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ENVIRONMENTAL CONSULTING , SOFTWARE & TRAINING

CONTAMINATED LAND RISK ASSESSMENT

Phase 2 Environmental Site Investigation Report

Site
126 Upper Shoreham Road
Shoreham-By-Sea
West Sussex
BN43 6TD

Client
TL Homes Ltd

Report Reference
PH2-2025-000009

Prepared by
STM Environmental Consultants Ltd

Date
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1 DOCUMENT CONTROL

CONTAMINATED LAND RISK ASSESSMENT
PHASE 2 ENVIRONMENTAL SITE INVESTIGATION REPORT

Site Address:	126 Upper Shoreham Road Shoreham-By-Sea West Sussex BN43 6TD
Site Coordinates:	523190, 106153
Prepared for:	TL Homes Ltd
Report Reference:	PH2-2025-000009
Version No:	1.0
Date:	24/03/2025
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2 DISCLAIMERS

This report and any information or advice which it contains, is provided by STM Environmental Consultants Ltd (STM) and can only be used and relied upon by TL Homes Ltd (Client). Any party other than the Client using or placing reliance upon any information contained in this report, do so at their own risk.

STM has exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant when undertaking works of this nature. However, STM gives no warranty, representation or assurance as to the accuracy or completeness of any information, assessments or evaluations presented within this report.

This report excludes consideration of potential hazards arising from any activities at the Site other than normal use and occupancy for the intended land uses. Hazards associated with any other activities have not been assessed and must be subject to a specific risk assessment by the parties responsible for those activities.

It should be noted that this report has been produced for environmental purposes only. It should not in any way be construed to be or used to replace a geotechnical survey, structural survey, asbestos survey, buried services survey, unexploded ordnance survey or invasive plant survey.

All coordinates and ground levels stated within the report are approximated based on OS mapping and LIDAR data. It is recommended that a topographic survey is undertaken if more accurate estimates are required.

3 EXECUTIVE SUMMARY

SECTION	SUMMARY
Site Location and Description	The site is located at 126 Upper Shoreham Road, Shoreham-By-Sea, West Sussex BN43 6TD. It is approximately centred at national grid reference 523190, 106153 and occupies an area of approximately 0.07ha.
Proposed Development	The development proposal is for the '*demolition of existing house and the erection of 4 x 3 bed semi-detached houses with associated parking and bin store'*. It is understood that there are proposals to include private gardens in the development.
Summary of Phase 1 Desk Study	A Phase 1 Desk Study was carried out by STM in December 2024 which indicated that the site has been subject to past Potentially Contaminative Land Uses (PCLUs) including Small Domestic Garages while off site PCLUs include a Garage/Petrol Station/Car Showroom (adjacent W), Orchard (25m N) and 2no. Infilled Gravel Pits (75m E & 100m S). A conceptual risk site model was constructed and a qualitative risk assessment carried out. This identified potentially significant Potential Pollutant Linkages with respect to human health and property receptors. The Desk Study recommended that an intrusive site investigation be carried out with the objective of determining the presence and extent of any soil and gaseous contamination at the site.
Summary of Site Investigation	Site investigation works were carried out on the 19th February 2025. A total of 6no. boreholes (BH01 – BH06) were excavated to a maximum depth of 3mbgl using a dynamic windowless sampler rig. A total of 9no. soil samples were collected from depths ranging between 0.3 – 1.2mbgl and submitted to a UKAS/MCERTS accredited laboratory for analysis of Heavy Metals, TPH, BTEX, PAHs, SVOCs and Asbestos. 3no. of the boreholes (BH02, BH03 and BH05) were installed as groundwater, ground gas and vapour monitoring wells to depths up to 3mbgl. 3no. rounds of ground gas monitoring were undertaken over 3 weeks.
Summary of Findings	Made Ground was encountered to a maximum depth of 1mbgl and was underlain by pebbly Silt/Clay to 1.2mbgl, itself in turn underlain by Chalk to a depth of 3mbgl, the maximum depth of the boreholes. Visual indications of contamination of the Made Ground were observed (i.e. fragments of brick, cement, concrete and glass) generally across the site. No significant odours or PID readings were recorded during the investigation. A maximum Methane concentration of 0.1% by volume in air (v/v) was

SECTION	SUMMARY
	encountered, as well as a maximum Carbon Dioxide concentration of 2.3% v/v and a maximum flow rate of 0.3l/hr. A maximum PID reading of 6.1ppm was observed. Groundwater was not encountered during the site investigation or subsequent monitoring rounds.
Updated Risk Assessment	A Generic Quantitative Risk Assessment was carried out where the results of the soil sample analysis were compared to Generic Assessment Criteria (GAC) for a residential housing with home-grown produce land use scenario. Results of the soil sample analysis indicate that concentrations of PAHs (Benzo(a)pyrene, Dibenzo(ah)anthracene, Benzo(b)fluoranthene)and Lead exceeded their chosen GAC in all of the sampling locations. Asbestos was not detected in any of the samples screened. A Gas Screening Value (GSV) of 0.0069l/hr was calculated using the results of the ground gas monitoring. The GSV indicates that the site should be classified as “Characteristic Situation 1 (CS1) – Very Low Gas Risk” meaning that no gas protection measures are considered to be required. However, a search of the BGS Radon dataset indicates that the property lies in an area with between 5% and 10% chance of being affected by naturally occurring Radon gas. Therefore, it is possible that it is in area affected by Radon. The Conceptual Risk Model for the site was reassessed incorporating the results of the site investigation. Potentially Significant Potential Pollutant Linkages were considered to exist with respect to human health and property receptors. These are concerned with the risk of human health receptors (future occupiers) being exposed to the identified contamination while undertaking recreational activities in gardens, as well as an inhalation risk associated with the potential Elevated Radon Levels.
Conclusions and Recommendations	Given the findings of the site investigation, it is recommended that remedial measures are undertaken in order to break the Potential Pollutant Linkages identified so as to render the site suitable for the proposed residential end use. In lieu of Radon monitoring, a Radon protective membrane will be installed within the proposed building foundations to mitigate against the inhalation risk. A formal remediation strategy will need to be submitted to the Local Planning Authority for approval. Once completed, the remedial works will need to be validated and a remediation verification report submitted to the Local

SECTION	SUMMARY
	Planning Authority for approval prior to occupation of the development. A “watching brief” should be kept at all times during the development. Should any unexpected contamination be encountered then the discovery strategy outlined in this document should be followed. It is also recommended that standard Health and Safety measures as required by CDM regulations are implemented at all times in order to protect Construction Workers from any unexpected soil contamination.

4 INTRODUCTION

STM Environmental Consultants Limited were commissioned by TL Homes Ltd to undertake a preliminary risk assessment at 126 Upper Shoreham Road, Shoreham-By-Sea, West Sussex BN43 6TD (the site).

4.1 Development Proposal

The report was produced to support the discharge of Condition 3(c) attached to the planning application AWDM/0977/21 for the '*demolition of existing house and the erection of 4 x 3 bed semi-detached houses with associated parking and bin store'*. It is understood that there are proposals to include private gardens in the development.

The decision notice and proposed development plans are available in Appendix 1.

4.2 Report Objectives

The main objectives of the study were to:

- Provide information for a generic quantitative risk assessment (GQRA) to be undertaken;
- Refine the Conceptual Site Risk Model using the findings of the GQRA;
- Inform the need for and scope of any remedial works that may be required.

A summary of the findings of the site investigation and GQRA are detailed within this report.

This report should be read in conjunction with the Desk Study Report (Ref: PH1-2024-000106) produced for the site by STM Environmental Consultants in December 2024 which is summarised below.

5 SUMMARY OF DESK STUDY FINDINGS

5.1 Site Location

The site is located at 126 Upper Shoreham Road, Shoreham-By-Sea, West Sussex BN43 6TD at grid reference is 523190, 106153. The site has an area of approximately 0.07haha.

The site lies within the jurisdiction of Adur and Worthing Council in terms of the planning process. Maps showing the location of the site are shown in the figure below.

5.2 Current Site and Surrounding Land Uses

The site currently comprises a residential dwelling, with Small Domestic Garages located in the north of the site. The main current use in the immediate surrounding area includes residential properties.

5.3 Site History

Examination of Ordnance Survey historic maps revealed that the site comprised open undeveloped land until c.1909-12, when 1no. small unspecified building was constructed, with an adjacent building overlapping the north eastern corner. By c.1933 the small unspecified building was extended, before demolition occurred c.1937. The overlapping building was demolished c.1951, after which the site remained clear until 1no. large building labelled No. 126 and another structure along the northern boundary of the site were constructed c.1969-72, matching the present day layout of the site. The surrounding area has been predominantly open undeveloped land until widescale development occurred between the 1930s and 1970s.



Figure 1: Site Location and Aerial Maps

5.4 Previous Site Investigations

A search of relevant information on Adur and Worthing Council's planning portal identified the following records of previous contaminated land site investigations which were undertaken in the vicinity of the site.

5.5 136 Upper Shoreham Road Shoreham-By-Sea West Sussex BN43 6TD

A Site Investigation Report (ref. 44407131/6228R; March 2006) by URS Corporation Ltd was identified attached to the planning application AWDM/1483/12, for the site located adjacent west.

The URS review of the available historical mapping indicated that the site comprises open undeveloped land until c.1947, when 2no. buildings were constructed. By c.1959 the site was labelled as a Garage, and the mapping from c.1963 indicated that the site had been redeveloped and comprised only 1no. central building. The site was occupied by 2no. larger buildings and 2no. smaller buildings c.1972, and by c.1993 the site matched the layout of the site at the time the URS report was written.

URS considered the onsite potentially contaminative land uses to include the Petrol Station, with a risk to human health and groundwater receptors.

The intrusive site investigation was undertaken between the 25th and 27th January 2006, and the works comprised 4no. boreholes (MW1 to MW4) to a maximum depth of 8mbgl. 3no. of the boreholes (MW1, MW3 & MW4) were installed as monitoring wells.

9no. soil samples were sent for chemical analysis, and were compared to the GAC for a residential land use scenario. Exceedances of TPHs, PAHs and Heavy Metals were identified. 1no. groundwater sample was also sent for chemical analysis. No exceedances were identified. As exceedances were identified, URS recommended that a combined human health and groundwater QRA be undertaken for the site.

A Site Investigation Report (ref. 12.7185; October 2012) by Construction Evaluation Ltd (CE) was identified attached to the same planning application. The report states that historically the site was used as a Petrol Filling Station, but that since the closure of the Service Station the site was used as a Used Car Sales Lot. At the time of the investigation, the majority of the infrastructure associated with the historical use of the site, including 5no. Underground Fuel Storage Tanks, were still present with the exception of the pump islands.

The intrusive site investigation was undertaken between the 24th July and 7th August 2012, and comprised 3no. boreholes (BH1, BH2B & BH3D) to a maximum depth of 20.0mbgl. Made Ground was encountered to a maximum depth of 1.7mbgl. A faint potential Hydrocarbon odour was recorded between 7.0 – 12.0mbgl, which was subsequently targeted for laboratory testing.

10no. soil samples were sent for chemical analysis, and compared to the GAC for a residential land use. No exceedances were identified. No Asbestos was identified in any of the samples screened.

3no. rounds of ground gas monitoring were undertaken between the 15th and 29th August 2012. A maximum Carbon Dioxide concentration of 1.3% v/v, a maximum Methane concentration of 0.6% v/v, and a flow rate of 1.2l/hr were observed. As such, the site was classified as Characteristic Situation 1, and no ground gas protection measures were recommended.

9no. groundwater samples were sent for chemical analysis, and compared to the UKDWS. No exceedances were identified.

Whilst CE did not identify any exceedances, given the results of the URS investigation, the report stated that there was a Moderate risk to human health and property receptors. As such, CE recommended that following the removal of the USTs, validation sampling of the base and sides of the excavations should be undertaken. In addition, they recommended that soil within proposed areas of soft landscaping would need to meet the requirements outlined within BS3882:2007, and that validation sampling would be required in those areas to confirm the soil was fit for purpose.

An Interim Validation Report (ref. 13.7721; October 2013) by CE was identified on the online planning portal attached to the same planning application as the previous reports. The report states that a method statement for the removal of the Tanks was submitted to the EA and the Council, both of which approved the proposed methodology in September 2013.

During the demolition works, a total of 20no. Tanks were identified on the site. The first Tanks to be removed were the 5no. Tanks described in the previous reports, and were removed between the 2nd and 6th September 2013. The remaining Tanks were removed in a number of stages between the 12th September and 7th October 2013. Given the large number of Tanks, the site was divided into 5no. areas to help keep track of the different dates and sampling. The findings are summarised below:

- H1 – 5no. Tanks, 10no. validation samples, Asbestos and PAH exceedances;
- H2 – 2no. Tanks, 2no. validation samples, no exceedances;
- H4 – 5no. Tanks, 1no. validation sample, no exceedances;
- H5 – 5no. Tanks, 1no. validation sample, no exceedances;
- H6 – 3no. Tanks, 4no. validation samples, no exceedances.

Although exceedances were identified in H1, as these were all identified at a minimum depth of 2.0mbgl and the area is under the proposed road, the risk was considered to be low.

An area of unexpected contamination comprising Oil Filters and Waste Materials were identified within Plot I2. The soils were excavated on the 23rd and 24th September 2013, and were stored in 2no. stockpiles. A sample from each stockpile was sent for chemical testing, which did not identify any exceedances.

The report included the waste transfer notes for the materials removed from the site. Within an interim conceptual site model, the site was assessed as having a Low risk as the Tanks had been removed, and no Hydrocarbon exceedances were identified in the validation sampling undertaken by CE to date. At the time the report was written, the development was not complete.

No further Contaminated Land Reports were identified on the online planning portal at the time of writing, and it is unclear whether the reports were considered satisfactory by the Council. However, based on imagery obtained from Google Maps, it appears that the development has been completed.

5.6 Radon

A search of the BGS Radon dataset indicates that the property lies in an area with between 5% and 10% chance of being affected by naturally occurring Radon gas. Therefore, it is possible that it is in area affected by Radon.

5.7 Qualitative Risk Assessment

A qualitative risk assessment was undertaken in order to assess the magnitude of the potential risks identified in the Phase 1 Report.

5.7.1 Potential Sources

Any Potentially Contaminative Land Uses (PCLUs) within a 50m radius of the site as well as any PCLUs with high pollution migration potential within 250m of the site were considered to be of concern and were included within the assessment.

A summary is provided in the table below.

Table 1: Summary of potential contamination sources, period of operation and distance from site.

Site Name/ Description	Industrial Profile	Approx. Year Use Established	Approx. Year Use Ended	Direction	Approx. Distance from Site (m)
Small Domestic Garages	-	c.1969-72	Current (2024)	Onsite	0
Garage/ Petrol Station/Car Showroom	Road Vehicles: Garages and Filling Stations	c.1954-59	c.2013	W	Adjacent
Orchard	-	c.1937	c.1951	N	25
2no. Infilled Gravel Pits	Unknown Filled Ground	c.1969-72 c.1937	Current (2024)	E S	75 100

5.7.2 Potential Receptors

Potential human health receptors were considered to include future site users, construction workers and neighbours. Property receptors were considered to include onsite buildings and services.

Data from the BGS indicates that the site is underlain by superficial deposits consisting of Head (Clay, Silt, Sand and Gravel) which are classified as a Secondary Undifferentiated Aquifer. The bedrock consists of Tarrant Chalk Member (Chalk) and is classified as a Principal Aquifer. The site does not lie within a Source Protection Zone and there are no recorded water abstractions within 500m of the site.

No surface water receptors were identified onsite or within 250m of the site.

No designated ecological receptors were identified onsite or within 250m of the site.

