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PROJECT No. RML 9068

VERIFICATION REPORT

FOR
11-21 ALBION STREET, SOUTHWICK,
EAST SUSSEX, BN42 4DN

ON BEHALF OF
CHEESMUR BUILDING CONTRACTORS

FEBRUARY 2025



DOCUMENT CONTROL

Project:	11-21 Albion Street, Southwick, East Sussex, BN42 4DN
Title:	Verification Report
Client:	Cheesmur Building Contractors
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Distribution :	Cheesmur Building Contractors - pdf copy

Issue/revision	Date	Status	Issued by
1	**12/02/25**	**Approved**	**RP**

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1.0 INTRODUCTION & SCOPE OF WORKS

1.1 This report has been completed by Risk Management Limited (RML) on behalf of Cheesmur Building Contractors under cover of an e-mailed instruction to proceed dated 14th January 2025 received from Mr. Philip Ponsford of Cheesmur Building Contractors.

1.2 The initial work for this report was undertaken by RML on behalf Westridge Construction Limited under cover of an e-mailed instruction to proceed dated 8th August 2023 received from Mr. Charlie Farrow of Westridge Construction Limited.

1.3 The site under consideration is 11-21 Albion Street, Southwick, East Sussex, BN42 4DN.

1.4 The grid reference for the approximate centre of the site is 523760E, 105000N.

1.5 Development at the site is now complete and comprises the construction of two blocks of flats, one five-stories high and one six-stories high with the associated car parking and soft landscaping areas. The current development is indicated on the appended Messrs. Liam Russell Architects Proposed Ground Floor Site Plan - Drawing No. 1538-PA-010 rev. D. The drawing also shows proposals for a separate block of flats at Nos. 7 & 9 Albion Street.

1.6 This Verification Report has been commissioned to assist with the discharge of Condition 7 attached to the Planning Approval for this development.

2.0 PREVIOUS REPORTS

Land Sciences Phase I & Phase II Geo-Environmental Report No. LS 3528, Dated April 2018.

2.1 This report included a desk study and the results and findings from eight dynamically sampled boreholes to a maximum depth of 5.00m, installation of groundwater and ground gas monitoring wells in three locations and collection of soil and groundwater samples for laboratory analysis.

2.2 The historical maps found that the site was undeveloped land in 1873 with tracks or field boundaries dividing the site along the east to west and north to south axis. The site layout remained unchanged until circa 1912 when two semi-detached properties were located in the south-west portion of the site. Historical maps dated 1930 show a row of terraced properties occupying the eastern half of the site, with two undeveloped plots in the central part of the site. A historical map dated 1948 illustrates a single detached property occupying the central part of the site. The layout appears unchanged on historical maps from then until current day.

2.3 The Walkover Survey of 2018 found that :-

"the site was located in a predominantly residential area and was primarily surrounded by further dwellings to the west and north. The site fronted on to Albion Street to the south and was adjacent to a railway embankment to the immediate north. To the south of Albion Street was a Jet Ski sales office. To the immediate east of the site was an a active garage and vehicle repair workshop, and to the south-east of the site was a cement manufacturer. No other potentially contaminative land uses were identified in the local vicinity."

2.4 The Desk Study concluded that:-

- A cover system would be required in new soft landscaped areas and gardens. This is likely to comprise the removal of at least 600 mm of existing soil in private garden areas (450 mm in new soft landscaping), placement of a geotextile marker layer and placement of new subsoil/topsoil suitable for plant growth. We note that depths may be shallower provided the base can be proved suitable for use. Imported material should be tested at suitable frequency to confirm chemical suitability for the proposed end use.

- Confirmation on the potable water supply pipe design (barrier pipes such as "protectaline" can be considered) with the Water Services provider.

- Consideration for further gas monitoring or installation of gas protection measures commiserate with a GSV2 (low risk) in new buildings.

- Installation of a deeper borehole with standpipe to support geotechnical design of the basement (proposed at the time) to include waterproofing design.

- Installation of a groundwater level logger in the deeper borehole to confirm if the groundwater at the site is tidally influenced for gas protection design.

Risk Management Limited Phase II Site Investigation, Report No. RML 7338, dated May 2020.

2.5 This Report included the results and findings of three cable percussion boreholes to between 20.00m and 25.00m depth, three mechanically excavated trial pits and in-situ MEXE Probe CBR testing, installation of groundwater/ground gas monitoring wells in three locations and collection of soil and groundwater samples for laboratory analysis.

2.6 Land-borne Gas Monitoring was undertaken as part of the Phase II Site Investigation and found that : -

"During the current three-return gas/groundwater monitoring visits and the previous two visits in 2019, a maximum Methane level of 0.2% was detected, together with a maximum level of Carbon Dioxide of 3.7%. Oxygen concentrations ranged between 11.5% and 21.7% and a maximum flow of 0.2 l/hr was recorded. The atmospheric pressure was recorded on each visit and ranged between 1008 and 1029 mb".

"***Therefore, no land borne gas remedial measures would be required at this site."***

2.7 Findings from the results of contamination testing in the Phase II, *Intrusive,* Site investigation were compared against ***Residential without the consumption of home-grown fruit and vegetables*** criteria and found that:-

"No samples had determinands exceeding the CLEA Soil Guideline Values (SGV) for ***Residential without consumption of home-grown fruit and vegetables*** *usage.*

The sample from 0.50m depth in borehole BH3 had elevated levels of Lead and a number of PAH's when compared against the ATRISK Contaminated Land Screening Values (SSV) for ***Residential without consumption of home-grown fruit and vegetables*** *usage.*

No asbestos was identified within the samples tested.

The results of the WAC tests tend to indicate that the sample from 0.50m depth in borehole BH1 would probably be classified as "Inert". However, the sample from 0.50m in borehole BH2 had elevated levels of Sulphate and Dissolved Solids which may class this as falling into the "Stable Non-Reactive" category".

2.8 The Report concluded that :-

"The elevated levels of Lead and PAH in the MADE GROUND in borehole BH3 should be noted although this was to the rear of the site away from the currently proposed block of flats themselves.

Apart from the above, levels of contamination did not exceed the ***Residential without consumption of home-grown fruit and vegetables*** *criteria.*

Notwithstanding this, the presence of elevated levels of PAH and Lead should be noted by Groundworkers and included within the main contractors site method statements and risk assessments.

Any material removed from site should be sent to a suitably licensed landfill in accordance with the WAC test results discussed above and waste tickets should be retained. In addition, any imported "clean" material and/or topsoil should be certified as 'clean' and suitable for use. The waste tickets and certification will need to form part of a final Verification Report for the site in due course.

In addition to any additional precautions regarding the presence of Lead and PAH, as noted above, we would recommend that standard Health and Safety precautions be taken with regard to ground workers at this site and these should include PPE equipment such as gloves, overalls etc. and normal washing facilities available on-site".

