

**Southcott Homes**8<sup>th</sup> June 2021

Our Ref.: 18935/RMSLR/RMSV

Dear Andy

**Re: Orchard Nursery RMS Validation**

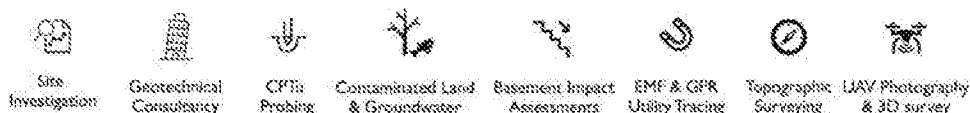
Following presentation and discussion with the regulator it was agreed that works to validate and verify the agreed RMS (ref: 18935/RMSLR/V2 dated 13<sup>th</sup> May 2021) would be undertaken so as to detail and resolve the remaining issues in relation to the planning conditions extant at this site. Soils Limited attended site on 27<sup>th</sup> May 2021 to undertake limited testing in the area previously identified as a potential "Hotspot" at WS3 0.30m as noted in the RMS conclusions copied below.

1. Site clearance be undertaken to 0.30m below current levels
2. Validation testing (5no samples Lead only) at location WS3 and at 1m cardinal points from WS3 following groundworks
3. Confirmation of no obvious deleterious materials encountered during clearance or remaining exposed on cleared site
4. Emplacement and confirmation of site Discovery Strategy – to include special reference to potential for Tanks and/or hydrocarbons
5. Requirement to report the above (with evidence) and confirm compliance with site Discovery Strategy (even if negative)

In relation to item 1, it has been confirmed by the Client that the site was cleared to 0.30m below ground level thereby removing the identified area of elevated Lead (0.20m) by default. The remainder of this report therefore relates to items 2 to 5.

**Validation Investigation Works**

Soils Limited attended site on 27<sup>th</sup> May 2021 and undertook a limited investigation in the area of WS3 exposing materials to a depth of 0.60m (0.90m below previous ground level). The investigation comprised a visual and olfactory investigation of the underlying materials and limited sampling as agreed with the regulator. The materials encountered comprised a roughly 300mm greyish white hardcore clayey gravel cover (emplaced prior to emplacement of cover materials and hard standing) overlying natural or reworked ground comprising a variable depth of greenish brown gravelly clays with brick, and concrete with roots to depth.



Soils Limited is a limited company registered in England and Wales number 1612073. VAT number 318273558

Also of particular interest was a brick wall passing east to west which was noted to final depth across the trial pit and which apparently continues to the eastern end of the site and somewhat westwards underlying the access road. This wall also had noted fill materials including ash and clinker presumably emplaced contemporary with the installation and backfilling of this feature, reaching roughly 30cm each side as noted in the following photograph:

Photograph 1



Samples were taken at cardinal points as agreed in the RMS at depths of 0.30-0.50m below current ground levels (V1-V4) below the hardcore and from the base of the excavation in the materials in proximity to the wall (V5) at 0.90m. The results of analysis are enclosed as Appendix 1 to this report.

### Results of Analysis

The results indicate that the underlying “natural” gravelly clay does not contain significantly elevated levels of Lead (V1-V3), as indicated in the original investigation report (Ref: 16612/GIR dated November 2017). However, it was notable that the V4 sample (to the west) did evidence slightly elevated levels at 215mg/kg. This is within the +/- 10% MCerts error margin for the analysis in comparison to the current guideline value and is therefore not significant. It also indicates that there are outliers in the data set, which is typical for Lead given the likely source as ash, clinker, glass, paint, flashing etc. as typically expected in a historical nursery setting, thus appearing to further confirm the historical site model conclusions.

Sample V5 was deliberately taken from depth in the “reworked” ground adjacent to the wall and showed a very similar result to that from WS3 0.20m during the previous investigation at 539mg/kg for V5 compared to 522mg/kg for WS3. This strongly indicates that the material is probably of similar source and origin and that the original WS3 sample is indeed an outlier probably associated with the wall backfill. Unfortunately, as certain samples were deliberately targeted in a hotspot area, they should not technically be subject to statistical analysis under current guidance.

