RHONDDA GEOTECHNICAL SERVICES

PHASE 1

CONTAMINATED LAND REPORT

N.P.T. PLANNING APP. REF. Q2024/0061

PROPOSED RENAL UNIT

STATIONERY HOUSE

ACACIA AVENUE

SANDFIELDS

PORT TALBOT

SA12 7DP

7/08/2024

RICHARD DAVIES – BSc.(hons), MSc., F.G.S.

INTRODUCTION-PURPOSES AND AIMS

Planning permission is being sought to convert a former factory unit in Acacia Avenue, Sandfields into a Renal Unit to serve as an annex to the nearby the Neath Port Talbot Hospital. The application to Neath Port Talbot L.P.A. has the reference Q2024/0061. During pre-planning consultations N.P.T. requested that a Phase 1 Contaminated Land Risk Assessment was produced to support the full planning application. Rhondda Geotechnical Services were commissioned by the developers Sandycroft Projects Ltd. to produce the report.

The report will follow the guidelines set out in the document Development of Land Affected by Contamination: A Guide for Developers (Version 3). This was produced by the Welsh Land Contamination Working Group in 2017. The methodology set out in Appendix B with the check list for Phase 1 will be followed. The contaminated land exposure assessment (henceforth CLEA) produced by The Environment Agency will be used in the conceptual model, particularly regarding the source-pathway-receptor concept for pollutant linkages. The entire project will be guided by the 2021 C.L.R.M which has now superseded the withdrawn 2004 Defra/E.A. document CLR11 (Model Procedures for the Management of Land Contamination).

The current definition of contaminated land is “any land which appears to the local authority in whose area it is situated in to be in such a condition, by reason of substances in or under the ground that:-

a. “Significant harm is being caused, or there is a significant possibility of such harm being caused OR

b. Pollution of controlled waters is being, or is likely to be caused”

(Section 78A Part 2A Environmental Protection Act)

This act also requires that a risk based approach should be used for assessing the contamination status of a site. For a site to be designated as contaminated it must be shown that the site is not fit for its current, or intended use. Statutory guidance states that a two stage approach should be adopted for the assessment of contaminated land.

1. Identification of potential pollution linkages

2. Assessment of the risk to receptors

The first stage (The Phase 1 report) is a qualitative assessment of the plausible pollution linkages that exist or may exist on site. This involves the development of a site conceptual model. This may then be refined in Phase 2 after an intrusive investigation, followed by laboratory testing of samples obtained, *but only if the Phase 1 deems it necessary.*

1. AUTHOR CREDENTIALS

The author of this report is Richard Davies. He graduated with a Batchelor of Science honours degree in Geology from Liverpool University in 1979. After starting his career as an engineer in the coal industry, he moved into site investigation in the 1980's and has many years experience working on contaminated land. He is a Fellow of The Geological Society and holds a Master's Degree in Applied Environmental Geology from Cardiff University. He is also a Supporter Member of CL: AIRE (Contaminated Land: Applications in Real Environments)

2. SITE DESCRIPTION

The site is centred on grid reference 274735, 190730 and is at an average elevation of 7.9m. A.O.D. The site boundary is irregular, but the maximum dimensions are approximately square averaging 60m x 60m covering an area of approximately 0.4 Ha. The rear (northeast) boundary of the site is the A4241 Afan Way, an important local arterial road. To the southeast and southwest are residential properties of the Sandfields Estate. The northwestern boundary abuts a car park serving a former industrial unit. This is now multioccupancy building including a large gym. Most of the site is occupied by a vacant former factory unit. There are no surface watercourses. The site location and site boundary can be seen overleaf in Figures 1 and 2 with a recent (2020) aerial photograph of the site in Figure 3.

3. SITE WALKOVER

A walkover survey is part of the Phase 1 Template. The site was visited by the author to carry out initial site investigations for foundation assessment and soakaway testing. The trial pits excavated are highly relevant to this report and will be described in detail in later sections of this report.

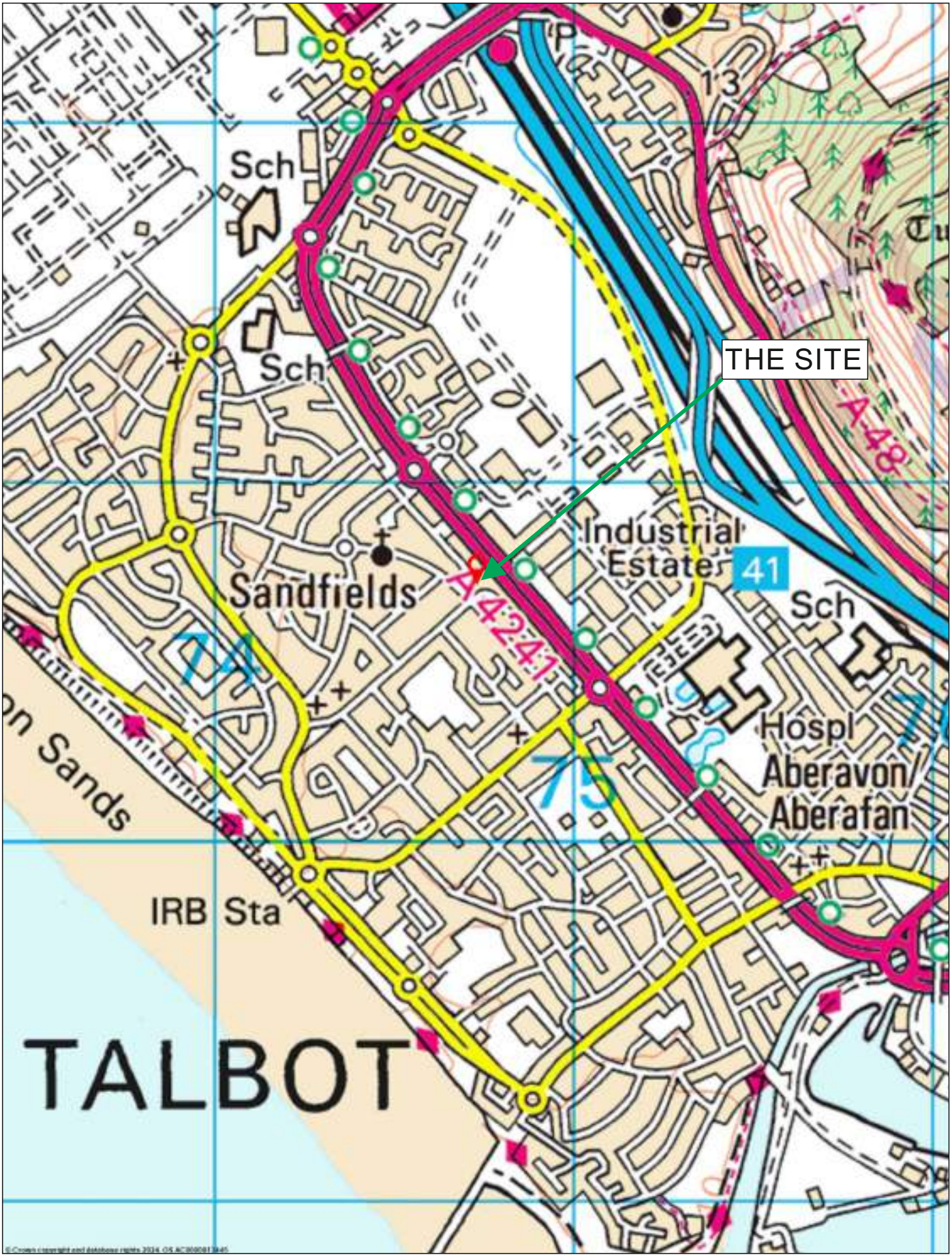


FIGURE 1
SITE LOCATION

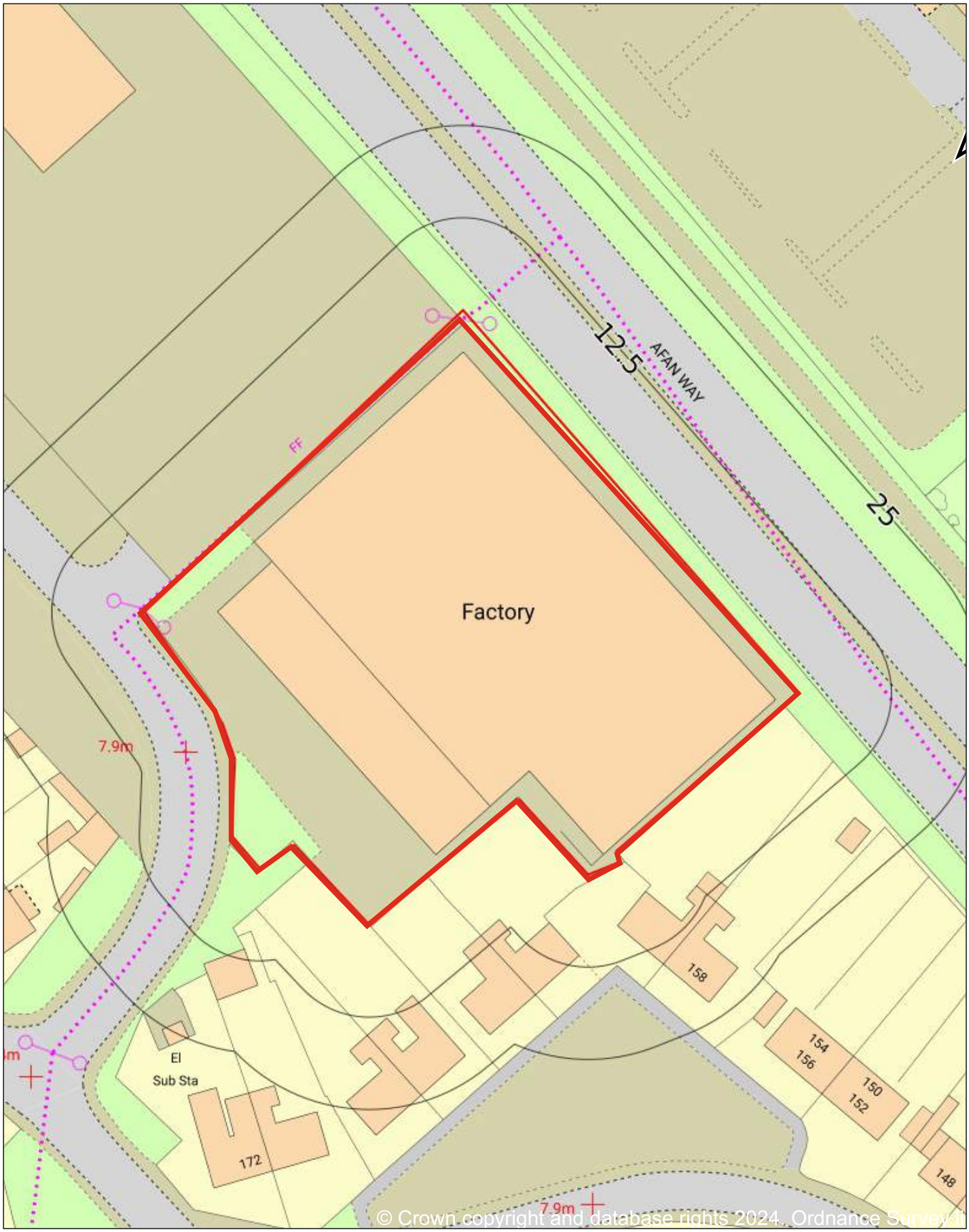


FIGURE 2
SITE BOUNDARY IN RED.

FIGURE 3
RECENT (2020) AERIAL PHOTO.

4. SITE HISTORY

To gain a thorough understanding of the history of the site a comprehensive collection of historical Ordnance Survey maps was purchased from Groundsure. These were at both 1:1250, 1:2500 and 1:10560 scales (later maps are at 1:10,000). Obviously, the larger scale maps are preferable for a desk study, but sometimes a large gap in dates means it is necessary to fall back on the smaller scale maps Another reason for using the smaller scale maps is that they provide a broader contextual setting for the site.

Extracts from the original large-scale maps are presented overleaf as Figures 4-10. These have been slightly truncated from the originals for reasons of page fit and file size. The maps have either the eastern or western margin truncated. This has been done alternately so nothing of significance to the desk study is missing from the map extracts. The 1:10,560 scale maps referenced below show the mainly undeveloped nature of the land surrounding the site for a far greater extent than the large-scale maps. Nothing of significance to the desk study is missing from the map extracts presented here.

1876 (Figure 4) SITE- The site is within an undeveloped field

SURROUNDING AREA- The area is uninhabited except for a single farm east of the site. The area north and east of the site is covered with a network of drainage ditches. On the small scale map this area is labelled Aberavon Moors, whilst the area south and west of the site is labelled Aberavon Burrows with sand dunes marked leading down to the coast

1899 (Figure 5) SITE- The site is unchanged

SURROUNDING AREA- A straight section of twin track railway has been constructed on an embankment adjacent to the site. This is a branch of the Rhondda and Swansea Bay Railway. Originally built to take coal from the Rhondda to Swansea Docks, this branch links Swansea with the developing industries in Aberavon. An iron foundry and two tinplate works are marked on the small-scale map but these are over 1200m from the site.

1918 and 1936 SITE- there is no change to the site and very little change in the surrounding area. For this reason, the maps are not reproduced here. Allotment gardens and a small golf club pavilion are marked on the 1936 revision. Both are 250m from the site.

1956 (Figure 6) SITE-The site is unchanged apart from being divided by a hedge or wall.

SURROUNDING AREA- There is a huge residential development south and west of the site. This is the Sandfields Estate, built to house workers from the newly established Port Talbot Steelworks. Northeast of the railway is still undeveloped with Moors Farm appearing unchanged since the 1876 map.

1963 (Figure 7) SITE- The site is now occupied by the building that still stands on it today. This is labelled clothing factory on the map.

SURROUNDING AREA- A bus depot and garage have been built on the undeveloped land northwest of the site. The railway tracks have been lifted and the embankment is now just a footpath

1972 (Figure 8) SITE- The site is unchanged.

SURROUNDING AREA- Moors Farm has been demolished and a large Cigar Factory has been built. The former railway embankment is now a road labelled Afan Way.

1983/1986 SITE- The site is unchanged. The only significant change in the surrounding area is the cigar factory has been greatly expanded.

1993 SITE- The site is unchanged.

SURROUNDING AREA- The extent of the factory the other side of Afan Way can be seen.

2003 (Figure 9) SITE- This is currently the last large-scale revision produced by the O.S. The building on the site is unaltered.

SURROUNDING AREA- There is no change to the residential area adjacent to the site. Across Afan Way the large factory has apparently been demolished and replaced by a car park.

More recent small-scale maps (2001, 2010 and 2021) have been checked but add little of relevance to the desk study. For this reason, they have not been reproduced here. The aerial photographs on pages 9-13 of the Enviroinsight Report cover the period 2000-2020 and show little change in the surrounding area that is of relevance to a contaminated land report.

In summary, the history of the site itself as shown by the O.S. maps show it was completely undeveloped farmland from 1876. The building that now occupies the site was constructed in the early 1960s and the site then remains unaltered until the present day. The surrounding area was completely undeveloped until the construction of the Sandfields Estate. The surrounding area has remained largely residential with some light industry. There are no former contaminative uses shown within or anywhere near the site.

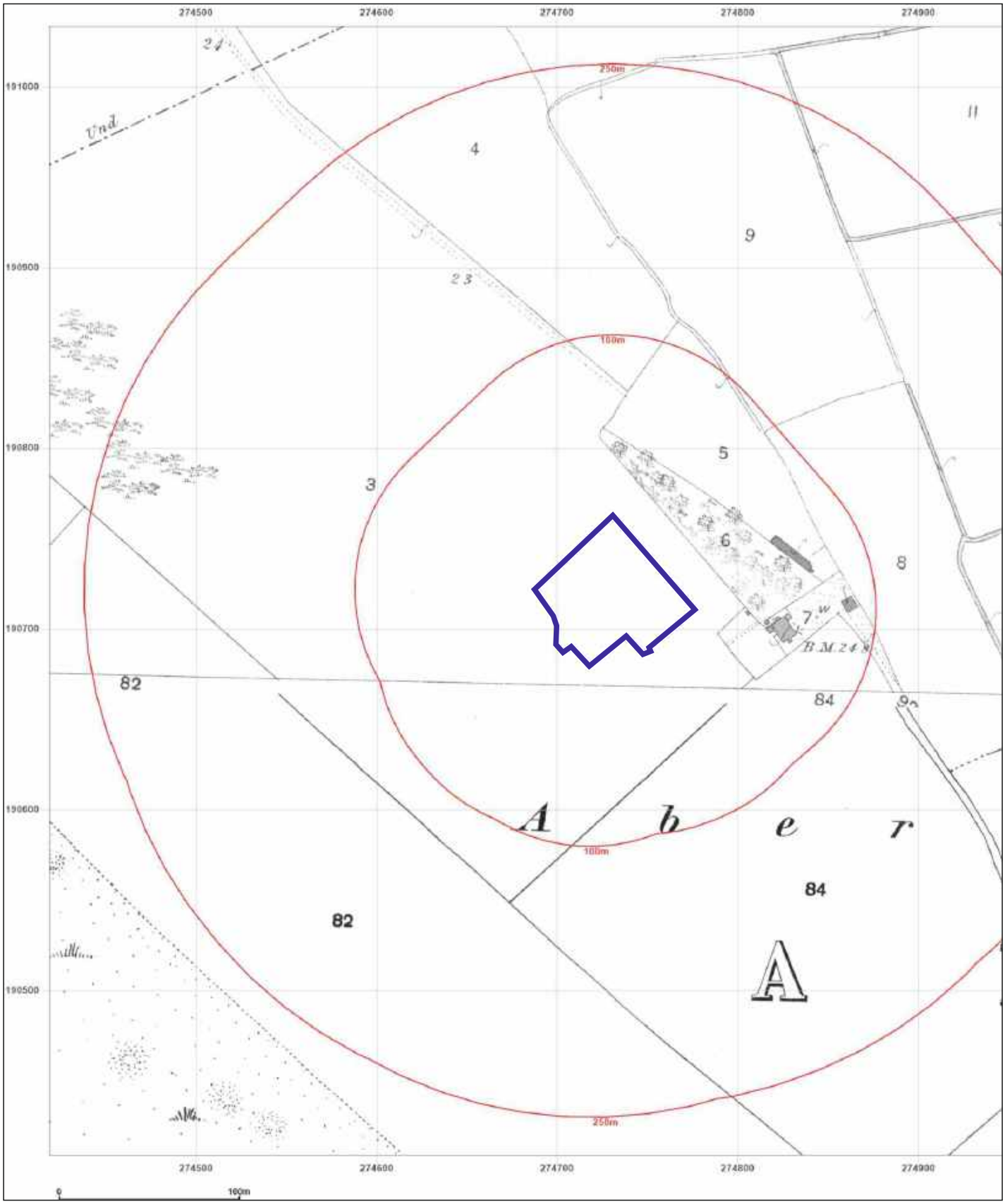


FIGURE 4

THE SITE (OUTLINED IN BLUE) IN 1876.

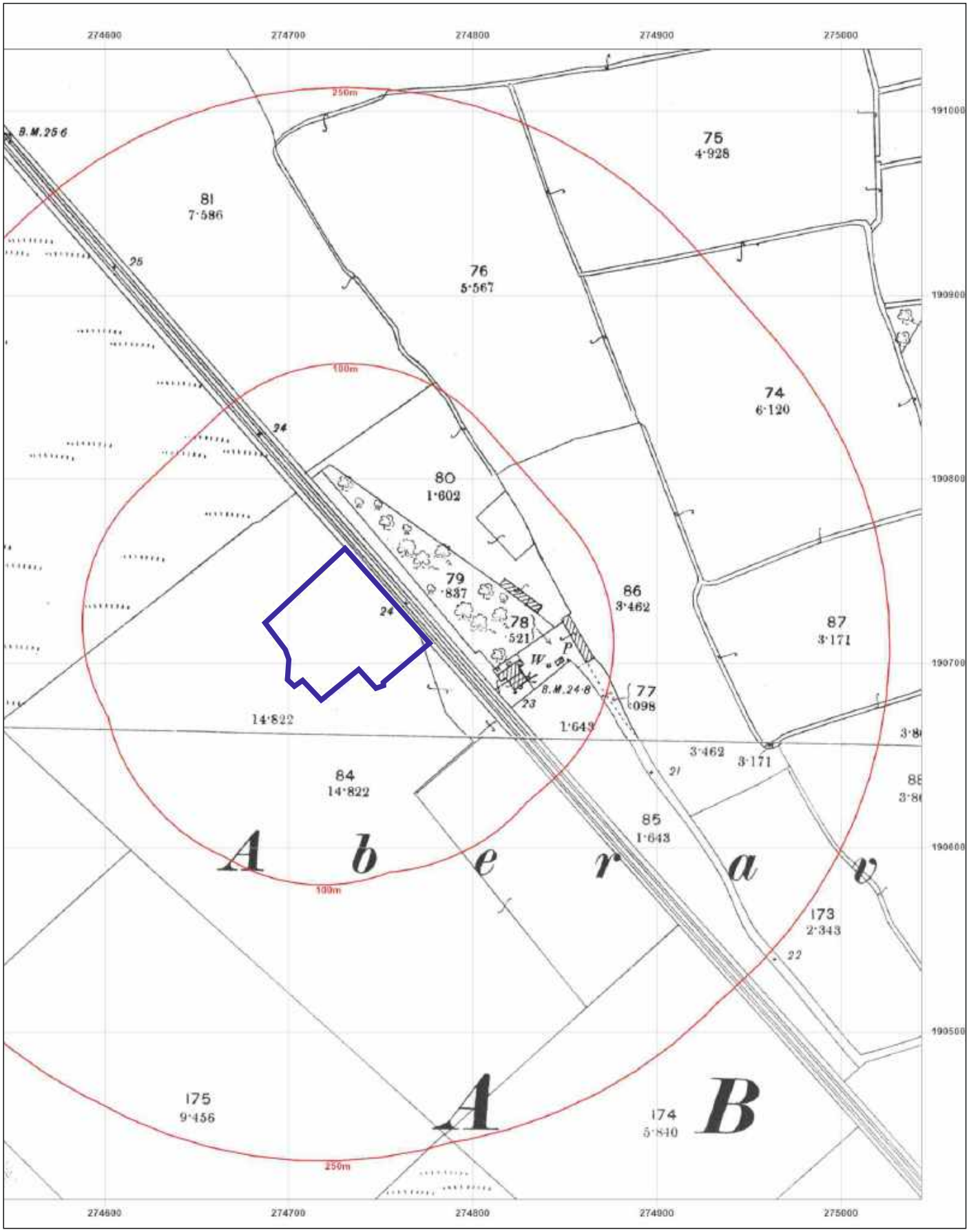


FIGURE 5
THE SITE IN1899.

