



CALA Homes (South Home Counties)

Former Ibstock Brickworks, West Hoathly

Foundation Works Risk Assessment

3750952-R03(00)

RSK GENERAL NOTES

Project No.: 3750952

Title: Foundation Works Risk Assessment: Former Ibstock Brickworks, West Hoathly, Hamsey Road, Sharpthorne, RH19 4PB

Client: CALA Homes (South Home Counties)

Date: July 2025

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Status: 00

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Revision control sheet				
Revision ref.	Date	Reason for revision	Amended by:	Approved by:
00	16/07/2025	First issue	n/a	see above

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APPENDICES

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1 INTRODUCTION

1.1 Commissioning

RSK Environment Limited (RSK) were engaged by Cala Homes (South Home Counties), The Dorking Business Park, Station Road, Dorking, RH4 1HJ (company no. 08800163), herein referred to as the 'Client' to prepare a Foundation Works Risk Assessment (FWRA) at the land at Former Ibstock Brickworks, West Hoathly, Hamsey Road, Sharpthorne, RH19 4PB.

The works were undertaken by means of RSK Geoscience's fee proposal Ref. 19224 10-05T (01), dated 8 April 2025, which forms the appointment between ourselves and the Client.

References in this report to 'we', 'us', or 'our' shall mean RSK Geosciences as a trading name of RSK Environment Limited (company no.SC115530) at registered address 65 Sussex Street, Glasgow, G41 1DX.

The report should be read and used in accordance with the limitations and constraints identified in the report text, and at **Appendix A – Service Constraints**.

1.2 Objectives

It is understood that the site has planning permission with Mid Sussex District Council for the demolition of existing structures and redevelopment providing 108 residential dwellings with associated works and infrastructure, as per the planning application DM/23/0827. The proposed development is provided as **Figure 2: Drawing SK002 RevP02**.

As part of the decision notice for application DM/23/0827, Planning Condition 26 states that '*piling or any other foundation methods using penetrative methods shall not be permitted other than with the express written consent of the Local Planning Authority, which may be given for those parts of the site where it has been demonstrated by a piling risk assessment that there is no resultant unacceptable risk to groundwater*'. The objective of this report is to assess the potential for the proposed piling works to have an adverse impact on identified groundwater receptors and to recommend suitable mitigation measures, if necessary, and also support discharge of Planning Condition 26.

The assessment has been undertaken in line with Environment Agency best practice¹ and considers the following potential hazards:

1. Creation of preferential pathways through low permeability aquifer (aquitard), to allow potential contamination of an underlying aquifer;
2. The driving of solid contaminants down into the aquifer during the pile driving;
3. Contamination of groundwater and, subsequently, surface water by turbidity, support fluids, concrete, cement paste or grout;
4. Direct contact of the piles or engineered structures with contaminated soil or leachate causing degradation of pile materials (where the secondary effects are to increase the potential for contamination migration);

¹ CL:AIRE, 2025. Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention. CL:AIRE, Reading. ISBN 978-1-905046-51-5

5. Creation of preferential pathways, including through a low permeability layer, to allow upward migration of landfill gas, soil gas, mine gas or contaminant vapours (e.g. VOCs) to the surface;
6. Causing off site migration of ground gas or increased vertical emissions as a result of vibration or other effects from the pile installation process; and
7. Direct contact of site workers and others with contaminated soil arisings that may have been brought to the surface.

1.3 Existing reports

The following reports detailing previous works at the site were made available for review, and should be read in conjunction with this report:

- Phase 1 and Phase 2 Geo-environmental and Geotechnical Factual and Interpretive Report, RSK Geosciences, ref. 1922410-R01 (02), February 2024.
- Remediation Method Statement, RSK Geosciences, ref. 1922410-R03 (00), February 2024.
- Earthworks Material Assessment and Specification, RSK Geosciences, ref. 3750952-R01 (00), June 2025.
- RE: Former Ibstock Brickworks, West Hoathly – Supplementary Ground Investigation, RSK Geosciences, ref. 3750952-R02 (00), 23 June 2025.

Pertinent information from these reports has been summarised in Section 2.

1.4 Sustainability considerations

One of RSK's guiding principles is 'promoting the concept of sustainability in all that we do'. The RSK Group Second Nature 2030 Sustainability Strategy (RSK, 2023) confirms our commitment to embedding sustainability throughout our business and creating lasting positive impact for our planet and its people by delivering sustainability in all that we do.

This is supported by RSK Geosciences' Sustainability Policy, which sets our aspiration to provide industry-leading site assessment services to our clients to achieve more sustainable and climate resilient development and to support circular economy, decarbonisation and nature-based solutions. We also recognise that we have a responsibility to reduce our own business-related emissions. In this way our business activities are aligned with and contribute to meeting several of the UN Sustainable Development Goals (SDGs), as well as supporting pathways to net zero and circular economy.

Sustainability considerations have therefore been taken into account during the design, planning and implementation stages of the project as described in this report. Our approach prioritises sustainability by integrating Sustainable Management Practices (SMPs) across the project lifecycle, to reduce our project-related emissions and help our client achieve more sustainable outcomes for their projects. SMPs were originally published by CL:AIRE (CL:AIRE, 2021a) and further developed by RSK Geosciences as an in-house tool.

Where applicable, consideration has been made throughout this report to align the recommendations with circular economy, sustainable development and climate resilience.

1.5 Limitations

This report is subject to the RSK service constraints given in **Appendix A** and limitations that may be described below and throughout this document.

This report was prepared in accordance with good practice guidance and available datasets at the time of issue. Consideration should be considered in the light of changes in legislation, statutory requirements, or industry practices subsequent to the date of issue.

The study aims to principally identify and assess the potential risks and liabilities associated with contamination of the ground, on and in the vicinity of the site. While this includes consideration of current operations and housekeeping on the site, the report does not constitute a comprehensive environmental audit of the site, as covered under ISO 14001.

The comments given in this report and the opinions expressed are primarily based on third party data and investigations, while RSK have undertaken a review of the information provided RSK cannot be held liable for the quality of the data provided. There may be conditions pertaining to the site that have not been disclosed by the investigations and therefore could not be taken into account.

2 SITE DETAILS

2.1 Site location

Site location details are presented in **Table 1** and a site location plan is provided on **Figure 1: Drawing 11101**.

Table 1 Site location details

Site name	Former Ibstock Brickworks, West Hoathly
Full site address and Post code	Hamsey Road, Sharpthorne, RH19 4PB
National Grid reference (centre of site)	TQ 37195 32938

2.2 Site description and surrounding area

The site boundary and current site layout are shown on **Figure 1: Drawing 11101**. The site covers an area of c. 4.61 hectares and is accessed from the southwest via Hamsey Road. It is located on the northern edge of the village of Sharpthorne and at the time of writing comprises a former brickworks with expansive areas of hardstanding and open storage.

The site is irregular in shape comprising multiple buildings previously utilised in the brick-making process. Approximately 80 percent of the site is covered with hardstanding. The south of the site is predominantly covered by asphalt with two car parks associated with the site office building situated in the southwest. The rest of the site is covered by concrete and minor areas of soft landscaping in the northeast.

The site elevation increases from west to east with a small retaining wall located in the centre of the site running north to south. The site is approximately 110 m AOD west of the retaining wall and 115 m AOD to the east.

A clay pit is located in the northeast of the site which had been dewatered by the client prior to the more recent ground investigation in April 2025 (ref 3750952-R02 (00)). Access to the clay pit was via a concrete ramp in the northwest corner. Ground levels within the pit are variable and localised ponding of water remained in the west at the time of the recent site works. Along the eastern and northern sides demarcating the edge of the excavated clay is a 4 m to 5 m high vertical cutting face exposing sandstone and siltstone rock beds. A small attenuation pond is located in the centre of the site and drains off site to the west. A second pond is located in the east of the site to the south of the clay pit. Surface water drainage from the site was noted to discharge via an outfall in the northwest of the site, which connects to Coombe Brook directly to the north of the site.

