	66
20	65
10	59
6.3	55
3.35	51
2	48
1.18	44
0.6	40
0.3	37
0.212	33
0.15	30
0.063	27

Soil Fraction	Total Percentage
Cobbles	34
Gravel	18
Sand	21
Silt/Clay	27

Remarks:

See Summary of Soil Descriptions

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

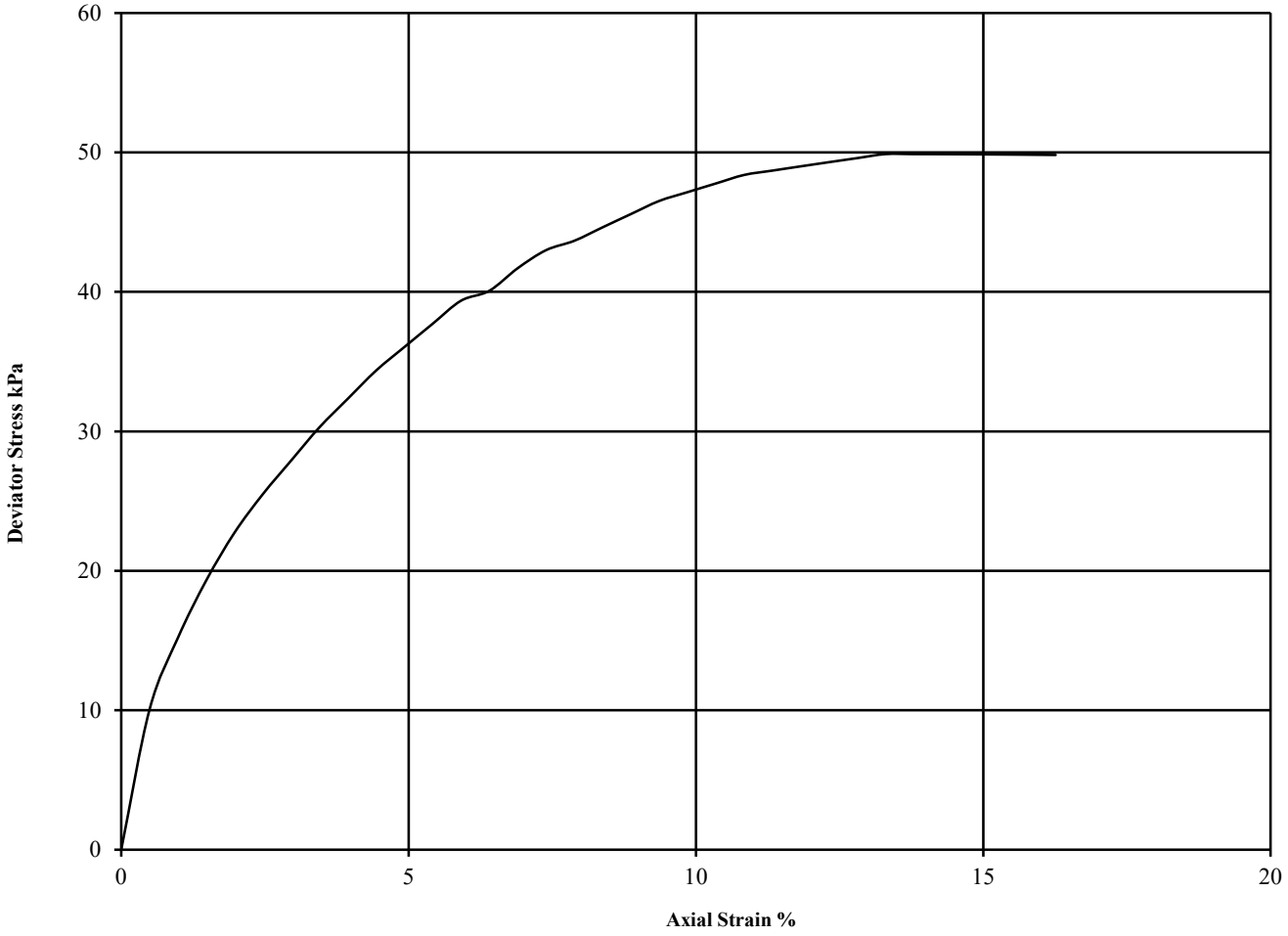
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: CP02 **Top Depth (m):** 2.00

Sample Number: **Base Depth (m):** 2.45

Sample Type U



Diameter (mm):		102	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.35
1	13	2.28	2.01	40	50	25	13.3	Plastic	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Gwynedd Skips

Contract No: PSL22/2998

Client Ref: GRO-22013

SUMMARY OF LABORATORY HAND VANES

(BS1377 : PART 7 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content %	Peak Shear Strength kPa	Residual Shear Strength kPa	Remarks
CP03		U	3.00	3.45	16	62		
CP03		U	5.00	5.45	12	>150		

* This test is out of our UKAS scope

PSL Professional Soils Laboratory	Gwynedd Skips	Contract No:
		PSL22/2998
		Client Ref:
		GRO-22013

APPENDIX 10 - Permanent Ground Gas Monitoring Results

PERMANENT GROUND GAS MONITORING FORM

GROUNDTECH CONSULTING

SITE NAME:	*GWYNEDD SKIPS*	***ENGINEER:***	*Josh Turton*
CLIENT:	*GWYNEDD HOLDINGS LIMITED*	***DATE:***	*13/04/2022*
JOB NO:	*GRO-22013*		

Pressure Trend:	*Rising*	***Weather:***	*Overcast*	***Equipment:***	*GFM 436*

Ambient:	O_2 (%v/v)	CH_4 (%v/v)	CO_2 (%v/v)	LEL	H_2S (ppm)	CO (ppm)
Start	20.3	0.0	0.0	0.0	0.0	0.0
Finish	20.4	0.0	0.0	0.0	0.0	0.0

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q_{hg} CO_2 (l/hr)	Q_{hg} CH_4 (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP05	0.0	0.0	0.00	0.0	0.0	0.0	0.1	0.1	20.3	20.3	0.0	0.0	0.0	0.0	0.0001	0.0000	1009	-	N	NA
WS04	0.0	0.0	0.00	0.0	0.0	0.0	2.0	0.7	17.2	19.9	0.0	0.0	0.0	0.0	0.0020	0.0000	1009	-	N	NGW
WS06	0.0	0.0	0.00	0.0	0.0	0.0	9.6	7.9	0.1	4.3	0.0	0.0	0.0	0.0	0.0096	0.0000	1009	-	N	1.40
WS08	0.0	0.0	0.00	0.0	0.0	0.0	2.4	1.8	18.2	19.0	0.0	0.0	0.0	0.0	0.0024	0.0000	1009	-	N	1.90
WS09	0.0	0.0	0.00	0.9	0.8	18.0	5.1	5.1	0.0	0.6	0.0	0.0	0.0	0.0	0.0051	0.0009	1009	-	N	1.34
WS13	0.0	0.0	0.00	0.0	0.0	0.0	2.8	1.7	16.5	18.5	0.0	0.0	0.0	0.0	0.0028	0.0000	1009	-	N	1.16
WS15	0.0	0.0	0.00	0.0	0.0	0.0	2.7	1.9	15.4	17.5	0.0	0.0	0.0	0.0	0.0027	0.0000	1009	-	N	0.63

Notes:

APPENDIX 11 - Commercial End Use Screening Values

Generic Tier I Generic Assessment Criteria (GAC)