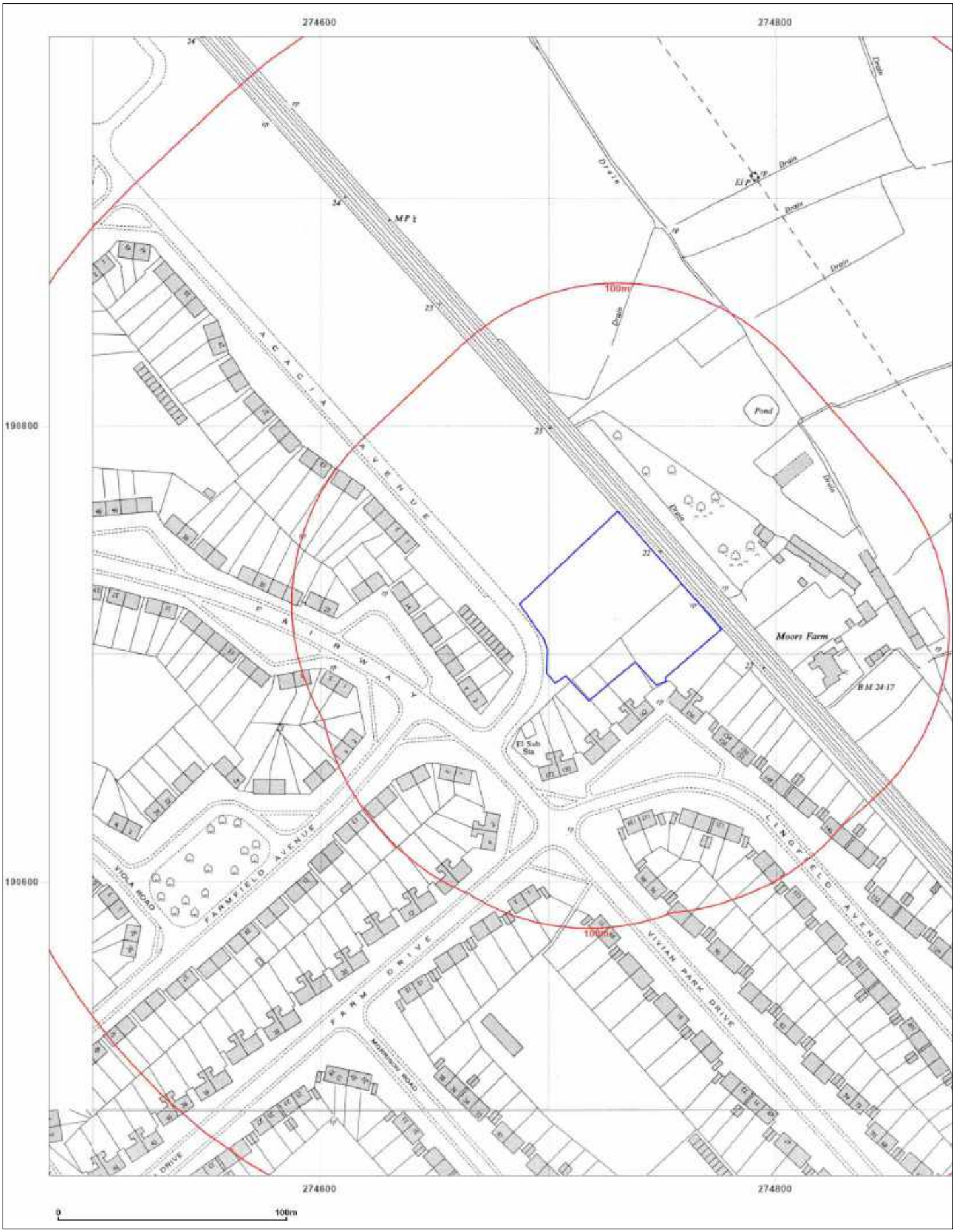


FIGURE 6
THE SITE IN 1956.

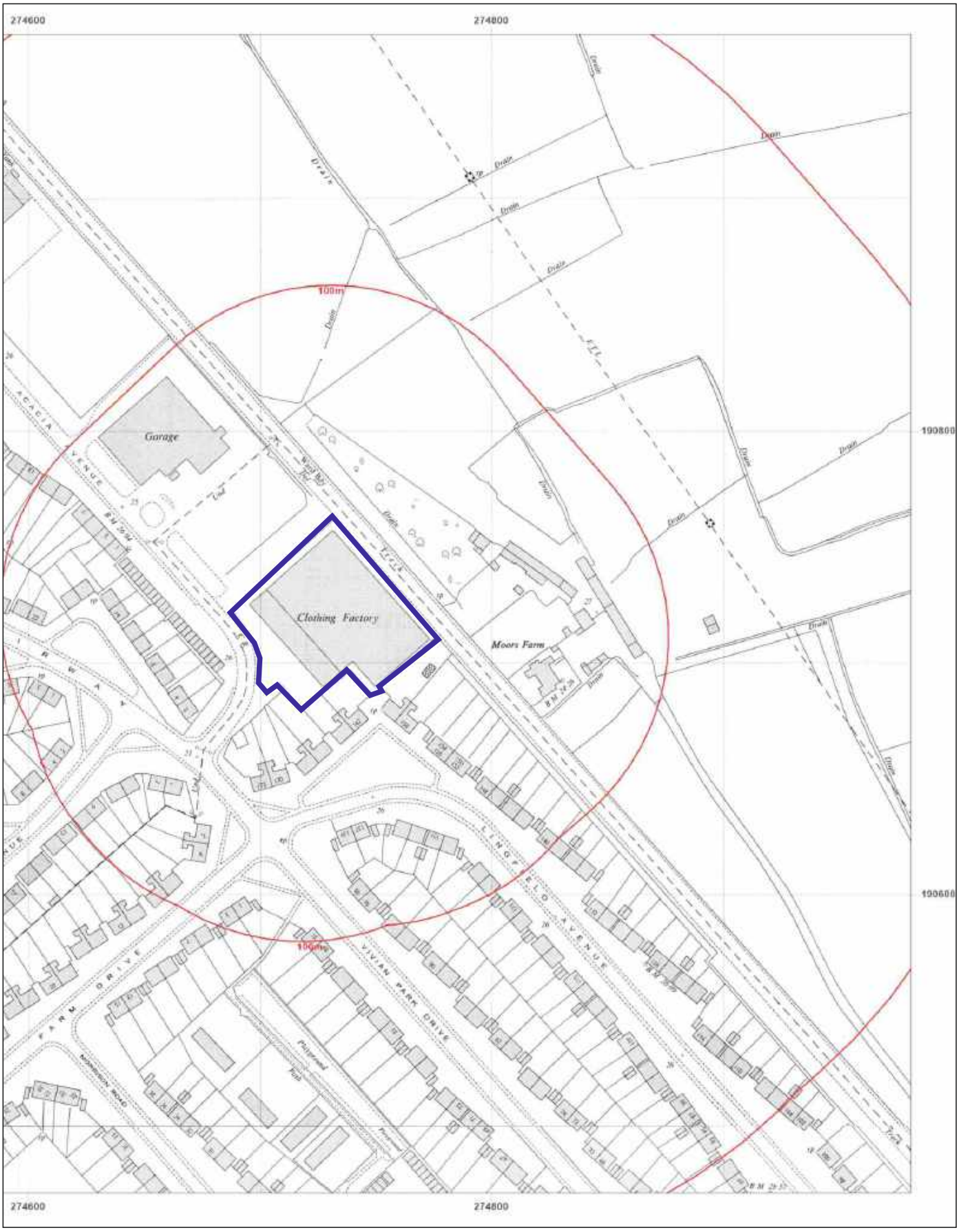


FIGURE 7
THE SITE IN 1963.

FIGURE 8
THE SITE IN 1972.

FIGURE 9
THE SITE IN 1993.

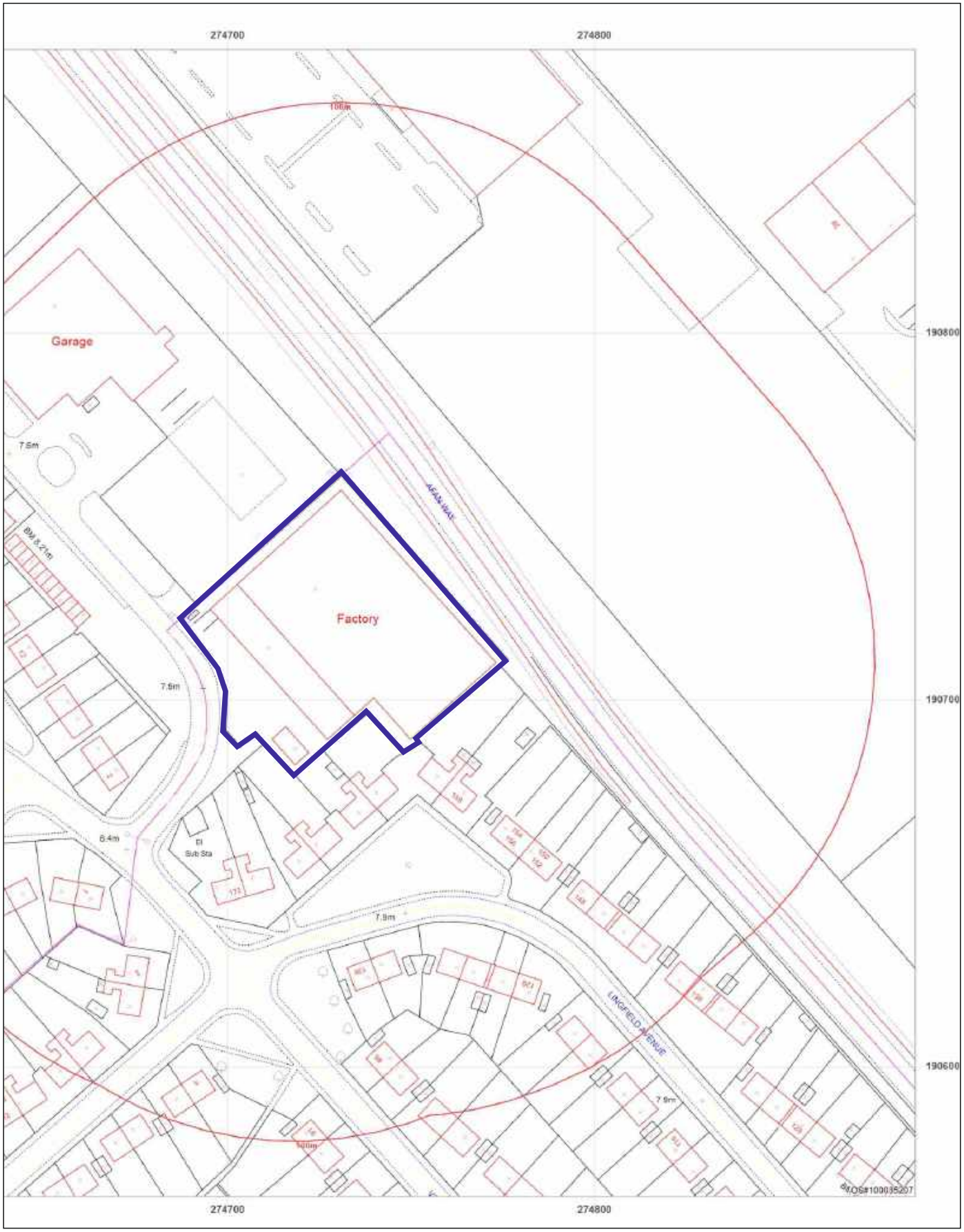


FIGURE 10

THE SITE IN 2003.

5. GEOLOGY

The geology under this (or any other) site can usually be divided into two components. The bedrock, and the superficial deposits (including Made Ground) overlying the bedrock. For a contaminated land study, the superficial deposits are usually the more important of the two as they are the shallowest. This means they are the most likely to be impacted by contamination. Indeed, with Made Ground, it can itself be a source of contamination. The shallowest soils are also more likely to have a pathway to above-ground receptors. The deeper underlying geology will influence the hydrogeology, controlled waters and mining history. A Geoinsight report was purchased to obtain geological information for the Phase 1. It is included in full in Appendix A. This report will also draw on archive material from other sources. These include the B.G.S. Geoindex, the Geological Survey map that covers the site (SS 79SW), the Memoirs of the Geological Survey, South Wales Coalfield, Part IV, Pontypridd and Maesteg (1963), the Coal Authority Interactive Viewer and mining archive material held by the author. This will enable a complete understanding of the site geology, particularly the coal mining. The information from these last two sources will be further discussed in the coal mine gas risk assessment.

Superficial Deposits (Natural Ground only)

Figure 11 is the 1:50,000 Superficial Deposits map taken from the B.G.S. Geoindex. The site sits within a large area of Blown Sand. This is close to the boundary with a large area of alluvium. The boundary approximately follows the A4241 Afan Way. This is unlikely to be coincidental. The previous section on historical mapping showed that Afan Way was previously a railway. Victorian railway engineers were versatile and pragmatic. It is almost certain they deliberately chose to build the railway embankment on relatively dense sand, rather than the soft clay to the north.

Made Ground

Figure 12 is the map of artificial ground from the Geoinsight Report. This is directly derived from the B.G.S. Geoindex. The Made Ground boundary follows the course of the former railway (now Afan Way). Southwest of this the site sits in an area described as “landscaped ground”. This definition can cover a multitude of situations. Here it describes the flattening of the dunes of Aberavon Burrows to allow the construction of the Sandfields Estate in the late 1950s. Northeast of Afan Way the land remained undeveloped for a further twenty

years. The author has carried out site investigations in this area in the past. These includes the investigation for the Neath Port Talbot Hospital. The soft alluvial clays are unsuited to both conventional footings and raft foundations. Because of this the land was covered with slag from the steelworks. This was a cheap and very local source of aggregate. At 1:50,000 scale boundaries are sometimes inaccurate. Here this is not the case. As mentioned in the site walkover, intrusive site investigations have been carried out on the site by the author for geotechnical and drainage purposes. These established that soil conditions at the site are indeed blown sand. There is no engineered Made Ground on site, although the top 0.5m was evidently disturbed during the construction of the building that covers most of the site. The uppermost layer of soil contains an abundance of broken London Brick. These precisely match the L.B.C. brick used in the walls of the former factory.

Solid (Bedrock) Geology:-

Figure 13 is an extract of the six-inch Geological Survey sheet covering the site (SS 79SW). The site sits very close to a sheet boundary. Normally the Survey Sheets are vastly superior to the Bedrock Summary in the Geoinsight Report. In this case, the great thickness of the superficial deposits means there is little information to be gleaned from it. The main reason for reproducing it here is to demonstrate how close the site is to a very deep borehole. The Sandfields No.1 Borehole is circled approximately 280m southwest of the site. This was 1409' (429m) deep and one of a series of four boreholes sunk by the N.C.B. to investigate the viability of opening a coal mine to supply the voracious steelworks, at the time the largest in Europe. The development never went ahead, but the logs of the borehole established two things. Tentative correlation of the coal seams with marine bands identified the strata beneath the site as belonging to the Middle Coal Measures. These are undifferentiated in South Wales. Secondly the borehole established the depth to rockhead as being 133' (40.5m). This correlates with multiple deep boreholes carried out by the author on Baglan Energy Park, the former B.P. Plant and within the Tata Steelworks. What this means in effect is that the bedrock is far too deep to be of relevance to this report although it will be returned to in the Coal Mine Gas Risk Assessment.

FIGURE 11
B.G.S. GEOINDEX 1:50,000 MAP OF SUPERFICIAL DEPOSITS.

FIGURE 12
MAP OF MADE GROUND FROM THE ENVIROINSIGHT REPORT.

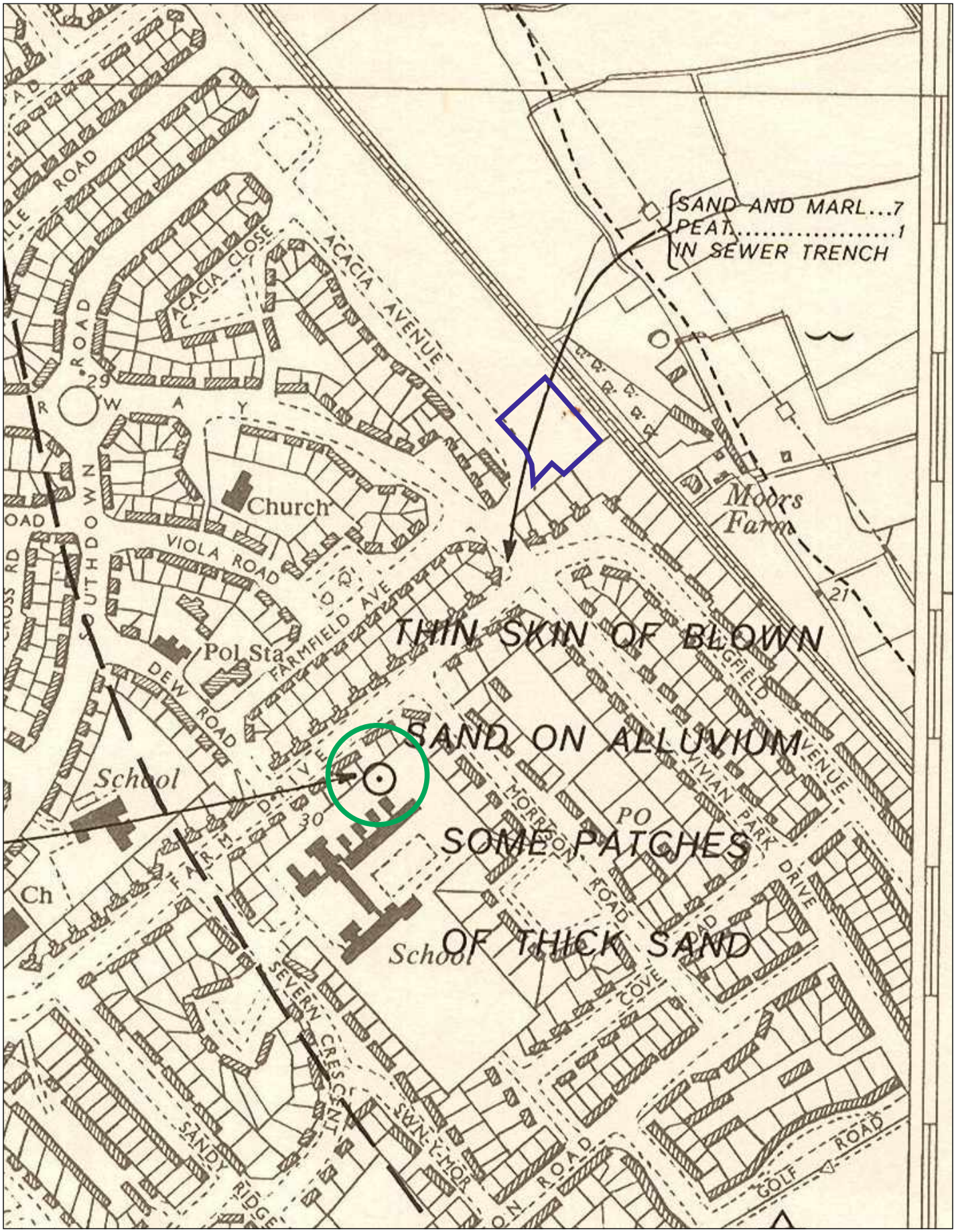


FIGURE 13
SECTION OF GEOLOGICAL SURVEY SHEET SS 79SW. THE SITE IS OUTLINED IN BLUE. SANDFIELDS No.1 BOREHOLE IS CIRCLED

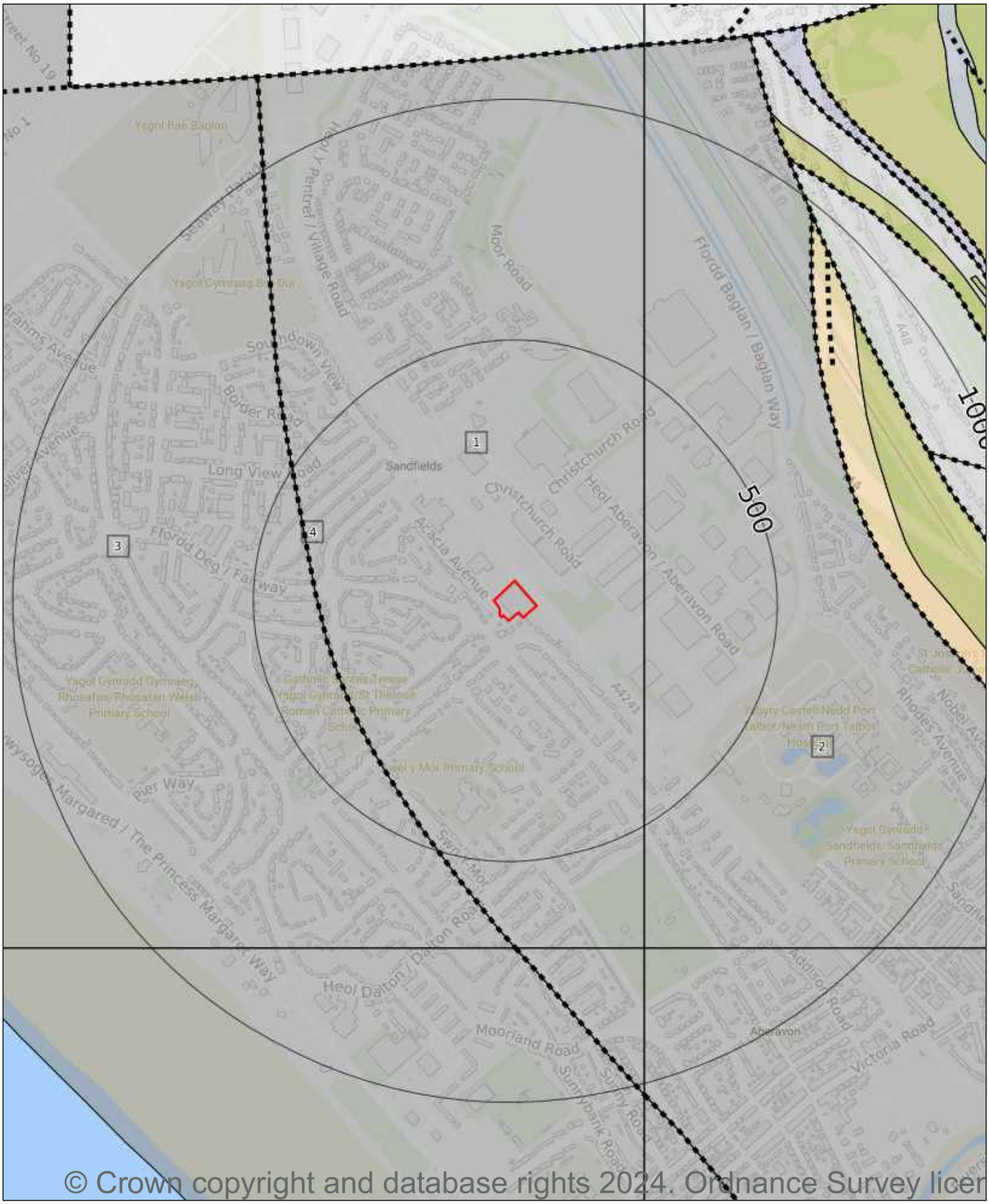


FIGURE 14

THE BEDROCK GEOLOGY MAP FROM THE GEOINSIGHT REPORT. THE GREY COLOUR REPRESENTS THE MIDDLE COAL MEASURES.

