



GEO-ENVIRONMENTAL SITE ASSESSMENT

FOR

GRAND UNION VILLAGE SPECIAL NEEDS PRIMARY SCHOOL

AT

**GRAND UNION SPECIAL NEEDS PRIMARY SCHOOL, NORTHOLT,
UB5 6FA**

G45981p1r1

9th July 2021

Prepared For

Jide Ogunbanjo

ISG Ltd

Aldgate House
33 Aldgate High Street
London
EC3N 1AG

Prepared By

Marc Roberts

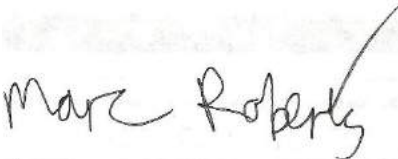
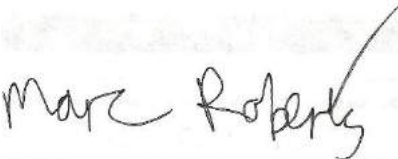
Ensafe Consultants

Unit 19a Capital Business Centres
22 Carlton Road
South Croydon
CR2 0BS

DISTRIBUTION LIST

Issued To	Company	Telephone No
Jide Ogunbanjo	ISG Ltd	Jide.Ogunbanjo@isgltd.com
Joe Marconi	ISG Ltd	Joe.Marconi@isgltd.com
Mark Parsons	ISG Ltd	Mark.Parsons@isgltd.com

QUALITY ASSURANCE

Issue / Revision	Issue 1	Revision 1	Revision 2
Remarks	Interim – pending completion of gas monitoring	Final	
Date	June 2021	July 2021	
Prepared By	Marc Roberts	Marc Roberts	
Job Title	Geo-environmental Consultant	Geo-environmental Consultant	
Signature			
Checked By	Philip Thompson	Philip Thompson	
Job Title	Associate Director	Associate Director	
Signature			
Authorised By	Philip Thompson	Ged Sojka	
Job Title	Associate Director	Technical Director	
Signature			
Project Number	G45981R0	G45981R1	

1.0	INTRODUCTION.....	1
1.1.	Site Details	1
1.2.	Background.....	1
1.3.	Proposed Development	1
1.4.	Objectives	1
1.5.	Confidentiality	1
1.6.	Limitations	1
2.0	SITE SETTING.....	2
2.1.	Site Description.....	2
2.2.	Previous Report Summary	2
3.0	SITE INVESTIGATION	4
3.1.	Site Investigation Rationale	4
3.2.	Summary of Fieldworks	4
3.3.	Ground Gas & Groundwater Monitoring.....	4
4.0	GROUND CONDITIONS.....	5
4.1.	Ground Conditions.....	5
4.2.	Groundwater Conditions	5
4.3.	Earth Mounds	5
5.0	CHEMICAL LABORATORY ANALYSIS	6
5.1.	Asbestos.....	6
6.0	GROUND GAS RISK ASSESSMENT	7
6.1.	Risk Assessment.....	7
6.2.	Discussion of Results	7
7.0	HAZARDOUS WASTE CLASSIFICATION OF SOILS FOR DISPOSAL	8
7.1.	Asbestos.....	8
7.2.	Waste Acceptance Criteria (WAC) Analysis	8
8.0	CONCLUSION & RECOMMENDATIONS	9
8.1.	Conclusions.....	9
	APPENDIX I - LIMITATIONS	10
	APPENDIX II - GLOSSARY.....	12
	APPENDIX III - DRAWINGS	14
	APPENDIX IV - PHOTOGRAPHS.....	15
	APPENDIX V – EXPLORATORY HOLE LOGS.....	24
	APPENDIX VI – CHEMICAL ANALYSIS.....	25
	APPENDIX VII – GROUND GAS & GROUNDWATER LEVELS	26
	APPENDIX VIII – WASTE CLASSIFICATION REPORT	29

EXECUTIVE SUMMARY

Site Details	
Site Address	Grand Union Village Special Needs Primary School, Northolt, UB5 6FA
Grid Reference	TQ123822
Site Area	0.80ha
Current Site Use	The site is currently undeveloped, bordered by security hoarding with no public access.
Proposed Use	The proposed development comprises the construction of a one-storey Special Education Needs and Disabilities (SEND) school with hard standing parking to front, and external learning/green spaces to the rear
Summary of Ground Conditions	Made Ground to depths ranging from 2.20 – 3.20mbgl. The Made Ground was underlain by the London Clay Formation to the base of the exploratory holes (4.00mbgl) Groundwater was encountered at depths ranging from
Composition of the Earth Mounds	Sand gravel and clay of varying proportions, with the anthropogenic material consisting of flint, brick, concrete, glass, breezeblock, plastic, textile, ceramic, wood and slate, with occasional whole bricks and glass bottles noted sporadically. It must also be noted that loose asbestos fibres and occasional asbestos cement fragments were detected within the soil samples.
Waste Assessment	Soils are generally not considered to be hazardous from a waste classification perspective. However, the presence of fragments of ACM (chrysotile cement) is likely to render the soils as hazardous waste. In the absence of visible ACM and assuming loose fibre concentrations do not exceed those identified, WAC testing indicates the soils could be disposed of to an inert landfill or in the worst case, stable non reactive hazardous landfill cell, subject to the landfill operator accepting the materials and subject to appropriate handling of soils that contain low concentrations of loose asbestos fibres.
Gas assessment	Characteristic Situation 2 – ground gas protection measures are required at the site. A minimum of 3.5 points in accordance with BS 8485 will be required. This can be achieved with a suitably designed slab and sub floor venting and potentially the need for a gas impermeable membrane.
Asbestos	The presence of low concentrations of loose asbestos fibres and occasional ACM fragments will make any works on site subject to the Control of Asbestos Regulations 2012. Works to handle the soils and /or remove ACM should be considered licensable.
Recommendations	
An asbestos management plan should be developed to support appropriate hand picking of ACM and handling for soils containing loose fibres for off-site disposal.	

1.0 INTRODUCTION

1.1. Site Details

A Site Location Plan (reference G45981-001) is presented in Appendix III.

Table 1: Site Summary

Site Address	Derelict land east of Broadmead Road, Northolt, UB1 6FA
National Grid Reference	512373, 182291
Site Area (ha)	0.8414

1.2. Background

Ensafe Consultants has been commissioned by ISG Ltd, hereafter referred to as “the Client” to undertake a Phase II Geo-Environmental Site Assessment at the proposed Grand Union Village Special Needs Primary School.

There have been 5no. known ground investigations on the site since 2000. Three of these reports have been made available to Ensafes:

- HBS Ground Investigation Report (Ref: 23-20-19-1-1000/Glr1 dated July 2018); and,
- HSP Consulting Phase II Supplementary Ground Investigation (Ref: C2923 dated January 2019); and
- Rolton Group Sustainable Drainage Report (Ref: 190506-RGL-ZZ-XX-RP-C-0001 dated April 2020.

1.3. Proposed Development

It is understood that the current area of derelict land – along with an area of the playing fields to the east of the derelict land bounded by a paved footpath – is proposed to be redeveloped into a one-storey Special Education Needs and Disabilities (SEND) school with hard standing parking to front, and external learning/green spaces to the rear. The proposed development plan is shown as drawing ref. G45981-002 within Appendix III.

1.4. Objectives

Following discussions with the client and a review of the works undertaken to date, in order to satisfy the planning conditions by the local authority (application ref. 71486/APP/2020/1369), the objectives of this investigation are to:

- Complete a Topographical and Utility Mapping Survey within areas previously inaccessible following vegetation clearance which occurred shortly before the Ensafes site visit;
- Installation of gas monitoring wells within the proposed building footprint in order to make a more robust gas risk assessment with 6no. return monitoring visits in accordance with BS8485 2015+A1 2019 given the significant levels of uncertainty in the results obtained previously;
- Sampling from on-site earth mounds in order to classify appropriate disposal off-site; and
- Sampling and investigation of areas affected by fly tipped waste to confirm or disprove evidence of additional resulting contamination.

1.5. Confidentiality

Ensafe Consultants has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from Ensafes Consultants. A charge may be levied against such approval.

1.6. Limitations

The full limitations of this report are presented in Appendix I.

2.0 SITE SETTING

2.1. Site Description

Site Walkover

Ensaf Consultants undertook a site walkover prior to commencement of siteworks.

At the time of the walkover on 13th May 2021 prior to commencement of the ground investigation, the site consisted mostly of a derelict plot of land surrounded by wooden hoarding. With the exception of a short concrete track, the site was completely surfaced by soft standing with vegetation in the west of the site having been cleared shortly before Ensaf's site visit. A small part of the site to the east lies outside the hoarding and forms part of a playing field.

Two small areas of fly tipped waste were noted on site which contained mixed waste. These are outlined further within this report within this.

The site boundary to the south was not very well defined as this laid within the derelict land area however, this was taken to be at the base of a large set of earthworks. The site boundary to the east was marked by the existing footpath running across the existing playing fields. The northern boundary of the site was defined by either the existing hoarding within the derelict land area, or Ballinger Way/Arcon Drive within the playing fields area of the site. The western boundary was defined by the hoarding along Broadmead Road.

A selection of general site photographs are presented in Appendix IV.

Hazardous Materials Storage

No hazardous material was noted to be stored on site though see below regarding fly tipped waste.

Polychlorinated Biphenyls (PCB's)

No material containing PCBs were noted within the site.

Asbestos Containing Material (ACM)

No ACMs were observed during the site walkover.

Fly Tipped Waste

At the time of the ground investigation, two stockpiles of fly tipped waste were observed within the site. The waste noted was mixed waste including a rusted steel barrel. There are no indications on what was contained within this barrel. Photographs 3, 4 and 15 within Appendix IV show the steel barrel. The location of these fly tipped waste stockpiles are shown within drawing G45981-003 within Appendix III.

Earth Mounds

Two earth mounds were noted within the site with the westernmost and easternmost earth mounds denoted throughout this report as SPW and SPE respectively. These were investigated as detailed throughout the rest of this report and the locations of these are shown within the exploratory hole location plan drawing ref. G45981-003 within Appendix III.

2.2. Previous Report Summary

The Ground Investigation Report produced by HBS (Ref: 23-20-19-1-1000/GIr1 dated July 2018) identified the following information pertinent to the investigation:

- The site was previously part of a brickworks from pre 1866 to the 1930s. By 1970 the site became a sports club and following its recent demolition, the site was used as a compound to support the recently constructed Grand Union development to the north;
- Exceedances of GAC values for lead with respect to a residential end use without home grown produce were noted at a depth of 1.40mbgl within the Made Ground. The risks were considered low given the depth of this exceedances;
- Asbestos was identified within a single location at a depth of 0.80mbgl;
- No further contaminants of concern were identified within the soils underlying the site during the previous ground investigations;
- Underlying natural soils were noted to be of high volume change potential; and
- Concrete classification of DS-2, AC-2.

The Phase II Supplementary Ground Investigation produced by HPS Consulting Engineers (ref: C2923, dated: January 2019) identified the following information pertinent to the investigation:

- Significant variations of the thickness of Made Ground was noted across the site ranging from 1.70 – 5.30mbgl;
- Groundwater was noted at depths ranging from 2.00 – 4.00mbgl during ground investigation works, and between 0.73 – 1.62mbgl during the return monitoring visits;
- Site was assessed to be a low risk with respect to human health with respect to GACs for residential end use without plant uptake;
- The site was classified as low risk to controlled waters due to the site being underlain by an unproductive aquifer and not located within 500m from a watercourse;
- The site was classified as CS2 gas risk due to high carbon dioxide and flow rates recorded. The maximum Carbon Dioxide reading was 6.8% and a single borehole during a single monitoring visit recorded steady gas flows of 3.2l/hr. These readings did not come from the same borehole; and
- Groundwater was noted within the Made Ground at depths ranging from 2.00 – 4.00mbgl during the ground investigation, and between 0.73 and 1.62mbgl during the return monitoring visits.

The Sustainable Urban Drainage Report produced by Rolton Group (Ref: 190506-RGL-ZZ-XX-RP-C-0001 dated April 2020) identified the following information pertinent to the investigation:

- Soil Infiltration testing was not deemed to be possible due to the presence of deep Made Ground and clay.

3.0 SITE INVESTIGATION

3.1. Site Investigation Rationale

A supplementary site investigation was designed in light of the findings of the previous ground investigation to satisfy the planning conditions from the local authority and in accordance with BS10175:2011+A2:2017 to achieve various objectives as shown within Table 3 below. Given that a number of previous ground investigations had already been undertaken on site prior to Ensafes site visit, the additional laboratory testing within this report was limited to 7no. shallow samples (4no. from the earth mounds and 3no. from the trial pits targeting the fly tipped waste footprints) to determine the most suitable method of disposal for the material identified based upon the proposed development.

3.2. Summary of Fieldworks

Fieldworks were conducted on 27th May 2021.

The investigation designed to meet the strategy detailed above is summarised in Table 2.

Table 2: Summary of Ensafes Fieldwork

Exploratory Hole	Potential Source / Rationale	Exploratory Hole Type	Max Depth (m bgl)	Monitoring Well Response Zone (m bgl)
WS101	Baseline Conditions – to install gas and groundwater level monitoring wells	Window sample	4.00	0.50 – 1.00
WS102			4.00	0.00 – 0.50 (shallow well) 1.30 – 3.30 (deep well)
WS103			4.00	0.50 – 3.00
WS104			4.00	0.50 – 2.20
WS105			4.00	0.50 – 2.20
FTTP101	Shallow trial pits to target areas of fly tipped waste	Machine excavated trial pit	0.60	N/A
FTTP102			0.60	
SPW101	Trial pits to take samples from the western earth mound	Machine excavated trial pit	N/A – depths recorded on logs are into the stockpile and not below ground level.	
SPW102				
SPW103				
SPE101	Trial pits to take samples from the eastern earth mound	Machine excavated trial pit		
SPE102				
SPE103				

Prior to the commencement of the ground investigation, a topographic and utilities mapping survey was undertaken using Ground Penetrating Radar and Electromagnetic (GPR&EM) methodologies. The objective of this phase of work was to inform the location of buried utilities in areas that had been previously inaccessible due to overgrown vegetation prior to Ensafes site visit. The Topographic survey is shown as SD21382-01, while the utility mapping survey is shown as SD21382-02. Both drawings are presented within Appendix III.

3.3 Ground Gas & Groundwater Monitoring

Previous reporting has classified the site as Characteristic Situation 2 and a gas membrane was recommended to be adopted as part of the proposed development. However, there were significant levels of uncertainty in the results and therefore, Ensafes has undertaken a further gas assessment in order to confirm or disprove the gas classification previously given.

Full details of ground gas and groundwater levels recorded during monitoring visits are included within Appendix VIII.

4.0 GROUND CONDITIONS

4.1. Ground Conditions

The ground investigation confirmed the published geology and identified the strata set out in Table 3 below. Exploratory hole logs are included within Appendix V.

Table 3: Summary of Strata

Stratum	Min Depth to Top/Base of Strata (mbgl)	Max Depth to Top/Base of Strata (mbgl)	Max Thickness (m)
Made Ground	0/2.20	0/3.20	3.20 (WS103 and WS104)
London Clay Formation	2.20/>4.00NP	3.20/>4.00NP	>1.80 NP

*NP Base not proven

Made Ground

Made Ground was encountered within all exploratory hole locations and consisted of clay, sand and gravel of varying proportions, with the anthropogenic material consisting of flint, brick, asphalt, glass, plastic sheeting, ceramic, charcoal and breezeblock. Asbestos Containing Material (ACM), in the form of chrysotile cement, was noted within WS103 at 0.60mbgl. This was confirmed by the laboratory to be chrysotile cement during asbestos identification. The base of the Made Ground ranged from 2.20 and 3.20mbgl.

Within FFTP102 – located adjacent to the steel barrel as shown in photograph 15 on appendix IV – the Made Ground below 0.40mbgl was noted to be a blueish grey colour with a slight hydrocarbon odour noted. The Made Ground above 0.40mbgl comprised dry and friable brown slightly sandy gravelly clay with no odours noted. Given these observations, there is no evidence that any contamination from the steel barrel has been introduced to the underlying soils below.

London Clay Formation

The London Clay Formation was identified in all window sample holes at depths ranging from 2.20 – 3.30mbgl and consisted of stiff clay with small amounts of sand and flint gravels on a sporadic basis. The base of the London Clay Formation was not identified during the ground investigation.

4.2 Groundwater Conditions

Groundwater was encountered within the Made Ground at all window sample locations at depths ranging from 1.10 – 1.50mbgl. This was observed to be perched onto the underlying London Clay Formation. During the return monitoring visits undertaken to date, the groundwater levels were recorded to range from 0.90 – 1.60 and showing a decrease between visits.

4.3 Earth Mounds

Within each earth mound, three trial pits were undertaken to depths ranging from 0.60 – 0.80m into the stockpile. The material extracted consisted of sand gravel and clay of varying proportions, with the anthropogenic material consisting of flint, brick, concrete, glass, breezeblock, plastic, textile, ceramic, wood and slate. Occasional whole bricks and glass bottles were noted within SPE102.

Sketches of the earth mounds and the sampling locations within these are shown as drawing refs G45981-004 within Appendix III.

5.0 CHEMICAL LABORATORY ANALYSIS

Given that a number of previous ground investigations had already been undertaken on site prior to Ensaf's site visit, the laboratory testing within this report was limited to 7no. shallow samples (4no. from the earth mounds and 3no. from the trial pits targeting the fly tipped waste footprints) to determine the most suitable method of disposal for the material identified based upon the proposed development. The samples were submitted to i2 Analytical of Watford for chemical analysis for the following:

- Heavy Metals;
- Speciated Polycyclic Aromatic Hydrocarbons (PAH);
- Banded Total Petroleum Hydrocarbon (TPH);
- Asbestos ID; and,
- Waste Acceptance Criteria (WAC) Analysis (earth mound samples only).

Results of which are shown below within Appendix VI.

5.1. Asbestos

Asbestos was identified within all samples. These were as:

- Loose fibres/fibrous debris (FTTP101 at 0.50 – 0.60mbgl, FTTP102 at 0.20 – 0.30mbgl, FTTP102 at 0.40 – 0.50mbgl, SPW 102 0.20 – 0.30m within the earth mound and SPW103 at 0.40 – 0.50m within the earth mound); and
- Chrysotile cement (SPE103 0.50 – 0.60m within the earth mound and SPE101 0.30 – 0.40m within the earth mound, WS103 at 0.60mbgl).

Where loose fibres/fibrous debris were noted, these were submitted for asbestos quantification. Results are presented in Table 5 below and within Appendix VI.