Proposed End Use	Unit	Residential with Plant Uptake			Commercial			Source
SOM	%	1	2.5	6	1	2.5	6	
Arsenic	mg/kg	32	32	32	640	640	640	SGVs
Beryllium	mg/kg	1.7	1.7	1.7	12	12	12	LQM S4ULs
Boron (water soluble)	mg/kg	290	290	290	240000	240000	240000	LQM S4ULs
Cadmium	mg/kg	10	10	10	230	230	230	SGVs
Chromium (Total)	mg/kg	910	910	910	8600	8600	8600	LQM S4ULs
Chromium (VI)	mg/kg	21	21	21	49	49	49	DEFRA C4SLs
Copper	mg/kg	2400	2400	2400	68000	68000	68000	LQM S4ULs
Lead	mg/kg	200	200	200	2300	2300	2300	DEFRA C4SLs
Organic Mercury	mg/kg	1.2	1.2	1.2	26	26	26	LQM S4ULs
Nickel	mg/kg	130	130	130	980	980	980	LQM S4ULs
Selenium	mg/kg	350	350	350	13000	13000	13000	SGVs
Vanadium	mg/kg	410	410	410	9000	9000	9000	LQM S4ULs
Zinc	mg/kg	3700	3700	3700	730000	730000	730000	LQM S4ULs
Aliphatic EC 5 - 6	mg/kg	42	78	160	3200 (304) sol	5900 (558) sol	12000 (1150) sol	LQM S4ULs
Aliphatic EC 6 - 8	mg/kg	100	230	530	7800 (144) sol	17000 (322) sol	40000 (736) sol	LQM S4ULs
Aliphatic EC 8 - 10	mg/kg	27	65	150	2000 (78) sol	4800 (190) sol	11000 (451) vap	LQM S4ULs
Aliphatic EC 10 - 12	mg/kg	130 (48) vap	330 (118) vap	760 (283) vap	9700 (48) sol	23000 (118) vap	47000 (283) vap	LQM S4ULs
Aliphatic EC 12 - 16	mg/kg	1100 (24) sol	2400 (59) sol	4300 (142) sol	59000 (24) sol	82000 (59) sol	90000 (142) sol	LQM S4ULs
Aliphatic EC 16 - 35	mg/kg	65000 (8.48) f,sol	92000 (21) f,sol	110000 f	1600000 f	1700000 f	1800000 f	LQM S4ULs
Aliphatic EC 35 - 44	mg/kg	65000 (8.48) f,sol	92000 (21) f,sol	110000 f	1600000 f	1700000 f	1800000 f	LQM S4ULs
Aromatic EC 5 - 7	mg/kg	70	140	300	26000 (1220) sol	46000 (2260) sol	86000 (4710) sol	LQM S4ULs
Aromatic EC 7 - 8	mg/kg	130	290	660	56000 (869) vap	110000 (1920)	180000 (4360)	LQM S4ULs
Aromatic EC 8 - 10	mg/kg	34	83	190	3500 (613) vap	8100 (1500) vap	17000 (3580)	LQM S4ULs
Aromatic EC 10 - 12	mg/kg	74	180	380	16000 (364) sol	28000 (899) sol	34000 (2150) sol	LQM S4ULs
Aromatic EC 12 -16	mg/kg	140	330	660	36000 (169) sol	37000	38000	LQM S4ULs
Aromatic EC 16 - 21	mg/kg	260 f	540 f	930 f	28000 f	28000 f	28000 f	LQM S4ULs
Aromatic EC 21 - 35	mg/kg	1100 f	1500 f	1700 f	28000 f	28000 f	28000 f	LQM S4ULs
Aromatic EC 35 - 44	mg/kg	1100 f	1500 f	1700 f	28000 f	28000 f	28000 f	LQM S4ULs
Benzene	mg/kg	0.33	0.33	0.33	95	95	95	SGVs
Toluene	mg/kg	610	610	610	4400	4400	4400	SGVs
Ethyl Benzene	mg/kg	350	350	350	2800	2800	2800	SGVs
Xylene - o	mg/kg	250	250	250	2600	2600	2600	SGVs
Xylene - m	mg/kg	240	240	240	3500	3500	3500	SGVs
Xylene - p	mg/kg	230	230	230	3200	3200	3200	SGVs
MTBE (methyl tert-butyl ether)	mg/kg	49	84	160	7900	13000	24000	CL:AIRE 2010
Acenaphthene	mg/kg	210	510	1100	84000 (57) sol	97000 (141) sol	100000	LQM SAULs
Acenaphthylene	mg/kg	170	420	920	83000 (86.1) sol	97000 (212) sol	100000	LQM S4ULs
Anthracene	mg/kg	2400	5400	11000	520000	540000	540000	LQM S4ULs
Benz(a)anthracene	mg/kg	7.2	11	13	170	170	180	LQM S4ULs
Benzo(a)pyrene	mg/kg	2.2	2.7	5*	35	35	77*	DEFRA C4SL*/LQM
Benzo(b)fluoranthene	mg/kg	2.6	3.3	3.7	44	44	45	LQM S4ULs
Benzo(ghi)perylene	mg/kg	320	340	350	3900	4000	4000	LQM S4ULs
Benzo(k)fluoranthene	mg/kg	77	93	100	1200	1200	1200	LQM S4ULs
Chrysene	mg/kg	15	22	27	350	350	350	LQM S4ULs
Dibenz(ah)anthracene	mg/kg	0.24	0.28	0.3	3.5	3.6	3.6	LQM S4ULs
Fluoranthene	mg/kg	280	560	890	23000	23000	23000	LQM S4ULs
Fluorene	mg/kg	170	400	860	63000 (30.9) sol	68000	71000	LQM S4ULs
Indeno(123-cd)pyrene	mg/kg	27	36	41	500	510	510	LQM S4ULs
Naphthalene	mg/kg	2.3 f	5.6 f	13 f	190 f (76.4) sol	460 f (183) sol	1100 f (432) sol	LQM S4ULs
Phenanthrene	mg/kg	95	220	440	22000	22000	23000	LQM S4ULs
Pyrene	mg/kg	620	1200	2000	54000	54000	54000	LQM S4ULs

Generic Tier I Generic Assessment Criteria (GAC)

Proposed End Use	Unit	Residential with Plant Uptake			Commercial			Source
SOM	%	1	2.5	6	1	2.5	6	
Phenol	*mg/kg*	*420*	*420*	*420*	*3200*	*3200*	*3200*	*SGVs*
Chlorophenols	*mg/kg*	*0.87* [g]	*2*	*4.5*	*3500*	*4000*	*4300*	*LQM S4ULs*
Pentachlorophenol	*mg/kg*	*0.22*	*0.52*	*1.2*	*400*	*400*	*400*	*LQM S4ULs*
Carbon disulphide	*mg/kg*	*0.14*	*0.29*	*0.62*	*11*	*22*	*47*	*LQM S4ULs*
Hexachlorobutadiene	*mg/kg*	*0.29*	*0.7*	*1.6*	*31*	*66*	*120*	*LQM S4ULs*
1,1,1,2 Tetrachloroethane	*mg/kg*	*1.6*	*3.4*	*7.5*	*270*	*550*	*1100*	*LQM S4ULs*
1,1,1 Trichloroethane	*mg/kg*	*8.8*	*18*	*39*	*660*	*1300*	*3000*	*LQM S4ULs*
Trichloroethene	*mg/kg*	*0.016*	*0.034*	*0.075*	*1.2*	*2.6*	*5.7*	*LQM S4ULs*
Tetrachoromethane (Carbon Tetrachloride)	*mg/kg*	*0.026*	*0.056*	*0.13*	*2.9*	*6.3*	*14*	*LQM S4ULs*
1,2-Dichloroethane	*mg/kg*	*0.0071*	*0.011*	*0.019*	*0.67*	*0.97*	*1.7*	*LQM S4ULs*
Chloroethene (Vinyl chloride)	*mg/kg*	*0.00064*	*0.00087*	*0.0014*	*0.059*	*0.077*	*0.12*	*LQM S4ULs*
Trichloromethane (Chloroform)	*mg/kg*	*0.91*	*1.7*	*3.4*	*99*	*170*	*350*	*LQM S4ULs*
Tetrachloroethene	*mg/kg*	*0.18*	*0.39*	*0.9*	*19*	*42*	*95*	*LQM S4ULs*
Hexachlorobenzene	*mg/kg*	*1.8 (0.2)* [vap]	*3.3 (0.5)* [vap]	*4.9*	*110 (0.2)* [vap]	*120*	*120*	*LQM S4ULs*
Pentachlorobenzene	*mg/kg*	*5.8*	*12*	*22*	*640 (43)* [sol]	*770 (107)* [sol]	*830*	*LQM S4ULs*
1,2,4,5-Tetrachlorobenzene	*mg/kg*	*0.33*	*0.77*	*1.6*	*42 (19.7)* [sol]	*72 (49.1)* [sol]	*96*	*LQM S4ULs*
1,2,3,5-Tetrachlorobenzene	*mg/kg*	*0.66*	*1.69*	*3.7*	*49 (39.4)* [vap]	*120 (98.1)* [vap]	*240 (235)* [vap]	*LQM S4ULs*
1,2,3,4-Tetrachlorobenzene	*mg/kg*	*15*	*36*	*78*	*1700 (122)* [vap]	*3080 (304)* [vap]	*4400 (728)* [vap]	*LQM S4ULs*
1,3,5-Trichlorobenzene	*mg/kg*	*0.33*	*0.81*	*1.9*	*23*	*55*	*130*	*LQM S4ULs*
1,2,4-Trichlorobenzene	*mg/kg*	*2.6*	*6.4*	*15*	*220*	*530*	*1300*	*LQM S4ULs*
1,2,3-Trichlorobenzene	*mg/kg*	*1.5*	*3.6*	*8.6*	*102*	*250*	*590*	*LQM S4ULs*
1,4-dichlorobenzene	*mg/kg*	*61* [f]	*150* [f]	*350* [f]	*4400* [f] *(224)* [vap]	*10000* [f] *(540)*	*25000* [f] *(1280)*	*LQM S4ULs*
1,3-dichlorobenzene	*mg/kg*	*0.4*	*1*	*2.3*	*30*	*73*	*170*	*LQM S4ULs*
1,2-Dichlorobenzene	*mg/kg*	*23*	*55*	*130*	*2000 (571)* [sol]	*4800 (1370)* [sol]	*11000 (3240)* [sol]	*LQM S4ULs*
Chlorobenzene	*mg/kg*	*0.46*	*1*	*2.4*	*56*	*130*	*290*	*LQM S4ULs*
Gamma-Hexachlorocyclohexane	*mg/kg*	*0.06*	*0.14*	*0.33*	*67*	*69*	*70*	*LQM S4ULs*
Beta-Hexachlorocyclohexane	*mg/kg*	*0.085*	*0.2*	*0.46*	*65*	*65*	*65*	*LQM S4ULs*
Alpha -Hexachlorocyclohexane	*mg/kg*	*0.23*	*0.55*	*1.2*	*170*	*180*	*180*	*LQM S4ULs*
Beta -Endosulfan	*mg/kg*	*7*	*17*	*39*	*6300 (0.00007)*	*7800 (0.0002)*	*8700*	*LQM S4ULs*
Alpha-Endosulfan	*mg/kg*	*7.4*	*18*	*41*	*5600 (0.003)* [vap]	*7400 (0.007)* [vap]	*8400 (0.016)* [vap]	*LQM S4ULs*
Dichlorvos	*mg/kg*	*0.032*	*0.066*	*0.14*	*140*	*140*	*140*	*LQM S4ULs*
Atrazine	*mg/kg*	*3.3*	*7.6*	*17.4*	*9300*	*9400*	*9400*	*LQM S4ULs*
Dieldrin	*mg/kg*	*0.97*	*2*	*3.5*	*170*	*170*	*170*	*LQM S4ULs*
Aldrin	*mg/kg*	*5.7*	*6.6*	*7.1*	*170*	*170*	*170*	*LQM S4ULs*
HMX	*mg/kg*	*5.7*	*13*	*26*	*110000*	*110000*	*110000*	*LQM S4ULs*
2,4,6-Trinitrotoulene	*mg/kg*	*1.6*	*3.7*	*8.1*	*1000*	*1000*	*1000*	*LQM S4ULs*
RDX	*mg/kg*	*120*	*250*	*540*	*210000*	*210000*	*210000*	*LQM S4ULs*