5.7.3 Conceptual Site Risk Model

A preliminary conceptual site risk model (CSM) was constructed in order to assess potential pollutant linkages.

Potentially significant potential pollutant linkages (PPLs) were identified with respect to:

- Human health receptors (PPL1a, PPL1b)
- Property (PPL6a and PPL6b)

The desk study recommended that an intrusive site investigation be carried out to determine the presence and extent of any soil and gaseous contamination at the site.

6 SITE INVESTIGATION

The site investigation works were carried out on the 19th February 2025 and were undertaken in general accordance with the following guidance:

- Land contamination risk management (LCRM) guidance - DEFRA;
- BS 10175 - Code of practice for the Investigation of potentially contaminated sites British Standard Institution;
- BS 10176:2020 - Taking soil samples for determination of volatile organic compounds (VOCs);
- BS5930:2015 Code of Practice for Ground Investigation
- BS 8485: 2015 - Code of practice for the Characterisation and remediation from Ground Gas in Affected Developments. British Standard Institution;
- BS8576:2013, Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs);
- C665, 2007 - Assessing Risks posed by Hazardous Ground Gases to Buildings CIRIA.

6.1 Strategy and Scope of the Site Investigation and Risk Assessment

As per Condition 3(b), the extent and methodology of the site investigation was approved by the Pollution Officer at Adur and Worthing Council in a Proposed Phase 2 Site Investigation Strategy. The only change from the Strategy to occur was that whilst originally the plan was to install BH01 with a monitoring well, this was switched to BH02 on the day based on the activities already being undertaken on the site.

6.1.1 Sampling Strategy

The strategy for selecting the locations of the exploratory positions was based on the conceptual source, pathway and receptor model and potentially contaminating activities identified by the Conceptual Site Model.

A total of 6no. sampling locations (BH01 – BH06) were excavated to a maximum depth of 3mbgl for contamination and geotechnical assessment purposes. A semi-targeted sampling strategy was used to select the locations of the exploratory positions, with boreholes being generally equally spaced out across the site, with efforts being made to ensure that samples were collected from the most sensitive areas (i.e. gardens) of the proposed development.

As the investigation was primarily focused on assessing the quality of near surface soils, samples were collected at depths between 0.3 – 1.2mbgl.

6.1.2 Boreholes

A summary of the boreholes undertaken as part of the investigation is given in the table below.

Table 2: Summary of boreholes

Borehole ID	Easting*	Northing*	Level at surface (mAOD)	Level at Base (mAOD)	Depth (m)	Installed as Monitoring Well?
BH01	523183	106136	19.58	16.58	3.0	No
BH02	523191	106140	19.49	16.49	3.0	Yes
BH03	523184	106145	19.70	16.70	3.0	Yes
BH04	523193	106151	19.63	16.63	3.0	No
BH05	523193	106163	19.81	16.81	3.0	Yes
BH06	523188	106169	19.94	16.94	3.0	No

*Note: coordinates and levels are approximate based on OS mapping and LiDAR data

A map showing the locations of boreholes is available in Appendix 2. Soil logs are available in Appendix 3.

6.1.3 On-site Screening of Volatile Organic Compounds

Soil from each borehole was screened on site for Volatile Organic Compounds (VOCs) using a hand held Minirae Photo-Ionisation Detector (PID) which has a detection limit of 0.1 parts per billion (ppb). The PID was calibrated in the field prior to use using a gas of known concentration (isobutylene gas – 100ppm).

Soil vapour readings were taken using the headspace method, which involved placing the soil sample into a sealed plastic bag and then taking a reading by placing the PID filter into the bag.

6.1.4 Sample Collection and Transport

All samples were put into sample containers (jars and tubs) that were tightly sealed with minimal headspace. The sample containers were put into a cooler box immediately on collection and kept cool until analysis was undertaken at the laboratory.

6.1.5 Laboratory Analysis

A total of 9no. soil samples were submitted to a UKAS\MCERTs accredited laboratory for analysis of the following:

- Heavy Metals – Arsenic, Boron, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Zinc;
- Petroleum Hydrocarbons (TPHCWG);
- Total Phenols - Total Phenols (Monohydric);
- Monoaromatics – Benzene, Toluene, Ethylbenzene, p & m-xylene, o-xylene, MTBE (Methyl Tertiary Butyl Ether);
- Speciated PAHs – Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, Benzo(ghi)perylene;
- Total PAHs - Speciated Total EPA-16 PAHs;
- Asbestos Screening and Quantification;
- Inorganics - pH – Automated, Total Cyanide, Water Soluble Sulphate, Sulphide, Total Organic Carbon (TOC);
- SVOCs.

6.1.6 Groundwater, Ground Gas and Vapour Monitoring

3no. of the boreholes (BH02, BH03 and BH05) were installed with standpipes equipped with monitoring apparatus to a depth of approximately 3mbgl in order to allow for the measurement of groundwater levels and the estimation of Gas Screening Values (GSVs) as per CIRIA 665, and BS8576 and BS8485 guidance.

The wells were constructed using 63mm HDPE plain pipe in a bentonite seal from existing ground level to 1.0mbgl and 63mm HDPE slotted pipe in a gravel surround to the base of the borehole. The wells were fitted with a gas tap assembly and a lockable cover at ground level to provide protection. A bottom cap was placed over opening at the base of the pipe.

The frequency of ground gas monitoring on site was decided in line with recommendations by CIRIA to provide monitoring data sufficient to allow the prediction of worst-case conditions. Based on the gas

generation potential of the site and the sensitivity of the proposed development, 3no. monitoring visits were considered appropriate.

6.2 Site Investigation Findings

6.2.1 Ground Conditions

Made Ground was encountered to a maximum depth of 1mbgl and was underlain by pebbly Silt/Clay to 1.2mbgl, itself in turn underlain by Chalk to a depth of 3mbgl, the maximum depth of the boreholes.

The borehole logs are shown in Appendix 3 and photographs from some of the soils extracted from the boreholes are presented in Appendix 4.

6.2.2 Groundwater

Groundwater was not encountered during the site investigation or subsequent monitoring rounds.

6.2.3 Visual and Olfactory Signs of Contamination

Visual indications of contamination of the Made Ground were observed (i.e. fragments of brick, cement, concrete and glass) generally across the site. No significant odours or PID readings were recorded during the investigation. The PID readings can be seen in the borehole logs shown in Appendix 3.

6.3 Laboratory Sample Analysis Results

A total of 9no. soil samples were submitted for analysis. The full results of the laboratory sample analysis can be seen in Appendix 5.

7 RISK ASSESSMENT

7.1 Generic Quantitative Risk Assessment (Human Health)

A Generic Quantitative Risk Assessment (GQRA) was conducted using the soil analytical results in order to further evaluate the significance of the potential pollutant linkages identified in the Preliminary Risk Assessment in the Desk Study.

7.1.1 Generic Assessment Criteria for Soils

The GAC used for the screening of the soils and their sources are outlined in the table in Appendix 6. The GAC used are a combination of the DEFRA's Category 4 Screening Levels and the CIEH\LQM GAC for residential with homegrown produce land use scenario.

7.1.2 Soil Organic Matter Content

Sample results indicated that soils on the site have an average Total Organic Carbon (TOC) content of 4.30%, which based on a conversion factor of 1.72, indicates a Soil Organic Matter (SOM) of around 7.40%. Therefore, a soil organic matter content of 6% was assumed.

7.1.3 Contaminants Exceeding Generic Assessment Criteria

A summary of contaminants that were found to be present in concentrations that exceeded the GAC is shown Table 3 below.

Table 3: Contaminants Exceeding GAC

Contaminant	GAC (mg/kg)	No. of Exceedances	Measured Concentrations (mg/kg)		Exceedance Borehole Locations
			Mean	Maximum	
Benzo(a)pyrene	2.4	4	4.95	22.5	BH02/1, BH04/1*, BH05/1, BH06/1
Benzo(b)fluoranthene	3.7	4	5.92	25.0	BH02/1, BH04/1*, BH05/1, BH06/1
Dibenzo(ah)anthracene	0.3	6	0.59	3.11	BH02/1, BH03/1, BH03/2, BH04/1*, BH05/1, BH06/1
Lead	200	5	257.19	658.7	BH01/1*, BH03/1, BH04/1, BH05/1, BH06/1

**Maximum value location*

7.1.4 Statistical Analysis

The results of statistical analysis are presented in Appendix 7. All of the contaminants that exhibited exceedances of their GAC had sample means that exceeded their relevant GAC and failed the mean value test.

7.2 Asbestos

Asbestos was not detected in any of the samples analysed.

7.3 Ground Gas Risk Assessment

A summary of the gas monitoring results is presented in Table 4 below. The full results are available in Appendix 8. The readings include measurements during rising and falling atmospheric pressure conditions.

Table 4: Summary of ground gas monitoring results

Borehole	Barometric Pressure	Flow l/hr	CH_4 %	CO_2 %	O_2 %	H_2S ppm	CO ppm	VOCs ppm
BH02	1003 - 1023	0.1 – 0.3	0.0 – 0.1	0.6 – 1.2	19.3 – 20.7	0.0	0.0	0.0 – 0.1
BH03	1003 - 1023	0.0 – 0.3	0.0 – 0.1	0.4 – 1.2	18.5 – 20.6	0.0	0.0	0.0 – 6.1
BH05	1003 - 1023	0.0 – 0.3	0.0 – 0.1	1.4 – 2.3	19.0 – 20.1	0.0	0.0	0.0 – 0.2

A maximum Methane concentration of 0.1% by volume in air (v/v) was encountered, as well as a maximum Carbon Dioxide concentration of 2.3% v/v and a maximum flow rate of 0.3l/hr. A maximum PID reading of 6.1ppm was observed.

In accordance with CIRIA C665, the Gas Screening Value (GSV) for Carbon Dioxide was calculated as follows:

$$GSV = (2.3/100) * 0.3 = 0.0069l/hr$$

A GSV of 0.0069l/hr indicates that the site should be classified as Wilson and Card “Characteristic Situation 1 (CS1) – Very Low Gas Risk” meaning that standard gas protection measures are not required.

Based on the typical maximum concentration of Carbon Dioxide being less than 5% v/v, the site is considered to be Green (i.e. ground gas protection measures are not required) under the NHBC classification system.

8 RE-ASSESSMENT OF POTENTIAL POLLUTANT LINKAGES

The Potential Pollutant Linkages (PPLs) identified as being plausible in the Desk Study are concerned with the following risks:

- Risk of direct contact (ingestion and absorption) with and inhalation of contaminants to on-site human health receptors (PPL1a – Future Occupiers and PPL1c – Construction Workers);
- Risk of injury/death of on-site human health receptors as a result of explosion due to accumulation of ground gas from on and off-site sources in confined spaces within on-site dwellings. (PPL1b – Future Occupiers and PPL1d - Construction Workers);
- Risk of direct contact with (ingestion and absorption) and inhalation of contaminants to off-site human health receptors as a result of on-site contaminants migrating off-site (PPL2a);
- Risk of injury/death to off-site human health receptors as a result of explosion due to migration of on-site ground gas and subsequent accumulation in confined spaces in off-site buildings. (PPL2b);
- Risk of deterioration of groundwater quality resulting from the migration of on-site contaminants into the underlying aquifer (PPL3);
- Risk of deterioration of surface water quality resulting from the migration and entry of on-site contaminants into the surface water receptor (PPL4);
- Risk of deterioration of ecological quality resulting from the migration and entry of on-site contaminants to the ecological receptor during development and after completion (PPL5);
- Risk of damage to buildings and services from on and off-site contaminants (PPL6a);
- Risk of damage to property as a result of explosion due to accumulation of ground gas from on and off-site sources in confined spaces within buildings (PPL6b).

The Desk Study concluded that PPL1a, PPL1b, PPL6a and PPL6b had the potential to be significant. All of the PPLs were re-assessed considering the soil analytical results obtained from site investigation. The table below presents the results of the re-assessment.

A detailed explanation of the risk assessment methodology is available in Appendix 9.

Table 5: Results of Qualitative Risk Assessment.

CRITERIA	POTENTIAL POLLUTANT LINKAGES										
	PPL1a	PPL1b	PPL1c	PPL1d	PPL2a	PPL2b	PPL3	PPL4	PPL5	PPL6a	PPL6b
POTENTIAL PATHWAY/ RECEPTOR	Contact/ Inhalation - Human Health (Future Occupiers)	Explosion - Human Health (Future Occupiers)	Contact/ Inhalation - Human Health (Construction Workers)	Explosion - Human Health (Construction Workers)	Contact/ Inhalation - Offsite Human Health Receptors	Explosion - Human Health Receptors	Contact - Groundwater	Contact - Surface Water	Contact - Ecology	Contact - On & Off-Site Property	Explosion - On & Off-Site Property
SEVERITY	Major (4)	Major (4)	Major (4)	Major (4)	Major (4)	Major (4)	Moderate (3)	Moderate (3)	Moderate (3)	Moderate (3)	Moderate (3)
LIKELIHOOD	Remote (2)	Improbable (1)	Improbable (1)	Improbable (1)	Improbable (1)	Improbable (1)	Improbable (1)	Improbable (1)	Improbable (1)	Remote (2)	Improbable (1)
RISK	Low to Moderate (8)	Low (4)	Low (4)	Low (4)	Low (4)	Low (4)	Very Low (3)	Very Low (3)	Very Low (3)	Low to Moderate (6)	Very Low (3)
POTENTIALLY SIGNIFCANT?	YES	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO

8.1 Potential Risks to On-Site Human Health

PPL1a and PPL1c are concerned with the risk of direct contact (ingestion and dermal absorption) with and inhalation of on and off-site contaminants by on site human health receptors. PPL1a is considered to have the potential to be significant given the PAHs and Lead contamination identified. As the proposal is to introduce residential dwellings with private gardens, it is possible that human health receptors (i.e. future occupiers of the dwellings) could be exposed to contamination while undertaking recreational activities in the gardens.

In addition, as the site is located within an area with between 5% and 10% chance of being affected by naturally occurring Radon gas, there is a potential inhalation risk to human health receptors.

PPL1c is considered unlikely to be significant as it is considered that any potential risks to groundworkers can be adequately dealt with by ensuring that standard health and safety measures are implemented during the construction phase.

PPL1b and PPL1d are concerned with the risk of injury/death of on-site human health receptors as a result of explosion due to the potential accumulation of ground gases and vapours from on and off-site sources. These PPLs are considered unlikely to have the potential to be significant as no significant concentrations of explosive ground gases or vapours were identified during the ground gas monitoring.

8.2 Potential Risks to Off-Site Human Health

PPL2a is concerned with the risk of direct contact and inhalation of contaminants originating from the site by off-site human health receptors. PPL2a is considered unlikely to have the potential to be significant. Although PAH and Heavy Metal contamination was identified, given their immobility, the concentrations are not considered sufficient to impact offsite human health receptors.

PPL2b is concerned with the risk of injury/death of on-site human health receptors as a result of explosion due to accumulation of ground gases from on-site sources. PPL2b is considered unlikely to be significant for the same reasons as PPL1b.

8.3 Potential Risks to Groundwater Receptors

PPL3 is concerned with the risk of deterioration of groundwater quality resulting from the migration of on-site contaminants into the underlying aquifer. PPL3 is assessed as unlikely to have the potential to be significant as the contamination (i.e. PAHs and Lead) identified at the site is considered to be of insufficient magnitude and mobility to impact the groundwater receptor. Additionally, the site does not lie within a Source Protection Zone and there are no recorded water abstractions within 1000m of the site.