2.9 The location of the intrusive site investigation is indicated on the appended Figure 3, Drawing No. RML 7338/1 - Sketch Fieldwork Location Plan.

RML REPORT No. RML 7403, PROPOSED REMEDIATION STRATEGY, DATED AUGUST 2020.

2.10 This report provided the following remediation proposals, general remediation strategy, outline remediation methodology and verification report advice.

2.11 No remedial measures would be necessary beneath the new building footprints, or hardstanding areas.

2.12 The elevated levels of Lead and PAH's encountered within the MADE GROUND in parts of the site would only be relevant to proposed landscaped areas as the currently proposed new buildings, access roads and car parking cover the majority of the site footprint.

2.13 For any new planting areas or shared access landscaped areas, at ground level, we would recommend removal of any MADE GROUND, to a minimum depth of 450mm, and replacement with some 150mm-250mm of "clean" imported material overlain by 200mm-300mm of "clean" Topsoil as necessary.

2.14 The presence of elevated levels of Lead and PAH's in the MADE GROUND should be noted by Groundworkers and included within the main contractors site method statements and risk assessments.

2.15 Any material removed from site should be sent to a suitably licensed landfill and waste tickets should be retained. In addition, any imported "clean" material and/or topsoil should be certified as 'clean' and suitable for use. The waste tickets and certification will need to form part of a final Verification Report for the site in due course.

2.16 In addition, to any precautions regarding the presence of Lead and PAH's as noted above, we would recommend that standard Health and Safety precautions be taken with regard to ground workers at this site and these should include PPE equipment such as gloves,

2.17 2010, UK Water Industry Research published "Guidance of the Selection of Water Supply Pipes to be Used in Brownfield Sites". Discussions will need to take place with the local water company to ensure that suitable water supply piping is installed as necessary within the refurbished development, and that the pipework is compliant with recommendations provided in the above-noted Guidance.

2.18 The proposed re-development will effectively cover much of the site with building and hardstanding and, therefore, any 'pathway' to the underlying groundwater in these areas will effectively be 'cut-off'.

2.19 This remediation strategy is aimed at reducing the risks identified to date as well as providing a general approach for the on-going management of ground and groundwater quality issues at the site during groundworks and construction phases of this re-development. Although no gross, or widespread contamination, nor obvious significant mobile contamination has been encountered by RML within the footprint of the study sites to date, care will be taken in the handling and disposal of any excavated materials, and in the consideration of the evolving, and accumulation of any explosive, asphyxiating, and/or potentially toxic gases or vapours.

2.20 Superficial 'perched' groundwater may be encountered during excavation works. The site is not considered to pose any immediate risk to any particularly sensitive aqueous receptors, although particular care will need to be taken in the management of groundwater, where encountered.

2.21 The site is not considered to pose an unacceptable risk to groundworkers, provided that the presence of Lead and PAH's are noted and appropriate health and safety protocols are employed. However, it is recommended that detailed method statements should be provided by the appointed groundworker contractor(s), prior to their work commencing.

2.22 The groundworks contractor should be informed of the potential for undetermined areas of contamination to be encountered. The potential heterogeneous nature of the MADE GROUND should be borne in mind, particularly during the groundworks phase of the development works.

2.23 In the event that any obvious or significant visual or olfactory signs of contamination are encountered, this should be stockpiled and RML contacted immediately for advice, and a site inspection, if deemed necessary.

2.24 In the event that any obvious, or significant visual, or olfactory signs of contamination are encountered, then RML should be contacted immediately for advice, and a site inspection, if deemed necessary. Contractors should comply with the recommendations presented in the HSE Guidance Document HS(G)66 'Protection of Workers and the General Public during the Development of Contaminated Land'. This should include the suitable fencing off of the areas where works are to take place.

2.25 As it is understood that removal of existing ground surfaces are required in certain areas of the site, care will need to be taken to ensure that dust generation is kept to a minimum and that dust suppression methods are deployed as necessary.

2.26 When excavation of materials is undertaken in order to enable the construction of the proposed new foundations and installation of new service runs etc., then these excavated soils will need to be separately stockpiled, under cover, or placed directly into haulage lorries, but allowing for the drainage of any surplus water (where present), which should be allowed to drain back into the excavations created. Excavated soils which are not proposed for on-site re-usage should be taken to local landfill sites for disposal/treatment. The haulage disposal/treatment dockets should be retained for inclusion in the Completion Report (see below).

2.27 Where any soils are imported as part of these proposed works from an off-site source, to be utilised for example in any garden or soft landscape areas, then analysis of the quality of these soils should be carried out to ensure their suitability and approval by the local authority Environmental Health Department prior to placement. It is recommended that photographic evidence of the groundworks are obtained, in order to provide necessary details for input into the Completion (Verification) Report (see below).

2.28 A Completion (Verification) Report will need to be prepared following completion of remedial/re-development works detailing the following:

- The remedial/re-development works undertaken.
- Areas where excavation and soil removal has taken place including photographs and logs (as appropriate).
- Waste transfer documentation including all waste management documentation showing the classification of waste, its treatment, movement and place of disposal or recovery for re-usage.
- Results of analyses of any validation samples recovered.
- Documentary and photographic evidence comprising photographs showing the depth of materials removed, along with photos of geotextile membranes, will be included within the Verification Report. Photographs will show the depth of topsoil (to validate depth of cover) by means of a tape measure in the side of the excavation.
- A plan showing the areas that were remediated will be included within the Verification Report.

3.0 BASIC ENVIRONMENTAL SETTING

3.1 According to information published by the British Geological Survey (Sheet 318/333, Brighton and Worthing) the underlying geology at this site is shown as being Recent Brickearth and Head Deposits overlying Upper and Middle Chalk of the Cretaceous Period.

3.2 The Chalk Group is composed predominantly of chalk, a very fine-grained pure limestone. Up to 90% of the carbonate sediment is composed of minute calcite crystals a few microns across, derived from the disintegration of coccoliths which are the skeletons of algae that thrived in the Late Cretaceous seas.

3.3 Groundwater was encountered at 8.70m depth within borehole BH1 during boring, rising to 6.00m depth after 20 minutes.

3.4 Groundwater was encountered at 6.30m depth within borehole BH2 during boring, rising to 6.00m depth after 20 minutes.

3.5 Groundwater was encountered at 6.50m depth within borehole BH3 during boring, rising to 6.00m depth after 20 minutes.

