



Technical Note

Site:	Holme Park SANG and Gray's Farm SANG, Easthampstead Road, Wokingham, Berkshire, RG40 3AG	Ref:	GE23234-TN01-250701
Client:	Miller Homes Southern & Kier Property Developments	Date:	July 1, 2025

Further to your request, we write to provide an area specific summary relating to Holme Park Suitable Alternative Natural Green Space (SANG) and Gray's Farm SANG of the wider South Wokingham Strategic Development Location. This technical note summarises the relevant information and findings of the following reports:

- Desk Study Report and Preliminary Risk Assessment for the wider development site including SANG areas by Hydrock, ref. SWK-HYD-XX-DS-RP-GE-1000, dated February 2019;
- Ground Appraisal Report pertaining to the basin in the north of Holme Park SANG by Geo-Environmental, ref. GE21309/GAR/DEC22, dated December 2022;
- Walkover Inspection of the wider development site including SANG areas by Geo-Environmental ref. GE22937-SA02-241220, dated December 2024.

For further details, the original reports should be referred to directly.

A plan showing the Holme Park SANG and Gray's Farm SANG location is presented in Figure 1.

Planning

This note has been prepared to address Condition 44 on the Outline Planning Permission for the wider site granted by Wokingham Borough Council (ref.191068, dated 19/07/2024):

Contaminated land

44. No development other than that required to be carried out as part of an approved scheme of remediation shall take place in each phase of the development until conditions a-d (below) have been complied with. If unexpected contamination is found after development has begun that is not addressed by the methodology detailed within the approved remediation scheme, development must be halted on that part of the site affected by the unexpected contamination to the extent specified by the Local Planning Authority in writing until d) has been complied with in relation to that contamination.

a) Site Characterisation

An investigation and risk assessment, in addition to any assessment provided with the planning application, must be completed in accordance with a scheme to assess the nature and extent of any contamination on the site, whether or not it originates on the site. The contents of the scheme are subject to the approval in writing of the Local Planning Authority. The investigation and risk assessment must be undertaken by competent persons and a written report of the findings must be produced. The written report is subject to the approval in writing of the Local Planning Authority.

The report of the findings must include:

- i. a survey of the extent, scale and nature of contamination;*
- ii. an assessment of the potential risks to:*
 - human health,*

Geo-Environmental Services Ltd
Unit 7 Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex BN6 9GL
+44(0)1273 832972 www.gesl.net

Environmental Consultants | Geotechnical Engineers | Site Investigations

Geo-Environmental Services Ltd incorporated in England number 3214980 VAT number 679544479



- property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes,
- adjoining land,
- groundwaters and surface waters,
- ecological systems,
- archaeological sites and ancient monuments;

iii. an appraisal of remedial options, and proposal of the preferred option(s).

This must be conducted in accordance with DEFRA and the Environment Agency's 'Model Procedures for the Management of Land Contamination, CLR 11'.

b) Submission of Remediation Scheme

A detailed remediation scheme to bring the site to a condition suitable for the intended use by removing unacceptable risks to human health, buildings and other property and the natural and historical environment must be submitted to and approved in writing by the Local Planning Authority. The scheme must include all works to be undertaken, proposed remediation objectives and remediation criteria, timetable of works and site management procedures. The scheme must ensure that the site will not qualify as contaminated land under Part 2A of the Environmental Protection Act 1990 in relation to the intended use of the land after remediation.

c) Implementation of Approved Remediation Scheme

The approved remediation scheme must be carried out in accordance with its terms prior to the commencement of development other than that required to carry out remediation, unless otherwise agreed in writing by the Local Planning Authority. The Local Planning Authority must be given two weeks written notification of commencement of the remediation scheme works.

Following completion of measures identified in the approved remediation scheme, a verification report that demonstrates the effectiveness of the remediation carried out must be submitted to and approved in writing by the Local Planning Authority.

d) Reporting of Unexpected Contamination

In the event that contamination is found at any time when carrying out the approved development that was not previously identified it must be reported in writing immediately to the Local Planning Authority. An investigation and risk assessment must be undertaken in accordance with the requirements of a), and where remediation is necessary a remediation scheme must be prepared in accordance with the requirements of b), which is subject to the approval in writing of the Local Planning Authority. Following completion of measures identified in the approved remediation scheme a verification report must be prepared, which is subject to the approval in writing of the Local Planning Authority in accordance with c).

Reason: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with Core Strategy policy CP1.

Site Setting

Site Description

At the time of Geo-Environmental's most recent inspection in December 2024, the SANG areas comprised woodland, rough pasture and grass fields utilised for rearing pheasants. Topographically the north part of the northwest section of Holme Park SANG sloped steeply downhill in south-southeast direction within the woodland in this section of the site.