8.4 Potential Risks to Surface Water Receptors

PPL4 is concerned with the risk of negative impacts on surface water quality resulting from the migration and entry of on-site contaminants into surface water receptors. PPL4 is considered unlikely to have the potential to be significant as no surface water bodies were identified within the vicinity of the site.

8.5 Potential Risks to Ecological Receptors

PPL5 is concerned with the risk of negative ecological impacts resulting from potential on-site contaminants. PPL5 is considered unlikely to have the potential to be significant given that no designated ecological receptors were identified onsite or within 250m of the site.

8.6 Potential Risks to Property Receptors

PPL6a is concerned with the risk of damage to on site buildings and services from on and off-site contaminants. If contaminated, the soil may contain aggressive chemicals (i.e. Sulphates, VOCs) that can attack building materials and services. PPL6a is considered to have the potential to be significant. Given the elevated concentrations of aggressive contaminants (i.e. PAHs) identified in the soils tested, they could impact upon the buildings present on the site. Therefore, it is recommended that the statutory water undertaker should be consulted to confirm that there are no special requirements for any water services to be installed at the site.

PPL6b is concerned with the risk of damage to property as a result of explosion due to migration of on and off-site ground gases and vapours and their subsequent accumulation in confined spaces in on-site buildings. PPL6b is considered unlikely to be significant for the same reasons as PPL1b.

9 CONCLUSIONS

In response to the findings of the Desk Study carried out for the site by STM Environmental Consultants, an environmental site investigation was carried out on the 19th February 2025. The objective of the investigation was to determine the presence and extent of potential contamination at the site in order to further inform the risk assessment process.

A total of 6no. boreholes (BH01 – BH06) were advanced to a maximum depth of 3mbgl for the purposes of environmental and geotechnical soil sampling. 9no. soil samples were taken from depths ranging from 0.3 – 1.2mbgl. The samples were submitted to a UKAS/MCERTS accredited laboratory for analysis of Heavy Metals, TPH, BTEX, PAHs, SVOCs and Asbestos.

3no. of the boreholes (BH02, BH03 and BH05) were excavated and installed as ground gas, vapour and groundwater monitoring wells. 3no. rounds of ground gas, groundwater and vapour monitoring were undertaken over a period of 3 weeks.

A Generic Quantitative Risk Assessment was carried out where the results of the soil sample analysis were compared to Generic Assessment Criteria (GAC) for a residential with homegrown produce land use scenario.

Results of the soil sample analysis indicate that concentrations of PAHs (Benzo(a)pyrene, Dibenzo(ah)anthracene, Benzo(b)fluoranthene) and Lead exceeded their chosen GAC in all of the sampling locations. Asbestos was not detected in any of the samples screened.

A maximum Methane concentration of 0.1% by volume in air (v/v) was encountered, as well as a maximum Carbon Dioxide concentration of 2.3% v/v and a maximum flow rate of 0.3l/hr. A maximum PID reading of 6.1ppm was observed.

A GSV of 0.0069l/hr was calculated using the results of the monitoring which indicates that the site should be classified as Wilson and Card “Characteristic Situation 1 (CS1 – Very Low Gas Risk) meaning that gas protection measures are not required.

However, a search of the BGS Radon dataset indicates that the property lies in an area with between 5% and 10% chance of being affected by naturally occurring Radon gas. Therefore, it is possible that it is in area affected by Radon.

The Conceptual Risk Model for the site was reassessed incorporating the results of the site investigation.

Potentially Significant Potential Pollutant linkages were considered to exist with respect to human health and property receptors. These are concerned with the risk of human health receptors (future occupiers) being exposed to the contamination identified while undertaking recreational activities in gardens, as well as an inhalation risk associated with the potential Elevated Radon Levels.

The revised conceptual site risk model is summarised in Table 6 below.

Table 6: Summary of revised conceptual site risk model

Potential Receptor	Potential Pathway	Potential Hazard	PSPPL?	Risk
On-Site Human Health (Future Occupiers)	Ingestion/Absorption Inhalation	Adverse health Injury/Death	**Yes**	**Low to Moderate**
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Injury/Death	**No**	**Low**
On-Site Human Health (Construction Workers)	Ingestion/Absorption Inhalation	Adverse health Injury/Death	**No**	**Low**
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Injury/Death	**No**	**Low**
Off-Site Human Health	Ingestion/Absorption Inhalation	Adverse health Injury/Death	**No**	**Low**
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Injury/Death	**No**	**Low**
Groundwater	Percolation/Leaching	Adverse groundwater quality	**No**	**Very Low**
Surface Water	Lateral Migration Groundwater baseflow	Adverse Surface water quality	**No**	**Very Low**
Ecology	Ingestion/Absorption	Adverse health Injury/Death	**No**	**Very Low**
Property	Physical Contact/Absorption	Damage to building and services	**Yes**	**Low to Moderate**
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Damage to building	**No**	**Very Low**

10 RECOMMENDATIONS

10.1 Remedial Action

Given the findings of the site investigation, it is recommended that remedial measures are undertaken in order to break the Potential Pollutant Linkages identified so as to render the site suitable for the proposed residential end use.

Remedial measures will likely comprise the excavation of Made Ground and replacement with clean certified fill across areas of the site that are intended for use as gardens. In lieu of Radon monitoring, a Radon protective membrane will be installed within the proposed building foundations to mitigate against the inhalation risk.

A formal remediation strategy will need to be submitted to the Local Planning Authority for approval. Once completed, the remedial works will need to be validated by a qualified Environmental Consultant and a remediation verification report submitted to the Local Planning Authority for approval prior to occupation of the development.

10.2 Watching Brief and Discovery Strategy

It is recommended that a "watching brief" is kept at all times during the development. Should any unexpected contamination be encountered then the discovery strategy outlined below should be followed.

- Works should be halted if any suspicious ground conditions are identified by groundworkers;
- The Contractor should assess the need for any immediate health and safety or environmental management control measures. If control measures are considered to be required, they should be implemented;
- The Contractor should notify the Client's Environmental Consultant and the Local Planning Authority;
- The Environmental Consultant should attend the site to record the extent of 'contamination' and if necessary, to collect samples;
- If remedial action is considered necessary then the proposed works should be agreed with the Local Planning Authority prior to implementation;
- Once remediation is complete, the Environmental Consultant should collate evidence of work carried out for inclusion in a Remediation Verification Report which should be submitted to the Local Planning Authority.

10.3 Health and Safety

Given that contaminants were identified on the site, measures will be necessary to protect the health and safety of site workers during the site works. The following measures are suggested to provide a minimum level of protection.

- Provision of appropriate Personal Protective Equipment (PPE) including protective clothing, footwear, gloves and dust masks to all groundworkers on-site. These should not be removed from site, and advice should be given on when and how they are to be used;
- Great care should be taken to minimise the amount of dust and mud generated on-site;
- Good practices relating to personal hygiene (i.e. washing and changing procedures) should be adhered to on-site, i.e. food and drink should only be consumed within designated areas on the site and smoking should be prohibited in all working areas;
- Availability of site welfare;
- Daily safety briefings.

All site works should be carried out in accordance with Health and Safety Executive regulations and guidelines and the Contractor's Construction Health and Safety Plan. Particular should be made to the Health and Safety Executive (HSE) document "Protection of Workers and the General Public during the Development of Contaminated Land".

10.4 Waste Disposal

Groundworks at the site are likely to give rise to waste soils. These may require classification before removal from site to an appropriately licensed facility for treatment or final disposal. The Environment Agency's Hazardous Waste Technical Guidance document (WM3) outlines the methodology for classifying wastes.

The contractor will need to keep a full documentary record of the waste disposal works in line with Duty of Care requirements. The record will include waste transfer notes and details of the receiving site. Copies of all relevant documents should be provided to the Client's Environmental Consultant for inclusion in the remediation verification report.

10.5 Services

The Statutory Water Undertaker for the area should be contacted in relation to new services that are to be installed as part of the proposed development in order to determine their specification for the type of pipework/conduits that should be used on this site.

It is recommended that all services, and in particular potable water, should be supplied using materials that are resistant to attack and degradation to chemical attack. Reference should be made to the document '*Selection of Water Supply Pipes to be used in Brownfield Sites'*, issued in January 2011 by the UK Water Industry Research.

11 INFORMATION GAPS AND UNCERTAINTIES

Assumptions have been made regarding the nature and scale of the activities that took place on the site and the types of potential contaminants that may have resulted. There are therefore a number of uncertainties associated with the investigation which include, but are not limited to, the following:

- This report is based on data obtained from the chosen sampling locations only. Although efforts have been made to ensure adequate coverage of the site when designing the investigation, it is nonetheless possible that (as with any site investigation) there may be locations which were not sampled where localised pockets of contamination exist.
- The site investigation and risk assessment were designed to investigate only the most likely contaminants associated with the potential sources of contamination identified in the Desk Study. The presence of additional unknown contaminants cannot be discounted.

These uncertainties will need to be reviewed along with the Conceptual Site Risk Model should further information come to light in the future.

12 APPENDICES

12.1 Appendix 1 – Decision Notice and Proposed Development Plans

ADUR DISTRICT COUNCIL

Mr Jon Turner
Turner Associates
19A Wilbury Avenue
Hove
BN3 6HS
United Kingdom

PLANNING PERMISSION

TOWN AND COUNTRY PLANNING ACT 1990
TOWN AND COUNTRY PLANNING (GENERAL PERMITTED DEVELOPMENT) (AMENDMENT) (ENGLAND) ORDER 2015

APPLICATION NUMBER: AWDM/0977/21

Details of Development
DEMOLITION OF EXISTING HOUSE AND THE ERECTION OF 4 X 3 BED SEMI-DETACHED HOUSES WITH ASSOCIATED PARKING AND BIN STORE

Location of Development
126 UPPER SHOREHAM ROAD SHOREHAM-BY-SEA WEST SUSSEX BN43 6TD

In pursuance of their powers under the above-mentioned Act and Order the Council hereby notify you that they PERMIT the above development, in accordance with the application and relevant correspondence registered on 26th May 2021.

This is for reasons stated on the schedule overleaf and subject to compliance with the conditions specified thereon.

GPeck

Gary Peck
Planning Services Manager
08/06/2022

SCHEDULE

Conditions

01. The development hereby permitted shall be carried out in accordance with the following approved plans unless specified otherwise in a subsequent condition imposed on this decision notice.

Reference/Drawing Number	Version	Date Rec
EXISTING SITE PLAN	TA1317/02	26.05.2021
EXISTING STREET ELEVATION	TA1317/03	26.05.2021
EXISTING SECTION AA	TA1317/04	26.05.2021
EXISTING SECTION BB	TA1317/05	26.05.2021
BLOCK & SITE PLAN	TA1317/01C	31.03.2022
PROPOSE SITE PLAN	TA1317/10B	31.03.2022
PROPOSED STREET ELEVATION	TA1317/11B	31.03.2022
PROPOSED SECTION BB	TA1317/12A	31.03.2022
PROPOSED SECTION FF	TA1317/13A	31.03.2022
PROPOSED FLOOR PLANS UNITS 1 AND 2	TA1317/14B	31.03.2022
PROPOSED ELECVATIONS TO UNITS 1 AND 2	TA1317/15B	31.03.2022
PROPOSED ELEVATIONS TO UNITS 3 AND 4	TA1317/16B	31.03.2022
PROPOSED SECTION AA	TA1317/17B	31.03.2022
PROPOSED SECTION CC	TA1317/18A	31.03.2022
PROPOSED SECTION DD	TA1317/19A	31.03.2022
PROPOSED SECTION EE	TA1317/20A	31.03.2022
PROPOSED SECTION AA	TA1317/21A	31.03.2022
PROPOSED FLOOR PLANS TO UNITS 3 AND 4	TA1317/22	31.03.2022

Reason: *For the avoidance of doubt and in the interests of proper planning.*

02. The development hereby permitted shall be begun before the expiration of 3 years from the date of this permission.

Reason: *To comply with Section 91 of the Town and Country Planning Act 1990.*

03. Prior to commencement of the development hereby approved (or such other date or stage in development as may be agreed in writing with the Local Planning Authority), the following components of a scheme to deal with the risks associated with contamination of the site shall each be submitted to and approved in writing by the Local Planning Authority:

(a) A preliminary risk assessment which has identified: all previous uses; potential contaminants associated with those uses; a conceptual model of the site indicating sources, pathways and receptors; and potentially unacceptable risks arising from contamination at the site.
(b) A site investigation scheme, based on (a) above to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.
(c) The site investigation results and the detailed risk assessment (b) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.
(d) A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in (c) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

Any changes to these components require the express consent of the Local Planning Authority. The scheme shall be implemented as approved above and, prior to commencement of any construction work (or such other date or stage in development as may be agreed in writing with the Local Planning Authority), a Verification Report demonstrating completion of the works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved in writing by the Local Planning Authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met. It shall also include any plan (a 'long-term monitoring and maintenance plan') for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action, as identified in the verification plan, and for the reporting of this to the Local Planning Authority.

Reason: *To ensure that any contaminants are adequately verifed and mitigated.*

04. Works of construction or demolition, including the use of plant and machinery, necessary for implementation of this consent shall be limited to the following times.
Monday - Friday 08:00 - 18:00 Hours
Saturday 09:00 - 13:00 Hours
Sundays, Public and Bank Holidays no work permitted

Any temporary exception to these working hours shall be agreed in writing by the Local Planning Authority at least five days in advance of works commencing. The contractor shall notify the local residents in writing at least three days before any such works.

Reason: *In the interests of the amenities of neighbouring residential properties.*

05. No development shall take place, including any works of demolition, until a Construction Management Plan has been submitted to and approved in writing by the Local Planning Authority. Thereafter the approved Plan shall be implemented and adhered to throughout the entire construction period.

The Plan shall provide details as appropriate but not necessarily be restricted to the following matters:
- the anticipated number, frequency and types of vehicles used during construction
- HGV construction traffic routings shall be designed to minimize journey distance through the AQMA's.
- the method of access and routing of vehicles during construction, the parking of vehicles by site operatives and visitors,
- the loading and unloading of plant, materials and waste,
- the storage of plant and materials used in construction of the development,
- the erection and maintenance of security hoarding,
- a commitment to no burning on site,
- the provision of wheel washing facilities and other works required to mitigate the impact of construction upon the public highway (including the provision of temporary Traffic Regulation Orders),
- details of public engagement both prior to and during construction works. methods to control dust from the site

Reason: *As this matter is fundamental in order to consider the potential impacts on the amenity of nearby occupiers during construction.*

06. A scheme for protecting the proposed noise sensitive development from external traffic noise shall be submitted to and approved by the local planning authority. All works, which form part of the scheme, shall be completed before any part of the noise sensitive development is occupied. The scheme shall have regard to the principles contained within the ProPG: Planning & Noise - New Residential Development, 2017 and achieve the indoor ambient noise levels for dwellings specified in BS8233:2014.

Reason: *To ensure adequate mitigation from external traffic noise.*

07. Development shall not commence, other than works of site survey and investigation, until full details of the proposed surface water drainage scheme have been submitted to and approved in writing by the Local Planning Authority. The design should follow the hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations, and the recommendations of the SuDS Manual produced by CIRIA. Winter groundwater monitoring to establish highest annual ground water

levels and winter infiltration testing to BRE DG365, or similar approved, will be required to support the design of any Infiltration drainage. No building / No part of the extended building shall be occupied until the complete surface water drainage system serving the property has been implemented in accordance with the agreed details and the details so agreed shall be maintained in good working order in perpetuity.

Reason: *To ensure the development is satisfactorily drained.*

08. No part of the development shall be first occupied until the car parking has been constructed in accordance with the approved site plan. These spaces shall thereafter be retained at all times for their designated purpose.