3.6 During return monitoring visits, groundwater levels varied in each of the previous Standpipes A-C and the current borehole BH3 as follows:

Standpipe A	-	3.10m – 5.55m
Standpipe B	-	3.30m – 5.78m
Standpipe C	-	3.10m – 4.54m
Borehole BH3	-	3.70m – 4.88m

3.7 This would appear to confirm a small tidal influence on groundwater levels below the current site.

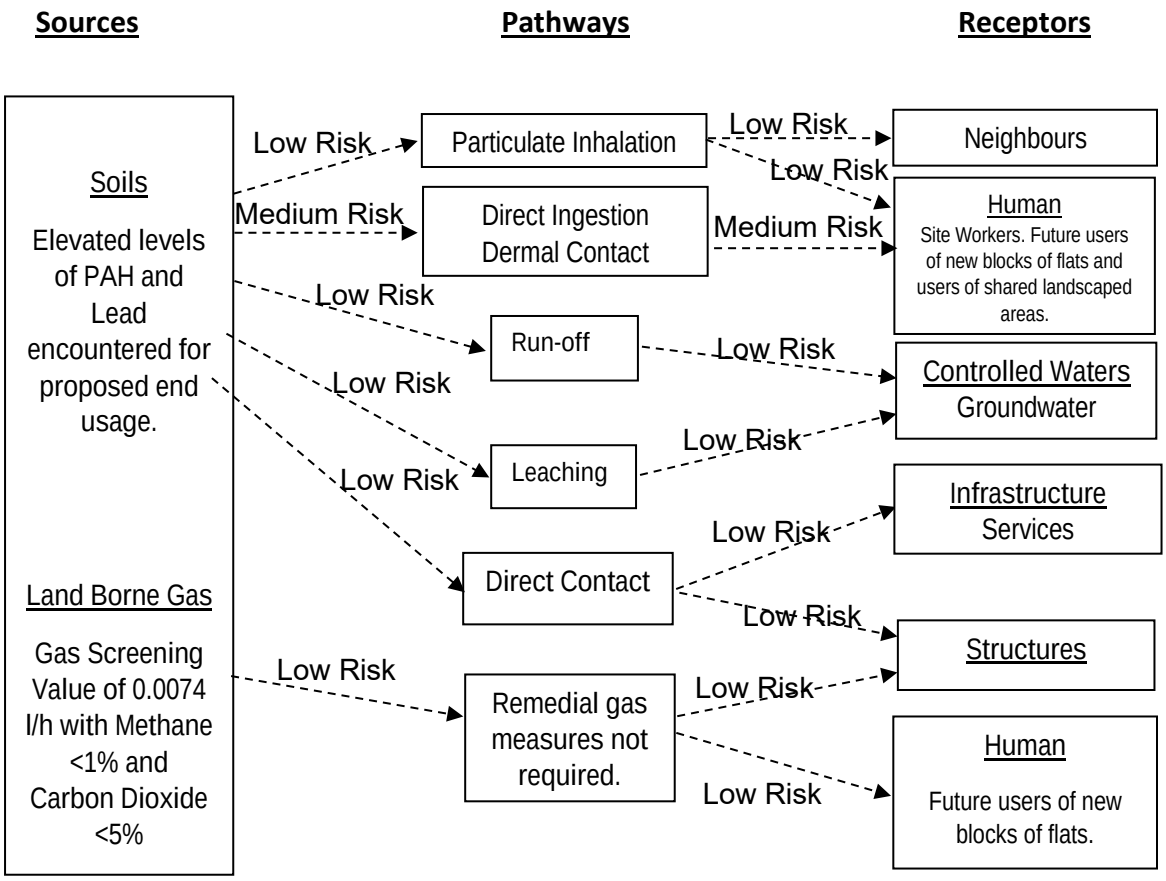
3.8 The Phase I Desk Study, Report, referenced above, found that no radon remedial measures would be required at this site. The site lies over a Principal Aquifer but does not lie over an Environment Agency Source Protection Zone (SPZ). The site does not lie within an area at risk of flooding from rivers or sea, but land immediately adjacent to the south and east of the site is identified as being at risk of flooding from rivers or seas without defences. A small area of the site in the northwest quadrant is identified as being at risk from surface water flooding (low risk). The site is identified as being at risk of groundwater flooding.

3.9 The Site Investigation Report No. RML 7338, referenced above, found that ground conditions comprised :-

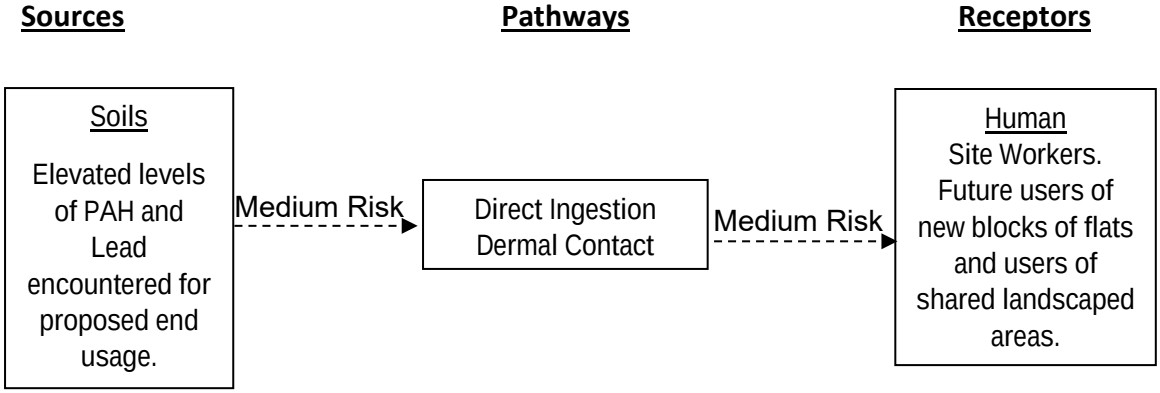
"*MADE GROUND, varying between 0.90m and 2.00m deep, overlying 'soft' to 'firm' silty CLAY to between 5.50m and 6.20m depth. Beneath these superficial deposits was a soft, saturated, CHALK layer to between 7.00m and 7.50m where the CHALK continued as structureless becoming rubbly with depth but still saturated to between 12.00m and 15.00m depth. Based on the in-situ SPT tests, the CHALK did not start to improve in consistency until deeper than 10.00m below existing ground level, becoming rubbly to blocky CHALK below 23.50m which was not penetrated at the maximum borehole termination depth of 25.00m below existing ground level.*

4.0 CONCEPTUAL SITE MODEL AND CONTAMINATION LINKAGES

4.1 Report No. RML 7338 also included the following diagrammatic Conceptual Site Model (CSM) which shows potential contamination linkages with an assessment of the associated risk.



4.2 The remediation works set out in section 5.0 were undertaken to reduce the following contamination linkage identified in the CSM as medium risk, to low risk.



5.0 REMEDIATION AND VERIFICATION WORKS

5.1 In order to comply with the remediation proposals and verification report advice set out in the Remediation Method Statement, Report No. RML 7403 (paragraph 2.13 of this report refers). The following remediation and verification works were carried out.

5.2 It should be noted that since the Remediation Method Statement was issued there have been some amendments to external areas of the development. However, the remediation proposals are not impacted by these amendments and the appended Westridge Construction Limited Landscape Plan, Drawing No. B-00-DR-A-0110 Rev C2, shows the final layout for the building footprint and the external areas and was used to inform the validation works.

