

Date: 13 November 2025
Our reference: 305336 L01 (00)

Oakford Homes Ltd
Hedsor Court Farm
Sheepcote Lane
Hedsor
Bucks
SL1 8PE

**RE: FORMER ARUNDEL GAS WORKS, FORD ROAD, ARUNDEL, GARDEN VALIDATION WORKS,
PUBLIC OPEN SPACE AREA OF BLOCK A**

Dear Gurpreet,

1. Introduction

RSK Environment Limited (RSK) was commissioned by Oakford Homes Ltd to carry out garden validation works in relation to the clean cover system within public open space areas surrounding Block A. The site location is shown on **Figure 1**.

This letter report is subject to RSK's service constraints presented in **Appendix A**.

2. Background

The site covers an area of c. 0.47 hectares and is roughly rectangular in shape. All the former gas works infrastructure has now been removed from above and below ground. The site is currently being redeveloped into residential apartment blocks by Oakford Homes Ltd.

The site was operated as a gas works from the 1840s until the mid-20th Century. The gas works contained up to four gas holders which were operational at different times. A retort house, including chimney/ tank, a boiler house, condensers, governor compound, liquor/ tar tanks, and associated offices and stores were situated along the northeastern boundary of the works. A tar tank was situated in the northern corner of the site, where evidence of soils heavily impacted with petroleum hydrocarbons / tar contamination was noted during previous site investigations.



**INVESTORS
IN PEOPLE**

By 1994 only an electrical substation (located along the northeastern boundary), valve pits, toilet, and concrete base of a tank remained on the gas works. All of these with the exception of the substation have been decommissioned / removed from the site. Remedial works have subsequently been undertaken during 2021.

All the above ground structures were subsequently demolished. Following numerous ground investigations to assess the sites contamination status, remedial works were undertaken by Celtic En Globe during 2020 in order to render the site suitable for a 'commercial open space' end-use.

On completion of the remedial works Oakford Homes acquired the former gas works from National Grid Property Holdings with the intention of redeveloping the site with residential apartment blocks.

RSK Environment Limited (RSK) was originally commissioned by Soilfix Limited to provide oversight of the remediation works undertaken during the enabling works. Subsequently RSK was commissioned by Oakford Homes to provide support with regard to validation requirements during and following the proposed development.

The phases of investigation, risk assessments, remedial strategies, and remediation works that have been undertaken at the site to date are summarised in the following reports:

- Atkins, Ford Road, Arundel (Site No. 2551) Site Investigation Report, report ref: 5104362/GTG.20100923/Arundel2011/R001v0, October 2011;
- Atkins, Detailed Quantitative Risk Assessment, report ref: 5104362/GTG.20100923/2012/R002v1, October 2012;
- Atkins, Site Information, report ref: 5156428/R001/V4, July 2019;
- Celtic en Globe, Supplementary Site Investigation, Factual Report, Ford Road, Arundel, report ref. R1820/20/5043, December 2020;
- Celtic en Globe, Remediation Implementation and Validation Plan rev 2, report ref: R1820/21/5045, March 2021;
- Celtic en Globe, Remediation Validation Report Rev 1, Ford Road, Arundel, report ref: R1820/21/5111, September 2021;
- RSK, Further Site Investigation and Outline Remediation Strategy: Former Arundel Gas Works, Ford Road, Arundel, report ref: 29780 R02, April 2022;
- Soilfix Ltd, Remediation & Enabling Works, C500.OAK_RESIP, 27/04/2022
- RSK, Foundation Works Risk Assessment: Former Arundel Gas Works, Ford Road, Arundel, report ref: 29780 R03, May 2022;
- RSK, Vapour Protection Measures Verification Plan: Former Arundel Gas Works, Ford Road, Arundel, report ref: 29780 VP01, June 2022;
- Soilfix, Remediation & Enabling Strategy and Implementation Plan, report ref: C500.OAK_RESIP, April 2023;
- Soilfix Ltd, Materials Management Plan, report ref C500.OAK_MMP, April 2023; and

- Soilfix Limited, Remediation and Enabling Works Completion Report, Former Gasworks, Arundel, report ref: C500.OAK-CCR (Issue 1), November 2023.
- RSK Geosciences, Remediation Verification Report, 305336 R01 (00). February 2024