[sol] S4UL exceeds the solubility saturation limit (which is presented in brackets)

[vap] S4ULS presented exceeds the vapour saturation limit, which is presented in brackets

[f] For naphthalene, the S4UL is based on a comparison of inhalation exposure with the TDI_{inhal} for localised affects

[f] S4UL based on comparison of inhalation exposure with inhalation TDI for localised effects

[dir] S4ULs based on a threshold protecive direct skin contact with phenol (guideline in brackets based on health effects following long term exposure provided for illustation only

APPENDIX 12 – JIWG Receptor Tool

JIWG

Joint Industry Working Group

Asbestos in Soil and Construction & Demolition Materials

Project Reference	GRO-22013
Site Name	Gwynedd Skips
Client	Gwynedd Skip & Plant Hire
Run by	LH
Date	18-May-22
Scenario details	

Decision Support Tool for CAR2012 Work Categories

Stage 1

Hazard Factors

		Score
Select ACM type (run model for each type to generate 'Worst Case' output)	Free dispersed fibres/fibre bundles	2
Extent of degradation of ACMs at outset of work	Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)	4
Friability and degree of bonding by matrix (ACM matrix, not ground materials)	Friable ACM or ACM with fibres not linked in any matrix (free dispersed fibres/fibre bundles)	4
Distribution of Visible Asbestos Across Affected Area	No visible ACMs/fibre bundles	0
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Very Low quantities - <0.001 to 0.01 %wt/wt	1
Sub-total		**11**

Note: the asbestos licensing regime is unaffected by the type of asbestos fibre present in ACMs

Hazard ranking — Medium

Stage 2

Exposure Factors

		Score
Anticipated airborne fibre concentration - Control Limit or SALI?	<0.01 fibres/ml	1
Anticipated duration of exposure to asbestos	< 2 hours in a 7 day period for all persons involved (e.g. Short Duration Work)	1
Activity type and effect on deterioration of ACMs during work	Low intensity, no or minimal deterioration expected	0
Best description of primary host material matrix (soil/made ground)	Coarse to Fine Gravel	3
Respirable fibre index for ACM - RIVM report 711701034 (2003)	Low	2
Sub-total		**7**
Exposure ranking		Low
Combined hazard and exposure ranking	**18**	Low

Stage 3

Risk Assessment Outputs

Probable Licensing Status	Non-Licensed Work
RPE*	EN149 type FFP3 disposable
Dust Suppression**	Manual/localised dust suppression
Hygiene/Decontamination***	Localised and basic personal decontamination facilities

*Where RPE has to be worn continuously for long periods (e.g. more than 1-hour), then powered RPE may be necessary.
**Reduction in control measures possible if natural mitigation factors are present (e.g. raining, wet ground)
***Guide only; suitability of selected personal hygiene measures may be reviewed on a site/contamination-specific basis

JIWG

Joint Industry Working Group

Asbestos in Soil and Construction & Demolition Materials

Decision Support Tool for Receptor Risk Ranking

Stage 1

Hazard Identification		Score
Select ACM type (run model for each type to generate 'Worst Case' output)	Free dispersed fibres/fibre bundles	2
Extent of degradation of ACMs	Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)	4
Friability and degree of bonding by matrix (ACM matrix, not ground materials)	Friable ACM or ACM with fibres not linked in any matrix (free dispersed fibres/fibre bundles)	4
Distribution of Visible Asbestos Across Affected Area	No visible ACMs/fibre bundles	0
Asbestos fibre type	Chrysotile alone	0
Sub-total		**10**
Hazard ranking		**Low**

Version 2, February 2017

JIWG
Joint Industry Working Group
Asbestos in Soil and Construction & Demolition Materials

Stage 2

Emission Factors		Score
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Very Low quantities - 0.001 to 0.01 %wt/wt	1
Respirable fibre index for ACM - RIVM report 711701034 (2003)	Low	2
Activity type and effect on deterioration of ACMs	Minimal disturbance, no deterioration expected	1
Best description of primary host material matrix	Coarse to Fine Gravel	3
Sub-total		**7**
Exposure ranking		**Low**

Stage 3

Pathway and Receptor Sensitivity		Score	
Receptor category	Commercial/industrial	No score required	
Age of Receptor	Adult (>24 and <60)	1	
Duration of exposure/site occupancy	> 1hr <10 hr daily exposure (e.g. part-time to full time occupational exposure or extended daily recreational exposure)	3	
Receptor ranking		4	Low
Combined hazard, exposure and receptor ranking			Low
Pathway: Distance of Receptor from Source	In or within 10m of area of disturbance	4	
Pathway: Depth to impacted material	Material buried at depth, unlikely to be disturbed except for deeper construction related excavation	B	
Pathway ranking		4B	Very Low
Overall ranking			Negligible

APPENDIX 13 - Waste Classification Report

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

M9VOP-D0AGO-11J00

Job name

EMT-22-4931-Batch-1-202204081545

Description/Comments

Project

GRO-22013

Site

Gwynedd Skips

Classified by

Name:
Bradley Massey
Date:
11 May 2022 13:18 GMT
Telephone:
01618 201368

Company:
Groundtech Consulting Limited
First Floor, Lloyd House, Orford Court, Greenfold Way
Leigh
WN7 3XJ

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: -

Course	Date
Hazardous Waste Classification	-

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01-15/03/2022-0.20m		Non Hazardous		3
2	WS02-15/03/2022-0.50m		Non Hazardous		5
3	WS03-15/03/2022-0.50m		Non Hazardous		11
4	WS04-17/03/2022-0.80m		Non Hazardous		13
5	WS05-17/03/2022-0.20m		Non Hazardous		15
6	WS06-17/03/2022-0.60m		Non Hazardous		17
7	WS07-17/03/2022-0.20m		Non Hazardous		23
8	WS08-15/03/2022-0.20m		Non Hazardous		25
9	WS09-15/03/2022-0.60m		Non Hazardous		27
10	WS10-15/03/2022-0.50m		Non Hazardous		29
11	WS11-15/03/2022-0.20m		Non Hazardous		31
12	WS12-15/03/2022-0.60m		Non Hazardous		37
13	WS13-16/03/2022-0.50m		Non Hazardous		39
14	WS14-16/03/2022-0.20m		Non Hazardous		45
15	WS15-16/03/2022-0.60m		Non Hazardous		51
16	WS16-16/03/2022-0.25m		Non Hazardous		53
17	WS17-16/03/2022-0.30m		Non Hazardous		55
18	WS18-17/03/2022-0.60m		Non Hazardous		57
19	WS15-18/03/2022-1.70m		Non Hazardous		59
20	WS02-15/03/2022-1.50m		Non Hazardous		60
21	WS07-17/03/2022-1.70m		Non Hazardous		61
22	WS05-17/03/2022-2.00m		Non Hazardous		62
23	WS13-1.00m		Non Hazardous		63
24	WS14-17/03/2022-1.50m		Non Hazardous		64
25	WS17-16/03/2022-1.80m		Non Hazardous		65

Related documents

#	Name	Description
1	EMT-22-4931-Batch-1-202204081545.HWOL	.hwol file used to create the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: Bradley Massey