5.3 The current landscape plan shows that most of the site is covered by the building footprint, hardstanding for footpaths & car parking and areas of soft landscaping. On the southern side of the site, facing onto the Albion Street footway there are planting beds with amenity hedging and tree planting. Alongside the access road, in the northwest corner of the site, along the southern edge of the car parking area and the eastern and northern boundaries of the site there are areas of amenity hedge planting with specimen trees and shrubs.

REMEDIATION WORKS

5.4 In order to avoid any cross contamination of materials and dust nuisance the following measures were put in place during the remediation works:

- Construction waste and excavated material was collected prior to delivery of clean cover material.
- Stockpiled/bagged material was dampened as necessary during the works.
- Site entrances and crossovers to public roads and footpaths were cleaned to prevent highway or footpath contamination from soil or debris.

5.5 For new planting and landscaped areas, at ground level, made ground was removed to a minimum depth of 450mm below finished ground level and replaced with imported clean cover material.

5.6 Excavated waste material not used on site was collected by Penfold Verrall of The Haulage Yard, Dial Post, Horsham, West Sussex, RH13 8NY and Brown (Civil Engineering) Limited of Burlands, Charlwood Road, Ifield Wood, Crawley, West Sussex, RH11 0JZ.

The waste material was transported to the following facilities.

East Sussex Gliding Club
Kitsons Field
The Broyle
Ringmer
East Sussex
BN8 5AP

Merivale Farm
Selden lane
Patching
Worthing
West Sussex
BN13 3UL

Biffa Waste Management
Langhurst Wood Road
Horsham
West Sussex
RH12 4QD

Waste Transfer Tickets provided by Penfold Verrall & Brown (Civil Engineering) Limited are appended.

5.7 Mixed stone & soil and concrete not used on site was collected by HGS Southern Limited and transferred to the Penfold Verrall facility at The Haulage Yard, Dial Post, Horsham, West Sussex, RH13 8NY. Waste Transfer Tickets provided by HGS Southern Limited are appended.

5.8 The clean cover material was manufactured, supplied and delivered by United Grab Hire Limited of Rivington Farm, Peeksbrook Lane, Horley, Surrey, RH6 9SR. Delivery Tickets provided by United Grab Hire Limited are appended.

5.9 The results of testing (samples 1 & 2) undertaken by Southern Testing Laboratories Limited of Keeble House, Stuart Way, East Grinstead, West Sussex, RH19 4QA to demonstrate suitability of the clean cover material for use in landscaped areas have been provided by the main contractor and a copy of the results are appended.

VERIFICATION WORKS

5.10 RML carried out a verification visit to the site on 21st January 2025. At the time of the visit, clean cover material had been placed in all of the soft landscaping areas and planting was completed in all areas with the exception of the four planting beds facing onto the Albion Street footway. A photographic record was made during the visit and the appended Plates 1 to 7 refer.

5.11 Seven samples of clean cover material, S1 to S7, were collected from representative areas of landscaping across the site.

5.12 The findings at each of the sampling locations are summarised below:-

Location S1

0.00m – 0.52m	Light brown, sandy, slightly clayey soil with occasional stones.

Location S2

0.00m – 0.50m	Dark brown, friable, slightly sandy soil with some grit and occasional stones.

Location S3

0.00m – 0.50m	Dark brown, friable, sandy, slightly clayey soil with occasional small stones.

Location S4

0.00m – 0.55m	Dark brown, friable, slightly sandy soil with some grit and occasional stones.

Location S5

0.00m – 0.05m	Bark Chippings.
0.05m – 0.31m	Dark brown, friable, sandy, slightly clayey soil with occasional small stones.
0.31m+	Roadstone/lean mix concrete.

Location S6

0.00m – 0.05m	Bark Chippings.
0.05m – 0.47m	Light brown, sandy, clayey soil with occasional small stones and fine roots.
0.47m+	Roadstone/lean mix concrete.

Location S7

0.00m – 0.05m	Bark Chippings.
0.05m – 0.47m	Light brown, sandy, clayey soil with occasional small stones and fine roots.
0.47m+	Roadstone/lean mix concrete

5.13 The soil samples for laboratory testing were taken from the following depths:

S1	-	0.00m - 0.45m
S2	-	0.00m - 0.45m
S3	-	0.00m - 0.45m
S4	-	0.00m - 0.45m
S5	-	0.00m - 0.30m
S6	-	0.00m - 0.45m
S7	-	0.00m - 0.45m

5.14 Groundwater was not encountered during the trial pitting.

5.15 In order to avoid cross-contamination between sampling locations, all tools and equipment used were washed with Deconex phosphate-free cleaning solution and rinsed with de-ionised water.

5.16 All seven samples discussed above, were placed in appropriate containers provided by the testing house and stored in cool boxes. The cool boxes were collected from the Risk Management Offices by courier for transport to i2 Analytical Limited of 7 Woodshots Meadow, Croxley Park, Watford, Herts, WD18 8YS.

TESTING PROTOCOL

5.17 Part IIA of the Environmental Protection Act 1990 contains the legislative framework for the regulation of contaminated land and this was implemented in the Contaminated Land (England) Regulations 2000. This legislation allows for the identification and remediation of land where contamination is causing unacceptable risks to human health or the wider environment. The approach adopted by the UK contaminated land policy is “suitable for use” which implies that the land should be suitable for its current use and made suitable for any known future use.

5.18 The seven samples as discussed above, were tested for a range of commonly occurring contaminants and indicators of contamination, including those given by the Contaminated Land Exposure Assessment (CLEA).

5.19 It should be noted that the CLEA software has limited functionality and contains algorithms, which the EA has publicly expressed its intention to update. As a consequence of this, some of the screening values generated by the CLEA software may not adequately reflect specific site conditions and, in some instances, are unduly conservative. In addition, it should also be noted that the figures given in the appended table are based on a 6% soil organic matter content.

5.20 The DEFRA/EA model has been developed on the basis of many critical assumptions about possible exposure to soil contamination and the development of conceptual exposure models to describe different land uses as follows:

- *Residential with consumption of home-grown fruit and vegetables*
- *Residential without consumption of home-grown fruit and vegetables*
- *Allotments*
- *Commercial*

5.21 The Contaminated Land Exposure Assessment (CLEA) model was originally published in March 2002 as joint DEFRA/EA publications; Contaminated Land Research (CLR) Report CLR 10, with Reports CLR7, 8 and 9 as supporting documents, providing toxicity data and human tolerable daily intake (TDI) data to be used with this model. This model enabled the derivation of more site-specific values for contaminants present on a site, rather than the use of 'generic' values, which were previously used.