6. HYDROGEOLOGY

In the past when compiling a Part 1 Desk Study the necessary information about Hydrogeology could be obtained from the Environment Agency. In Wales this is no longer the case due to the N.R.W. (to whom the responsibilities of the E.A. have been devolved) failing to publish this information to date. It is now necessary to purchase the information off a private organisation such as Groundsure. This has been done for this report and the full Enviroinsight report is attached in Appendix A. All the information in the following sections 6-12 has been taken directly from the report.

The Superficial Aquifer map for the site is on page 34 of the Enviroinsight Report. Figure 15 is taken directly from the report. The aquifer map mimics the superficial deposits map in Figure 11 closely, with the boundary between the Secondary A Aquifer and Secondary Undifferentiated classification following the boundary between the Blown Sand and Alluvium in Figure 11. Secondary A Aquifers were formerly known as Minor Aquifers. The official definition is:- permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow in rivers. The water table was established as being very shallow (1.7m) during the sitework. The undifferentiated classification is used when it is not possible to assign A or B to a site. Formerly these would have been either Minor or Non-Aquifers. The classification is due to the nature of the underlying soft clays. No consideration is given to any overlying Made Ground in this classification.

Page 36 of the Enviroinsight Report shows the bedrock aquifer classification. The entire area of the map is Secondary (A). For this reason it is not reproduced here. Formerly known as Minor Aquifers the official definition is:- permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow in rivers. This reflects the nature of the Middle Coal Measures in the area. Although predominantly argillaceous, there are sandstone horizons such as the Cockshot and Llynfi. These are partly recrystallised and have a low porosity. However they are highly permeable due to the well-developed jointing. The jointing allows high flow rates. Because of the relative abundance of water in South Wales, usually the only groundwater abstractions tend to be private wells on properties remote from mains supply

7. HYDROLOGY AND WATER QUALITY

The Ordnance Survey Water Network Mastermap is on page 44 of the Enviroinsight report. There are no WFD water bodies nearby. The site is within the Baglan Brook

(Source to conf. with River Neath) Water Body Catchment Area. The Operational Catchment is Neath, and the Management Catchment is Tawe to Cadoxton.

The 2016 classification of the Baglan Brook Catchment is Ecological-Moderate, Chemical rating-Good and overall rating-Moderate. The nearest monitoring point is unknown.

The Swansea Carboniferous Coal Measures 2017 groundwater rating is Overall- Poor, Chemical rating- Poor and Quantitative rating-good.

8. ABSTRACTIONS

The Enviroinsight report states that there are no groundwater abstraction licences within 2000m the site. There are two minor Surface Water Abstraction Licences over 1500m from the site. A third high volume license for Tata Steel operates on the River Afan adjacent to the works 1578m from the site. There are no Potable abstraction licenses within 2000m of the site. There are no Source Protection Zones, or Source Protection Zones within Confined Aquifer within a 500m radius of the site.

9. POLLUTION INCIDENTS

There have only been five Environment Agency/Natural Resources Wales Recorded Pollution Incidents within 500m of the site. Two are from firefighting run-off. Two are smoke and dust next door. The other is an oil spill in 2003 444m north of the site. This was assessed as having minor or no impact. None of the incidents will have any bearing on the site.

There are no sites designated as Part 2a contaminated land within 500m of the site. There are no COMAH sites within 500m. There are no explosive sites. There are no Hazardous Substance Consents. There are no historical I.P.C. authorisations, Part A (1) or I.P.P.C. Authorised activities. There are no Part A (2)/B licenses within 500m. There are no Licensed Discharges within 500m. There are no Red List discharge consents or Dangerous/Radioactive Authorisations within 500m. There are no List 1 or List 2 Dangerous Substance Inventory Sites within 500m of the site. There are no licensed water company sewage discharge consents.

10. LANDFILL

There are no active or recently closed landfills under E.A./N.R.W. regulation within 500m of the site. There are no historic landfills in the B.G.S. database recording the DoE 1973 survey. The Enviroinsight Report identifies a supposed landfill 372m from the site on 1963 mapping. This has a very distinctive shape and is shown in Figure 15. The 1:10,560 mapping has been checked and nothing is marked. The 1:2500 mapping

purchased does not extend far enough from the site to check. The position of the landfill is currently within the boundary of the Neath Port Talbot District Hospital.

11. FLOOD RISK

Flood risk for the site should dealt with as a separate matter for the planning application. For a Contaminated Land Assessment the risk of flooding should be initially assessed in the Phase 1. The Phase 2 results will then determine if the flood risk (if any) presents a broader risk to controlled waters and the wider environment. The RoFRaS map is on page 47 of the Enviroinsight report. The flood risk to the site is negligible. The surface water flooding map is on page 50. The risk for a 1 in 30 year return period is 0.3m-1.0m. The groundwater flooding map is on Page 52 of the Enviroinsight report. It shows the risk of groundwater flooding is low on the site.

12. ECOLOGICAL AND ARCHAEOLOGICAL CONSIDERATIONS

There are no known archaeological considerations.

There are no S.S.S.I sites within 2000m of the site. There are 9 areas of ancient woodland north and northeast of the site. in all directions. The closest is 1470m away.

13. PREVIOUS CONTAMINATION STUDIES

There are no known previous contamination studies of the site.

14. LPA AND BUILDING CONTROL RECORDS

It is considered highly unlikely N.P.T. will have any previous building control records dating back to the 1960s.

15. CONTAMINANTS OF CONCERN AND SOURCE AREAS

There was nothing in the intrusive investigations of the site that indicated any risk of contamination at the site. The floor of the former factory building was in good condition. There have been no records of any contaminative used of the site and surrounding area. There is no imported Made Ground at the site. Table 1 overleaf is a qualitative risk assessment of the site. A C.S.M. of the site is considered superfluous.

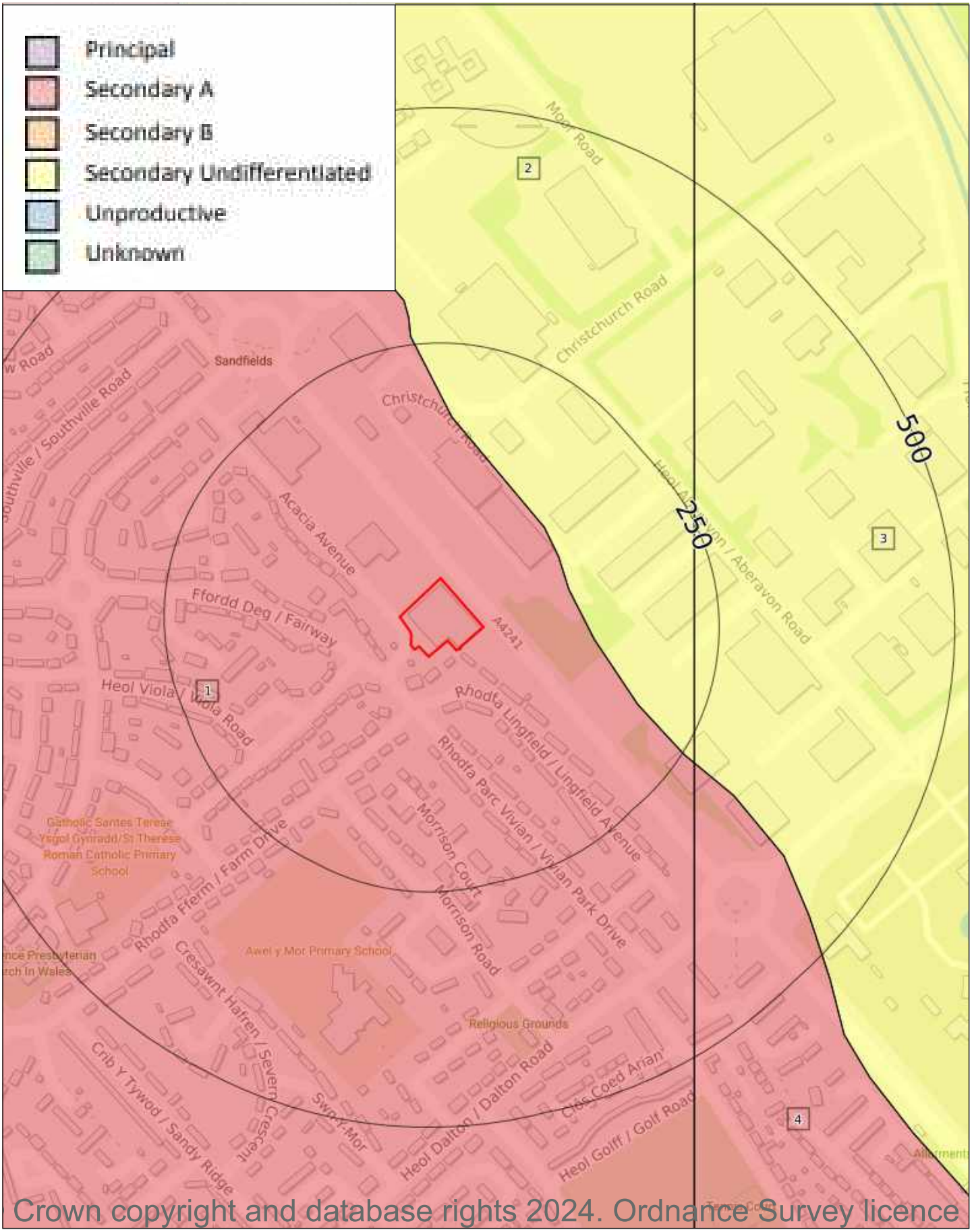


FIGURE 15

SUPERFICIAL AQUIFER MAP FROM THE ENVIROINSIGHT REPORT.

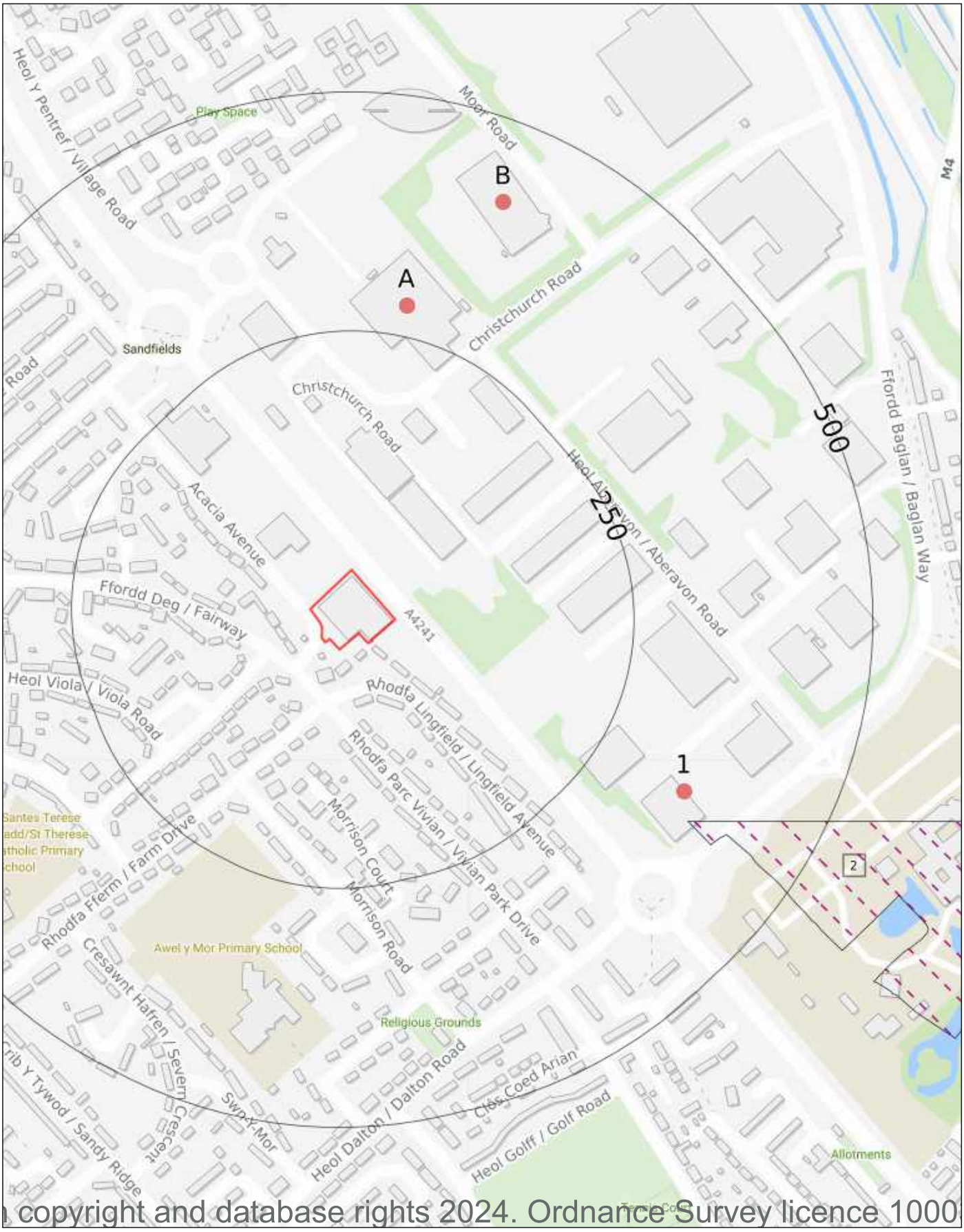


FIGURE 16

LANDFILL MAP FROM THE ENVIROINSIGHT REPORT.

TABLE 1						
INITIAL QUALITATIVE HUMAN HEALTH RISK ASSESSMENT AND ENVIRONMENTAL RISK ASSESSMENT AT ACACIA AVENUE						
CONTAMINANT SOURCE	PATHWAYS	RECEPTORS	POTENTIAL SEVERITY	PROBABILITY OF RISK	LEVEL OF RISK	FURTHER ACTION REQUIRED
ON SITE: POTENTIAL CONTAMINATION IN SOILS/MADE GROUND. POSSIBLY ELEVATED LEVELS OF METALS, CYANIDE, PHENOLS, HYDROCARBONS AND PAH	INGESTION, DERMAL CONTACT, INHALATION	FUTURE END USERS, VISITORS	MEDIUM	LOW	LOW	PAST USES OF THE SITE AS A CLOTHING FACTORY AND RETAIL DEPOT PRESENT NO PROBABLE SOURCES OF CONTAMINATION. PRIOR TO THIS THE SITE WAS COMPLETELY UNDEVELOPED VIRGIN LAND. THERE ARE NO PROBABLE HISTORICAL SOURCES OF CONTAMINATION IN THE SURROUNDING AREA. THERE IS NO IMPORTED MADE GROUND AS A POSSIBLE SOURCE OF CONTAMINATION ON SITE. NO FURTHER ACTION REQUIRED.
	CONTACT WITH CONTAMINATED GROUNDWATER	FUTURE END USERS, VISITORS AND CONSTRUCTION WORKERS	MEDIUM			
	PERMEATION OF WATER PIPES	FUTURE END USERS AND SITE VISITORS	MEDIUM			
	INGESTION OF HOME GROWN PRODUCE	FUTURE END USERS	MEDIUM			
ON SITE: ASBESTOS AT OR NEAR GROUND SURFACE IN SOILS/MADE GROUND	INHALATION OF FIBRES IN AIRBORNE DUST	FUTURE END USERS AND SITE VISITORS	HIGH	LOW	LOW	THERE IS NO REASON TO BELIEVE THERE IS ANY ASBESTOS IN THE SOIL AT THE SITE. THE BUILDING IS CURRENTLY ROOFED IN ASBESTOS SHEETING. THIS WILL BE REMOVED BY LICENSED CONTRACTORS DURING THE REDEVELOPMENT PROCESS. NO FURTHER ACTION REQUIRED.
		CONSTRUCTION WORKERS	HIGH	LOW	LOW	
ON SITE: POTENTIAL CONTAMINATION IN SOILS/MADE GROUND. POSSIBLY ELEVATED LEVELS OF CONTAMINANTS	RUN OFF	SURFACE DRAINAGE	MEDIUM	LOW	LOW	WITH NO LIKELIHOOD OF CONTAMINATION ON SITE, THIS MEANS WITH NO SOURCE THERE CAN BE NO ONWARD PATHWAY TO CONTROLLED WATERS OR OTHER ENVIRONMENTAL RECEPTORS. NO FURTHER ACTION REQUIRED.
	MIGRATION THROUGH SOIL VIA LEACHING	SHALLOW GROUNDWATER				
	ONWARD MIGRATION OF GROUNDWATER	BEDROCK AQUIFER				

18. GROUND GAS POTENTIAL

The updated (2017) WLGA & NRW guidelines on the Development of Land Affected by Contamination state that "Ground gas is a contaminant and should be considered as a potential contaminant source in the preliminary risk assessment on sites where gas generation and /or migration is suspected". This requires all possible sources of ground gas to be examined.

Intrusive investigations at the site have proved there is no biodegradable Made Ground at the site. There are some localised peat deposits in the area at depth below the Blown Sand. The author has extensive experience of drilling boreholes in the area. The Peat dates back to the end of the last (Devensian) Ice Age when rising sea levels then buried it in granular sediments. It is now highly compacted and all Methane production from decomposition has ceased. The compaction under up to 40m of sediment has driven all residual gas out. The Peat cannot be considered as a viable source of ground gas.

Moving on to the risk of migration from elsewhere, the two most common sources for ground gas migrating onto a site from elsewhere are landfill sites and mines, particularly coal mines. Landfill sites have been found to be sources of gases, particularly methane, caused by the breakdown of organic material contained within them. There have been instances where migration of these gases has caused explosions or asphyxiation at receptors off site. These occurrences are rare and usually outside Britain in completely unregulated circumstances. In contrast, landfills in Britain have been tightly regulated and managed for many years, and a sense of perspective is necessary when assessing the threat from a landfill close to a site. At the present time "close" is generally taken to mean 250m, although there are no specific studies that have arrived at this figure. The figure dates to a 2003 E.A. publication "Building on or within 250m of a Landfill". The document and 250m figure were subsequently adopted in L.P.A. planning guidance. The original document itself stresses that conditions can vary enormously. In particular, the document acknowledges that pre-1970s landfills contain virtually no biodegradable matter and the risk of gas production is negligible. In addition, there must be viable pathways from any potential source of Landfill gases to a receptor, for there to be any risk. As stated in Section 10, there is a possible landfill 342m from the site. This is now within the grounds of the Hospital. The 1960s date means it fits the negligible risk category. Even if this were not the case there is no possible viable pathway to the site from 340m away. The risk of migration of Landfill Gas to site can be completely discounted.

19. DETAILED COAL MINING GAS RISK ASSESSMENT

This leaves the risk from Coal Mining. Gas production was a constant problem during the coal mining heyday of the South Wales Coalfield. The loss of life through explosion or asphyxiation was huge. However, there were vast differences in the potential for gas production between different areas, and in different seams. As a generalisation, the deep steam coals of the Middle and Lower Coal Measures were the most problematic in the Coalfield. Gas production in coal mines takes two forms. Methane trapped under pressure in the coal is released during mining operations. The production of Methane stops very shortly after the end of mining activity. The production of Carbon Dioxide and Carbon Monoxide is due to oxidation of the coal. If conditions are suitable, this gas production can carry on long after mining ceases.

The geological desk study contained in Section 5 established that the site is underlain by the Middle Coal Measures. The site is within a Coal Mining Reporting Area. Because the site is within the C.M.R.A. a Coal Mine Gas Risk Assessment will be required under current legislation. Recently, local authorities have been requesting specific mine gas risk assessments conducted in accordance with 'CL:AIRE - Good Practice for Risk Assessment for Coal Mine Gas Emissions, October 2021' and having regard to current guidance - 'Land Contamination: Risk Management (LCRM; 2020)'. There is usually a demand to follow the decision tree in Figure 13.1 of the Decision support tool for mine gas risk assessment on page 35 of the CL:AIRE document. To obtain further mining information, the Coal Authority Interactive Viewer was used. This contains multiple datasets relating to past coal mining. Figure 17 is a screenshot of the interactive viewer. Multiple datasets are open. These include Coal Seam outcrops, recorded underground mining, suspected Shallow Workings and mine entries. There are none of these features remotely near the site. The nearest mining is over 1km away north of the Pentwyn Road where the topography starts to rise.

The Decision Support Tool, Figure 13.1 on Page 35 of the CL:AIRE publication Good Practise for Risk Assessment for Coal Mine Gas Emissions can now to be used. Within this rigid framework there is no room for geological knowledge, or practical experience of coal mining. In this instance the flow chart can be followed to reach the decision above.

IS THE SITE WITHIN A C.A. DEFINED COAL MINING REPORTING AREA

>YES>

ARE ALL THESE STATEMENTS TRUE.

ALL MINE ENTRIES >50m FROM SITE BOUNDARY.

ALL WORKINGS >150m DEPTH

NO FAULTS OR POTENTIAL PATHWAYS CONNECTING THE SURFACE TO DEEPER UNFLOODED WORKINGS.

OUTSIDE AREA OF PAST OR PROBABLE SHALLOW WORKINGS ON THE COAL AUTHORITY INTERACTIVE VIEWER.

>YES>

NEGLIIBLE RISK ZONE.

DETAILED FINDINGS WITHIN THIS REPORT (YES-SEE SECTIONS 5 AND 19)

MITIGATION NOT REQUIRED.

NO FURTHER ACTION REQUIRED.

Finally, the Geoinsight Report states the site is within an area where <1% of properties are affected by Radon. Because of the sensitive nature of the proposed development a building specific report was purchased from the British Geological Survey. This is attached as Appendix B. The B.G.S. report contained the same conclusions as the Geoinsight Report. No Radon protective measures will be required.

A summary of the Ground Gas Risk Assessment of the site is contained in Table 2 overleaf.

20. CONCLUSIONS

The author considers that the research and conclusions contained within this Phase 1 desk study are sufficiently robust to enable N.P.T. Planning in consultation with their Contaminated Land Officer to conclude that no contaminated land conditions need to be imposed on any grant of full planning for the proposed redevelopment of Stationery House as a Renal Unit for Neath Port Talbot Hospital.

Richard Davies BSc. (Hons), MSc., F.G.S.