However, it is interesting to note that even including the outliers the average for the data set overall is 147mg/kg against a guideline value of 200mg/kg and the “natural” gravelly clay is on average 28mg/kg i.e. if outliers are excluded. As such the site cannot be considered systematically contaminated or defined as contaminated land on the basis of these results.

## Site Inspection

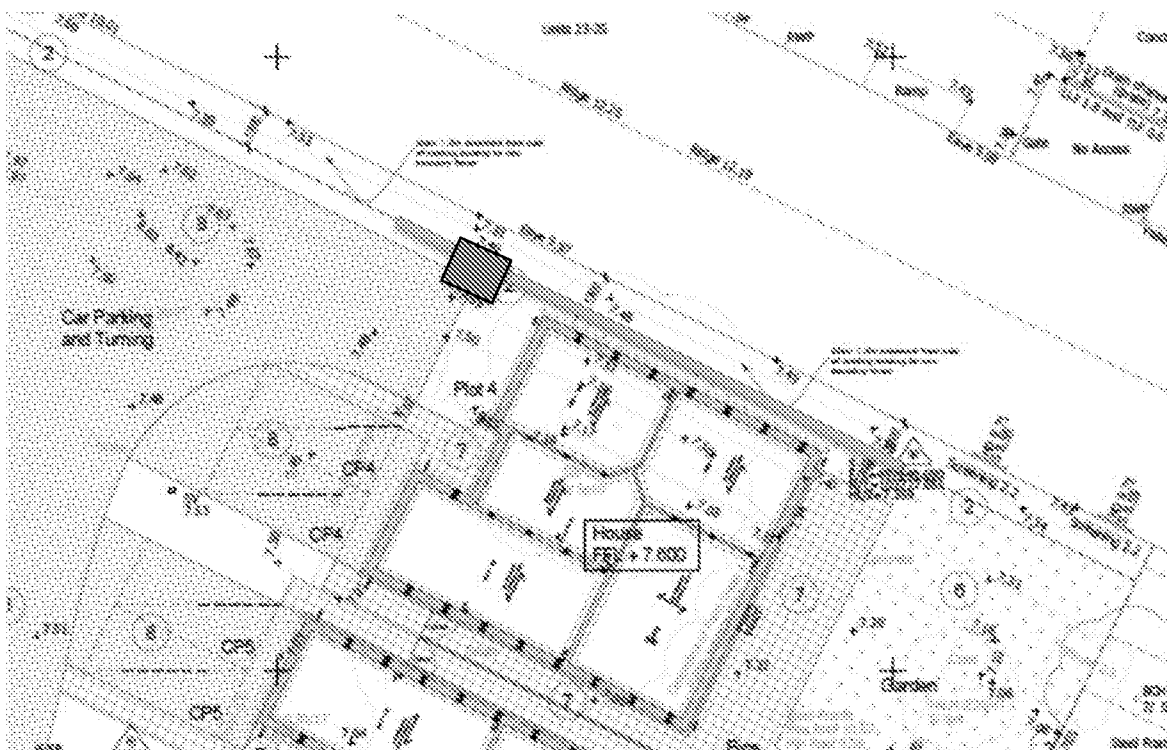
The site was inspected by Soils Limited on 27<sup>th</sup> May 2021 and various staff on site consulted. They confirmed that no unexpected deleterious materials (including hydrocarbons) had been encountered during the works to date and neither had any evidence of tanks or associated pipework been noted. They also confirmed that they were on notice during groundworks to report and note any such evidence to the Client as part of the works procedures and confirmed that the noted wall encountered in the trial pit was the only underlying significant structure encountered to date. A visual inspection on this date indicated no visual evidence of any such tanks or installations.

A discovery strategy (copy enclosed as Appendix 2) is now part of the standard operating procedures on site and will be reported as part of the final validation in the negative by the Client if it remains inactivated. It specifically includes the points required including additional requirements for tanks if encountered as requested and required.

## Site Plans

A Section of the latest site plan is enclosed as Plan 1 and has been annotated to include the area of the wall (in green) and the trial pit (in blue).