5.22 DEFRA/EA previously published a number of Soil Guideline Values (SGVs) for certain determinands, (common toxic metals), which were generic guideline criteria for assessing the risks to human health from chronic exposure to soil contamination for standard land-use functions. However, these were withdrawn in late 2008 and DEFRA/EA have now issued a new set of guidance documents. With regard to the Risk Management Limited standard suite of tests, currently SGV figures have only been issued for Arsenic, Cadmium, Mercury, Nickel, Phenols and Selenium.

5.23 In the absence of currently published SGV values for the remaining contaminants, Messrs. W. S. Atkins have derived ATRISK^{soil} Soil Screening Values (SSVs) which have been updated using CLEA v1.071 to incorporate changes to exposure assessment parameters, methodology, and land uses as set out in the Department for Environment, Food and Rural Affairs (Defra) Category 4 Screening Level (C4SL) Project Methodology Report.

5.24 Full details of how the SSVs have been derived and general notes as to their use are given on the ATRISK website and are available from Risk Management Limited upon request. A few of the PAH levels have not been updated and have been left as per the previous CLEA v1.04 derivation.

5.25 The SGV and SSV levels represent "intervention" levels above which the levels of contamination may pose an unacceptable risk to the health of site-users such that further investigation and/or remediation is required.

5.26 Total Petroleum Hydrocarbons are considered in accordance with the fractions proposed by The Environment Agency, drawing on the TPHCWG methodology. These are contained in Table 4.2 – Petroleum hydrocarbon fractions for use in UK human health risk assessment, based on Equivalent Carbon (EC) number, contained in Science Report P5-080/TR3, *The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils.*

5.27 Currently, there is no Soil Guideline Value (SGV) for asbestos, so operatives within the industry usually work to >0.1% for hazardous waste definition, and >0.001% for human health risk assessment. The 0.1% value is taken from a document produced by the Interdepartmental Committee for the Redevelopment of Contaminated Land (ICRCL), 1990, Guidance note 64/85 '*Asbestos on Contaminated Sites'*, (but this does not take into account the 2006 regulations) and the 0.001% value is based on research conducted at the Institute of Occupational Medicine (IOM), 1988, Addison et al *'The release of dispersed asbestos fibres from soils'.*

5.28 The proposed development is intended for residential use and has hardstanding for footpaths & car parking and areas of soft landscaping. Therefore, the results of the laboratory testing have been compared with the criteria for ***Residential without consumption of home-grown fruit and vegetables*** usage as listed in the following table.

Determinand (below)		Units	ATRISK Contaminated Land Screening Values (SSV) derived using CLEA v1.071 as set out in DEFRA Category 4 Screening Levels (C4SL) Methodology. 6% SOM Sandy Loam.			
			Residential with consumption of home-grown fruit and vegetables.	Residential without consumption of home-grown fruit and vegetables.	Allotments.	Commercial.
Aliphatic Hydrocarbons	(mg/kg)	C5-C6	369	371	6110	29400
		C6-C8	1240	1240	18300	98200
		C8-C10	204	205	2390	14800
		C10-C12	1180	1190	8960	69500
		C12-C16	4130	2710	16300	139000
		C16-C35	210100	212000	477000	3620000
Aromatic Hydrocarbons	(mg/kg)	C8-C10	232	332	73.9	20800
		C10-C12	468	1550	95.9	53800
		C12-C16	830	2710	176	65400
		C16-C21	1040	1930	321	28400
		C21-C35	1710	1930	1570	28400
TOTAL TPH						
Naphthalene		mg/kg	12.2	13.1	27.4	1050
Acenaphthylene		mg/kg	-	-	-	-
Acenaphthene		mg/kg	2760	6730	680	106000
Fluorene		mg/kg	2610	4860	796	72000
Phenanthrene		mg/kg	-	-	-	-
Anthracene		mg/kg	26200	37700	11300	544000
Fluoranthene		mg/kg	2980	5050	1010	72600
Pyrene		mg/kg	2120	3780	679	54400
Benz(a)anthracene		mg/kg	8.54	9.04	10.3	10.3
Chrysene		mg/kg	2.64	2.64	2.64	2.64
Benzo(b)fluoranthene		mg/kg	7.29	7.29	7.29	7.29
Benzo(k)fluoranthene		mg/kg	4.12	4.12	4.12	4.12
Benzo(a)pyrene		mg/kg	4.95	5.34	5.72	76.3
Indeno(123-cd)pyrene		mg/kg	9.75	10.3	16.6	144
Dibenz(ah)anthracene		mg/kg	1	1.03	2.57	14.4
Benzo(ghi)perylene		mg/kg	103	104	342	1450
TOTAL PAH						
Cyanide (Free)		mg/kg	34	34	34	373
pH		unit	-	-	-	-
Copper (Total)		mg/kg	4790	9060	1450	106000
Lead (Total)		mg/kg	200	313	79.1	2310
Zinc (Total)		mg/kg	20300	47000	5230	1100000
Chromium III		mg/kg	14300	16700	12600	208000
Chromium (Hexavalent)		mg/kg	20.5	20.5	171	49.1
			CLEA Soil Guideline Values (SGV)			
Benzene		mg/kg	0.33	0.998	0.07	95
Toluene		mg/kg	610	2710	120	4400
Ethylbenzene		mg/kg	350	843	90	2800
Xylenes		mg/kg	230	321	160	2600
Arsenic (Total)		mg/kg	32	35	43	640
Cadmium (Total)		mg/kg	10	83.6	1.8	230
Mercury (Total)		mg/kg	170	238	80	3600
Nickel (Total)		mg/kg	130	130	230	1800
Phenols (Total)		mg/kg	420	519	280	3200
Selenium (Total)		mg/kg	350	595	120	13000

ASSESSMENT OF RESULTS

5.29 The full results of the testing are shown in the appended i2 Analytical Ltd Test Reports- No. 25-002977-1

5.30 Of the seven samples tested, none were found to contain any determinands with concentrations that exceeded the CLEA Soil Guideline Values (SGV) for ***Residential without consumption of home-grown fruit and vegetables*** usage.

5.31 However, two of the samples (S6 & S7) were found to contain determinands with concentrations that exceeded the ATRISK Soil Screening Values (SSV) for ***Residential without consumption of home-grown fruit and vegetables*** usage.

5.32 The determinands in exceedance of the acceptance criteria are shown in the following table.

Location	Determinands exceeding acceptance criteria		Test Result (mg/kg)	Acceptance Criteria (mg/kg)
S6	PAH	Chrysene	3.2	2.64
S7		Chrysene	4.0	2.64

5.33 No asbestos was identified in any of the seven samples tested.

5.34 Polycyclic aromatic hydrocarbons (PAHs) are commonplace chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances. PAHs are also found in coal tar, creosote, roofing tar and other similar construction and building materials commonly encountered. Chrysene, like most individual PAHs, has very limited or no known uses, except as reagents in biochemical or cancer research.

5.35 Chrysene has low vapor pressure and human exposure generally occurs from the inhalation of polluted air. Chrysene is considered to be immobile in soil and does not readily volatilise from either moist or dry soil. Biodegradation rates in soil can range from 77 to 387 days depending on soil type and in water chrysene is expected to absorb to suspended solids and sediment.