The site is located in a predominantly residential setting, with agricultural land to the north and east, residential housing to the south with agricultural land beyond and Bluebell Railway to the west with residential housing beyond.

2.3 Site History

The desk study review of the site indicated that the site had historically been used as a brickworks from at least the earliest maps dated to the 1870s. Anecdotal information from the site manager indicated the site had been used as a brick works for ~300 years, with works onsite only ceasing in the early 2020s. Buildings and yard areas have predominantly been present in the western portion of the site, with clay pits historically present in the east.

2.4 Regional geology and encountered ground conditions

According to published records the site is mapped as underlain by Wadhurst Clay Formation and Ashdown Formation, with no superficial deposits. Made ground is also mapped onsite and prior to intrusive works was anticipated to comprise reworked clay and anthropogenic materials. Local BGS boreholes circa 80 m to the northeast (refs TQ33SE1, TQ33SE2 and TQ33SE3) generally encountered topsoil over brown clayey silt to between 1.0 m and 1.75 m bgl, underlain by interbedded siltstone and mudstone to the base of excavation at 9.4 mbgl.

Two phases of intrusive investigation have been undertaken by RSK onsite to date: The Phase II investigation undertaken in 2022 and 2024 (ref 1922410 R01 (02)) and a further supplementary investigation in April/May 2025 (ref 3750952-R02 (00)). **Table 2** below provides a summary of the ground profile encountered across both phases. **Figure 3: Drawing 22202** provides a plan of all trial hole locations undertaken onsite over the proposed layout.

Table 2 Site geology

Strata	Description	Depth to top of stratum m bgl	Proven thickness (m)
Made Ground	Green, grey and brown gravelly CLAY with anthropogenic materials including brick, concrete, flint, siltstone, sandstone, glass, plastic, ceramic, coal and wood ash and clinker.	GL	0.08 to 6.0
Wadhurst Clay Formation	Brown mottled grey silty CLAY occasionally containing gravels of siltstone and sandstone	0.08 to 6.0	0.3 to 1.82
Ashdown Formation	Heavily weathered interbedded siltstones and sandstones	0.2 to 6.5	0.1 to 14.35 (full depth not proven)

The made ground comprised hardstanding (either asphalt or reinforced concrete) over predominately cobbles of brick and red sandy gravel, further overlying gravelly clay, silty sand and gravel. The proven thickness of made ground was between 0.05 m bgl and 6 m bgl. Gravel comprised brick, concrete, flint, siltstone, sandstone, glass, plastic, ceramic, coal and wood, ash and clinker. Occasional cobbles of brick and whole bricks were also noted. Rootlets were present in some of the locations. Kiln “dust” within the on-site sheds consisted of red and orange gravelly sand to a depth of 1.3 m to 1.5 mbgl directly overlying the weathered siltstone.

Soils representative of the Wadhurst Clay Formation were encountered to depths of between 0.6 m and 6.5 m bgl, comprising slightly gravelly silty clay with frequent relic rootlets in the top 0.5 m. Gravel ranged from angular to subangular and from fine to coarse of siltstone. Heavily weathered siltstone interbedded with sandstone (both units recovered as silty gravel) was encountered either directly underlying the made ground or beneath the shallow clay (from between 0.4 m and 6.5 mbgl), which was interpreted as the Ashdown Formation.

2.5 Hydrology and encountered groundwater

The Wadhurst Clay Formation mapped beneath the site is classified as an Unproductive Strata with respect to aquifer designations, with the underling Ashdown Formation classified as a Secondary A Aquifer.

The Phase I desk study report identified the site not to be located within a groundwater Source Protection Zone (SPZ). Furthermore there are no potable groundwater abstraction licenses located within 1000 m of the site.

During intrusive works groundwater strikes were encountered at depths between 0.17 m and 3.59 m bgl, with subsequent monitoring within installed groundwater monitoring wells between 0.53 m and 6.06 mbgl (106.31 m AOD to 116.27 m AOD). Given the variable nature of the groundwater levels encountered, and the classification of the Wadhurst Clay as Unproductive Strata it was considered that the groundwater encountered comprised perched water as opposed to a continuous groundwater table.

Based on BGS hydrogeological maps and BGS logs the Phase I desk study interpreted that the groundwater table beneath the site would be circa 35 m below the existing ground levels.

2.6 Encountered contamination

2.6.1 Soils

During the site investigation slight hydrocarbon odours were noted in the made ground in locations WS32 and TP41 (and minor staining in TP41) in the southern portion of the site in close proximity to an above ground storage tank. In addition a moderate solvent odour was noted around wood fragments observed within the made ground ~1.7 m depth in WS110 in the centre of the site, which was considered to be due to the wood comprising a treated railway sleeper. An organic odour was also noted in WS102 in north-northwest circa 2.9 m depth.

Selected samples of made ground (33) and underlying soils (9) were scheduled for laboratory testing for a range of contaminants of concern including heavy metals, polyaromatic hydrocarbons (PAHs), petroleum hydrocarbons (TPH CWG) and asbestos, with additional samples scheduled for volatile and semi-volatile organic compounds (VOCs and SVOCs). The results were assessed against assessment criteria based on a residential end use scenario.

All samples of the natural strata, and the majority of the made ground samples, detected no exceedances with respect to the selected assessment criteria. Exceedances of lead were detected in the predominantly shallow made ground in 4 trial holes located in the north-northwest of the site (BH1 at 2.8 m, BH5 at 2 m and WS112 0.55 m) and east (WS111 at 0.35 m) with a marginal arsenic exceedance also recorded in WS112 at 0.55 m. Asbestos fibres were also recorded in the shallow made ground in WS101 (at 0.6 m) in the northwest corner of the site, as chrysotile with <0.001% concentration of fibres.

Whilst mild hydrocarbon odours and staining were noted in the made ground soils in the south of the site, no exceedances of hydrocarbons, VOCs or SVOCs were detected with respect to their assessment criteria.

2.6.2 Groundwater

No generic quantitative risk assessment was undertaken with respect to groundwater. However given the lack of mobile contaminants encountered within the soils tested to date and the lack of a continuous groundwater body beneath the site it was concluded that the site did not pose a risk to controlled waters, and so no further detailed assessment was considered necessary.

2.6.3 Ground Gas

Ground gas monitoring was initially undertaken within the first phase of the intrusive works by RSK, comprising 3 ground gas monitoring rounds undertaken in September and October 2022. A further 3 monitoring rounds were undertaken between 19 May and 13 June 2025. The monitoring detected low concentrations of steady state methane, generally between 0 % and 0.3 %, with peak concentrations also generally below 0.5% though up to 3.2% in WS20 during the visits in 2022. Carbon dioxide concentrations were more variable, ranging between 0 % and 10.4 % again though generally <5.5%. Steady state flow rates were generally below 1 l/hr, only occasionally peaking up to 4.3 l/hr. It is noted that monitoring was undertaken over a range of atmospheric pressures.

Assessment of the ground gas regime beneath the site was undertaken in accordance with BS8485 guidance, including a 'worst case check'. Overall the site was classified as Characteristic Situation 1 (CS1), indicating a very low risk of ground gases, and no ground gas protection measures were considered to be required. Low levels of trace gases (carbon monoxide and hydrogen sulphide) were also recorded however given the low concentrations these were not considered to pose a risk to the proposed development.

2.7 Proposed foundation design

As part of the proposed development an earthworks activity will be undertaken comprising up to 5 m of cut in the centre, south and northwest corner of the site (up to 2.85 m of cut where houses are proposed with deepening around proposed attenuation basins), and up to 6.8 m of fill within the centre, east and north, particularly where the former clay pits were located. Mass balance calculations indicate an overall deficit of ~450 m³.