A number of investigations have been completed at the site in order to characterise the ground conditions in relation to the proposed residential development. Following remediation works described in the Soilfix Remediation and Enabling Works report (2022), there is still soil contamination identified including:

- trace concentrations of asbestos fibres
- hydrocarbon odours in made ground soils
- elevated dissolved phase concentrations of TPH in groundwater from WS201
- elevated concentrations of PAHs in shallow wells installed by RSK in February 2022

In order to mitigate the risk to future site users from soil contamination and provide a suitable growth medium for vegetation it was recommended that a clean cover system shall be installed within area of soft landscaping that would prevent users coming into direct contact with the underlying made ground.

2.1 Capping Layer Remedial Requirements

It was recommended that a clean capping layer be incorporated within soft landscaped public open space areas surrounding Blocks A and B shown on **Figure 2**.

In order to mitigate the risk of direct contact pathways from residual soil contaminants to future site users (break the identified pollutant linkages), within proposed public open space areas the placement of a suitable clean cover layer will be required. The clean cover should comprise:

- 150 mm capillary no dig layer comprising of crushed aggregate overlain by a minimum 450 mm of imported subsoil and topsoil.
- visible marker layer (orange in colour) at the base of the clean cover to act as a warning for any future maintenance works.

Validation of the capping layer should consist of the following:

- confirmation that the designed thickness of appropriate types of soils materials and geo-textile marker membrane has been placed
- information on the type, source and volume of the material (topsoil, subsoil, aggregate) as well as laboratory testing certification attesting suitability for use.
- chemical laboratory testing of acquired topsoil and subsoil with a sampling frequency of
 - a) 1 sample per 100 m³ from a greenfield source or 5 samples per source (whichever is greater).
 - b) 1 sample per 50 m³ from a brownfield source or 5 samples per source (whichever is greater).
- confirmation that the materials comprising the clean capping layers comply with RSK assessment criteria for a residential end-use without plant uptake (**Appendix B**).
- confirmation that imported aggregates contain crushed concrete and the material is tested for the asbestos screen.

3. Verification of soft landscaped areas

3.1 Topsoil, subsoil and aggregate sources

The required topsoil for the soft landscaped areas was sourced from the Tangmere Composting Site, Chichester. Testing of the topsoil was carried out by Tim O'Hare Associates LLP prior to delivery to site, to determine the suitability of the sample for general landscape purposes as well as determining its compliance with the requirements of the British Standard for Topsoil (BS3882:2015 – Table 1). Based on the findings, the sampled topsoil was considered suitable for general landscape purposes. Additionally, the sampled topsoil was largely compliant with the requirements of the British Standard for Topsoil with an exception of elevated levels of electrical conductivity and extractable potassium. These non-compliances are considered minor in the context of the final use of the soil. A copy of this assessment is detailed in **Appendix C**.

The subsoil required to complete the clean cover layer was imported from another construction site located at Land North of Downsview Avenue, Storrington, West Sussex, RH20 4PU. This was imported under a U1 Exemption (ref: WEX477535).

Leap Environmental (RSK's sister company) have completed ground investigation reports at this site previously, with pertinent information about the ground conditions from report ref: LP2254 LE/QEMS/Doc 07-5-01 – Aug 2019 - rev7 saved in (**Appendix D**). The site was a greenfield site, prior to the current redevelopment, with no evidence of contamination within the clays and sands of the underlying Fittleworth Member and Hythe Formation during logging and subsequent laboratory testing of selected samples.

Pertinent information from the Soilfix completion report (ref: C500.OAK-CCR (Issue 1)) regarding the aggregate layer placed during site remediation is provided in (**Appendix E**). This material underlies the orange geotextile membrane and has been subject to testing in line with the remedial strategy.

3.2 Capping Layer Site Inspection

RSK attended site on the 13 August 2025 and 22 August 2025 to validate the thickness of the capping layer, and presence of underlying geo-textile marker membrane within the Block A public open space areas. A total of five hand pits were excavated, with locations shown on (**Figure 2**), and a photographic log is presented in (**Appendix F**). Exploratory hole records for each of the hand pits are presented in (**Appendix G**).