Reason: *To provide car-parking spaces for the use hereby permitted.*

09. No part of the development shall be first occupied until covered and secure cycle parking spaces have been provided in accordance with plans and details to be submitted to and approved by the Local Planning Authority.

Reason: *To provide alternative travel options to the use of the car in accordance with current sustainable transport policies.*

10. No part of the development shall be first occupied until provision for electric vehicle charging has been provided in accordance with plans and details to be submitted to and approved by the Local Planning Authority.

Reason: *To provide sustainable travel options in accordance with current sustainable transport policies.*

11. No construction works shall progress beyond slab/foundation stage until details and samples of facing materials and finishes to be used in the construction of the external walls, roofs, windows and doors, balconies, footpaths of the buildings hereby permitted have been submitted to and approved in writing by the local planning authority. Thereafter the development shall only be carried out in accordance with the approved details

Reason: *In the interests of visual amenity.*

12. The development hereby permitted shall not be occupied until boundary walls and/or fences have been erected in accordance with details that have been first submitted to and approved in writing by the local planning authority.

Reason: *In the interests of visual amenity.*

13. The development hereby permitted shall not be occupied until provision for refuse storage has been provided in accordance with details to be submitted and approved by the Local Planning Authority. The refuse storage facilities shall thereafter be retained for use by occupiers of the development.

Reason: *To ensure adequate provision for refuse storage.*

14. All soft landscape works shall be carried out in accordance with the approved scheme no later than the first planting season following completion of the development. Any trees or plants which within a period of 5 years from the completion of the development die, are removed or become seriously damaged or diseased shall be replaced the following planting season with others of similar size and species, unless the local planning authority gives any consent for variation. The approved hard landscape works, including car park surfacing, shall be completed prior to first occupation of the buildings.

    Reason: *To ensure the development is adequately landscaped.*

15. Notwithstanding the provisions of the Town and Country Planning General Permitted Development Order 2015, as amended, (or any order revoking and re-enacting that Order with or without modification), the proposed dwellings shall not be extended or altered by means of any development as set out within Classes A, B, D and E of Part 1 of the Schedule to that Order.

    Reason: *In the interests of amenity and the environment having regard to the nature of the site and policy 15 of the Adur Local Plan.*

16. Notwithstanding the provisions of the Town and Country Planning General Permitted Development Order 2015 as amended (or any Order revoking and re-enacting that Order with or without modification), no windows or other openings (other than as hereby approved) shall be formed in any walls of the dwellings hereby permitted.

    Reason: *To prevent overlooking and to comply with policy 15 of the Adur Local Plan.*

Informatives / Notes to Applicant

01. The Local Planning Authority has acted positively and proactively in determining this application by identifying matters of concern within the application (as originally submitted) and negotiating, with the Applicant, acceptable amendments to the proposal to address those concerns. As a result, the Local Planning Authority has been able to grant planning permission for an acceptable proposal, in accordance with the presumption in favour of sustainable development, as set out within the National Planning Policy Framework.

02. Infiltration rates for soakage structures are to be based on percolation tests undertaken in the winter period and at the location and depth of the proposed structures. The percolation tests must be carried out in accordance with BRE DG365, CIRIA R156 or a similar approved method and cater for the 1 in 10 year storm between the invert of the entry pipe to the soakaway, and the base of the structure. It must also have provision to ensure that there is capacity in the system to contain below ground level the 1 in 100 year event plus 40% on stored volumes, as an allowance for climate change. Adequate freeboard must be provided between the base of the soakaway structure and the highest recorded

annual groundwater level identified in that location. Any SuDS or soakaway design must include adequate groundwater monitoring data to determine the highest winter groundwater table in support of the design. The applicant is advised to discuss the extent of groundwater monitoring with the Council's Engineers. Further detail regarding our requirements are available on the following webpage https://www.adur-worthing.gov.uk/planning/applications/submit-fees-forms. A surface water drainage checklist is available on this webpage. This clearly sets out our requirements for avoiding pre-commencement conditions, or to discharge conditions.

Ref: AWDM/0977/21

TOWN AND COUNTRY PLANNING ACT 1990
TOWN AND COUNTRY PLANNING (GENERAL PERMITTED DEVELOPMENT) (AMENDMENT) (ENGLAND) ORDER 2015

YOUR ATTENTION IS DIRECTED TO THE FOLLOWING NOTES FROM THE ABOVE ORDER. THEY ARE FOR INFORMATION ONLY AND DO NOT PRETEND TO SET OUT THE WHOLE OF THE LAW ON THE SUBJECT. IT WOULD BE WELL FOR YOU TO CONSULT YOUR SOLICITOR IF YOU ARE IN ANY DOUBT

Appeals to the Secretary of State

1. If you are aggrieved by the decision of your local planning authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990.

2. If the decision relates to a householder application or minor commercial application, and you want to appeal, then you must do so within 12 weeks of the date of this notice. If the decision relates to express consent for the display of an advertisement, then you must do so within 8 weeks of the date of this notice. If the decision relates to a non-householder application, an appeal must be lodged within 6 months of the date of the decision notice. Appeals must be made using a form which you can get from the Secretary of State at Temple Quay House, 2 The Square, Temple Quay, Bristol BS1 6PN (Tel: 0303 444 5000) or online at https://acp.planninginspectorate.gov.uk.

3. The Secretary of State can allow a longer period for giving notice of an appeal, but he will not normally be prepared to use this power unless there are special circumstances, which excuse the delay in giving notice of appeal.

4. The Secretary of State need not consider an appeal if it seems to him that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.

5. In practice, the Secretary of State does not refuse to consider appeals solely because the local planning authority based their decision on a direction given by him.

Purchase Notices

6. If either the local planning authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that he can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted. In these circumstances, the owner may serve a purchase notice on the District Council in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Planning Act 1990..

7. Where this notice conveys approval or permission, conditional or unconditional, please note that the decision given does not purport to convey any consent or approval which may be required under the Building Act and Building Regulations, or any other legislation.

Reduced time for making a planning appeal where enforcement action is being taken

Where an enforcement notice has been served in relation to the same, or substantially the same, development as in the planning application no earlier than 2 years before the date the application was made, the period for receiving a planning appeal is within 28 days of the date on the planning application decision notice or of the date by which the LPA should have decided the application.

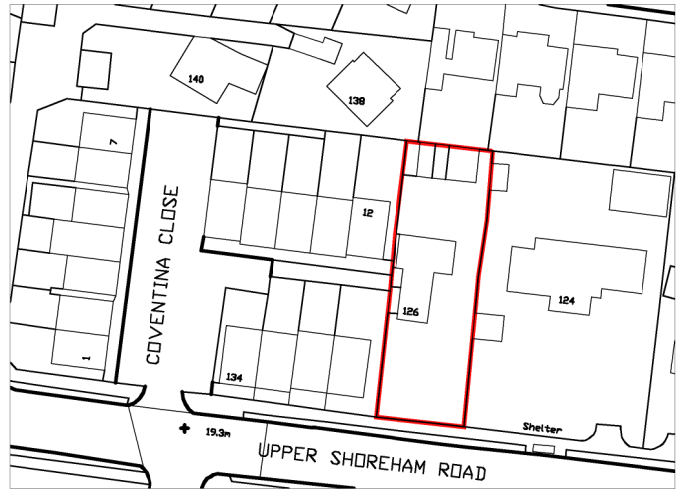
However, the LPA may formally decline to determine a retrospective planning application for permission for any development contained within a pre-existing enforcement notice served on or after 6 April 2012, where that notice was issued before the application was received by the LPA (see above). There is no right to make a planning appeal in such circumstances.

Where an enforcement notice was served in relation to the same, or substantially the same, development after the decision notice on the application was issued or after the end of the period the LPA had to determine the application, the period for receiving a planning appeal is within 28 days of the date the enforcement notice was served (unless this would extend the period beyond the normal 12 weeks or 6 months deadline).



Proposed block plan Scale 1:500@A3

0m 5m 10m 15m 20m 25m 30m 35m 40m 45m 50m



Existing site location plan
Scale 1:1250@A3

0m 10m 20m 30m 40m 50m

Planning issue

rev.	date	
C	290322	Garden fences revised
B	230222	Reduced scheme
A	260521	Dimensions added to boundaries

These drawings should be approved by local Authority

No dimensions to be scaled from this drawing. All dimensions to be checked on site. This drawing is copyright and should not be reproduced without the permission of the Architects.

client Emon Properties Ltd

project 126 upper Shoreham Road

drawing Block & Site Location Plans

scale Shown @ A3 date January 2021
drawn

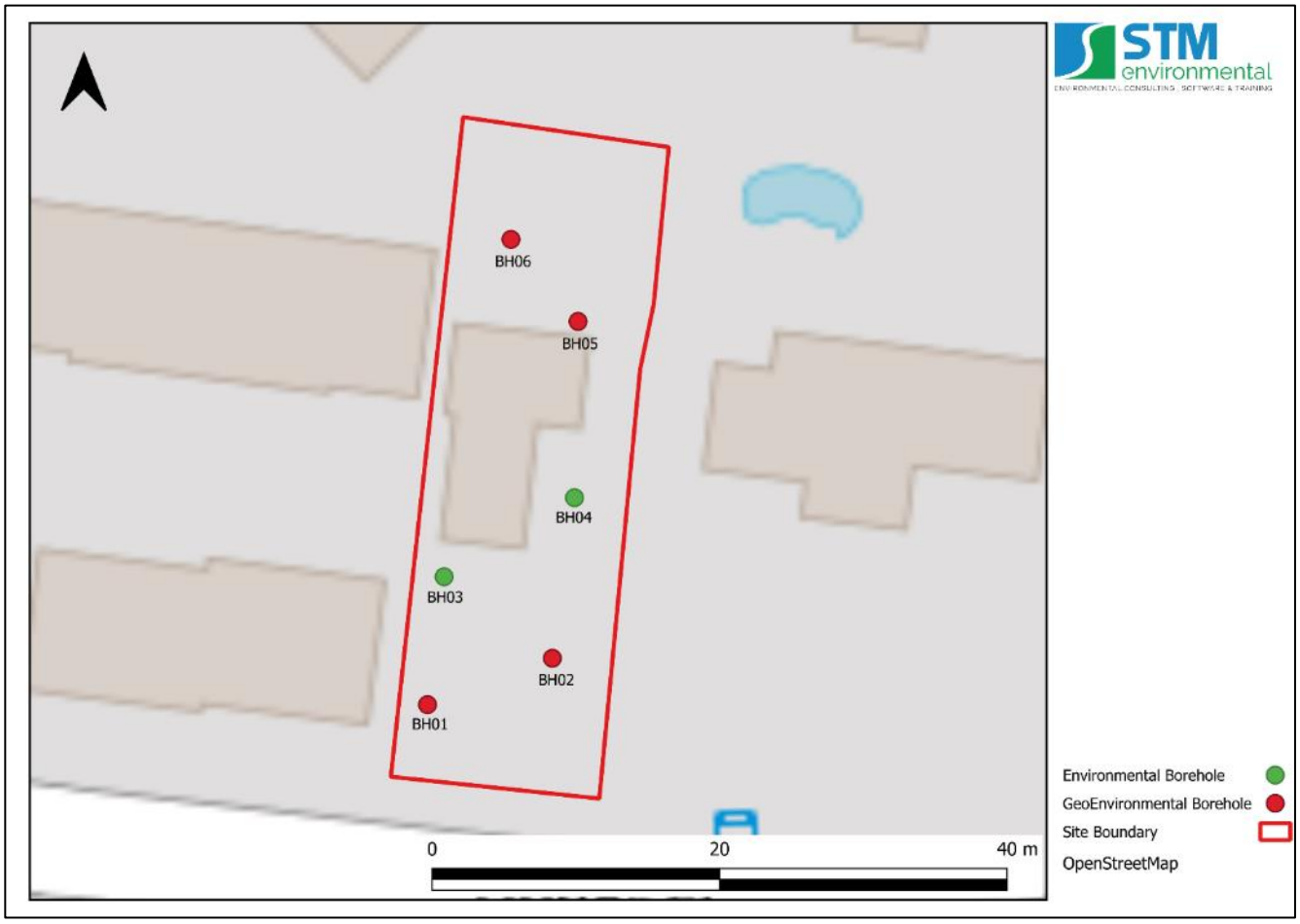
19a Wilbury Avenue
Hove, East Sussex
BN3 6HS

tel: 01273 203230
fax: 01273 321687
email:info@taarchitects.co.uk

Turner Associates
Architects and Planning Consultants

TA 1317 /01 rev. C

12.2 Appendix 2 - Borehole Location Plan



12.3 Appendix 3 - Borehole Logs

Borehole Log

Borehole No. **BH01**

Sheet 1 of 1

Project Name:	126 Upper Shoreham Road	Project No. GT-2025-000021	Co-ords:	523183.00 - 106136.00	Hole Type WLS
Location:	126 Upper Shoreham Road, Shoreham-By-Sea, West Sussex BN43 6TD		Level:	19.58	Scale 1:50
Client:	TL Homes Limited		Dates:	19/02/2025 - 19/02/2025	Logged By M. Forshaw/ Z. Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.40	ES	PID=0	0.60	18.98		Made Ground - Dark brown and black sandy SILT with occasional small cement fragments and minor root activity
		1.00	D		1.00	18.58		Light and dark brown clayey SILT with occasional Flint pebbles. Pebbles are sub-angular to angular
		1.00	ES					
		1.00		N=11 (4,3/3,3,2,3)				Light and dark yellow slightly sandy very chalky CLAY with an abundance of Flint pebbles
		1.50	B					
		2.00	D					
		2.00		N=14 (5,4/4,3,4,3)				
		3.00		N=24 (8,3/5,5,7,7)	3.00	16.58		End of borehole at 3.00 m

Remarks

Borehole advanced to a maximum depth of 3mbgl. No groundwater encountered. Elevation levels and borehole location grid references are approximated based on LiDAR data.

Borehole Log

Borehole No. **BH02**

Sheet 1 of 1

Project Name:	126 Upper Shoreham Road	Project No. GT-2025-000021	Co-ords:	523191.00 - 106140.00	Hole Type WLS
Location:	126 Upper Shoreham Road, Shoreham-By-Sea, West Sussex BN43 6TD		Level:	19.49	Scale 1:50
Client:	TL Homes Limited		Dates:	19/02/2025 - 19/02/2025	Logged By M. Forshaw/ Z. Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES		0.20	19.29		Concrete hardstand
					0.50	18.99		Made Ground - Dark brown and black SILT with an abundance of Flint pebbles and rare brick fragments. Pebbles are sub-angular
		0.80	ES					Light brown slightly silty pebbly CLAY. Flint pebbles are sub-angular
		1.00	D		1.00	18.49		
		1.00		N=10 (4,1/2,2,3,3)				Light and dark yellow slightly sandy very chalky CLAY with an abundance of Flint pebbles
		2.00	D					
		2.00		N=31 (12,8/9,9,5,8)				
		3.00		N=50 (19,17/17,16,9,8)	3.00	16.49		End of borehole at 3.00 m

Remarks

Borehole advanced to a maximum depth of 3mbgl. Monitoring well installed to 3mbgl using 63mm HDPE plain pipe in a bentonite seal from existing ground level to 1.00mbgl and 63mm HDPE slotted pipe in a gravel surround to the base of pipe. No groundwater was encountered. Elevation levels and borehole location grid references are approximated based on LiDAR data.