Table 5 Asbestos quantification results

Sample	Asbestos quantification (% mass)
FTTP101 at 0.50 – 0.60mbgl	<0.001
FTTP102 at 0.20 – 0.30mbgl	<0.001
FTTP102 at 0.40 – 0.50mbgl	0.003
SPW102 at 0.30 – 0.40m within earth mound	<0.001
SPW103 at 0.40 – 0.50m within earth mound	<0.001

Based on the above, the presence of asbestos within Made Ground needs to be taken into account when removing soils from site. Further details on the recommended waste disposal methods are outlined within Section 7.

It must be noted that sporadic instances of asbestos were also noted within the previous ground investigations. The HSP investigation found a single fragment of chrysotile cement out of 12no. samples analysed from across the site. As such, the occurrence of asbestos is in line with previous investigations.

6.0 GROUND GAS RISK ASSESSMENT

The Conceptual Site Model developed at the Tier I (desk study) by HBS identified the following potentially unacceptable risks from Ground Gas.

Made Ground underlying the site. Given there were significant levels of uncertainty in the previous monitoring results, Ensaf has undertaken a further gas assessment in order to confirm or disprove the gas classification previously given.

Gas monitoring is ongoing at the time of writing this report and an updated assessment will be issued upon completion of the monitoring visits.

6.1. Risk Assessment

In accordance with CIRIA C665, the proposed development is identified as medium sensitivity, with a low generation potential. A total of 6No. preliminary visits over a total of 6No. weeks will therefore be undertaken, with 2no. visits undertaken at the time of writing this report. Detailed ground gas monitoring data to date is included within Appendix VII.

The potential impact on the development from ground gases has been assessed with reference to standards and guidelines published within BS 8485:2015+A1:2019. A summary of results and relevant calculated Gas Screening Values (GSV) to date are given as Table 6. The full dataset to date is shown within Appendix VII.

Table 6: Summary of Preliminary Ground Gas Risk Assessment to date – further interpretation to take place following completion of the report

Location	Max Steady Flow Rate (l/hr)	Max Steady CH ₄ (%)	Max Steady CO ₂ (%)	CH ₄ Qhg (l/hr)	CO ₂ Qhg (l/hr)	Implied CH ₄ CS	Implied CO ₂ CS
WS101	0.3	<0.1	13.7	0.0003	0.0411	1	2
WS102 (shallow)	0.4	<0.1	0.4	0.0017	0.0144	1	1
WS102 (deep)	<0.1	<0.1	0.9	0.0004	0.0016	1	1
WS103	0.3	<0.1	8.3	0.0001	0.0249	1	2
WS104	<0.1	<0.1	7.2	0.0001	0.0072	1	2
-WS105	0.3	<0.1	0.3	0.0003	0.0009	1	1

KEY: CS: Characteristic Situation

Qhg: Hazardous Gas Flow Rate

6.2. Discussion of Results

Based on the gas readings from the return monitoring visits, a CO₂ gassing regime was identified during the return monitoring visits and therefore, the site is indicated to be a Characteristic Situation 2 (CS2).

7.0 HAZARDOUS WASTE CLASSIFICATION OF SOILS FOR DISPOSAL

Chemical analysis results were entered into the HazWasteOnline Classification Tool. These results when subjected to assessment in line with guidelines given in 'Guidance on the Classification and Assessment of Waste (1st Edition 2015): Technical Guidance WM3', indicated the samples were generally 'Hazardous' Results of these are presented within Appendix IV.

The HazWasteOnline Classification results are summarised in Table 7 below:

Table 7 Summary of HazWasteOnline Classification

Sample Location	Depth	Strata	Waste Classification	Elevated Determinand	EW Code
FTTP101	0.50 – 0.60mbgl	Made Ground (fly tipped trial pit)	Potentially Hazardous*	Asbestos?	17 05 04 / 17 05 03
FTTP102	0.20 – 0.30mbgl		Potentially Hazardous*	Asbestos?	17 05 04 / 17 05 03
FTTP102	0.40 – 0.50mbgl		Potentially Hazardous*	Asbestos?	17 05 04 / 17 05 03
SPW102	0.30 – 0.40m within earth mound	Made Ground (earth mound)	Potentially Hazardous*	Asbestos?	17 05 04 / 17 05 03
SPW103	0.40 – 0.50m within earth mound		Potentially Hazardous*	Asbestos?	17 05 04 / 17 05 03
SPE103	0.50 – 0.60m within earth mound		Potentially Hazardous*	Asbestos Containing Material	17 05 04 / 17 05 03
SPE101	0.30 – 0.40m within earth mound		Potentially Hazardous*	Asbestos Containing Material	17 05 04 / 17 05 03

* Samples contained asbestos. See discussion below.

7.1 Asbestos

Although the Hazwasteonline certificates of the above results presented within Appendix VIII indicate the samples to be non-hazardous, this does not take into account the presence of asbestos within the soils. Visually identifiable asbestos is considered to be hazardous waste and will require disposal as such. Consideration could be given to hand picking ACMs to reduce the volume of waste being sent to a hazardous landfill. However, given the widespread occurrence of loose asbestos fibres around the site, it unlikely that hand picking of ACMs will be a practical mitigation method.

Quantification of the loose fibres indicated masses ranging from <0.001 to 0.003% which does not bring these samples above the threshold classifying this as hazardous waste. No ACMs were noted within the 5no. samples where loose fibres were noted however, given the occurrence of asbestos cement elsewhere on site, further ACMs around the site and within the earth mounds cannot be ruled out. It must be noted that waste becomes hazardous for asbestos should visible fragments of asbestos be noted.

7.2 Waste Acceptance Criteria (WAC) Analysis

The results of WAC analysis undertaken on the 4no. samples taken from the earth mounds. The results of the WAC analyses are included in Attachment III. Note that these are not inclusive of asbestos as per the considerations as discussed above.

8.0 CONCLUSION & RECOMMENDATIONS

8.1. Conclusions

No evidence of additional contamination having been introduced to the underlying soils by the fly tipped waste.

Soils to be removed from site are generally considered to be non-hazardous. The presence of ACM will render the soil hazardous.

Works to handle soils will fall under the Control of Asbestos Regulations 2012.

The ground gas regime is CS2 and ground gas protection measures are required at the site.

END OF REPORT

APPENDIX I - LIMITATIONS

APPENDIX I - LIMITATIONS

LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between Ensaf Consultants and the Client as indicated in Section 1.0.
2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information it has been assumed it is correct. No attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
4. During the site walkover reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not be made known or accessible.
5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
6. In addition to the above Ensaf Consultants note that when investigating, or developing, potentially contaminated land it is important to recognise that sub-surface conditions may vary spatially and also with time. The absence of certain ground, ground gas, and contamination or groundwater conditions at the positions tested is not a guarantee that such conditions do not exist anywhere across the site. Due to the presence of existing buildings and structures access could not be obtained to all areas. Additional contamination may be identified following the removal of the buildings or hard standing.
7. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
8. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials this is for indicative purposes only and do not constitute or replace full and proper surveys.
9. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
10. This report presents an interpretation of the geotechnical information established by excavation, observation and testing. Whilst every effort is made in interpretative reporting to assess the soil conditions over the Site it should be noted that natural strata vary from point to point and that manmade deposits are subject to an even greater diversity. Groundwater conditions are dependent on seasonal and other factors. Consequently there may be conditions present not revealed by this investigation.
11. Ensaf Consultants cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by Ensaf Consultants is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by Ensaf Consultants in this connection without their explicit written agreement there to by Ensaf Consultants.
12. Rather, this investigation has been undertaken to provide a preliminary characterisation of the existing sub-surface geotechnical characteristics and make up and the findings of this study are our best interpretation of the data collected, within the scope of work and agreed budget. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.
13. This investigation has been undertaken to reasonably characterise existing sub-surface conditions and the findings of this study are our best interpretation of the data collected, within the scope of work and agreed budget. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.

APPENDIX II - GLOSSARY

APPENDIX II - GLOSSARY

APPENDIX I - LIMITATIONS

APPENDIX I - LIMITATIONS

LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between Ensaf Consultants and the Client as indicated in Section 1.0.
2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information it has been assumed it is correct. No attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
4. During the site walkover reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not be made known or accessible.
5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
6. In addition to the above Ensaf Consultants note that when investigating, or developing, potentially contaminated land it is important to recognise that sub-surface conditions may vary spatially and also with time. The absence of certain ground, ground gas, and contamination or groundwater conditions at the positions tested is not a guarantee that such conditions do not exist anywhere across the site. Due to the presence of existing buildings and structures access could not be obtained to all areas. Additional contamination may be identified following the removal of the buildings or hard standing.
7. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
8. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials this is for indicative purposes only and do not constitute or replace full and proper surveys.
9. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
10. This report presents an interpretation of the geotechnical information established by excavation, observation and testing. Whilst every effort is made in interpretative reporting to assess the soil conditions over the Site it should be noted that natural strata vary from point to point and that manmade deposits are subject to an even greater diversity. Groundwater conditions are dependent on seasonal and other factors. Consequently there may be conditions present not revealed by this investigation.
11. Ensaf Consultants cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by Ensaf Consultants is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by Ensaf Consultants in this connection without their explicit written agreement there to by Ensaf Consultants.
12. Rather, this investigation has been undertaken to provide a preliminary characterisation of the existing sub-surface geotechnical characteristics and make up and the findings of this study are our best interpretation of the data collected, within the scope of work and agreed budget. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.
13. This investigation has been undertaken to reasonably characterise existing sub-surface conditions and the findings of this study are our best interpretation of the data collected, within the scope of work and agreed budget. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.

APPENDIX II - GLOSSARY

APPENDIX II - GLOSSARY

GLOSSARY

AST	Above Ground Storage Tank
BGS	British Geological Survey
BSI	British Standards Institute
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CIEH	Chartered Institute of Environmental Health
CIRIA	Construction Industry Research Association
CLEA	Contaminated Land Exposure Assessment
CSM	Conceptual Site Model
DNAPL	Dense Non-Aqueous Phase Liquid (chlorinated solvents, PCB)
DWS	Drinking Water Standard
EA	Environment Agency
EQS	Environmental Quality Standard
GAC	General Assessment Criteria
GL	Ground Level
GSV	Gas Screening Value
HCV	Health Criteria Value
ICSM	Initial Conceptual Site Model
LNAPL	Light Non-Aqueous Phase Liquid (petrol, diesel, kerosene)
ND	Not Detected
LMRL	Lower Method Reporting Limit
NR	Not Recorded
PAH	Poly Aromatic Hydrocarbon
PCB	Poly-Chlorinated Biphenyl
PID	Photo Ionisation Detector
QA	Quality Assurance
SGV	Soil Guideline Value
SPH	Separate Phase Hydrocarbon
Sp.TPH (CWG)	Total Petroleum Hydrocarbon (Criteria Working Group)
SPT	Standard Penetration Test
SVOC	Semi Volatile Organic Compound
UST	Underground Storage Tank
VCCs	Vibro Concrete Columns
VOC	Volatile Organic Compound
WTE	Water Table Elevation

APPENDIX III - DRAWINGS

Company	Drawing No	Revision	Title
Ensafe	G45981-001	0	Site Location Plan
Ensafe	G45981-002	0	Proposed Site Layout Plan
Technics	SD21382-01	1	Topographic and Utility Mapping Survey Plan
Technics	SD21382-02	1	Utility Mapping Survey
Ensafe	G45981-003	0	Exploratory Hole Location Plan
Ensafe	G45981-004a	0	Earth Mound Plans – Plan View
Ensafe	G45981-004b	0	Earth Mound Plans – SPE Side Views
Ensafe	G45981-004c	0	Earth Mound Plans – SPW Side Views

APPENDIX III - DRAWINGS

KEY:



- Site Boundary
- Access Gates



The client must not amend any drawing, design or other intellectual property produced by Ensaf Consultants Ltd, without permission in writing from Ensaf Consultants Ltd in advance of any being made.

In the event that such written permission is not obtained in advance of the amendments being made, Ensaf Consultants Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or other intellectual property.



Ensaf Consultants Ltd
Capital Business Centre,
22 Carlton Road,
South Croydon, CR2 0BS

t +44 2034 788076
info@ensaf.co.uk

Job No. & Title:

G45981
Grand Union Village
School

Client:

ISG Ltd

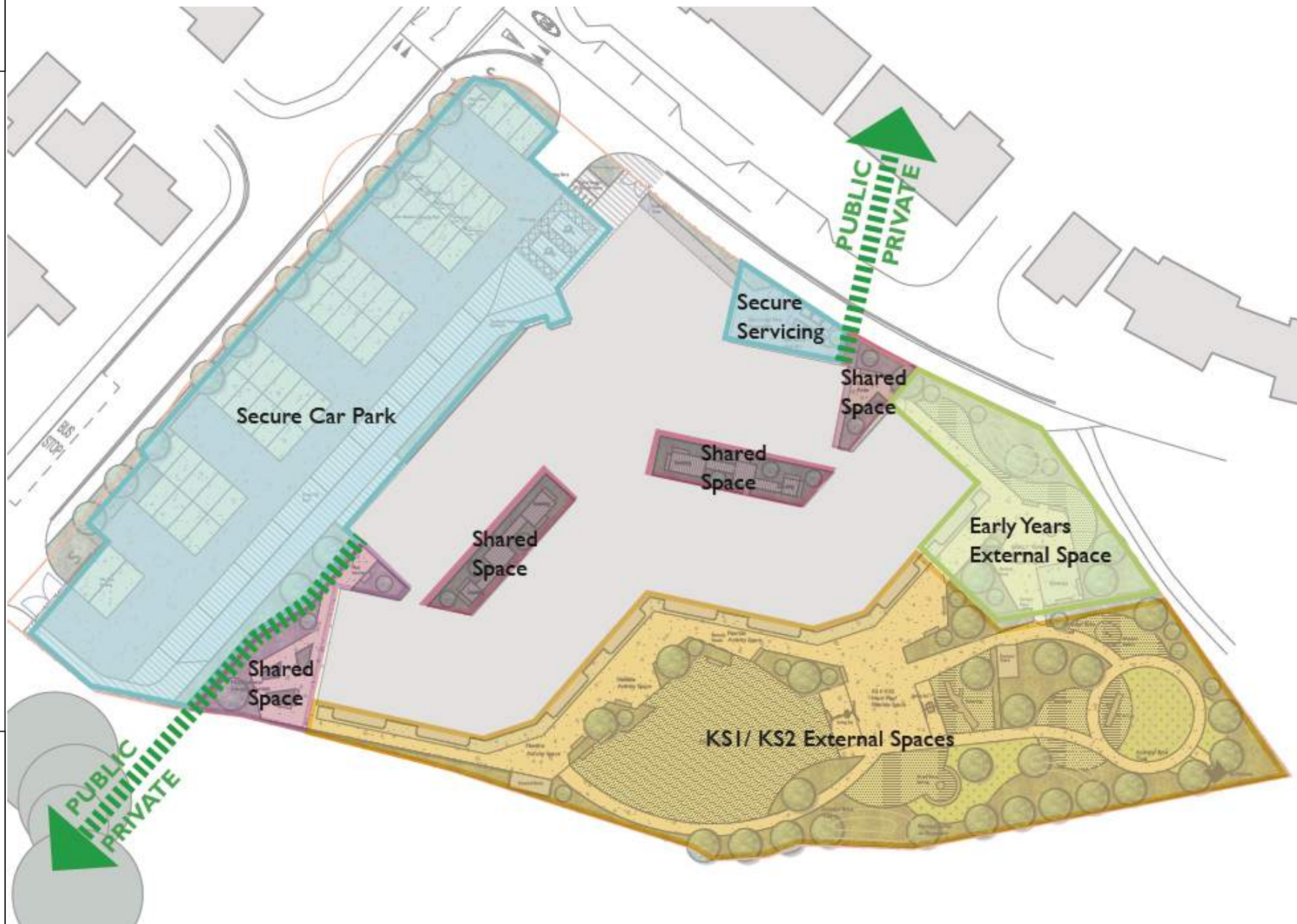
Drawn by: LB
Approved by: PT
Date: May 2021

Notes:
Amended from: Open
Street Map 2021,
Google Maps 2021

Drawing Title:

G45981-001
Site Location Plan

KEY:



The client must not amend any drawing, design or other intellectual property produced by Ensaf Consultants, without permission in writing from Ensaf Consultants in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, Ensaf Consultants shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or other intellectual property.