### Plan 1



As can be noted, the area of the wall will lie below at least 300mm of overlying clean material, hard surfacing and/or at least 300mm of suitable growing medium which under BRE guidance for cover should be sufficient to mitigate the underlying risk. Elevated Lead levels associated with the wall will also be removed from direct access to human receptors through inhalation by the establishment of appropriate barriers (hard or soft) to over 200mm, though in theory ingestion may be possible in back garden areas (considered to be up to 600mm below ground level) if the wall extends further into those areas. If the infill is processed non depositional Lead (as considered likely given the source), its bioavailability will be of the order of only a couple of percent and a site-specific allowable C4SL guideline value of between 450-750mg/kg would typically be generated.

## Conclusions and Recommendations

In conclusion, Soils Limited consider that they have now identified and confirmed the source of the outlier Lead encountered in the original investigation in WS3 and that it is associated entirely in relation to backfilling in the area of the wall encountered in the trial pit. It probably comprises processed Lead in the form of microscopic fragments in ash and clinker possibly also including glass, paint and flashing from historical nursery buildings used as backfill during the excavation, building and establishment of the wall.

The planned development works in the area of the wall (cover, hardstanding and/or additional growing media) would mitigate the potential effects of such materials on human health receptors in the longer term as they are neither systematic across the site (as proven by the “natural” background results) nor likely to be significantly available given the planned cover in this area of the site and the nature of the material. As it is unlikely that the Lead will be in a form that is significantly leachable or bioavailable but as isolate fragments of historically processed Lead, risks are considered low to negligible in context.

## Further Works

Validation on completion of works should therefore comprise confirmation of the depth of emplacement in the area of the wall (using engineers drawings/plans/notes/photographs/etc. and/or third-party depth confirmation by limited investigation) in addition to the discovery strategy confirmation already highlighted. In addition, presentation of appropriate documentation for any and all ground materials removed and imported to the site (a QS summary of the volumes is usually acceptable with an example waste ticket for disposal) and suitable certification to confirm suitability and fitness for purpose in context of its proposed use will be expected. Any additional requirements should be highlighted by the regulator after appropriate consultation.

If you have any questions regarding the above, please contact the undersigned.

Yours sincerely



**C G Swainston** *BSc, PGCE, CGeol, FGS, CLAIRQ*

Principal Geo-Environmental Engineer

**For and on behalf of Soils Limited**

**Appendix 1: Laboratory Results**

**Appendix 2: Discovery Strategy (copy)**



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Tadworth  
Surrey  
KT20 5SR

**DETS Ltd**  
Unit 1  
Rose Lane Industrial Estate  
Rose Lane  
Lenham Heath  
Kent  
ME17 2JN

## **DETS Report No: 21-06943**

**Site Reference:** Orchard Nursery

**Project / Job Ref:** 18935

**Order No:** 18935

**Sample Receipt Date:** 28/05/2021

**Sample Scheduled Date:** 28/05/2021

**Report Issue Number:** 1

**Reporting Date:** 04/06/2021

**Authorised by:**

Dave Ashworth  
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.



**DETS Ltd**  
**Unit 1, Rose Lane Industrial Estate**  
**Rose Lane**  
**Lenham Heath**  
**Maidstone**  
**Kent ME17 2JN**



| Soil Analysis Certificate              |                        |               |               |               |               |               |
|----------------------------------------|------------------------|---------------|---------------|---------------|---------------|---------------|
| <b>DETS Report No: 21-06943</b>        | <b>Date Sampled</b>    | 27/05/21      | 27/05/21      | 27/05/21      | 27/05/21      | 21/05/21      |
| <b>Soils Ltd</b>                       | <b>Time Sampled</b>    | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Site Reference: Orchard Nursery</b> | <b>TP / BH No</b>      | V1            | V2            | V3            | V4            | V5            |
| <b>Project / Job Ref: 18935</b>        | <b>Additional Refs</b> | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Order No: 18935</b>                 | <b>Depth (m)</b>       | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| <b>Reporting Date: 04/06/2021</b>      | <b>DETS Sample No</b>  | 546389        | 546390        | 546391        | 546392        | 546393        |

| Determinand | Unit  | RL  | Accreditation | (n) |    |    |     |     |
|-------------|-------|-----|---------------|-----|----|----|-----|-----|
| Lead (Pb)   | mg/kg | < 3 | MCERTS        | 8   | 24 | 29 | 215 | 539 |

