



Remediation Method Statement

Land at Lechmere Farm, Camp Road, Upper Heyford, OX25 5LS

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1.0 INTRODUCTION

1.1 Background

This Remediation Method Statement (RMS) has been prepared by Omnia following environmental site investigations at the above site. The site has been subject to two (2no.) previous phases of site investigation, one of which was undertaken by Omnia and the other undertaken by T&P Regen. The following documents have been reviewed during the production of this report:

Omnia:

- Phase I and II Geo-Environmental Site Assessment (A11754/1.0) – January 2022

T&P Regen:

- Desk Study and Ground Investigation Report (2019Mar_CAM2362_DSGI) – March 2019

This RMS should be read in conjunction with the above report.

The T&P Regen investigation focussed solely on the Phase I area of the site, the southern area, and comprised the advancement of fifteen (15no.) trial pits.. Of the twenty-four (24no.) samples submitted to the laboratory for chemical analysis, none were found to contain concentrations in excess of the relevant screening criteria for a residential-with-home grown produce end use. The report also concluded that the site was at a low risk of ground gasses being present and that no gas protection measured were necessary.

The Phase I-II Investigation carried out by Omnia in 2022 (A11754/1.0) comprised window sampling and trial pitting across both Phase I and Phase II site areas. Of the five (5no.) samples submitted for laboratory testing, none were found to contain concentrations in exceedance of the relevant screening criteria for a residential-with-produce end use. Ground gas monitoring was undertaken in seven (7no.) monitoring boreholes across three (3no.) visits which resulted in a site classification of Green / CS1, a risk level at which no gas protection measures are required.

Although no chemical exceedances were identified during the Omnia investigation, two (2no.) areas of recent burning were noted in the Phase I area which were considered to contain elevated concentrations of PAHs by their nature and therefore not considered suitable for the proposed end use. The Omnia report recommended that these areas of burning should be excavated and removed from site.

A site location plan is presented as Figure 1.0 in Appendix III.

1.2 Report Objectives

The purpose of the Remediation Method Statement is to identify and evaluate feasible remedial technologies and to validate the successful implementation of a remediation programme to ensure the safe, cost effective and regulatory compliant re-development of the site.

This RMS is based on the proposed development layout presented as Figure 2.0 (Appendix III). Should the proposed layout change, this document should be revised, and the extent of risk mitigation measures reviewed.

1.3 Scope of Works

With regards to the proposed development of the site, the main aims of the remedial works are as follows:

- To provide a remediated site that is suitable for its proposed end use (i.e. proposed residential development with private gardens);
- To ensure that construction/groundworkers are not put at an unacceptable short-term risk during the remediation and/or redevelopment of the site; and,
- To satisfy the requirements of the regulatory authorities (i.e. the Local Planning Authority and Environment Agency).

1.4 Proposed Development Plan

It is understood that the proposed development comprises developing the site from existing agricultural fields to one hundred and twenty-two (122no.) residential dwellings comprising a mixture of terraced, semi-detached and detached housing as well as two (2no.) blocks of flats with parking, associated infrastructure, public open space and swales. The development will be split into two phases, Phase 1, the southern field, comprising eighty-nine (89no.) units and Phase 2, the northern fields, comprising thirty-three (33no.) units.

The outline proposed site layout is presented as Figure 2.0 in Appendix III.

1.5 Summary of Parties Involved

Table 1.1: Involved Parties

| Name of Party | Function / Interest |
|-----------------------------|---|
| David Wilson Homes Southern | Client |
| Omnia | Geo-Environmental Consultant |
| Cherwell District Council | Human Health Regulator / Local Planning Authority |
| Environment Agency (EA) | Environmental Quality and Protection Regulator |

1.6 Limitations

The limitations of this report are presented in Appendix I.

2.0 SITE SETTINGS

2.1 Site Details

| | |
|-------------------------|--|
| Site Address | Land at Letchmere Farm, Camp Road, Upper Heyford, OX25 5LS |
| National Grid Reference | 451945 225926 |
| Site Area | Phase 1 area – 3.12 ha |
| | Phase 2 area – 1.09 ha |

All acronyms used within this report are defined in the Glossary presented as Appendix II.

A site location map is presented as Figure 1.0 in Appendix III.

2.2 Current Site Use

The following site description has been taken from the Omnia Phase I-II Report (2022), which is the most recent site investigation available:

The area of investigation was located on land at Letchmere Farm to the east of a former military base in Upper Heyford, 5km northwest of Bicester village, Oxfordshire. The area of investigation comprised three open fields segregated by wooden fencing. Access to the site area was obtained via Trenchard Circle located west of the site and joined Camp Road to the south.

The site area was separated into two Phases; Phase 1 and Phase 2. At the time of the investigation the Phase 1 area comprised a roughly rectangular field narrowing towards the south, approximately 3.12ha. The Phase 2 area comprised a roughly rectangular field, immediately north of the Phase 1 area, with its long axis orientated east to west, approximately 1.09ha in area. There was a gentle fall in level in a southeast direction across the phases. With reference to OS mapping elevations were approximately 120m AOD in the northwest to 115m AOD in the southeast. The topography of the Phase 2 area was generally flat lying with the east of the site, gently sloping towards the east to southeast. With reference to OS mapping elevations were approximately from 119m AOD in the west to 116m AOD in the southeast.

At the time of the site walkover the Phase 2 area comprised open horse fields separated into two areas by wooden fencing and a 5-bar gate. Both areas are roughly rectangular; the western area was approximately 22x55m and the eastern area was approximately 22x130m. Access to the Phase 2 area was gained from the west from Trenchard Circle via a wooden gate. Access between the western and eastern areas of site was also obtained via a wooden 5-bar gate. The site area comprised an open field used for grazing livestock. To the north, west and south the site area was bounded by wooden fencing, whilst the east of the site was bounded by an approximately 3m high hedgerow. A concrete roller was located on the boundary between the western and eastern areas of the site.

Mature deciduous trees (up to approximately 10m in height) were located west of Trenchard Circle. Mature 10-15m tall trees were located on the eastern boundary of the site noted to be oak trees and dense hedgerows, shown in Photograph 2. Smaller (up to 10m tall) deciduous tree saplings were located within the hedgerow to the east of the site area.