The remainder of the site was more gently sloping, generally towards Emm Brook which flowed through the site in an arc from southern tip of the SANG areas to the northwest exiting the site on the western boundary of the north section of Holme Park SANG.

The following features of interest were identified during Geo-Environmental's 2024 inspection and are shown on Figure 2:

- Northern section of Holme Park SANG:
 - Collapsed animal shelter constructed from timber and corrugated metal. No potential asbestos materials noted although structure not safe to enter;
 - Rusted metal machinery in scrub vegetation;
 - Old trailer and tyres in scrub vegetation;
 - Metal water tank and cattle feeder in scrub vegetation;
 - Animal shelter constructed from timber and corrugated metal. No potential asbestos materials noted;
 - Overflow pipe from off-site pond to the south which discharges onto the site surface towards Emm Brook;
 - Mound of unknown soil/material. No potential asbestos materials noted;
 - Bonfire ash including wire.
- Gray's Farm SANG:
 - Water tank and concrete chamber. Chamber may be associated with farm buildings to the west.

Geology, Hydrogeology & Hydrology

The geology, as mapped by the British Geological Survey (BGS), comprised London Clay Formation with the overlying Bagshot Formation mapped on the western margin of Gray's Farm SANG. Superficial Deposits of Alluvium and Head Deposits were mapped in a tract following Emm Brook and an unnamed tributary to the east. The Alluvium deposits were classified as Secondary 'A' Aquifer whilst Head Deposits were classified as a Secondary Undifferentiated Aquifer. The bedrock deposits of the Bagshot Formation were classified as a Secondary 'A' Aquifer whilst the London Clay Formation was Unproductive Strata.

Emm Brook flowed through the site in an arc from southern tip of the SANG areas to the northwest exiting the site on the western boundary of the north section of Holme Park SANG. An unnamed tributary flowing from the east joined the brook just north of Gray's Farm SANG. The area surrounding Emm Brook and its tributaries were recorded as a Flood Zone 2 and Flood Zone 3.

Site History

Historical mapping from 1872 was reviewed as part of the Hydrock Desk Study Report and found that the SANG areas had comprised open agricultural land and woodland similar to the site's current configuration from the earliest map edition.

Preliminary Risk Assessment

Review of the information gathered by the desk study and from the more recent 2024 site inspection identified the following potential contamination sources:

- Limited areas of Made Ground, e.g. the small soil mound identified by Geo-Environmental in 2024;
- Small area of bonfire ash identified by Geo-Environmental in 2024;
- Shallow soils may be impacted by pesticides.

All other sources identified by the Hydrock Desk Study Report were either not within the SANG areas (e.g. former quarry on the wider site, railway to the north of the wider site) and/or sufficiently distant from the SANG areas so as not to have a plausible adverse effect on the SANG sites.

A number of potential contamination pathways were identified:

- Human ingestion, inhalation of dust and dermal contact;
- Root uptake by plants;
- Leaching of contaminants into underlying groundwater;
- Surface water overland flow, drainage discharge and base flow from groundwater.

Other pathways such as inhalation of indoor gases, dust or vapour are not considered relevant to the proposed SANG as no buildings will be present.

The following receptors were identified:

- End users of the proposed SANGs;
- Soft landscaping;
- Groundwater;
- Surface water.

The following receptors were discounted:

- Ecological receptors were discounted as no significant areas of sensitive ecology were identified;
- Although not specifically addressed in the original reports, no Scheduled Ancient Monuments were recorded within 250m of the site.

A qualitative risk assessment was undertaken which concluded generally low risks relating to the potential contamination linkages with potential of higher risks in localised areas such as the backfilled quarry or railway line both of which are some distance from the proposed SANG areas. Intrusive investigation was recommended to refine the Preliminary Risk Assessment.

It must be noted that the preliminary risk assessment undertaken by Hydrock was predominantly for the wider proposed residential land use at the site. SANG areas would be considered much less sensitive land uses to the contamination sources identified.

Investigation

Geo-Environmental undertook an intrusive investigation in the proposed basin in the north of Holme Park SANG on 22nd November 2022. The investigation comprised 6No. dynamic sampler boreholes to a depth of 5.0m bgl (WS01-WS06).

The exploratory holes were positioned to provide a general coverage of the proposed basin. Their locations are shown in Figure 2.