7/08/2024

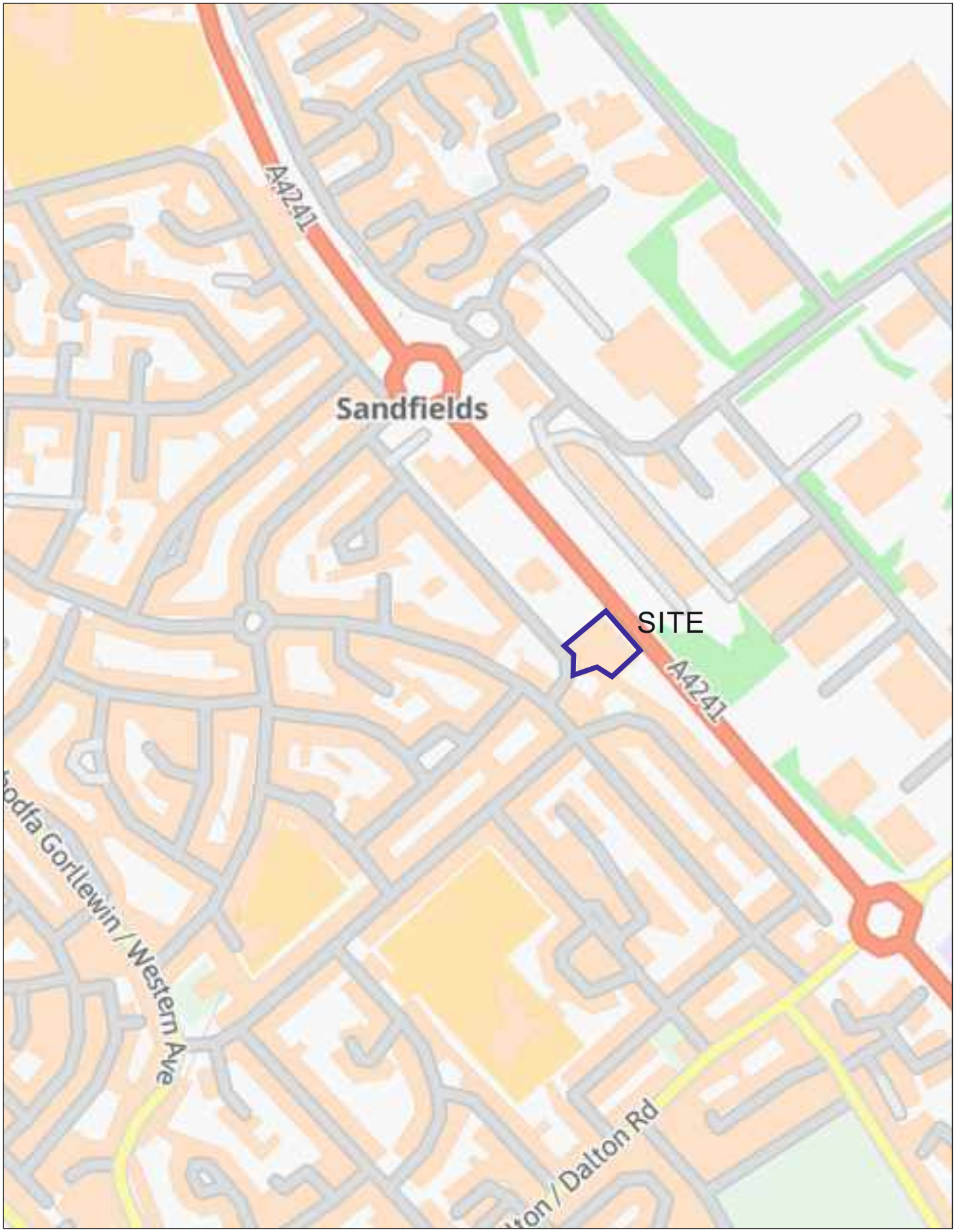


FIGURE 17
COAL AUTHORITY INTERACTIVE VIEWER. ALL MINING DATA WINDOWS ARE OPEN INCLUDING MINE ENTRIES, OUTCROPS, RECORDED MINING AND SUSPECTED SHALLOW MINING.

TABLE 2 INITIAL GROUND GAS RISK ASSESSMENT AT ACACIA AVENUE					
SOURCE	PATHWAY	RECEPTOR	CONSEQUENCE CLASSIFICATION	RISK	FURTHER ACTION
HAZARDOUS GROUND GAS FROM OFF SITE SOURCE	INHALATION, INJURY FROM EXPLOSION	SITE USERS, VISITORS, CONSTRUCTION WORKERS	SEVERE	LOW. NO POSSIBILITY OF OFF SITE GENERATION OF LANDFILL GASES MIGRATING ONTO SITE. NO RISK FROM MINE GAS MIGRATION.	THE RISK REQUIRES NO FURTHER QUANTIFICATION.
HAZARDOUS GROUND GAS FROM OFF SITE SOURCE	DAMAGE FROM EXPLOSION	BUILDINGS	SEVERE		
HAZARDOUS GROUND GAS FROM ON SITE SOURCE	INHALATION, INJURY FROM EXPLOSION	SITE USERS, VISITORS, CONSTRUCTION WORKERS	SEVERE	LOW. NO POSSIBILITY OF ON SITE GENERATION FROM MADE GROUND OR ORGANIC SOILS.	THE RISK REQUIRES NO FURTHER QUANTIFICATION
HAZARDOUS GROUND GAS FROM ON SITE SOURCE	DAMAGE FROM EXPLOSION	BUILDINGS	SEVERE		
RADON GAS	LONG TERM HAZARD FROM INHALATION	SITE USERS	SEVERE	LOW. <1% LOCAL PROPERTIES ABOVE RADON ACTION LEVEL.	NO RADON PROTECTION MEASURES REQUIRED

APPENDIX A

GROUNDSURE

ENVIROINSIGHT AND GEOINSIGHT

REPORTS

SATONERY HOUSE

ACACIA AVENUE

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

274735,190730,

Order Details

Date: 26/06/2024

Your ref: BAGLAN_ACCACIA

Our Ref: GS-35I-KV8-X2Y-KNX

Site Details

Location: 274729 190712

Area: 0.4 ha

Authority: Castell-nedd Port Talbot - Neath Port Talbot County Borough ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	1	2	2	4	-
16 >	1.2 >	Historical tanks >	0	0	8	3	-
17 >	1.3 >	Historical energy features >	0	3	0	13	-
18	1.4	Historical petrol stations	0	0	0	0	-
18 >	1.5 >	Historical garages >	0	2	1	0	-
18	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
19 >	2.1 >	Historical industrial land uses >	1	2	2	4	-
20 >	2.2 >	Historical tanks >	0	0	10	3	-
21 >	2.3 >	Historical energy features >	0	4	0	19	-
22	2.4	Historical petrol stations	0	0	0	0	-
22 >	2.5 >	Historical garages >	0	3	1	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	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	0	1	-
24	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
24 >	3.7 >	Waste exemptions >	0	0	0	5	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
26 >	4.1 >	Recent industrial land uses >	2	1	11	-	-
27 >	4.2 >	Current or recent petrol stations >	0	0	0	1	-
28	4.3	Electricity cables	0	0	0	0	-
28	4.4	Gas pipelines	0	0	0	0	-
28	4.5	Sites determined as Contaminated Land	0	0	0	0	-

28	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
28	4.7	Regulated explosive sites	0	0	0	0	-
29	4.8	Hazardous substance storage/usage	0	0	0	0	-
29	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
29	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
29 >	**4.11 >**	**Licensed pollutant release (Part A(2)/B) >**	0	0	0	2	-
30 >	**4.12 >**	**Radioactive Substance Authorisations >**	0	0	0	6	-
31	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
31	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
31	4.15	Pollutant release to public sewer	0	0	0	0	-
31	4.16	List 1 Dangerous Substances	0	0	0	0	-
32	4.17	List 2 Dangerous Substances	0	0	0	0	-
32 >	**4.18 >**	**Pollution Incidents (EA/NRW) >**	0	0	1	4	-
33	4.19	Pollution inventory substances	0	0	0	0	-
33	4.20	Pollution inventory waste transfers	0	0	0	0	-
33	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
34 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
36 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
38 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
39	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
39	5.5	Groundwater vulnerability- local information	None (within 0m)				
40	5.6	Groundwater abstractions	0	0	0	0	0
41 >	**5.7 >**	**Surface water abstractions >**	0	0	0	0	8
42	5.8	Potable abstractions	0	0	0	0	0
43	5.9	Source Protection Zones	0	0	0	0	-
43	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
44	6.1	Water Network (OS MasterMap)	0	0	0	-	-

44	6.2	Surface water features	0	0	0	-	-
45 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
45 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
46 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
47	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
48	7.2	Historical Flood Events	0	0	0	-	-
48	7.3	Flood Defences	0	0	0	-	-
48 >	7.4 >	Areas Benefiting from Flood Defences >	0	0	1	-	-
48	7.5	Flood Storage Areas	0	0	0	-	-
49	7.6	Flood Zone 2	None (within 50m)				
49	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
50 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
52 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
53	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
54	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
54	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
54	10.4	Special Protection Areas (SPA)	0	0	0	0	0
54	10.5	National Nature Reserves (NNR)	0	0	0	0	0
55	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
55 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	9
55	10.8	Biosphere Reserves	0	0	0	0	0
56	10.9	Forest Parks	0	0	0	0	0
56	10.10	Marine Conservation Zones	0	0	0	0	0
56	10.11	Green Belt	0	0	0	0	0
56	10.12	Proposed Ramsar sites	0	0	0	0	0

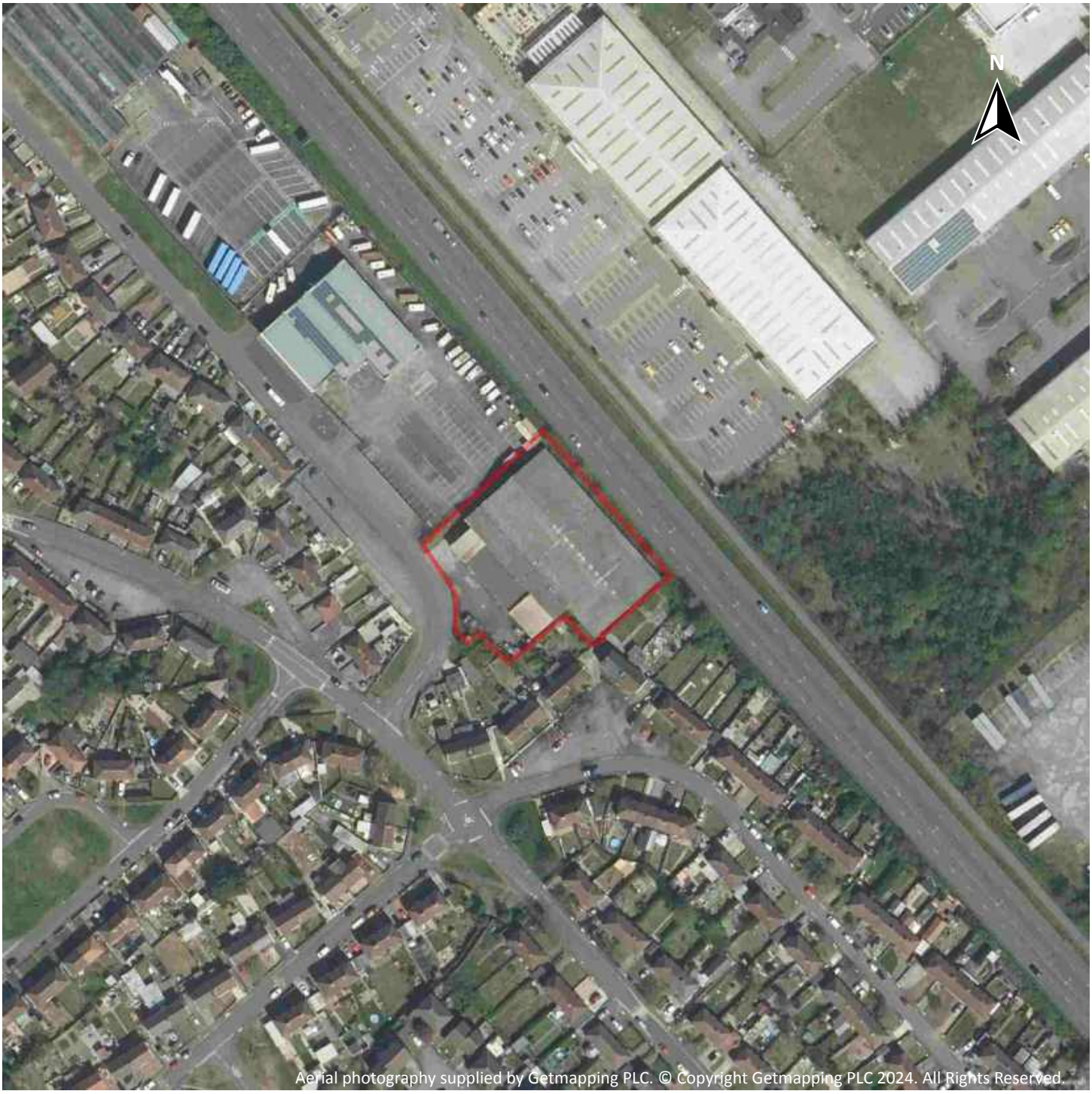
56	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
57	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
57	10.15	Nitrate Sensitive Areas	0	0	0	0	0
57	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
58	10.17	SSSI Impact Risk Zones	0	-	-	-	-
58	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
59	11.1	World Heritage Sites	0	0	0	-	-
59	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
59	11.3	National Parks	0	0	0	-	-
59	11.4	Listed Buildings	0	0	0	-	-
60	11.5	Conservation Areas	0	0	0	-	-
60	11.6	Scheduled Ancient Monuments	0	0	0	-	-
60	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	**Agricultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
61 >	**12.1 >**	**Agricultural Land Classification >**	Grade 4 (within 250m)				
62	12.2	Open Access Land	0	0	0	-	-
62	12.3	Tree Felling Licences	0	0	0	-	-
62	12.4	Environmental Stewardship Schemes	0	0	0	-	-
62	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
63	13.1	Priority Habitat Inventory	0	0	0	-	-
63	13.2	Habitat Networks	0	0	0	-	-
63	13.3	Open Mosaic Habitat	0	0	0	-	-
63	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
64 >	**14.1 >**	**10k Availability >**	Identified (within 500m)				
65 >	**14.2 >**	**Artificial and made ground (10k) >**	1	1	1	3	-
67 >	**14.3 >**	**Superficial geology (10k) >**	1	0	2	1	-

68	14.4	Landslip (10k)	0	0	0	0	-
69 >	14.5 >	Bedrock geology (10k) >	1	0	1	1	-
70 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	0	1	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
71 >	15.1 >	50k Availability >	Identified (within 500m)				
72 >	15.2 >	Artificial and made ground (50k) >	1	1	0	1	-
73 >	15.3 >	Artificial ground permeability (50k) >	1	1	-	-	-
74 >	15.4 >	Superficial geology (50k) >	1	0	1	0	-
75 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
75	15.6	Landslip (50k)	0	0	0	0	-
75	15.7	Landslip permeability (50k)	None (within 50m)				
76 >	15.8 >	Bedrock geology (50k) >	1	0	0	1	-
77 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
77 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	0	1	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
78 >	16.1 >	BGS Boreholes >	0	0	14	-	-
Page	Section	Natural ground subsidence >					
80 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
81 >	17.2 >	Running sands >	Very low (within 50m)				
83 >	17.3 >	Compressible deposits >	Very low (within 50m)				
85 >	17.4 >	Collapsible deposits >	Negligible (within 50m)				
86 >	17.5 >	Landslides >	Very low (within 50m)				
87 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings	On site	0-50m	50-250m	250-500m	500-2000m
89	18.1	BritPits	0	0	0	0	-
89	18.2	Surface ground workings	0	0	0	-	-
89	18.3	Underground workings	0	0	0	0	0
89	18.4	Underground mining extents	0	0	0	0	-
90	18.5	Historical Mineral Planning Areas	0	0	0	0	-

90	18.6	Non-coal mining	0	0	0	0	0
90	18.7	JPB mining areas	None (within 0m)				
90	18.8	The Coal Authority non-coal mining	0	0	0	0	-
91	18.9	Researched mining	0	0	0	0	-
91	18.10	Mining record office plans	0	0	0	0	-
91	18.11	BGS mine plans	0	0	0	0	-
91 >	**18.12 >**	**Coal mining >**	Identified (within 0m)				
92	18.13	Brine areas	None (within 0m)				
92	18.14	Gypsum areas	None (within 0m)				
92	18.15	Tin mining	None (within 0m)				
92	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
93	19.1	Natural cavities	0	0	0	0	-
93	19.2	Mining cavities	0	0	0	0	0
93	19.3	Reported recent incidents	0	0	0	0	-
93	19.4	Historical incidents	0	0	0	0	-
94	19.5	National karst database	0	0	0	0	-
Page	Section	**Radon >**					
95 >	**20.1 >**	**Radon >**	Less than 1% (within 0m)				
Page	Section	**Soil chemistry >**	On site	0-50m	50-250m	250-500m	500-2000m
97 >	**21.1 >**	**BGS Estimated Background Soil Chemistry >**	1	0	-	-	-
97 >	**21.2 >**	**BGS Estimated Urban Soil Chemistry >**	4	4	-	-	-
98 >	**21.3 >**	**BGS Measured Urban Soil Chemistry >**	0	1	-	-	-
Page	Section	**Railway infrastructure and projects >**	On site	0-50m	50-250m	250-500m	500-2000m
99	22.1	Underground railways (London)	0	0	0	-	-
99	22.2	Underground railways (Non-London)	0	0	0	-	-
100	22.3	Railway tunnels	0	0	0	-	-
100	22.4	Historical railway and tunnel features	0	0	0	-	-
100	22.5	Royal Mail tunnels	0	0	0	-	-

100 >	22.6 >	Historical railways >	0	1	0	-	-
101	22.7	Railways	0	0	0	-	-
101	22.8	Crossrail 1	0	0	0	0	-
101	22.9	Crossrail 2	0	0	0	0	-
101	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 14/04/2020

Site Area: 0.4ha

Recent site history - 2017 aerial photograph

Capture Date: 26/05/2017

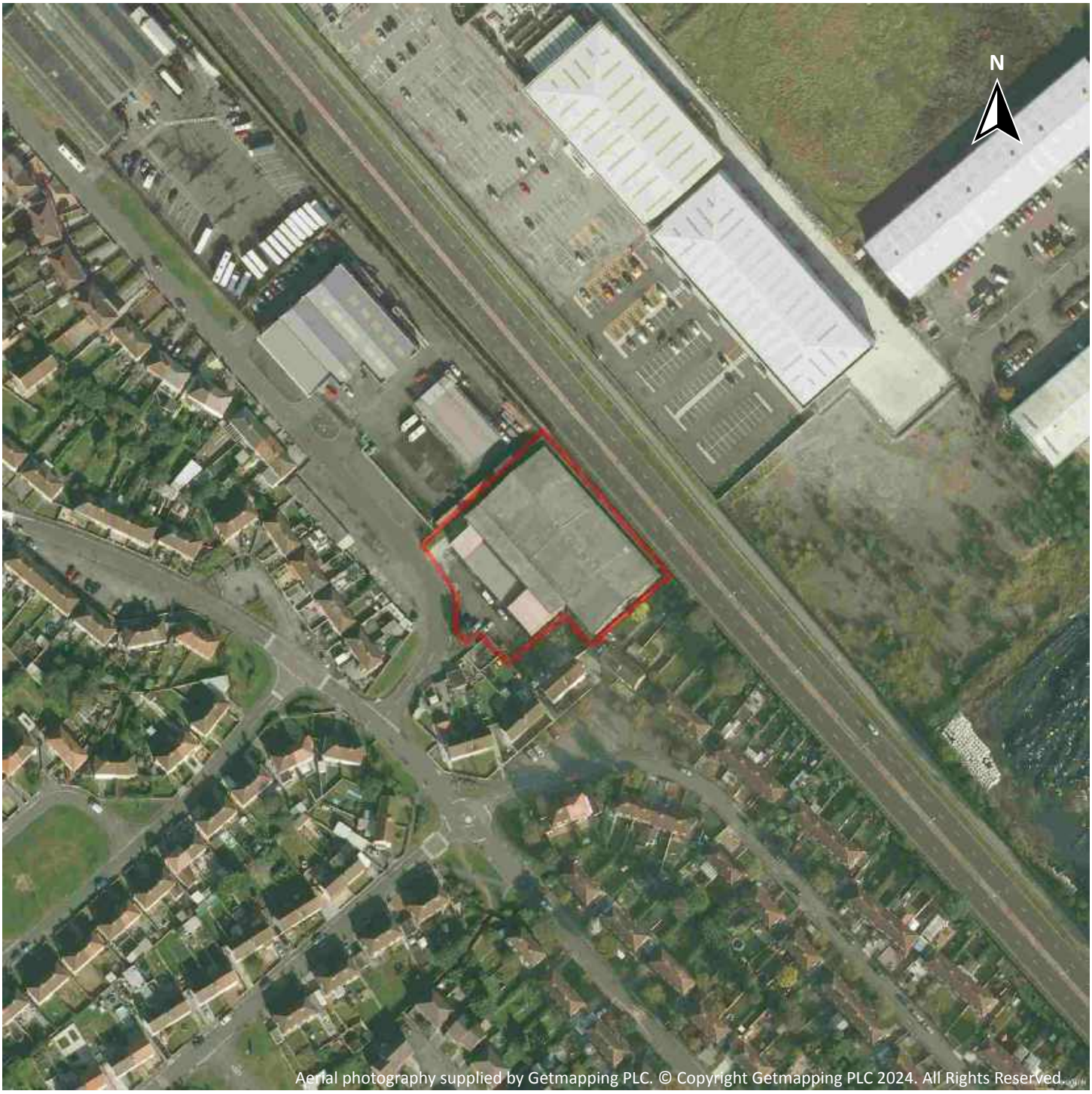
Site Area: 0.4ha

Recent site history - 2014 aerial photograph

Capture Date: 23/07/2014

Site Area: 0.4ha

Recent site history - 2009 aerial photograph



Capture Date: 13/10/2009

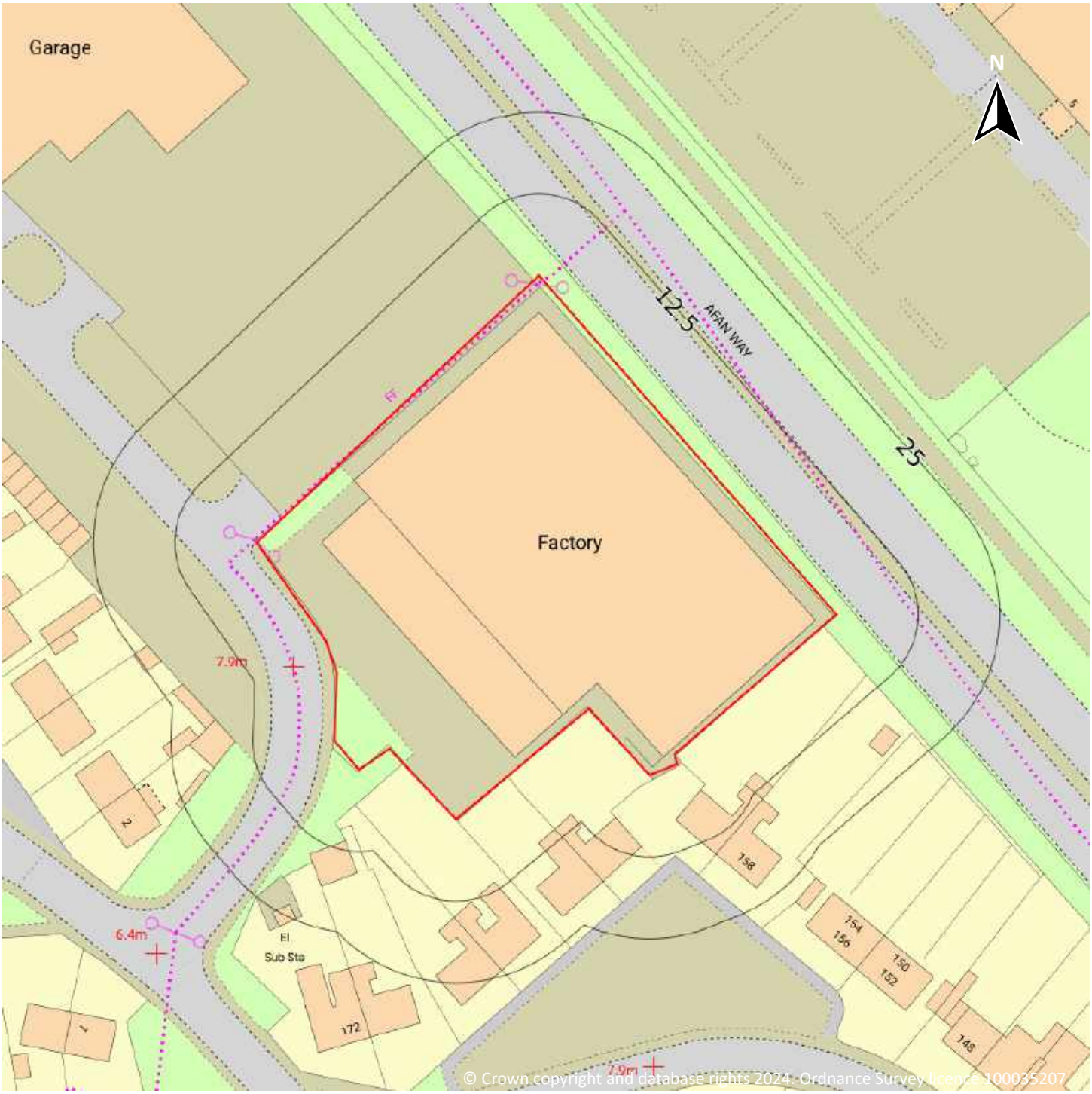
Site Area: 0.4ha

Recent site history - 2000 aerial photograph

Capture Date: 18/06/2000

Site Area: 0.4ha

OS MasterMap site plan



Site Area: 0.4ha

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	9

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 15 >**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Unspecified Factory**	**1978**	**320645**