The Phase 1 area was located directly south of the Phase 2 area, separated by a wooden fence and comprised of open scrubby grassland. It was broadly rectangular in shape with eastern boundary

narrowing towards the south. It was bound on its eastern edge by an approximately 3m high hedgerow and some smaller (up to 5m) deciduous trees. The western boundary was bound by Trenchard Circle with a housing development immediately beyond, the southern boundary was bound by an access track orientate east to west to agricultural fields and Letchmere Farm.

An area of burnt ground was noted to the northeast of the Phase 1 area, evidence of a bonfire. Burnt wood and tree branches were noted in the area.

A watercourse was noted to run along the eastern boundary of the Phase 1 and 2 areas in a north-west to south-east direction.

2.3 Geology and Hydrogeology

2.3.1 Ground Conditions Encountered

Ground conditions encountered beneath the site area are presented within the Omnia Phase I-II Report (2022) and summarised below:

The ground investigation generally confirmed the published geology. The sequence encountered during intrusive works comprised Topsoil/Made Ground underlain in all locations by bedrock geology of the White Limestone Formation to the termination depth of all intrusive locations. Competent limestone bedrock was encountered at depths of 1.50-2.10m bgl, which prevented deeper investigation.

2.4 Hydrogeology and Hydrology

Omnia Phase I-II Report (2022) states that the site is underlain by bedrock geology classified as a Principal Aquifer. Groundwater vulnerability data indicated that the site is underlain by high vulnerability bedrock deposits.

Surface water features in the vicinity of the site include:

- 6m northeast – Lake
- 19m north to 240m south – Inland River not affected by tidal action
- 82m north – Lake
- 137m north – Lake

2.4.1 Groundwater

The depths to groundwater, where encountered during the previous investigations, are summarised in Table 2.1.

Table 2.1 – Groundwater Depths

| Location | Depth (m bgl) | Strata | Type of Water Strike |
|-------------------------|---------------------|-----------|----------------------|
| Phase 1 area (Omnia GI) | | | |
| WS107 | 1.45 | Sand | Seepage |
| WS108 | 1.50 | Clay | Seepage |
| WS109 | 1.50 rising to 0.90 | Limestone | Strike |
| WS110 | 1.75 rising to 1.50 | Clay | Strike |

| | | | |
|----------------------------------|--------------------------------------|-------------------|---------|
| WS115 | 1.75 | Limestone | Strike |
| Phase 2 area (Omnia GI) | | | |
| WS105 | 1.80 rising to 0.90 | Clay | Strike |
| WS106 | 1.10 | Clay | Strike |
| SA101 | 1.80 rising to 1.10 after 20 minutes | Clay | Strike |
| SA102 | 1.60 | Clay | Seepage |
| SA103 | 1.70 | Clay | Seepage |
| SA104 | 1.80 | Limestone cobbles | Seepage |
| TP103 (SA) | 1.80 | Clay | Strike |
| TP104 | 1.60 rising to 1.0 | Clay | Strike |
| TP109 | 1.20 | Clay | Seepage |
| Phase 1 area (T&P GI) | | | |
| TP102 | 1.60 rising to 1.40 | Gravelly Clay | Strike |
| TP105 | 1.75 rising to 1.60 | Silty Clay | Strike |
| TP109 | 1.80 rising to 1.50 | Silty Clay | Strike |
| TP110 | 1.80 rising to 1.60 | Silty Clay | Strike |

2.5 Summary of Contaminant Distribution

2.5.1 Tier I Risk Assessment Results

Selected soil samples were collected and submitted for laboratory testing during the site investigation, and the results subjected to a Tier 1 risk assessment.

None of the samples submitted to the laboratory for chemical analysis were found to contain concentrations in exceedance of the relevant screening criteria. However, two discrete areas of burned ground were observed during the Omnia (2022) investigation, the shallow soils of which are assumed to be impacted with PAHs due to this being the most prevalent contamination associated with burning.

Both areas of burned ground were observed within the Phase I area (southern area) and are marked on Figure 4.0 (Appendix III).

2.5.2 Contaminant Pathways

For human health the main exposure pathway for the identified contaminants is via ingestion of soils and indoor dust. For controlled waters the main exposure pathway is via the vertical leaching and migration of contaminants down towards the principal aquifer bedrock.

Based upon the information obtained, Table 2.2 demonstrates that each of the potential pollutant linkages, based upon the source-pathway-receptor model which will need to be satisfactorily addressed by remedial works across the site.

Table 2.2 – Pollutant Linkage Assessment

| Source | Receptor | Potential Risk | Current Residual Risk | Mitigation |
|--|-----------------------|---|-----------------------|--|
| Areas of burned ground in Phase I area | Future Site Residents | <i>Ingestion of Soils and Indoor Dust</i> | Yes | Areas of burnt ground are considered highly likely to contain significantly elevated concentrations of contaminants, such as PAHs and TPH, which are considered to have the potential to present a significant risk to human health. |
| | Principal Aquifer | <i>Vertical migration</i> | | The site is therefore considered to have the potential to present a significant risk to human health receptors. Remedial works are therefore recommended to sever the exposure pathway and render the pollution linkage inactive. |

3.0 REMEDIATION STRATEGY

3.1 General

The main aims of the remediation strategy are as follows:

- To comply with the requirements of the Local Planning Authority (i.e. Cherwell District Council) and their Environmental Health Department to ensure future users of the site are not put at risk from any residual chemical concentrations arising from its former use(s) or nature of materials present;
- To comply with the requirements of the Environment Agency to ensure that controlled waters and the environment are not put at risk from any chemical concentrations arising from the site; and,
- To ensure construction workers are not put at an unacceptable short-term risk in redeveloping the site.

3.2 Proposed Site Level Changes

Omnia have not been made aware of any proposed level changes as part of the development.

3.3 Remedial Measures

Based on the findings of the site investigation and the development constraints listed above, the following remediation strategy has been devised for the site. The proposed scope of the works is summarised below and detailed in the subsequent sub-sections. Full details of the methodology are set out in Section 4.0 of this document. In summary this comprises:

- 1) Excavation and removal of shallow ground in the burned areas, to a nominal depth of 300mm, followed by validation sampling of the base of excavation. Excavations should extend across the full area impacted by burning, plus a 1m buffer zone around the full circumference of the burned area;
- 2) Replacement of excavated materials with site won or imported fill;
- 3) Validation of the chemical suitability of any imported fill materials; and,
- 4) A validation report will need to be produced on completion of the works. This report will serve to confirm the works were undertaken in accordance with the relevant legislation, the remediation statement, method statements and planning conditions.