A preliminary foundation strategy schedule prepared prior to the supplementary investigation (included as **Appendix B**) identified that shallow strip foundations would be suitable where siltstone/sandstone of the Ashdown Formation was encountered at shallower depths, comprising Plots 2 to 11, 14 to 20, 24, 47, 52 to 66, 80 to 92 and 98 to 102 with maximum founding depths of between 1.05 m and 2.4 m below existing levels. Piled foundations were recommended for Plots 1, 12, 13, 21 to 23, 25 to 46, 48 to 51, 67 to 79, 93 to 96 and 103 to 108, either where significant filling was proposed and/or where bedrock was encountered at an unsuitable depth for trench foundations, or where deepening is required due to the presence of Wadhurst Clay.

As part of the supplementary investigation 3 rotary boreholes were drilled to between 10 m and 15 mbgl to support the piled foundation design. A preliminary design compressive resistance of ~ 400 kN for a 10 m long 350 mm diameter pile was recommended where deep made ground was encountered. It is noted that at this stage the recommendations for piling are preliminary and no specific depths for individual plots have been provided. Nor has the type of piling method been agreed. However the maximum depth of piling would be restricted

to 10 m based on the investigations to date, and it is considered likely that the piles will be formed by means of continuous flight auger (CFA) methodology.

2.8 Remedial Works

A remediation method statement (RMS) was produced for the site to identify suitable remedial measures with respect to the contamination encountered, to mitigate any potential long-term environmental impacts to the proposed development and identified receptors (ref. 1922410 R03 (00)). During enabling works above and below ground infrastructure is required to be decommissioned, cleaned and removed, with inspection by an environmental engineer to examine the soils remaining around the structures. Existing monitoring wells are also required to be decommissioned to ensure preferential pathways are not created for contaminant migration. During the construction phase clean cover soils are required to replace made ground soils in soft landscaping areas, up to 600 mm in private gardens.

It is also noted that some cutting is proposed in the northwest corner where lead exceedances were encountered in BH1 and BH5, up to 2.85 m of cut, which would also act to remove the made ground, and thus the contaminated soils, in this area.

3 CONCEPTUAL SITE MODEL

The purpose of this conceptual site model (CSM) is to identify those potential contaminant linkages related to the proposed development that may be affected by the proposed foundation (piling) solution.

3.1 Sources

Based on the intrusive investigations and assessment completed to date, the following potential sources of contamination are present onsite:

- Lead within the predominantly shallow made ground in the north-northwest and east of the site.
- Arsenic within the shallow made ground in the north of the site.
- Low level (<0.001%) asbestos fibres in the made ground in the northwest corner of the site.
- Mild hydrocarbon staining in the south of the site possibly associated with a former oil tank, noting that no concentrations previously recorded exceeded assessment criteria.

3.2 Receptors

Receptors that could be impacted by the foundation works have been identified as:

- Construction workers.
- Future residents.
- Secondary A Aquifer within Ashdown Formation.
- Attenuation pond and pond in the centre and east of the site respectively.
- Coombe Brook directly north of the site.
- Construction materials.

Off-site residents have been discounted because suitable constructions practises will be required in the Construction Environment Management Plan (CEMP), which is also required to discharge Planning Condition 15. As such, no exposure of off-site residents is envisaged.

3.3 Potential contaminant pathways

In accordance with Environment Agency best practice² the following potential pathways have been considered with regards to potential risks arising from contamination at the site and the proposed pile construction at the site:

1. Creation of preferential pathways through low permeability aquifer (aquitard), to allow potential contamination of an underlying aquifer;
2. The driving of solid contaminants down into the aquifer during the pile driving;

² CL:AIRE, 2025. Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention. CL:AIRE, Reading. ISBN 978-1-905046-51-5

3. Contamination of groundwater and, subsequently, surface water by turbidity, support fluids, concrete, cement paste or grout;
4. Direct contact of the piles or engineered structures with contaminated soil or leachate causing degradation of pile materials (where the secondary effects are to increase the potential for contamination migration);
5. Creation of preferential pathways, including through a low permeability layer, to allow upward migration of landfill gas, soil gas, mine gas or contaminant vapours (e.g. VOCs) to the surface;
6. Causing off site migration of ground gas or increased vertical emissions as a result of vibration or other effects from the pile installation process; and
7. Direct contact of site workers and others with contaminated soil arisings that may have been brought to the surface

4 FOUNDATION WORKS RISK ASSESSMENT

A qualitative risk assessment has been undertaken by evaluating each of the Pollution Scenarios (covering groundwater, ground gas and health and safety risks) as outlined in CL:AIRE guidance for preventing pollution during piling³ and as adopted by the Environment Agency.

Pollution Scenario 1 - Creation of preferential pathways through low permeability aquifer (aquitard), to allow potential contamination of an underlying aquifer

At present the ground conditions across much of the site comprise made ground overlying the Wadhurst Formation (Unproductive Strata) overlying interbedded siltstone and sandstone of the Ashford Formation (Secondary A Aquifer). The proposed piling scheme comprises founding the base of the piles in the Ashford Formation. As such the piling will create a potential pathway from the made ground through the more impermeable Wadhurst Formation into the underlying Secondary A Aquifer.

At present the proposed maximum piling depth is 10 m, based on a maximum borehole depth of 15 m. The deep boreholes undertaken during the supplementary investigation encountered shallow groundwater strikes between 1.1 m and 1.9 mbgl within the made ground or at the boundary between the made ground/Wadhurst Clay and underlying siltstone. No groundwater strikes were encountered at depth in the deep boreholes. Groundwater monitoring across the wider site encountered groundwater between 0.53 m and 6.06 mbgl, with both the Phase II investigation and supplementary investigation considering the levels encountered to represent perched groundwater. As such, it is considered that the groundwater table within the Secondary A Aquifer has not been encountered to date during intrusive works. The Phase I desk study estimated the groundwater table beneath the site to sit around 35 mbgl, based on BGS boreholes and hydrogeological maps. Therefore, whilst a preferential pathway for contamination may be created through the made ground and Wadhurst Clay into the Ashdown Formation, given that the piles will be terminated at 10 m it is considered unlikely that the preferential pathway will extend into the anticipated water table within the aquifer. Furthermore, there is potentially up to 25 m between the maximum depth of the piles and the groundwater, which may be greater where piling will take place through fill placed during the earthworks activity. Given the anticipated distance between the base of the piles and the groundwater table it is also considered highly unlikely that any contamination which may migrate down the preferential pathway will reach the groundwater table.

Moreover, the levels of contamination detected to date are generally low and comprise less-mobile contaminants (heavy metals, asbestos) which are considerably less likely to migrate along any preferential pathway created by piling. Similarly there is no evidence of significant mobile contamination (hydrocarbons, NAPL) within the perched water encountered to date which would move along any preferential piling pathway.

³ CL:AIRE, Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention, March 2025

Pollution Scenario 2 – The driving of solid contaminants down into an aquifer during pile driving

Soil contamination comprising lead, arsenic and asbestos was encountered in the north-northwest (BH1, BH5, WS112, WS101) and east (WS111) of the site. Plots 72 to 74, 80 and 81 cover the north-northwest region where the majority of the contamination was encountered. Based on the preliminary foundation schedule Plots 72 to 74 are proposed to be piled, whilst Plots 80 and 81 will be proposed to comprise trench footings. Given that Plots 80 and 81 are proposed to comprise shallow foundations there is no risk of contamination present in these areas being driven downwards into the aquifer. Plots 72 to 74 are proposed to be piled, so there is potential for contamination within the soils to be driven into the Secondary A Aquifer. However, as part of the earthworks strategy it is proposed to cut between 1.0 m and 2.85 m from Plots 72 to 74, which will act to remove the contaminated made ground encountered within this area, particularly BH1 where lead contamination was encountered at 2.85 m. BH5, where a lead exceedance was encountered at 2.0 m, is located over Plot 81 where trench footings are proposed and thus whilst the contamination will remain at depth there is no risk that this deeper contamination will be driven down by the action of piling. WS111, where a lead exceedance was encountered, is located over where Plots 40 to 41 are proposed. Both these plots are proposed to be piled, however the concentration of lead recorded was only marginally over the assessment criteria (228 mg/kg) and the contamination present is unlikely to significantly impact the Secondary A Aquifer.