ID	Location	Land use	Dates present	Group ID
C	33m E	Unspecified Factory	1978	320646
A	35m N	Garage	1978	338047
E	165m NW	Unspecified Depot	1978	321583
D	190m N	Unspecified Tank	1978	320098
F	257m SW	Police Station	1962	332699
G	291m NW	Unspecified Pit	1978	335783
F	293m SW	Police Station	1978	332698
4	365m SE	Gravel Pit	1957	328673

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**11**

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 15 >**

ID	Location	Land use	Dates present	Group ID
C	51m N	Tanks	1983 - 1993	41421
2	126m E	Unspecified Tank	1983 - 1993	41268
D	145m N	Unspecified Tank	1972	38130
D	193m NW	Unspecified Tank	1972	38132
E	199m NW	Unspecified Tank	1967	44684
E	202m NW	Unspecified Tank	1993	40970
E	204m NW	Unspecified Tank	1972	44534
E	204m NW	Unspecified Tank	1983	41115
K	399m SW	Unspecified Tank	1976	43225
K	399m SW	Unspecified Tank	1963	44049

ID	Location	Land use	Dates present	Group ID
K	400m SW	Unspecified Tank	1993	40478

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**16**

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 15 >**

ID	Location	Land use	Dates present	Group ID
B	19m SW	Electricity Substation	1983	22059
B	20m SW	Electricity Transformer	1972	19789
B	20m SW	Electricity Substation	1956 - 1993	20881
G	275m NW	Electricity Substation	1983 - 1993	23182
G	275m NW	Electricity Transformer	1972	19788
H	284m E	Electricity Substation	1983 - 1991	22378
H	285m E	Electricity Substation	1995	20442
3	345m NE	Electricity Substation	1995	19318
I	378m SW	Electricity Substation	1993	19340
I	379m SW	Electricity Transformer	1976	19785
J	384m E	Electricity Substation	1995	21750
J	384m E	Electricity Substation	1983 - 1991	23415
5	450m SE	Gas Governor	1991	19759
L	457m N	Electricity Substation	1993	19317
L	460m N	Gas Governor	1993	19745
6	482m N	Electricity Substation	1984 - 1993	20565

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	3

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 15 >**

ID	Location	Land use	Dates present	Group ID
A	11m N	Garage	1967	6946
A	38m NW	Garage	1972 - 1983	7546
A	51m NW	Garage	1993	7060

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	9

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 19 >**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Unspecified Factory**	**1978**	**320645**
C	33m E	Unspecified Factory	1978	320646
A	35m N	Garage	1978	338047

ID	Location	Land Use	Date	Group ID
F	165m NW	Unspecified Depot	1978	321583
E	190m N	Unspecified Tank	1978	320098
G	257m SW	Police Station	1962	332699
H	291m NW	Unspecified Pit	1978	335783
G	293m SW	Police Station	1978	332698
3	365m SE	Gravel Pit	1957	328673

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**13**

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 19 >**

ID	Location	Land Use	Date	Group ID
C	51m N	Tanks	1993	41421
C	53m N	Tanks	1983	41421
D	126m E	Unspecified Tank	1993	41268
D	126m E	Unspecified Tank	1983	41268
E	145m N	Unspecified Tank	1972	38130
E	193m NW	Unspecified Tank	1972	38132
F	199m NW	Unspecified Tank	1967	44684
F	202m NW	Unspecified Tank	1993	40970
F	204m NW	Unspecified Tank	1972	44534
F	204m NW	Unspecified Tank	1983	41115
L	399m SW	Unspecified Tank	1976	43225
L	399m SW	Unspecified Tank	1963	44049
L	400m SW	Unspecified Tank	1993	40478

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	23

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 19 >**

ID	Location	Land Use	Date	Group ID
B	19m SW	Electricity Substation	1983	22059
B	20m SW	Electricity Transformer	1972	19789
B	20m SW	Electricity Substation	1956	20881
B	21m SW	Electricity Substation	1993	20881
H	275m NW	Electricity Substation	1993	23182
H	275m NW	Electricity Transformer	1972	19788
H	275m NW	Electricity Substation	1983	23182
I	284m E	Electricity Substation	1983	22378
I	284m E	Electricity Substation	1983	22378
I	284m E	Electricity Substation	1991	22378
I	285m E	Electricity Substation	1995	20442
2	345m NE	Electricity Substation	1995	19318
J	378m SW	Electricity Substation	1993	19340
J	379m SW	Electricity Transformer	1976	19785
K	384m E	Electricity Substation	1995	21750
K	384m E	Electricity Substation	1983	23415
K	384m E	Electricity Substation	1983	23415
K	384m E	Electricity Substation	1991	23415
4	450m SE	Gas Governor	1991	19759
M	457m N	Electricity Substation	1993	19317
M	460m N	Gas Governor	1993	19745
N	482m N	Electricity Substation	1993	20565
N	483m N	Electricity Substation	1984	20565

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	4

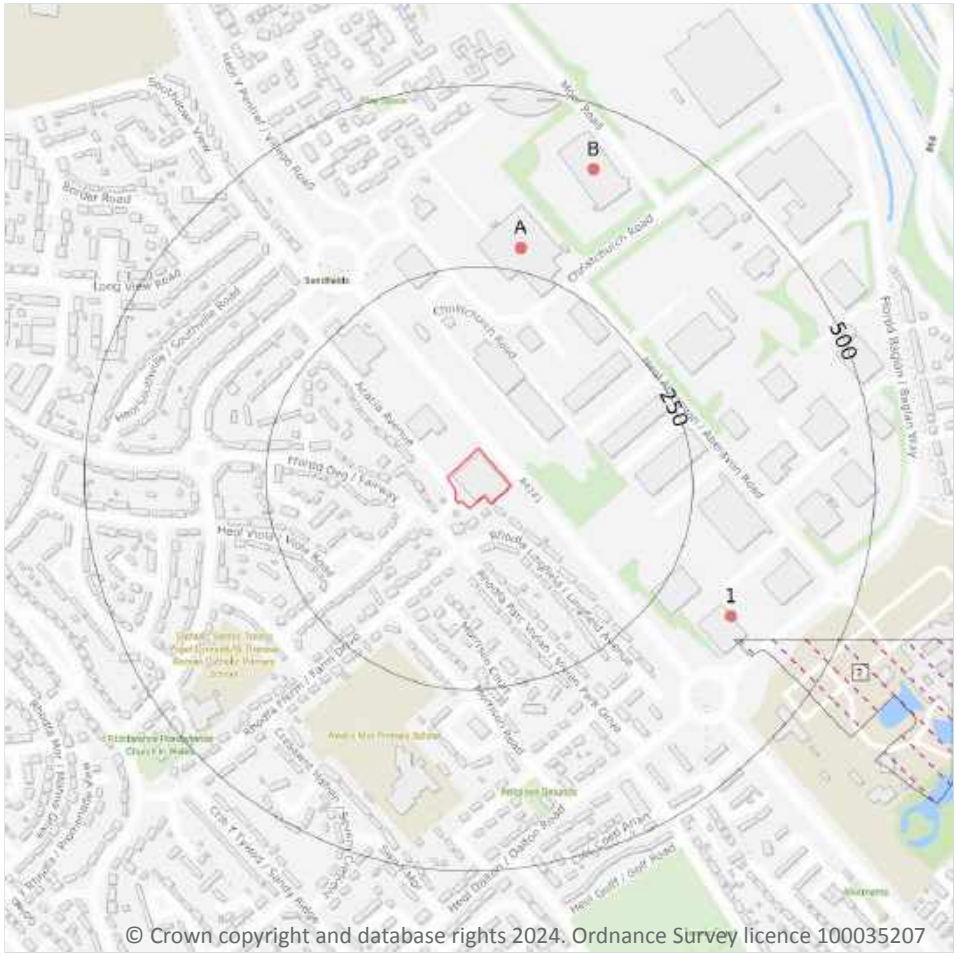
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19 >**

ID	Location	Land Use	Date	Group ID
A	11m N	Garage	1967	6946
A	38m NW	Garage	1983	7546
A	40m NW	Garage	1972	7546
A	51m NW	Garage	1993	7060

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	0

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.

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
2	372m SE	Refuse Tip	1963 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	0

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.

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	0

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

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

3.7 Waste exemptions

Records within 500m	5

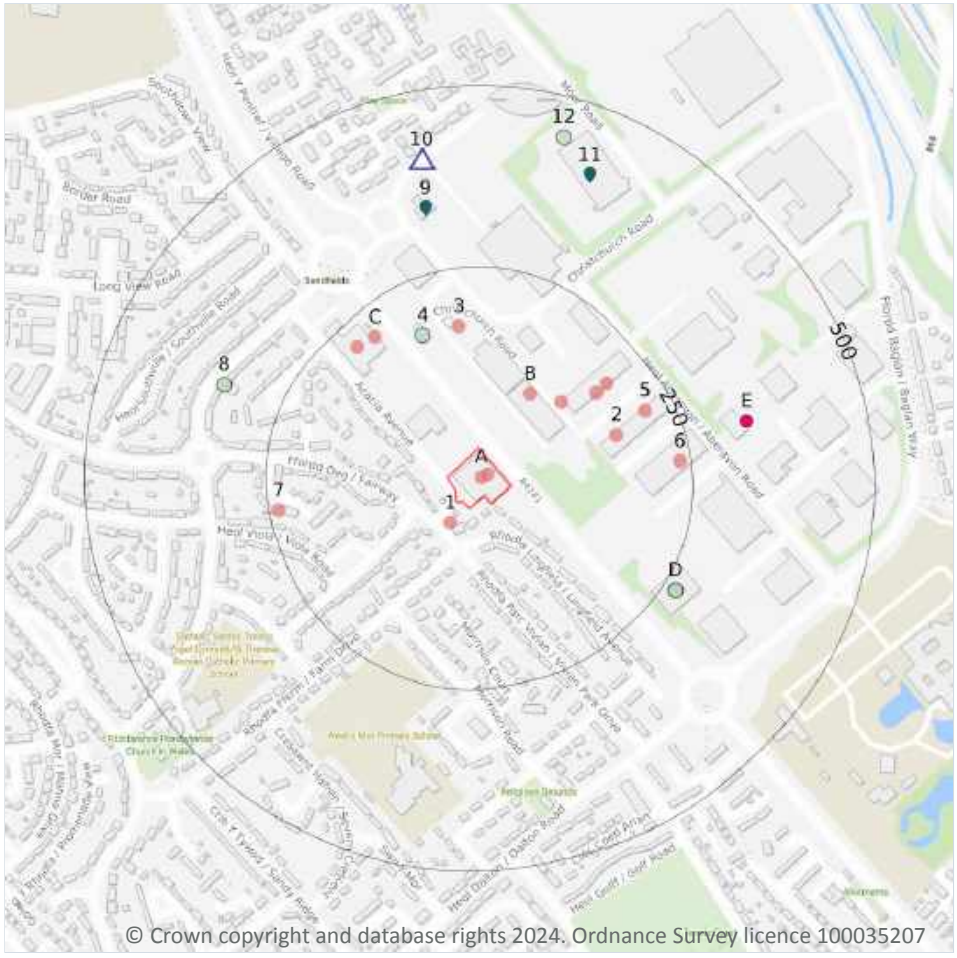
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

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

ID	Location	Site	Reference	Category	Sub-Category	Description
A	282m N	Unit 4, Christchurch Road, Port Talbot, Port Talbot, Sa12 7bz	NRW-WME001886	Storing waste exemption	Waste exemption - non-agricultural	Storage of waste in secure containers
A	282m N	Unit 4, Christchurch Road, Port Talbot, Port Talbot, Sa12 7bz	NRW-WME001887	Treating waste exemption	Waste exemption - non-agricultural	Preparatory treatments (baling, sorting, shredding etc)
1	351m SE	Mhm Plant, Aberavon Rd, 3 Aberavon Road, Port Talbot, Select A State, Sa12 7dj	NRW-WME060085	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	415m N	Freudenberg Oil And Gas Technologies, Unit 4, Christchurch Road, Baglan Industrial Estate, Port Talbot, Sa127bz	NRW-WME031939	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	415m N	Freudenberg Oil And Gas Technologies, Unit 4, Christchurch Road, Baglan Industrial Estate, Port Talbot, Sa127bz	NRW-WME031940	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)

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

Current or recent petrol stations

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

Radioactive Substance Authorisations

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	14

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Company	Address	Activity	Category
A	**On site**	**Blackwood Wire**	**Stationery House, Acacia Avenue, Sandfields, West Glamorgan, SA12 7DP**	**Cable, Wire and Fibre Optics**	**Industrial Products**
A	**On site**	**Factory**	**West Glamorgan, SA12**	**Unspecified Works Or Factories**	**Industrial Features**
1	30m SW	Electricity Sub Station	West Glamorgan, SA12	Electrical Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
B	104m NE	Cultech	Unit 3 Baglan Bay Retail Park, Christchurch Road, Aberavon, West Glamorgan, SA12 7BZ	Catering and Non Specific Food Products	Foodstuffs
B	128m NE	Electricity Sub Station	West Glamorgan, SA12	Electrical Features	Infrastructure and Facilities
2	161m E	Lifting Gear & Safety	Unit 26 Baglan Industrial Park, Aberavon Road, Aberavon, West Glamorgan, SA12 7DJ	Lifting and Handling Equipment	Industrial Products
3	170m N	Electricity Sub Station	West Glamorgan, SA12	Electrical Features	Infrastructure and Facilities
B	173m NE	F M P Motor Factors	Unit 30 Baglan Industrial Park, Aberavon Road, Aberavon, West Glamorgan, SA12 7DJ	Vehicle Parts and Accessories	Motoring
B	193m NE	K E Supplies	Unit 31 Baglan Industrial Park, Aberavon Road, Aberavon, West Glamorgan, SA12 7DJ	Cleaning Equipment and Supplies	Industrial Products
C	209m NW	Tank	West Glamorgan, SA12	Tanks (Generic)	Industrial Features
5	211m NE	Hitachi Constructio n Machinery (UK) Ltd	Unit 23, Baglan Industrial Park, Aberavon Road, Aberavon, West Glamorgan, SA12 7DJ	Construction Plant	Construction Services
C	216m NW	Bus Depot	West Glamorgan, SA12	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
6	234m E	Glass Systems Direct	Unit 9, 19-21 Aberafan Road, Baglan Industrial Park, Port Talbot, West Glamorgan, SA12 7BY	Glass	Industrial Products
7	237m W	Electricity Sub Station	West Glamorgan, SA12	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m **1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Company	Address	LPG	Status
10	406m N	MORRISONS	Christchurch Road, Baglan Moor, Port Talbot, Neath Port Talbot, SA12 7BZ	Yes	Open

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	0

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.

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	0

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.

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 26 >**

ID	Location	Address	Details	
9	338m N	Wm. Morrison Supermarkets Plc, Christchurch Road, Baglan Industrial Park, Port Talbot, SA12 7BZ	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No enforcements issued Date of enforcement: No enforcements issued Comment: No enforcements issued
11	406m N	Weartech International Limited, Unit 1, Moor Road, Baglan, Port Talbot, SA12 7BJ	Process: Non-ferrous Metal Foundry Processes Status: Current Permit Permit Type: Part B	Enforcement: No enforcements issued Date of enforcement: No enforcements issued Comment: No enforcements issued

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	**6**

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

Features are displayed on the Current industrial land use map on **page 26 >**

ID	Location	Address	Details	
E	335m E	Abertawe Bro Morgannwg University Nhs Trust, Neath Port Talbot Hospital, Afan Way, Port Talbot, West Glamorgan, SA12 6NR	Operator: Abertawe Bro Morgannwg University Nhs Trust Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BT5377 Date of approval: 29/11/2002	Effective from: 02/12/2002 Last date of update: 01/01/2015 Status: Superseded By Variation
E	335m E	Abertawe Bro Morgannwg University Nhs Trust, Neath Port Talbot Hospital, Afan Way, Port Talbot, West Glamorgan, SA12 6NR	Operator: Abertawe Bro Morgannwg University Nhs Trust Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BT5377 Date of approval: 01/12/2003	Effective from: 01/01/2004 Last date of update: 01/01/2015 Status: Superseded By Variation
E	335m E	Abertawe Bro Morgannwg University Nhs Trust, Neath Port Talbot Hospital, Afan Way, Port Talbot, West Glamorgan, SA12 6NR	Operator: Abertawe Bro Morgannwg University Nhs Trust Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BT5377 Date of approval: 04/01/2008	Effective from: 01/02/2008 Last date of update: 01/01/2015 Status: Superseded By Variation
E	335m E	Abertawe Bro Morgannwg University Nhs Trust, Neath Port Talbot Hospital, Afan Way, Port Talbot, West Glamorgan, SA12 6NR	Operator: Abertawe Bro Morgannwg University Nhs Trust Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BT5377 Date of approval: 29/10/2008	Effective from: 25/11/2008 Last date of update: 01/01/2015 Status: Revoked/cancelled
E	335m E	Abertawe Bro Morgannwg University Nhs Trust, Neath Port Talbot Hospital,afan Way, Port Talbot, West Glamorgan, SA12 6NR	Operator: Abertawe Bro Morgannwg University Nhs Trust Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: BT5407 Date of approval: 29/11/2002	Effective from: 29/11/2002 Last date of update: 01/01/2015 Status: Superseded By Variation

ID	Location	Address	Details	
E	335m E	Abertawe Bro Morgannwg University Nhs Trust, Neath Port Talbot Hospital,afan Way, Port Talbot, West Glamorgan, SA12 6NR	Operator: Abertawe Bro Morgannwg University Nhs Trust Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: BT5407 Date of approval: 29/10/2008	Effective from: 29/10/2008 Last date of update: 01/01/2015 Status: Revoked/cancelled

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

4.13 Licensed Discharges to controlled waters

Records within 500m	0

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

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	5

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 26 >**

ID	Location	Details	
4	173m N	Incident Date: 19/12/2014 Incident Identification: 1301976 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
D	267m SE	Incident Date: 26/03/2009 Incident Identification: 664863 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 2 (Significant)
D	267m SE	Incident Date: 26/03/2009 Incident Identification: 664863 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 2 (Significant)
8	333m W	Incident Date: 23/07/2013 Incident Identification: 1137679 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Dust	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
12	444m N	Incident Date: 18/05/2003 Incident Identification: 159080 Pollutant: Oils and Fuel Pollutant Description: Lubricating Oils	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) 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.

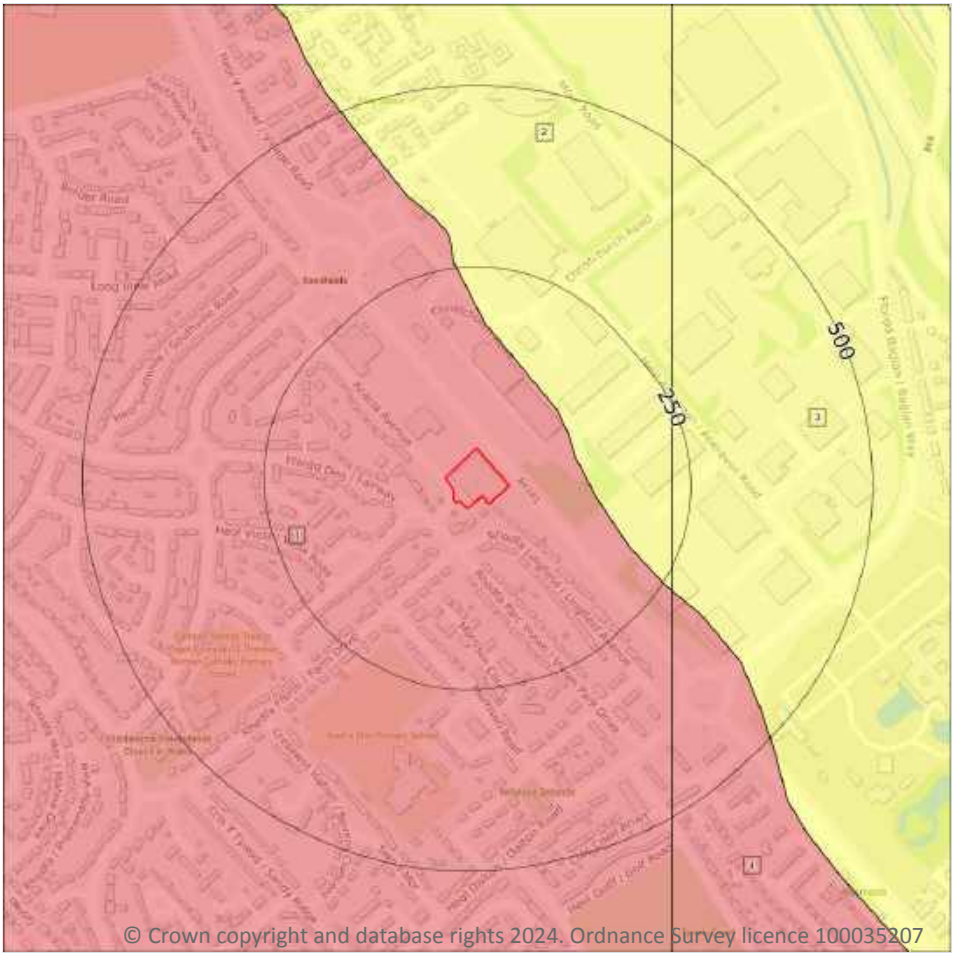
4.21 Pollution inventory radioactive waste

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	4

Aquifer status of groundwater held within superficial geology.