It is understood that arisings from all remedial excavations are proposed to be removed from site and disposed of at a suitably licensed facility. However, should there be a requirement for any site-won materials to be re-used on site then a detailed Materials Management Plan (MMP) will need to be completed in accordance with CL:AIRE DoWCOP. If required, the MMP must be submitted and approved **prior to** the commencement of site works.

4.0 SITEWORKS

4.1 General

Works are required to excavate and remove localised concentrations of contaminants identified in the Phase I area of the site prior to the development of the site into residential units with private gardens and associated vehicle parking, as set out in the following sections.

Remedial works are required in two (2no.) areas, at the locations of identified burned ground as presented in Figure 4.0. Both areas have been identified previously as areas where burning has occurred and as such are considered to be impacted with PAHs.

Soil arisings from remedial excavations will not be suitable for re-use on site and should be disposed of off-site at a suitably licensed waste facility.

The required remediation works are set out in the following sections.

4.2 Excavation and Removal of Impacted Soils – Point 1

All Made Ground and Topsoil should be removed to a nominal depth of 300mm bFGL across the full area of burned ground plus a 1m buffer zone around the full circumference.

In line with the methodology set out in Section 5.1, samples should be collected from the base of the excavation to ensure sufficient soils have been removed and residual concentrations are not present. Upon return of chemical results the excavation may need to be deepened, and as such should the area should be maintained as an open excavation until it can be confirmed that the sufficient soils have been removed.

Following the excavation of impacted soils, material should be removed from the area, segregated and sent to an off-site soil treatment facility, or sent to a suitably licensed disposal facility via a registered waste carrier.

It is understood that arisings from all remedial excavations are proposed to be removed from site and disposed of at a suitably licensed facility. However, should there be a requirement for any site-won materials to be re-used on site then a detailed Materials Management Plan (MMP) will need to be completed in accordance with CL:AIRE DoWCOP. If required, the MMP must be submitted and approved **prior to** the commencement of site works.

4.2.2 Placement of Clean Site-won or Imported Soil – Point 2

It is recommended that the resultant void should be infilled via the placement of of chemically suitable soil...

Soils utilised for the capping system should conform with the criteria set out in Section 5.6 and Table 5.3.

5.0 VALIDATION

In order to determine that all remedial works set out in Section 4.0 have been completed in accordance with the RMS, validation will need to be undertaken to confirm that the exposure pathways have been severed and the pollution linkages rendered inactive.

5.1 Validation of Remedial Excavations – Point 1

In order to determine that all grossly impacted material has been removed and that the pathway has been successfully broken, validation samples will be required.

As detailed in Section 4.2, samples should be taken from the base of the remedial excavations. These will be analysed for key contaminants of concern and compared to the Screening Criteria set out in Table 5.2. Upon receipt of successful laboratory results the excavations will be backfilled with chemically suitable soils.

Should any materials be re-used on site then a detailed Materials Management Plan (MMP) will need to be completed in accordance with CL:AIRE DoWCOP. If required, the MMP must be submitted and approved prior to the commencement of site works.

5.2 Validation of Fill Materials – Point 2

Hand excavated pits should be advanced within placed soils with samples taken from the excavated material and analysed for key contaminants of concern at the rate set out within Section 5.5. Upon return of laboratory results, a Tier 1 assessment should be undertaken to determine compliance with the Remedial Target Values set out in Table 5.3.

Photographic evidence should be obtained displaying that the excavations within areas of remedial excavations and have reached the required depth.

Upon receipt of laboratory testing results a validation report should be produced as set out in Section 6.0 to demonstrate that chemically suitable soil has been used in the infilling.

5.3 Validation Sample Frequency

The sampling frequency for materials to be managed under the Remediation Strategy is presented within Table 5.1 below. Samples should be analysed and compared to the guidance levels listed in Table 5.2.

Imported soils should be obtained from a known clean source, and in the case of topsoil should be supplied with BS3882 supply certificates. As the source of any imported soils is unknown at this time, we have assumed a conservative 50m³ import testing frequency, however this may be subject to review once the source is known.

Table 5.1 – Validation Sample Frequency

| Purpose | Area | Testing Frequency | Chemical Analysis |
|--|----------------------|--|--|
| Imported Materials (excavation backfill and clean cover system) | | | |
| Validation testing of backfilled soils. | Remedial Excavations | 1x sample per 50m ³ imported material (minimum of 3x samples per soil source) | <ul style="list-style-type: none"> • Full CLEA Metals • Cyanide • PAH (USEPA 16) • Total PAH • Banded TPH • Asbestos Identification • Asbestos Quantification (if asbestos is detected) |

5.4 Validation Criteria

The validation criteria set out in Table 5.2 below should be adopted for all soils emplaced as backfill in the remedial excavations, as well as validation screening criteria for validation samples taken from the base of the remedial excavations.

Table 5.2 – Chemical Suitability Criteria for Imported Materials and Validation Criteria

| Determinant | Unit | GAC | Exposure Pathway | Origin of Risk Assessment Value |
|------------------------------|-------|-------------------|------------------|--|
| Metals | | | | |
| Arsenic | mg/kg | 37 | 1 | LQM CIEH Suitable for Use Levels (S4UL) 2015- Inorganic Arsenic |
| Beryllium | mg/kg | 1.7 | 1 | LQM CIEH Suitable for Use Levels (S4UL) 2015 |
| Boron | mg/kg | 290 | 1 | |
| Cadmium | mg/kg | 11 | 2 | |
| Chromium (III) | mg/kg | 910 | 1 | |
| Chromium (VI) | mg/kg | 6 | 2 | |
| Copper | mg/kg | 2,400 | 2 | |
| Lead | mg/kg | 200 | 1 | Category 4 Screening Level (C4SL) utilising exposure parameters from CLEA SR3 Report |
| Mercury | mg/kg | 40 | 1 | LQM CIEH Suitable for Use Levels (S4UL) 2015- Inorganic Mercury |
| Nickel | mg/kg | 180 | 1,2 | LQM CIEH Suitable for Use Levels (S4UL) 2015 |
| Selenium | mg/kg | 250 | 1,2 | |
| Vanadium | mg/kg | 410 | 2 | |
| Zinc | mg/kg | 3,700 | 2 | |
| General Inorganics | | | | |
| Total Cyanide ⁽¹⁾ | mg/kg | 50 | 1 | Dutch Intervention Values 2010 |
| Asbestos | % | 0.001% Chrysotile | 6 | Omnia Derived Value based on ICRL |
| General Organics | | | | |
| Phenol | mg/kg | 280 | 2 | LQM CIEH Suitable for Use Levels (S4UL) 2015 1%SOM |
| PAHs | | | | |