Ensaf Consultants
Capital Business Centre,
22 Carlton Road,
South Croydon, CR2 0BS

t +44 2034 788076
ensaf.co.uk

Job No. & Title:

G45981
Grand Union Village School

Client:

ISG Ltd

Drawn by:

MR

Approved by:

PT

Date:

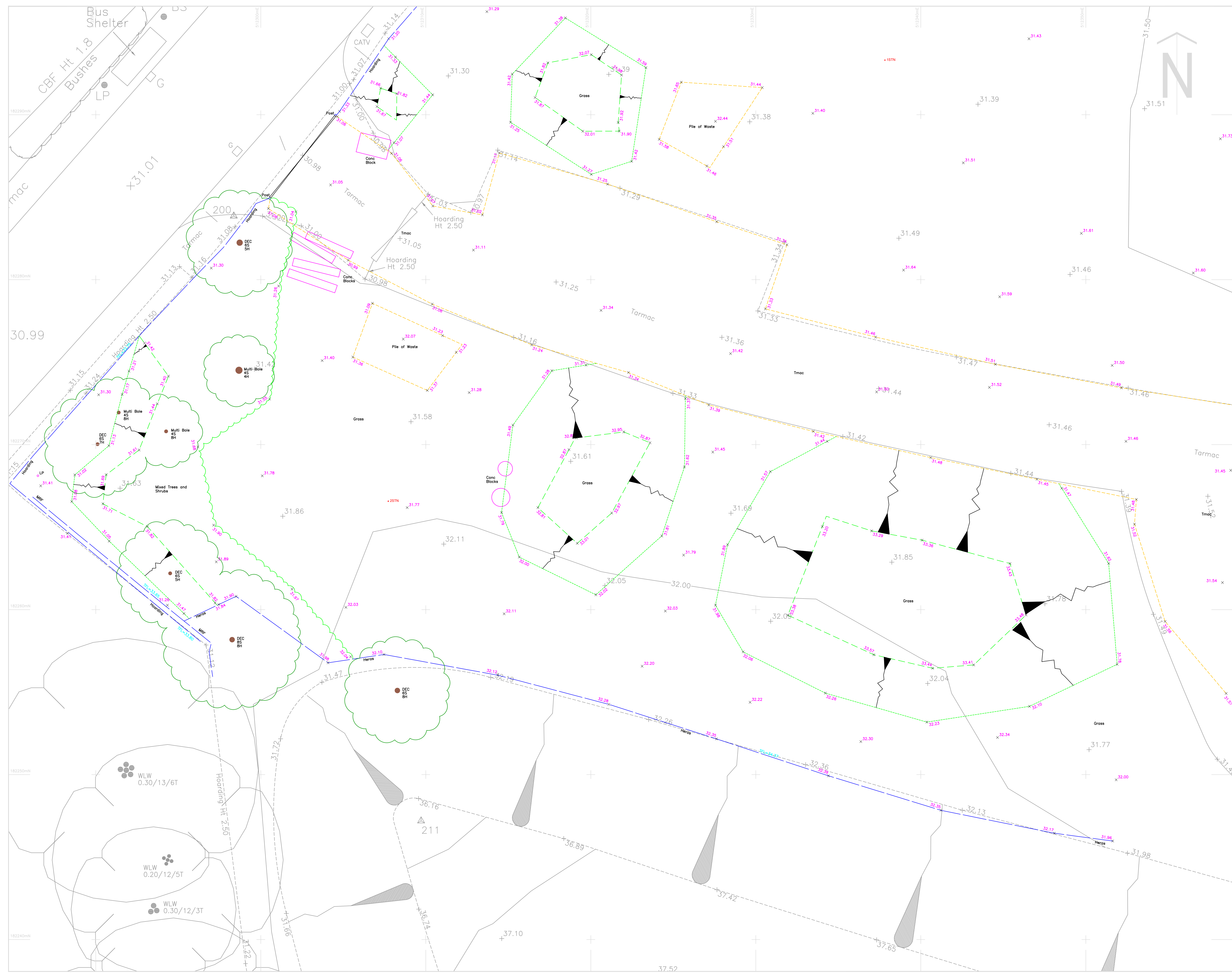
June 2021

Notes:

Extracted from
Colour
masterplan as
provided by client

Drawing Title:

G45981-002
Proposed Site Layout Plan



Notes

1. The survey grid is a local grid, coincident with Ordnance Survey National Grid at 28STN.
2. Surveyed boundary features are not necessarily legal boundaries.
3. Dimensions should not be scaled. All dimensions should be checked on site before any fabrication / construction.
4. Copyright of all data produced by Technics Group shall remain with Technics Group unless otherwise specifically agreed.
5. Information provided should not be altered or modified in any way. It should not be used for any purpose other than for which it was intended and should not be issued to other parties without prior agreement of Technics Group.
6. Technics Group cannot accept responsibility for any damage to computer systems which may result from viruses which may be contained in the data provided.
7. If the AutoCAD drawing is being read by any system other than AutoCAD it should be checked against a hard copy. Technics Group cannot accept liability for omissions.
8. External eaves levels are surveyed to lowest tie position.

Level Datum

ALL LEVELS ARE ORTHOMETRIC HEIGHTS RELATED TO OSGM15 GPS DATUM, COMPUTED USING LEICA SMARTNET RTK NETWORK.

Topo Key

STREET FURNITURE	LEVELS & DEPTHS	INSPECTION CHAMBERS
BB Ballot Beacon	AL Approximate	AC Access Cover
BL Ballot Light	BD Back Drop Level	BD Back Drop
BO Ballot	BO Back Drop Level	BO Back Drop
BS Ballot	BS Back Drop Level	BS Back Drop
CD Concrete Drain	CD Concrete Drain	CD Concrete Drain
CO Concrete	CO Concrete	CO Concrete
CS Concrete	CS Concrete	CS Concrete
DB Drainage Box	DB Drainage Box	DB Drainage Box
EC Electric Cabinet	EC Electric Cabinet	EC Electric Cabinet
EP Electric Pole	EP Electric Pole	EP Electric Pole
FB Floor Beam	FB Floor Beam	FB Floor Beam
FL Floor Light	FL Floor Light	FL Floor Light
FP Flag Pole	FP Flag Pole	FP Flag Pole
FR Fence Post	FR Fence Post	FR Fence Post
GB Gas Box	GB Gas Box	GB Gas Box
GC Gas Cabinet	GC Gas Cabinet	GC Gas Cabinet
GD Gas Drain	GD Gas Drain	GD Gas Drain
GL Gas Light	GL Gas Light	GL Gas Light
GU Gas Unit	GU Gas Unit	GU Gas Unit
HA Handrail	HA Handrail	HA Handrail
HB Handrail	HB Handrail	HB Handrail
HC Handrail	HC Handrail	HC Handrail
HD Handrail	HD Handrail	HD Handrail
HE Handrail	HE Handrail	HE Handrail
HF Handrail	HF Handrail	HF Handrail
HG Handrail	HG Handrail	HG Handrail
HH Handrail	HH Handrail	HH Handrail
HI Handrail	HI Handrail	HI Handrail
HO Handrail	HO Handrail	HO Handrail
HP Handrail	HP Handrail	HP Handrail
HR Handrail	HR Handrail	HR Handrail
HS Handrail	HS Handrail	HS Handrail
HT Handrail	HT Handrail	HT Handrail
HU Handrail	HU Handrail	HU Handrail
HV Handrail	HV Handrail	HV Handrail
HW Handrail	HW Handrail	HW Handrail
HX Handrail	HX Handrail	HX Handrail
HY Handrail	HY Handrail	HY Handrail
HZ Handrail	HZ Handrail	HZ Handrail
IA Intercom	IA Intercom	IA Intercom
IB Intercom	IB Intercom	IB Intercom
IC Intercom	IC Intercom	IC Intercom
ID Intercom	ID Intercom	ID Intercom
IE Intercom	IE Intercom	IE Intercom
IF Intercom	IF Intercom	IF Intercom
IG Intercom	IG Intercom	IG Intercom
IH Intercom	IH Intercom	IH Intercom
II Intercom	II Intercom	II Intercom
IO Intercom	IO Intercom	IO Intercom
IP Intercom	IP Intercom	IP Intercom
IR Intercom	IR Intercom	IR Intercom
IS Intercom	IS Intercom	IS Intercom
IT Intercom	IT Intercom	IT Intercom
IU Intercom	IU Intercom	IU Intercom
IV Intercom	IV Intercom	IV Intercom
IW Intercom	IW Intercom	IW Intercom
IX Intercom	IX Intercom	IX Intercom
IY Intercom	IY Intercom	IY Intercom
IZ Intercom	IZ Intercom	IZ Intercom
JA Junction	JA Junction	JA Junction
JB Junction	JB Junction	JB Junction
JC Junction	JC Junction	JC Junction
JD Junction	JD Junction	JD Junction
JE Junction	JE Junction	JE Junction
JF Junction	JF Junction	JF Junction
JG Junction	JG Junction	JG Junction
JH Junction	JH Junction	JH Junction
JI Junction	JI Junction	JI Junction
JO Junction	JO Junction	JO Junction
JP Junction	JP Junction	JP Junction
JR Junction	JR Junction	JR Junction
JS Junction	JS Junction	JS Junction
JT Junction	JT Junction	JT Junction
JU Junction	JU Junction	JU Junction
JV Junction	JV Junction	JV Junction
JW Junction	JW Junction	JW Junction
JX Junction	JX Junction	JX Junction
JY Junction	JY Junction	JY Junction
JZ Junction	JZ Junction	JZ Junction
KA Kitchen	KA Kitchen	KA Kitchen
KB Kitchen	KB Kitchen	KB Kitchen
KC Kitchen	KC Kitchen	KC Kitchen
KD Kitchen	KD Kitchen	KD Kitchen
KE Kitchen	KE Kitchen	KE Kitchen
KF Kitchen	KF Kitchen	KF Kitchen
KG Kitchen	KG Kitchen	KG Kitchen
KH Kitchen	KH Kitchen	KH Kitchen
KI Kitchen	KI Kitchen	KI Kitchen
KO Kitchen	KO Kitchen	KO Kitchen
KP Kitchen	KP Kitchen	KP Kitchen
KR Kitchen	KR Kitchen	KR Kitchen
KS Kitchen	KS Kitchen	KS Kitchen
KT Kitchen	KT Kitchen	KT Kitchen
KU Kitchen	KU Kitchen	KU Kitchen
KV Kitchen	KV Kitchen	KV Kitchen
KW Kitchen	KW Kitchen	KW Kitchen
KX Kitchen	KX Kitchen	KX Kitchen
KY Kitchen	KY Kitchen	KY Kitchen
KZ Kitchen	KZ Kitchen	KZ Kitchen
LA Land	LA Land	LA Land
LB Land	LB Land	LB Land
LC Land	LC Land	LC Land
LD Land	LD Land	LD Land
LE Land	LE Land	LE Land
LF Land	LF Land	LF Land
LG Land	LG Land	LG Land
LH Land	LH Land	LH Land
LI Land	LI Land	LI Land
LO Land	LO Land	LO Land
LP Land	LP Land	LP Land
LR Land	LR Land	LR Land
LS Land	LS Land	LS Land
LT Land	LT Land	LT Land
LU Land	LU Land	LU Land
LV Land	LV Land	LV Land
LW Land	LW Land	LW Land
LX Land	LX Land	LX Land
LY Land	LY Land	LY Land
LZ Land	LZ Land	LZ Land
MA Main	MA Main	MA Main
MB Main	MB Main	MB Main
MC Main	MC Main	MC Main
MD Main	MD Main	MD Main
ME Main	ME Main	ME Main
MF Main	MF Main	MF Main
MG Main	MG Main	MG Main
MH Main	MH Main	MH Main
MI Main	MI Main	MI Main
MO Main	MO Main	MO Main
MP Main	MP Main	MP Main
MR Main	MR Main	MR Main
MS Main	MS Main	MS Main
MT Main	MT Main	MT Main
MU Main	MU Main	MU Main
MV Main	MV Main	MV Main
MW Main	MW Main	MW Main
MX Main	MX Main	MX Main
MY Main	MY Main	MY Main
MZ Main	MZ Main	MZ Main
NA Name	NA Name	NA Name
NB Name	NB Name	NB Name
NC Name	NC Name	NC Name
ND Name	ND Name	ND Name
NE Name	NE Name	NE Name
NF Name	NF Name	NF Name
NG Name	NG Name	NG Name
NH Name	NH Name	NH Name
NI Name	NI Name	NI Name
NO Name	NO Name	NO Name
NP Name	NP Name	NP Name
NR Name	NR Name	NR Name
NS Name	NS Name	NS Name
NT Name	NT Name	NT Name
NU Name	NU Name	NU Name
NV Name	NV Name	NV Name
NW Name	NW Name	NW Name
NX Name	NX Name	NX Name
NY Name	NY Name	NY Name
NZ Name	NZ Name	NZ Name
OA Object	OA Object	OA Object
OB Object	OB Object	OB Object
OC Object	OC Object	OC Object
OD Object	OD Object	OD Object
OE Object	OE Object	OE Object
OF Object	OF Object	OF Object
OG Object	OG Object	OG Object
OH Object	OH Object	OH Object
OI Object	OI Object	OI Object
OO Object	OO Object	OO Object
OP Object	OP Object	OP Object
OR Object	OR Object	OR Object
OS Object	OS Object	OS Object
OT Object	OT Object	OT Object
OU Object	OU Object	OU Object
OV Object	OV Object	OV Object
OW Object	OW Object	OW Object
OX Object	OX Object	OX Object
OY Object	OY Object	OY Object
OZ Object	OZ Object	OZ Object
PA Path	PA Path	PA Path
PB Path	PB Path	PB Path
PC Path	PC Path	PC Path
PD Path	PD Path	PD Path
PE Path	PE Path	PE Path
PF Path	PF Path	PF Path
PG Path	PG Path	PG Path
PH Path	PH Path	PH Path
PI Path	PI Path	PI Path
PO Path	PO Path	PO Path
PP Path	PP Path	PP Path
PR Path	PR Path	PR Path
PS Path	PS Path	PS Path
PT Path	PT Path	PT Path
PU Path	PU Path	PU Path
PV Path	PV Path	PV Path
PW Path	PW Path	PW Path
PX Path	PX Path	PX Path
PY Path	PY Path	PY Path
PZ Path	PZ Path	PZ Path
QA Quarry	QA Quarry	QA Quarry
QB Quarry	QB Quarry	QB Quarry
QC Quarry	QC Quarry	QC Quarry
QD Quarry	QD Quarry	QD Quarry
QE Quarry	QE Quarry	QE Quarry
QF Quarry	QF Quarry	QF Quarry
QG Quarry	QG Quarry	QG Quarry
QH Quarry	QH Quarry	QH Quarry
QI Quarry	QI Quarry	QI Quarry
QO Quarry	QO Quarry	QO Quarry
QP Quarry	QP Quarry	QP Quarry
QR Quarry	QR Quarry	QR Quarry
QS Quarry	QS Quarry	QS Quarry
QT Quarry	QT Quarry	QT Quarry
QU Quarry	QU Quarry	QU Quarry
QV Quarry	QV Quarry	QV Quarry
QW Quarry	QW Quarry	QW Quarry
QX Quarry	QX Quarry	QX Quarry
QY Quarry	QY Quarry	QY Quarry
QZ Quarry	QZ Quarry	QZ Quarry
RA Road	RA Road	RA Road
RB Road	RB Road	RB Road
RC Road	RC Road	RC Road
RD Road	RD Road	RD Road
RE Road	RE Road	RE Road
RF Road	RF Road	RF Road
RG Road	RG Road	RG Road
RH Road	RH Road	RH Road
RI Road	RI Road	RI Road
RO Road	RO Road	RO Road
RP Road	RP Road	RP Road
RR Road	RR Road	RR Road
RS Road	RS Road	RS Road
RT Road	RT Road	RT Road
RU Road	RU Road	RU Road
RV Road	RV Road	RV Road
RW Road	RW Road	RW Road
RX Road	RX Road	RX Road
RY Road	RY Road	RY Road
RZ Road	RZ Road	RZ Road
SA Sign	SA Sign	SA Sign
SB Sign	SB Sign	SB Sign
SC Sign	SC Sign	SC Sign
SD Sign	SD Sign	SD Sign
SE Sign	SE Sign	SE Sign
SF Sign	SF Sign	SF Sign
SG Sign	SG Sign	SG Sign
SH Sign	SH Sign	SH Sign
SI Sign	SI Sign	SI Sign
SO Sign	SO Sign	SO Sign
SP Sign	SP Sign	SP Sign
SR Sign	SR Sign	SR Sign
SS Sign	SS Sign	SS Sign
ST Sign	ST Sign	ST Sign
SU Sign	SU Sign	SU Sign
SV Sign	SV Sign	SV Sign
SW Sign	SW Sign	SW Sign
SX Sign	SX Sign	SX Sign
SY Sign	SY Sign	SY Sign
SZ Sign	SZ Sign	SZ Sign
TA Tarmac	TA Tarmac	TA Tarmac
TB Tarmac	TB Tarmac	TB Tarmac
TC Tarmac	TC Tarmac	TC Tarmac
TD Tarmac	TD Tarmac	TD Tarmac
TE Tarmac	TE Tarmac	TE Tarmac
TF Tarmac	TF Tarmac	TF Tarmac
TG Tarmac	TG Tarmac	TG Tarmac
TH Tarmac	TH Tarmac	TH Tarmac
TI Tarmac	TI Tarmac	TI Tarmac
TO Tarmac	TO Tarmac	TO Tarmac
TP Tarmac	TP Tarmac	TP Tarmac
TR Tarmac	TR Tarmac	TR Tarmac
TS Tarmac	TS Tarmac	TS Tarmac
TU Tarmac	TU Tarmac	TU Tarmac
TV Tarmac	TV Tarmac	TV Tarmac
TW Tarmac	TW Tarmac	TW Tarmac
TX Tarmac	TX Tarmac	TX Tarmac
TY Tarmac	TY Tarmac	TY Tarmac
TZ Tarmac	TZ Tarmac	TZ Tarmac
UA Underpass	UA Underpass	UA Underpass
UB Underpass	UB Underpass	UB Underpass
UC Underpass	UC Underpass	UC Underpass
UD Underpass	UD Underpass	UD Underpass
UE Underpass	UE Underpass	UE Underpass
UF Underpass	UF Underpass	UF Underpass
UG Underpass	UG Underpass	UG Underpass
UH Underpass	UH Underpass	UH Underpass
UI Underpass	UI Underpass	UI Underpass
UO Underpass	UO Underpass	UO Underpass
UP Underpass	UP Underpass	UP Underpass
UR Underpass	UR Underpass	UR Underpass
US Underpass	US Underpass	US Underpass
UT Underpass	UT Underpass	UT Underpass
UU Underpass	UU Underpass	UU Underpass
UV Underpass	UV Underpass	UV Underpass
UW Underpass	UW Underpass	UW Underpass
UX Underpass	UX Underpass	UX Underpass
UY Underpass	UY Underpass	UY Underpass
UZ Underpass	UZ Underpass	UZ Underpass
VA Valve	VA Valve	VA Valve
VB Valve	VB Valve	VB Valve
VC Valve	VC Valve	VC Valve
VD Valve	VD Valve	VD Valve
VE Valve	VE Valve	VE Valve
VF Valve	VF Valve	VF Valve
VG Valve	VG Valve	VG Valve
VH Valve	VH Valve	VH Valve
VI Valve	VI Valve	VI Valve
VO Valve	VO Valve	VO Valve
VP Valve	VP Valve	VP Valve
VQ Valve	VQ Valve	VQ Valve
VR Valve	VR Valve	VR Valve
VS Valve	VS Valve	VS Valve
VT Valve	VT Valve	VT Valve
VU Valve	VU Valve	VU Valve
VV Valve	VV Valve	VV Valve
VW Valve	VW Valve	VW Valve
VX Valve	VX Valve	VX Valve
VY Valve	VY Valve	VY Valve
VZ Valve	VZ Valve	VZ Valve
WA Wall	WA Wall	WA Wall
WB Wall	WB Wall	WB Wall
WC Wall	WC Wall	WC Wall
WD Wall	WD Wall	WD Wall
WE Wall	WE Wall	WE Wall
WF Wall	WF Wall	WF Wall
WG Wall	WG Wall	WG Wall
WH Wall	WH Wall	WH Wall
WI Wall	WI Wall	WI Wall
WO Wall	WO Wall	WO Wall
WP Wall	WP Wall	WP Wall
WQ Wall	WQ Wall	WQ Wall
WR Wall	WR Wall	WR Wall
WS Wall	WS Wall	WS Wall
WT Wall	WT Wall	WT Wall
WU Wall	WU Wall	WU Wall
WV Wall	WV Wall	WV Wall
WW Wall	WW Wall	WW Wall
WX Wall	WX Wall	WX Wall
WY Wall	WY Wall	WY Wall
WZ Wall	WZ Wall	WZ Wall
XA X-ray	XA X-ray	XA X-ray
XB X-ray	XB X-ray	XB X-ray
XC X-ray	XC X-ray	XC X-ray
XD X-ray	XD X-ray	XD X-ray
XE X-ray	XE X-ray	XE X-ray
XF X-ray	XF X-ray	XF X-ray
YG X-ray	YG X-ray	YG X-ray
YH X-ray	YH X-ray	YH X-ray
YI X-ray	YI X-ray	YI X-ray
YO X-ray	YO X-ray	YO X-ray
YP X-ray	YP X-ray	YP X-ray
YR X-ray	YR X-ray	YR X-ray
YS X-ray	YS X-ray	YS X-ray
YT X-ray	YT X-ray	YT X-ray
YU X-ray	YU X-ray	YU X-ray
YV X-ray	YV X-ray	YV X-ray
YW X-ray	YW X-ray	YW X-ray
YX X-ray	YX X-ray	YX X-ray
YY X-ray	YY X-ray	YY X-ray
YZ X-ray	YZ X-ray	YZ X-ray
ZA Zebra	ZA Zebra	ZA Zebra
ZB Zebra	ZB Zebra	ZB Zebra
ZC Zebra	ZC Zebra	ZC Zebra
ZD Zebra	ZD Zebra	ZD Zebra
ZE Zebra	ZE Zebra	ZE Zebra
ZF Zebra	ZF Zebra	ZF Zebra
ZG Zebra	ZG Zebra	ZG Zebra
ZH Zebra	ZH Zebra	ZH Zebra
ZI Zebra	ZI Zebra	ZI Zebra
ZO Zebra	ZO Zebra	ZO Zebra
ZP Zebra	ZP Zebra	ZP Zebra
ZR Zebra	ZR Zebra	ZR Zebra
ZS Zebra	ZS Zebra	ZS Zebra
ZT Zebra	ZT Zebra	ZT Zebra
ZU Zebra	ZU Zebra	ZU Zebra
ZV Zebra	ZV Zebra	ZV Zebra
ZW Zebra	ZW Zebra	ZW Zebra
ZX Zebra	ZX Zebra	ZX Zebra
ZY Zebra	ZY Zebra	ZY Zebra
ZZ Zebra	ZZ Zebra	ZZ Zebra