As part of the earthworks activity, some made ground may be reused onsite to fill areas including the former clay pits in the east of the site, to create a level platform for construction (reput ref 3750952 R01 (00)). As part of the specification all materials (including made ground) proposed to be reused as fill will be subject to contamination testing at a frequency of min. 2 samples per source then 1000 m³ thereafter, therefore limiting the reuse of contaminated made ground as fill. As such piling works through placed fill materials will not result in solid contaminants being driven into the underlying Ashdown Formation.

Whilst the piling methodology for this site is yet to be confirmed it is considered likely to comprise continuous flight auger techniques rather than driven displacement piles.

In addition, as discussed above the groundwater table within the Secondary A Aquifer is anticipated to be up to 25 m below the maximum depth of piling. As such any solid contamination driven down by the piling activity is highly unlikely to be driven into the groundwater table.

Pollution Scenario 3 – Contamination of groundwater and subsequently surface waters by turbidity, support fluids, concrete, cement paste or grout

As discussed in Scenario 1 above, the shallow groundwater encountered to date onsite is considered likely to represent perched water within the made ground or at the boundary between the made ground/Wadhurst Clay and underlying Ashdown Formation. Whilst there may be some continuity and flow of the perched water across the site, given the nature and variability in the levels it is unlikely to have any significant flow rate. The CL:AIRE guidance indicates the loss/migration of concrete, cement paste or grout from piling works into groundwater is only likely to occur where fast-flowing groundwater is present, which is not representative of the likely flow rates of the perched water present onsite. Furthermore, the CL:AIRE guidance indicates that support fluids are more likely to be lost where there are voids in the ground, or the ground conditions are highly permeable. Neither the Wadhurst Clay or Ashdown Formation (siltstone and sandstone) have been found to date nor are likely to comprise significant voids for support fluids to be lost. Nor would the Wadhurst Clay be considered highly permeable for the support fluids to be significantly lost in.

Whilst the Ashdown Formation has a higher degree of permeability than the Wadhurst Clay, it is still of a relatively low permeability and the likelihood for support fluids to be lost is low. This is further evidenced by infiltration testing undertaken as part of the Phase II report (see Section 11.7 of report ref 1922410 R01 (02)) in the Ashdown Formation, which returned negligible infiltration rates, and further indicates the relatively low permeability of the Secondary A Aquifer.

Surface water receptors are present onsite (2 No. ponds and Coombe Brook to the north) however none of the surface water features are likely to be in hydraulic continuity to the perched water onsite, given that both the ponds are man-made and the outfall from site to Coombe Brook has been identified in the north as being fed from surface water onsite. As such none of the surface water features would be expected to be impacted in the unlikely scenario that there was loss of any concrete, cement paste etc.

Pollution Scenario 4 - Direct contact of the piles or engineered structures with contaminated soil or leachate causing degradation of pile materials (where the secondary effects are to increase the potential for contamination migration)

Generally none of the concentrations of contaminants recorded to date are considered to be aggressive to pile materials (concrete, steel etc) or could pose a significant risk of degradation of pile materials.

BRE SD1 guidance⁴ indicates contaminants including sulphates, acids, magnesium, ammonium, chloride and organic compounds have the potential to create aggressive conditions for concrete and result in chemical attack and degradation of concrete. None of the samples of made ground or underlying strata detected concentrations of these contaminants which could create aggressive conditions. In addition, an assessment of the risk of chemical attack on buried concrete (see section 11.6 of report 1922410 R01 (02)) in accordance with BRE guidance indicated a generally low risk of sulphates and assigned appropriate design classes for any concrete proposed to be used onsite to mitigate any risks associated with sulphate attack. Similarly steel may be corroded and degraded by the presence of acidic conditions. pH testing on the made ground and natural soils recorded generally neutral or more alkaline pHs (generally samples with pH >7 and all samples with pH >5). CL:AIRE guidance indicates unless soils are strongly acidic (pH <4) then underground corrosion of steel piles is negligible. If steel is chosen as the main material within the piles then precautions may be taken including selection of the type of steel which is more resistant to chemical attack.

Pollution Scenario 5 - Creation of preferential pathways, including through a low permeability layer, to allow upward migration of landfill gas, soil gas, mine gas or contaminant vapours (e.g. VOCs) to the surface

The composition of the made ground encountered to date predominantly comprises gravelly clay with inert anthropogenic inclusions such as brick, flint, glass, plastic and ceramic. Wood was occasionally encountered however not at concentrations which would indicate significant putrescible materials, and a significant ground gas generating source. Ground gas monitoring was also undertaken as part of the intrusive investigations onsite. The monitoring indicated generally low levels of bulk (carbon dioxide, methane) and trace gases (carbon monoxide, hydrogen sulphide) as summarised in Section 2.6.3 of this report, with an overall low risk of ground gases impacting human health and infrastructure receptors. Given that the monitoring was undertaken where preferential pathways had been created through installation of the monitoring wells into the

⁴ BRE Special Digest 1:2005, Concrete in aggressive ground

made ground, it is considered highly unlikely that piling works would create a significant preferential pathway for ground gases to migrate along.

In the unlikely scenario that any significant putrescible materials or other ground gas sources that have not been encountered to date are found during groundworks, then the materials will be dealt with under the discovery strategy under Section 3.6 of the RMS for the site (ref 1922410 R03 (00)), which may include removal of the source of ground gases.

Pollution Scenario 6 - Causing off site migration of ground gas or increased vertical emissions as a result of vibration or other effects from the pile installation process

As discussed in Scenario 5 above, the concentrations of ground gases recorded onsite to date are not considered to be significant. Thus if the pile installation process resulted in mobilisation and lateral migration of ground gases, the concentrations of ground gases which could be mobilised are highly unlikely to impact offsite receptors. Furthermore made ground itself, and the underlying Wadhurst Clay, comprise clays and are more impermeable, thus would limit any lateral migration of ground gases.

Pollution Scenario 7 - Direct contact of site workers and others with contaminated soil arisings that may have been brought to the surface

The contaminated soils encountered to date onsite are predominantly shallow within the made ground, with limited contamination at depth. Thus any contaminated arisings generated through the piling works would be encountered in the top 2-3 m of the piling activity. The main potential contaminants of concern within the made ground are lead, arsenic and asbestos. Safe working practises will be implemented during all groundworks, including piling, which as a minimum will entail the provision of PPE and reduced contact with arisings (using plant/machinery to deal with arisings). Asbestos has potential to impact site workers through inhalation. Assessment using the Joint Industry Working Group (JIWG) decision tool (see Section 3.4.6 of RMS for the site indicated that any works in areas involving the disturbance of potentially asbestos-impacted soils would classify as non-licensable works. In accordance with the RMS, where excavation works are undertaken in areas where asbestos has been identified, any method statements should include all relevant control measures to be implemented (dampening down, appropriate PPE and RPE) for the duration of the works, alongside consideration of a watching brief. Furthermore information on the contaminants encountered will be provided to the appointed piling contractor for inclusion within their risk assessments.