| Determinant | Unit | GAC | Exposure Pathway | Origin of Risk Assessment Value |
|---|-------|------------|------------------|---|
| Naphthalene | mg/kg | 2.3 | 2 | LQM CIEH Suitable for Use Levels (S4UL) 2015 based on a sandy loam as defined in SR3 (EA 2009) 1% SOM |
| Acenaphthylene | mg/kg | 170 | 2 | |
| Acenaphthene | mg/kg | 210 | 2 | |
| Fluorene | mg/kg | 170 | 2 | |
| Phenanthrene | mg/kg | 95 | 2 | |
| Anthracene | mg/kg | Footnote 3 | 2 | |
| Fluoranthene | mg/kg | 280 | 1,2 | |
| Pyrene | mg/kg | 620 | 1,2 | |
| Benzo(a)Anthracene | mg/kg | 7.2 | 1 | |
| Chrysene | mg/kg | 15 | 1 | |
| Benzo(b)Fluoranthene | mg/kg | 2.6 | 1 | |
| Benzo(k)Fluoranthene | mg/kg | 77 | 1 | |
| Benzo(a)Pyrene | mg/kg | 2.2 | 1 | |
| Indeno(123-cd)Pyrene | mg/kg | 27 | 1 | |
| Dibenzo(a,h)Anthracene | mg/kg | 0.24 | 1 | |
| Benzo(ghi)Perylene | mg/kg | 320 | 1 | |
| Total PAH ⁽²⁾ | mg/kg | <1,000 | N/A | To prevent the import of hazardous PAH containing material. |
| Banded TPH | | | | |
| TPH EC 5-6 ⁽³⁾ | mg/kg | 42 | 4 | LQM CIEH Suitable for Use Levels (S4UL) 2015 based on a sandy loam as defined in SR3 (EA 2009) 1% SOM, utilising the most conservative of the Ali/Aro chain lengths |
| TPH EC >6-8 ⁽³⁾ | mg/kg | 100 | 4 | |
| TPH EC >8-10 ⁽³⁾ | mg/kg | 27 | 4 | |
| TPH EC > 10-12 ⁽³⁾ | mg/kg | 74 | 2 | |
| TPH EC > 12-16 ⁽³⁾ | mg/kg | 140 | 2 | |
| TPH EC > 16-21 ⁽³⁾ | mg/kg | 260 | 1 | |
| TPH EC > 21-35 ^(3, 4) | mg/kg | Footnote 4 | 1 | |
| TPH EC > 35-44 ^(3, 4) | mg/kg | Footnote 4 | 1 | |
| TPH EC > 35-44 ^(3, 4) | mg/kg | Footnote 4 | 1 | |
| Total TPH (EC>5-44) | mg/kg | <1,000 | N/A | To prevent the import of hazardous TPH containing material. |
| Notes | | | | |
| Abbreviations: GAC = General Assessment Criteria, n = number of samples, MC = Maximum Concentration; Loc of Ex = Location of Exceedance. | | | | |
| Main Exposure Pathways: 1 = Ingestion of Soil & Indoor Dust, 2 = Consumption of Homegrown Produce & Attached Soil; 3 = Dermal Contact (Indoor & Outdoor); 4 = Inhalation of Vapour (Indoor & Outdoor); 5 = Inhalation of Dust (Indoor & Outdoor), 6 = Inhalation of Fibres | | | | |
| (1) Total cyanide Tier 1 GAC is taken from the Dutch Intervention Value (2010) for complex cyanide. | | | | |

| Determinant | Unit | GAC | Exposure Pathway | Origin of Risk Assessment Value |
|--|------|-----|------------------|---------------------------------|
| <p>(2) The S4UL screening value for individual compounds exceeds 1,000mg/kg and therefore the Total PAH limit of <1,000mg/kg must be adhered to in order to prevent hazardous PAH containing material from being imported to site</p> <p>(3) The Tier 1 GAC for the banded hydrocarbon fraction is derived from the CIEH/S4UL assessment for petroleum hydrocarbons Criteria Working Group (CWG) for both aliphatic and aromatic compounds. OEC has utilised the lowest of the aliphatic and aromatic chain lengths in order to adopt a conservative approach, which is considered satisfactory for the protection of human health.</p> <p>(4) The S4UL screening value for individual compounds exceeds 1,000mg/kg and therefore the Total TPH (EC>5-44) limit of <1,000mg/kg must be adhered to in order to prevent hazardous PAH containing material from being imported to site</p> | | | | |

6.0 RECORD KEEPING & VERIFICATION

6.1 Record Keeping

During the course of the remediation and site enabling works, the Principal Contractor (PC) should undertake the following record keeping protocols:

- Detailed daily site diary during active remedial site works and photographs of all remedial works;
- Consignment Notes relating to the movement of wastes to licensed waste management facilities;
- Photographic evidence of verification works, including any Non-compliance and rectification measures, as well as final depths and sample locations.

Record keeping, in particular movements and analysis of specific material types on site, should be retained by the PC.

6.2 Verification

Upon completion of the remedial works, a validation report will be produced for submission to the LPA.

In addition to information specified in CLR11 Model Procedures for the Management of Land Contamination/the Land Contamination: Risk Management (LCRM) guidance (<https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks/reporting-requirements>), the following information will need to be provided within the verification report:

- Information detailed in Remediation Action Plan;
- Details and justification of any changes from the original remediation strategy;
- Photographic evidence of each stage of the remediation i.e. remedial excavations;
- Scaled plans showing treatment areas/excavated areas;
- Details of who carried out the work;
- All waste transfer notes, including the volume of soil transported on each truck;
- Environment Agency waste consignment notes;
- Confirmation from potable water supplier that water supply pipework of the specification stipulated by the water supply company has been correctly installed;
- Soil analysis results for imported soils;
- The analysis results of validation sampling of areas of removed contaminated soils; and,
- Confirmation that remediation objectives have been met.