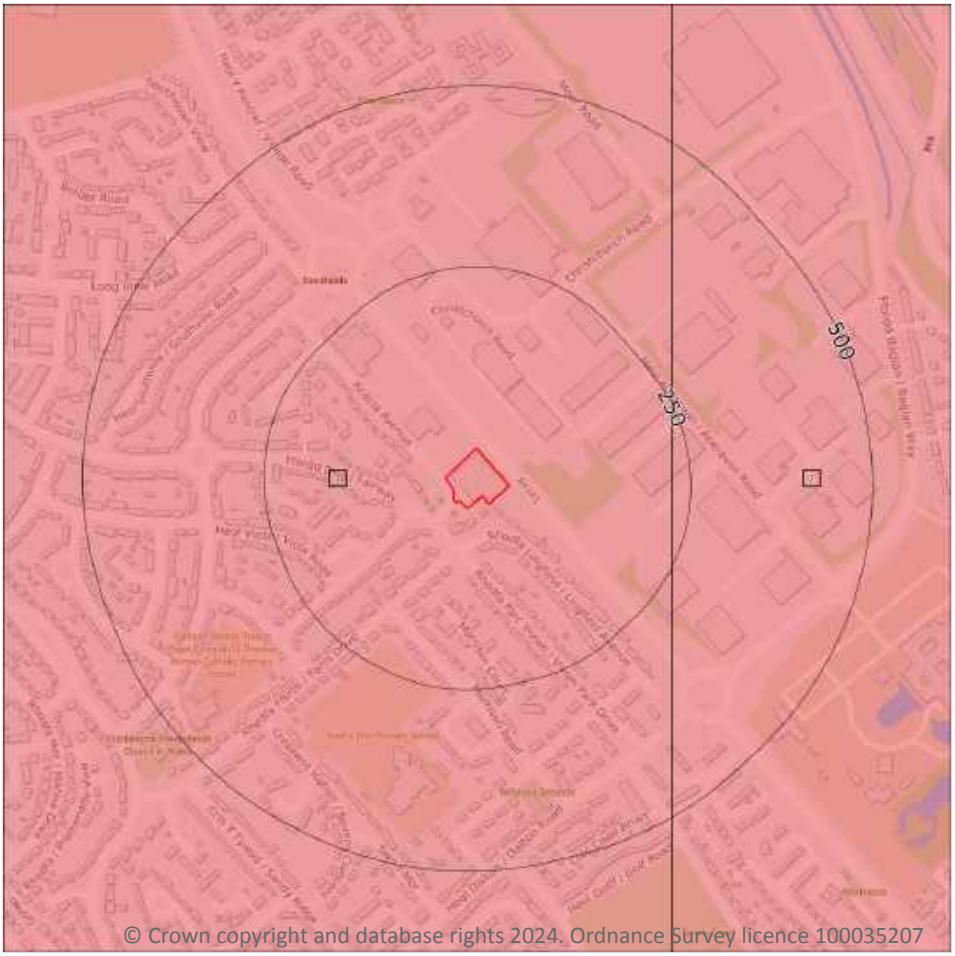
Features are displayed on the Hydrogeology map on **page 34 >**

ID	Location	Designation	Description
1	**On site**	**Secondary A**	**Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers**
2	99m 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

ID	Location	Designation	Description
3	224m 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
4	266m SE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

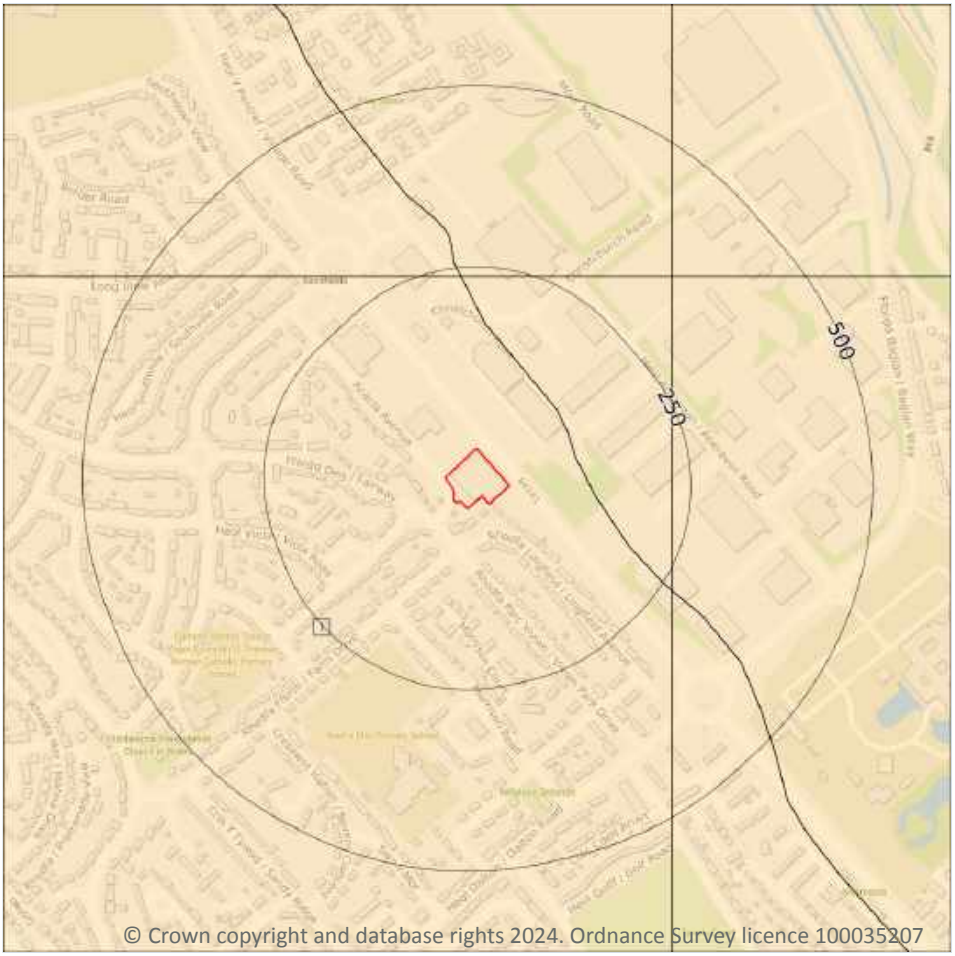
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 36 >**

ID	Location	Designation	Description
1	**On site**	**Secondary A**	**Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers**
2	224m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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	1

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 38 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	**Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High**	**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	8

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 40 >**

ID	Location	Details	
-	1578m SE	Status: Historical Licence No: 21/58/61/0009 Details: Process Water Direct Source: EAW Surface Water Point: RIVER AFAN TO PORT TALBOT DOCKS Data Type: Point Name: Tata Steel UK Limited Easting: 275980 Northing: 189690	Annual Volume (m^3): 14933610 Max Daily Volume (m^3): 40914 Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/11/2010 Version End Date: -
-	1578m SE	Status: Historical Licence No: 21/58/61/0009 Details: Evaporative Cooling Direct Source: EAW Surface Water Point: RIVER AFAN TO PORT TALBOT DOCKS Data Type: Point Name: Tata Steel UK Limited Easting: 275980 Northing: 189690	Annual Volume (m^3): 14933610 Max Daily Volume (m^3): 40914 Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/11/2010 Version End Date: -
-	1578m SE	Status: Historical Licence No: 21/58/61/0009 Details: Process Water - Medium Direct Source: - Point: - Data Type: Point Name: - Easting: 275980 Northing: 189690	Annual Volume (m^3): 14933610 Max Daily Volume (m^3): 40912.8 Original Application No: - Original Start Date: 12/11/2010 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1578m SE	Status: Historical Licence No: 21/58/61/0009 Details: Evaporative Cooling - High Direct Source: - Point: - Data Type: Point Name: - Easting: 275980 Northing: 189690	Annual Volume (m^3): 14933610 Max Daily Volume (m^3): 40912.8 Original Application No: - Original Start Date: 12/11/2010 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

ID	Location	Details	
-	1578m SE	Status: Active Licence No: 21/58/61/0009 Details: Process Water - Medium Direct Source: - Point: - Data Type: Point Name: - Easting: 275980 Northing: 189690	Annual Volume (m^3): 14933610 Max Daily Volume (m^3): 40914 Original Application No: - Original Start Date: 12/11/2010 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1578m SE	Status: Active Licence No: 21/58/61/0009 Details: Evaporative Cooling - High Direct Source: - Point: - Data Type: Point Name: - Easting: 275980 Northing: 189690	Annual Volume (m^3): 14933610 Max Daily Volume (m^3): 40914 Original Application No: - Original Start Date: 12/11/2010 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1595m SE	Status: Active Licence No: WA/058/0061/007 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 276054 Northing: 189756	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: 29/05/2012 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1613m SE	Status: Historical Licence No: WA/058/0061/0060 Details: Transfer between Sources (Post Water Act 2003) - Very Low Direct Source: Green Park Weir Point: - Data Type: Point Name: - Easting: 276039 Northing: 189707	Annual Volume (m^3): 0 Max Daily Volume (m^3): - Original Application No: - Original Start Date: 30/09/2022 Expiry Date: 31/03/2029 Issue No: - Version Start Date: - Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	0

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.

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	0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	0

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.

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 44 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River WB catchment**	**Baglan Brook - headwaters to conf with River Neath**	**GB110058026350**	**Neath**	**Tawe to Cadoxton**

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 44 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	2559m N	River	Baglan Brook - headwaters to conf with River Neath	GB110058026350	Moderate	Good	Moderate	2016

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

6.5 WFD Groundwater bodies

Records on site	1

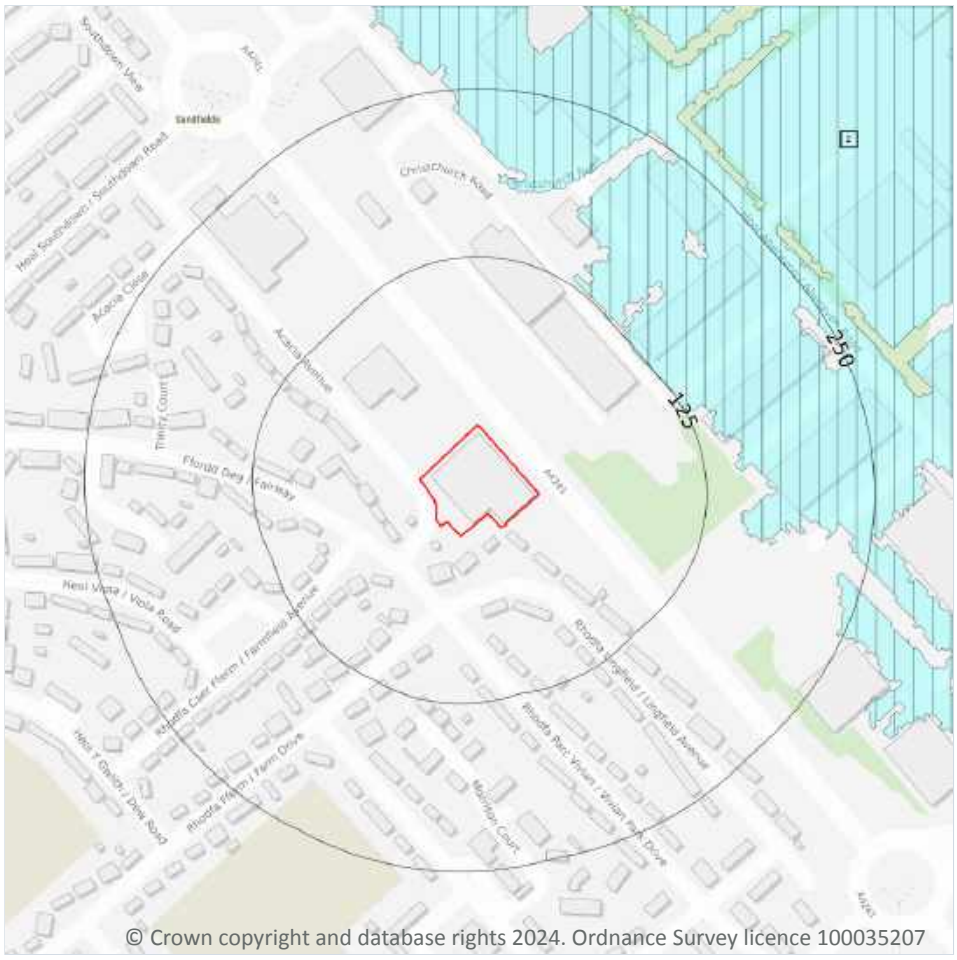
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place.

Features are displayed on the Hydrology map on **page 44 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Swansea Carboniferous Coal Measures**	**GB41002G201000**	**Poor**	**Poor**	**Good**	**2017**

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

River and coastal flooding:

High

Medium

Low

Very Low

Historical Flood Events

Areas Used for Flood Storage

Areas Benefiting from Flood Defences

Flood Defences

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	1

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.

Features are displayed on the River and coastal flooding map on **page 47 >**

ID	Location	
2	123m NE	Area benefiting from flood defences

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, 0.3m - 1.0m**
Highest risk within 50m	**1 in 30 year, 0.3m - 1.0m**

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 50 >**

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 0.3m and 1.0m

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 52 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations

Site Outline

Search buffers in metres (m)

Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

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.

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	0

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.

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	9

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 53 >**

ID	Location	Name	Woodland Type
-	1470m NE	Unknown	Ancient Semi Natural Woodland
-	1643m NE	Unknown	Ancient Semi Natural Woodland
-	1666m NE	Unknown	Ancient Semi Natural Woodland
-	1686m NE	Unknown	Ancient Semi Natural Woodland
-	1697m N	Unknown	Ancient Semi Natural Woodland
-	1736m NE	Unknown	Ancient Semi Natural Woodland
-	1757m NE	Unknown	Ancient Semi Natural Woodland
-	1839m N	Unknown	Ancient Semi Natural Woodland
-	1905m N	Unknown	Ancient Semi Natural Woodland

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	1

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 61 >**

ID	Location	Classification	Description
2	111m NE	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	2

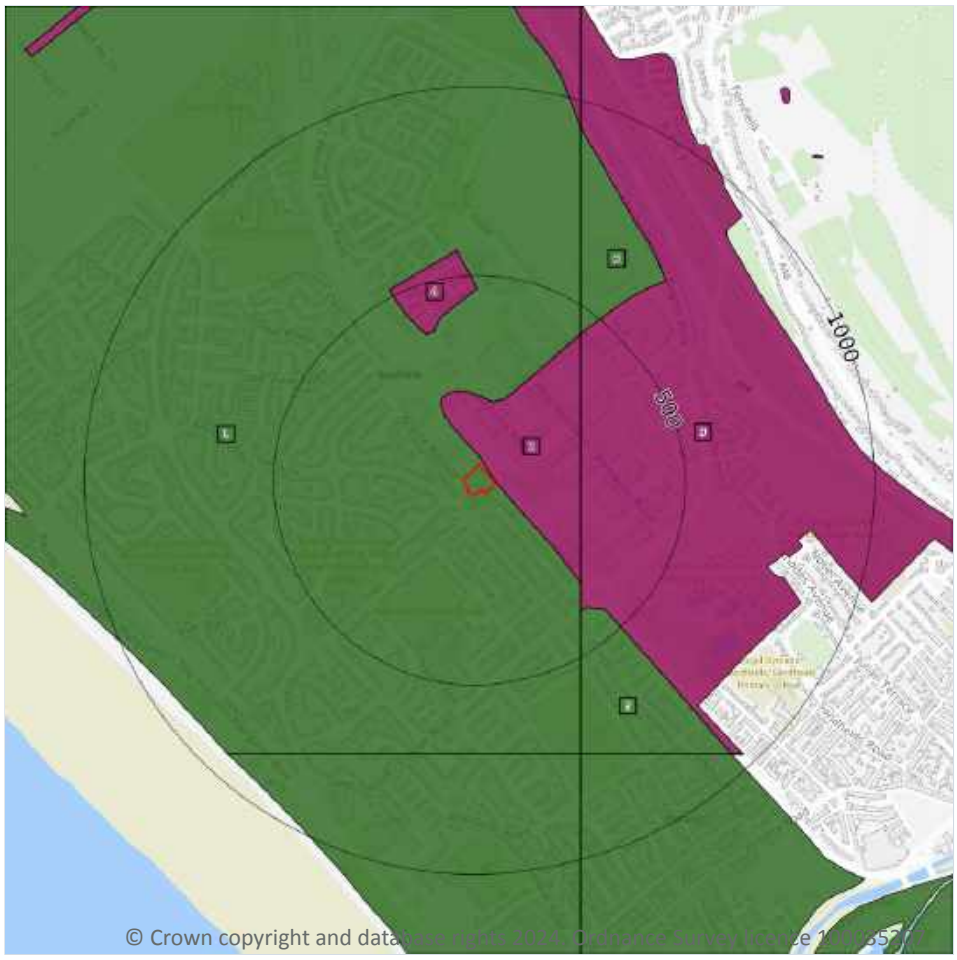
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 64 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**SS79SW**
2	224m E	Full	Full	Full	Full	SS79SE

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



Site Outline

Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m	6

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.

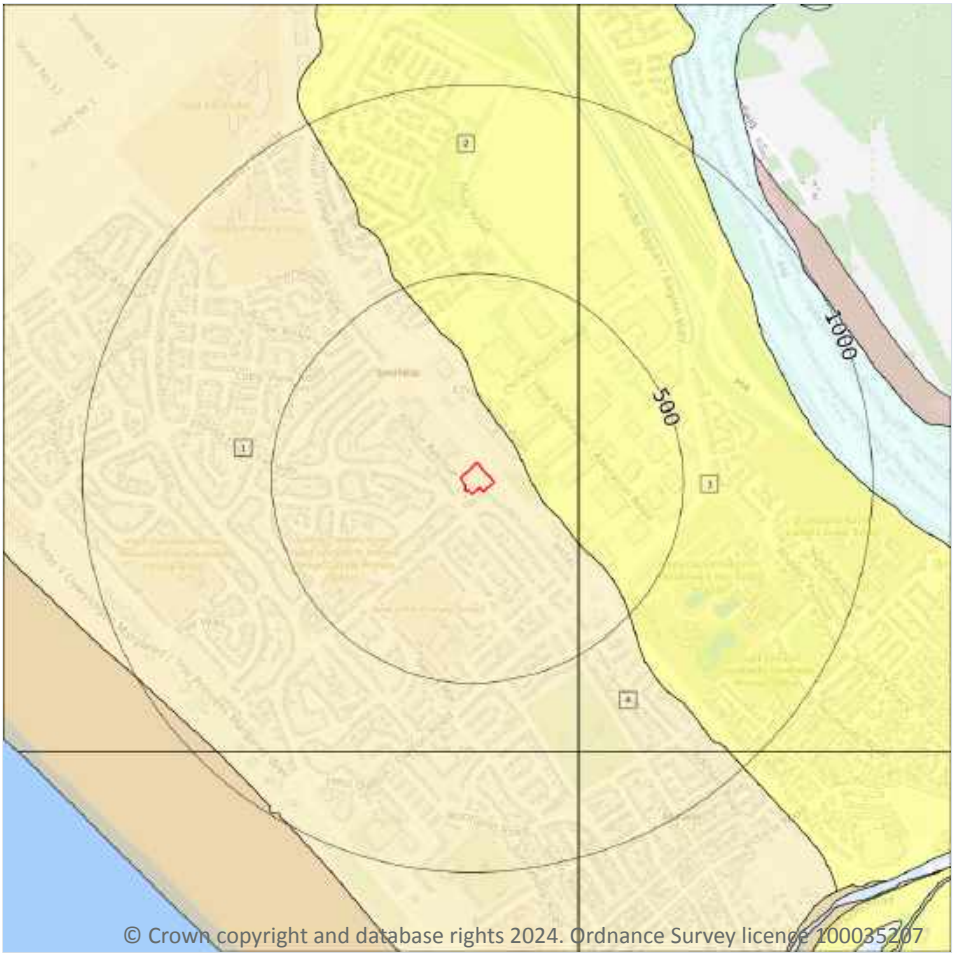
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 65 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**LSGR-UKNOWN**	**Landscaped Ground (Undivided)**	**Unknown/unclassified Entry**
2	4m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	224m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	370m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
5	398m SE	LSGR-UKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
6	439m NE	LSGR-UKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m **4**

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.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 67 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**BSA-S**	**Blown Sand - Sand**	**Sand**
2	90m E	TFD-XCZS	Tidal Flat Deposits - Clay, Silt And Sand	Clay, Silt And Sand
3	224m E	TFD-XCZS	Tidal Flat Deposits - Clay, Silt And Sand	Clay, Silt And Sand
4	276m SE	BSA-S	Blown Sand - Sand	Sand

This data is sourced from the British Geological Survey.