Created date: 11 May 2022 13:18 GMT

Classification of sample: WS01-15/03/2022-0.20m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS01-15/03/2022-0.20m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.5 mg/kg	1.32	4.621 mg/kg	0.000462 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		62.6 mg/kg	1.462	91.493 mg/kg	0.00915 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22 mg/kg	1.126	24.77 mg/kg	0.00248 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	8 mg/kg	1.56	12.479 mg/kg	0.0008 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		31.6 mg/kg	2.976	94.05 mg/kg	0.0094 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		86 mg/kg	2.774	238.577 mg/kg	0.0239 %		
11	pH			PH		8.8 pH		8.8 pH	8.8 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene	205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
19	●	pyrene	204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
20		benzo[a]anthracene	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
21		chrysene	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
22		benzo[b]fluoranthene	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		benzo[k]fluoranthene	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
24		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
25	●	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		dibenz[a,h]anthracene	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
27	●	benzo[ghi]perylene	205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
										Total:	0.0466 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS02-15/03/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS02-15/03/2022-0.50m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		21.4 mg/kg	1.32	28.255 mg/kg	0.00283 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		131.1 mg/kg	1.462	191.61 mg/kg	0.0192 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12 mg/kg	1.126	13.511 mg/kg	0.00135 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	31.196 mg/kg	0.002 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.135 mg/kg	0.0000135 %		
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		21.2 mg/kg	2.976	63.097 mg/kg	0.00631 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	5.108 mg/kg	0.000511 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		52 mg/kg	2.774	144.256 mg/kg	0.0144 %		
11	TPH (C6 to C40) petroleum group			TPH		<38 mg/kg		<38 mg/kg	<0.0038 %		<LOD
12	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
13	benzene	601-020-00-8	200-753-7	71-43-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
14	toluene	601-021-00-3	203-625-9	108-88-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
16	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2]	95-47-6 [1] 106-42-3 [2]		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
			203-576-3 [3] 215-535-7 [4]	108-38-3 [3] 1330-20-7 [4]									
17	●	pH				7.22	pH		7.22	pH	7.22 pH		
				PH									
18		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
19	●	acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
20	●	acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
21	●	fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
22	●	phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
23	●	anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
24	●	fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
25	●	pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
26		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
27		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
28		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
29		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
30		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
31	●	indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
33	●	benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
34		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
35	●	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
39		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
40		hexachlorobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
41	●	dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-893-9	75-71-8									
42		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-001-00-7	200-817-4	74-87-3									
43		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-002-00-2	200-813-2	74-83-9									
44		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
45		trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-892-3	75-69-4									
46		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
47		dichloromethane; methylene chloride				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-004-00-3	200-838-9	75-09-2									
48		2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			209-832-0	594-20-7									
49		bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-826-3	74-97-5									
50		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
51		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
52		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
53		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
54		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
55		bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-856-7	75-27-4									
56		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
57		trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			431-460-4	10061-02-6									
58		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
59		1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			205-531-3	142-28-9									
60		dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
61		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
62		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
63		1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
64		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
65		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
66		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
67		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
68		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
69		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
70		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
71		sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
72		4-isopropyltoluene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			202-796-7	99-87-6									
73		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
74		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-035-00-2	203-400-5	106-46-7									
75	●	n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-209-7	104-51-8									
76		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-034-00-7	202-425-9	95-50-1									
77		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-021-00-6	202-479-3	96-12-8									
78		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
		602-087-00-6	204-428-0	120-82-1									
79	●	hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			201-765-5	87-68-3									
80	●	1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
			201-757-1	87-61-6									
81		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-026-00-0	202-851-5	100-42-5									
82		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
83	●	2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
84		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
85		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
86		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
87		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
88		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
89		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
90		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
91	●	2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
92	●	2-methyl naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-078-3	91-57-6									
93		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
94		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
95		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
96	●	di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
97	●	diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
98	●	dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
99		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
100		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
101		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-952-4	101-55-3									
102		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
103		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			230-281-7	7005-72-3									
104		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
105		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-920-2	111-91-1									
106		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
107		carbazole				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-696-0	86-74-8									
108		dibenzofuran				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-071-3	132-64-9									
109		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
110		hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			200-666-4	67-72-1									
111		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
112		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
113		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
114		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
115		cumene; [1] propylbenzene [2]				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
116		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
117		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
118		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.0506 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS03-15/03/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS03-15/03/2022-0.50m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		52.6 mg/kg	1.32	69.449 mg/kg	0.00694 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		62.3 mg/kg	1.462	91.055 mg/kg	0.00911 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10 mg/kg	1.126	11.259 mg/kg	0.00113 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23 mg/kg	1.56	35.876 mg/kg	0.0023 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.3 mg/kg	1.353	0.406 mg/kg	0.0000406 %		
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18.7 mg/kg	2.976	55.656 mg/kg	0.00557 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	5.108 mg/kg	0.000511 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		36 mg/kg	2.774	99.869 mg/kg	0.00999 %		
11	pH			PH		7.59 pH		7.59 pH	7.59 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene	205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
19	●	pyrene	204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
20		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
21		chrysene	601-048-00-0	205-923-4	218-01-9	<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
22		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
24		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
25	●	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
27	●	benzo[ghi]perylene	205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
										Total:	0.0357 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS04-17/03/2022-0.80m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS04-17/03/2022-0.80m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12.6 mg/kg	1.32	16.636 mg/kg	0.00166 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		107.5 mg/kg	1.462	157.117 mg/kg	0.0157 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10 mg/kg	1.126	11.259 mg/kg	0.00113 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23 mg/kg	1.56	35.876 mg/kg	0.0023 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		15.6 mg/kg	2.976	46.43 mg/kg	0.00464 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	5.108 mg/kg	0.000511 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		40 mg/kg	2.774	110.966 mg/kg	0.0111 %		
11	pH			PH		6.84 pH		6.84 pH	6.84 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			205-912-4	206-44-0									
19	●	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25	●	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27	●	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
										Total:	0.0372 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS05-17/03/2022-0.20m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS05-17/03/2022-0.20m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		18.3 mg/kg	1.32	24.162 mg/kg	0.00242 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		52.5 mg/kg	1.462	76.732 mg/kg	0.00767 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		18 mg/kg	1.126	20.266 mg/kg	0.00203 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19 mg/kg	1.56	29.636 mg/kg	0.0019 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.135 mg/kg	0.0000135 %		
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18.2 mg/kg	2.976	54.168 mg/kg	0.00542 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	5.108 mg/kg	0.000511 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		69 mg/kg	2.774	191.416 mg/kg	0.0191 %		
11	pH			PH		5.89 pH		5.89 pH	5.89 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
19	●	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25	●	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27	●	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
										Total:	0.0392 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS06-17/03/2022-0.60m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS06-17/03/2022-0.60m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		35.3 mg/kg	1.32	46.607 mg/kg	0.00466 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		77.3 mg/kg	1.462	112.978 mg/kg	0.0113 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		18 mg/kg	1.126	20.266 mg/kg	0.00203 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	21 mg/kg	1.56	32.756 mg/kg	0.0021 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		24.1 mg/kg	2.976	71.728 mg/kg	0.00717 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	5.108 mg/kg	0.000511 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		52 mg/kg	2.774	144.256 mg/kg	0.0144 %		
11	TPH (C6 to C40) petroleum group			TPH		<38 mg/kg		<38 mg/kg	<0.0038 %		<LOD
12	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
13	benzene	601-020-00-8	200-753-7	71-43-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
14	toluene	601-021-00-3	203-625-9	108-88-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
16	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2]	95-47-6 [1] 106-42-3 [2]		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
			203-576-3 [3] 215-535-7 [4]	108-38-3 [3] 1330-20-7 [4]									
17	●	pH				6.93	pH		6.93	pH	6.93 pH		
				PH									
18		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
19	●	acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
20	●	acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
21	●	fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
22	●	phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
23	●	anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
24	●	fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
25	●	pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
26		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
27		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
28		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
29		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
30		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
31	●	indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
33	●	benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
34		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
35	●	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
39		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
40		hexachlorobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
41	●	dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-893-9	75-71-8									
42		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-001-00-7	200-817-4	74-87-3									
43		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-002-00-2	200-813-2	74-83-9									
44		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
45		trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-892-3	75-69-4									
46		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
47		dichloromethane; methylene chloride				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-004-00-3	200-838-9	75-09-2									
48		2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			209-832-0	594-20-7									
49		bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-826-3	74-97-5									
50		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
51		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
52		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
53		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
54		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
55		bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-856-7	75-27-4									
56		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
57		trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			431-460-4	10061-02-6									
58		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
59		1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			205-531-3	142-28-9									
60		dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
61		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
62		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
63		1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
64		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
65		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
66		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
67		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
68		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
69		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
70		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
71		sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
72		4-isopropyltoluene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			202-796-7	99-87-6									
73		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
74		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-035-00-2	203-400-5	106-46-7									
75		n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-209-7	104-51-8									
76		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-034-00-7	202-425-9	95-50-1									
77		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-021-00-6	202-479-3	96-12-8									
78		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
		602-087-00-6	204-428-0	120-82-1									
79		hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			201-765-5	87-68-3									
80		1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
			201-757-1	87-61-6									
81		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-026-00-0	202-851-5	100-42-5									
82		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
83		2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
84		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
85		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
86		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
87		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
88		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
89		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
90		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
91		2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
92		2-methyl naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-078-3	91-57-6									
93		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
94		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
95		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
96		di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
97		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
98		dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
99		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
100		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
101		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-952-4	101-55-3									
102		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
103		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			230-281-7	7005-72-3									
104		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
105		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-920-2	111-91-1									
106		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
107		carbazole				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-696-0	86-74-8									
108		dibenzofuran				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-071-3	132-64-9									
109		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
110		hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			200-666-4	67-72-1									
111		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
112		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
113		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
114		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
115		cumene; [1] propylbenzene [2]				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
116		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
117		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
118		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.0462 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS07-17/03/2022-0.20m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS07-17/03/2022-0.20m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16.2 mg/kg	1.32	21.389 mg/kg	0.00214 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		38.9 mg/kg	1.462	56.855 mg/kg	0.00569 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16 mg/kg	1.126	18.014 mg/kg	0.0018 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	25 mg/kg	1.56	38.995 mg/kg	0.0025 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.271 mg/kg	0.0000271 %		
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		13.8 mg/kg	2.976	41.072 mg/kg	0.00411 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	5.108 mg/kg	0.000511 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		81 mg/kg	2.774	224.706 mg/kg	0.0225 %		
11	pH			PH		6.53 pH		6.53 pH	6.53 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene	205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
19	●	pyrene	204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
20		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
21		chrysene	601-048-00-0	205-923-4	218-01-9	<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
22		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
24		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
25	●	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
27	●	benzo[ghi]perylene	205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