6.3 Supervision and Verification of Works

All works as set out within this RMS are to be carried out under the supervision of a suitably qualified and experienced Environmental Consultant. The level of attendance should be agreed with the Client.

6.4 Previously Unidentified Contaminants

A discovery strategy should be implemented as part of the development process for any previously un-identified contamination.

Should any additional significant visual or olfactory evidence of unexpected contamination be identified during the development then works should be halted in the affected area and contact made with a suitably qualified and experienced Environmental Consultant to determine an appropriate course of action, which may include additional investigation, and as necessary, variation to the agreed RMS.

Contact should be made with the regulator to confirm the proposed scope of works and any variation to the RMS.

The following list is not exhaustive, but should be used as guidance with regards to what should be considered indicative of soil contamination that may require remedial works:

- Free-phase contamination (liquid oils or fuels);
 - Loose fibrous materials or cement bound materials (PACM);
 - Visually significant staining of soils;
 - Evidence of invasive plants such as Japanese Knotweed, Himalayan Balsam, Marestalk or Giant Hogweed; and,
 - Olfactory evidence of hydrocarbon contamination.
-

APPENDIX I

LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between OE Ltd and the Client as indicated in Section 1.2.
 2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information, it has been assumed it is correct. No attempt has been made to verify the information.
 3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination, which are enforced, by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
 4. During the site walkover reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.
 5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
 6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
 7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials this is for indicative purposes only and do not constitute or replace full and proper surveys.
 8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
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 10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.
-

APPENDIX II

GLOSSARY

| | |
|--------------|---|
| AST | ABOVE GROUND STORAGE TANK |
| BGS | BRITISH GEOLOGICAL SURVEY |
| BSI | BRITISH STANDARDS INSTITUTE |
| BTEX | BENZENE, TOLUENE, ETHYLBENZENE, XYLENES |
| CIEH | CHARTERED INSTITUTE OF ENVIRONMENTAL HEALTH |
| CIRIA | CONSTRUCTION INDUSTRY RESEARCH ASSOCIATION |
| CLEA | CONTAMINATED LAND EXPOSURE ASSESSMENT |
| CSM | CONCEPTUAL SITE MODEL |
| | DENSE NON-AQUEOUS PHASE LIQUID (CHLORINATED SOLVENTS, |
| DNAPL | PCB) |
| DWS | DRINKING WATER STANDARD |
| EA | ENVIRONMENT AGENCY |
| EQS | ENVIRONMENTAL QUALITY STANDARD |
| GAC | GENERAL ASSESSMENT CRITERIA |
| GL | GROUND LEVEL |
| GSV | GAS SCREENING VALUE |
| HCV | HEALTH CRITERIA VALUE |
| ICSM | INITIAL CONCEPTUAL SITE MODEL |
| LNAPL | LIGHT NON-AQUEOUS PHASE LIQUID (PETROL, DIESEL, KEROSENE) |
| ND | NOT DETECTED |
| LMRL | LOWER METHOD REPORTING LIMIT |
| NR | NOT RECORDED |
| PAH | POLY AROMATIC HYDROCARBON |
| PCB | POLY-CHLORINATED BIPHENYL |
| PID | PHOTO IONISATION DETECTOR |
| QA | QUALITY ASSURANCE |
| SGV | SOIL GUIDELINE VALUE |
| SPH | SEPARATE PHASE HYDROCARBON |
| SP.TPH (CWG) | TOTAL PETROLEUM HYDROCARBON (CRITERIA WORKING GROUP) |
| SPT | STANDARD PENETRATION TEST |
| SVOC | SEMI VOLATILE ORGANIC COMPOUND |
| UST | UNDERGROUND STORAGE TANK |
| VCCS | VIBRO CONCRETE COLUMNS |
| VOC | VOLATILE ORGANIC COMPOUND |
| WTE | WATER TABLE ELEVATION |

UNITS

| | |
|-------------------|---|
| M | METRES |
| KM | KILOMETRES |
| % | PERCENT |
| %V/V | PERCENT VOLUME IN AIR |
| MB | MILLI BARS (ATMOSPHERIC PRESSURE) |
| L/HR | LITRES PER HOUR |
| µG/L | MICROGRAMS PER LITRE (PARTS PER BILLION) |
| PPB | PARTS PER BILLION |
| MG/KG | MILLIGRAMS PER KILOGRAM (PARTS PER MILLION) |
| PPM | PARTS PER MILLION |
| MG/M ³ | MILLIGRAM PER METRE CUBED |

| | |
|-------------------|---|
| M BGL | METRES BELOW GROUND LEVEL |
| M BCL | METRE BELOW COVER LEVEL |
| MAOD | METRES ABOVE ORDNANCE DATUM (SEA LEVEL) |
| KN/M ² | KILO NEWTONS PER METRE SQUARED |
| µM | MICRO METRE |