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation



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#### Soil Analysis Certificate - Sample Descriptions

|                                 |  |
|---------------------------------|--|
| DETS Report No: 21-06943        |  |
| Soils Ltd                       |  |
| Site Reference: Orchard Nursery |  |
| Project / Job Ref: 18935        |  |
| Order No: 18935                 |  |
| Reporting Date: 04/06/2021      |  |

| DETS Sample No | TP / BH No | Additional Refs | Depth (m)     | Moisture Content (%) | Sample Matrix Description    |
|----------------|------------|-----------------|---------------|----------------------|------------------------------|
| 546389         | V1         | None Supplied   | None Supplied | 6.9                  | Brown sand with stones       |
| 546390         | V2         | None Supplied   | None Supplied | 15.5                 | Brown sandy clay with stones |
| 546391         | V3         | None Supplied   | None Supplied | 17.9                 | Brown sandy clay             |
| 546392         | V4         | None Supplied   | None Supplied | 17.6                 | Brown sandy clay             |
| 546393         | V5         | None Supplied   | None Supplied | 15.7                 | Brown sandy clay             |

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample <sup>1/5</sup>

Unsuitable Sample <sup>1/5</sup>



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# Soil Analysis Certificate - Methodology & Miscellaneous Information

**DETS Report No: 21-06943**

**Soils Ltd**

**Site Reference: Orchard Nursery**

**Project / Job Ref: 18935**

**Order No: 18935**

**Reporting Date: 04/06/2021**

| Matrix | Analysed On | Determinand                                                                                                                                     | Brief Method Description                                                                                                                             | Method No |
|--------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Soil   | D           | Boron - Water Soluble                                                                                                                           | Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES                                                            | E012      |
| Soil   | AR          | BTEX                                                                                                                                            | Determination of BTEX by headspace GC-MS                                                                                                             | E001      |
| Soil   | D           | Cations                                                                                                                                         | Determination of cations in soil by aqua-regia digestion followed by ICP-OES                                                                         | E002      |
| Soil   | D           | Chloride - Water Soluble (2:1)                                                                                                                  | Determination of chloride by extraction with water & analysed by ion chromatography                                                                  | E009      |
| Soil   | AR          | Chromium - Hexavalent                                                                                                                           | Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry | E016      |
| Soil   | AR          | Cyanide - Complex                                                                                                                               | Determination of complex cyanide by distillation followed by colorimetry                                                                             | E015      |
| Soil   | AR          | Cyanide - Free                                                                                                                                  | Determination of free cyanide by distillation followed by colorimetry                                                                                | E015      |
| Soil   | AR          | Cyanide - Total                                                                                                                                 | Determination of total cyanide by distillation followed by colorimetry                                                                               | E015      |
| Soil   | D           | Cyclohexane Extractable Matter (CEM)                                                                                                            | Gravimetrically determined through extraction with cyclohexane                                                                                       | E011      |
| Soil   | AR          | Diesel Range Organics (C10 - C24)                                                                                                               | Determination of hexane/acetone extractable hydrocarbons by GC-FID                                                                                   | E004      |
| Soil   | AR          | Electrical Conductivity                                                                                                                         | Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement                             | E022      |
| Soil   | AR          | Electrical Conductivity                                                                                                                         | Determination of electrical conductivity by addition of water followed by electrometric measurement                                                  | E023      |
| Soil   | D           | Elemental Sulphur                                                                                                                               | Determination of elemental sulphur by solvent extraction followed by GC-MS                                                                           | E020      |
| Soil   | AR          | EPH (C10 - C40)                                                                                                                                 | Determination of acetone/hexane extractable hydrocarbons by GC-FID                                                                                   | E004      |
| Soil   | AR          | EPH Product ID                                                                                                                                  | Determination of acetone/hexane extractable hydrocarbons by GC-FID                                                                                   | E004      |
| Soil   | AR          | EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)                                                                                   | Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS                                        | E004      |
| Soil   | D           | Fluoride - Water Soluble                                                                                                                        | Determination of Fluoride by extraction with water & analysed by ion chromatography                                                                  | E009      |
| Soil   | D           | Fraction Organic Carbon (FOC)                                                                                                                   | Determination of TOC by combustion analyser.                                                                                                         | E027      |
| Soil   | D           | Organic Matter (SOM)                                                                                                                            | Determination of TOC by combustion analyser.                                                                                                         | E027      |
| Soil   | D           | TOC (Total Organic Carbon)                                                                                                                      | Determination of TOC by combustion analyser.                                                                                                         | E027      |
| Soil   | AR          | Exchangeable Ammonium                                                                                                                           | Determination of ammonium by discrete analyser.                                                                                                      | E029      |