Ground and Groundwater Conditions

The ground conditions encountered comprised a mantle of Topsoil overlying the River Terrace Deposits which comprised a limited thickness of granular soils over clay with low to medium sand and gravel content. The London Clay Formation was encountered at depth within exploratory holes

The Topsoil ranged in depth between 0.20m and 0.60m bgl typically comprising brown or dark brown SILT with varying proportions of clay, sand and gravel and rootlets. The River Terrace Deposits ranged in depth between 3.00m to 3.80m bgl and typically comprised clay, with low to moderate sand and gravel content. Granular soils were recorded in limited thickness bands in four of six boreholes. The London Clay Formation comprised clay with low to moderate silt and/or sand content.

Groundwater was encountered during the intrusive investigation works in three out of the six boreholes (WS04, WS05 and WS06) at depths of between 1.10m and 3.60m bgl.

Soil Contamination Sampling

In order to assess the general chemical quality of the strata encountered, samples of soils recovered from the exploratory holes were submitted for analysis for a range of potential contaminants selected on the basis of the findings of the desk study and supported by CLR publication CLR8 and Environment Agency R&D66 publication.

The testing rationale included sampling and analysis to provide a general coverage of the subject site. Testing was undertaken for a broad range of commonly occurring contaminants including metals, metalloids, inorganic compounds, speciated TPH, PAH, asbestos and pesticides, as identified from the desk study and included analysis of the Topsoil (2No. samples) and underlying River Terrace Deposits (2No. samples).

Soil Contamination Assessment

Human Health

A Preliminary Quantitative Risk Assessment was undertaken by comparing the results of the laboratory chemical testing of shallow soils against Tier 1 screening criteria in the first instance. These criteria comprise the Atkins ATRISK soil screening values (SSVs), the Suitable for Use Levels (S4ULs) published by LQM (Copyright Land Quality Management Limited reproduced with permission; Publication Number S4UL3453. All rights reserved) and the Category 4 Screening Levels (C4SLs) published by DEFRA.

The results of the sample analysis were compared to the Tier 1 screening criteria for a proposed residential public open space (POSres) land use, considered to be representative of the proposed SANG area. No exceedances of these criteria were recorded.

Two Topsoil samples were submitted for testing for a suite pesticides. The pesticide concentrations were recorded below the laboratory limit of detection, with the exception of a p,p-DDT concentration of 17µg/kg which was recorded in a sample WS04 at 0.10m bgl. No UK tier 1 assessment criteria are available for DDT. With reference to the USEPA Regional Screening Level (RSL) for DDT in residential soil, the recorded concentration fell well below the RSL of 1900µg/kg. As such, it was considered that no remedial action in terms of the pesticide concentrations recorded at the site is required.

Geochemical testing of the shallow soils across the site has not returned any positive identification for asbestos. Nonetheless, the absence of asbestos in samples analysed does not mean that asbestos might not be present at locations remote from exploratory holes.

Based on the above, it was considered that no specific measures are required in terms of soil contamination across the site in terms of end users and adjacent users. This assessment would also be considered to be protective of pets and livestock, assuming similar exposure scenarios to human health.

Soft Landscaping, Plants and Crops

British Standard BS3882:2015 *Specification for topsoil and requirements for use* provides generic assessment criteria (GAC) for a number of potentially phytotoxic contaminants in terms of new planting. The results of the chemical analysis for determinands known to pose a potential phytotoxic risk to plant growth were assessed against these criteria. No exceedances against the GAC were recorded.

Groundwater and Surface Water

The investigation did not identify any mobile contamination and thus in the absence of a pollutant linkage, no further action was considered warranted.

Built Environment

Geotechnical testing and assessment identified that any concrete constructed within the soils of the River Terrace Deposits, Bagshot Formation should be designed to Design Sulphate Class DS-1 and Aggressive Chemical Environment for Concrete Class AC-1 as defined within BRE Special Digest 1. Such a classification is considered to be representative of a low risk of sulphate attack on buried concrete.

Ground Gases

No ground gas receptors will be present because buildings are not proposed as part of the SANGs.

Conclusions

This technical note has provided a summary of the relevant information specific to Holme Park SANG and Gray's Farm SANG. The Hydrock Desk Study characterised the potential contamination sources at the site as generally a low risk to potential receptors. Intrusive investigation of part of the SANG area in 2022 by Geo-Environmental, including geochemical testing of soils samples, concluded that no remediation would be required. A site inspection undertaken by Geo-Environmental in 2024 recorded a number of features of note which are summarised in Table 1 along with recommendations for further action:

Parcel / Area	Feature Reference	Description	Recommendations
Northern section of Holme Park SANG	01	Collapsed animal shelter constructed from timber and corrugated metal. No potential asbestos materials noted although structure not safe to enter.	Suitable R&D asbestos survey by competent person where works to or demolition of building proposed. Secure building to prevent access.
	02	Rusted metal machinery in scrub vegetation.	Consider removal and disposal.
	03	Old trailer and tyres in scrub vegetation.	
	04	Metal water tank and cattle feeder in scrub vegetation.	
	05	Animal shelter constructed from timber and corrugated metal. No potential asbestos materials noted.	Suitable R&D asbestos survey by competent person where works to or demolition of building proposed. Consider securing building to prevent access.