The hand pits confirmed that the total thickness of topsoil and subsoil were 450 mm for locations HP01 – Block A, HP02 – Block A, and HP03 – Block A, with an orange coloured geotextile marker membrane at the base (**Appendix G**). The topsoil was found to be at least 150 mm in thickness and comprised a brown gravelly silty fine to coarse SAND, with frequent roots and rootlets and low cobble content. Gravel was subangular to subrounded fine to coarse sandstone and flint. The subsoil was found to be at least 300 mm in thickness and comprised a brown gravelly silty fine to coarse SAND, with low cobble content. Gravel

was subrounded to subangular fine to coarse sandstone and flint. Hand pits HP04 – Block A and HP05 – Block A, were used for the collection of additional topsoil samples only.

3.3 Verification Testing

A total of two topsoil samples (HP04 and HP05) and two subsoil samples (HP02, HP03) were collected and submitted for chemical analyses. The sampling frequency was based on the collection of a minimum of one sample per 100 m³ of the capping layer for a greenfield source, increasing to 50 m³ for soils from a brownfield source (**see section 2.1**). The samples were analysed against the concentration of subsequent substances:

- pH and metal concentrations (e.g., arsenic cadmium, chromium, copper, nickel, lead, mercury, selenium, zinc etc.)
- speciated total petroleum hydrocarbons criteria working group (TPH CWG) split into aliphatic and aromatic carbon bands
- Volatile Organic Compounds including benzene, toluene, ethylbenzene, and xylene (BTEX) compounds
- Semi-Volatile Organic Compounds
- Asbestos in soil with identification.

The laboratory results are presented in (**Appendix H**). The laboratory analysis results were screened against the validation assessment criteria presented in (**Appendix B**), based for a residential end-use without plant uptake. Concentrations of all analytes were below the respective assessment criteria, and therefore the topsoil and subsoil are considered to be suitable for use.

4.0 Gas Membrane Verification

The verification of gas membranes installed by UK Membranes Limited within Block A was completed by MEC Environmental, the inspection reports have been included in (**Appendix J**) for reference.

5.0 Conclusions

Based upon inspection it is considered that the communal soft landscaping area surrounding Block A demonstrates compliance with the approved remediation strategy. The thickness of the clean cover layer was a minimum of 450 mm clean soil and underlain by an orange geo-marker membrane. The laboratory testing of the topsoil and subsoil confirmed that it was chemically suitable for a residential end-use with plant uptake.

The underlying aggregate layer was placed, tested, and verified by Soilfix during remediation of the site prior to commencement of construction activities.

We trust that the information discussed above is acceptable and recommend this report be submitted to the NHBC and Local Authority accordingly. Should you require RSK to submit this information on your behalf, please do not hesitate to contact us.

Yours sincerely,

For RSK Environment Limited



George Andrew

Principal Geo-Environmental Consultant
(Author)