5 CONCLUSIONS

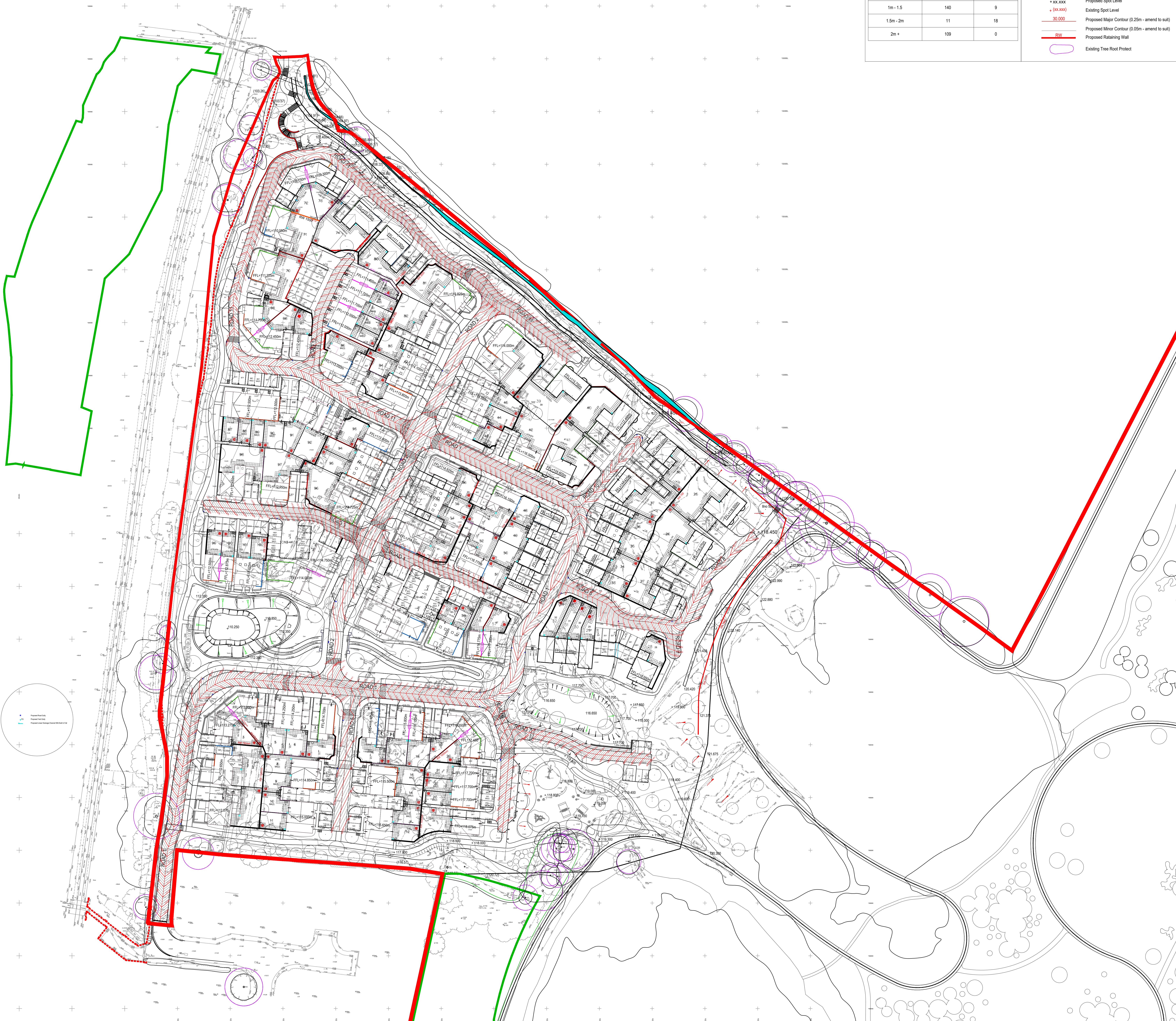
Based on the foundation works risk assessment undertaken above, it is considered that the proposed piling works will not have an adverse impact on the identified environmental receptors. As such no additional mitigation measures are considered to be required before piling works can commence, and no changes to the current proposed pile design are required.

It is noted that the exact depths for individual piles and the type of piling technique to be used have not been decided at this stage. It is recommended that once these elements have been agreed, that this FWRA be reviewed and updated to confirm the findings and recommendations are still appropriate.

This report should be submitted to the Environment Agency alongside Mid Sussex District Council to confirm there are no objections to the FWRA.

FIGURES

Figure 1 SITE LOCATION PLAN



Strategic Site Levels Legend

	Site Boundary
	Proposed Finished Floor Level
	Proposed Garage Floor Level
	Proposed Spot Level
	Existing Spot Level
	Proposed Major Contour (0.25m - amend to suit)
	Proposed Minor Contour (0.05m - amend to suit)
	Proposed Retaining Wall
	Existing Tree Root Protect

CIVIL / STRUCTURAL DESIGN RISK MANAGEMENT
Abnormal or unusual residual risks associated with the design outcomes shown on this drawing are:-
RSK LDK LTD has followed its Design Risk Management process for Hazard Elimination and Risk reduction in developing the designs shown on this drawing Abnormal or unusual residual risks may be shown above where it is considered that such risk may not normally be expected by competent persons engaged on work of this nature or type.

- Notes:**
1. This drawing presents the strategic site levels for the proposed development at West Hoathly, Brackwicks.
 2. This drawing is to be read in conjunction with all relevant Architects and Engineers drawings and specifications.
 3. This drawing is for discussion purposes only. This drawing is not to be used for Construction or setting out.
 4. All levels quoted are in metres A.O.D.
 5. For tree protection areas and trees to be removed refer to the Arboriculturalist's drawings and/or report.

P02	05.06.2025	Drawing updated to levels used in Earthworks Strategy.	YP	AM	-
P01	11.04.2025	Preliminary level issue for discussion.	YP	AM	-
Rev.	Date	Amendment	Drawn	Chk'd.	App'd.

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Client

WEST HOATHLY,
BRICKWORKS

Status: PRELIMINARY

STRATEG
LEVEL

Drawn	Date	Checked	Date	Approved	Date
YP	11.05.2025	AM	11.04.2025		

Scale	Orig Size	Dimensions
1:500	A0	M

Project No. 890844	Drawing File SW002-Preliminary Level Strategy.dwg
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Drawing No.	Rev.
SK002	P02

Draw. No.	
Scale 1:500	

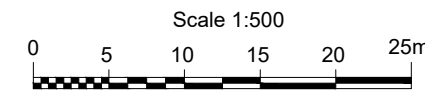
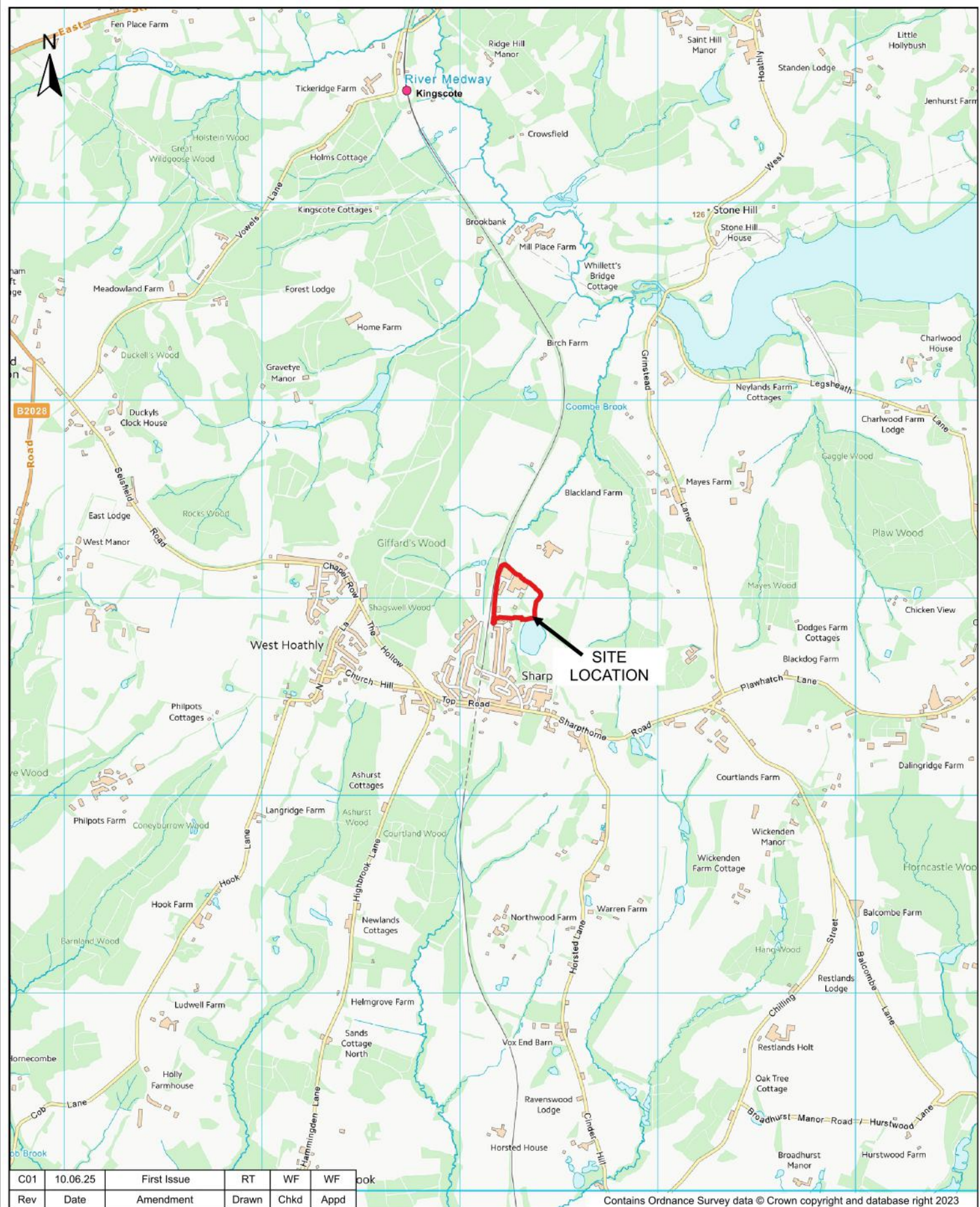