5.36 The two locations found to have exceedences of the chrysene acceptance criteria are in areas of soft landscaping and either separated from the residential buildings by the designated car parking areas or bounded by fencing and areas of paving. Therefore, the residual risk to residents of the development is not considered to be significant.

5.37 There may be some residual risk through dermal contact and or inhalation, to maintenance operatives undertaking work on the areas of soft landscaping. Therefore, it is recommended that appropriate personal protective equipment is worn by operatives when working at the site and that relevant advice is incorporated into the Health and Safety files for the development.

5.38 Provided that the recommendations in 5.37 are adopted, then it is considered that the landscaped areas at this site will be suitable for the proposed end usage as a residential development.

BURIED WATER SUPPLY PIPES

5.39 With regard to provision of new water supply pipes, reference should be made to UKWIR Report No. 10/WM/03/21 “Guidance for the selection of Water Supply Pipes to be used in Brownfield Sites” (2010 and updated in 2011). It is recommended that the results of any contamination testing undertaken on the site should be provided to the water supplier in order to ensure that the supply pipe provided complies with their requirements.

LIMITATIONS

The recommendations made and the opinions expressed in this report are based on trial pit records, examination of samples and the results of laboratory tests.

The report is issued on the condition that Risk Management Limited will under no circumstances be liable for any loss arising directly or indirectly from ground conditions which have not been shown by the trial pits or tests carried out during the works.

No person other than the client to whom this report is addressed, shall rely on it in any respect and no duty of care shall be owed to any such third party.

Copyright of this Report remains with Risk Management Limited and in addition we will not accept any responsibility for the report and recommendations given until our invoice is settled in full.



Only figured dimensions are to be used. All dimensions to be checked on site.

Please note: Refer to 'type' of drawing below; planning drawings should only be treated as such.

0m 5m 10m 15m 20m 25m

VISUAL SCALE 1:250 @A1

- BOUNDARY LINE
- BUILDING OVERHEAD
- CAR PARK DIRECTIONS
- TREES TO BE REMOVED
- SITE ENTRANCE
- TURNING POINT

Rev	Description	Date	Drwn by	Chckd by
D	Plans & elevations updated to reflect moved flats & parking	25/11/19	JL	LRA
C	Additional ground floor flats added, plant room & bike store moved	22/10/19	JL	LRA
B	Updated elevations and plans following comments from WSCC and Planning Officer	11/10/18	JL	LRA
A	Updated plan for refuse collection	21/08/18	JL	LRA

APPLICATION FOR DETAILED

PLANNING CONSENT

Liam Russell Architects
architecture and development

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Liam Russell Architects Ltd registered in England and Wales 04758636

JOB Albion Street	CHECKED LRA
	DRAWN JL/LGR
CLIENT Adur Homes	DATE 25/11/19
	SCALE @ A1 1 : 250
DRAWING PROPOSED GROUND FLOOR SITE PLAN	REVISION D
	NUMBER 1538_PA_010

+00 - GROUND FLOOR

1 : 250

DO NOT SCALE FROM THIS DRAWING. THIS DRAWING IS COPYRIGHT ©



ALBION STREET LANDSCAPE SITE PLAN

1 : 100

LEGEND:

HARD LANDSCAPE
Surfaces (S)

- BRICK SETTS GREY (CAR CIRCULATION)
- BRICK SETTS BURNT OCHRE (PEDESTRIAN ZONE)
- BRICK SETTS BUFF (PARKING)
- ROAD
- GRAVEL
- FUTURE CYCLE ROUTE

SOFT LANDSCAPE

- EXISTING Tree retained. Survey and condition report by others. Tree works to be approved by others. PROTECTION MEASURES TO BE DETAILED SUBJECT TO AVAILABLE SURVEY INFORMATION
- TREE PLANTING EXTRA HEAVY NURSERY STOCK SEE PLANT SCHEDULE , WITH PREPARED TREE PITS, DOUBLE STAKE WITH CROSS BAR AND TIES
- SPECIMEN TREES SHRUB PLANTING Topsoil depth 600-900mm Stakes and rubber ties read with specification for pit sizes
- AMENITY HEDGE PLANTING Topsoil 600mm deep
- SHRUB PLANTING AMENITY Topsoil 600mm deep

GAS METER — GAS METER BOX

Do not scale.

Dimensions to be verified on site. Use figured dimensions only. Do not work from reduced scale drawings. Please refer to scale and sheet size as indicated.

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NOTES:

HARD LANDSCAPE
Surfaces (S)

S1 - Brick Setts - Driveline Priora Buff
S2 - Brick Setts - Driveline Priora Charcoal
S4 - Brick Setts - Driveline Priora Burnt Ochre
S5 - Ornamental Planting
S6 - Grass Turf
S7 - Gravel
S8 - Composite Amenity Decking

Edges (E)

E1 - Precast concrete Kerb (New)
E2 - Radial concrete kerb
E3 - Aco Hexdrain Channel

Boundaries (B)

B1 - 1800mm Timber c/b Fence with concrete posts & gravel boards
B2 - Hit and miss horizontal timber privacy screen 1900H
B3 - Galvanised security fence & gate, access controlled via suited padlock to be provided by housing manager

Electrical (E)

EC - Electric Car Charging Point

PLANTING SCHEDULE

Species	Size Supply Height/Girth	Container Size Litres	Spacing mm	Quantity Nº
Specimen Shrubs and Trees				
Trees double stake with cross bar and ties				
specimen shrubs single stake and ties				
TC- Tilea cordata `Streetwise' Extra Heavy Standard	18-20cm girth	45 litre	as shown	8
TC (r) - Tilea cordata 'Rancho' Extra Heavy Standard	14-16cm girth	45 litre	as shown	3
Euonymus europaeus `Red Cascade'	1.5-1.8m Ht	Container	as shown	6
Fatsia japonica `Varegata' (Bush)	0.9-1.2m Ht	Container	as shown	3
Pittosporum`Garnetti'	1.5-1.8m Ht	Container	as shown	2
Amenity Planting (Shrubs and Herbaceous)				
Carex `Evergold'	200-300	1 litre	400	105
Choysia ternata `Astec Pearl'	300-450	3 litre	500	72
Elaeagnus x ebbingei (Hedge)	600-900	3 litre	500	173
Elaeagnus x ebbingei `Limelight'	600-900	3 litre	500	70
Euonymus japonicus `Blondi'	200-300	1 litre	350	110
Escallonia `Red Elf'	200-300	1 litre	400	50
Hypericum calycinum	200-300	1 litre	400	35
Hydrangea m `Madame Emile Mouillere'	450-600	25 litre	750	3
Lirope muscari `Big Blue' '	200-300	1 litre	350	65
Lirope muscari `Variegata'	300-450	3 litre	350	40
Lonicera peliata	200-300	1 litre	600	20
Lonicera nitida `May Green'	300-450	1 litre	450	35
Phormium tenax `Variegata'	600-900	25 litre	550	6
Prunus `Otto Luyken'	300-450	3 litre	600	35
Pyracantha `Teton'	300-450	3 litre	450	45
Santolina virens	200-300	1 litre	400	50

SOFT LANDSCAPE NOTES:

1. Read with planting specification.

2. MULCH
Shrub planting beds and new hedge planting to be mulched with 100mm thick Coarse Bark Nuggets Melcourt, (No fines) or similar approved.

3. MANAGEMENT AND MAINTENANCE
All new planting areas are subject to 1 YEARS Defects Liability and Maintenance period as required. Any defective plants each year shall be replaced during this period and Mulch topped up to required depth, for weed control. Allow for watering in periods of drought and securing supports and ties, and tidy beds.

4. Planting to be set out and agreed in advance to excavation , all planting beds to be free draining.

5. All Topsoil for soft landscape works to comply to BS3882:2015, samples to be tested for compliance . Planting Compost and Slow Release fertilizers shall be incorporated into the shrub beds and specimen shrub pits, subject to specification and approval.

6. Allow for flexible capped watering pipe to all tree planting pits

Rev	Description	By	Date
C2	DISABLED PARKING BAY/ EV CHARGING POINTS CORRECTED	CF	26/07/23
C1	CAR CLUB PARKING BAY INDICATED/ CONSTRUCTION ISSUE	CF	24/07/23
P10	VISIBILITY SPLAYS ADDED & TREE SOIL CELLS OMITTED	CF	16/06/23
P9	- 3NO. HIPPOPHAEA SALICIFOLIA OMITTED AND REPLACED WITH TILEA CORDATA 'RANCHO'	JK	06/06/23
P8	- FRONTAGE PLANTING AMENDED	JK	30/05/23
P7	- MAINTENANCE FENCE GATES SPEC AMENDED - CLIMBERS TO NORTHERN BOUNDARY OMITTED	CF	21/02/23
P6	UPDATED TO COMMENTS, GAS METER BOX INDICATED	CF	13/02/23
P5	MEETING AMENDMENTS	JK	31/01/23
P4	MAINTENANCE NOTES and schedule	JK	16/01/23
P3	PLANTING DETAIL AMENDED	JK	15/12/22

westridge

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Project Address
ALBION STREET, SOUTHWICK, BN42 4DN

Project Title
ALBION STREET

Drawing Title
LANDSCAPE PLAN

	Name	Signed	Date
Drawn	-		-
Designed	-		
Checked	-		
Approved			

Scale 1 : 100 @ A1
File Nº 3176
Drawing Status PLANNING
Drawing Number B-00-DR-A-0110
Revision C2

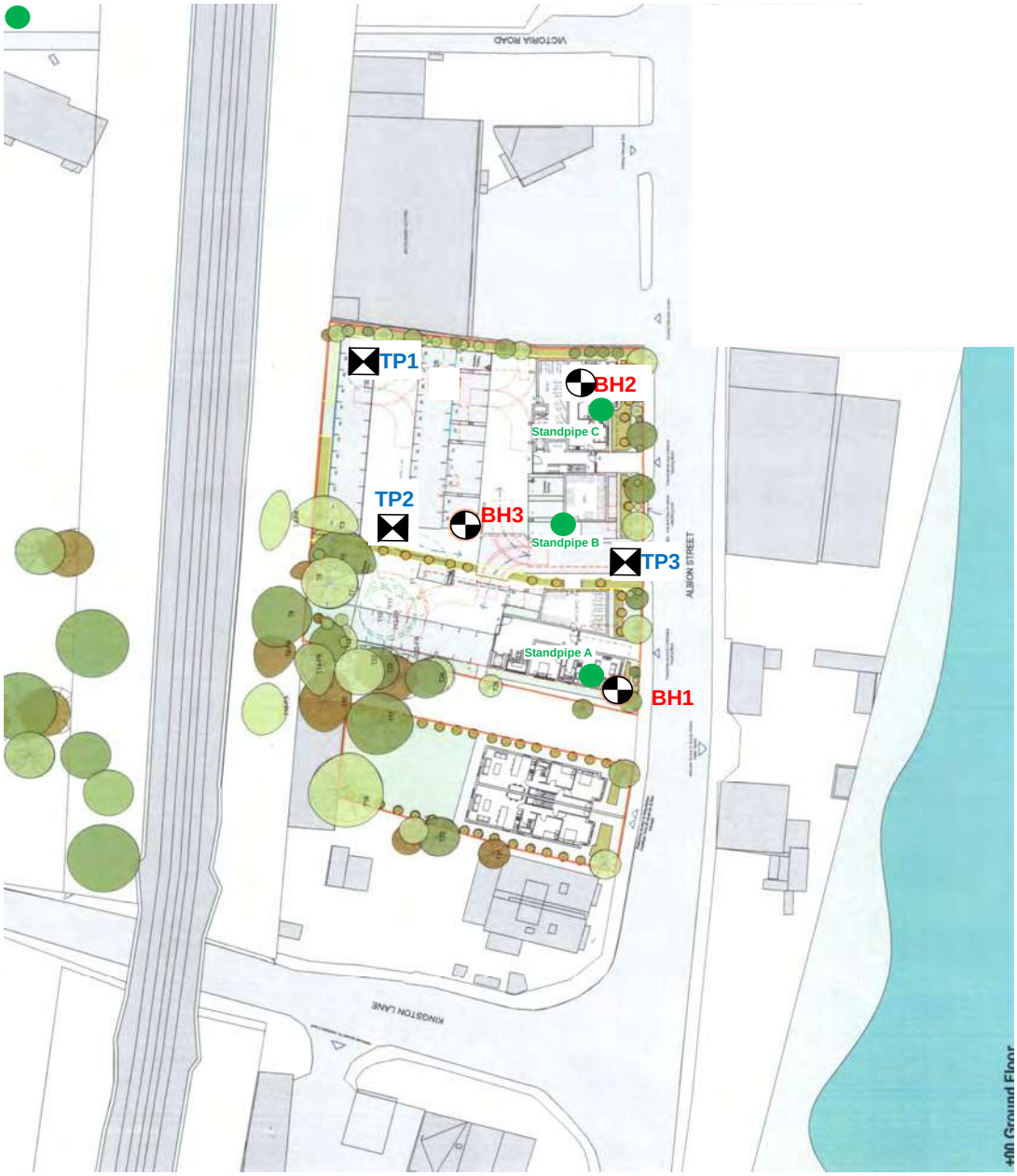
KEY

Borehole Location

Trial Pit Location

Previously installed Standpipe

N

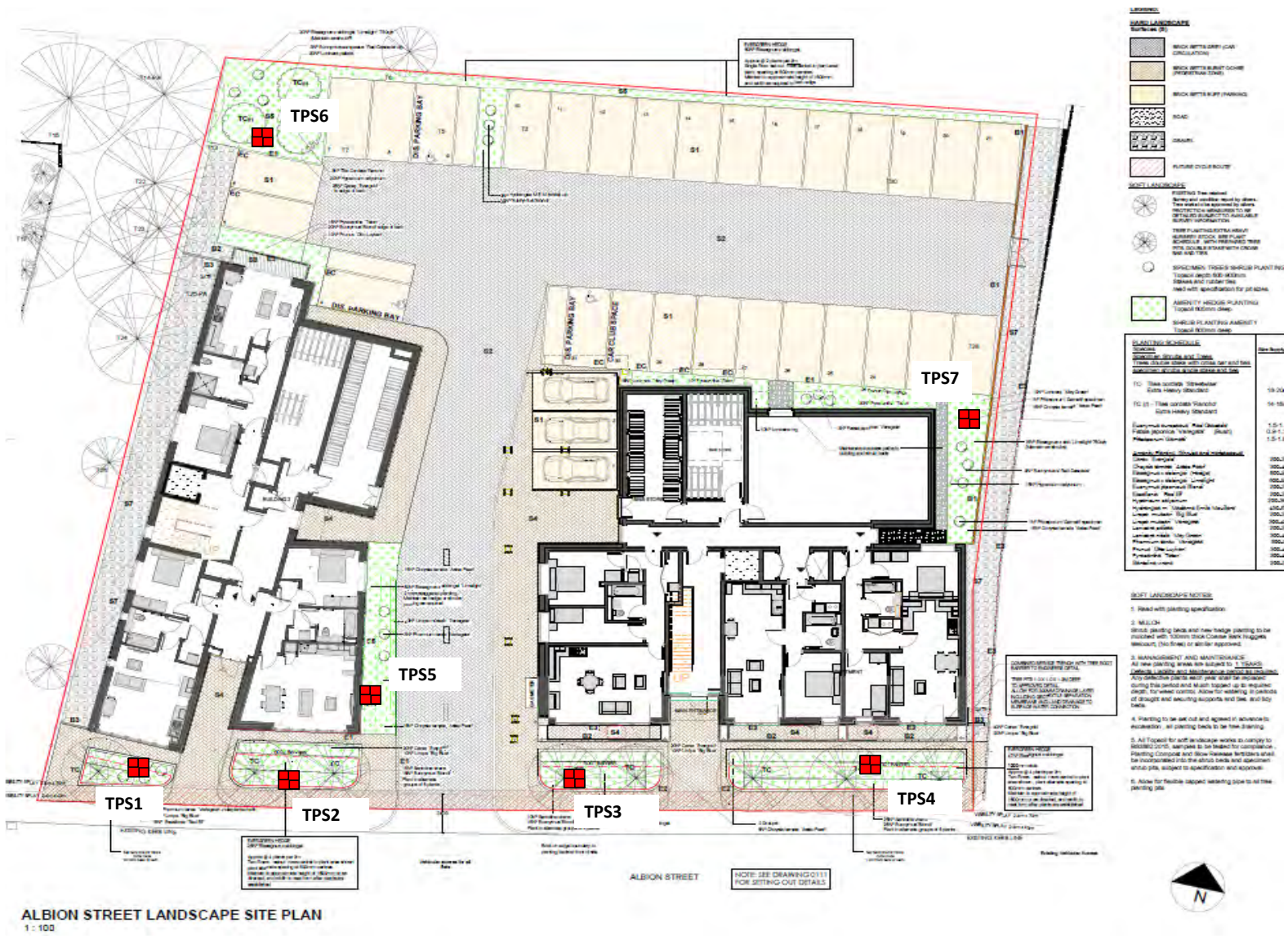


Risk Management

Title : **SKETCH FIELDWORK LOCATION PLAN**

RISK MANAGEMENT LIMITED
Unit 10 Coopers Place, Combe Lane,
Godalming, Surrey GU8 5SZ
Tel : 01883 343572

Project Location :	Albion Street, Southwick, Brighton, East Sussex BN42 4DN	
Report Date : May 2020		Scale : NTS
Drawn By : MSP		Drg. No. RML 7338 /1



ALBION STREET LANDSCAPE SITE PLAN
1 : 100

Risk Management
Unit 10 Coopers Place, Combe Lane, Godalming,
Surrey, GU8 5SZ
Tel : 01883 343572

Title:	**SKETCH FIELDWORK LOCATION PLAN**	Drawing No.	9068/1
Project Location:	11-21 Albion Street, Southwick, East Sussex, BN42 4DN	Scale:	N.T.S.
Report Date:	February 2025	Drawn By:	R. Price

KEY

Trial Pit/sample Location











Risk Management	Title : **TRIAL PIT PHOTOGRAPHS** **LOCATION S1**	Report Date : February 2025
RISK MANAGEMENT LIMITED Tel : 01883 343572	Project Name : 11-27 Albion Street, Southwick, East Sussex BH42 4DN	Plate **1** Job No : RML 9068











Risk Management	Title : **TRIAL PIT PHOTOGRAPHS** **LOCATION S2**	Report Date : February 2025
RISK MANAGEMENT LIMITED Tel : 01883 343572	Project Name : 11-27 Albion Street, Southwick, East Sussex BH42 4DN	Plate **2** Job No : RML 9068











Risk Management	Title : **TRIAL PIT PHOTOGRAPHS** **LOCATION S3**	Report Date : February 2025
RISK MANAGEMENT LIMITED Tel : 01883 343572	Project Name : 11-27 Albion Street, Southwick, East Sussex BH42 4DN	Plate **3** Job No : RML 9068











Risk Management	Title : **TRIAL PIT PHOTOGRAPHS** **LOCATION S4**	Report Date : February 2025
RISK MANAGEMENT LIMITED Tel : 01883 343572	Project Name : 11-27 Albion Street, Southwick, East Sussex BH42 4DN	Plate **4** Job No : RML 9068











Risk Management	Title : **TRIAL PIT PHOTOGRAPHS** **LOCATION S5**	Report Date : February 2025
RISK MANAGEMENT LIMITED Tel : 01883 343572	Project Name : 11-27 Albion Street, Southwick, East Sussex BH42 4DN	Plate **5** Job No : RML 9068











Risk Management	Title : **TRIAL PIT PHOTOGRAPHS** **LOCATION S6**	Report Date : February 2025
RISK MANAGEMENT LIMITED Tel : 01883 343572	Project Name : 11-27 Albion Street, Southwick, East Sussex BH42 4DN	Plate **6** Job No : RML 9068











Risk Management	Title : **TRIAL PIT PHOTOGRAPHS** **LOCATION S7**	Report Date : February 2025
RISK MANAGEMENT LIMITED Tel : 01883 343572	Project Name : 11-27 Albion Street, Southwick, East Sussex BH42 4DN	Plate **7** Job No : RML 9068