Parcel / Area	Feature Reference	Description	Recommendations
	06	Overflow pipe from off-site pond to the south which discharges onto the site surface towards Emm Brook.	Consider culverting to Emm Brook if this area is to be developed.
	07	Mound of unknown soil/material. No potential asbestos materials noted.	Consider investigation and testing if mound is to be disturbed.
Gray's Farm SANG	08	Bonfire ash including wire	Localised removal and disposal.
	09	Water tank and concrete chamber. Chamber may be associated with farm buildings to the west. No potential asbestos materials noted.	Removal of tank.

NOTE: R&D – refurbishment and demolition

Table 1: 2024 Inspection Findings and Recommendations

The removal of the various structures and items listed above is considered site clearance rather than contamination remediation.

This technical note is considered sufficient to address Condition 44a of Outline Planning Permission ref.191068. The note partially addresses Condition 44b, however further intrusive investigation should be undertaken in due course generally across the investigated areas of the site and targeting features 07 and 08 from Table 1. Whether a remediation scheme is required (Conditions 44b and 44c) would be dependent on the results of further investigation.

Condition 44d refers to encountering unexpected contamination during redevelopment and, as at all sites, the developer must follow the Discovery Strategy included in Appendix A in this regard. Condition 44d is likely to remain in force until completion of the SANG development.

Closure

We trust we have provided sufficient information for your current requirements. Should you have any queries please do not hesitate to contact us.

For and on Behalf of Geo-Environmental



SHAUN ARMITAGE BSc (Hons), FGS

Principal Engineer

shaun.armitage@gesl.net

Enc.