Figure 2 PROPOSED DEVELOPMENT



C01	10.06.25	First Issue	RT	WF	WF
Rev	Date	Amendment	Drawn	Chkd	Appd

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1 Forest Park Way, Pease Pottage,
West Sussex, RH11 9ZG

Client

Cala Homes South Home Counties

Project Name

Former Ibstock Brickworks, West Hoathly

Description

Site Location Plan

Dimension	Size	Scale	Geolocation	Project ID	Drawing no	Rev	File name
m	A4	1:25,000	537311, 133014	3750952	11101	C01	3750952-LW-111-XX-D-G-11101-C01

Figure 3 EXPLORATORY HOLE LOCATION PLAN



DO NOT SCALE FROM THIS DRAWING

LEGEND

- Site Boundary
- Exploratory Holes (April 2025 Investigation)
 - Borehole Location
 - Trial Pit Location
- Exploratory Holes Undertaken During Previous Phase of Investigation
 - Borehole Location
 - Trial Pit Location
 - Window Sample Location

Notes:
Base plan provided by the client.
Drawing Ref: 890844-SK002-P02 "Preliminary Level Strategy"

C01	30.06.25	First Issue	RT	AM	AM
Rev	Date	Amendment	Drawn	Chkd	Appd



1 Forest Park Way, Pease Pottage,
West Sussex, RH11 9ZG

Client
Cala Homes South Home Counties

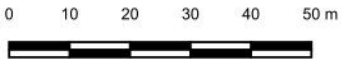
Project Name
Former Ibstock Brickworks, West Hoathly

Description
Exploratory Hole Location Plan

Project ID 3750952	Drawing no. 22202	Revision C01
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File name
LP3868-LW-222-XX-D-G-22202-C01

Dimensions m	Scale 1:1,250	Size A3
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APPENDICES

Appendix A

SERVICE CONSTRAINTS

APPENDIX A

SERVICE CONSTRAINTS

1. Service Constraints for all Reports

1.1. This Report (the "Report") and any study, inspection, investigation, sampling, testing and or interpretation carried out in connection with the Report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) trading as Carbon Zero Consulting, Leap Environmental or RSK Geosciences, for the Client named in the first paragraph of the Report (the "Client") in accordance with the terms of an RSK Fee Proposal including RSK Environment Standard Terms and Conditions (the "Appointment") between RSK and the Client, unless otherwise stated in the first paragraph of the Report. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by a geo-environmental consultant at the time the Services were performed. Nothing in this Report shall be construed as imposing any fitness for purpose obligation. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the Client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.

1.2 Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services. RSK shall not be liable in respect of any action or proceedings arising out of or in connection with this Report whether in contract, in tort, for breach of statutory duty or otherwise after the expiry of six (6) years from either (i) the date of the Report or (ii) such earlier date as prescribed by law, unless varied in the terms of the Appointment.

1.3 Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent, or condone any party, other than the Client relying upon the Services. Should this Report or any part of this Report, or details of the Services or any part of the Services, be made known to any such party, and such party relies thereon, that party does so wholly at its own and sole risk, and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent geo-environmental consultant and/or lawyer.

1.4 The Client shall not, without the prior written consent of RSK, assign, transfer, charge, mortgage, subcontract, or deal in any other manner with all or any of the benefits provided in this Report. Unless specified in the Appointment, RSK shall not be obliged to assign the benefit of the Report whether by collateral warranty, third party rights pursuant to the Contracts (Rights of Third Parties) Act 1999, letter of reliance or otherwise. If RSK agrees to any assignment of the benefit of this Report, in whatever form, benefits to third parties through collateral warranties, third party rights or letters of reliance shall not be provided unless a fee for each right, warranty or letter is agreed. The form of wording used in the warranty or letter shall be provided by RSK for agreement by the Client. Any reasonable changes to the form of wording will be implemented by mutual agreement, however the terms in the warranty or letter cannot offer the third party any greater benefit than the Appointment offered to the Client.

1.5 It is the understanding of RSK that this Report is to be used for the purpose described in the introduction to the Report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the Report is used, or the proposed use of the site change, this Report may no longer be valid and any further use of or reliance upon the Report in those circumstances by the Client without the review and advice of RSK shall be at the Client's sole and own risk. RSK shall not be liable for any use of this Report for any purpose other than that for which it was provided.

1.6 The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions contained in this Report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the Report in the future shall be at the Client's own and sole risk.

1.7 The observations and conclusions described in this Report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out, or required by the Appointment between the Client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this Report, RSK did not seek to evaluate the presence on or off site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, fuel storage, persistent bio-accumulative or toxic chemicals (including PFAS and related compounds) or other radioactive or hazardous materials, unless specifically identified in the Services.

1.8 The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of desk based publicly available information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services and the limitations below:

- a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.
- b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.
- c. The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the Client or third parties, including laboratories and information services, during the performance of the Services.
- d. The Client has identified in writing to RSK, the information, reports, findings, surveys and preliminary works RSK may not rely upon when providing the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK, and including the doing of any independent investigation of the information provided to RSK, save as otherwise provided in the terms of the Appointment between the Client and RSK.

1.9 Any site drawing(s) provided in this Report is (are) not meant to be an accurate base plan for scale measurement but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for accurate setting out and should be considered indicative only.

1.10 Should RSK be requested to review the Report after the date of issue of this Report, RSK shall be entitled to additional payment at the existing rates, or such other terms as agreed between RSK and the Client.

2. Service Constraints where the Report provides an intrusive assessment of ground conditions:

2.1 The intrusive environmental ground investigation aspects of the Services are a limited sampling of soil from the site, at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this Report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the properties of the materials adjacent and local conditions, together

with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope agreed between the Client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species (not tested) are not present.

2.2 The comments given in this Report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. The extent of the exploratory holes, laboratory testing and monitoring undertaken may have been restricted due to a number of factors including accessibility, the presence of buried or overhead services, current development, site usage, timescales or the Client's specification. The exploratory holes only assess a small proportion of the site area with respect to the site as a whole, and as such may only provide an indicative assessment of ground conditions on site. There may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised. The presence of hotspots of undisclosed contamination or exceptional and unforeseen ground conditions cannot be discounted.

2.3 Where the Services include Investigation of an exploratory nature or relating to physical ground works, any costings and prices provided in the Report are estimated and provided for guidance purposes only. The actual cost and time quantities shall be remeasured and shall be dependent upon the ground or other conditions, constraints present, and number and depth of the investigation locations, which shall influence the number of samples and tests required, and the quantities of soil being classified.

2.4 Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works. However, this Report does not constitute an asbestos survey. On this basis, the presence of asbestos on site cannot be discounted and a full asbestos survey should be undertaken.