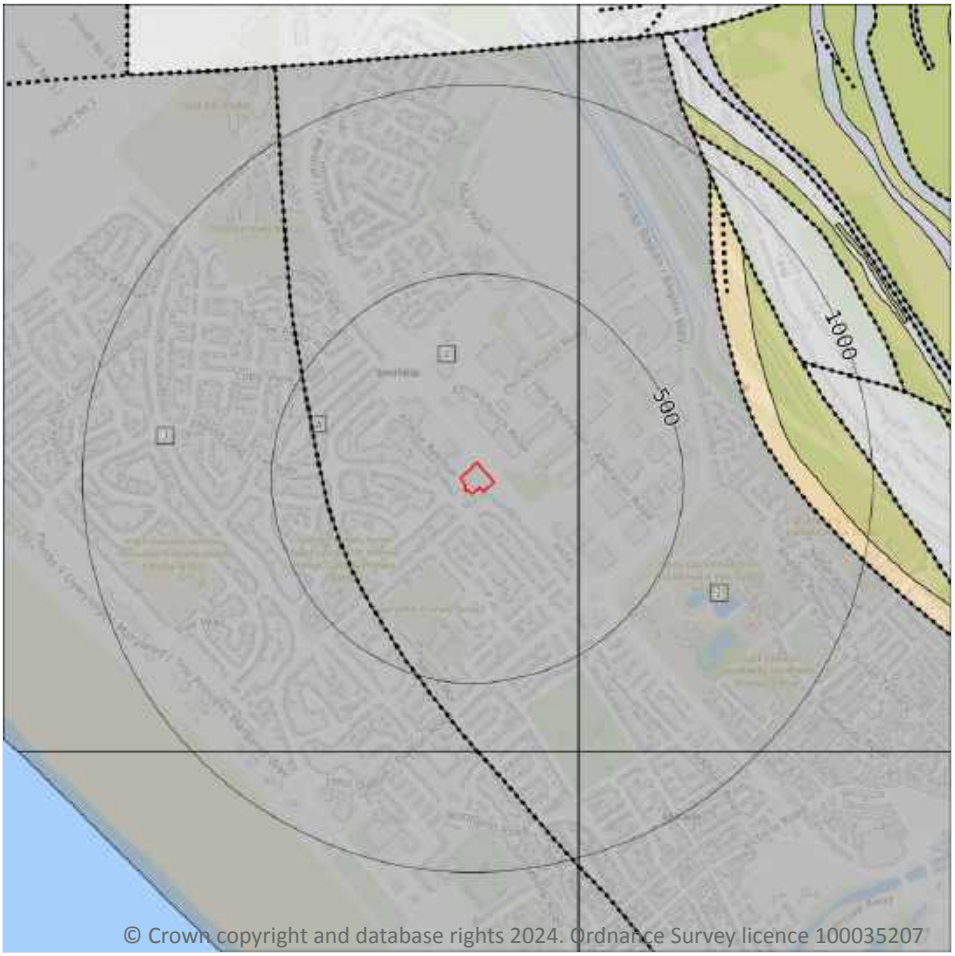
14.4 Landslip (10k)

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



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m **3**

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.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 69 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**SWMCM-MDSS**	**South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone**	**Bolsovian Sub-age - Duckmantian Sub-age**
2	224m E	SWMCM-MDSS	South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age

ID	Location	LEX Code	Description	Rock age
3	356m W	SWMCM-MDSS	South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**1**

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.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 69 >**

ID	Location	Category	Description
4	356m W	FAULT	Normal fault, inferred

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

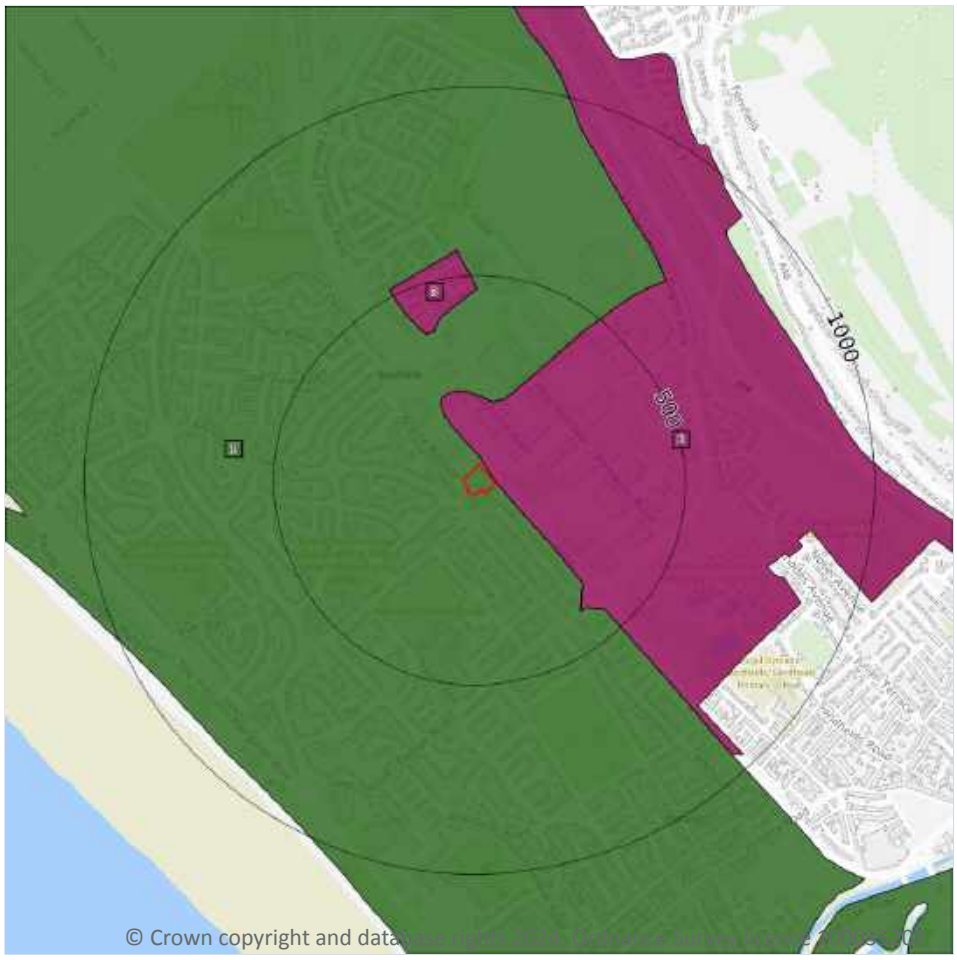
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 71 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW247_swansea_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



Site Outline

Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m	3

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.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 72 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**LSGR-ARTGR**	**LANDSCAPED GROUND (UNDIVIDED)**	**ARTIFICIALLY MODIFIED GROUND**
2	4m E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	370m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

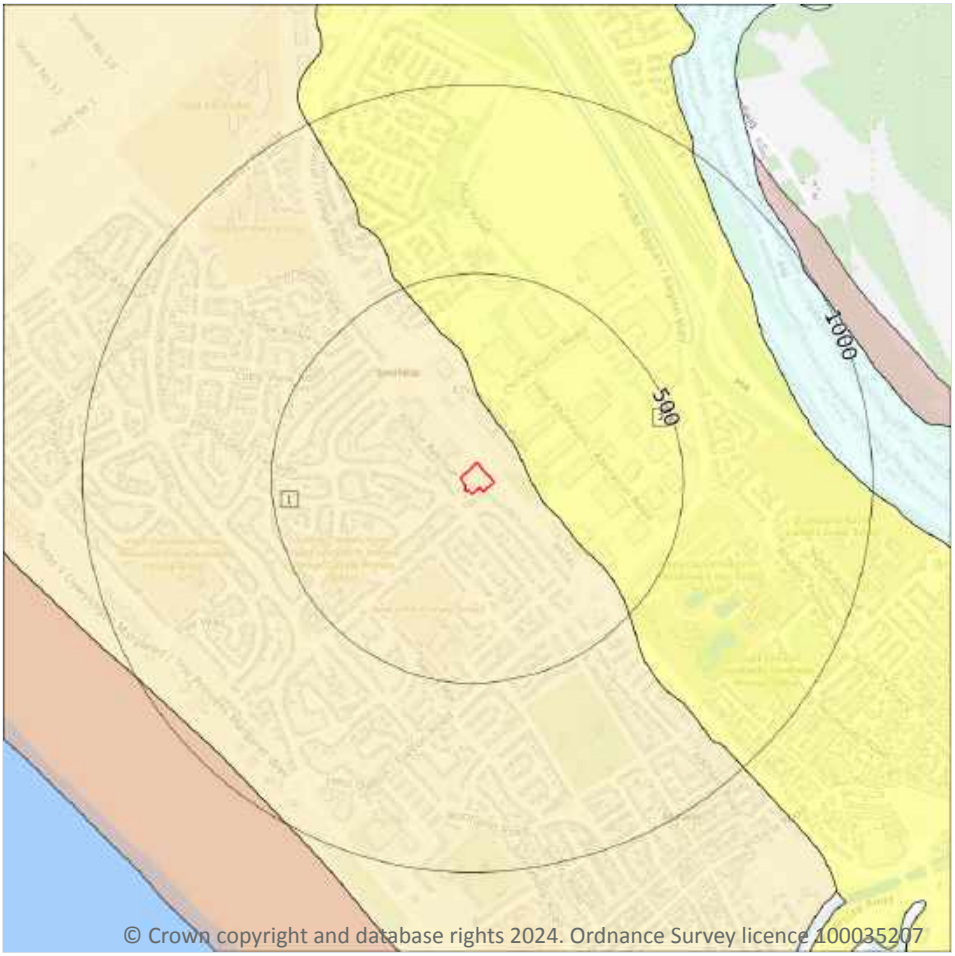
Records within 50m	2

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Very High**	**Low**
4m E	Mixed	Very High	Low

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	2

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 74 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**BSA-S**	**BLOWN SAND**	**SAND**
2	90m E	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

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	**Intergranular**	**High**	**High**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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.

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 **2**

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 76 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**SWMCM-MDSS**	**SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE**	**WESTPHALIAN**
2	356m W	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

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**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	1

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.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 76 >**

ID	Location	Category	Description
3	356m W	FAULT	Fault, inferred, displacement unknown

This data is sourced from the British Geological Survey.

16 Boreholes

Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	14

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.

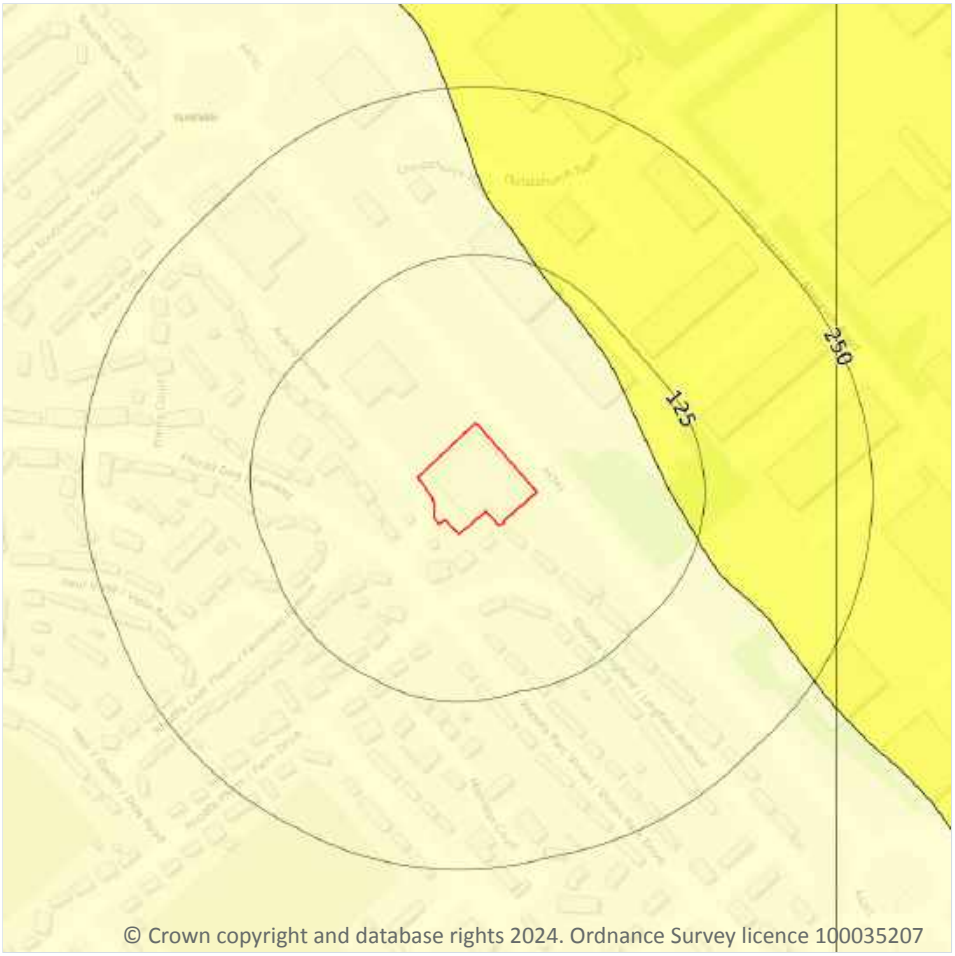
Features are displayed on the Boreholes map on **page 78 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	51m N	274716 190812	PORT TALBOT PDR STAGE ONE 8	-	Y	N/A
A	53m N	274701 190807	PORT TALBOT PDR STAGE ONE 7	-	Y	N/A
B	75m SE	274829 190658	PORT TALBOT PDR STAGE ONE 9	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
B	83m SE	274845 190665	PORT TALBOT PDR STAGE ONE 10	-	Y	N/A
C	197m N	274781 190953	CHRISTCHURCH ROAD BAGLAN MOOR TP15	3.6	N	20316997 ↗
C	203m N	274757 190964	CHRISTCHURCH ROAD BAGLAN MOOR 10	4.0	N	20316978 ↗
C	208m N	274776 190966	CHRISTCHURCH ROAD BAGLAN MOOR 9	5.0	N	20316977 ↗
C	209m N	274738 190972	CHRISTCHURCH ROAD BAGLAN MOOR TP13	2.4	N	20316996 ↗
C	211m N	274793 190964	CHRISTCHURCH ROAD BAGLAN MOOR 8	24.65	N	20316976 ↗
C	220m N	274803 190971	CHRISTCHURCH ROAD BAGLAN MOOR TP17	3.6	N	20316999 ↗
C	224m N	274745 190986	CHRISTCHURCH ROAD BAGLAN MOOR 6	15.0	N	20316974 ↗
C	227m N	274792 190981	CHRISTCHURCH ROAD BAGLAN MOOR TP16	1.4	N	20316998 ↗
1	235m N	274717 190997	CHRISTCHURCH ROAD BAGLAN MOOR TP11	3.7	N	20316994 ↗
2	250m SW	274580 190470	ABERAVON MARSHES 1	429.77	N	372070 ↗

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	1

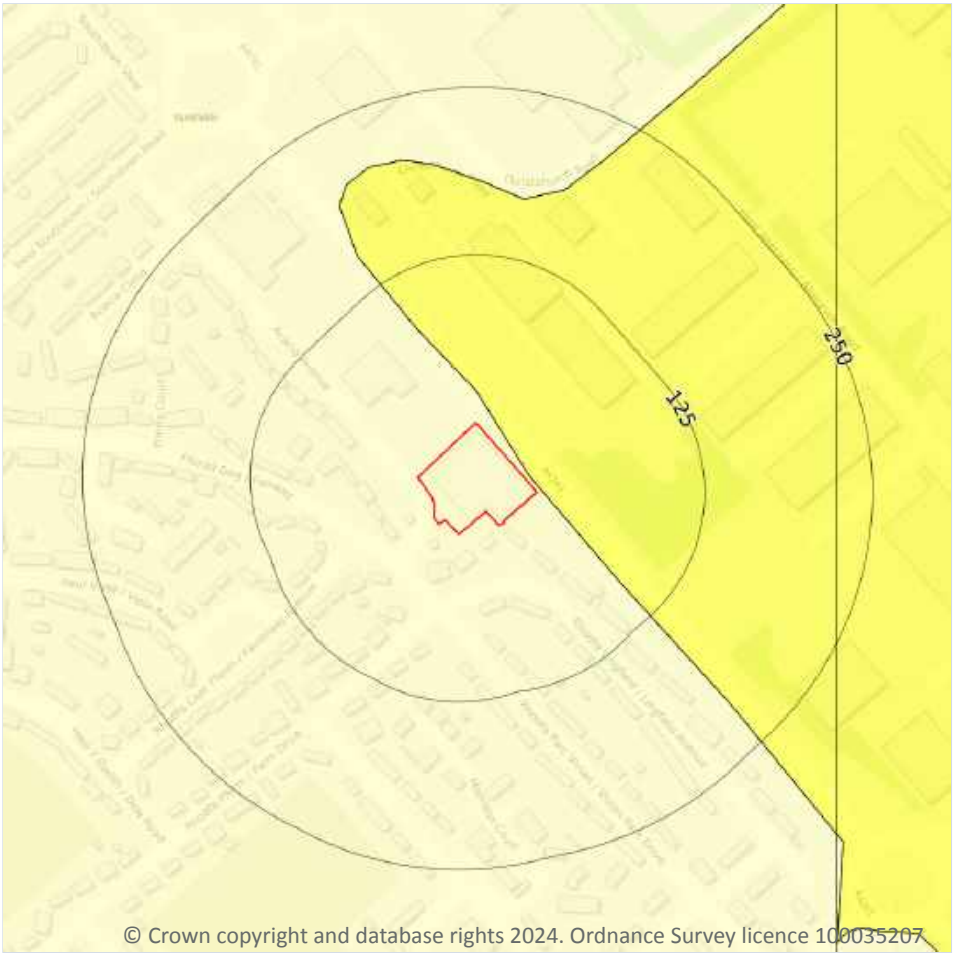
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 80 >**

Location	Hazard rating	Details
On site	**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.

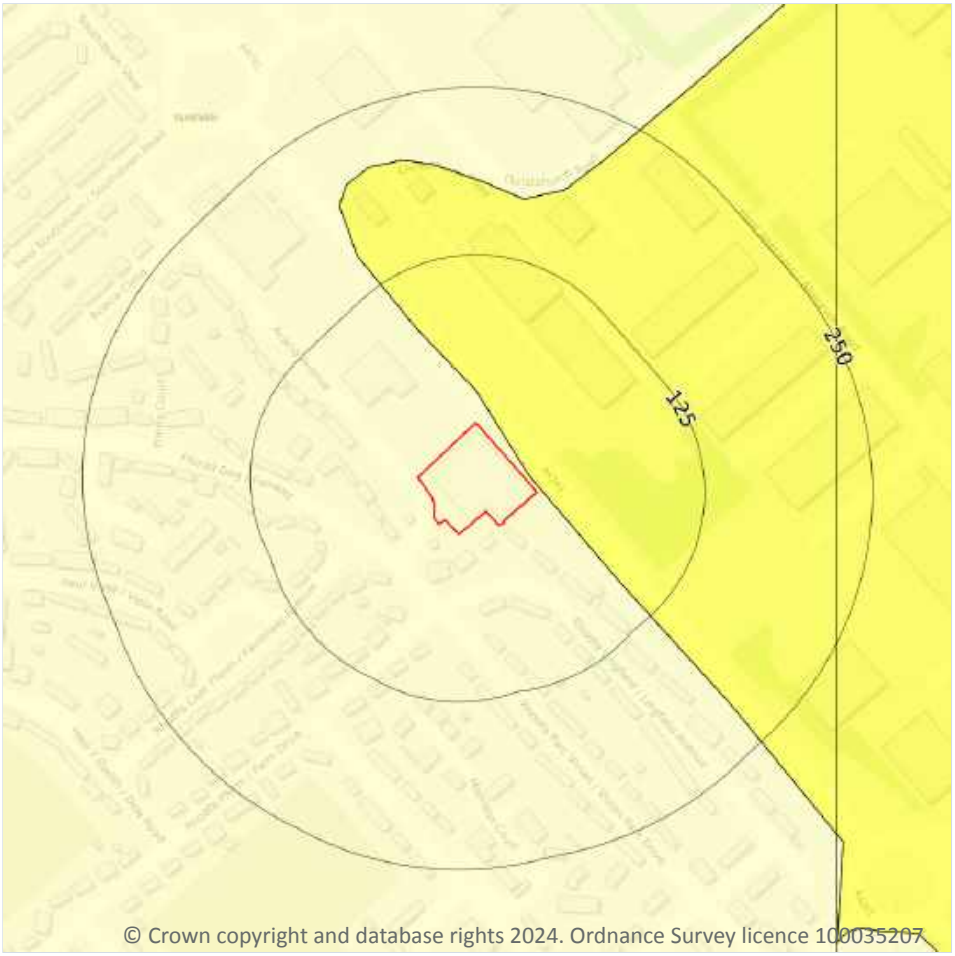
Features are displayed on the Natural ground subsidence - Running sands map on **page 81 >**

Location	Hazard rating	Details
On site	**Negligible**	**Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.**

Location	Hazard rating	Details
4m 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

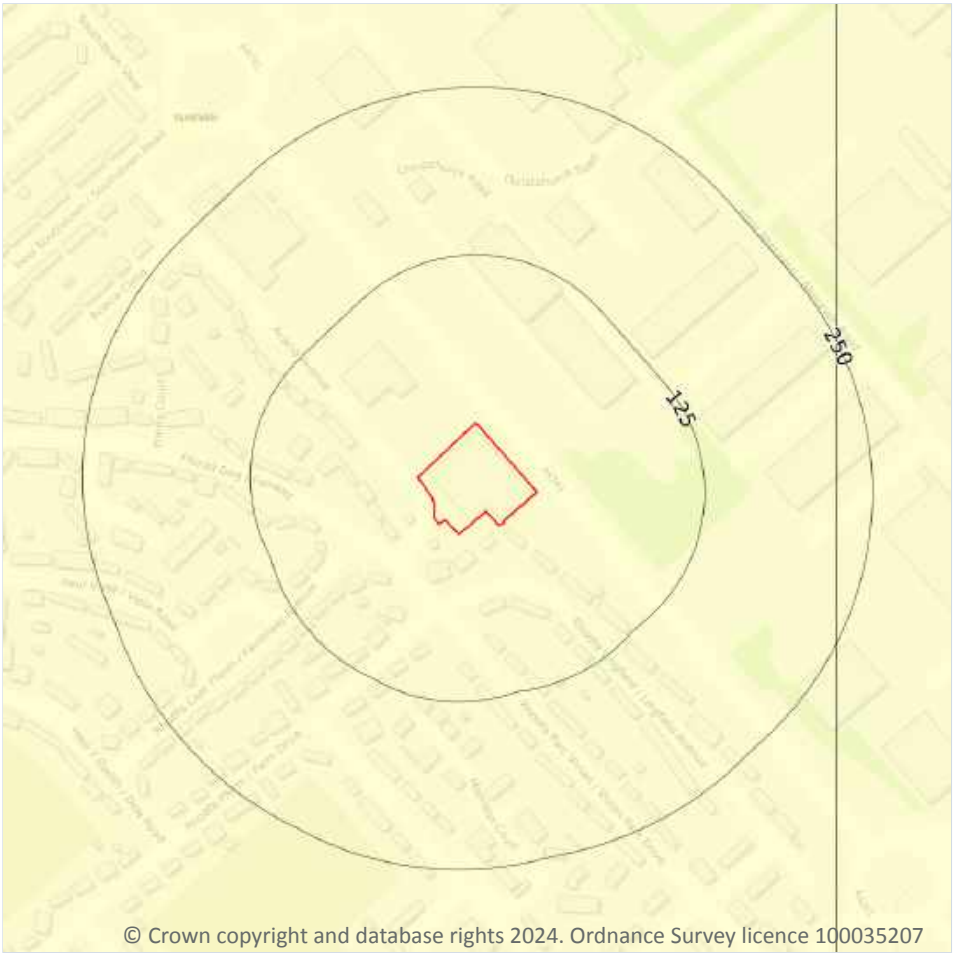
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 83 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
4m E	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