APPENDIX III

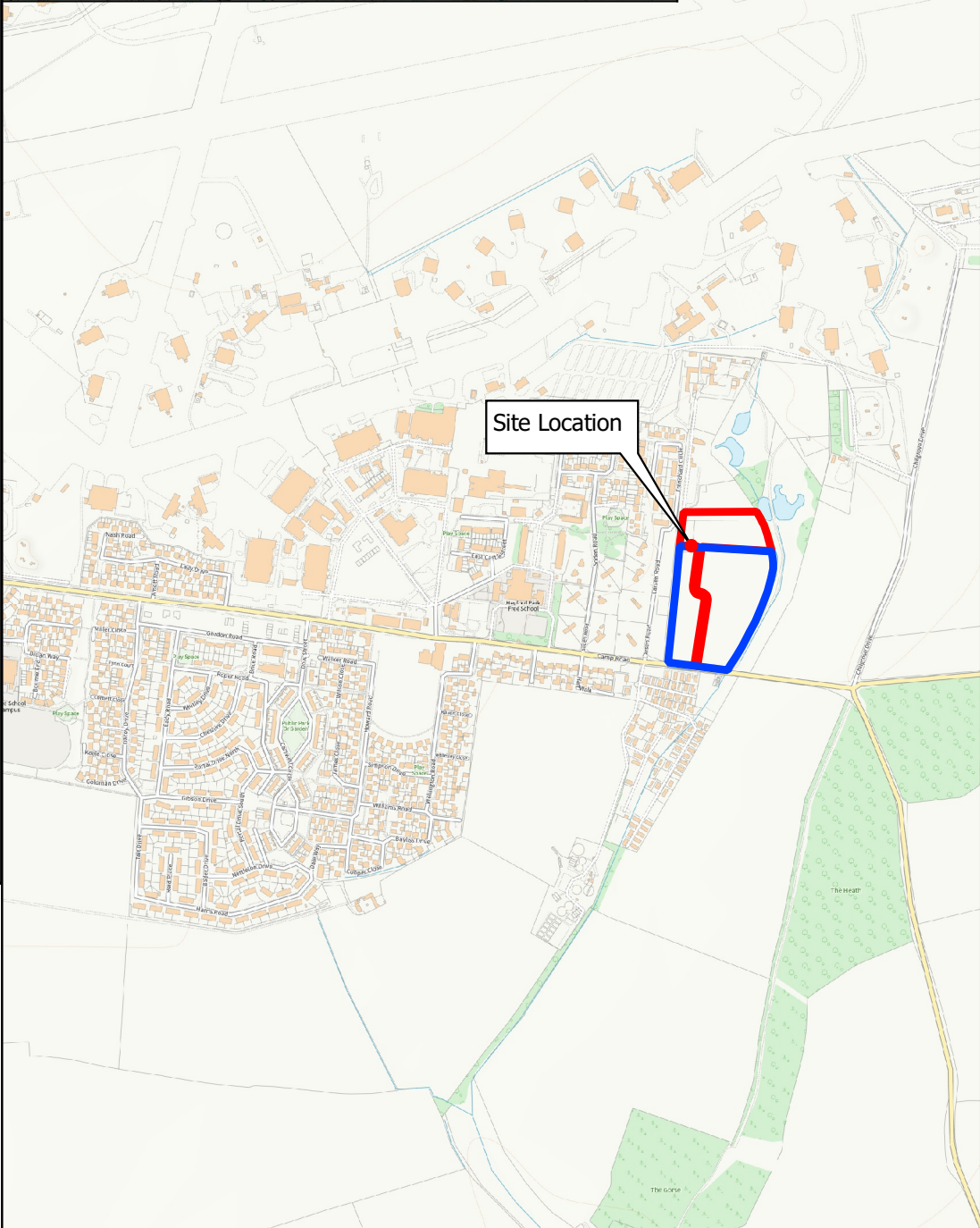
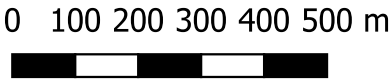
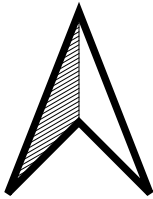
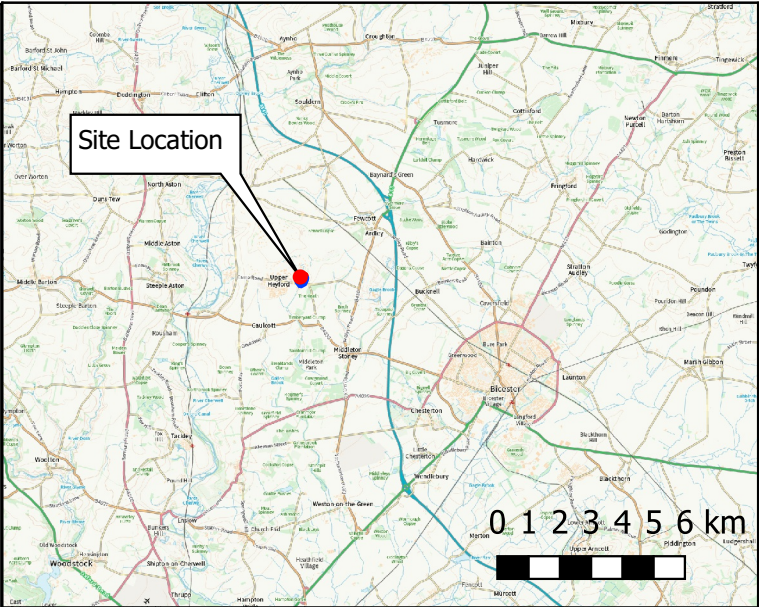
DRAWINGS

Key

Site Boundary

- Phase 1 area
- Phase 2 area

Map Source: OS Open Data (<https://osdatahub.os.uk/downloads/open>)