2.5 Unless stated otherwise, only preliminary geotechnical recommendations are presented in this Report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed. Eurocode 7 gives guidance on the type of sampling, sample quality, number and spacing of intrusive investigations, and number of laboratory tests required. It is intended that the Geotechnical Information section of this Report will fulfil the general requirements of the Ground Investigation Report as set out in section 6 of Eurocode7, although this is subject to the restrictions imposed on the investigation, as listed above. For geotechnical design, Eurocode 7 requires the Geotechnical Design Report to address both the geotechnical and structural aspects of the geotechnical design for both the limit and serviceability states. The Geotechnical Appraisal section of this Report will not meet the requirements of a Geotechnical Design Report (GDR) and should therefore be used for preliminary guidance only.

3. Service Constraints where the Report relates to Surface Water Management:

3.1 The Surface Water Management Inspection (SWMI) Report, documents provided, observations, actions, and recommendations, with respect to the management of potential pollution issues to surface waters, made during the site Inspection visit, are those present at the time of the visit, and may not represent those recorded by others on the same day.

3.2 The comments given in this Report and the opinions expressed are based on the weather, ground and ground water conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not

been disclosed by the inspection and therefore could not be taken into account. In addition, groundwater levels and flows, may vary from those Reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.

3.3 RSK places a degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this Report was prepared.

3.4 This Report is a live document, to be continually reviewed and updated as the development progresses or other changes occur on site. RSK can only maintain the currency of this Report through the Client requesting support with supplementary site visits or attendance at meetings ahead of key stages of the development in relation to surface water management. Our risk rating assesses a number of risk factors in line with the source-pathway- receptor model and is therefore subject to constant change.

3.5 Standard design drawings are indicative. Material types, dimensions and construction details will need to be adjusted by the Client to suit the specific conditions / flows on Site.

3.6 The full responsibility for implementing the site-specific protection and maintenance measures to protect the surface water system as stated in this Report, remains with the Client and their site management team. Additional control measures may be required to achieve the objectives set out in the Surface Water Management Plan to be implemented and financed by the Client.

4. Service Constraints where the Report relates to Waste Management:

4.1 In accordance with the definition provided in the Waste Framework Directive (WFD), materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded, by the holder'. Naturally occurring soils are not considered waste if re-used on the site of origin for the purposes of development. Soils such as made ground that are not of clean and natural origin (irrespective of whether they are contaminated or not) and other materials such as recycled aggregate, do not necessarily become waste until the criteria above are met. Excavation arisings from the development may therefore be classified as waste if surplus to requirements and/or unsuitable for re-use.

4.2 It is the duty of the waste producer, to ensure that all waste is accurately classified prior to waste disposal. Technical Guidance WM3 (EA, 2018) sets out in its Appendix D requirements for waste sampling. It is a legal requirement to correctly assess and classify waste. The level of sampling should be proportionate to the volume of waste and its heterogeneity. Unless otherwise stated, the waste assessment presented in this Report should be considered as preliminary and further testing and assessment of the waste under the provisions of a Waste Sampling Plan may be required to obtain the necessary level of data required for basic characterisation of the waste in support of disposal.

4.3 Unless stated otherwise in the Report, information relating to historical operations at the site was not reviewed as part of the assessment by RSK. In addition, unless otherwise stated in the Services, RSK was not present during the collection of the samples nor had any input on the chemical testing suite. Therefore, the waste assessment and classification detailed in this Report are based solely on any information that were provided to RSK (e.g., laboratory chemical data, exploratory hole records) and were completed without prejudice for our Client.

4.4 RSK's assumes that any ground investigation data, chemical testing results etc., that were provided by the Client to inform the waste assessment and supporting review were carried out in accordance with current best practice and relevant guidance/ standards, where applicable. Thus, the comments given in this Report and the opinions expressed are based solely on the information provided by the Client. However, it is noted that there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account as part of the RSK assessment.

5. Service Constraints for Construction Environmental Management Plan Reports:

5.1 This Report should be considered in the light of any changes in legislation, statutory requirement or industry practices that may have occurred subsequent to the date of issue.

5.2 The measures and comments outlined in this Report and any opinions expressed are based on the plans provided at the time and discussions with relevant parties. However, there may be conditions pertaining to the site that have not been disclosed by investigations and therefore could not be taken into account.

5.3 This CEMP is a live document and is subject to change throughout the project, as and when necessary, to ensure management of environmental aspects remains relevant, and to ensure continued compliance with legislation and commitments as they may change. RSK understands that this CEMP will be reviewed by the Client every six months and updated as and when necessary.

5.4 It is the full responsibility of the Principal Contractor/ Client to ensure that their works do not contravene legal requirements, and adherence to this CEMP alone cannot be a full defence regarding legal action against the Principal Contractor.

6. Service Constraints where the Report relates to Ground Gas Membrane Verification:

6.1 This Report is limited to the verification of the gas resistant membrane/vapour membrane/radon barrier after installation and no inspections were undertaken of the substrate (i.e. prepared ground). The Report therefore does not constitute as a full verification of ground gas protection system.

6.2 The comments given in this Report and the opinions expressed, are based on the condition of the ground gas membrane as encountered at the time of inspection by suitably qualified personnel. RSK cannot accept liability for any subsequent change to the status of the gas membrane by follow-on trades or other construction activity.

6.3 Where not designed by RSK, the verification of protection measures is carried out with reference to the gas protection design provided by the Client. RSK assume the scope of gas protection measures as determined by third parties to be correct and to have achieved any required approval from authorities.

6.4 The Ground Gas Design Report/Remediation Strategy and Verification Plan contains details of the procedures to be adopted for inspection and validation of the works. However, it should be noted that responsibility for the correct implementation of the strategy lies with the appointed contractor. RSK cannot be held responsible for any remedial works that are carried out without the agreed procedures involving either direct supervision by RSK, or inspection and validation of the works by a representative from RSK.

7. Service Constraints for Environmental Due Diligence (EDD) Reports:

7.1 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the site, therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information.

7.2 This Report describes the results of the EDD exercise. The scope of this EDD Report, where appropriate, covers legal or regulatory compliance with respect to UK or international regulations associated with environmental matters.

7.3 As with any EDD exercise, there is a certain degree of dependence upon information provided by the target company. The EDD does not include a site walkover / visit or liaison with site representatives unless identified in the Services. Therefore, the assessment is based on the available desk study information. Also, there is a certain degree of dependence upon oral information provided

by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this EDD exercise was performed.

7.4 This Report, including all supporting data and notes (collectively referred to hereinafter as "information"), was prepared or collected by RSK for the benefit of its Client.

7.5 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment and the site inspection visit. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the Site therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information and observations collected during the site inspection visit.

8. Service Constraints for Ground source heat energy Reports:

8.1 It is understood that this is a desktop survey only and that there are no requirements for a site walkover, service utility survey, or provision of service plans. These services can be provided upon request if required.

8.2 At a later stage, it is possible that a thermal response test (TRT) will need to be completed, for which a test borehole will have to be drilled, and these would be costed at the time. RSK can provide all aspects of subsequent site work for a GSHP system if required.

9. Service Constraints for Water Abstraction Borehole Reports:

9.1 The Report aims principally to only identify and assess the suitability of the site for a water abstraction borehole. This Report should be considered in the light of any changes in legislation, statutory requirements, and industry practices, that have occurred subsequent to the date of the Report.

9.2 Unless stated in the Report, the opinions expressed in this Report including all comments and recommendations provided are on the basis of the information obtained from a desk-based assessment.