Borehole Log

Borehole No. **BH03**

Sheet 1 of 1

Project Name:	126 Upper Shoreham Road	Project No. GT-2025-000021	Co-ords:	523184.00 - 106145.00	Hole Type WLS
Location:	126 Upper Shoreham Road, Shoreham-By-Sea, West Sussex BN43 6TD		Level:	19.70	Scale 1:50
Client:	TL Homes Limited		Dates:	19/02/2025 - 19/02/2025	Logged By M. Forshaw/ Z. Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES	PID=0	0.70	19.00		Made Ground - Dark brown and black slightly chalky clayey SILT with rare brick fragments
		1.00	D					Dark brown and dark orange slightly chalky silty CLAY with large Flint pebbles
		1.20	ES	PID=0	1.20	18.50		Light and dark yellow slightly sandy very chalky CLAY with an abundance of Flint pebbles
		3.00	D		3.00	16.70		End of borehole at 3.00 m

Remarks

Borehole advanced to a maximum depth of 3mbgl. Monitoring well installed to 3mbgl using 63mm HDPE plain pipe in a bentonite seal from existing ground level to 1.00mbgl and 63mm HDPE slotted pipe in a gravel surround to the base of pipe. No groundwater was encountered. Elevation levels and borehole location grid references are approximated based on LiDAR data.

Borehole Log

Borehole No. **BH04**

Sheet 1 of 1

Project Name:	126 Upper Shoreham Road	Project No. GT-2025-000021	Co-ords:	523193.00 - 106151.00	Hole Type WLS
Location:	126 Upper Shoreham Road, Shoreham-By-Sea, West Sussex BN43 6TD		Level:	19.63	Scale 1:50
Client:	TL Homes Limited		Dates:	19/02/2025 - 19/02/2025	Logged By M. Forshaw/ Z. Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	19.43		Concrete hardstand
		0.50	ES		0.40	19.23		Made Ground - Light and dark brown clayey SILT with rare brick and concrete fragments
					1.20	18.43		Dark brown and dark orange slightly chalky silty CLAY with large Flint pebbles
					3.00	16.63		Light and dark yellow slightly sandy very chalky CLAY with an abundance of Flint pebbles
								End of borehole at 3.00 m

Remarks

Borehole advanced to a maximum depth of 3mbgl. No groundwater encountered. Elevation levels and borehole location grid references are approximated based on LiDAR data.

Borehole Log

Borehole No. **BH05**

Sheet 1 of 1

Project Name:	126 Upper Shoreham Road	Project No. GT-2025-000021	Co-ords:	523193.00 - 106163.00	Hole Type WLS
Location:	126 Upper Shoreham Road, Shoreham-By-Sea, West Sussex BN43 6TD		Level:	19.81	Scale 1:50
Client:	TL Homes Limited		Dates:	19/02/2025 - 19/02/2025	Logged By M. Forshaw/ Z. Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
				PID=0	0.20	19.61		Concrete hardstand
		0.40	ES		0.50	19.31		Made Ground - Light and dark brown clayey SILT with rare small brick fragments
		1.00	D		1.00	18.81		Dark orange silty CLAY with an abundance of Flint pebbles. Pebbles are angular
		1.00	ES					
		1.00		N=17 (2,2/3,3,6,5) PID=0				Light and dark yellow slightly sandy very chalky CLAY with an abundance of Flint pebbles
		2.00	D					
		2.00		N=25 (6,6/8,6,5,6)				
		2.50	B					
		3.00		N=34 (11,9/9,8,10,7)	3.00	16.81		End of borehole at 3.00 m

Remarks

Borehole advanced to a maximum depth of 3mbgl. Monitoring well installed to 3mbgl using 63mm HDPE plain pipe in a bentonite seal from existing ground level to 1.00mbgl and 63mm HDPE slotted pipe in a gravel surround to the base of pipe. No groundwater was encountered. Elevation levels and borehole location grid references are approximated based on LiDAR data.

Borehole Log

Borehole No. **BH06**

Sheet 1 of 1

Project Name:	126 Upper Shoreham Road	Project No. GT-2025-000021	Co-ords:	523188.00 - 106169.00	Hole Type WLS
Location:	126 Upper Shoreham Road, Shoreham-By-Sea, West Sussex BN43 6TD		Level:	19.94	Scale 1:50
Client:	TL Homes Limited		Dates:	19/02/2025 - 19/02/2025	Logged By M. Forshaw/ Z. Price

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	19.74		Concrete hardstand
		0.50	ES	PID=0				Made Ground - Light brown SILT with an abundance of small concrete and glass fragments
					0.80	19.14		
		1.00	D		1.00	18.94		Made Ground - Light brown and light orange slightly clayey SILT with an abundance of glass fragments
		1.00		N=36 (3,9/9,9,9,9)				Light and dark yellow slightly sandy very chalky CLAY with an abundance of Flint pebbles
				PID=0				
		2.00	D					
		2.00		N=38 (8,9/8,8,11,11)				
		3.00		N=42 (13,12/12,9,10,11)	3.00	16.94		End of borehole at 3.00 m

Remarks

Borehole advanced to a maximum depth of 3mbgl. No groundwater encountered. Elevation levels and borehole location grid references are approximated based on LiDAR data.

12.4 Appendix 4 - Photographs



General overview of the site and the drilling rig





Soils encountered in BH01 and BH02





Soils encountered in BH03 and BH04





Soils encountered in BH05 and BH06



12.5 Appendix 5 – Laboratory Certification

SOCOTEC
Environmental Chemistry

Certificate of Analysis

Client: STM Environmental Consultants

Project: 25023279

Quote: BEC250138708 V1.1

Project Ref: 126 Upper Shoreham Rd

Site: 126 Upper Shoreham Rd

Contact: Zoe Price

Address: Unit 6, Crane Mews
32 Gould Road
Twickenham
London
TW2 6RS

E-Mail: zoe@stmenvironmental.co.uk

Phone: 07554 195 695

No. Samples Received: 9

Date Received: 24/02/2025

Analysis Completed: 12/03/2025

Date Issued: 12/03/2025

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory

Reported by Customer Service Co-Ordinator
Julie Dickinson
01283 554670
Julie.Dickinson@socotec.co.uk

Project Number: 25023279

Client: STM Environmental Consultants
Date Issued: 12/03/2025
Project Name: 126 Upper Shoreham Rd - 126 Upper Shoreham Rd

Samples Analysed

Text ID	Sample Reference	Sampling Date	Sample Type	Sample Description
25023279-001	BH01/1-0-ES-0.40	19/02/2025 10:00:00	SOLID	Silt Sample
25023279-002	BH01/2-0-ES-1.00	19/02/2025 10:00:00	SOLID	Clay Sample
25023279-003	BH02/1-0-ES-0.30	19/02/2025 10:00:00	SOLID	Silt Sample
25023279-004	BH03/1-0-ES-0.30	19/02/2025 10:00:00	SOLID	Silt Sample
25023279-005	BH03/2-0-ES-1.20	19/02/2025 10:00:00	SOLID	Clay Sample
25023279-006	BH04/1-0-ES-0.50	19/02/2025 10:00:00	SOLID	Silt Sample
25023279-007	BH05/1-0-ES-0.40	19/02/2025 10:00:00	SOLID	Silt Sample
25023279-008	BH05/2-0-ES-1.00	19/02/2025 10:00:00	SOLID	Clay Sample
25023279-009	BH06/1-0-ES-0.50	19/02/2025 10:00:00	SOLID	Silt Sample

Analysis Results

Method Code	Analysis	MDL	Accred.	SOCOTEC Sample ID:	25023279-001	25023279-002	25023279-003	25023279-004	25023279-005
				Sampling Date:	19/02/2025 10:00	19/02/2025 10:00	19/02/2025 10:00	19/02/2025 10:00	19/02/2025 10:00
				Customer ID:	BH01/1-0-ES-0.40	BH01/2-0-ES-1.00	BH02/1-0-ES-0.30	BH03/1-0-ES-0.30	BH03/2-0-ES-1.20
	Total Moisture at 35°C	0.1 %	N		22.4	15.9	10.3	19.3	17.5
	Major Constituents	-	N		SILT	CLAY	SILT	SILT	CLAY
CLANDPREP	Minor Constituents	-	N		Gravel	Gravel	Gravel	Gravel	Gravel
	Miscellaneous Constituents	-	N		Organic Matter	Organic Matter	n/a	Clay	n/a
	Colour of Material	-	N		Brown	Brown	Brown	Brown	Brown
SUB035	Asbestos Identification	-	N		NAIIS	NAIIS	NAIIS	NAIIS	NAIIS
PHSOIL	pH (2.5:1 extraction)	1 pH units	M^		8.1	7.8	8.6	8.4	8.4
WSLM59	Total Organic Carbon	0.02 % m/m	U^		7.13	1.11	4.50	6.22	0.92
SFAPI	Total Cyanide	0.5 mg/kg	M^		1.6	<0.6	<0.6	<0.6	<0.6
SFAPI	Phenol Index	0.5 mg/kg	U^		<0.6	<0.6	<0.6	<0.6	<0.6
SFAPI	Sulphide as S	0.5 mg/kg	N^		0.8	0.6	<0.6	<0.6	<0.6
ICPACIDS	Acid Soluble Sulphate as SO4	20 mg/kg	M^		791	302	413	601	293
ICPMSS	Arsenic as As	0.3 mg/kg	M^		28.2	9.5	8.8	23.5	9.4
ICPMSS	Cadmium as Cd	0.2 mg/kg	M^		1.2	0.6	0.4	1.2	0.7
ICPMSS	Total Chromium as Cr	1.2 mg/kg	M^		25.6	24.8	11.6	27.7	21.4
ICPMSS	Copper as Cu	1.6 mg/kg	M^		1021	22.2	37.4	61.9	15.3
ICPMSS	Lead as Pb	0.7 mg/kg	M^		658.7	68.0	162.9	276.1	45.9
ICPMSS	Mercury as Hg	0.5 mg/kg	M^		1.5	<0.5	<0.5	0.6	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	M^		33.2	20.9	19.0	32.6	22.6
ICPMSS	Selenium as Se	0.5 mg/kg	M^		<0.5	<0.5	<0.5	0.6	<0.5
ICPMSS	Zinc as Zn	16 mg/kg	M^		487.7	77.7	72.9	229.4	80.2
ICPBOR	Boron as B	0.5 mg/kg	M^		2.3	1.4	0.7	1.8	1.4
	Benzene (HS_1D_AR)	10 µg/kg	M^		<13* B		<11* B	<12* B	
	Toluene (HS_1D_AR)	10 µg/kg	M^		<13		<11	<12	
BTEXHSA	Ethylbenzene (HS_1D_AR)	10 µg/kg	M^		<13		<11	<12	
	m/p-Xylene (HS_1D_AR)	20 µg/kg	M^		<26		<22	<25	
	o-Xylene (HS_1D_AR)	10 µg/kg	M^		<13		<11	<12	
TPHFIDUS	>C10-C40 (EH_1D_Total)	10 mg/kg	U^			293			381
	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	M^		<0.258		<0.223	<0.248	
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	M^		<0.258		<0.223	<0.248	
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	M^		<0.258* B		<0.223* B	<0.248* B	
GROHSA/BTEXHSA	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	M^		<0.258		<0.223	<0.248	
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	M^		<0.013* B		<0.011* B	<0.012* B	
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	M^		<0.013		<0.011	<0.012	
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	M^		<0.052		<0.045	<0.05	
	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U^		43.6		31.6	85.6	
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U^		<5.15		<4.46	<4.96	
TPHFIDUS (Aliphatic)	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U^		<5.15		<4.46	<4.96	
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U^		<5.15		4.61	6.17	
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	U^		36.8		19.3	65.9	
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N^		<7.73		<6.69	9.64	
	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	U^		176		403	240	
	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U^		<5.15		<4.46	<4.96	
TPHFIDUS (Aromatic)	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U^		7.65		12.0	<4.96	
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U^		23.2		80.3	26.5	
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	U^		131		283	195	
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N^		8.26		27.0	13.1	
	Acenaphthene	0.08 mg/kg	M^		<0.10	<0.10	0.92	<0.10	<0.10
	Acenaphthylene	0.08 mg/kg	U^		0.18	<0.10	0.39	0.18	0.13
	Anthracene	0.08 mg/kg	U^		0.40	0.14	2.53	0.57	0.79
	Benzo[a]anthracene	0.08 mg/kg	M^		1.65	0.47	6.54	2.05	2.32
	Benzo[a]pyrene	0.08 mg/kg	M^		1.71	0.56	6.00	2.14	2.00
	Benzo[b]fluoranthene	0.08 mg/kg	M^		2.16	0.73	7.12	2.77	2.58
	Benzo[g,h,i]perylene	0.08 mg/kg	M^		1.15	0.40	3.49	1.72	1.35
	Benzo[k]fluoranthene	0.08 mg/kg	M^		0.93	0.31	2.64	1.05	1.05
PAHMSUS	Chrysene	0.08 mg/kg	M^		1.70	0.57	6.18	1.87	2.10
	Dibenzo[a,h]anthracene	0.08 mg/kg	M^		0.27	<0.10	0.86	0.36	0.31
	Fluoranthene	0.08 mg/kg	M^		3.10	1.00	11.9	3.63	4.38
	Fluorene	0.08 mg/kg	M^		<0.10	<0.10	0.84	<0.10	0.12
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	M^		1.33	0.45	4.10	1.74	1.48
	Naphthalene	0.08 mg/kg	M^		0.15	<0.10	0.22	0.24	0.14
	Phenanthrene	0.08 mg/kg	M^		1.20	0.38	7.44	1.58	2.19
	Pyrene	0.08 mg/kg	M^		2.66	0.88	10.8	3.21	3.70
	Total PAH 16	1.28 mg/kg	U^		18.8	6.34	72.0	23.3	24.7
	1,2,4-Trichlorobenzene	0.1 mg/kg	N^		<0.1		<0.1	<0.1	
	1,2-Dichlorobenzene	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	1,3-Dichlorobenzene	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	1,4-Dichlorobenzene	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	1-Methylnaphthalene	0.1 mg/kg	U^		0.2		0.4	<0.1	
	2,4,5-Trichlorophenol	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	2,4,6-Trichlorophenol	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
SVOCSW	2,4-Dichlorophenol	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	2,4-Dimethylphenol	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	2,4-Dinitrophenol	0.5 mg/kg	N^		<0.6		<0.6	<0.6	
	2,4-Dinitrotoluene	0.2 mg/kg	U^		<0.3		<0.2	<0.2	
	2,6-Dinitrotoluene	0.5 mg/kg	U^		<0.6		<0.6	<0.6	
	2-Chloronaphthalene	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	2-Chlorophenol	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	2-Methylnaphthalene	0.1 mg/kg	U^		0.3		0.5	0.1	

Project Number: 25023279

Client: STM Environmental Consultants
Date Issued: 12/03/2025
Project Name: 126 Upper Shoreham Rd - 126 Upper Shoreham Rd