| Soil   | D           | FOC (Fraction Organic Carbon)                                                                                                                   | Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate                     | E010      |
| Soil   | D           | Loss on Ignition @ 450oC                                                                                                                        | Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace                                       | E019      |
| Soil   | D           | Magnesium - Water Soluble                                                                                                                       | Determination of water soluble magnesium by extraction with water followed by ICP-OES                                                                | E025      |
| Soil   | D           | Metals                                                                                                                                          | Determination of metals by aqua-regia digestion followed by ICP-OES                                                                                  | E002      |
| Soil   | AR          | Mineral Oil (C10 - C40)                                                                                                                         | Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge                                                  | E004      |
| Soil   | AR          | Moisture Content                                                                                                                                | Moisture content; determined gravimetrically                                                                                                         | E003      |
| Soil   | D           | Nitrate - Water Soluble (2:1)                                                                                                                   | Determination of nitrate by extraction with water & analysed by ion chromatography                                                                   | E009      |
| Soil   | D           | Organic Matter                                                                                                                                  | Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate                                 | E010      |
| Soil   | AR          | PAH - Speciated (EPA 16)                                                                                                                        | Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards                | E005      |
| Soil   | AR          | PCB - 7 Congeners                                                                                                                               | Determination of PCB by extraction with acetone and hexane followed by GC-MS                                                                         | E008      |
| Soil   | D           | Petroleum Ether Extract (PEE)                                                                                                                   | Gravimetrically determined through extraction with petroleum ether                                                                                   | E011      |
| Soil   | AR          | pH                                                                                                                                              | Determination of pH by addition of water followed by electrometric measurement                                                                       | E007      |
| Soil   | AR          | Phenols - Total (monohydric)                                                                                                                    | Determination of phenols by distillation followed by colorimetry                                                                                     | E021      |
| Soil   | D           | Phosphate - Water Soluble (2:1)                                                                                                                 | Determination of phosphate by extraction with water & analysed by ion chromatography                                                                 | E009      |
| Soil   | D           | Sulphate (as SO4) - Total                                                                                                                       | Determination of total sulphate by extraction with 10% HCl followed by ICP-OES                                                                       | E013      |
| Soil   | D           | Sulphate (as SO4) - Water Soluble (2:1)                                                                                                         | Determination of sulphate by extraction with water & analysed by ion chromatography                                                                  | E009      |
| Soil   | D           | Sulphate (as SO4) - Water Soluble (2:1)                                                                                                         | Determination of water soluble sulphate by extraction with water followed by ICP-OES                                                                 | E014      |
| Soil   | AR          | Sulphide                                                                                                                                        | Determination of sulphide by distillation followed by colorimetry                                                                                    | E018      |
| Soil   | D           | Sulphur - Total                                                                                                                                 | Determination of total sulphur by extraction with aqua-regia followed by ICP-OES                                                                     | E024      |
| Soil   | AR          | SVOC                                                                                                                                            | Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS                                               | E006      |
| Soil   | AR          | Thiocyanate (as SCN)                                                                                                                            | Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry  | E017      |
| Soil   | D           | Toluene Extractable Matter (TEM)                                                                                                                | Gravimetrically determined through extraction with toluene                                                                                           | E011      |
| Soil   | D           | Total Organic Carbon (TOC)                                                                                                                      | Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate                                 | E010      |
| Soil   | AR          | TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)         | Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS       | E004      |
| Soil   | AR          | TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44) | Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS       | E004      |
| Soil   | AR          | VOCS                                                                                                                                            | Determination of volatile organic compounds by headspace GC-MS                                                                                       | E001      |
| Soil   | AR          | VPH (C6-C8 & C8-C10)                                                                                                                            | Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID                                                                            | E001      |

**D Dried**  
**AR As Received**



# SOUTHCOTT HOMES

FAREHAM

Our Ref:

F1051

## CONTAMINATION DISCOVERY STRATEGY

**This is to be read in conjunction with the H&S Plan for this site.**

**RE PROPOSED RESIDENTIAL DEVELOPMENT – LAND AT EAST OF NORTH END ROAD & WEST OF CHURCH LANE NURSERY, YAPTON, WEST SUSSEX, BN18 0GA**

### Introduction

This discovery strategy is to be endorsed by Merlin Homes (Southern) Ltd in relation to the above development site. The document needs to be placed within the onsite H&S file and displayed on the site notice board and the developer will guarantee this will be incorporated into all of the site works and instructions and acted upon when required.