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	1

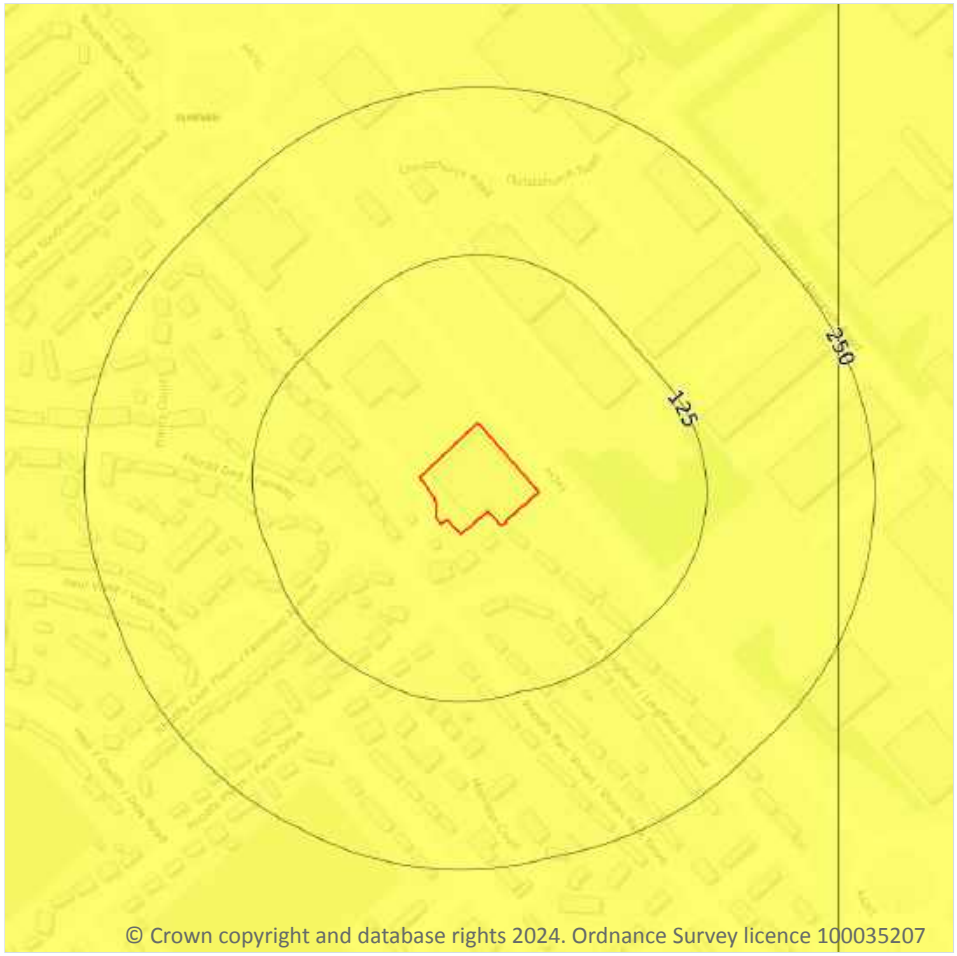
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 85 >**

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not 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	1

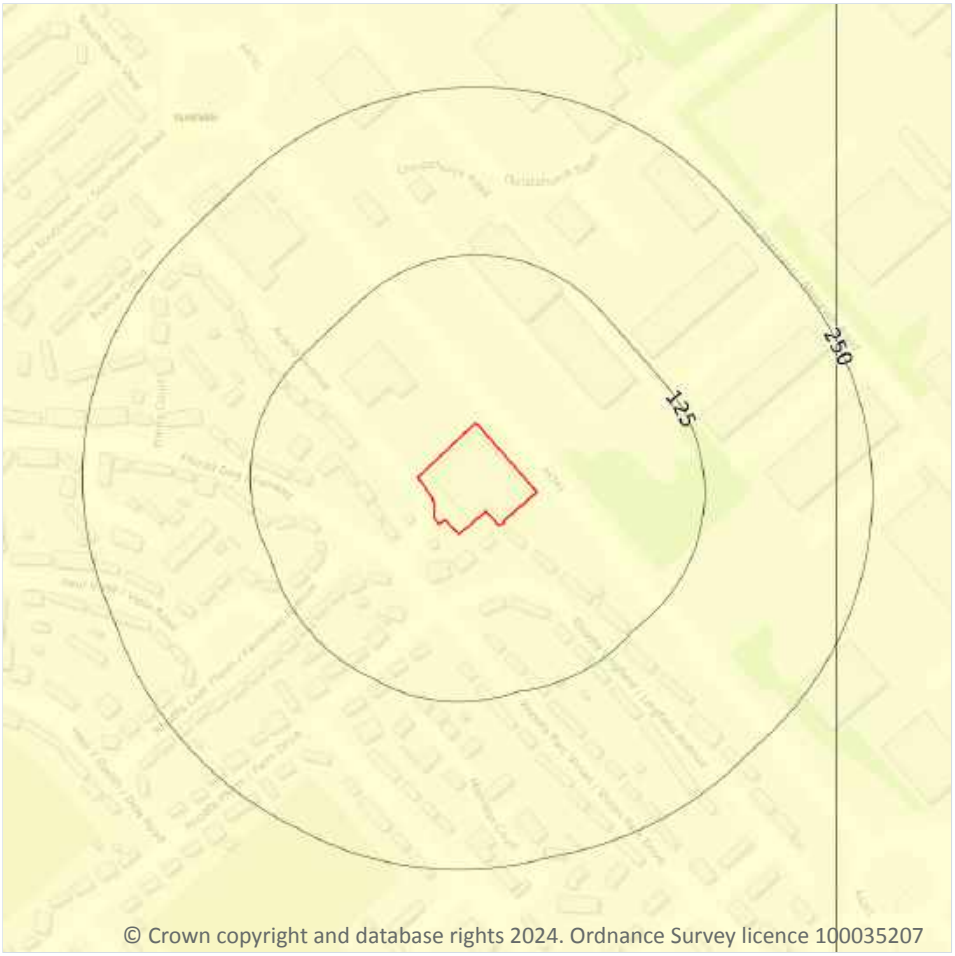
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 86 >**

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.**

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	1

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 87 >**

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.**

This data is sourced from the British Geological Survey.

18 Mining and ground workings

18.1 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.

18.2 Surface ground workings

Records within 250m	0

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.

This is data is sourced from Ordnance Survey/Groundsure.

18.3 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.

18.4 Underground mining extents

Records within 500m	0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from 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	0

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).

This data is sourced from the British Geological Survey.

18.7 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.

18.8 The Coal Authority non-coal mining

Records within 500m	0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	1

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	**The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.**

This data is sourced from the Coal Authority.

18.13 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.

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 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 Ground cavities and sinkholes

19.1 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.

19.2 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.

19.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m	0

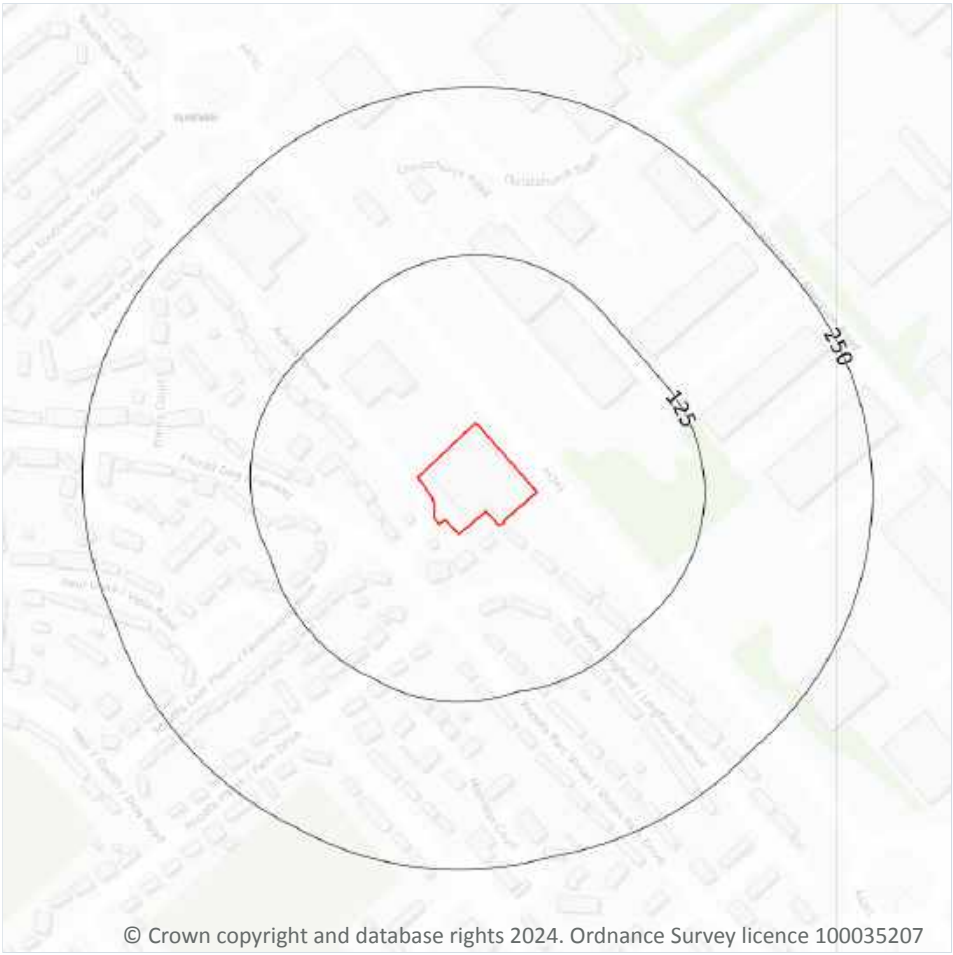
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.

20 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%

20.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 95 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None**

This data is sourced from the British Geological Survey and UK Health Security Agency.

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	1

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	**35 - 45 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	8

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).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	**30**	**5.3**	**215**	**148**	**1.1**	**74**	**79**	**33**	**50**
On site	**32**	**5.6**	**208**	**143**	**1.2**	**77**	**88**	**35**	**63**
On site	**34**	**5.9**	**223**	**153**	**1.3**	**78**	**102**	**36**	**80**
On site	**35**	**6.1**	**233**	**160**	**1.3**	**79**	**112**	**37**	**97**
24m E	32	5.6	202	139	1.2	79	93	36	68
26m E	28	4.9	172	118	1.1	77	70	32	43
37m N	34	5.9	220	151	1.3	79	105	37	84

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
48m N	33	5.8	213	146	1.2	78	97	36	69

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m	**1**

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.

Location	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Lead (mg/kg)	Tin (mg/kg)	Sample Type
7m N	35.4	1.3	78.6	112.8	37.1	234.6	99.6	Topsoil

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects

Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- 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

22.1 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.

22.2 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.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 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.

22.5 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.

22.6 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 99 >**

Location	Description
7m E	Razed

This data is sourced from OpenStreetMap.

22.7 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.

22.8 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.

22.9 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.

22.10 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: www.groundsure.com/terms-and-conditions-april-2023/ ↗.

APPENDIX B

B.G.S. RADON REPORT

STATIONERY HOUSE

ACACIA AVENUE

GeoReports

British Geological Survey

Richard Davies
Rhondda Geotechnical Services
56 Meyler Street
Thomastown
Tonyrefail
Porth
CF39 8EA

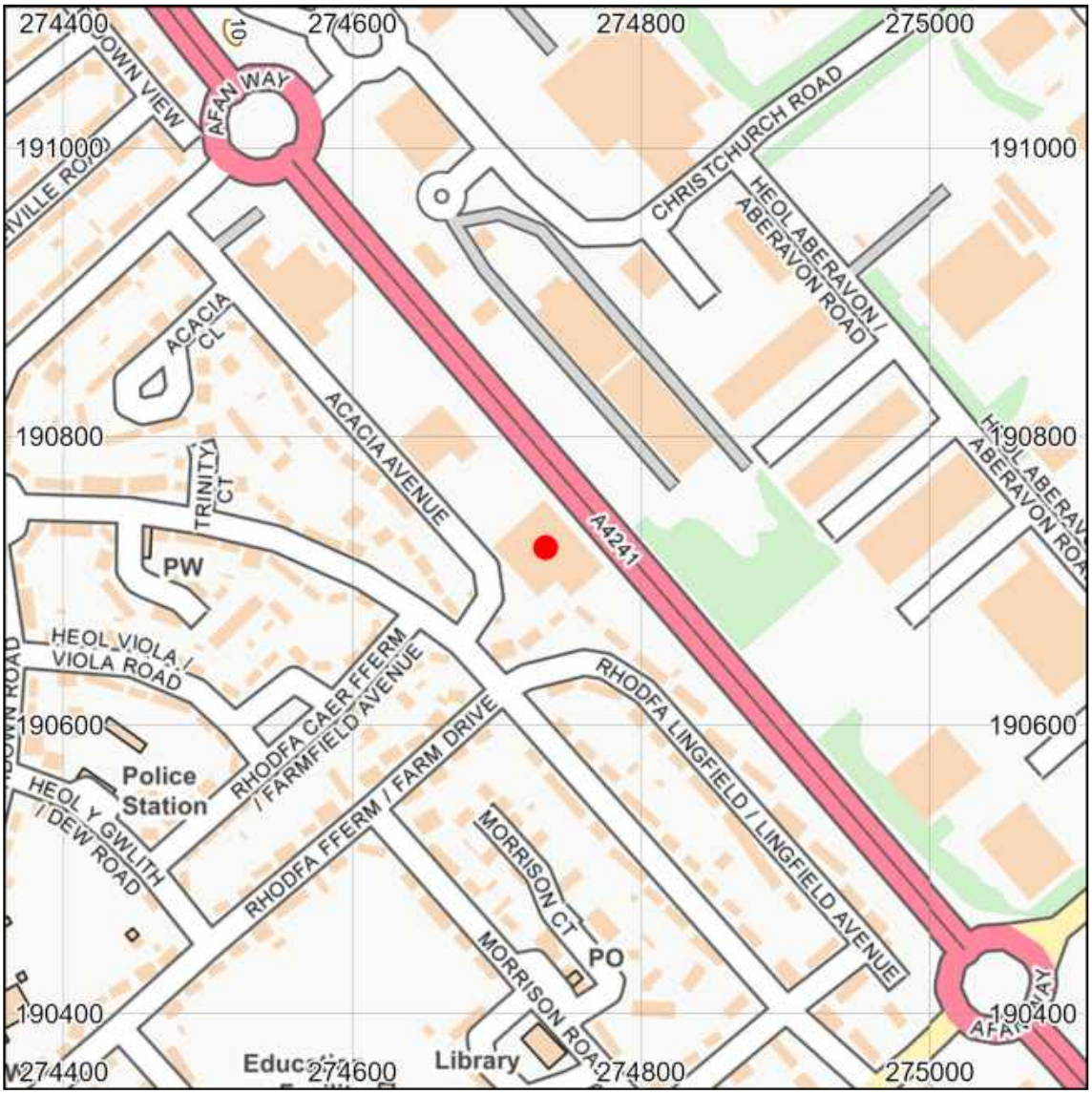
Radon Report

Advisory report on the requirement for radon protective measures in new buildings, conversions and extensions to existing buildings. The report also indicates whether a site is located within a radon Affected Area

Report Id: ***BGS_338999/55068***

Client reference: STATIONERY HOUSE

Search location



Contains OS data © Crown Copyright and database right 2024. OS OpenMap Local: Scale: 1:5 000 (1cm = 50 m)
Search location indicated in red

Site Address:
BLACKWOOD WIRE PRODUCTS LTD
STATIONERY HOUSE
ACACIA AVENUE
PORT TALBOT
SA12 7DP

Point centred at: grid reference obtained from Ordnance Survey OS Places API

Radon Report: UK

When extensions are made to existing buildings in high radon areas, or new buildings are constructed in these areas, the Building Regulations for England, Wales, Scotland and Northern Ireland require that protective measures are taken against radon entering the building.

This report provides information on whether radon protective measures are required. Depending on the probability of buildings having high radon levels, the Regulations may require either:

1. No protective measures
2. Basic protective measures
3. Full protective measures

This is an advisory report on the requirement for radon protective measures in new buildings, conversions and extensions. The report also indicates whether a site is located within a radon Affected Area

Requirement for radon protective measures

The determination below follows advice in *BR211 Radon: Guidance on protective measures for new buildings (2023 edition), which also provides guidance on what to do if the* result *indicates that protective measures are required.*

Is the property in an area where radon protective measures are required for new buildings or extensions to existing ones as described in publication BR211 (2023 edition) Radon: Guidance on protective measures for new buildings?

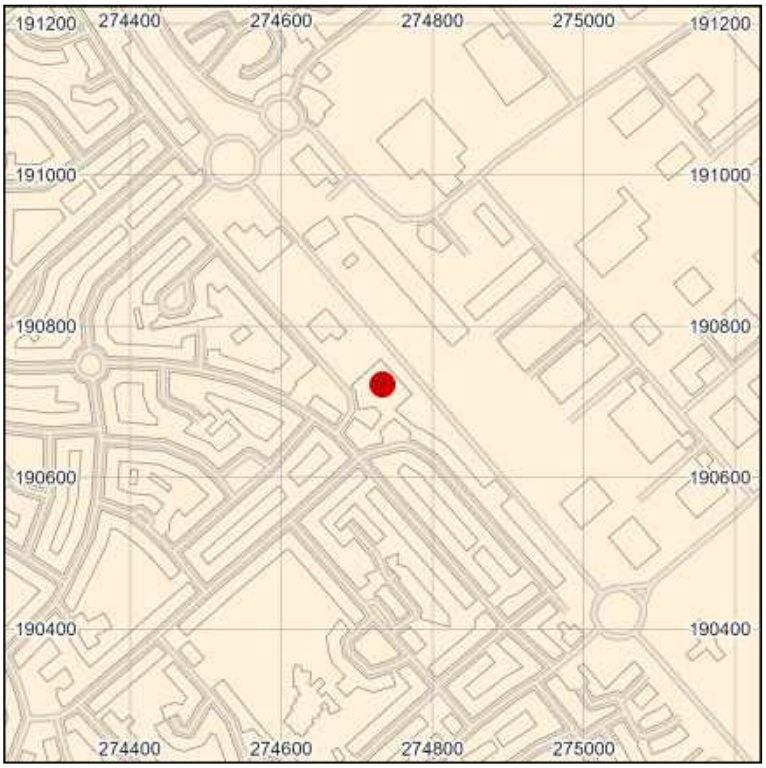
NO RADON PROTECTIVE MEASURES ARE REQUIRED FOR THE REPORT AREA.

More details of the protective measures required are available in *BR211 Radon: Guidance on protective measures for new buildings (2023 Edition)*.

Whether or not the radon level in a building is above or below the radon Action Level can only be established by having the building tested. The UKHSA provides a radon testing service which can be accessed at www.ukradon.org or by telephone (01235 822622).

If you require further information or guidance, you should contact your local authority building control officer or approved inspector.

Radon Affected Area



	% Homes estimated to be at or above the action level
	0-1%
	1-3%
	3-5%
	5-10%
	10-30%
	30-100%

Scale: 1:10 000 (1cm = 100 m)
Search area indicated in red

Is the property in a radon Affected Area as defined by the UK Health Security Agency (UKHSA) and if so what percentage of homes are estimated to be at or above the Action Level? **NO**

Additional Information

THE PROPERTY IS IN AN AREA WHERE LESS THAN 1% OF HOMES ARE ESTIMATED TO BE AT OR ABOVE THE ACTION LEVEL. THE PROPERTY IS NOT IN A RADON AFFECTED AREA.

The UKHSA recommends a radon 'Action Level' of 200 Becquerels per cubic metre of air (Bq m^{-3}) for the annual average of the radon gas concentration in a home. Where 1% or more of homes are estimated to be at or above the Action Level the area should be regarded as a radon Affected Area.

This report informs you whether the property is in a radon Affected Area and the percentage of homes that are estimated to be at or above the radon Action Level at this location. Being in an Affected Area does not necessarily mean there is a high radon level within the property; the only way to determine the radon level is to carry out a radon measurement.

The UKHSA advises that radon gas should be measured in all properties within radon Affected Areas and that homes with radon levels at or above the Action Level (200 Bq m^{-3}) should be remediated. Householders with levels between the Target Level (100 Bq m^{-3}) and Action Level should seriously consider reducing their radon level, especially if they are at greater risk, such as if they are current or ex smokers. Whether or not a home is in fact above or below the Action Level or Target Level can only be established by having the building tested. The UKHSA provides a validated radon testing service which can be accessed at www.ukradon.org.

The information in this report provides an answer to one of the standard legal enquiries on house purchase in England and Wales, known as Law Society CON29 Enquiries of the Local Authority (2016); 3.14 Radon Gas: Do records indicate that the property is in a “Radon Affected Area” as identified by the UKHSA. The data can also be used to advise house buyers and sellers in Scotland and Northern Ireland.

If you are buying a new build property in a Radon Affected Area, you should ask the builder whether radon protective measures were incorporated in the construction of the property.

If you are buying a currently occupied property in a radon Affected Area, you should ask the present owner whether radon levels have been measured in the property. If they have, ask whether the results were at or above the radon Action Level and if so, whether remedial measures were installed, radon levels were re-tested, and if the results of re-testing confirmed the effectiveness of the measures.

Further information on radon is available from the UKHSA at www.ukradon.org.

What is radon?

Radon is a naturally occurring radioactive gas, which is produced by the radioactive decay of radium which, in turn, is derived from the radioactive decay of uranium. Uranium is found in small quantities in all soils and rocks, although the amount varies from place to place. Radon released from rocks and soils is quickly diluted in the atmosphere. Concentrations in the open air are normally very low and do not present a hazard. Radon that enters enclosed spaces such as some buildings (particularly basements), caves, mines, and tunnels may reach high concentrations in some circumstances. The construction method and degree of ventilation will influence radon levels in individual buildings. A person's exposure to radon will also vary according to how particular buildings and spaces are used.

Inhalation of the radioactive decay products of radon gas increases the chance of developing lung cancer. If individuals are exposed to high concentrations for significant periods of time, there may be cause for concern. In order to limit the risk to individuals, the Government has adopted an Action Level for radon in homes of 200 becquerels per cubic metre (Bq m^{-3}). The Government advises householders that, where the radon level is at or above the Action Level, measures should be taken to reduce the concentration.

Radon in workplaces

The Ionising Radiation Regulations 2017 require employers to take action when radon is present above a defined level in the workplace. Advice may be obtained from your local Health and Safety Executive Area Office or the Environmental Health Department of your local authority. The BRE publishes a guide (BR293)**: Radon in the workplace.** BRE publications may be obtained from the BRE Bookshop, Tel: 01923 664262, email: bookshop@bre.co.uk website: www.brebookshop.com

Contact Details

Keyworth Office
British Geological Survey
Environmental Science Centre
Nicker Hill
Keyworth
Nottingham
NG12 5GG
Tel: 0115 9363100
Email: enquiries@bgs.ac.uk

Wallingford Office
British Geological Survey
Maclean Building
Wallingford
Oxford
OX10 8BB
Email: enquiries@bgs.ac.uk

Edinburgh Office
British Geological Survey
Lyell Centre
Research Avenue South
Edinburgh
EH14 4AP
Tel: 0131 6671000
Email: enquiry@bgs.ac.uk

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- The topography shown on any map extracts is based on the latest OS mapping and is not necessarily the same as that used in the original compilation of the BGS geological map, and to which the geological linework available at that time was fitted.
- Note that for some sites, the latest available records may be historical in nature, and while every effort is made to place the analysis in a modern geological context, it is possible in some cases that the detailed geology at a site may differ from that described.

Report issued by
BGS Enquiry Service