Symbology	Linetypes
Single Gate	Electric Overhead
Double Gate	Power Overhead
Banking	Fast Water
Step Up	Surface Water
Diameter shown in mm	Combined Water
Survey Station	Unknown Services
	Change of Surface
	Drop Kerb
	Fence
	Wall
	Kerb
	Building Face
	Overhead Canopy
	Trench Scar
	Tree Canopy
	Bushes/Foliage/Overgrowth
	Tree Canopy Layers

Trees

SPECIES ABBREVIATION		
AL Alder	HL Hemlock	RH Rhododendron
BE Beech	HO Holly	RO Rowan
CE Cedar	HZ Hazel	SAP Sapping
CH Cherry	LA Larch	SB Silver Birch
CON Coniferous	LB Laburnum	SCN Sweet Chestnut
CY Cypress	LM Lime	SHR Shrub
DE Dead	LO Locust	ST Stump
DEC Deciduous	LU Laurel	SY Sycamore
ED Elder	MA Maple	WB Whitebeam
EU Eucalyptus	MG Magnolia	WG Wellingtonia
FR Fruit	NS Norway Spruce	WI Willow
HA Hawthorn	PI Pine	WN Walnut
HB Hornbeam	PO Poplar	
HC Horse Chestnut	PL Plane	

- NOTES:
1. The tree species have been identified to the best of the surveyors knowledge. They have not been verified by an arborist and are not guaranteed. If they are important they should be verified.
 2. Tree heights are estimated.
 3. A CAD layer exists with the full tree canopies intact which is turned off.
 4. Trees with bole diameters below the specified minimum size may not have been surveyed.
 5. Multibole sizes are indicative.

SURVEY STATIONS			
Name	Easting	Northing	Height
15TN	512337.828	182228.316	31.501
25TN	512307.727	182266.578	31.929
25TN	512326.174	182267.229	31.565
26TN	512325.769	182330.642	31.085

CLIENT

Ensafe Consultants

SITE
Land East of Broadmead Road
And South of Ballinger Way
Northolt, UB5 6FA

DRAWING TITLE

Topographical Survey

PROJECT NUMBER	DRAWING NUMBER	DATE
SP21382	SD21382-01	May 21
SURVEYED BY	DRAWN BY	CHECKED BY
LH	LH	AB
SCALE	SHEET SIZE	SHEET
1:100	A1	1 OF 2



Technics Group
Technics House
Marrow Business Park
Guildford
Surrey, GU4 7WA</

1. The survey grid is a local grid, coincident with Ordnance Survey National Grid at 28.25N.
2. Surveyed boundary features are not necessarily legal boundaries.
3. Dimensions should not be scaled. All dimensions should be checked on site before any fabrication / construction.
4. All data provided to the contractor shall remain the property of Technics Group unless otherwise specifically agreed.
5. Information provided should not be altered or modified in any way. It should not be used for any purpose other than for which it was provided and should not be issued to other parties without prior agreement of Technics Group.
6. Technics Group cannot accept responsibility for any damage to or loss of any data provided as a result from viruses which may be contained in the data provided.
7. If the AutoCAD drawing is being read by any system other than AutoCAD it should be checked against a hard copy. Technics Group cannot accept responsibility for any damage or loss of data as a result of any system other than AutoCAD.
8. External axes levels are surveyed to lowest tide position.

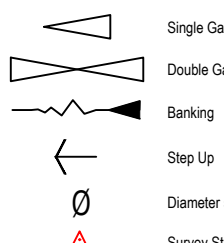
Level Datum

ALL LEVELS ARE ORTHOMETRIC HEIGHTS RELATED TO OSGM15
GPS DATUM, COMPUTED USING LEICA SMARTNET RTK NETWORK

Topo Key

[illegible]

Symbology



Linetypes

Telecom Overhead	Telecom Overhead
Power Overhead	Power Overhead
Foul Water	Foul Water
Surface Water	Surface Water
Combined Water	Combined Water
Unknown Services	Unknown Services
Change of Surface	Change of Surface
Drop Kerb	Drop Kerb
Fence	Fence
Wall	Wall
Kerb	Kerb
Building Face	Building Face
Overhead Feature	Overhead Feature
Trench Scar	Trench Scar
Tree Canopy	Tree Canopy
Business Foliage/Overgrowth	Business Foliage/Overgrowth
Tree Canopy Extents	Tree Canopy Extents

Trees

SPECIES ABBREVIATION					
AL	Alder	HL	Hemlock	RH	Rhododendron
BE	Beech	HO	Holly	RO	Rowan
CE	Cedar	HZ	Hazel	SAP	Sapling
CH	Cherry	LA	Larch	SB	Silver Birch
CO	Cornus	LU	Luturnum	SCN	Sweet Chestnut
CY	Cypress	LM	Lim	SHR	Shrub
DE	Dead	LO	Locust	ST	Stump
DEC	Deciduous	LU	Laurel	SY	Sycamore
EL	Elm	MA	Maple	US	Whitebeam
EU	Eucalyptus	MG	Magnolia	WG	Wellingtonia
FR	Fruit	NS	Nowhere Spruce	WI	Willow
HA	Hawthorn	PI	Pine	WN	Walnut
HB	Hornbeam	PL	Poplar		
HC	Horse Chestnut	PL	Pine		

NOTES:

1. The tree species have been identified to the best of the surveyors knowledge. They have not been verified by an arborist and are not guaranteed. If they are important they should be verified.
2. Tree heights are estimated.
3. A CAD layer exists with the full tree canopies intact which is turned off.
4. Trees with bole diameters below the specified minimum size may not have been surveyed.
5. Multiple sizes are indicative.

SURVEY STATIONS			
Name	Easting	Northing	Height
1STN	512337.828	182293.316	31.501
25TN	512307.727	182266.578	31.929
2ASTN	512296.174	182297.225	31.155
2BSTN	512325.769	182330.642	31.085

CLIENT

Ensafe Consultants

SITE
Land East of Broadmead Road
And South of Ballinger Way
Northolt, UB5 6FA

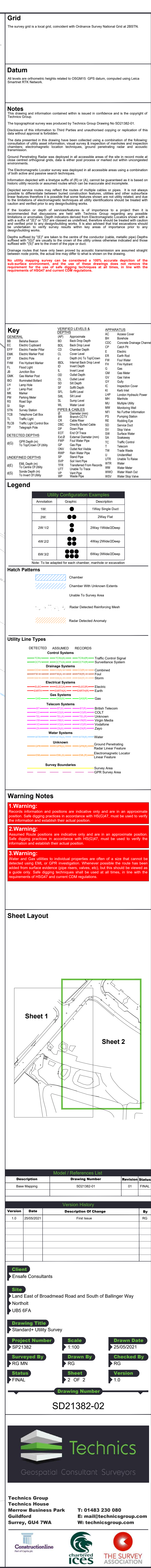
DRAWING TITLE
Topographical Survey

PROJECT NUMBER	DRAWING NUMBER	DATE
SP21382	SD21382-01	May 21
SURVEYED BY	DRAWN BY	CHECKED BY
LH	LH	AB
SCALE	SHEET SIZE	SHEET
1:100	A1	2 OF 2



Technics Group
Technics House
Merrrow Business Park
Guildford
Surrey, GU4 7WA

T: 01483 230 080
E: mail@technicsgroup.com
W: technicsgroup.com



KEY:



-  Window sample location
-  Trial Pit Location
-  Earth Mound Location. See stockpile sketches for trial pit locations on these
-  Locations of fly tipped waste stockpiles

The client must not amend any drawing, design or other intellectual property produced by Ensaf Consultants Ltd, without permission in writing from Ensaf Consultants Ltd in advance of any being made.

In the event that such written permission is not obtained in advance of the amendments being made, Ensaf Consultants Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or other intellectual property.



Ensaf Consultants Ltd
Capital Business Centre,
22 Carlton Road,
South Croydon, CR2 0BS

t + 44 2034 788076
info@ensaf.co.uk

Job No. & Title:

G45981
Grand Union School

Client:

ISG Ltd

Drawn by:

MR

Approved by:

PT

Date:

May 2021

Notes:

NOT TO SCALE

Drawing Title:

G45981-003
Exploratory Hole
Location Plan

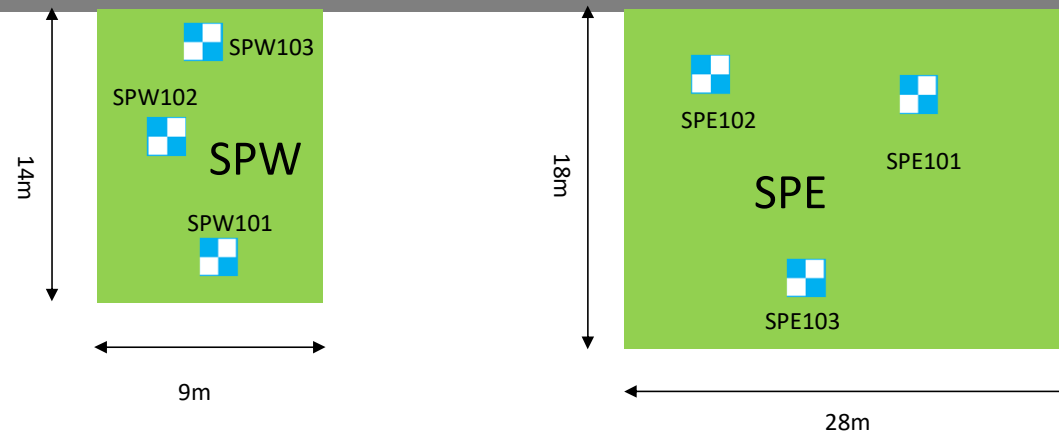
KEY:



Trial Pit Location

Stockpiles Plan View

Hardstanding (roadway)



The client must not amend any drawing, design or other intellectual property produced by Ensaf Consultants, without permission in writing from Ensaf Consultants in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, Ensaf Consultants shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or other intellectual property.



Ensaf Consultants
Capital Business Centre,
22 Carlton Road,
South Croydon, CR2 0BS

t + 44 2034 788076
ensaf.co.uk

Job No. & Title:

G45981
Grand Union School

Client:

ISG Ltd

Drawn by:

MR

Approved by:

PT

Date:

May 2021

Notes:

Not to Scale

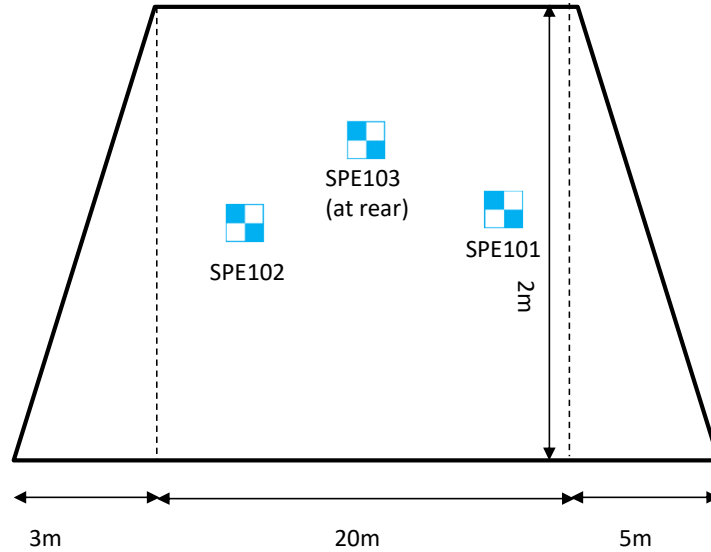
Drawing Title:

G45981-004a
Earth Mound Plans – Plan
view

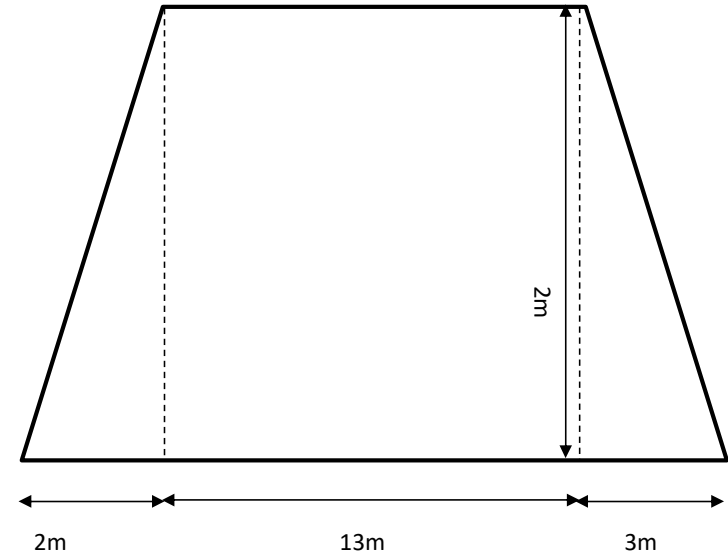
KEY:

 Trial Pit Location

SPE Side View facing south



SPE End View facing west



The client must not amend any drawing, design or other intellectual property produced by Ensaf Consultants, without permission in writing from Ensaf Consultants in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, Ensaf Consultants shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or other intellectual property.



Ensaf Consultants
Capital Business Centre,
22 Carlton Road,
South Croydon, CR2 0BS

t + 44 2034 788076
ensaf.co.uk

Job No. & Title:

G45981
Grand Union School

Client:

ISG Ltd

Drawn by: MR

Approved by: PT

Date: May 2021

Notes:

Not to Scale

Drawing Title:

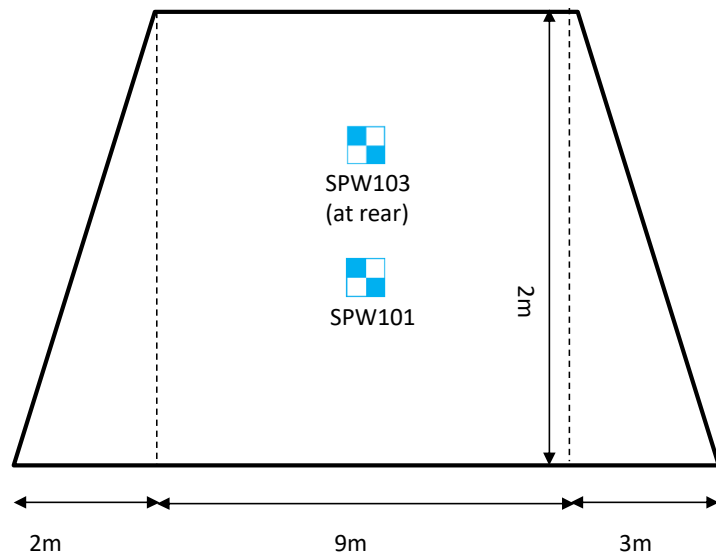
G45981-003b
Earth Mound Plans – SPE
Side views

KEY:

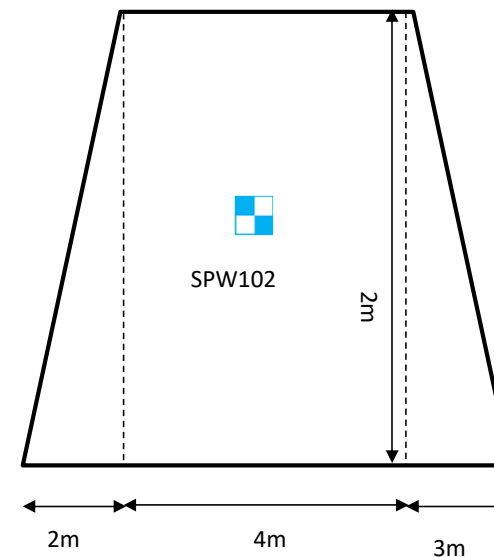


Trial Pit Location

SPW Side View facing north



SPW End View facing east



The client must not amend any drawing, design or other intellectual property produced by Ensaf Consultants, without permission in writing from Ensaf Consultants in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, Ensaf Consultants shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or other intellectual property.



Ensaf Consultants
Capital Business Centre,
22 Carlton Road,
South Croydon, CR2 0BS

t + 44 2034 788076
ensaf.co.uk

Job No. & Title:

G45981
Grand Union School

Client:

ISG Ltd

Drawn by:

MR

Approved by:

PT

Date:

May 2021

Notes:

Not to Scale

Drawing Title:

G45981-003c
Earth Mound Plans – SPW
Side views

APPENDIX IV - PHOTOGRAPHS

APPENDIX V – PHOTOGRAPHS



PHOTO 1: Overview of the western boundary of the site looking north.