This document should also be read in conjunction with contamination reports prepared by Soils Ltd and recommendations detailed within these reports.

### Discovery Strategy

The investigation to date has provided a reasonably robust assessment of potential contamination across the site. There is however a risk of further contamination being present in small discrete areas (hotspots) that have not been previously identified and there can be no certainty that all such areas have been or will be located and/or sampled. Such occurrences may also be discovered during the demolition and construction phases for the redevelopment of the site. As such, a discovery strategy will be implemented.

Care should be taken during the excavation works especially to investigate any soils, which appear by eye (e.g. such as fibrous materials, large amounts of ash and unusual discolouration), odour (e.g. fuel, oil and chemical type odours or unusual odours such as sweet odours or fishy odours) or wellbeing (e.g. light headedness and/or nausea, burning of nasal passages and blistering or reddening of skin due to contact with soil) to be contaminated or unusual and/or different character to standard soils or those analysed.

There are two aspects to the strategy, one relating to encountering contaminants previously identified at other locations on the site and the second relating to the identification of contaminants not previously encountered (e.g. those of an unusual appearance and/or odour).

BUILDING FOR GENERATIONS

Southcott Homes (Fareham) Ltd, The Barn, Calcot Mount Business Park, Calcot Lane, Curridge, Southampton SO32 2BN



Southcott Homes (Fareham) Ltd is a trading name of Southcott Estates Group Ltd, registered in England and Wales.  
Registered office: The Barn, Calcot Mount Business Park, Calcot Lane, Curridge, Southampton SO32 2BN. Company No: 06920592



Should suspected contaminated materials be encountered during excavation, either by visual or olfactory methods, the contractor shall implement the following procedures:

- 1) Works shall be halted and the site manager shall be contacted to inspect the area of concern.
- 2) Photographs of the area shall be taken and detailed plans and method statements for dealing with the issue shall be drafted and forwarded to the local authority for approval.
- 3) Time and resources may need to be allocated to complete these further works/assessment with laboratory testing/analysis to be undertaken as necessary. The contractor may need to adjust the programme to enable works in other areas of the site to be progressed.
- 4) Verification samples shall be obtained from the base and sides of any excavations to demonstrate that the material has been effectively remediated.

In the event of any discovery of potentially contaminated soils or materials, this discovery should be quarantined and reported to the most senior member of site staff or the designated responsible person at the site for action. The location, type and quantity must be recorded and the Local Authority, and a competent and appropriate third party Engineer/Environmental consultant notified immediately. An approval from the Local Authority must be sought prior to implementing any proposed mitigation action.

A written summary of the discovery strategy will be included within the TGEN monthly reports and the contractor monthly reports.

#### Fuel Tanks

Should any fuel or oil tanks be encountered in the ground, then they will be decommissioned in accordance with relevant EA guidelines (e.g. PPG27). The possibility of encountering as yet undiscovered tanks cannot be fully discounted.

Where above ground storage tanks (AST), underground storage tanks (UST) or interceptors are found to contain liquids, then these shall be emptied and cleaned/degassed by an appropriately licensed contractor. All certification for this process should be retained. The London Fire Brigade (Petroleum Group) should also be informed of this activity and in the case of petroleum filled tanks may wish to be in attendance to verify the process. Allowance should be made for over excavation to remove any hydrocarbon contaminated soils from around the base and sides of any AST, UST or interceptors.