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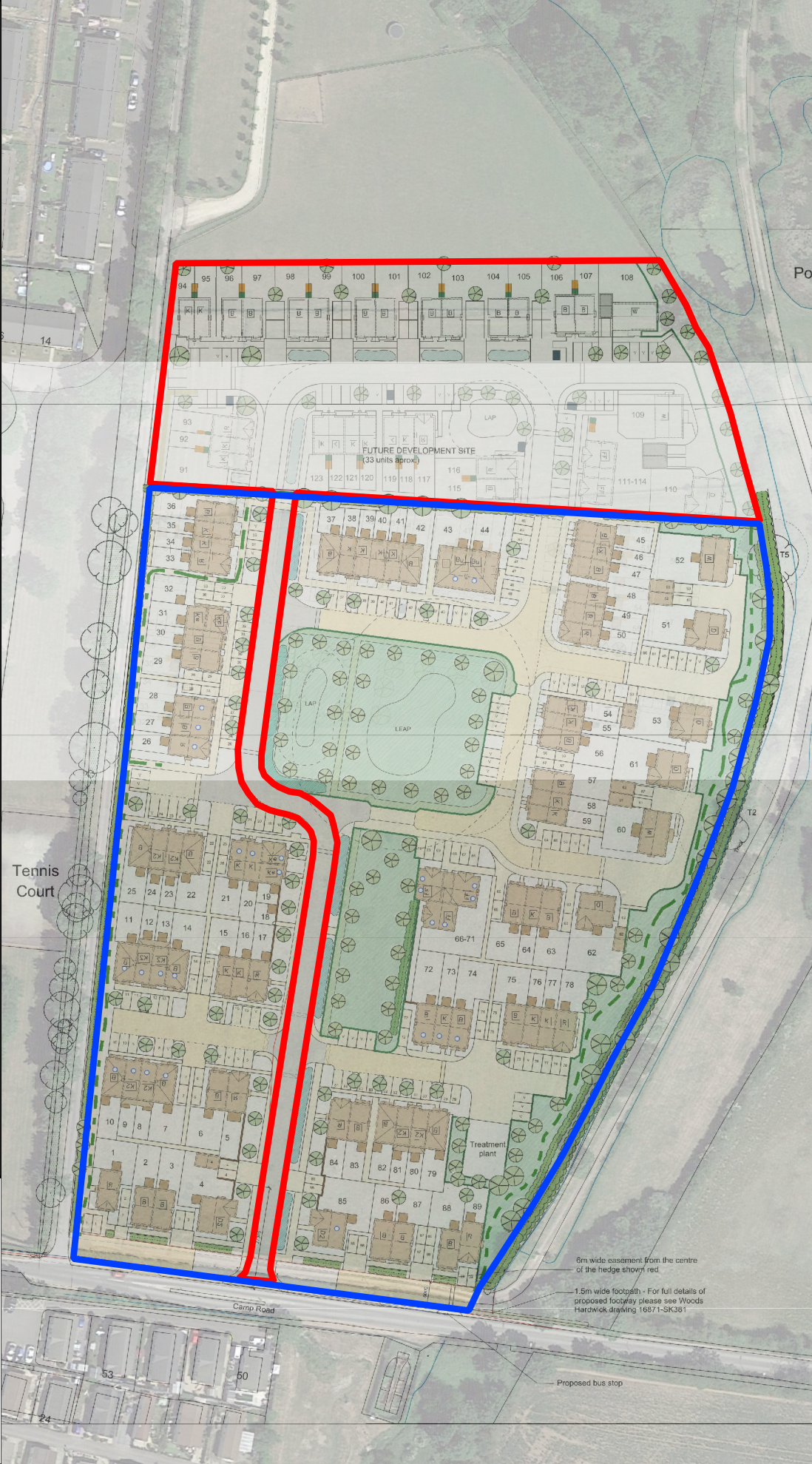


| | | | |
|--|---|-------------------------------|--|
| Project Number: A11754 | Client: David Wilson Homes Southern | Drawn By: W. Bennett | Drawing Title: Figure 1.0 Site Location Plan |
| Job Title: Letchmere Farm, Upper Heyford, OX25 5HA | Date: 01/11/2022 | Authorised By: T. Mitchell | |

Key

Site Boundary

- Phase 1 area
- Phase 2 area



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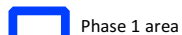
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| Job Title: Letchmere Farm, Upper Heyford, OX25 5HA | Date: 01/11/2022 | Authorised By: T. Mitchell | Figure 2.0 Proposed Development |

Key



Phase 1 area



Phase 2 area

Omnia Locations



Trial Pit (TP) and Soakaway (SA)



Hand Pit Locations



Windowless Sample (WS)



Plaste Load Test (PLT)

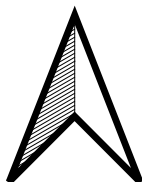


Dynamic Cone Penetrometer (DCP)

T&P Regen Locations



Trial Pit (TP)