										Total:	0.0394 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS08-15/03/2022-0.20m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS08-15/03/2022-0.20m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		21.3 mg/kg	1.32	28.123 mg/kg	0.00281 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		44.6 mg/kg	1.462	65.185 mg/kg	0.00652 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	28.147 mg/kg	0.00281 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	31.196 mg/kg	0.002 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		26.5 mg/kg	2.976	78.871 mg/kg	0.00789 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	5.108 mg/kg	0.000511 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		71 mg/kg	2.774	196.964 mg/kg	0.0197 %		
11	pH			PH		6.2 pH		6.2 pH	6.2 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
19	●	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25	●	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27	●	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
										Total:	0.0424 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS09-15/03/2022-0.60m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS09-15/03/2022-0.60m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		18.4 mg/kg	1.32	24.294 mg/kg	0.00243 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		51.3 mg/kg	1.462	74.978 mg/kg	0.0075 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21 mg/kg	1.126	23.644 mg/kg	0.00236 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	18 mg/kg	1.56	28.077 mg/kg	0.0018 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.135 mg/kg	0.0000135 %		
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		24.7 mg/kg	2.976	73.514 mg/kg	0.00735 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		63 mg/kg	2.774	174.771 mg/kg	0.0175 %		
11	pH			PH		7.65 pH		7.65 pH	7.65 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
19	●	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25	●	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27	●	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
										Total:	0.0393 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS10-15/03/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS10-15/03/2022-0.50m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.1	mg/kg	1.32	13.335	mg/kg	0.00133 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<**LOD**
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		50.6	mg/kg	1.462	73.955	mg/kg	0.0074 %		
4		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20	mg/kg	1.126	22.518	mg/kg	0.00225 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14	mg/kg	1.56	21.837	mg/kg	0.0014 %		
7		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2	mg/kg	1.353	0.271	mg/kg	0.0000271 %		
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		25.8	mg/kg	2.976	76.788	mg/kg	0.00768 %		
9		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1	mg/kg	2.554	2.554	mg/kg	0.000255 %		
10		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		88	mg/kg	2.774	244.125	mg/kg	0.0244 %		
11		pH			PH		10.2	pH		10.2	pH	10.2 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		0.11	mg/kg		0.11	mg/kg	0.000011 %		
13		acenaphthylene		205-917-1	208-96-8		0.08	mg/kg		0.08	mg/kg	0.000008 %		
14		acenaphthene		201-469-6	83-32-9		0.59	mg/kg		0.59	mg/kg	0.000059 %		
15		fluorene		201-695-5	86-73-7		0.42	mg/kg		0.42	mg/kg	0.000042 %		
16		phenanthrene		201-581-5	85-01-8		2.28	mg/kg		2.28	mg/kg	0.000228 %		
17		anthracene		204-371-1	120-12-7		0.72	mg/kg		0.72	mg/kg	0.000072 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18		fluoranthene				4.27	mg/kg		4.27	mg/kg	0.000427 %		
			205-912-4	206-44-0									
19		pyrene				3.43	mg/kg		3.43	mg/kg	0.000343 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				1.3	mg/kg		1.3	mg/kg	0.00013 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				1.32	mg/kg		1.32	mg/kg	0.000132 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				1.51	mg/kg		1.51	mg/kg	0.000151 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.59	mg/kg		0.59	mg/kg	0.000059 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				1.01	mg/kg		1.01	mg/kg	0.000101 %		
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				0.76	mg/kg		0.76	mg/kg	0.000076 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				0.65	mg/kg		0.65	mg/kg	0.000065 %		
			205-883-8	191-24-2									
										Total:	0.0468 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS11-15/03/2022-0.20m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS11-15/03/2022-0.20m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.7 mg/kg	1.32	10.167 mg/kg	0.00102 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		39 mg/kg	1.462	57.001 mg/kg	0.0057 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		46 mg/kg	1.126	51.791 mg/kg	0.00518 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	9 mg/kg	1.56	14.038 mg/kg	0.0009 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.135 mg/kg	0.0000135 %		
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		31.3 mg/kg	2.976	93.157 mg/kg	0.00932 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		100 mg/kg	2.774	277.415 mg/kg	0.0277 %		
11	TPH (C6 to C40) petroleum group			TPH		<38 mg/kg		<38 mg/kg	<0.0038 %		<LOD
12	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
13	benzene	601-020-00-8	200-753-7	71-43-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
14	toluene	601-021-00-3	203-625-9	108-88-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
16	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2]	95-47-6 [1] 106-42-3 [2]		<0.013 mg/kg		<0.013 mg/kg	<0.0000013 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
			203-576-3 [3] 215-535-7 [4]	108-38-3 [3] 1330-20-7 [4]									
17	●	pH				9.85	pH		9.85	pH	9.85 pH		
				PH									
18		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
19	●	acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
20	●	acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
21	●	fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
22	●	phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
23	●	anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
24	●	fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
25	●	pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
26		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
27		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
28		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
29		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
30		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
31	●	indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
33	●	benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
34		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
35	●	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
39		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
40		hexachlorobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
41	●	dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-893-9	75-71-8									
42		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-001-00-7	200-817-4	74-87-3									
43		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-002-00-2	200-813-2	74-83-9									
44		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
45		trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-892-3	75-69-4									
46		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
47		dichloromethane; methylene chloride				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-004-00-3	200-838-9	75-09-2									
48		2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			209-832-0	594-20-7									
49		bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-826-3	74-97-5									
50		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
51		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
52		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
53		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
54		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
55		bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-856-7	75-27-4									
56		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
57		trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			431-460-4	10061-02-6									
58		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
59		1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			205-531-3	142-28-9									
60		dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
61		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
62		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
63		1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
64		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
65		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
66		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
67		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
68		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
69		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
70		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
71		sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
72		4-isopropyltoluene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			202-796-7	99-87-6									
73		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
74		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-035-00-2	203-400-5	106-46-7									
75	●	n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-209-7	104-51-8									
76		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-034-00-7	202-425-9	95-50-1									
77		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-021-00-6	202-479-3	96-12-8									
78		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
		602-087-00-6	204-428-0	120-82-1									
79	●	hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			201-765-5	87-68-3									
80	●	1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
			201-757-1	87-61-6									
81		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-026-00-0	202-851-5	100-42-5									
82		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
83	●	2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
84		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
85		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
86		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
87		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
88		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
89		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
90		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
91	●	2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
92	●	2-methyl naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-078-3	91-57-6									
93		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
94		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
95		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
96	●	di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
97	●	diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
98	●	dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
99		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
100		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
101		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-952-4	101-55-3									
102		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
103		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			230-281-7	7005-72-3									
104		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
105		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-920-2	111-91-1									
106		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
107		carbazole				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-696-0	86-74-8									
108		dibenzofuran				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-071-3	132-64-9									
109		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
110		hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			200-666-4	67-72-1									
111		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
112		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
113		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
114		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
115		cumene; [1] propylbenzene [2]				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
116		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
117		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
118		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.0541 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS12-15/03/2022-0.60m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS12-15/03/2022-0.60m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		21.9 mg/kg	1.32	28.915 mg/kg	0.00289 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		54.3 mg/kg	1.462	79.362 mg/kg	0.00794 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		19 mg/kg	1.126	21.392 mg/kg	0.00214 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23 mg/kg	1.56	35.876 mg/kg	0.0023 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		26.2 mg/kg	2.976	77.978 mg/kg	0.0078 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	5.108 mg/kg	0.000511 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		62 mg/kg	2.774	171.997 mg/kg	0.0172 %		
11	pH			PH		7.19 pH		7.19 pH	7.19 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
19	●	pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25	●	indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27	●	benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
										Total:	0.0409 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS13-16/03/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS13-16/03/2022-0.50m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.7	mg/kg	1.32	8.846	mg/kg	0.000885 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		40.9	mg/kg	1.462	59.778	mg/kg	0.00598 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23	mg/kg	1.126	25.895	mg/kg	0.00259 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	163	mg/kg	1.56	254.25	mg/kg	0.0163 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		11.3	mg/kg	2.976	33.632	mg/kg	0.00336 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<**LOD**
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		118	mg/kg	2.774	327.349	mg/kg	0.0327 %		
11	TPH (C6 to C40) petroleum group			TPH		127	mg/kg		127	mg/kg	0.0127 %		
12	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
13	benzene	601-020-00-8	200-753-7	71-43-2		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
14	toluene	601-021-00-3	203-625-9	108-88-3		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
16	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2]	95-47-6 [1] 106-42-3 [2]		<0.013	mg/kg		<0.013	mg/kg	<0.0000013 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
			203-576-3 [3] 215-535-7 [4]	108-38-3 [3] 1330-20-7 [4]									
17	●	pH		PH		7.94	pH		7.94	pH	7.94 pH		
18		naphthalene 601-052-00-2	202-049-5	91-20-3		0.18	mg/kg		0.18	mg/kg	0.000018 %		
19	●	acenaphthylene	205-917-1	208-96-8		0.08	mg/kg		0.08	mg/kg	0.000008 %		
20	●	acenaphthene	201-469-6	83-32-9		0.47	mg/kg		0.47	mg/kg	0.000047 %		
21	●	fluorene	201-695-5	86-73-7		0.55	mg/kg		0.55	mg/kg	0.000055 %		
22	●	phenanthrene	201-581-5	85-01-8		3.98	mg/kg		3.98	mg/kg	0.000398 %		
23	●	anthracene	204-371-1	120-12-7		0.83	mg/kg		0.83	mg/kg	0.000083 %		
24	●	fluoranthene	205-912-4	206-44-0		4.122	mg/kg		4.122	mg/kg	0.000412 %		
25	●	pyrene	204-927-3	129-00-0		4.123	mg/kg		4.123	mg/kg	0.000412 %		
26		benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		2.071	mg/kg		2.071	mg/kg	0.000207 %		
27		chrysene 601-048-00-0	205-923-4	218-01-9		1.953	mg/kg		1.953	mg/kg	0.000195 %		
28		benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		2.442	mg/kg		2.442	mg/kg	0.000244 %		
29		benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		0.949	mg/kg		0.949	mg/kg	0.0000949 %		
30		benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		2.277	mg/kg		2.277	mg/kg	0.000228 %		
31	●	indeno[123-cd]pyrene	205-893-2	193-39-5		1.147	mg/kg		1.147	mg/kg	0.000115 %		
32		dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		0.386	mg/kg		0.386	mg/kg	0.0000386 %		
33	●	benzo[ghi]perylene	205-883-8	191-24-2		1.246	mg/kg		1.246	mg/kg	0.000125 %		
34		phenol 604-001-00-2	203-632-7	108-95-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
35	●	1,1-dichloroethane and 1,2-dichloroethane (combined)	203-458-1, 200-863-5	107-06-2, 75-34-3		<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
36		tetrachloroethylene 602-028-00-4	204-825-9	127-18-4		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
37		carbon tetrachloride; tetrachloromethane 602-008-00-5	200-262-8	56-23-5		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
38		trichloroethylene; trichloroethene 602-027-00-9	201-167-4	79-01-6		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
39		vinyl chloride; chloroethylene 602-023-00-7	200-831-0	75-01-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
40		hexachlorobenzene 602-065-00-6	204-273-9	118-74-1		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
41	●	dichlorodifluoromethane	200-893-9	75-71-8		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
42		chloromethane; methyl chloride 602-001-00-7	200-817-4	74-87-3		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
43		bromomethane; methylbromide 602-002-00-2	200-813-2	74-83-9		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
44		chloroethane 602-009-00-0	200-830-5	75-00-3		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
45		trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-892-3	75-69-4									
46		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
47		dichloromethane; methylene chloride				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-004-00-3	200-838-9	75-09-2									
48		2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			209-832-0	594-20-7									
49		bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-826-3	74-97-5									
50		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
51		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
52		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
53		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
54		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
55		bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-856-7	75-27-4									
56		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
57		trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			431-460-4	10061-02-6									
58		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
59		1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			205-531-3	142-28-9									
60		dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
61		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
62		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
63		1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
64		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
65		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
66		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
67		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
68		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
69		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
70		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
71		sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
72		4-isopropyltoluene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			202-796-7	99-87-6									
73		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
74		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-035-00-2	203-400-5	106-46-7									
75		n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-209-7	104-51-8									
76		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-034-00-7	202-425-9	95-50-1									
77		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-021-00-6	202-479-3	96-12-8									
78		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
		602-087-00-6	204-428-0	120-82-1									
79		hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			201-765-5	87-68-3									
80		1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
			201-757-1	87-61-6									
81		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-026-00-0	202-851-5	100-42-5									
82		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
83		2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
84		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
85		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				0.016	mg/kg		0.016	mg/kg	0.0000016 %		
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
86		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
87		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
88		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
89		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
90		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
91		2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
92		2-methyl naphthalene				0.071	mg/kg		0.071	mg/kg	0.0000071 %		
			202-078-3	91-57-6									
93		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
94		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
95		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
96		di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
97		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
98		dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
99		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
100		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
101		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-952-4	101-55-3									
102		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
103		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			230-281-7	7005-72-3									
104		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
105		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-920-2	111-91-1									
106		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
107		carbazole				0.218	mg/kg		0.218	mg/kg	0.0000218 %		
			201-696-0	86-74-8									
108		dibenzofuran				0.089	mg/kg		0.089	mg/kg	0.0000089 %		
			205-071-3	132-64-9									
109		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
110		hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			200-666-4	67-72-1									
111		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
112		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
113		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
114		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
115		cumene; [1] propylbenzene [2]				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
116		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
117		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
118		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.0777 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No free phase contamination detected

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0127%)

Classification of sample: WS14-16/03/2022-0.20m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS14-16/03/2022-0.20m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.4 mg/kg	1.32	8.45 mg/kg	0.000845 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		108.7 mg/kg	1.462	158.871 mg/kg	0.0159 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12 mg/kg	1.126	13.511 mg/kg	0.00135 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	31.196 mg/kg	0.002 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		19.7 mg/kg	2.976	58.632 mg/kg	0.00586 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		75 mg/kg	2.774	208.061 mg/kg	0.0208 %		
11	TPH (C6 to C40) petroleum group			TPH		171 mg/kg		171 mg/kg	0.0171 %		
12	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<**LOD**
13	benzene	601-020-00-8	200-753-7	71-43-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
14	toluene	601-021-00-3	203-625-9	108-88-3		0.004 mg/kg		0.004 mg/kg	0.0000004 %		
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4		0.005 mg/kg		0.005 mg/kg	0.0000005 %		
16	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2]	95-47-6 [1] 106-42-3 [2]		0.02 mg/kg		0.02 mg/kg	0.000002 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
			203-576-3 [3] 215-535-7 [4]	108-38-3 [3] 1330-20-7 [4]									
17	●	pH				8.46	pH		8.46	pH	8.46 pH		
				PH									
18		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
19	●	acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
20	●	acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
21	●	fluorene				0.021	mg/kg		0.021	mg/kg	0.0000021 %		
			201-695-5	86-73-7									
22	●	phenanthrene				0.076	mg/kg		0.076	mg/kg	0.0000076 %		
			201-581-5	85-01-8									
23	●	anthracene				0.033	mg/kg		0.033	mg/kg	0.0000033 %		
			204-371-1	120-12-7									
24	●	fluoranthene				0.181	mg/kg		0.181	mg/kg	0.0000181 %		
			205-912-4	206-44-0									
25	●	pyrene				0.187	mg/kg		0.187	mg/kg	0.0000187 %		
			204-927-3	129-00-0									
26		benzo[a]anthracene				0.119	mg/kg		0.119	mg/kg	0.0000119 %		
		601-033-00-9	200-280-6	56-55-3									
27		chrysene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
		601-048-00-0	205-923-4	218-01-9									
28		benzo[b]fluoranthene				0.126	mg/kg		0.126	mg/kg	0.0000126 %		
		601-034-00-4	205-911-9	205-99-2									
29		benzo[k]fluoranthene				0.049	mg/kg		0.049	mg/kg	0.0000049 %		
		601-036-00-5	205-916-6	207-08-9									
30		benzo[a]pyrene; benzo[def]chrysene				0.104	mg/kg		0.104	mg/kg	0.0000104 %		
		601-032-00-3	200-028-5	50-32-8									
31	●	indeno[123-cd]pyrene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				0.025	mg/kg		0.025	mg/kg	0.0000025 %		
		601-041-00-2	200-181-8	53-70-3									
33	●	benzo[ghi]perylene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			205-883-8	191-24-2									
34		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
35	●	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
39		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
40		hexachlorobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
41	●	dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-893-9	75-71-8									
42		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-001-00-7	200-817-4	74-87-3									
43		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-002-00-2	200-813-2	74-83-9									
44		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
45		trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-892-3	75-69-4									
46		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
47		dichloromethane; methylene chloride				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-004-00-3	200-838-9	75-09-2									
48		2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			209-832-0	594-20-7									
49		bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-826-3	74-97-5									
50		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
51		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
52		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
53		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
54		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
55		bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-856-7	75-27-4									
56		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
57		trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			431-460-4	10061-02-6									
58		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
59		1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			205-531-3	142-28-9									
60		dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
61		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
62		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
63		1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
64		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
65		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
66		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
67		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
68		mesitylene; 1,3,5-trimethylbenzene				0.004	mg/kg		0.004	mg/kg	0.0000004 %		
		601-025-00-5	203-604-4	108-67-8									
69		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
70		1,2,4-trimethylbenzene				0.014	mg/kg		0.014	mg/kg	0.0000014 %		
		601-043-00-3	202-436-9	95-63-6									
71		sec-butylbenzene				0.005	mg/kg		0.005	mg/kg	0.0000005 %		
			205-227-0	135-98-8									
72		4-isopropyltoluene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			202-796-7	99-87-6									
73		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
74		1,4-dichlorobenzene; p-dichlorobenzene				0.092	mg/kg		0.092	mg/kg	0.0000092 %		
		602-035-00-2	203-400-5	106-46-7									
75	●	n-butylbenzene				0.011	mg/kg		0.011	mg/kg	0.0000011 %		
			203-209-7	104-51-8									
76		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-034-00-7	202-425-9	95-50-1									
77		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-021-00-6	202-479-3	96-12-8									
78		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
		602-087-00-6	204-428-0	120-82-1									
79	●	hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			201-765-5	87-68-3									
80	●	1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
			201-757-1	87-61-6									
81		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-026-00-0	202-851-5	100-42-5									
82		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
83	●	2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
84		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
85		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
86		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
87		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
88		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
89		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
90		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
91	●	2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
92	●	2-methyl naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-078-3	91-57-6									
93		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				0.561	mg/kg		0.561	mg/kg	0.0000561 %		
		607-317-00-9	204-211-0	117-81-7									
94		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
95		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
96	●	di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
97	●	diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
98	●	dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
99		2,4-dinitrotoluene; [1] dinitrotoluene [2]											
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
100		2,6-dinitrotoluene											
		609-049-00-8	210-106-0	606-20-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
101		4-bromophenylphenylether											
			202-952-4	101-55-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
102		4-chloroaniline											
		612-137-00-9	203-401-0	106-47-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
103		4-chlorophenylphenylether											
			230-281-7	7005-72-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
104		azobenzene											
		611-001-00-6	203-102-5	103-33-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
105		bis(2-chloroethoxy)methane											
			203-920-2	111-91-1		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
106		bis(2-chloroethyl) ether											
		603-029-00-2	203-870-1	111-44-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
107		carbazole											
			201-696-0	86-74-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
108		dibenzofuran											
			205-071-3	132-64-9		0.011	mg/kg		0.011	mg/kg	0.0000011 %		
109		hexachlorocyclopentadiene											
		602-078-00-7	201-029-3	77-47-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
110		hexachloroethane											
			200-666-4	67-72-1		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
111		3,5,5-trimethylcyclohex-2-enone; isophorone											
		606-012-00-8	201-126-0	78-59-1		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
112		nitrosodipropylamine											
		612-098-00-8	210-698-0	621-64-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
113		nitrobenzene											
		609-003-00-7	202-716-0	98-95-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
114		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]											
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]		<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
115		cumene; [1] propylbenzene [2]											
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]		<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
116		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]											
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]		<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
117		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]											
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
118		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]											
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
										Total:	0.0645 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No free phase contamination detected

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinands:

toluene: (conc.: 4.0e-07%)
ethylbenzene: (conc.: 5.0e-07%)

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.0171%)
xylene: (conc.: 2.0e-06%)
mesitylene; 1,3,5-trimethylbenzene: (conc.: 4.0e-07%)
1,2,4-trimethylbenzene: (conc.: 1.4e-06%)
sec-butylbenzene: (conc.: 5.0e-07%)
n-butylbenzene: (conc.: 1.1e-06%)

Classification of sample: WS15-16/03/2022-0.60m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS15-16/03/2022-0.60m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.9 mg/kg	1.32	11.751 mg/kg	0.00118 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.343 mg/kg	0.0000343 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		54.9 mg/kg	1.462	80.239 mg/kg	0.00802 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		54 mg/kg	1.126	60.798 mg/kg	0.00608 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	355 mg/kg	1.56	553.734 mg/kg	0.0355 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.271 mg/kg	0.0000271 %		
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		16.6 mg/kg	2.976	49.406 mg/kg	0.00494 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		154 mg/kg	2.774	427.219 mg/kg	0.0427 %		
11	pH			PH		8.09 pH		8.09 pH	8.09 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		0.11 mg/kg		0.11 mg/kg	0.000011 %		
17	anthracene		204-371-1	120-12-7		0.04 mg/kg		0.04 mg/kg	0.000004 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene	205-912-4	206-44-0		0.24	mg/kg		0.24	mg/kg	0.000024 %		
19	●	pyrene	204-927-3	129-00-0		0.21	mg/kg		0.21	mg/kg	0.000021 %		
20		benzo[a]anthracene											
		601-033-00-9	200-280-6	56-55-3		0.13	mg/kg		0.13	mg/kg	0.000013 %		
21		chrysene											
		601-048-00-0	205-923-4	218-01-9		0.15	mg/kg		0.15	mg/kg	0.000015 %		
22		benzo[b]fluoranthene											
		601-034-00-4	205-911-9	205-99-2		0.17	mg/kg		0.17	mg/kg	0.000017 %		
23		benzo[k]fluoranthene											
		601-036-00-5	205-916-6	207-08-9		0.07	mg/kg		0.07	mg/kg	0.000007 %		
24		benzo[a]pyrene; benzo[def]chrysene											
		601-032-00-3	200-028-5	50-32-8		0.13	mg/kg		0.13	mg/kg	0.000013 %		
25	●	indeno[123-cd]pyrene	205-893-2	193-39-5		0.1	mg/kg		0.1	mg/kg	0.00001 %		
26		dibenz[a,h]anthracene											
		601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		**<LOD**
27	●	benzo[ghi]perylene	205-883-8	191-24-2		0.1	mg/kg		0.1	mg/kg	0.00001 %		
										Total:	0.099 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS16-16/03/2022-0.25m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS16-16/03/2022-0.25m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.9 mg/kg	1.32	7.79 mg/kg	0.000779 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.114 mg/kg	0.0000114 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		69.2 mg/kg	1.462	101.14 mg/kg	0.0101 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		34 mg/kg	1.126	38.28 mg/kg	0.00383 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23 mg/kg	1.56	35.876 mg/kg	0.0023 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.135 mg/kg	0.0000135 %		
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		24.9 mg/kg	2.976	74.109 mg/kg	0.00741 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		108 mg/kg	2.774	299.608 mg/kg	0.03 %		
11	pH			PH		7.98 pH		7.98 pH	7.98 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.4 mg/kg		<0.4 mg/kg	<0.00004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.4 mg/kg		<0.4 mg/kg	<0.00004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		0.96 mg/kg		0.96 mg/kg	0.000096 %		
17	anthracene		204-371-1	120-12-7		0.66 mg/kg		0.66 mg/kg	0.000066 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene				3.68	mg/kg		3.68	mg/kg	0.000368 %		
			205-912-4	206-44-0									
19	●	pyrene				3.86	mg/kg		3.86	mg/kg	0.000386 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				2.14	mg/kg		2.14	mg/kg	0.000214 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				2.07	mg/kg		2.07	mg/kg	0.000207 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				4.02	mg/kg		4.02	mg/kg	0.000402 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				1.57	mg/kg		1.57	mg/kg	0.000157 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				3.25	mg/kg		3.25	mg/kg	0.000325 %		
		601-032-00-3	200-028-5	50-32-8									
25	●	indeno[123-cd]pyrene				2.46	mg/kg		2.46	mg/kg	0.000246 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.49	mg/kg		0.49	mg/kg	0.000049 %		
		601-041-00-2	200-181-8	53-70-3									
27	●	benzo[ghi]perylene				2.24	mg/kg		2.24	mg/kg	0.000224 %		
			205-883-8	191-24-2									
										Total:	0.0576 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS17-16/03/2022-0.30m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS17-16/03/2022-0.30m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		0.8 mg/kg	1.32	1.056 mg/kg	0.000106 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		130.7 mg/kg	1.462	191.025 mg/kg	0.0191 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		45 mg/kg	1.126	50.665 mg/kg	0.00507 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	<5 mg/kg	1.56	<7.799 mg/kg	<0.0005 %		<LOD
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.135 mg/kg	0.0000135 %		
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		31.2 mg/kg	2.976	92.859 mg/kg	0.00929 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		59 mg/kg	2.774	163.675 mg/kg	0.0164 %		
11	pH			PH		9.23 pH		9.23 pH	9.23 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18	●	fluoranthene	205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
19	●	pyrene	204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
20		benzo[a]anthracene	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
21		chrysene	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
22		benzo[b]fluoranthene	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		benzo[k]fluoranthene	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
24		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
25	●	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		dibenz[a,h]anthracene	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
27	●	benzo[ghi]perylene	205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
										Total:	0.0508 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS18-17/03/2022-0.60m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS18-17/03/2022-0.60m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.9 mg/kg	1.32	6.47 mg/kg	0.000647 %		
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		94.6 mg/kg	1.462	138.263 mg/kg	0.0138 %		
4	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		34 mg/kg	1.126	38.28 mg/kg	0.00383 %		
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	10 mg/kg	1.56	15.598 mg/kg	0.001 %		
7	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.271 mg/kg	0.0000271 %		
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		24 mg/kg	2.976	71.43 mg/kg	0.00714 %		
9	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.554 mg/kg	0.000255 %		
10	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		56 mg/kg	2.774	155.352 mg/kg	0.0155 %		
11	pH			PH		8.9 pH		8.9 pH	8.9 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
16	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
17	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18		fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-912-4	206-44-0									
19		pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
										Total:	0.0424 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS15-18/03/2022-1.70m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS15-18/03/2022-1.70m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH				7.33 pH		7.33 pH	7.33 pH		
				PH							
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS02-15/03/2022-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS02-15/03/2022-1.50m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH		PH		7.62 pH		7.62 pH	7.62 pH		
								Total:	0%		

Key

	User supplied data
●	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS07-17/03/2022-1.70m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS07-17/03/2022-1.70m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH		PH		6.9 pH		6.9 pH	6.9 pH		
								Total:	0%		