Analysis Results

Method Code	Analysis	MDL	Accred.	SOCOTEC Sample ID:	25023279-001	25023279-002	25023279-003	25023279-004	25023279-005
				Sampling Date:	19/02/2025 10:00	19/02/2025 10:00	19/02/2025 10:00	19/02/2025 10:00	19/02/2025 10:00
				Customer ID:	BH01/1-0-ES-0.40	BH01/2-0-ES-1.00	BH02/1-0-ES-0.30	BH03/1-0-ES-0.30	BH03/2-0-ES-1.20
SVOCSW	2-Methylphenol	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	2-Nitroaniline	0.5 mg/kg	N^		<0.6		<0.6	<0.6	
	2-Nitrophenol	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	3- & 4-Methylphenol	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	3-Nitroaniline	0.5 mg/kg	N^		<0.6		<0.6	<0.6	
	4,6-Dinitro-2-methylphenol	0.2 mg/kg	N^		<0.3		<0.2	<0.2	
	4-Bromophenyl-phenylether	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	4-Chloro-3-methylphenol	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	4-Chloroaniline	0.5 mg/kg	N^		<0.6		0.6	<0.6	
	4-Chlorophenol	0.5 mg/kg	U^		<0.6		<0.6	<0.6	
	4-Chlorophenyl-phenylether	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	4-Nitroaniline	0.6 mg/kg	N^		<0.8		<0.7	<0.7	
	4-Nitrophenol	0.5 mg/kg	N^		<0.6		<0.6	<0.6	
	Acenaphthene	0.1 mg/kg	U^		<0.1		1.1	<0.1	
	Acenaphthylene	0.1 mg/kg	U^		0.2		0.4	<0.1	
	Anthracene	0.1 mg/kg	U^		0.4		2.7	0.2	
	Azobenzene	0.3 mg/kg	N^		<0.4		<0.3	<0.4	
	Benzo[a]anthracene	0.2 mg/kg	U^		1.8		6.5	0.9	
	Benzo[a]pyrene	0.2 mg/kg	U^		2.1		<11.1 D	1.1	
	Benzo[b]fluoranthene	0.2 mg/kg	U^		2.8		<11.1 D	1.6	
	Benzo[g,h,i]perylene	0.5 mg/kg	U^		1.3		4.0	0.8	
	Benzo[k]fluoranthene	0.2 mg/kg	U^		1.0		2.8	0.5	
	Benzoic Acid	0.5 mg/kg	N^		<0.6		<0.6	<0.6	
	Benzyl alcohol	0.5 mg/kg	U^		<0.6		<0.6	<0.6	
	Biphenyl	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	bis(2-Chloroethoxy)methane	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	bis(2-Chloroethyl)ether	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	bis(2-Chloroisopropyl)ether	0.5 mg/kg	U^		<0.6		<0.6	<0.6	
	bis(2-Ethylhexyl)phthalate	0.2 mg/kg	U^		<0.3		<0.2	<0.2	
	Butylbenzylphthalate	0.2 mg/kg	U^		<0.3		<0.2	<0.2	
	Carbazole	0.3 mg/kg	N^		<0.4		1.2	<0.4	
	Chrysene	0.2 mg/kg	U^		2.0		6.3	1.1	
	Coronene	0.3 mg/kg	N^		<0.4		0.8	<0.4	
	Dibenzo[a,h]anthracene	0.5 mg/kg	U^		<0.6		1.0	<0.6	
	Dibenzofuran	0.1 mg/kg	U^		<0.1		0.6	<0.1	
	Diethylphthalate	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	Dimethylphthalate	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	Di-n-butylphthalate	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	Di-n-octylphthalate	0.2 mg/kg	U^		<0.3		<0.2	<0.2	
	Diphenyl ether	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	Fluoranthene	0.2 mg/kg	U^		3.2		14.3	1.7	
	Fluorene	0.2 mg/kg	U^		<0.3		1.0	<0.2	
	Hexachlorobenzene	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	Hexachlorobutadiene	0.1 mg/kg	N^		<0.1		<0.1	<0.1	
	Hexachlorocyclopentadiene	0.1 mg/kg	N^		<0.1		<0.1	<0.1	
	Hexachloroethane	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	Indeno[1,2,3-cd]pyrene	0.5 mg/kg	U^		1.4		4.5	0.8	
	Isophorone	0.1 mg/kg	N^		<0.1		<0.1	<0.1	
	Naphthalene	0.1 mg/kg	U^		0.4		0.5	0.2	
	Nitrobenzene	0.5 mg/kg	U^		<0.6		<0.6	<0.6	
	N-Nitroso-di-n-propylamine	0.9 mg/kg	N^		<1.2		<1.0	<1.1	
	N-Nitrosodiphenylamine	0.1 mg/kg	N^		<0.1		<0.1	<0.1	
	Pentachlorophenol	0.5 mg/kg	N^		<0.6		<0.6	<0.6	
	Phenanthrene	0.1 mg/kg	U^		1.2		8.8	0.8	
	Phenol	0.1 mg/kg	U^		<0.1		<0.1	<0.1	
	Pyrene	0.2 mg/kg	U^		2.8		12.9	1.5	

Analysis Results

Method Code	Analysis	MDL	Accred.	SOCOTEC Sample ID:	25023279-006	25023279-007	25023279-008	25023279-009
				Sampling Date:	19/02/2025 10:00	19/02/2025 10:00	19/02/2025 10:00	19/02/2025 10:00
				Customer ID:	BH04/1-0-ES-0.50	BH05/1-0-ES-0.40	BH05/2-0-ES-1.00	BH06/1-0-ES-0.50
	Total Moisture at 35°C	0.1 %	N		14.6	19.1	16.5	13.7
	Major Constituents	-	N		SILT	SILT	CLAY	SILT
CLANDPREP	Minor Constituents	-	N		Gravel	Gravel	Gravel	Gravel
	Miscellaneous Constituents	-	N		n/a	Clay	n/a	n/a
	Colour of Material	-	N		Brown	Brown	Brown	Brown
SUB035	Asbestos Identification	-	N		NAIIS	NAIIS	NAIIS	NAIIS
PHSOIL	pH (2.5:1 extraction)	1 pH units	M^		8.5	8.2	8.2	8.8
WSLM59	Total Organic Carbon	0.02 % m/m	U^		9.54	5.52	0.87	2.89
SFAPI	Total Cyanide	0.5 mg/kg	M^		<0.6	1.0	<0.6	0.6
SFAPI	Phenol Index	0.5 mg/kg	U^		<0.6	<0.6	<0.6	0.6
SFAPI	Sulphide as S	0.5 mg/kg	N^		<0.6	<0.6	<0.6	<0.6
ICPACIDS	Acid Soluble Sulphate as SO4	20 mg/kg	M^		864	652	319	1100
ICPMSS	Arsenic as As	0.3 mg/kg	M^		22.1	17.7	10.4	14.8
ICPMSS	Cadmium as Cd	0.2 mg/kg	M^		0.6	0.9	0.5	1.7
ICPMSS	Total Chromium as Cr	1.2 mg/kg	M^		18.4	20.0	22.9	19.5
ICPMSS	Copper as Cu	1.6 mg/kg	M^		107.3	150.2	17.3	36.8
ICPMSS	Lead as Pb	0.7 mg/kg	M^		514.5	309.2	55.5	223.9
ICPMSS	Mercury as Hg	0.5 mg/kg	M^		<0.5	0.6	<0.5	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	M^		29.8	22.9	20.5	19.6
ICPMSS	Selenium as Se	0.5 mg/kg	M^		<0.5	<0.5	<0.5	<0.5
ICPMSS	Zinc as Zn	16 mg/kg	M^		218.5	227.3	75.8	736.2
ICPBOR	Boron as B	0.5 mg/kg	M^		0.9	1.1	0.8	1.3
	Benzene (HS_1D_AR)	10 µg/kg	M^		<12* B	<12* B		<12* B
	Toluene (HS_1D_AR)	10 µg/kg	M^		<12	<12		<12
BTEXHSA	Ethylbenzene (HS_1D_AR)	10 µg/kg	M^		<12	<12		<12
	m/p-Xylene (HS_1D_AR)	20 µg/kg	M^		<23	<25		<23
	o-Xylene (HS_1D_AR)	10 µg/kg	M^		<12	<12		<12
TPHFIDUS	>C10-C40 (EH_1D_Total)	10 mg/kg	U^				70.8	
	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	M^		<0.234	<0.247		<0.232
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	M^		<0.234	<0.247		<0.232
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	M^		<0.234* B	<0.247* B		<0.232* B
GROHSA/BTEXHSA	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	M^		<0.234	<0.247		<0.232
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	M^		<0.012* B	<0.012* B		<0.012* B
	>C7-C8 Aromatic (HS_1D_AR)	0.01 mg/kg	M^		<0.012	<0.012		<0.012
	>C8-C10 Aromatic (HS_1D_AR)	0.04 mg/kg	M^		<0.047	<0.049		<0.047
	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U^		141	55.7		48.6
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U^		<4.68	<4.94		<4.63
TPHFIDUS (Aliphatic)	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U^		4.94	<4.94		<4.63
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U^		12.2	<4.94		6.51
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	U^		83.1	41.9		37.8
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N^		53.0	<7.42		<6.95
	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	U^		1080	272		452
	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U^		<4.68	<4.94		<4.63
TPHFIDUS (Aromatic)	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U^		6.62	<4.94		5.04
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U^		79.9	32.4		71.5
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	U^		910	222		357
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N^		102	15.0		19.0
	Acenaphthene	0.08 mg/kg	M^		0.19	0.11	<0.10	<0.09
	Acenaphthylene	0.08 mg/kg	U^		1.41	0.69	<0.10	0.97
	Anthracene	0.08 mg/kg	U^		1.52	0.86	<0.10	2.00
	Benzo[a]anthracene	0.08 mg/kg	M^		18.0	5.21	0.14	10.1
	Benzo[a]pyrene	0.08 mg/kg	M^		22.5	5.58	0.19	8.03
	Benzo[b]fluoranthene	0.08 mg/kg	M^		25.0	6.85	0.22	10.1
	Benzo[g,h,i]perylene	0.08 mg/kg	M^		12.2	3.58	0.12	4.41
	Benzo[k]fluoranthene	0.08 mg/kg	M^		9.59	2.71	0.12	3.88
PAHMSUS	Chrysene	0.08 mg/kg	M^		13.7	5.10	0.20	8.49
	Dibenzo[a,h]anthracene	0.08 mg/kg	M^		3.11	0.84	<0.10	1.23
	Fluoranthene	0.08 mg/kg	M^		16.6	9.04	0.30	16.0
	Fluorene	0.08 mg/kg	M^		0.20	0.11	<0.10	0.17
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	M^		14.4	4.14	0.15	5.48
	Naphthalene	0.08 mg/kg	M^		0.27	0.15	<0.10	0.12
	Phenanthrene	0.08 mg/kg	M^		3.04	2.35	<0.10	3.69
	Pyrene	0.08 mg/kg	M^		17.5	8.16	0.27	13.5
	Total PAH 16	1.28 mg/kg	U^		159	55.5	2.38	88.3
	1,2,4-Trichlorobenzene	0.1 mg/kg	N^		<1.2 D	<0.1		<0.1
	1,2-Dichlorobenzene	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	1,3-Dichlorobenzene	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	1,4-Dichlorobenzene	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	1-Methylnaphthalene	0.1 mg/kg	U^		<1.2 D	0.2		<0.1
	2,4,5-Trichlorophenol	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	2,4,6-Trichlorophenol	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
SVOCSW	2,4-Dichlorophenol	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	2,4-Dimethylphenol	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	2,4-Dinitrophenol	0.5 mg/kg	N^		<5.9 D	<0.6		<0.6
	2,4-Dinitrotoluene	0.2 mg/kg	U^		<2.3 D	<0.2		<0.2
	2,6-Dinitrotoluene	0.5 mg/kg	U^		<5.9 D	<0.6		<0.6
	2-Chloronaphthalene	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	2-Chlorophenol	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	2-Methylnaphthalene	0.1 mg/kg	U^		<1.2 D	0.3		0.2

Analysis Results

Method Code	Analysis	MDL	Accred.	SOCOTEC Sample ID:	25023279-006	25023279-007	25023279-008	25023279-009
				Sampling Date:	19/02/2025 10:00	19/02/2025 10:00	19/02/2025 10:00	19/02/2025 10:00
				Customer ID:	BH04/1-0-ES-0.50	BH05/1-0-ES-0.40	BH05/2-0-ES-1.00	BH06/1-0-ES-0.50
SVOCSW	2-Methylphenol	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	2-Nitroaniline	0.5 mg/kg	N^		<5.9 D	<0.6		<0.6
	2-Nitrophenol	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	3- & 4-Methylphenol	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	3-Nitroaniline	0.5 mg/kg	N^		<5.9 D	<0.6		<0.6
	4,6-Dinitro-2-methylphenol	0.2 mg/kg	N^		<2.3 D	<0.2		<0.2
	4-Bromophenyl-phenylether	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	4-Chloro-3-methylphenol	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	4-Chloroaniline	0.5 mg/kg	N^		<5.9 D	<0.6		<0.6
	4-Chlorophenol	0.5 mg/kg	U^		<5.9 D	<0.6		<0.6
	4-Chlorophenyl-phenylether	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	4-Nitroaniline	0.6 mg/kg	N^		<7.0 D	<0.7		<0.7
	4-Nitrophenol	0.5 mg/kg	N^		<5.9 D	<0.6		<0.6
	Acenaphthene	0.1 mg/kg	U^		<1.2 D	0.3		<0.1
	Acenaphthylene	0.1 mg/kg	U^		<1.2 D	0.4		0.4
	Anthracene	0.1 mg/kg	U^		1.3	1.0		0.8
	Azobenzene	0.3 mg/kg	N^		<3.5 D	<0.4		<0.3
	Benzo[a]anthracene	0.2 mg/kg	U^		9.7	4.5		2.6
	Benzo[a]pyrene	0.2 mg/kg	U^		14.1	5.2		3.0
	Benzo[b]fluoranthene	0.2 mg/kg	U^		16.6	6.3		4.0
	Benzo[g,h,i]perylene	0.5 mg/kg	U^		6.9	3.0		1.8
	Benzo[k]fluoranthene	0.2 mg/kg	U^		6.7	2.3		1.5
	Benzoic Acid	0.5 mg/kg	N^		<5.9 D	<0.6		<0.6
	Benzyl alcohol	0.5 mg/kg	U^		<5.9 D	<0.6		<0.6
	Biphenyl	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	bis(2-Chloroethoxy)methane	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	bis(2-Chloroethyl)ether	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	bis(2-Chloroisopropyl)ether	0.5 mg/kg	U^		<5.9 D	<0.6		<0.6
	bis(2-Ethylhexyl)phthalate	0.2 mg/kg	U^		<2.3 D	<0.2		<0.2
	Butylbenzylphthalate	0.2 mg/kg	U^		<2.3 D	<0.2		<0.2
	Carbazole	0.3 mg/kg	N^		<3.5 D	0.4		<0.3
	Chrysene	0.2 mg/kg	U^		10.1	4.7		2.9
	Coronene	0.3 mg/kg	N^		<3.5 D	0.6		0.4
	Dibenzo[a,h]anthracene	0.5 mg/kg	U^		<5.9 D	0.8		<0.6
	Dibenzofuran	0.1 mg/kg	U^		<1.2 D	0.2		<0.1
	Diethylphthalate	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	Dimethylphthalate	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	Di-n-butylphthalate	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	Di-n-octylphthalate	0.2 mg/kg	U^		<2.3 D	<0.2		<0.2
	Diphenyl ether	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	Fluoranthene	0.2 mg/kg	U^		12.4	<12.4 D		4.3
	Fluorene	0.2 mg/kg	U^		<2.3 D	0.3		<0.2
	Hexachlorobenzene	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	Hexachlorobutadiene	0.1 mg/kg	N^		<1.2 D	<0.1		<0.1
	Hexachlorocyclopentadiene	0.1 mg/kg	N^		<1.2 D	<0.1		<0.1
	Hexachloroethane	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	Indeno[1,2,3-cd]pyrene	0.5 mg/kg	U^		7.8	3.4		2.0
	Isophorone	0.1 mg/kg	N^		<1.2 D	<0.1		<0.1
	Naphthalene	0.1 mg/kg	U^		<1.2 D	0.4		0.3
	Nitrobenzene	0.5 mg/kg	U^		<5.9 D	<0.6		<0.6
	N-Nitroso-di-n-propylamine	0.9 mg/kg	N^		<10.5 D	<1.1		<1.0
	N-Nitrosodiphenylamine	0.1 mg/kg	N^		<1.2 D	<0.1		<0.1
	Pentachlorophenol	0.5 mg/kg	N^		<5.9 D	<0.6		<0.6
	Phenanthrene	0.1 mg/kg	U^		3.5	4.3		1.2
	Phenol	0.1 mg/kg	U^		<1.2 D	<0.1		<0.1
	Pyrene	0.2 mg/kg	U^		12.3	<12.4 D		3.6