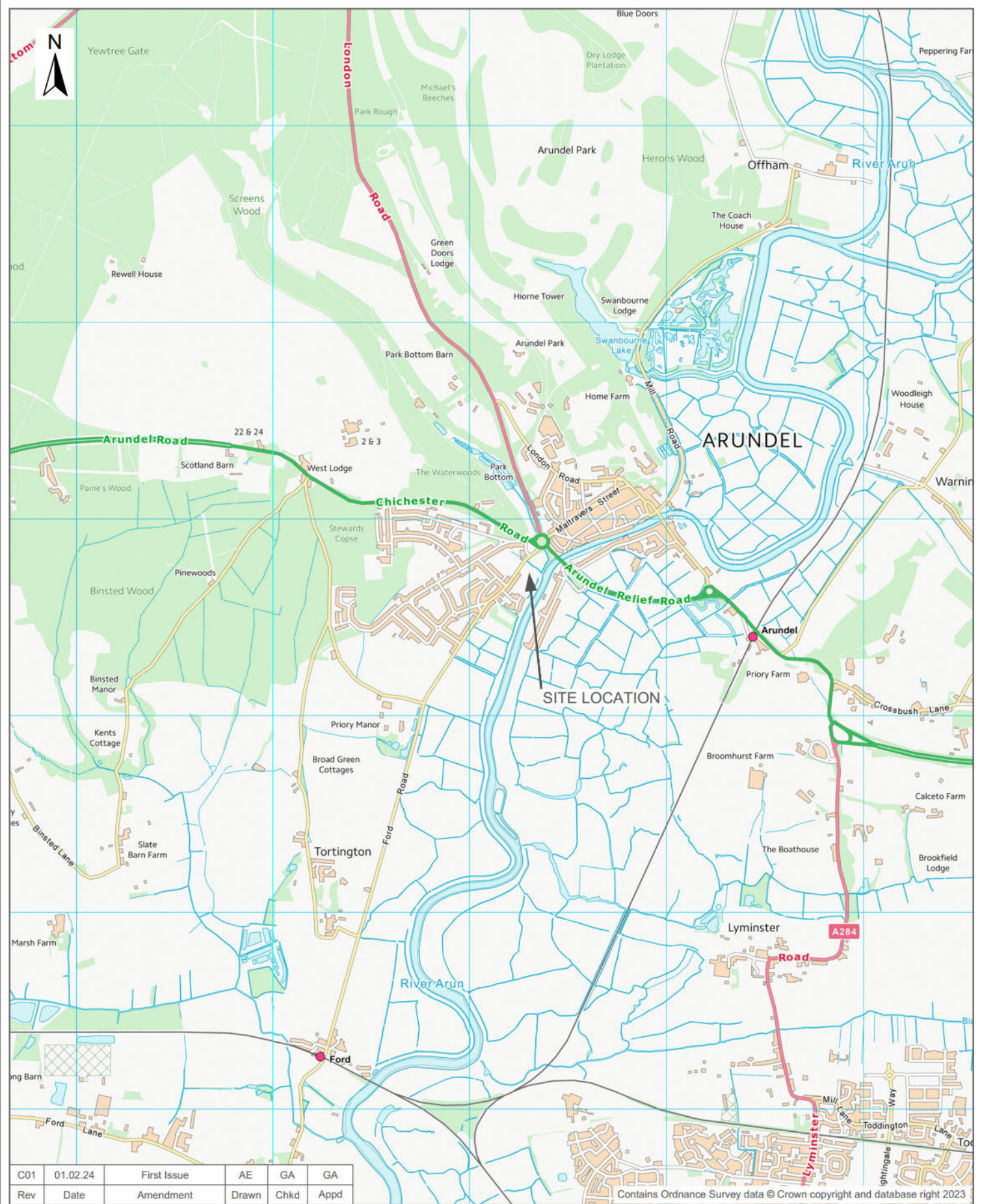
Ben Winch

Associate Director
(Technical Reviewer)

Enclosed:

Figure 1	Site location plan
Figure 2	Exploratory hole location plan
Appendix A	Service constraints
Appendix B	Validation assessment criteria
Appendix C	Topsoil analysis report
Appendix D	Subsoil information
Appendix E	Aggregate layer information
Appendix F	Photographic log
Appendix G	Hand pit logs
Appendix H	Laboratory certificates
Appendix I	Geotextile membrane specification
Appendix J	Gas membrane verification report

FIGURES



**RSK
GEOSCIENCES**

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Client

Soilfix Limited

Project Name

Former Gasworks, Arundel

Description

Site Location Plan

Dimension
m

Size
A4

Scale
1:25,000

Geolocation
501105, 106568

Project ID
305336

Drawing no.
11101

Rev
C01

File name
305336-ST-111-SS-D-C-11101-C01



DO NOT SCALE FROM THIS DRAWING

LEGEND

- Site boundary
- Hand dug trial pit location

Notes:

Base plan provided by Client
Drawing Ref.: Arundel revised drawing.pdf

C01	11.11.25	First Issue	BS	GA	GA
Rev	Date	Amendment	Drawn	Chkd	Appd



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Client Oakford Homes Ltd		
Project Name Former Gas Works, Ford Road, Arundel		
Description Exploratory Hole Location Plan		
Project ID 305336	Drawing no. 22202	Revision C01
File name 305336-ST-222-SS-D-C-22202-C01		
Dimensions m	Scale NTS	Size A3