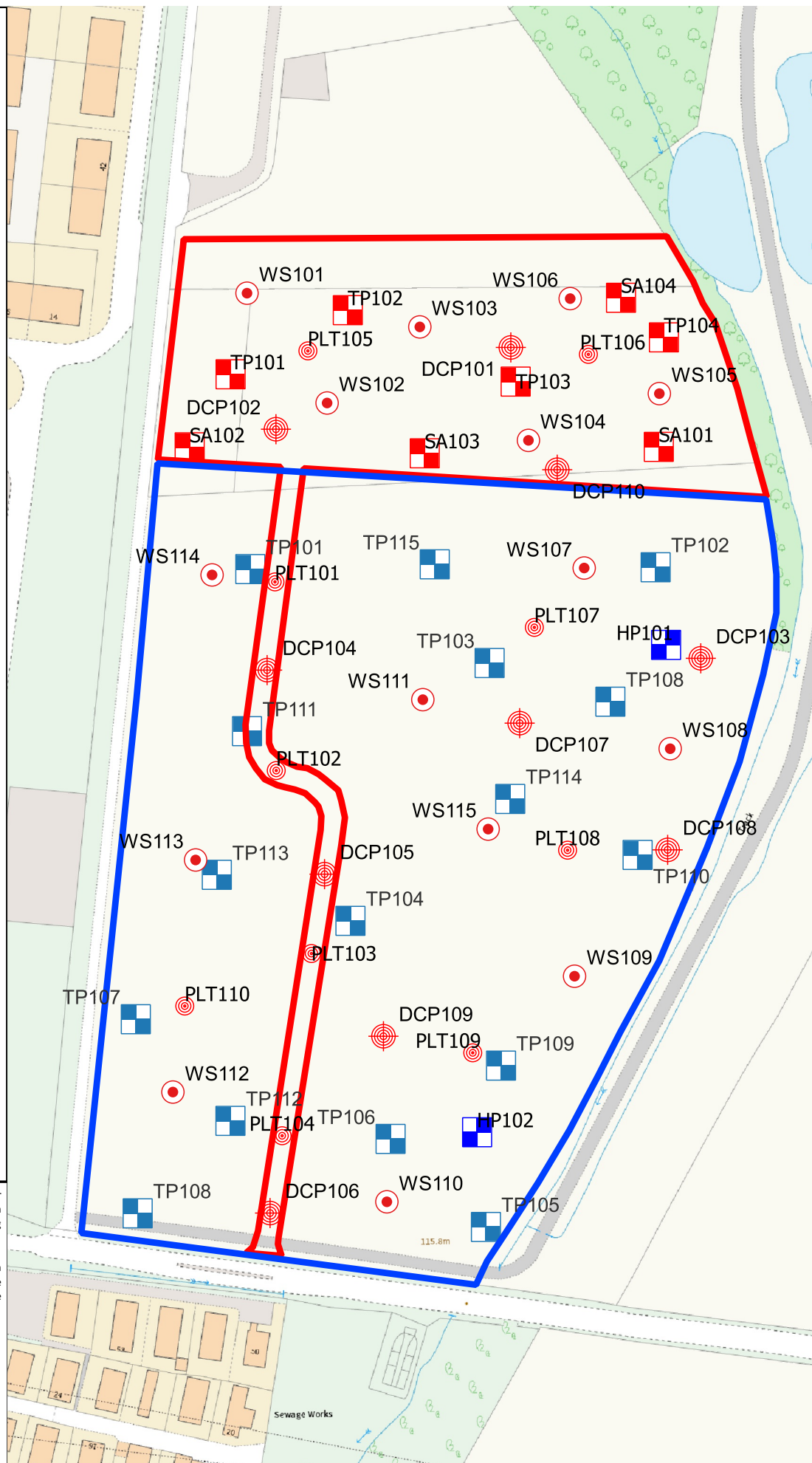


0 10 20 30 40 50 m

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Client:
David Wilson Homes

Date:
01/11/2022

Drawn By:
W. Bennett

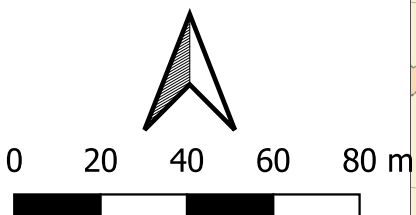
Authorised By:
T. Mitchell

Drawing Title:

Figure 3.0
Intrusive Location Plan

Key

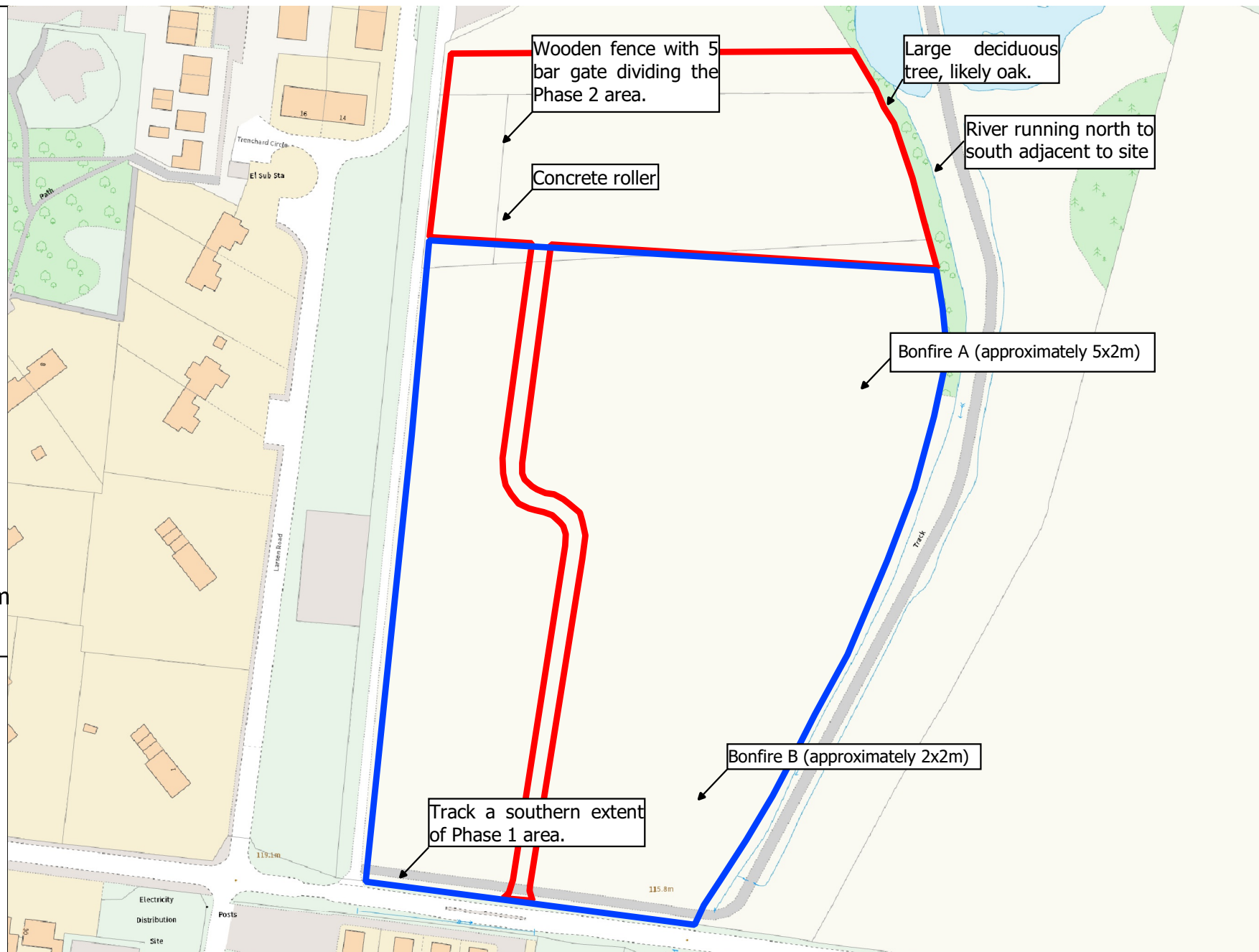
- Phase 1 area
 Phase 2 area



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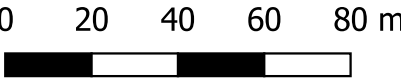


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|--|--|---|----------------------------------|-----------------------------------|--|
| | Job Title: Land at Letchmere Farm, Upper Heyford | Client: David Wilson Homes Southern | Project Number: A11754 | Date: 01/11/2022 | Drawing Title: Figure 4.1 Site Walkover Map - showing burned areas |
| | | | Drawn By: W. Bennett | Authorised By: T. Mitchell | |

Key

Top Left: Photograph of Bonfire A Area
Approximate dimensions 5x2m

Bottom Right: Photograph of Bonfire B Area
Approximate dimensions 2x2m



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Land at Letchmere Farm, Upper
Heyford

Client:
David Wilson Homes Southern

Project Number:
A11754

Drawn By:
W. Bennett

Date:
01/11/2022

Authorised By: T. Mitchell

Drawing Title: Figure 4.2

Burned Ground Areas