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UKAS TESTING
7758

CERTIFICATE OF ANALYSIS OF ASBESTOS IN SOILS

JOB NO: 130258/1/1

CLIENT DETAILS:

Client:	SOCOTEC UK LIMITED	For the attention of:	SOCOTEC Purchasing
Client Address:	Socotec House, Bretby Business Park, Ashby Road, Burton-upon-Trent, DE15 0YZ		
Site Address:	Socotec		

SAMPLE DETAILS:

TTL Reference:	J303331-25023279 Del 26-02-25-S	No. Samples Reported:	9
Date of Sample Receipt:	26 Feb 2025	Date of Analysis:	28 Feb 2025, 27 Feb 2025
Sample Taken By:	Client		

LABORATORY RESULTS:

Aslab ID	Client Sample Reference	Qualitative	Quantitative	Soil Matrix
130258/01	25023279-001	**NAD**	-	Soil
130258/02	25023279-002	**NAD**	-	Soil
130258/03	25023279-003	**NAD**	-	Soil
130258/04	25023279-004	**NAD**	-	Soil
130258/05	25023279-005	**NAD**	-	Soil
130258/06	25023279-006	**NAD**	-	Soil
130258/07	25023279-007	**NAD**	-	Soil
130258/08	25023279-008	**NAD**	-	Soil
130258/09	25023279-009	**NAD**	-	Soil

Key: NAD - No Asbestos Detected in this sample

Method: Samples of materials, referenced as shown above, have been analysed qualitatively and or quantitively subject to Customer requirements to determine the presence of asbestos fibres. Fibres in the sample were identified using a stereo microscope, polarised light and dispersion staining in accordance with in-house Procedure MQP118 based on Appendix 2 of HSG 248 'Asbestos: The analyst's guide'. Disclaimer. Opinions and interpretations, including the description of material type, are outside the scope of our UKAS accreditation. Results apply only to the sample(s) listed in the table above. No responsibility is accepted for errors which may have arisen during sampling or transportation and responsibility cannot be taken for the accuracy, representative nature and location of samples taken by external customers. This test report shall not be reproduced except in full without our prior written approval. Records shall be held securely and electronically for a minimum of 6 years and samples retained for a minimum of 6 months.

Analyst(s): MARTINS ERNSTSONS Analyst Signature(s):



Analyst(s): LILITA MULARS Analyst Signature(s):



Analyst(s): ALISA EGLITE Analyst Signature(s):



Approved by: (Approval should be from Laboratory Manager or other authorised personnel)

Name: ALISA EGLITE

Position: LAB ANALYST Authorised Signature:



Report Issue Date: 3 March 2025

MQF3206 ISSUE NO.03 Issue Date: 04/2023

The Testing Lab PLC, company registration 07352591. Company Secretary Mr. M. Appleyard
Board of Directors: Mr. P. Thomas, Mr. S. Swinbourne, Mr. L. Towill, Mr. D. Thomas, Mr. M. Lister, Mr. M. Beastall, Mr. R. Brown, Miss KL. Branston, Mrs. M. Summers & Mr. D. Paddison.

Project Number: 25023279

Client: STM Environmental Consultants
Date Issued: 12/03/2025
Project Name: 126 Upper Shoreham Rd - 126 Upper Shoreham Rd

Deviating Sample Report

All samples received in an appropriate condition with no deviancies noted with the samples.

Analysis Method

Method Code	Method Description	Analysis Method
BTEXHSA	BTEX by GCFID	As Received
CLANDPREP	CLand Prep and Dry Weight Correction to 35°C	As Received
CLANDPREP	Solid Material Description	As Received
GROHSA/BTEXHSA	GRO CWG UK (C5-C10) Ali/Aro Split	As Received
ICPACIDS	Sulphate as SO4 (Acid Soluble)	Air Dried & Ground
ICPBOR	Boron (Water Soluble) by ICPOES	Air Dried & Ground
ICPMSS	Arsenic in Solids by ICPMS	Air Dried & Ground
ICPMSS	Cadmium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Chromium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Copper in Solids by ICPMS	Air Dried & Ground
ICPMSS	Lead in Solids by ICPMS	Air Dried & Ground
ICPMSS	Mercury in Solids by ICPMS	Air Dried & Ground
ICPMSS	Nickel in Solids by ICPMS	Air Dried & Ground
ICPMSS	Selenium in Solids by ICPMS	Air Dried & Ground
ICPMSS	Zinc in Solids by ICPMS	Air Dried & Ground
PAHMSUS	16 PAHs by GCMS	As Received
PHSOIL	pH (2.5:1)	As Received
SFAPI	Cyanide (Total) by SFA	As Received
SFAPI	Phenol Index (Total) by SFA	As Received
SFAPI	Sulphide by SFA	As Received
SUB020	Asbestos Stage 1 (with Stage 2 Trigger)	
SUB035	Asbestos Stage 1 (with Stage 2 Trigger)	
SVOCSW	SVOCs (Target List) by GCMS	As Received
TPHFIDUS	TPH (>C10-C40) Total	As Received
TPHFIDUS (Aliphatic)	TPH (CWG UK) Aliphatic Split with Carbon Banding	As Received
TPHFIDUS (Aromatic)	TPH (CWG UK) Aromatic Split with Carbon Banding	As Received
WSLM59	TOC: Total Organic Carbon	Air Dried & Ground

Project Number: 25023279

Client: STM Environmental Consultants
Date Issued: 12/03/2025
Project Name: 126 Upper Shoreham Rd - 126 Upper Shoreham Rd

Result Report Notes

Letters alongside results signify that the result has associated report notes.
The report notes are as follows:

Letter	Note
A	Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data.
B	The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised.
C	Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data.
D	A non-standard volume or mass has been used for this test which has resulted in a raised detection limit.
E	Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only.
F	Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only.
G	The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only.

HWOL Acronym Key

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total

SVOCSW - N-Nitrosodiphenylamine

N-Nitrosodiphenylamine decomposes in the GC inlet and cannot be separated from diphenylamine. For this reason we will report a combined result for N-Nitrosodiphenylamine and Diphenylamine.

Project Number: 25023279

Client: STM Environmental Consultants
Date Issued: 12/03/2025
Project Name: 126 Upper Shoreham Rd - 126 Upper Shoreham Rd

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 35 ° C.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° C.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory. Further information is available upon request.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

12.6 Appendix 6 – Chosen Generic Assessment Criteria

12.6.1 Soils Criteria

Contaminant	Result (mg/kg)	GAC Source
Arsenic	37	CAT4
Cadmium	11	LQM SULs RWPU 6.0%
Chromium	910	LQM SULs RWPU 6.0%
Chromium - Hexavalent	6	LQM SULs RWPU 6.0%
Copper	2400	LQM SULs RWPU 6.0%
Lead	200	LQM SULs RWPU 6.0%
Mercury	40	LQM SULs RWPU 6.0%
Nickel	130	LQM SULs RWPU 6.0%
Selenium	250	LQM SULs RWPU 6.0%
Zinc	3700	LQM SULs RWPU 6.0%
Toluene	660	LQM SULs RWPU 6.0%
Benzene	0.37	LQM SULs RWPU 6.0%
Ethylbenzene	260	LQM SULs RWPU 6.0%
m,p xylenes	310	LQM SULs RWPU 6.0%
Acenaphthylene	920	LQM SULs RWPU 6.0%
Acenaphthene	1100	LQM SULs RWPU 6.0%
Fluorene	860	LQM SULs RWPU 6.0%
Phenanthrene	440	LQM SULs RWPU 6.0%
Anthracene	11000	LQM SULs RWPU 6.0%
Fluoranthene	890	LQM SULs RWPU 6.0%
Pyrene	2000	LQM SULs RWPU 6.0%
Benzo(a)anthracene	13	LQM SULs RWPU 6.0%
Chrysene	27	LQM SULs RWPU 6.0%
Benzo (b) fluoranthene	3.7	LQM SULs RWPU 6.0%
Benzo(k)fluoranthene	100	LQM SULs RWPU 6.0%
Benzo(a)pyrene	2.4	CAT4
Dibenz-a-h-anthracene	0.3	LQM SULs RWPU 6.0%
Indeno(1,2,3-cd)pyrene	41	LQM SULs RWPU 6.0%
Benzo (g,h,i) perylene	350	LQM SULs RWPU 6.0%
Aliphatics >C5-6	160	LQM SULs RWPU 6.0%
Aliphatics >C6-8	530	LQM SULs RWPU 6.0%
Aliphatics >C8-10	150	LQM SULs RWPU 6.0%
Aliphatics >C10-12	760	LQM SULs RWPU 6.0%
Aliphatics >C12-16	4300	LQM SULs RWPU 6.0%
Aliphatics >C16-35	110000	LQM SULs RWPU 6.0%
Aliphatics >C35-44	110000	LQM SULs RWPU 6.0%
Aromatics >C5-7	300	LQM SULs RWPU 6.0%
Aromatics >C7-8	660	LQM SULs RWPU 6.0%
Aromatics >C8-10	190	LQM SULs RWPU 6.0%

Contaminant	Result (mg/kg)	GAC Source
Aromatics >C10-12	380	LQM SULs RWPU 6.0%
Aromatics >C12-16	660	LQM SULs RWPU 6.0%
Aromatics >C16-21	930	LQM SULs RWPU 6.0%
Aromatics >C21-35	1700	LQM SULs RWPU 6.0%
Aromatics >C35-44	1700	LQM SULs RWPU 6.0%
Napthalene	13	LQM SULs RWPU 6.0%
Phenol	380	LQM SULs RWPU 6.0%

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12.7 Appendix 7 – Exceedances and Statistical Analysis Summary