Key

	User supplied data
●	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS05-17/03/2022-2.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS05-17/03/2022-2.00m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH		PH		6.42 pH		6.42 pH	6.42 pH		
								Total:	0%		

Key

	User supplied data
●	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS13-1.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS13-1.00m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH				7.2 pH		7.2 pH	7.2 pH		
				PH							
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS14-17/03/2022-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS14-17/03/2022-1.50m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH		PH		6.93 pH		6.93 pH	6.93 pH		
								Total:	0%		

Key

	User supplied data
●	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS17-16/03/2022-1.80m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS17-16/03/2022-1.80m

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH		PH		7.05 pH		7.05 pH	7.05 pH		
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Appendix A: Classifier defined and non EU CLP determinands

- **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **pH** (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

- **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

- **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

- **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

- **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

benzo[ghi]perylene (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

ethylbenzene (EC Number: 202-849-4, CAS Number: 100-41-4)

EU CLP index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
03 Jun 2015 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

1,1-dichloroethane and 1,2-dichloroethane (combined) (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane
Data source: N/a
Data source date: 14 Oct 2016
Hazard Statements: Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 1B; H350 , Aquatic Chronic 3; H412

dichlorodifluoromethane (EC Number: 200-893-9, CAS Number: 75-71-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Aquatic Chronic 3; H412 , Ozone 1; H420 , Press. Gas; H280

trichlorofluoromethane (EC Number: 200-892-3, CAS Number: 75-69-4)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Ozone 1; H420

2,2-dichloropropane (EC Number: 209-832-0, CAS Number: 594-20-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Acute Tox. 4; H312 , Eye Irrit. 2; H319

bromochloromethane (EC Number: 200-826-3, CAS Number: 74-97-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Ozone 1; H420

bromodichloromethane (EC Number: 200-856-7, CAS Number: 75-27-4)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 1A; H360

trans-1,3-dichloropropene (EC Number: 431-460-4, CAS Number: 10061-02-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Acute Tox. 3; H301 , Asp. Tox. 1; H304 , Acute Tox. 3; H311 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , Aquatic Chronic 1; H410

- **1,3-dichloropropane** (EC Number: 205-531-3, CAS Number: 142-28-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335

- **dibromochloromethane** (EC Number: 204-704-0, CAS Number: 124-48-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT SE 3; H336 , Muta. 2; H341 , Aquatic Chronic 2; H411

- **1,1,1,2-tetrachloroethane** (EC Number: 211-135-1, CAS Number: 630-20-6)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , Carc. 2; H351 , Acute Tox. 4; H312 , Aquatic Chronic 3; H412 , Skin Irrit. 2; H315

- **tert-butylbenzene** (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Acute Tox. 4; H332 , STOT SE 3; H335 , Asp. Tox. 1; H304 , Aquatic Chronic 2; H411

- **sec-butylbenzene** (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Chronic 2; H411

- **4-isopropyltoluene** (EC Number: 202-796-7, CAS Number: 99-87-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Chronic 2; H411

- **n-butylbenzene** (EC Number: 203-209-7, CAS Number: 104-51-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **hexachlorobutadiene** (EC Number: 201-765-5, CAS Number: 87-68-3)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 2; H310 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 2; H330 , Carc. 2; H351 , Repr. 2; H361 , STOT SE 2; H371 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **1,2,3-trichlorobenzene** (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 3; H410

- **2-nitrophenol** (EC Number: 201-857-5, CAS Number: 88-75-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT RE 2; H373 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

2-chloronaphthalene (EC Number: 202-079-9, CAS Number: 91-58-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

2-methyl naphthalene (EC Number: 202-078-3, CAS Number: 91-57-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

di-n-octyl phthalate (EC Number: 204-214-7, CAS Number: 117-84-0)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Repr. 2; H361 , Skin Sens. 1; H317 , Resp. Sens. 1; H334 , Eye Irrit. 2; H319 , Aquatic Chronic 4; H413

diethyl phthalate (EC Number: 201-550-6, CAS Number: 84-66-2)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , STOT SE 3; H335 , STOT RE 2; H373 , Repr. 2; H361 , Acute Tox. 4; H302 , STOT SE 3; H336 , Skin Sens. 1; H317 , Aquatic Chronic 1; H410

dimethyl phthalate (EC Number: 205-011-6, CAS Number: 131-11-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , STOT SE 3; H335 , STOT SE 3; H336 , Repr. 2; H361 , Aquatic Chronic 3; H412

4-bromophenylphenylether (EC Number: 202-952-4, CAS Number: 101-55-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

4-chlorophenylphenylether (EC Number: 230-281-7, CAS Number: 7005-72-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

bis(2-chloroethoxy)methane (EC Number: 203-920-2, CAS Number: 111-91-1)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 4; H312 , Acute Tox. 1; H330 , Acute Tox. 2; H330 , STOT SE 1; H370 , STOT RE 2; H373

carbazole (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 2; H341 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301

dibenzofuran (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Aquatic Chronic 2; H411

- **hexachloroethane** (EC Number: 200-666-4, CAS Number: 67-72-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , STOT RE 2; H373

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018
HazWasteOnline Classification Engine Version: 2022.103.5089.9622 (13 Apr 2022)
HazWasteOnline Database: 2022.103.5089.9622 (13 Apr 2022)

This classification utilises the following guidance and legislation:
WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2019 - UK: 2019 No. 720 of 27th March 2019
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
17th ATP - Regulation (EU) 2021/849 of 11 March 2021

APPENDIX 14 - Relevant Legislative Background

Legislative Background

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act;
- The Contaminated Land (England) Regulations 2000;
- The DETR circular 02/2000 Environmental Protection Act 1990: Part IIA Contaminated Land.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

1) Significant harm is being caused or there is a significant possibility of such harm being caused;
2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

- **Source** - substances that are potential contaminants or pollutants that may cause harm;
- **Pathway** - a potential route by which contaminants can move from the source to the receptor;
- **Receptor** - a receptor that may be harmed, for example the water environment, humans and water.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused. The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the SPR approach is 'suitable for use' criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

Relevant Guidance Documents

This report has been prepared in accordance with the list of guidance below however the list is not exhaustive:

- LCRM – Model Procedures;
- Contamination and Environmental Matters - Their implications for Property Professionals (2nd Edition RICS Nov 2003);
- Brownfields – Managing the development of previously developed land – A client's guide, CIRIA 2002;
- DEFRA and Environment Agency publications CLR7 – 10, supported by the TOX guides and SGV guides, dated March 2002;
- DETR Circular 02/2000, Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990;
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002;

Relevant Legislative Documents

The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environment Act (1995);
- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012);
- The Environment Protection Act (1990);
- The Contaminated Land (England) Act (2000);
- Contaminated Land (England) Regulations (2012);
- The Water Resources Act (1991);
- The Pollution Prevention and Control (England and Wales) Regulations (2000);
- The Landfill Regulations (England and Wales) Regulations (2002);
- The Landfill (England and Wales) (Amendment) Regulations (2004);
- Health and Safety at Work Act;

APPENDIX 15 - Limitations

Limitations

This contract was completed by Groundtech Consulting on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with due skill and care, taking into consideration the project brief provided, project objectives, agreed scope of works, prevailing site conditions and budget allocation.

Other than that defined in the paragraph above, Groundtech Consulting provides no other accountability or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted industry practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Groundtech Consulting. A third party who relies on this report, does so at their own and sole risk and no liability to such parties is provided by Groundtech Consulting.

It is the understanding of Groundtech Consulting that this report is to be used for the intended purpose as set out in the introduction. The purpose was instrumental in determining the scope and level of the services provided. Should the purpose of the report or the proposed end use of the site change, this report will no longer be directly applicable, and its validity readdressed. No reliance upon the report in the revised situation should be assumed by the client without the permission of Groundtech Consulting.

The report was written in 2022, later changes in legislation, statutory requirements and industry best practices have not been considered and this should be allowed for. Ground conditions can also change and should be investigated if there is any significant delay in acting on the findings of this report. The period of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions in this report should not be relied upon in the future without the written confirmation from Groundtech Consulting that it is safe to do so.

The observations and conclusions outlined in this report are based exclusively on the services that were provided as set out in the agreement between the client and Groundtech Consulting.

Groundtech Consulting are not liable for the existence of any condition, the discovery of which would require additional investigation outside the agreed scope of works or core competency. The services provided are based upon Groundtech Consulting observations of existing physical conditions at the site gained from site reconnaissance together with interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and Groundtech Consulting assume the information to be correct.

No responsibility can be accepted for errors for third party information presented in this report. Groundtech Consulting were not authorised to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Groundtech Consulting are not liable for any inaccurate information, misrepresentation of data or conclusions, which may inform the scope of investigation undertaken by Groundtech Consulting and forms the contract with the client.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable due to its heterogeneous

properties and as investigation exploratory locations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report, particularly between exploratory holes. The extent of the limited area depends on the soil and groundwater conditions, together with other constraints such as the position of any existing structures and underground utilities. Geo-Environmental testing was carried out for a limited number of parameters [as stipulated in the contract] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The groundwater level often has not had time to reach equilibrium and a monitoring period is required. Furthermore, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawings provided in this report are not meant to be an accurate base plan, but are preliminary and used to present the general relative locations of features on, and surrounding, the site.