PHOTO 2: Overview of the site facing north east. The fly tipped waste pile was the target for trial pit location FTTP101.



PHOTO 3: Fly tipped waste pile which was the target for trial pit FFTP102.



PHOTO 4: Empty steel barrel within the fly tipped waste area.



PHOTO 5: Southern boundary of the site. The mound on the right is not included within the site area. The mounds on the left are the earth mounds within the site.



PHOTO 6: Discarded gas bottles and scrap metal between the earth mounds SPW and SPE.



PHOTO 7: East of the site within the hoarded area facing north.



PHOTO 8: Eastern area of the site outside the hoarded area facing south.



PHOTO 9: View along earth mound SPE.



PHOTO 10: View into trial pit SPE101.



PHOTO 11: Stockpile of arisings from SPE101.



PHOTO 12: View along earth mound SPW.



PHOTO 13: View into trial pit SPW102.



PHOTO 14: Stockpile of arisings from SPW102.



PHOTO 15: FFTP102 with respect to the empty steel barrel.



PHOTO 16: View into trial pit FFTP102.

APPENDIX V – EXPLORATORY HOLE LOGS

APPENDIX V – EXPLORATORY HOLE LOGS

   			Trial Pit Log			Borehole No. FTTP101 Sheet 1 of 1			
Project Name: Grand Union Village School			Proj. ID: G45981		Easting: Northing:		Hole Type TP		
Location: Broadmead Road, Northolt, UB5 6FA			Plant: CAT432F2		Level (m AOD): Final Depth (m): 0.60		Scale: 1:20		
Client: ISG Ltd			Crew: Lynch Plant Hire		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: MR		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	PID	PID=0	0.60			Dry and friable brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse flint, brick, concrete ceramic and breezeblock. [MADE GROUND]	
								End of Borehole at 0.60m	
									1
									2
									3
									4
Remarks: Location cleared for buried services using a Cable Avoidance Tool [CAT]. Location Terminated at target depth. No groundwater encountered. Backfilled with arisings in reverse order and compacted in layers upon completion. Stability: Stable							Pit Dimensions Length: 1.60 Width: 0.60 Depth: 0.60		

   			Trial Pit Log			Borehole No. FTTP102 Sheet 1 of 1			
Project Name: Grand Union Village School			Proj. ID: G45981		Easting: Northing:		Hole Type TP		
Location: Broadmead Road, Northolt, UB5 6FA			Plant: CAT432F2		Level (m AOD): Final Depth (m): 0.60		Scale: 1:20		
Client: ISG Ltd			Crew: Lynch Plant Hire		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: MR		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	PID	PID=0				Dry and friable slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse flint, brick and concrete. [MADE GROUND]	
		0.40	PID	PID=0	0.40			Blueish grey slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse flint, brick, asphalt and wood. Slight hydrocarbon odour throughout. [MADE GROUND]	
					0.60			End of Borehole at 0.60m	
									1
									2
									3
									4
Remarks: Location cleared for buried services using a Cable Avoidance Tool [CAT]. Location Terminated at target depth. No groundwater encountered. Backfilled with arisings in reverse order and compacted in layers upon completion. Stability: Stable							Pit Dimensions Length: 1.60 Width: 0.60 Depth: 0.60		

   			Trial Pit Log			Borehole No. SPE101 Sheet 1 of 1			
Project Name: Grand Union Village School			Proj. ID: G45981		Easting: Northing:		Hole Type TP		
Location: Broadmead Road, Northolt, UB5 6FA			Plant: CAT432F2		Level (m AOD): Final Depth (m): 0.60		Scale: 1:20		
Client: ISG Ltd			Crew: Lynch Plant Hire		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: MR		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30	PID	PID=0	0.60			Vegetation over brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse flint, brick, ceramic, wood, plastic textile and slate. [MADE GROUND]	
								End of Borehole at 0.60m	
									1
									2
									3
									4
Remarks: Trial pit located on an earth mound and therefore all depths are with respect to the surface of the mound. Location backfilled with arisings in reverse order and made safe upon completion.							Pit Dimensions Length: 1.60 Width: 0.60 Depth: 0.60		
Stability: Stable									

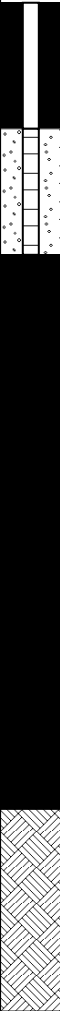
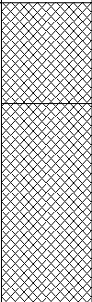
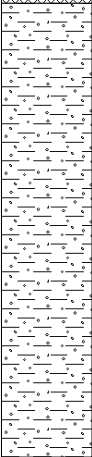
   			Trial Pit Log			Borehole No. SPE102 Sheet 1 of 1			
Project Name: Grand Union Village School			Proj. ID: G45981		Easting: Northing:		Hole Type TP		
Location: Broadmead Road, Northolt, UB5 6FA			Plant: CAT432F2		Level (m AOD): Final Depth (m): 0.60		Scale: 1:20		
Client: ISG Ltd			Crew: Lynch Plant Hire		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: MR		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30	PID	PID=0	0.60			Vegetation over brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse flint, brick, ceramic, wood, plastic, textile and slate with occasional whole bricks and glass bottles. [MADE GROUND]	
								End of Borehole at 0.60m	
									1
									2
									3
									4
Remarks: Trial pit located on an earth mound and therefore all depths are with respect to the surface of the mound. Location backfilled with arisings in reverse order and made safe upon completion.							Pit Dimensions Length: 1.60 Width: 0.60 Depth: 0.60		
Stability: Stable									

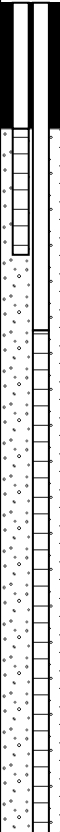
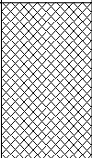
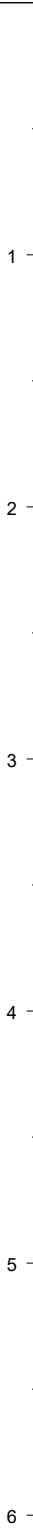
   			Trial Pit Log			Borehole No. SPE103 Sheet 1 of 1			
Project Name: Grand Union Village School			Proj. ID: G45981		Easting: Northing:		Hole Type TP		
Location: Broadmead Road, Northolt, UB5 6FA			Plant: CAT432F2		Level (m AOD): Final Depth (m): 0.80		Scale: 1:20		
Client: ISG Ltd			Crew: Lynch Plant Hire		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: MR		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	PID	PID=0	0.80			Vegetation over brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse flint, brick, concrete, plastic, ceramic, textile, wood and glass. [MADE GROUND]	
								End of Borehole at 0.80m	
									1
									2
									3
									4
Remarks: Trial pit located on an earth mound and therefore all depths are with respect to the surface of the mound. Location backfilled with arisings in reverse order and made safe upon completion.							Pit Dimensions Length: 1.60 Width: 0.60 Depth: 0.80		
Stability: Stable									

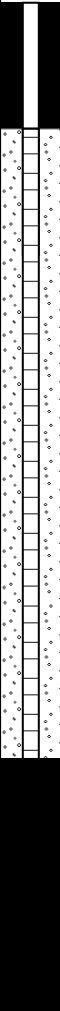
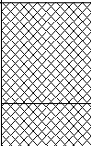
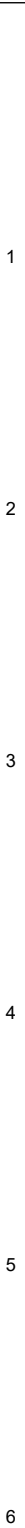
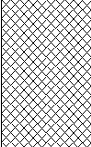
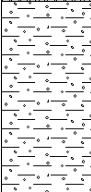
   			Trial Pit Log			Borehole No. SPW101 Sheet 1 of 1			
Project Name: Grand Union Village School			Proj. ID: G45981		Easting: Northing:		Hole Type TP		
Location: Broadmead Road, Northolt, UB5 6FA			Plant: CAT432F2		Level (m AOD): Final Depth (m): 0.80		Scale: 1:20		
Client: ISG Ltd			Crew: Lynch Plant Hire		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: MR		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.40	PID	PID=0	0.80			Vegetation over brown slightly clayey sandy GRAVEL. Sand is angular to rounded, fine to coarse flint, brick, concrete, textile, plastic, glass and ceramic. [MADE GROUND]	
								End of Borehole at 0.80m	
									1
									2
									3
									4
Remarks: Trial pit located on an earth mound and therefore all depths are with respect to the surface of the mound. Location backfilled with arisings in reverse order and made safe upon completion.							Pit Dimensions Length: 1.60 Width: 0.60 Depth: 0.80		
Stability: Stable									

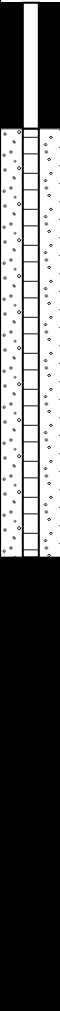
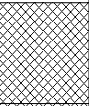
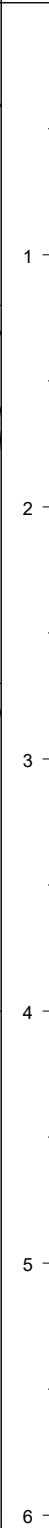
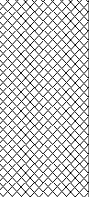
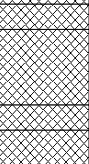
   			Trial Pit Log			Borehole No. SPW102 Sheet 1 of 1			
Project Name: Grand Union Village School			Proj. ID: G45981		Easting: Northing:		Hole Type TP		
Location: Broadmead Road, Northolt, UB5 6FA			Plant: CAT432F2		Level (m AOD): Final Depth (m): 0.60		Scale: 1:20		
Client: ISG Ltd			Crew: Lynch Plant Hire		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: MR		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30	PID	PID=0	0.60			Vegetation over brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse flint, brick, concrete, breezeblock, glass, plastic and textile. [MADE GROUND]	
								End of Borehole at 0.60m	
									1
									2
									3
									4
Remarks: Trial pit located on an earth mound and therefore all depths are with respect to the surface of the mound. Location backfilled with arisings in reverse order and made safe upon completion.							Pit Dimensions Length: 1.60 Width: 0.60 Depth: 0.60		
Stability: Stable									

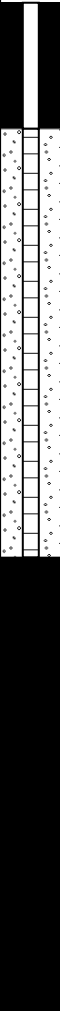
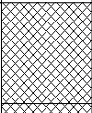
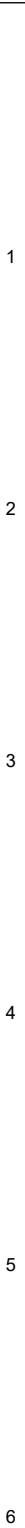
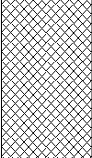
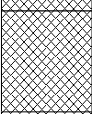
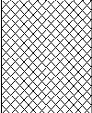
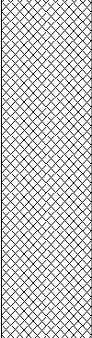
   			Trial Pit Log			Borehole No. SPW103 Sheet 1 of 1			
Project Name: Grand Union Village School			Proj. ID: G45981		Easting: Northing:		Hole Type TP		
Location: Broadmead Road, Northolt, UB5 6FA			Plant: CAT432F2		Level (m AOD): Final Depth (m): 0.60		Scale: 1:20		
Client: ISG Ltd			Crew: Lynch Plant Hire		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: MR		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.40	PID	PID=0	0.60			Dry and friable brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse flint, brick, concrete and glass. [MADE GROUND]	
								End of Borehole at 0.60m	
									1
									2
									3
									4
Remarks: Trial pit located on an earth mound and therefore all depths are with respect to the surface of the mound. Location backfilled with arisings in reverse order and made safe upon completion.							Pit Dimensions Length: 1.60 Width: 0.60 Depth: 0.60		
Stability: Stable									

   			Borehole Log			Borehole No. WS101 Sheet 1 of 1			
Project Name: Grand Union Village School			Proj. ID: G45981		Easting: Northing:		Hole Type WS		
Location: Broadmead Road, Northolt, UB5 6FA			Plant: DANDO TERRIER		Level (m AOD): Final Depth (m): 4.00		Scale: 1:30		
Client: ISG Ltd			Crew: OAKLAND SITE INVESTIGATION LTD		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: BR		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.20	ES1		0.40		Grass over dry and friable dark brown slightly sandy gravelly CLAY with frequent roots and rootlets. Sand is fine to coarse. Gravel is angular to rounded fine to coarse flint, brick, glass, ceramic, rubber, concrete and asphalt. [MADE GROUND]	1	
		0.40 - 0.50	ES2				Soft dark brown mottled grey slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to sub-rounded flint, brick, ceramic and asphalt. [MADE GROUND]		
							Soft dark brown mottled orangish brown and black slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to sub-angular flint, brick and glass. [MADE GROUND]		
							Reddish brown sandy GRAVEL. Sand is fine to coarse. Gravel is angular to sub-angular fine coarse brick, flint, ceramic and asphalt. [MADE GROUND] <i>Casing from ground level to 2.20mbgl.</i>		
		2.30 - 2.40	ES3		2.20		Stiff light brown mottled grey CLAY. [LONDON CLAY FORMATION]	2	
					4.00		End of Borehole at 4.00m	4	
								5	
								6	
Remarks: Location cleared for services using Cable Avoidance Tool. Inspection pit hand excavated to 1.20mbgl to clear for shallow services. Groundwater striked encountered at 1.20mbgl. 50mm internal diameter ground gas monitoring standpipe installed to 1.00mbgl and finished with flush cover set in concrete.									

   		Borehole Log			Borehole No. WS102 Sheet 1 of 1				
Project Name: Grand Union Village School		Proj. ID: G45981		Easting: Northing:		Hole Type WS			
Location: Broadmead Road, Northolt, UB5 6FA		Plant: DANDO TERRIER		Level (m AOD): Final Depth (m): 4.00		Scale: 1:30			
Client: ISG Ltd		Crew: OAKLAND SITE INVESTIGATION LTD		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: BR			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.20	ES1		0.65			Grass over dry and friable dark brown slightly sandy gravelly CLAY with frequent roots and rootlets and low cobble content. Sand is fine to coarse. Gravel is angular to sub-rounded fine to coarse flint, brick, concrete and asphalt. Cobbles are angular to sub-angular brick and flint. [MADE GROUND]	
		0.70 - 0.80	ES2					Stiff light brown mottled yellowish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded fine to coarse flint, brick and concrete. [MADE GROUND]	
		1.50 - 1.60	ES3					Black pseudo fibrous PEAT. [MADE GROUND]	
								Red slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick. [MADE GROUND]	
		3.30 - 3.40	ES4					Stiff brown mottled yellowish brown and grey CLAY. [LONDON CLAY FORMATION]	
					4.00			End of Borehole at 4.00m	
Remarks: Location cleared for services using Cable Avoidance Tool. Inspection pit hand excavated to 1.20mbgl to clear for shallow services. Groundwater strike encountered at 1.20mbgl. 50mm internal diameter ground gas monitoring standpipe installed to 1.10mbgl and ground gas monitoring standpipe installed to 3.30mbgl and finished with flush cover set in concrete.									

   		Borehole Log			Borehole No. WS103 Sheet 1 of 1				
Project Name: Grand Union Village School		Proj. ID: G45981		Easting: Northing:		Hole Type WS			
Location: Broadmead Road, Northolt, UB5 6FA		Plant: DANDO TERRIER		Level (m AOD): Final Depth (m): 4.00		Scale: 1:30			
Client: ISG Ltd		Crew: OAKLAND SITE INVESTIGATION LTD		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: BR			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40		 Grass over dry and friable dark brown slightly sandy gravelly CLAY with medium cobble content and frequent roots and rootlets. Sand is fine to coarse angular to sub-rounded flint, brick, asphalt, concrete, plastic sheeting, ceramic and glass. Cobbles are angular to sub-angular brick and concrete. [MADE GROUND]		
							 Soft dark brown slightly sandy very gravelly CLAY with medium cobble content. Sand is fine to coarse. Gravel is angular to rounded fine to coarse flint, brick, ceramic, asphalt, rare glass, concrete and fragments of asbestos. Cobbles are angular to sub-angular brick, concrete and flint. [MADE GROUND] <i>Between 1.20mbgl and 2.00mbgl: gravelly.</i>		
					2.00		 Soft dark greyish brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse flint. [MADE GROUND]		
					2.50		 Stiff orangish brown mottled grey slightly gravelly CLAY. Gravel is angular to sub-angular fine to medium flint. [MADE GROUND]		
					3.00		 Red sandy GRAVEL. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick. [MADE GROUND]		
					3.20		 Stiff slightly gravelly CLAY. Gravel is fine to coarse angular flint. [LONDON CLAY FORMATION]		
					4.00		End of Borehole at 4.00m		
Remarks: Location cleared for services using Cable Avoidance Tool. Inspection pit hand excavated to 1.20mbgl to clear for shallow services. No groundwater encountered. 50mm internal diameter ground gas monitoring standpipe installed to 3.00mbgl and finished with flush cover set in concrete.									

   		Borehole Log			Borehole No. WS104 Sheet 1 of 1				
Project Name: Grand Union Village School		Proj. ID: G45981		Easting: Northing:		Hole Type WS			
Location: Broadmead Road, Northolt, UB5 6FA		Plant: DANDO TERRIER		Level (m AOD): Final Depth (m): 4.00		Scale: 1:30			
Client: ISG Ltd		Crew: OAKLAND SITE INVESTIGATION LTD		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: BR			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40		 Grass over dry and friable slightly sandy gravelly CLAY with frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse angular to sub-rounded flint, brick, plastic, ceramic, concrete, glass, polystyrene, wood and metal. [MADE GROUND]		
					1.20 1.30		 Soft dark brown and black slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to sub-rounded flint, brick, concrete, metal and asphalt. [MADE GROUND]		
					1.60 1.70		 Firm to stiff light brown slightly sandy CLAY. Sand is fine to coarse. [MADE GROUND]		
							 Dark brown mottled orangish brown slightly sandy clayey GRAVEL. Sand is fine to coarse. Gravel is fine to coarse angular to subangular brick, flint, charcoal, coal and rare glass. [MADE GROUND]		
							 Red and black sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse angular to sub-angular brick, flint, coal and charcoal. [MADE GROUND]		
							 Stiff greyish brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to sub-rounded flint. [MADE GROUND]		
							 ..From 2.00mbgl: orangish brown mottled grey.		
							 Grey mottled orangish brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to rounded fine to medium flint. [MADE GROUND]		
							 Stiff light brown mottled orangish brown and grey slightly sandy CLAY. Sand is fine to medium. [LONDON CLAY FORMATION]		
						4.00			End of Borehole at 4.00m
Remarks: Location cleared for services using Cable Avoidance Tool. Inspection pit hand excavated to 1.20mbgl to clear for shallow services. No groundwater encountered. 50mm ground gas monitoring standpipe installed to 2.70mbgl and finished with a flust cover set in concrete. Borehole backfilled with arisings in reverse order and made safe upon completion.									