Parameter	GAC	GAC Source	No. Samples	Mean	Maximum	Outliers Excluded	Max. Value Location	Mean Exceedence	Std Deviation	Non-Detects	W_Shapiro-Wilk	W_Critical	Distribution	T Statistic	Upper 95th percentile (USS5)	Mean Value Test Result	Max Value Test Result	One Sample T Test - T0	One Sample T Test - Tn	One Sample T Test Result	One Sample T Test - Evidance Level (%)	Kcrit-Chebychev	UCL95-Chebychev	K0-Chebychev	Chebychev Test Result	Chebychev - Evidence Level (%)	Samples Exceeding GAC
Aliphatics >O-8	530	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0	0	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	51	4.36	0	0	Reject H0 (k0 < kcrit)	0	None
Aliphatics >O8-10	150	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0	0	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	51	4.36	0	0	Reject H0 (k0 < kcrit)	0	None
Aromatics >O8-10	190	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0	0	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	51	4.36	0	0	Reject H0 (k0 < kcrit)	0	None
Aliphatics >O5-6	160	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0	0	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	51	4.36	0	0	Reject H0 (k0 < kcrit)	0	None
Aromatics >O5-7	300	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0	0	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	51	4.36	0	0	Reject H0 (k0 < kcrit)	0	None
Arsenic	37	Category 4 Screening Levels - Residential (with homegrown produce)	9	16.04	28.2	0	BH01/1	No	7.21	0	0.8854	0.829	Normal	1.86	20.5133	PASSED	Max. Value NOT Outlier	-8.722	-1.833	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	26.51982046	-8.7219992293	Reject H0 (k0 < kcrit)	99	None
Cadmium	11	LQM Suitable for Use Levels - Residential (With Plant Uptake)	9	0.87	1.7	0	BH06/1	No	0.42	0	0.9022	0.829	Normal	1.86	1.1297	PASSED	Max. Value NOT Outlier	-71.653	-1.833	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	1.48326378	-71.65348716	Reject H0 (k0 < kcrit)	99	None
Copper	2400	LQM Suitable for Use Levels - Residential (With Plant Uptake)	9	163.27	1021	0	BH01/1	No	324.85	0	0.5076	0.829	Non-Normal	1.86	364.6738	PASSED	Max. Value is Outlier	-20.656	-1.833	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	635.3822628	-20.65629141	Reject H0 (k0 < kcrit)	99	None
Lead	200	LQM Suitable for Use Levels - Residential (With Plant Uptake)	9	257.19	658.7	0	BH01/1	YES	212.6	0	0.8927	0.829	Normal	1.86	389.0018	FAILED	Max. Value NOT Outlier	0.807	-1.833	DO NOT reject H0 (t0 > t(n-1, 0.95)	51	4.36	566.1698067	0.8069869908	DO NOT Reject H0 (k0 > kcrit)	0	BH01/1,BH03/1,BH04/1, BH05/1,BH06/1
Mercury	40	LQM Suitable for Use Levels - Residential (With Plant Uptake)	9	0.3	1.5	0	BH01/1	No	0.52	6	0.663	0.829	Non-Normal	1.86	0.6222	PASSED	Max. Value is Outlier	-229.208	-1.833	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	1.055174152	-229.2080569	Reject H0 (k0 < kcrit)	99	None
Nickel	130	LQM Suitable for Use Levels - Residential (With Plant Uptake)	9	24.57	33.2	0	BH01/1	No	5.69	0	0.8247	0.829	Non-Normal	1.86	28.0926	PASSED	Max. Value NOT Outlier	-55.618	-1.833	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	32.83184118	-55.61761974	Reject H0 (k0 < kcrit)	99	None
Selenium	250	LQM Suitable for Use Levels - Residential (With Plant Uptake)	9	0.07	0.6	0	BH03/1	No	0.2	8	0.3903	0.829	Non-Normal	1.86	0.1907	PASSED	Max. Value is Outlier	-3749	-1.833	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	0.357333333	-3749	Reject H0 (k0 < kcrit)	99	None
Chromium	910	LQM Suitable for Use Levels - Residential (With Plant Uptake)	9	21.32	27.7	0	BH03/1	No	4.77	0	0.9504	0.829	Normal	1.86	24.277	PASSED	Max. Value NOT Outlier	-559.421	-1.833	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	28.2483802	-559.4205508	Reject H0 (k0 < kcrit)	99	None
Zinc	3700	LQM Suitable for Use Levels - Residential (With Plant Uptake)	9	245.08	736.2	0	BH06/1	No	227.72	0	0.7781	0.829	Non-Normal	1.86	386.2614	PASSED	Max. Value is Outlier	-45.516	-1.833	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	576.0243699	-45.51628948	Reject H0 (k0 < kcrit)	99	None
Benzene	0.37	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0.9131	0.829	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	99.5	4.36	0	-45.51628948	Reject H0 (k0 < kcrit)	99	None
Ethylbenzene	260	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0.9131	0.829	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	99.5	4.36	0	-45.51628948	Reject H0 (k0 < kcrit)	99	None
m,p xylenes	310	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0.9131	0.829	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	99.5	4.36	0	-45.51628948	Reject H0 (k0 < kcrit)	99	None
Toluene	660	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0.9131	0.829	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	99.5	4.36	0	-45.51628948	Reject H0 (k0 < kcrit)	99	None
Acenaphthene	1100	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	0.17	1.1	0	BH02/1	No	0.35	10	0.5718	0.881	Non-Normal	1.761	0.3348	PASSED	Max. Value is Outlier	-12093.076	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	0.571194263	-12093.07624	Reject H0 (k0 < kcrit)	99	None
Acenaphthylene	920	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	0.36	1.41	0	BH04/1	No	0.4	4	0.8215	0.881	Non-Normal	1.761	0.539	PASSED	Max. Value is Outlier	-8883.151	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	0.808043082	-8883.15117	Reject H0 (k0 < kcrit)	99	None
Anthracene	11000	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	1.01	2.7	0	BH02/1	No	0.84	1	0.9048	0.881	Normal	1.761	1.3978	PASSED	Max. Value NOT Outlier	-50462.863	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	1.964314271	-50462.86309	Reject H0 (k0 < kcrit)	99	None
Benzo(a)anthracene	13	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	4.83	18	0	BH04/1	No	4.82	0	0.8371	0.881	Non-Normal	1.761	7.0249	PASSED	Max. Value is Outlier	-6.559	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	10.26140881	-6.559181903	Reject H0 (k0 < kcrit)	98	BH04/1
Benzo(a)pyrene	2.4	Category 4 Screening Levels - Residential (with homegrown produce)	15	4.95	22.5	0	BH04/1	YES	6.11	1	0.7513	0.881	Non-Normal	1.761	7.7265	FAILED	Max. Value is Outlier	1.614	-1.753	DO NOT reject H0 (t0 > t(n-1, 0.95)	51	4.36	11.82827805	1.614076815	DO NOT Reject H0 (k0 > kcrit)	0	BH02/1,BH04/1, BH04/1, BH05/1,BH05/1, BH06/1, BH06/1
Benzo(b)fluoranthene	3.7	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	5.92	25	0	BH04/1	YES	6.87	1	0.7803	0.881	Non-Normal	1.761	9.0435	FAILED	Max. Value is Outlier	1.254	-1.753	DO NOT reject H0 (t0 > t(n-1, 0.95)	51	4.36	13.65029343	1.253956239	DO NOT Reject H0 (k0 > kcrit)	0	BH02/1,BH04/1, BH04/1, BH05/1,BH05/1, BH06/1, BH06/1
Benzo (g,h,i) perylene	350	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	3.08	12.2	0	BH04/1	No	3.11	0	0.7935	0.881	Non-Normal	1.761	4.495	PASSED	Max. Value is Outlier	-432.167	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	6.581292106	-432.1666297	Reject H0 (k0 < kcrit)	99	None
Benzo(k)fluoranthene	100	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	2.47	9.59	0	BH04/1	No	2.6	0	0.7861	0.881	Non-Normal	1.761	3.6525	PASSED	Max. Value is Outlier	-145.483	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	5.394839421	-145.4825322	Reject H0 (k0 < kcrit)	99	None
Chrysene	27	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	4.47	13.7	0	BH04/1	No	3.9	0	0.8914	0.881	Normal	1.761	6.2417	PASSED	Max. Value is Outlier	-22.364	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	8.860306175	-22.36354064	Reject H0 (k0 < kcrit)	99	None
Dibenz-a-h-anthracene	0.3	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	0.59	3.11	0	BH04/1	YES	0.82	6	0.7214	0.881	Non-Normal	1.761	0.9585	FAILED	Max. Value is Outlier	1.347	-1.753	DO NOT reject H0 (t0 > t(n-1, 0.95)	51	4.36	1.509228857	1.346530318	DO NOT Reject H0 (k0 > kcrit)	0	BH02/1,BH02/1, BH03/1, BH03/2,BH04/1, BH05/1, BH05/1,BH06/1
Fluoranthene	890	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	6.79	16.6	0	BH04/1	No	5.95	1	0.8732	0.881	Non-Normal	1.761	9.4971	PASSED	Max. Value NOT Outlier	-574.537	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	13.46242696	-574.5374954	Reject H0 (k0 < kcrit)	99	None
Fluorene	860	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	0.18	1	0	BH02/1	No	0.32	8	0.6407	0.881	Non-Normal	1.761	0.326	PASSED	Max. Value is Outlier	-10566.506	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	0.537448438	-10566.50561	Reject H0 (k0 < kcrit)	99	None
Indeno(1,2,3-cd)pyrene	41	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	3.54	14.4	0	BH04/1	No	3.68	0	0.7873	0.881	Non-Normal	1.761	5.2168	PASSED	Max. Value is Outlier	-39.447	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	7.684556866	-39.44675957	Reject H0 (k0 < kcrit)	99	None
Naphthalene	13	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	0.21	0.5	0	BH02/1	No	0.15	3	0.9489	0.881	Normal	1.761	0.2749	PASSED	Max. Value NOT Outlier	-327.054	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	0.376558258	-327.0544664	Reject H0 (k0 < kcrit)	99	None
Phenanthrene	440	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	2.78	8.8	0	BH02/1	No	2.51	1	0.8582	0.881	Non-Normal	1.761	3.9215	PASSED	Max. Value is Outlier	-673.308	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	5.609226769	-673.3081012	Reject H0 (k0 < kcrit)	99	None
Pyrene	2000	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	15	6.25	17.5	0	BH04/1	No	5.72	1	0.8748	0.881	Non-Normal	1.761	8.8529	PASSED	Max. Value NOT Outlier	-1349.924	-1.753	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	12.69143148	-1349.923718	Reject H0 (k0 < kcrit)	99	None
Phenol	380	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0.666	0.788	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	99.5	4.36	0	-1349.923718	Reject H0 (k0 < kcrit)	99	None
Aliphatics >C10-12	760	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0.666	0.788	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	99.5	4.36	0	-1349.923718	Reject H0 (k0 < kcrit)	99	None
Aliphatics >C12-16	4300	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0.82	4.94	0	BH04/1	No	2.02	5	0.4961	0.788	Non-Normal	2.015	2.4824	PASSED	Max. Value is Outlier	-5221.672	-1.943	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	4.413066667	-5221.672065	Reject H0 (k0 < kcrit)	99	None
Aliphatics >C35-44	110000	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	10.44	53	0	BH04/1	No	21.2	4	0.602	0.788	Non-Normal	2.015	27.8825	PASSED	Max. Value is Outlier	-12706.239	-1.943	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	48.1816536	-12706.23928	Reject H0 (k0 < kcrit)	99	None
Aromatics >C10-12	380	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	0	0	0	N/A	No	0	6	0.8473	0.788	N/A	2.015	0	N/A	N/A	N/A	N/A	N/A	99.5	4.36	0	-12706.23928	Reject H0 (k0 < kcrit)	99	None
Aromatics >C12-16	660	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	5.22	12	0	BH02/1	No	4.66	2	0.9237	0.788	Normal	2.015	9.0479	PASSED	Max. Value NOT Outlier	-344.523	-1.943	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	13.5047227	-344.5225586	Reject H0 (k0 < kcrit)	99	None
Aromatics >C16-21	930	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	52.3	80.3	0	BH02/1	No	27.65	0	0.7959	0.788	Normal	2.015	75.0462	PASSED	Max. Value NOT Outlier	-77.752	-1.943	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	101.5175577	-77.75217183	Reject H0 (k0 < kcrit)	99	None
Aromatics >C21-35	1700	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	349.67	910	0	BH04/1	No	285.13	0	0.749	0.788	Non-Normal	2.015	584.2238	PASSED	Max. Value is Outlier	-11.6	-1.943	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	857.1947218	-11.60025199	Reject H0 (k0 < kcrit)	99	None
Aromatics >C35-44	1700	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)	6	30.73	102	0	BH04/1	No	35.48	0	0.6617	0.788	Non-Normal	2.015	59.913	PASSED	Max. Value is Outlier	-115.245	-1.943	Reject H0 t0 < t(n-1, 0.95)	99.5	4.36	93.87932309	-115.2450609	Reject H0 (k0 < kcrit)	99	None

Sample ID	Sample Depth (mbgl)	Contaminant	Measured Concentration (mg/kg)	GAC Value (mg/kg)	GAC Source
BH01/1	0.4	Lead	658.7	200	LQM Suitable for Use Levels - Residential (With Plant Uptake)
BH02/1	0.3	Benzo(a)pyrene	6	2.4	Category 4 Screening Levels - Residential (with homegrown produce)
BH02/1	0.3	Benzo(b)fluoranthene	7.12	3.7	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH02/1	0.3	Dibenz-a-h-anthracene	0.86	0.3	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH02/1	0.3	Dibenz-a-h-anthracene	1	0.3	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH03/1	0.3	Lead	276.1	200	LQM Suitable for Use Levels - Residential (With Plant Uptake)
BH03/1	0.3	Dibenz-a-h-anthracene	0.36	0.3	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH03/2	1.2	Dibenz-a-h-anthracene	0.31	0.3	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH04/1	0.5	Lead	514.5	200	LQM Suitable for Use Levels - Residential (With Plant Uptake)
BH04/1	0.5	Benzo(a)anthracene	18	13	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH04/1	0.5	Benzo(a)pyrene	22.5	2.4	Category 4 Screening Levels - Residential (with homegrown produce)
BH04/1	0.5	Benzo(b)fluoranthene	25	3.7	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH04/1	0.5	Dibenz-a-h-anthracene	3.11	0.3	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH04/1	0.5	Benzo(a)pyrene	14.1	2.4	Category 4 Screening Levels - Residential (with homegrown produce)
BH04/1	0.5	Benzo(b)fluoranthene	16.6	3.7	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH05/1	0.4	Lead	309.2	200	LQM Suitable for Use Levels - Residential (With Plant Uptake)
BH05/1	0.4	Benzo(a)pyrene	5.58	2.4	Category 4 Screening Levels - Residential (with homegrown produce)
BH05/1	0.4	Benzo(b)fluoranthene	6.85	3.7	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH05/1	0.4	Dibenz-a-h-anthracene	0.84	0.3	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH05/1	0.4	Benzo(a)pyrene	5.2	2.4	Category 4 Screening Levels - Residential (with homegrown produce)
BH05/1	0.4	Benzo(b)fluoranthene	6.3	3.7	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH05/1	0.4	Dibenz-a-h-anthracene	0.8	0.3	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH06/1	0.5	Lead	223.9	200	LQM Suitable for Use Levels - Residential (With Plant Uptake)
BH06/1	0.5	Benzo(a)pyrene	8.03	2.4	Category 4 Screening Levels - Residential (with homegrown produce)
BH06/1	0.5	Benzo(b)fluoranthene	10.1	3.7	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH06/1	0.5	Dibenz-a-h-anthracene	1.23	0.3	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)
BH06/1	0.5	Benzo(a)pyrene	3	2.4	Category 4 Screening Levels - Residential (with homegrown produce)
BH06/1	0.5	Benzo(b)fluoranthene	4	3.7	LQM Suitable for Use Levels - Residential (With Plant Uptake - 6% Organic Matter)

12.8 Appendix 8 – Ground Gas Monitoring Results

Site Name:	126 Upper Shoreham Road																
Date & Time	**Monitoring Undertaken By**	**Monitoring Equipment Used**	**Borehole Reference**	**Flow**	**Methane**	**Carbon Dioxide**	**Oxygen**	**Hydrogen Sulphide**	**Carbon Monoxide**	**PID VOCs**	**Water Level**	**Well Depth**	**Bal.**	**Rel.**	**Comments**	**Weather**	**Barometric pressure**
dd/mm/yy	**Name**		***BH#***	***l/hr***	***%***	***%***	***%***	***ppm***	***ppm***	***ppm***	***mbgl***	***mbgl***	***%***	***%***			
05/03/2025	Jon	GA5000	BH02	0.3	0.0	1.2	19.3	0.0	0.0	0.0	NGW	2.9	79.5	0.02	11am	Overcast	1023
		GFM 436	BH03	0.0	0.1	0.4	20.6	0.0	0.0	6.1	NGW	2.9	78.9	0.05	11:45am		
		MiniRae	BH05	0.3	0.1	1.4	20.1	0.0	0.0	0.0	NGW	3.0	78.4	-0.03	11:30am		
13/03/2025	Akanu	GA5000	BH02	0.1	0.1	0.9	20.7	0.0	0.0	0.0	NGW	2.9	78.3	0.20	12.45pm	Sunny and dry	1003
		GFM 436	BH03	0.0	0.0	0.8	20.0	0.0	0.0	0.2	NGW	2.9	79.2	0.10	1pm		
		MiniRae	BH05	0.0	0.0	1.4	20.0	0.0	0.0	0.2	NGW	3.0	78.6	0.00	12.50pm		
21/03/2025	Akanu	GA5000	BH02	0.1	0.0	0.6	20.0	0.0	0.0	0.1	NGW	2.9	79.4	0.03		Sunny and dry	1005
		GFM 436	BH03	0.3	0.0	1.2	18.5	0.0	0.0	0.0	NGW	3.0	80.3	0.03			
		MiniRae	BH05	0.3	0.0	2.3	19.0	0.0	0.0	0.1	NGW	3.0	78.7	0.02			

12.9 Appendix 9 - Assessment Methodology

- Severity considers the potential impact of the linkage on the receptors if the linkage was active. Categories range from slight/superficial to fatal.
- Likelihood considers the chances of the linkage occurring and is classified into categories from improbable to frequent.

By assigning scores with each of the above categories, the risk assessment can be undertaken using the formula:

RISK = LIKELIHOOD × SEVERITY

The matrix given in Table 7 provides a means of calculating the overall risk; while Table 8 provides the qualitative assessment based on the risk score.

Table 7: Contamination Risk Matrix

		Potential Severity				
		Fatal 5	Major 4	Moderate 3	Minor 2	Slight 1
Probable Likelihood	Frequent 5	Very High	High	Moderate	Low - Moderate	Low
	Probable 4	High	High	Moderate	Low - Moderate	Low
	Possible 3	Moderate	Moderate	Low - Moderate	Low - Moderate	Very Low
	Remote 2	Low - Moderate	Low - Moderate	Low - Moderate	Low	Very Low
	Improbable 1	Low	Low	Very Low	Very Low	Very Low

Table 8: Assessment description for risk scores

Risk Score	Risk Assessment
1-3	**Very Low**
4-5	**Low**
6-10	**Low to Moderate**
11-15	**Moderate**
16-20	**High**
21-25	**Very High**

Table 9: Risk Classification System

Risk Term	Description
Very Low	The presence of an identified hazard does not give rise to the potential to cause significant harm to groundwater, surface water, ecological and/or property receptors. In the event of such harm being realized, it is not likely to be Severe.
Low	The presence of an identified hazard does not give rise to the potential to cause significant harm to human health receptors. In the event of such harm being realized, it is not likely to be Severe.
Low to Moderate	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realized, would at worst normally be mild.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
High	Harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remedial action. Investigation is required and remedial works may be necessary in the short term and are likely over the longer term.
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, or, there is an evidence that severe harm to a designated receptor is currently happening. Urgent investigation and remediation are likely to be required.

13 ABBREVIATIONS

Abbreviation	Description
BTEX	Benzene, Tolulene, Ethylene and Xylene
c.	Circa
CLRA	Contaminated Land Risk Assessment
CSM	Conceptual Site Risk Model
EA	Environment Agency
GAC	Generic Assessment Criteria
IPC	Integrated Pollution Control
LAPC	Local Authority Pollution Control
LQM S4ULs	Land Quality Management Suitable for Use Levels
NPPF	National Planning Policy Framework
OS	Ordnance Survey
PAHs	Polycyclic aromatic hydrocarbons
Part IIA	Part IIA of the Environmental Protection. Act 1990
PID	Photoionization Detector
PCB	Polychlorinated Biphenyl
PCLU	Potentially Contaminative Land Use
PPL	Potential Pollutant Linkage
PRA	Preliminary Risk Assessment
PSPPL	Potentially Significant Potential Pollutant Linkage
RWHP	Residential with Home-grown Produce
SI	Site Investigation
SOM	Soil Organic Matter
SPOSH	Significant Possibility of Significant Harm
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TPHCWG	Total Petroleum Hydrocarbon Criteria Working Group
UXO	Unexploded Ordnance

14 REFERENCES

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