Appendix B

PRELIMINARY FOUNDATION SCHEDULE



Min. foundation depth = 0.90 Volume change potential Medium

Plot/Block	1 Average Existing GL	2 Proposed FFL	Depth of fill (- ve/red = cut)	3 Depth of existing Made Ground	4 Depth of Siltstone	5 Depth of Tree Influence		Design Foundation Depth (Min)	Design Foundation Depth (Max)	Piled or trench-fill?	Comments
						Min	Max				
1	112.70	112.65	-0.20	0.80	2.40	1.80	2.50	1.95	2.55	Piled	
2	112.70	112.65	-0.20	0.90	2.40	0.90	1.90	1.05	2.05	Trench-fill	
3-4	113.25	113.30	-0.10	1.00	1.90	0.90	1.80	1.25	1.95	Trench-fill	
5-6	115.15	114.25	-1.05	1.00	2.00	0.90	0.90	1.05	1.05	Trench-fill	
7	115.50	114.70	-0.95	1.00	2.00	1.00	2.00	1.15	1.40	Trench-fill	
8-9	115.25	114.50	-0.90	1.50	2.20	0.90	1.45	1.05	1.60	Trench-fill	
10-11	115.25	114.65	-0.75	1.40	2.40	1.70	2.50	1.85	2.00	Trench-fill	
12-13	116.25	115.50	-0.90	0.60	5.00	1.80	2.40	1.95	2.55	Piled	No siltstone encountered, further SI to prove depth to siltstone - could revert to trench-fill
14-15	116.30	115.50	-0.95	0.60	1.60	2.00	2.50	1.05	1.05	Trench-fill	
16	116.40	115.20	-1.35	0.80	3.00	2.50	2.50	2.00	2.00	Trench-fill	
17-18	117.25	115.90	-1.50	0.70	1.50	1.90	2.50	1.05	1.05	Trench-fill	
19-20	117.50	116.70	-0.95	0.70	2.50	2.50	2.50	1.90	1.90	Trench-fill	
21-23	119.15	117.50	-1.80	0.60	5.00	0.90	2.50	1.05	2.65	Piled	No siltstone encountered, further SI to prove depth to siltstone - could revert to trench-fill
24	119.25	118.00	-1.40	0.60	5.00	1.40	1.70	1.55	1.85	Trench-fill	No siltstone encountered
25	114.00	120.60	6.45	0.30	10.00	1.40	2.50	8.00	9.10	Piled	No SI info on made ground/siltstone depth - area of clay borrow pit.
26	113.50	120.45	6.80	0.30	10.00	0.90	1.50	7.85	8.45	Piled	No SI info on made ground/siltstone depth - area of clay borrow pit.
27	113.50	120.00	6.35	0.30	10.00	0.90	1.70	7.40	8.20	Piled	No SI info on made ground/siltstone depth - area of clay borrow pit.
28	117.50	119.70	2.05	0.30	10.00	0.90	2.10	3.10	4.30	Piled	No SI info on made ground/siltstone depth - area of clay borrow pit.
29-30	117.00	117.60	0.45	0.60	10.00	1.10	2.50	1.70	3.10	Piled	No SI info on made ground/siltstone depth - area of clay borrow pit.
31-32	117.00	117.60	0.45	0.60	10.00	2.20	2.50	2.80	3.10	Piled	No SI info on made ground/siltstone depth - area of clay borrow pit.
33-34	114.00	118.00	3.85	0.30	10.00	1.00	2.40	5.00	6.40	Piled	No SI info on made ground/siltstone depth - area of clay borrow pit.
35-36	113.00	118.20	5.05	0.30	10.00	0.90	2.40	6.10	7.60	Piled	No SI info on made ground/siltstone depth - area of clay borrow pit.
37	114.00	117.75	3.60	0.30	10.00	0.90	1.50	4.65	5.25	Piled	No SI info on made ground/siltstone depth - area of clay borrow pit.
38	113.80	117.60	3.65	0.30	10.00	2.00	2.50	5.80	6.30	Piled	No SI info on made ground/siltstone depth - area of clay borrow pit.
39	112.85	115.75	2.75	1.00	10.00	1.30	2.20	4.20	5.10	Piled	
40	114.00	117.45	3.30	1.00	10.00	2.50	2.50	5.95	5.95	Piled	
41	115.65	117.40	1.60	1.00	2.30	0.90	1.10	2.95	2.95	Piled	
42	113.00	116.80	3.65	0.50	0.50	0.90	0.90	4.50	4.50	Piled	
43	112.85	114.90	1.90	0.50	10.00	0.90	0.90	2.95	2.95	Piled	
44-45	112.50	114.45	1.80	0.40	10.00	0.90	0.90	2.85	2.85	Piled	
46	112.50	114.50	1.85	0.75	10.00	1.10	1.95	3.10	3.95	Piled	
47	115.60	116.80	1.05	0.50	0.70	0.90	1.20	2.10	2.10	Trench-fill	
48	115.65	117.70	1.90	0.50	0.70	1.80	2.50	2.95	2.95	Piled	
49-50	115.50	117.95	2.30	2.00	10.00	2.10	2.50	4.65	4.95	Piled	
51	115.80	117.80	1.85	0.70	10.00	1.70	2.50	3.70	4.50	Piled	
52	115.70	117.00	1.15	0.60	0.60	0.90	1.20	2.10	2.10	Trench-fill	
53	115.45	115.00	-0.60	0.75	0.70	0.90	1.00	1.05	1.05	Trench-fill	
54-55	115.20	114.80	-0.55	0.70	0.70	0.90	1.20	1.05	1.05	Trench-fill	
56	115.15	115.00	-0.30	0.70	0.70	0.90	0.90	1.05	1.05	Trench-fill	
57-58	115.90	117.30	1.25	1.00	0.70	1.00	2.20	2.30	2.30	Trench-fill	
59-60	116.30	116.50	0.05	1.40	1.90	0.90	0.90	1.80	1.80	Trench-fill	
61-66 (FB)	115.60	115.00	-0.75	0.60	1.50	0.90	0.90	1.05	1.05	Trench-fill	Flat block - higher line loads, wider foundations.
67-69	112.25	112.50	0.10	3.70	3.70	0.90	0.90	4.15	4.15	Piled	
70	112.40	112.20	-0.35	4.20	4.20	0.90	1.40	4.20	4.20	Piled	
71	112.35	111.50	-1.00	4.50	4.50	0.90	1.80	3.85	3.85	Piled	
72-73	112.20	109.50	-2.85	6.00	6.50	1.40	2.40	3.50	3.50	Piled	
74	112.30	110.25	-2.20	4.70	4.70	1.40	2.20	2.85	2.85	Piled	
75-79	112.35	112.20	-0.30	3.50	3.50	0.90	0.90	3.55	3.55	Piled	
80	112.45	111.15	-1.45	3.50	3.70	1.10	2.10	2.40	2.40	Trench-fill	
81	112.50	113.80	1.15	0.70	0.70	1.00	1.80	2.20	2.20	Trench-fill	
82	112.50	113.90	1.25	0.50	0.50	0.90	0.90	2.10	2.10	Trench-fill	
83-85	112.75	114.10	1.20	0.70	1.20	0.90	0.90	2.25	2.25	Trench-fill	
86	112.40	112.50	-0.05	1.10	1.60	0.90	0.90	1.40	1.40	Trench-fill	
87-90	112.10	112.50	0.25	1.70	1.90	0.90	1.50	2.30	2.30	Trench-fill	
91-92	112.25	112.90	0.50	0.50	0.50	0.90	0.90	1.35	1.35	Trench-fill	
93	112.50	113.50	0.85	0.90	1.10	0.90	1.40	2.10	2.30	Piled	Part of same terrace 94-95 - pile
94-95	112.50	114.10	1.45	1.20	1.40	1.40	2.50	3.00	3.20	Piled	
96	113.00	114.30	1.15	2.00	2.00	1.20	2.40	3.50	3.50	Piled	
97	112.20	112.50	0.15	1.50	1.50	0.90	0.90	2.00	2.00	Trench-fill	
98	112.15	112.20	-0.10	2.00	2.00	0.90	0.90	2.25	2.25	Trench-fill	
99-100	112.35	112.20	-0.30	0.90	1.40	0.90	1.40	1.05	1.45	Trench-fill	
101-102	112.90	112.70	-0.35	1.40	1.90	1.45	2.50	1.60	1.90	Trench-fill	
103-108 (FB)	114.25	114.00	-0.40	1.50	2.70	0.90	2.50	1.45	2.65	Piled	