   			Borehole Log			Borehole No. WS105 Sheet 1 of 1			
Project Name: Grand Union Village School			Proj. ID: G45981		Easting: Northing:		Hole Type WS		
Location: Broadmead Road, Northolt, UB5 6FA			Plant: DANDO TERRIER		Level (m AOD): Final Depth (m): 4.00		Scale: 1:30		
Client: ISG Ltd			Crew: OAKLAND SITE INVESTIGATION LTD		Start Date: 27/05/2021 End Date: 27/05/2021		REC Engineer: BR		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40			Grass over slightly sandy gravelly CLAY with high cobble content and frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse angular to sub-angular flint, brick, concrete and asphalt. Cobbles are angular to sub-angular brick and concrete. [MADE GROUND]	
					1.10			Soft to firm dark brown slightly sandy gravelly CLAY with medium cobble content with occasional organic material. Sand is fine to coarse. Gravel is angular to rounded fine to coarse flint, brick, concrete, breezeblock and charcoal. [MADE GROUND] <i>At 0.80mbgl: metal rebar.</i>	
					1.50			Firm dark grey slightly sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, flint, concrete and charcoal. Cobbles are angular to sub-angular brick and concrete. [MADE GROUND]	
								Red sandy GRAVEL. Sand is fine to coarse. Gravel is angular to sub-angular brick. [MADE GROUND]	
					3.30			Stiff light brown mottled orangish brown and grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to sub-rounded flint. [LONDON CLAY FORMATION]	
					4.00			End of Borehole at 4.00m	
Remarks: Location cleared for services using Cable Avoidance Tool. Inspection pit hand excavated to 1.20mbgl to clear for shallow services. Groundwater strike encountered at 1.50mbgl. 50mm internal ground gas monitoring standpipe installed to 2.20mbgl and finished with flush cover set in concrete.									

APPENDIX VI – CHEMICAL ANALYSIS

APPENDIX VI – CHEMICAL ANALYSIS

Marc Roberts
 Ensaf Consultants
 Capital Business Centre,
 22 Carlton Road, South Croydon
 CR2 0BS

i2 Analytical Ltd.
 7 Woodshots Meadow,
 Croxley Green
 Business Park,
 Watford,
 Herts,
 WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: mroberts@ensafe.co.uk

Analytical Report Number : 21-78470

Replaces Analytical Report Number: 21-78470, issue no. 2
 Additional analysis undertaken.

Project / Site name:	Grand Union School	Samples received on:	27/05/2021
Your job number:	G45981	Samples instructed on/ Analysis started on:	01/06/2021
Your order number:	000108	Analysis completed by:	15/06/2021
Report Issue Number:	3	Report issued on:	15/06/2021
Samples Analysed:	2 bulk samples - 7 soil samples		

Signed:

Izabela Wójcik

Izabela Wójcik
 Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
 leachates - 2 weeks from reporting
 waters - 2 weeks from reporting
 asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
 Application of uncertainty of measurement would provide a range within which the true result lies.
 An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 21-78470
Project / Site name: Grand Union School
Your Order No: 000108

Lab Sample Number				1889465	1889466	1889467	1889468	1889469
Sample Reference				FTTP101	FTTP102	FTTP102	SPW102	SPW103
Sample Number				1	1	2	1	1
Depth (m)				0.50-0.60	0.20-0.30	0.40-0.50	0.30-0.40	0.40-0.50
Date Sampled				27/05/2021	27/05/2021	27/05/2021	27/05/2021	27/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	19	17	8.9	13
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2	1.2	1.2

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite	Chrysotile	Chrysotile	Chrysotile	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	0.003	< 0.001	< 0.001
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	< 0.001	< 0.001	0.003	< 0.001	< 0.001

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.7	8.5	8.4	9.6	9.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	540	970	350	860	350
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.27	0.48	0.17	0.43	0.17
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	269	483	173	428	174
Organic Matter	%	0.1	MCERTS	3.4	1.0	2.7	1.5	1.1
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.020	0.0058	0.015	0.0086	0.0061

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
----------------------------	-------	---	--------	-------	-------	-------	-------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.92	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.40	< 0.05	0.38	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	2.9	< 0.05	1.4	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	2.8	< 0.05	1.0	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	29	0.65	14	0.70	0.30
Anthracene	mg/kg	0.05	MCERTS	8.0	0.21	3.6	0.23	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	36	1.6	27	2.2	0.86
Pyrene	mg/kg	0.05	MCERTS	30	1.4	21	2.1	0.84
Benzo(a)anthracene	mg/kg	0.05	MCERTS	18	0.99	19	1.3	0.58
Chrysene	mg/kg	0.05	MCERTS	12	0.74	14	1.3	0.55
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	21	1.2	25	2.1	0.68
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	5.7	0.49	10	0.83	0.35
Benzo(a)pyrene	mg/kg	0.05	MCERTS	16	1.0	20	1.9	0.67
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	8.8	0.61	13	1.2	0.35
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	2.4	< 0.05	3.6	0.30	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	8.9	0.71	13	1.4	0.44

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	203	9.66	186	15.5	5.62
-----------------------------	-------	-----	--------	-----	------	-----	------	------

Analytical Report Number: 21-78470
Project / Site name: Grand Union School
Your Order No: 000108

Lab Sample Number				1889465	1889466	1889467	1889468	1889469
Sample Reference				FTTP101	FTTP102	FTTP102	SPW102	SPW103
Sample Number				1	1	2	1	1
Depth (m)				0.50-0.60	0.20-0.30	0.40-0.50	0.30-0.40	0.40-0.50
Date Sampled				27/05/2021	27/05/2021	27/05/2021	27/05/2021	27/05/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)								
	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	13	< 1.0	9.2	< 1.0	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	33	16	30	13	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	320	150	400	97	97
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	2.3	1.2	2.2	0.80	0.88
Boron (water soluble)	mg/kg	0.2	MCERTS	2.8	1.3	1.1	1.0	1.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.6	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	39	41	35	29	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	180	48	140	26	21
Lead (aqua regia extractable)	mg/kg	1	MCERTS	560	130	440	68	53
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	36	31	39	23	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	95	73	72	39	46
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	360	130	290	90	94

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	3.7	4.2	5.2	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	10	< 8.0	15	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	54	26	30	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	25	19	22	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	68	37	51	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	93	57	73	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	8.1	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	23	< 2.0	13	< 2.0	2.3
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	130	< 10	68	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	180	18	150	13	15
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	28	< 8.4	46	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	340	28	230	21	24
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	360	28	280	21	24

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-78470
Project / Site name: Grand Union School
Your Order No: 000108

Lab Sample Number				1889470	1889471
Sample Reference				SPE103	SPE101
Sample Number				1	1
Depth (m)				0.50-0.60	0.30-0.40
Date Sampled				27/05/2021	27/05/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	7.5	15
Total mass of sample received	kg	0.001	NONE	1.2	1.2

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile- Hard/Cement Type Material	Chrysotile- Hard/Cement Type Material
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	-	-
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	-	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.8	9.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	2700	2300
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.4	1.2
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	1360	1160
Organic Matter	%	0.1	MCERTS	2.9	3.8
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	0.017	0.022

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
----------------------------	-------	---	--------	-------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.60	1.2
Anthracene	mg/kg	0.05	MCERTS	0.22	0.40
Fluoranthene	mg/kg	0.05	MCERTS	2.7	4.3
Pyrene	mg/kg	0.05	MCERTS	2.7	4.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.9	2.8
Chrysene	mg/kg	0.05	MCERTS	1.6	2.4
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.1	4.5
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.95	1.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.7	3.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.6	1.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.46	0.54
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.0	2.4

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	20.6	29.2
-----------------------------	-------	-----	--------	------	------

Analytical Report Number: 21-78470
Project / Site name: Grand Union School
Your Order No: 000108

Lab Sample Number				1889470	1889471
Sample Reference				SPE103	SPE101
Sample Number				1	1
Depth (m)				0.50-0.60	0.30-0.40
Date Sampled				27/05/2021	27/05/2021
Time Taken				None Supplied	None Supplied

Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
---	--------------	---------------------------	---------------------------------	--	--

Heavy Metals / Metalloids					
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	6.7	11
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	130	140
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.83	0.81
Boron (water soluble)	mg/kg	0.2	MCERTS	3.4	2.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.9
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	35	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	35	47
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150	250
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	36	40
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	170	260

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	3.2
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	4.6
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	29
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	32	76
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	17	19
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	37	110
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	55	130

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	3.4	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	11
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	33	42
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	18	26
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	44	54
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	62	79

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 21-78470
Project / Site name: Grand Union School

Your Order No: 000108

Lab Sample Number				1889472	1894318
Sample Reference				WS103	WS103A
Sample Number				1	1
Depth (m)				0.60	0.60
Date Sampled				27/05/2021	27/05/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Bulk Analysis)	Units	Limit of detection	Accreditation Status		

Asbestos Identification	Type	N/A	ISO 17025	Chrysotile-Hard/Cement Type Material	No Asbestos Detected
-------------------------	------	-----	-----------	--------------------------------------	----------------------

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number **21-78470**

Project / Site name: **Grand Union School**

Your Order No: **000108**

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

"The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by Gravimetric (Stage 2) Method (%)	Asbestos by PCM (stage 3) Method (%)	Total % Asbestos in Sample
1889465	FTTP101	0.50	113	Loose Fibres	Amosite	< 0.001	< 0.001	< 0.001
1889466	FTTP102	0.20	105	Loose fibres	Chrysotile	< 0.001	< 0.001	< 0.001
1889467	FTTP102	0.40	104	Loose Fibrous Debris	Chrysotile	0.003	< 0.001	0.003
1889468	SPW102	0.30	119	Loose Fibres	Chrysotile	< 0.001	< 0.001	< 0.001
1889469	SPW103	0.40	102	Loose Fibres	Chrysotile	< 0.001	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

Analytical Report Number : 21-78470
Project / Site name: Grand Union School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1889465	FTTP101	1	0.50-0.60	Brown loam and clay with gravel and vegetation.
1889466	FTTP102	1	0.20-0.30	Brown clay and loam with gravel and vegetation.
1889467	FTTP102	2	0.40-0.50	Brown loam and clay with gravel.
1889468	SPW102	1	0.30-0.40	Brown clay and sand with gravel and vegetation.
1889469	SPW103	1	0.40-0.50	Brown clay and sand with gravel.
1889470	SPE103	1	0.50-0.60	Brown loam with gravel and vegetation.
1889471	SPE101	1	0.30-0.40	Brown loam with gravel and vegetation.

Analytical Report Number : 21-78470
Project / Site name: Grand Union School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE

Analytical Report Number : 21-78470
Project / Site name: Grand Union School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos Quantification - PCOM	Asbestos quantification by PCOM and fibre counting method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.



Marc Roberts
Ensafe Consultants
Capital Business Centre,
22 Carlton Road, South Croydon
CR2 0BS

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: mroberts@ensafe.co.uk

Analytical Report Number : 21-78473

Project / Site name:	Grand Union School	Samples received on:	27/05/2021
Your job number:	G45981	Samples instructed on/ Analysis started on:	01/06/2021
Your order number:	000108	Analysis completed by:	07/06/2021
Report Issue Number:	1	Report issued on:	07/06/2021
Samples Analysed:	4 10:1 WAC samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results								
Report No:	21-78473							
					Client: ENSAFE			
Location	Grand Union School							
Lab Reference (Sample Number)	1889483 / 1889484				Landfill Waste Acceptance Criteria			
					Limits			
Sampling Date	27/05/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	SPW102 1							
Depth (m)	0.30-0.40							
Solid Waste Analysis								
TOC (%)**	0.9				3%	5%	6%	
Loss on Ignition (%) **	3.0				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007				1	--	--	
Mineral Oil (mg/kg)	74				500	--	--	
Total PAH (WAC-17) (mg/kg)	15.5				100	--	--	
pH (units)**	8.2				--	>6	--	
Acid Neutralisation Capacity (mol / kg)	5.1				--	To be evaluated	To be evaluated	
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test			
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	0.0029			0.0264	0.5	2	25	
Barium *	0.0248			0.224	20	100	300	
Cadmium *	< 0.0001			< 0.0008	0.04	1	5	
Chromium *	0.0017			0.016	0.5	10	70	
Copper *	0.0095			0.086	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	0.0048			0.0429	0.5	10	30	
Nickel *	0.0037			0.033	0.4	10	40	
Lead *	0.0074			0.067	0.5	10	50	
Antimony *	< 0.0017			< 0.017	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.010			0.094	4	50	200	
Chloride *	3.0			28	800	15000	25000	
Fluoride	0.30			2.7	10	150	500	
Sulphate *	10			95	1000	20000	50000	
TDS*	70			640	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	11.6			105	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	1.2							
Dry Matter (%)	91							
Moisture (%)	8.9							
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					** = UKAS accredited (liquid eluate analysis only)			
Stated limits are for guidance only and I2 cannot be held responsible for any discrepancies with current legislation					** = MCFRTS accredited			

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.

This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.

This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results								
Report No:	21-78473							
					Client: ENSAFE			
Location	Grand Union School							
Lab Reference (Sample Number)	1889489 / 1889490				Landfill Waste Acceptance Criteria			
					Limits			
Sampling Date	27/05/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	SPE101 1							
Depth (m)	0.30-0.40							
Solid Waste Analysis								
TOC (%)**	2.2				3%	5%	6%	
Loss on Ignition (%) **	6.3				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007				1	--	--	
Mineral Oil (mg/kg)	78				500	--	--	
Total PAH (WAC-17) (mg/kg)	43.2				100	--	--	
pH (units)**	7.8				--	>6	--	
Acid Neutralisation Capacity (mol / kg)	2.5				--	To be evaluated	To be evaluated	
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test			
	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	0.0024			0.0190	0.5	2	25	
Barium *	0.0607			0.489	20	100	300	
Cadmium *	< 0.0001			< 0.0008	0.04	1	5	
Chromium *	0.0019			0.016	0.5	10	70	
Copper *	0.024			0.19	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	0.0026			0.0209	0.5	10	30	
Nickel *	0.0030			0.025	0.4	10	40	
Lead *	0.0024			0.019	0.5	10	50	
Antimony *	0.0093			0.075	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.014			0.11	4	50	200	
Chloride *	2.0			16	800	15000	25000	
Fluoride	0.32			2.6	10	150	500	
Sulphate *	1700			13000	1000	20000	50000	
TDS*	1000			8300	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	12.6			102	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	1.2							
Dry Matter (%)	85							
Moisture (%)	15							
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					** = UKAS accredited (liquid eluate analysis only)			
Stated limits are for guidance only and I2 cannot be held responsible for any discrepancies with current legislation					** = MCFRTS accredited			

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Analytical Report Number : 21-78473
Project / Site name: Grand Union School

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1889483	SPW102	1	0.30-0.40	Brown clay and sand with gravel and vegetation.
1889485	SPW103	1	0.40-0.50	Brown clay and sand with gravel.
1889487	SPE103	1	0.50-0.60	Brown loam with gravel and vegetation.
1889489	SPE101	1	0.30-0.40	Brown loam with gravel and vegetation.

Analytical Report Number : 21-78473
Project / Site name: Grand Union School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025

Analytical Report Number : 21-78473
Project / Site name: Grand Union School

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

APPENDIX VII – GROUND GAS & GROUNDWATER LEVELS

APPENDIX VII – GROUND GAS & GROUND WATER LEVELS

Table 8: Summary of Ground Gas & Ground Water Monitoring Results

Location	Date	CH ₄ Max %v/v	CH ₄ Steady %v/v	CO ₂ Max %v/v	CO ₂ Steady %v/v	O ₂ %v/v	Flow Max (l/hr)	Flow Steady (l/hr)	Atmospheric Pressure (mbar) and dynamic	Response Zone (mbgl)	Depth to Base (mbgl)	Depth to Water (mbgl)
WS101	03/06/2021	<0.1	<0.1	1.9	1.9	18.5	<0.1	<0.1	1013 (rising)	0.50-1.00	1.05	Borehole Dry
	10/06/2021	<0.1	<0.1	3.2	3.2	17.3	<0.1	<0.1	1019 (steady)		0.96	0.90
	17/06/2021	<0.1	<0.1	4.8	4.8	16.1	0.2	<0.1	1005 (rising)		0.96	Borehole Dry
	24/06/2021	<0.1	<0.1	6.7	6.7	7.0	0.3	0.1	1019		0.95	0.92
	01/07/2021	<0.1	<0.1	10.4	10.4	7.0	0.1	0.1	1014		1.02	Borehole Dry
	07/07/2021	<0.1	<0.1	13.7	13.7	1.2	0.1	<0.1	1003 (rising)		1.06	1.02
WS102 (deep)	03/06/2021	<0.1	<0.1	0.5	0.5	20.4	<0.1	<0.1	1018 (rising)	1.30 – 3.30	3.42	1.25
	10/06/2021	<0.1	<0.1	0.6	0.6	20.4	<0.1	<0.1	1019 (steady)		3.30	1.30
	17/06/2021	<0.1	<0.1	0.8	0.8	20.2	0.1	<0.1	1005 (rising)		3.30	1.40
	24/06/2021	<0.1	<0.1	0.6	0.6	19.8	<0.1	<0.1	1020		3.30	1.30
	01/07/2021	<0.1	<0.1	0.6	0.6	20.1	<0.1	<0.1	1014		3.30	1.30
	07/07/2021	<0.1	<0.1	0.9	0.9	17.3	1.6	1.2	1003 (rising)		3.30	1.21
WS102 (shallow)	03/06/2021	<0.1	<0.1	0.1	<0.1	20.8	<0.1	<0.1	1012 (rising)	0.00-0.50	0.50	Borehole Dry
	10/06/2021	<0.1	<0.1	0.3	0.3	20.7	0.3	<0.1	1018 (steady)		0.50	Borehole Dry
	17/06/2021	<0.1	<0.1	0.3	0.3	20.6	<0.1	<0.1	1005 (rising)		0.50	Borehole Dry
	24/06/2021	<0.1	<0.1	0.2	0.1	20.4	0.4	0.1	1021		0.50	Borehole Dry
	01/07/2021	<0.1	<0.1	0.2	0.2	20.1	<0.1	<0.1	1014		0.5	Borehole Dry
	07/07/2021	<0.1	<0.1	0.4	0.4	17.3	<0.1	<0.1	1003 (rising)		0.50	Borehole Dry
WS103	03/06/2021	<0.1	<0.1	2.5	2.4	13.6	<0.1	<0.1	1016 (rising)	0.50 – 3.00	2.98	1.55
	10/06/2021	<0.1	<0.1	6.2	6.2	3.1	<0.1	<0.1	1018 (steady)		2.90	1.60
	17/06/2021	<0.1	<0.1	7.2	7.1	3.4	0.1	<0.1	1004 (rising)		2.90	1.65
	24/06/2021	<0.1	<0.1	6.4	6.4	5.6	0.3	0.1	1021		2.85	1.20
	01/07/2021	<0.1	<0.1	6.1	6.1	<0.1	0.1	0.1	1014		2.90	1.60
	07/07/2021	<0.1	<0.1	8.3	8.3	<0.1	<0.1	<0.1	1003 (rising)		2.93	1.63

WS104	03/06/2021	<0.1	<0.1	1.2	1.2	17.2	<0.1	<0.1	1011 (rising)	0.50 – 2.80	2.83	1.03
	10/06/2021	<0.1	<0.1	4.9	4.9	13.6	<0.1	<0.1	1018 (steady)		2.70	1.12
	17/06/2021	<0.1	<0.1	5.6	5.6	16.1	<0.1	<0.1	1004 (rising)		2.70	1.20
	24/06/2021	<0.1	<0.1	4.1	4.1	9.7	<0.1	<0.1	1020		2.70	1.15
	01/07/2021	<0.1	<0.1	6.3	6.3	2.9	<0.1	<0.1	1014		2.80	1.10
	07/07/2021	<0.1	<0.1	7.2	7.2	2.5	<0.1	<0.1	1003 (rising)		2.81	1.00
WS105	03/06/2021	<0.1	<0.1	<0.1	<0.1	19.1	<0.1	<0.1	1011 (rising)	0.50 – 2.20	2.30	1.75
	10/06/2021	<0.1	<0.1	<0.1	<0.1	18.8	0.3	0.3	1018 (steady)		2.25	1.80
	17/06/2021	<0.1	<0.1	0.3	0.2	11.5	0.1	<0.1	1004 (rising)		2.20	1.85
	24/06/2021	<0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	1019		2.20	1.80
	01/07/2021	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1014		2.20	1.80
	07/07/2021	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	1003 (rising)		2.29	1.79

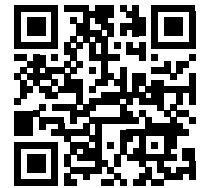
APPENDIX VIII – WASTE CLASSIFICATION REPORT

APPENDIX VIII – WASTE CLASSIFICATION REPORT

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



EGQGQX-Q6UZA-5ALXJ

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Job name

Grand Union School

Description/Comments

Project

G45981

Site

Grand Union Village School, Northolt

Classified by

Name: **Hana Foggin**
Date: **09 Jun 2021 10:29 GMT**
Telephone: **Osprey House**
Company: **Ensafe Consultants**
M50 2UE.

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

Course
Hazardous Waste Classification

Date

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	FTTP101	0.5 – 0.6	Non Hazardous		2
2	FTTP102	0.2 – 0.3	Non Hazardous		4
3	FTTP102[2]	0.4 – 0.5	Non Hazardous		6
4	SPW102	0.3 – 0.4	Non Hazardous		8
5	SPW103	0.4 – 0.5	Non Hazardous		10
6	SPE103	0.50 – 0.6	Non Hazardous		12
7	SPE101	0.3 – 0.4	Non Hazardous		14

Related documents

#	Name	Description
1	REC Waste Template 2018	waste stream template used to create this Job

Report

Created by: Hana Foggin

Created date: 09 Jun 2021 10:29 GMT

Appendices

	Page
Appendix A: Classifier defined and non CLP determinands	16
Appendix B: Rationale for selection of metal species	17
Appendix C: Version	17

Classification of sample: FTTP101

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
FTTP101	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.5 – 0.6 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
15%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 15% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	pH				8.7	pH		8.7	pH	8.7 pH		
2	arsenic { arsenic trioxide }				33	mg/kg	1.32	43.571	mg/kg	0.00436 %		
	033-003-00-0	215-481-4	1327-53-3									
3	barium { barium carbonate }				320	mg/kg	1.437	459.833	mg/kg	0.046 %		
	056-003-00-2	208-167-3	513-77-9									
4	beryllium { beryllium oxide }				2.3	mg/kg	2.775	6.383	mg/kg	0.000638 %		
	004-003-00-8	215-133-1	1304-56-9									
5	boron { diboron trioxide; boric oxide }				2.8	mg/kg	3.22	9.016	mg/kg	0.000902 %		
	005-008-00-8	215-125-8	1303-86-2									
6	cadmium { cadmium sulfide }			1	0.2	mg/kg	1.285	0.257	mg/kg	0.00002 %		
	048-010-00-4	215-147-8	1306-23-6									
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				39	mg/kg	1.462	57.001	mg/kg	0.0057 %		
		215-160-9	1308-38-9									
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				1.2	mg/kg	1.923	2.308	mg/kg	0.000231 %		
	024-001-00-0	215-607-8	1333-82-0									
9	copper { copper sulphate pentahydrate }				180	mg/kg	3.929	707.23	mg/kg	0.0707 %		
	029-023-00-4	231-847-6	7758-99-8									
10	lead { lead chromate }			1	560	mg/kg	1.56	873.496	mg/kg	0.056 %		
	082-004-00-2	231-846-0	7758-97-6									
11	mercury { mercury dichloride }				0.3	mg/kg	1.353	0.406	mg/kg	0.0000406 %		
	080-010-00-X	231-299-8	7487-94-7									
12	nickel { nickel chromate }				36	mg/kg	2.976	107.146	mg/kg	0.0107 %		
	028-035-00-7	238-766-5	14721-18-7									
13	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				1	mg/kg	1.405	1.405	mg/kg	0.000141 %		
	034-002-00-8											
14	vanadium { divanadium pentaoxide; vanadium pentoxide }				95	mg/kg	1.785	169.593	mg/kg	0.017 %		
	023-001-00-8	215-239-8	1314-62-1									
15	zinc { zinc chromate }				360	mg/kg	2.774	998.693	mg/kg	0.0999 %		
	024-007-00-3	236-878-9	13530-65-9									
16	naphthalene				0.92	mg/kg		0.92	mg/kg	0.000092 %		
	601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	acenaphthylene	205-917-1	208-96-8		0.4 mg/kg		0.4 mg/kg	0.00004 %		
18	acenaphthene	201-469-6	83-32-9		2.9 mg/kg		2.9 mg/kg	0.00029 %		
19	fluorene	201-695-5	86-73-7		2.8 mg/kg		2.8 mg/kg	0.00028 %		
20	phenanthrene	201-581-5	85-01-8		29 mg/kg		29 mg/kg	0.0029 %		
21	anthracene	204-371-1	120-12-7		8 mg/kg		8 mg/kg	0.0008 %		
22	fluoranthene	205-912-4	206-44-0		36 mg/kg		36 mg/kg	0.0036 %		
23	pyrene	204-927-3	129-00-0		30 mg/kg		30 mg/kg	0.003 %		
24	benzo[a]anthracene	601-033-00-9	200-280-6		18 mg/kg		18 mg/kg	0.0018 %		
25	chrysene	601-048-00-0	205-923-4		12 mg/kg		12 mg/kg	0.0012 %		
26	benzo[k]fluoranthene	601-036-00-5	205-916-6		5.7 mg/kg		5.7 mg/kg	0.00057 %		
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		16 mg/kg		16 mg/kg	0.0016 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		2.4 mg/kg		2.4 mg/kg	0.00024 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		8.9 mg/kg		8.9 mg/kg	0.00089 %		
30	indeno[123-cd]pyrene	205-893-2	193-39-5		8.8 mg/kg		8.8 mg/kg	0.00088 %		
31	benzo[j]fluoranthene	601-035-00-X	205-910-3		21 mg/kg		21 mg/kg	0.0021 %		
32	TPH (C6 to C40) petroleum group		TPH		462.8 mg/kg		462.8 mg/kg	0.0463 %		
Total:								0.379 %		

Key

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 2: Oxidizing "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because No liquid Phase present

Hazard Statements hit:

Ox. Sol. 1; H271 "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide: (compound conc.: 0.00023%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid phase present

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0463%)

Classification of sample: FTTP102

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
FTTP102	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.2 – 0.3 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
19%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 19% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	pH				8.5	pH		8.5	pH	8.5 pH		
2	arsenic { arsenic trioxide }				16	mg/kg	1.32	21.125	mg/kg	0.00211 %		
	033-003-00-0	215-481-4	1327-53-3									
3	barium { barium carbonate }				150	mg/kg	1.437	215.547	mg/kg	0.0216 %		
	056-003-00-2	208-167-3	513-77-9									
4	beryllium { beryllium oxide }				1.2	mg/kg	2.775	3.33	mg/kg	0.000333 %		
	004-003-00-8	215-133-1	1304-56-9									
5	boron { diboron trioxide; boric oxide }				1.3	mg/kg	3.22	4.186	mg/kg	0.000419 %		
	005-008-00-8	215-125-8	1303-86-2									
6	cadmium { cadmium sulfide }			1	0.2	mg/kg	1.285	0.257	mg/kg	0.00002 %		
	048-010-00-4	215-147-8	1306-23-6									
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				41	mg/kg	1.462	59.924	mg/kg	0.00599 %		
		215-160-9	1308-38-9									
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				1.2	mg/kg	1.923	2.308	mg/kg	0.000231 %		
	024-001-00-0	215-607-8	1333-82-0									
9	copper { copper sulphate pentahydrate }				48	mg/kg	3.929	188.595	mg/kg	0.0189 %		
	029-023-00-4	231-847-6	7758-99-8									
10	lead { lead chromate }			1	130	mg/kg	1.56	202.776	mg/kg	0.013 %		
	082-004-00-2	231-846-0	7758-97-6									
11	mercury { mercury dichloride }				0.3	mg/kg	1.353	0.406	mg/kg	0.0000406 %		
	080-010-00-X	231-299-8	7487-94-7									
12	nickel { nickel chromate }				31	mg/kg	2.976	92.264	mg/kg	0.00923 %		
	028-035-00-7	238-766-5	14721-18-7									
13	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				1	mg/kg	1.405	1.405	mg/kg	0.000141 %		
	034-002-00-8											
14	vanadium { divanadium pentaoxide; vanadium pentoxide }				73	mg/kg	1.785	130.319	mg/kg	0.013 %		
	023-001-00-8	215-239-8	1314-62-1									
15	zinc { zinc chromate }				130	mg/kg	2.774	360.639	mg/kg	0.0361 %		
	024-007-00-3	236-878-9	13530-65-9									
16	naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
	601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	acenaphthylene	205-917-1	208-96-8		0.05 mg/kg		0.05 mg/kg	0.000005 %		
18	acenaphthene	201-469-6	83-32-9		0.05 mg/kg		0.05 mg/kg	0.000005 %		
19	fluorene	201-695-5	86-73-7		0.05 mg/kg		0.05 mg/kg	0.000005 %		
20	phenanthrene	201-581-5	85-01-8		0.65 mg/kg		0.65 mg/kg	0.000065 %		
21	anthracene	204-371-1	120-12-7		0.21 mg/kg		0.21 mg/kg	0.000021 %		
22	fluoranthene	205-912-4	206-44-0		1.6 mg/kg		1.6 mg/kg	0.00016 %		
23	pyrene	204-927-3	129-00-0		1.4 mg/kg		1.4 mg/kg	0.00014 %		
24	benzo[a]anthracene	601-033-00-9	200-280-6		0.99 mg/kg		0.99 mg/kg	0.000099 %		
25	chrysene	601-048-00-0	205-923-4		0.74 mg/kg		0.74 mg/kg	0.000074 %		
26	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.49 mg/kg		0.49 mg/kg	0.000049 %		
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		1 mg/kg		1 mg/kg	0.0001 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.05 mg/kg		0.05 mg/kg	0.000005 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		0.71 mg/kg		0.71 mg/kg	0.000071 %		
30	indeno[123-cd]pyrene	205-893-2	193-39-5		0.61 mg/kg		0.61 mg/kg	0.000061 %		
31	benzo[j]fluoranthene	601-035-00-X	205-910-3		1.2 mg/kg		1.2 mg/kg	0.00012 %		
32	TPH (C6 to C40) petroleum group		TPH		107.6 mg/kg		107.6 mg/kg	0.0108 %		
Total:								0.133 %		

Key

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 2: Oxidizing "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because No liquid Phase present

Hazard Statements hit:

Ox. Sol. 1; H271 "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide: (compound conc.: 0.00023%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid phase present

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0108%)

Classification of sample: FTTP102[2]

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
FTTP102[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.4 – 0.5 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
17%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 17% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	pH				8.4	pH		8.4	pH	8.4 pH		
2	arsenic { arsenic trioxide }				30	mg/kg	1.32	39.61	mg/kg	0.00396 %		
	033-003-00-0	215-481-4	1327-53-3									
3	barium { barium carbonate }				400	mg/kg	1.437	574.791	mg/kg	0.0575 %		
	056-003-00-2	208-167-3	513-77-9									
4	beryllium { beryllium oxide }				2.2	mg/kg	2.775	6.106	mg/kg	0.000611 %		
	004-003-00-8	215-133-1	1304-56-9									
5	boron { diboron trioxide; boric oxide }				1.1	mg/kg	3.22	3.542	mg/kg	0.000354 %		
	005-008-00-8	215-125-8	1303-86-2									
6	cadmium { cadmium sulfide }			1	0.2	mg/kg	1.285	0.257	mg/kg	0.00002 %		
	048-010-00-4	215-147-8	1306-23-6									
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				35	mg/kg	1.462	51.154	mg/kg	0.00512 %		
		215-160-9	1308-38-9									
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				1.2	mg/kg	1.923	2.308	mg/kg	0.000231 %		
	024-001-00-0	215-607-8	1333-82-0									
9	copper { copper sulphate pentahydrate }				140	mg/kg	3.929	550.067	mg/kg	0.055 %		
	029-023-00-4	231-847-6	7758-99-8									
10	lead { lead chromate }			1	440	mg/kg	1.56	686.319	mg/kg	0.044 %		
	082-004-00-2	231-846-0	7758-97-6									
11	mercury { mercury dichloride }				0.3	mg/kg	1.353	0.406	mg/kg	0.0000406 %		
	080-010-00-X	231-299-8	7487-94-7									
12	nickel { nickel chromate }				39	mg/kg	2.976	116.074	mg/kg	0.0116 %		
	028-035-00-7	238-766-5	14721-18-7									
13	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				1	mg/kg	1.405	1.405	mg/kg	0.000141 %		
	034-002-00-8											
14	vanadium { divanadium pentaoxide; vanadium pentoxide }				72	mg/kg	1.785	128.533	mg/kg	0.0129 %		
	023-001-00-8	215-239-8	1314-62-1									
15	zinc { zinc chromate }				290	mg/kg	2.774	804.502	mg/kg	0.0805 %		
	024-007-00-3	236-878-9	13530-65-9									
16	naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
	601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	acenaphthylene	205-917-1	208-96-8		0.38 mg/kg		0.38 mg/kg	0.000038 %		
18	acenaphthene	201-469-6	83-32-9		1.4 mg/kg		1.4 mg/kg	0.00014 %		
19	fluorene	201-695-5	86-73-7		1 mg/kg		1 mg/kg	0.0001 %		
20	phenanthrene	201-581-5	85-01-8		14 mg/kg		14 mg/kg	0.0014 %		
21	anthracene	204-371-1	120-12-7		3.6 mg/kg		3.6 mg/kg	0.00036 %		
22	fluoranthene	205-912-4	206-44-0		27 mg/kg		27 mg/kg	0.0027 %		
23	pyrene	204-927-3	129-00-0		21 mg/kg		21 mg/kg	0.0021 %		
24	benzo[a]anthracene	601-033-00-9	200-280-6		19 mg/kg		19 mg/kg	0.0019 %		
25	chrysene	601-048-00-0	205-923-4		14 mg/kg		14 mg/kg	0.0014 %		
26	benzo[k]fluoranthene	601-036-00-5	205-916-6		10 mg/kg		10 mg/kg	0.001 %		
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		20 mg/kg		20 mg/kg	0.002 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		3.6 mg/kg		3.6 mg/kg	0.00036 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		13 mg/kg		13 mg/kg	0.0013 %		
30	indeno[123-cd]pyrene	205-893-2	193-39-5		13 mg/kg		13 mg/kg	0.0013 %		
31	benzo[j]fluoranthene	601-035-00-X	205-910-3		25 mg/kg		25 mg/kg	0.0025 %		
32	TPH (C6 to C40) petroleum group		TPH		291.2 mg/kg		291.2 mg/kg	0.0291 %		
Total:								0.32 %		

Key

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 2: Oxidizing "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because No liquid Phase present

Hazard Statements hit:

Ox. Sol. 1; H271 "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide: (compound conc.: 0.00023%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid phase present

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0291%)

Classification of sample: SPW102

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
SPW102	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.3 – 0.4 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
8.9%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 8.9% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	pH				9.6	pH		9.6	pH	9.6 pH		
2	arsenic { arsenic trioxide }				13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
	033-003-00-0	215-481-4	1327-53-3									
3	barium { barium carbonate }				97	mg/kg	1.437	139.387	mg/kg	0.0139 %		
	056-003-00-2	208-167-3	513-77-9									
4	beryllium { beryllium oxide }				0.8	mg/kg	2.775	2.22	mg/kg	0.000222 %		
	004-003-00-8	215-133-1	1304-56-9									
5	boron { diboron trioxide; boric oxide }				1	mg/kg	3.22	3.22	mg/kg	0.000322 %		
	005-008-00-8	215-125-8	1303-86-2									
6	cadmium { cadmium sulfide }			1	0.6	mg/kg	1.285	0.771	mg/kg	0.00006 %		
	048-010-00-4	215-147-8	1306-23-6									
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				29	mg/kg	1.462	42.385	mg/kg	0.00424 %		
		215-160-9	1308-38-9									
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				1.2	mg/kg	1.923	2.308	mg/kg	0.000231 %		
	024-001-00-0	215-607-8	1333-82-0									
9	copper { copper sulphate pentahydrate }				26	mg/kg	3.929	102.155	mg/kg	0.0102 %		
	029-023-00-4	231-847-6	7758-99-8									
10	lead { lead chromate }			1	68	mg/kg	1.56	106.067	mg/kg	0.0068 %		
	082-004-00-2	231-846-0	7758-97-6									
11	mercury { mercury dichloride }				0.3	mg/kg	1.353	0.406	mg/kg	0.0000406 %		
	080-010-00-X	231-299-8	7487-94-7									
12	nickel { nickel chromate }				23	mg/kg	2.976	68.454	mg/kg	0.00685 %		
	028-035-00-7	238-766-5	14721-18-7									
13	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				1	mg/kg	1.405	1.405	mg/kg	0.000141 %		
	034-002-00-8											
14	vanadium { divanadium pentaoxide; vanadium pentoxide }				39	mg/kg	1.785	69.622	mg/kg	0.00696 %		
	023-001-00-8	215-239-8	1314-62-1									
15	zinc { zinc chromate }				90	mg/kg	2.774	249.673	mg/kg	0.025 %		
	024-007-00-3	236-878-9	13530-65-9									
16	naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
	601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	• acenaphthylene	205-917-1	208-96-8		0.05 mg/kg		0.05 mg/kg	0.000005 %		
18	• acenaphthene	201-469-6	83-32-9		0.05 mg/kg		0.05 mg/kg	0.000005 %		
19	• fluorene	201-695-5	86-73-7		0.05 mg/kg		0.05 mg/kg	0.000005 %		
20	• phenanthrene	201-581-5	85-01-8		0.7 mg/kg		0.7 mg/kg	0.00007 %		
21	• anthracene	204-371-1	120-12-7		0.23 mg/kg		0.23 mg/kg	0.000023 %		
22	• fluoranthene	205-912-4	206-44-0		2.2 mg/kg		2.2 mg/kg	0.00022 %		
23	• pyrene	204-927-3	129-00-0		2.1 mg/kg		2.1 mg/kg	0.00021 %		
24	benzo[a]anthracene	601-033-00-9	200-280-6		1.3 mg/kg		1.3 mg/kg	0.00013 %		
25	chrysene	601-048-00-0	205-923-4		1.3 mg/kg		1.3 mg/kg	0.00013 %		
26	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.83 mg/kg		0.83 mg/kg	0.000083 %		
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		1.9 mg/kg		1.9 mg/kg	0.00019 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.3 mg/kg		0.3 mg/kg	0.00003 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		1.4 mg/kg		1.4 mg/kg	0.00014 %		
30	indeno[123-cd]pyrene	205-893-2	193-39-5		1.2 mg/kg		1.2 mg/kg	0.00012 %		
31	benzo[j]fluoranthene	601-035-00-X	205-910-3		2.1 mg/kg		2.1 mg/kg	0.00021 %		
32	TPH (C6 to C40) petroleum group		TPH		59.8 mg/kg		59.8 mg/kg	0.00598 %		
Total:								0.0843 %		

Key

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 2: Oxidizing "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because No liquid Phase present

Hazard Statements hit:

Ox. Sol. 1; H271 "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide: (compound conc.: 0.00023%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid phase present

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00598%)

Classification of sample: SPW103

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
SPW103	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.4 – 0.5 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 13% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	pH				9.6	pH		9.6	pH	9.6 pH		
2	arsenic { arsenic trioxide }				14	mg/kg	1.32	18.485	mg/kg	0.00185 %		
	033-003-00-0	215-481-4	1327-53-3									
3	barium { barium carbonate }				97	mg/kg	1.437	139.387	mg/kg	0.0139 %		
	056-003-00-2	208-167-3	513-77-9									
4	beryllium { beryllium oxide }				0.88	mg/kg	2.775	2.442	mg/kg	0.000244 %		
	004-003-00-8	215-133-1	1304-56-9									
5	boron { diboron trioxide; boric oxide }				1.2	mg/kg	3.22	3.864	mg/kg	0.000386 %		
	005-008-00-8	215-125-8	1303-86-2									
6	cadmium { cadmium sulfide }			1	0.2	mg/kg	1.285	0.257	mg/kg	0.00002 %		
	048-010-00-4	215-147-8	1306-23-6									
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				31	mg/kg	1.462	45.308	mg/kg	0.00453 %		
		215-160-9	1308-38-9									
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				1.2	mg/kg	1.923	2.308	mg/kg	0.000231 %		
	024-001-00-0	215-607-8	1333-82-0									
9	copper { copper sulphate pentahydrate }				21	mg/kg	3.929	82.51	mg/kg	0.00825 %		
	029-023-00-4	231-847-6	7758-99-8									
10	lead { lead chromate }			1	53	mg/kg	1.56	82.67	mg/kg	0.0053 %		
	082-004-00-2	231-846-0	7758-97-6									
11	mercury { mercury dichloride }				0.3	mg/kg	1.353	0.406	mg/kg	0.0000406 %		
	080-010-00-X	231-299-8	7487-94-7									
12	nickel { nickel chromate }				20	mg/kg	2.976	59.525	mg/kg	0.00595 %		
	028-035-00-7	238-766-5	14721-18-7									
13	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1	mg/kg	1.405	1.405	mg/kg	0.000141 %		
	034-002-00-8											
14	vanadium { divanadium pentaoxide; vanadium pentoxide }				46	mg/kg	1.785	82.119	mg/kg	0.00821 %		
	023-001-00-8	215-239-8	1314-62-1									
15	zinc { zinc chromate }				94	mg/kg	2.774	260.77	mg/kg	0.0261 %		
	024-007-00-3	236-878-9	13530-65-9									
16	naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
	601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	acenaphthylene	205-917-1	208-96-8		0.05 mg/kg		0.05 mg/kg	0.000005 %		
18	acenaphthene	201-469-6	83-32-9		0.05 mg/kg		0.05 mg/kg	0.000005 %		
19	fluorene	201-695-5	86-73-7		0.05 mg/kg		0.05 mg/kg	0.000005 %		
20	phenanthrene	201-581-5	85-01-8		0.3 mg/kg		0.3 mg/kg	0.00003 %		
21	anthracene	204-371-1	120-12-7		0.05 mg/kg		0.05 mg/kg	0.000005 %		
22	fluoranthene	205-912-4	206-44-0		0.86 mg/kg		0.86 mg/kg	0.000086 %		
23	pyrene	204-927-3	129-00-0		0.84 mg/kg		0.84 mg/kg	0.000084 %		
24	benzo[a]anthracene	601-033-00-9	200-280-6		0.58 mg/kg		0.58 mg/kg	0.000058 %		
25	chrysene	601-048-00-0	205-923-4		0.55 mg/kg		0.55 mg/kg	0.000055 %		
26	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.35 mg/kg		0.35 mg/kg	0.000035 %		
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.67 mg/kg		0.67 mg/kg	0.000067 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.05 mg/kg		0.05 mg/kg	0.000005 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		0.44 mg/kg		0.44 mg/kg	0.000044 %		
30	indeno[123-cd]pyrene	205-893-2	193-39-5		0.35 mg/kg		0.35 mg/kg	0.000035 %		
31	benzo[j]fluoranthene	601-035-00-X	205-910-3		0.68 mg/kg		0.68 mg/kg	0.000068 %		
32	TPH (C6 to C40) petroleum group		TPH		64.1 mg/kg		64.1 mg/kg	0.00641 %		
Total:								0.0822 %		

Key

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 2: Oxidizing "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because No liquid Phase present

Hazard Statements hit:

Ox. Sol. 1; H271 "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide: (compound conc.: 0.00023%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because No liquid phase present

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00641%)

Classification of sample: SPE103

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
SPE103	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 – 0.6 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
7.5%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 7.5% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	pH				7.8	pH		7.8	pH	7.8 pH		
2	arsenic { arsenic trioxide }				13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
	033-003-00-0	215-481-4	1327-53-3									
3	barium { barium carbonate }				130	mg/kg	1.437	186.807	mg/kg	0.0187 %		
	056-003-00-2	208-167-3	513-77-9									
4	beryllium { beryllium oxide }				0.83	mg/kg	2.775	2.304	mg/kg	0.00023 %		
	004-003-00-8	215-133-1	1304-56-9									
5	boron { diboron trioxide; boric oxide }				3.4	mg/kg	3.22	10.948	mg/kg	0.00109 %		
	005-008-00-8	215-125-8	1303-86-2									
6	cadmium { cadmium sulfide }			1	0.2	mg/kg	1.285	0.257	mg/kg	0.00002 %		
	048-010-00-4	215-147-8	1306-23-6									
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				35	mg/kg	1.462	51.154	mg/kg	0.00512 %		
		215-160-9	1308-38-9									
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				1.2	mg/kg	1.923	2.308	mg/kg	0.000231 %		
	024-001-00-0	215-607-8	1333-82-0									
9	copper { copper sulphate pentahydrate }				35	mg/kg	3.929	137.517	mg/kg	0.0138 %		
	029-023-00-4	231-847-6	7758-99-8									
10	lead { lead chromate }			1	150	mg/kg	1.56	233.972	mg/kg	0.015 %		
	082-004-00-2	231-846-0	7758-97-6									
11	mercury { mercury dichloride }				0.3	mg/kg	1.353	0.406	mg/kg	0.0000406 %		
	080-010-00-X	231-299-8	7487-94-7									
12	nickel { nickel chromate }				28	mg/kg	2.976	83.335	mg/kg	0.00833 %		
	028-035-00-7	238-766-5	14721-18-7									
13	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				1	mg/kg	1.405	1.405	mg/kg	0.000141 %		
	034-002-00-8											
14	vanadium { divanadium pentaoxide; vanadium pentoxide }				36	mg/kg	1.785	64.267	mg/kg	0.00643 %		
	023-001-00-8	215-239-8	1314-62-1									
15	zinc { zinc chromate }				170	mg/kg	2.774	471.605	mg/kg	0.0472 %		
	024-007-00-3	236-878-9	13530-65-9									
16	naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
	601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	acenaphthylene	205-917-1	208-96-8		0.05 mg/kg		0.05 mg/kg	0.000005 %		
18	acenaphthene	201-469-6	83-32-9		0.05 mg/kg		0.05 mg/kg	0.000005 %		
19	fluorene	201-695-5	86-73-7		0.05 mg/kg		0.05 mg/kg	0.000005 %		
20	phenanthrene	201-581-5	85-01-8		0.6 mg/kg		0.6 mg/kg	0.00006 %		
21	anthracene	204-371-1	120-12-7		0.22 mg/kg		0.22 mg/kg	0.000022 %		
22	fluoranthene	205-912-4	206-44-0		2.7 mg/kg		2.7 mg/kg	0.00027 %		
23	pyrene	204-927-3	129-00-0		2.7 mg/kg		2.7 mg/kg	0.00027 %		
24	benzo[a]anthracene	601-033-00-9	200-280-6		1.9 mg/kg		1.9 mg/kg	0.00019 %		
25	chrysene	601-048-00-0	205-923-4		1.6 mg/kg		1.6 mg/kg	0.00016 %		
26	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.95 mg/kg		0.95 mg/kg	0.000095 %		
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		2.7 mg/kg		2.7 mg/kg	0.00027 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.46 mg/kg		0.46 mg/kg	0.000046 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		2 mg/kg		2 mg/kg	0.0002 %		
30	indeno[123-cd]pyrene	205-893-2	193-39-5		1.6 mg/kg		1.6 mg/kg	0.00016 %		
31	benzo[j]fluoranthene	601-035-00-X	205-910-3		3.1 mg/kg		3.1 mg/kg	0.00031 %		
32	TPH (C6 to C40) petroleum group		TPH		125.4 mg/kg		125.4 mg/kg	0.0125 %		
Total:								0.133 %		

Key

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 2: Oxidizing "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because No liquid Phase present

Hazard Statements hit:

Ox. Sol. 1; H271 "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide: (compound conc.: 0.00023%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because No liquid phase present

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0125%)

Classification of sample: SPE101

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
SPE101	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.3 – 0.4 m	
Moisture content:	
15%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 15% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	pH				9.8	pH		9.8	pH	9.8 pH		
2	arsenic { arsenic trioxide }				14	mg/kg	1.32	18.485	mg/kg	0.00185 %		
	033-003-00-0	215-481-4	1327-53-3									
3	barium { barium carbonate }				140	mg/kg	1.437	201.177	mg/kg	0.0201 %		
	056-003-00-2	208-167-3	513-77-9									
4	beryllium { beryllium oxide }				0.81	mg/kg	2.775	2.248	mg/kg	0.000225 %		
	004-003-00-8	215-133-1	1304-56-9									
5	boron { diboron trioxide; boric oxide }				2.2	mg/kg	3.22	7.084	mg/kg	0.000708 %		
	005-008-00-8	215-125-8	1303-86-2									
6	cadmium { cadmium sulfide }			1	0.9	mg/kg	1.285	1.157	mg/kg	0.00009 %		
	048-010-00-4	215-147-8	1306-23-6									
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				29	mg/kg	1.462	42.385	mg/kg	0.00424 %		
		215-160-9	1308-38-9									
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				1.2	mg/kg	1.923	2.308	mg/kg	0.000231 %		
	024-001-00-0	215-607-8	1333-82-0									
9	copper { copper sulphate pentahydrate }				47	mg/kg	3.929	184.665	mg/kg	0.0185 %		
	029-023-00-4	231-847-6	7758-99-8									
10	lead { lead chromate }			1	250	mg/kg	1.56	389.954	mg/kg	0.025 %		
	082-004-00-2	231-846-0	7758-97-6									
11	mercury { mercury dichloride }				0.3	mg/kg	1.353	0.406	mg/kg	0.0000406 %		
	080-010-00-X	231-299-8	7487-94-7									
12	nickel { nickel chromate }				18	mg/kg	2.976	53.573	mg/kg	0.00536 %		
	028-035-00-7	238-766-5	14721-18-7									
13	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				1	mg/kg	1.405	1.405	mg/kg	0.000141 %		
	034-002-00-8											
14	vanadium { divanadium pentaoxide; vanadium pentoxide }				40	mg/kg	1.785	71.407	mg/kg	0.00714 %		
	023-001-00-8	215-239-8	1314-62-1									
15	zinc { zinc chromate }				260	mg/kg	2.774	721.278	mg/kg	0.0721 %		
	024-007-00-3	236-878-9	13530-65-9									
16	naphthalene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
	601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
17	acenaphthylene	205-917-1	208-96-8		0.05 mg/kg		0.05 mg/kg	0.000005 %		
18	acenaphthene	201-469-6	83-32-9		0.05 mg/kg		0.05 mg/kg	0.000005 %		
19	fluorene	201-695-5	86-73-7		0.05 mg/kg		0.05 mg/kg	0.000005 %		
20	phenanthrene	201-581-5	85-01-8		1.2 mg/kg		1.2 mg/kg	0.00012 %		
21	anthracene	204-371-1	120-12-7		0.4 mg/kg		0.4 mg/kg	0.00004 %		
22	fluoranthene	205-912-4	206-44-0		4.3 mg/kg		4.3 mg/kg	0.00043 %		
23	pyrene	204-927-3	129-00-0		4.1 mg/kg		4.1 mg/kg	0.00041 %		
24	benzo[a]anthracene	601-033-00-9	200-280-6		2.8 mg/kg		2.8 mg/kg	0.00028 %		
25	chrysene	601-048-00-0	205-923-4		2.4 mg/kg		2.4 mg/kg	0.00024 %		
26	benzo[k]fluoranthene	601-036-00-5	205-916-6		1.1 mg/kg		1.1 mg/kg	0.00011 %		
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		3.6 mg/kg		3.6 mg/kg	0.00036 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.54 mg/kg		0.54 mg/kg	0.000054 %		
29	benzo[ghi]perylene	205-883-8	191-24-2		2.4 mg/kg		2.4 mg/kg	0.00024 %		
30	indeno[123-cd]pyrene	205-893-2	193-39-5		1.9 mg/kg		1.9 mg/kg	0.00019 %		
31	benzo[j]fluoranthene	601-035-00-X	205-910-3		4.5 mg/kg		4.5 mg/kg	0.00045 %		
32	TPH (C6 to C40) petroleum group		TPH		213.8 mg/kg		213.8 mg/kg	0.0214 %		
Total:								0.18 %		

Key

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 2: Oxidizing "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because No liquid Phase present

Hazard Statements hit:

Ox. Sol. 1; H271 "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide: (compound conc.: 0.00023%)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid phase present

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0214%)

Appendix A: Classifier defined and non CLP determinands

• pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

• chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4 H332 , Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Resp. Sens. 1 H334 , Skin Sens. 1 H317 , Repr. 1B H360FD , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 1 H330 , Acute Tox. 1 H310 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315

• acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Aquatic Chronic 2 H411

• fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 2 H351 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Skin Irrit. 2 H315

• anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4 H302 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• benzo[ghi]perylene (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

▪ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2 H351

▪ **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3 H226 , Asp. Tox. 1 H304 , STOT RE 2 H373 , Muta. 1B H340 , Carc. 1B H350 , Repr. 2 H361d , Aquatic Chronic 2 H411

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

(enter justification for selecting this species)

barium {barium carbonate}

Compound most likely to be present

beryllium {beryllium oxide}

(enter justification for selecting this species)

boron {diboron trioxide; boric oxide}

(enter justification for selecting this species)

cadmium {cadmium sulfide}

(enter justification for selecting this species)

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

(enter justification for selecting this species)

chromium in chromium(VI) compounds {chromium(VI) oxide}

(enter justification for selecting this species)

copper {copper sulphate pentahydrate}

(enter justification for selecting this species)

lead {lead chromate}

(enter justification for selecting this species)

mercury {mercury dichloride}

(enter justification for selecting this species)

nickel {nickel chromate}

(enter justification for selecting this species)

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

(enter justification for selecting this species)

vanadium {divanadium pentaoxide; vanadium pentoxide}

(enter justification for selecting this species)

zinc {zinc chromate}

(enter justification for selecting this species)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018

HazWasteOnline Classification Engine Version: 2021.155.4797.9144 (05 Jun 2021)

HazWasteOnline Database: 2021.155.4797.9144 (05 Jun 2021)

This classification utilises the following guidance and legislation:

WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2019 - UK: 2019 No. 720 of 27th March 2019

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK:

2020 No. 1540 of 16th December 2020

POPs Regulation 2019 - Regulation (EU) 2019/1021 of 20 June 2019