Any areas where tanks (AST or UST), fuel feed infrastructure or interceptors etc. are encountered will be treated as unexpected hotspots of contamination and will be

subject to the monitoring and validation procedure and will be backfilled with suitable imported material or site won arisings validated in accordance with the procedures. It is proposed that the following procedures will be adopted to deal with UST and to excavate any hydrocarbon impacted soils:

- 1) Task specific risk assessments and method statements should be in place, and risks and required mitigation measures communicated to all relevant personnel prior to the works commencing. Appropriate PPE and, if required, RPE should be provided and utilised.
- 2) Once the location of the identified UST at the site is confirmed (and if any additional UST are identified during the site clearance, surface strip or redevelopment works), these tanks will be made safe and removed from the site in accordance with the recommendations in Chapter 5 of the Defra Groundwater Protection Code 'Petrol stations and other fuel dispensing facilities involving underground storage tanks'. All UST, AST, fuel feed infrastructure and interceptors are to be removed for offsite disposal. All tank removal works will be undertaken under specialist supervision.
- 3) When UST are identified (and have not been previously decommissioned) these will be assessed, opened to vent any gases contained within and any contents removed by vacuum tanker prior to removing the tanks and associated pipework for offsite disposal.
- 4) During the removal of the UST and the excavation of the soils, a qualified geo-environmental engineer should maintain a watching brief and undertake a visual inspection of the ground material.
- 5) Hydrocarbon contaminated material will be loaded directly into wagons or temporarily stockpiled pending offsite disposal, on suitable impermeable plastic sheeting and covered with plastic sheeting to prevent runoff or leaching of contamination and to minimise the potential for dust generation.
- 6) On the assumption that any significant hydrocarbon contamination is likely to be in localised hotspots, it is considered that the site has a low potential to generate an odour that is likely to cause a nuisance issue at or beyond the site boundary. However, should a potential significant odour issue be identified, the groundwork in that area will be suspended until a suitable odour suppression or mitigation system is in place.
- 7) Validation samples will be collected from the sides and the bases of the UST excavations and any other hydrocarbon impacted areas, including hotspots, to confirm that removal of the impacted soils has been successful. Samples would be analysed for speciated TPH, speciated PAH and VOC.
- 8) A detailed written and photographic record of the works will be made to provide an audit trail of the works and for inclusion in a verification report. This will include a record of the location and dimensions of hotspot excavations, volumes of materials removed and reused onsite and/or disposed offsite, details of all validation testing and copies of waste transfer documentation for materials disposed offsite.

Where AST are encountered, following removal of the tank and any related fuel feed infrastructure, the ground will be inspected by the geo-environmental engineer (e.g. visual inspection backed by photographs and in-situ PID measurements) and where necessary backed by laboratory testing. Should contamination be encountered, then this will be treated as an unexpected hotspot and dealt with in accordance with the discovery strategy and validation strategy.

#### Deleterious Materials

Any significant quantities of deleterious materials (e.g. metal, timber, textiles, plastics etc.) encountered at the site surface or in the made ground or generated as a result of routine site works will be segregated and placed into a separate skip(s) for disposal offsite as general waste.

#### Hydrocarbon Impacted Soil

If encountered, soils contaminated with hydrocarbons will be excavated out for ex-situ treatment (e.g. soil vapour extraction, bioremediation, screening etc.) or treatment/disposal offsite as waste depending on the volumes of contaminated material encountered and on the time constraints of the development.

#### Conclusion

This Discovery Strategy must remain on site at all times and must demonstrate a clear allocation of responsibility for reporting and dealing with contamination. A copy of the strategy must be placed on the health and safety notice board and/or displayed in a prominent area where all site staff are able to take note of and consult the document at any time. Any member of the workforce entering the site to undertake any excavation must be made aware of the potential to discover contamination and the Discovery Strategy.

### Site and Contact Details

Below is a list of details needed to implement the Discovery Strategy.

#### **Developer**

Merlin Homes (Southern) Ltd  
The Barn  
Calcot Mount Business Park  
Calcot Lane  
Curdridge  
Southampton  
Hampshire  
SO32 2BN

Mr Andy Southcott  
Director and Project Manager  
[REDACTED]

Mr John Oakley  
Senior Site Manager  
[REDACTED]

#### **Contamination Engineer**

Soils Ltd  
Sun Valley Business Park  
Winnall Close  
Winchester  
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SO23 0LB

Mr Chris Swainston  
Principle Environmental Engineer  
[REDACTED]

#### **Local Authority**

Arun District Council  
Civic Centre  
Maltravers Road  
Littlehampton  
West Sussex  
BN17 5LF

Mrs Kate Giddings  
Environmental Health Officer  
[REDACTED]