Figure 1 SANG Location Plan

Figure 2 Annotated Site Plan

Appendix A Discovery Strategy




FIGURES





Legend

 DRWG No: P19_0052-45 by Pegasus Design

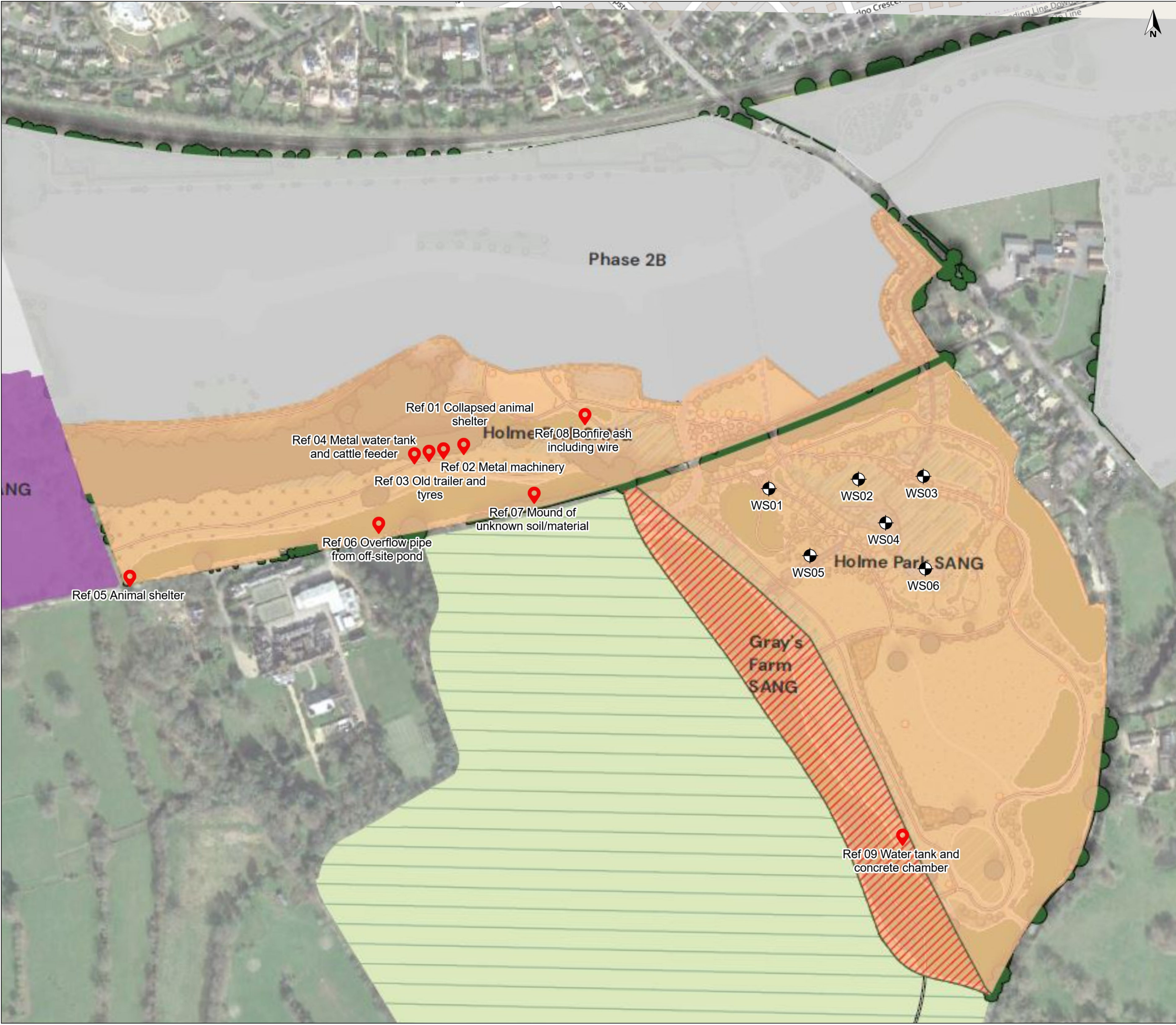
0 50 m 100 m
© Mapbox



Geo-Environmental

Produced by **Datanest.earth**

Title: SANG Location Plan		
Client: Miller Homes Southern & Kier Property Developments		Size: A3
Project: Holme Park SANG and Gray's Farm SANG, South Wokingham	Drawn: SA	Figure No.: 1
Date: 01-07-2025	Checked: SA	
Proj No: GE23234	Scale: 1:4000	Version: 1



Legend

- Features of note
- Dynamic sampler borehole (2022)
- DRWG No: P19_0052-45 by Pegasus Design

0 50 m 100 m
© OpenStreetMap contributors

Geo-Environmental
Produced by **Datanest.earth**

Title: Annotated Site Plan		
Client: Miller Homes Southern & Kier Property Developments		Size: A3
Project: Holme Park SANG and Gray's Farm SANG, South Wokingham	Drawn: SA	Figure No.: 2
Date: 01-07-2025	Checked: SA	
Proj No: GE23234	Scale: 1:3500	Version: 1



Appendix A

Discovery Strategy



Discovery Strategy

Whilst an intrusive investigation has been undertaken on the site, it remains possible that unexpected ground and/or groundwater conditions may be encountered during the process of construction.

Should previously undiscovered contamination or unforeseen ground conditions be encountered during construction by the ground workers, this must be reported to the Site Manager immediately in order that the Consultant is notified.

Where deemed necessary, the Consultant shall attend the site to inspect the discovery and provide recommendations on the further actions required, if any. Where necessary the regulatory authority shall be informed. Post any additional investigation or laboratory testing the results and any proposed remedial measures shall be reported to the regulatory authority or other appropriate organisation for consent, before proceeding or implementing the remedial measures.

A copy of the discovery strategy must be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious, abnormal, unforeseen or contaminated ground and/or groundwater conditions they may encounter.

Depending on the type, nature and extent of any such 'discovery', it may be necessary to halt works in that location until such time as the assessment has been completed. This shall be reviewed on a 'discovery' specific basis and in conjunction with consultation with the client, other technical personnel and/or regulatory/approval organisations.

As a general guide, where such unexpected conditions are encountered the following approach is required as a minimum:

- All discoveries are to be reported to the Site Manager immediately and works at that location are to halt until further notice;
- The Site Manager is to report any such discoveries to the Client and the Consultant;
- Following notification from the Site Manager, the Consultant shall discuss the discovery with the Local Authority and/or other relevant parties and if considered necessary, arrange to meet on site to view the discovery;
- The Consultant shall attend the site to record the location, extent and nature of the discovery and implement an appropriate sampling and analysis regime, taking due account of the type and nature of the discovery, known and probable land uses in that area of the site;
- Where remedial action is required, regulatory consultation and approval will be sought;
- A record will be produced by the Consultant and held on site (with copies held by the Consultant, Client and Local Authority/other relevant organisation), detailing the discovery, assessment works undertaken, findings thereof, confirmation either of no action required or detailing the remedial action taken and validation thereof.

The process is summarised below:

