

Intended for
Haringey Council

Date
17 August 2023

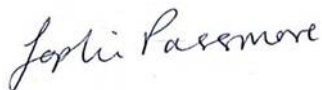
Project Number
1620015928

**BLOCK D1 & D2,
CLARENDON ROAD,
HEARTLANDS SITE,
HARINGEY
REVIEW OF PLANNING
DOCUMENTATION FOR
CONDITION 31,
HBY/2017/3117**

**BLOCK D1 & D2, CLARENDON ROAD, HEARTLANDS
SITE, HARINGEY
REVIEW OF PLANNING DOCUMENTATION FOR
CONDITION 31, HBV/2017/3117**

Project No. **1620015928**
Issue No. **2**
Date **17 August 2023**
Made by **Sophia Passmore**
Checked by **Matthew Pannett**
Approved by **Matthew Pannett/Phil Studds**

Made by:



Checked/Approved by:



This report is produced by Ramboll at the request of the client for the purposes detailed herein. This report and accompanying documents are intended solely for the use and benefit of the client for this purpose only and may not be used by or disclosed to, in whole or in part, any other person without the express written consent of Ramboll. Ramboll neither owes nor accepts any duty to any third party and shall not be liable for any loss, damage or expense of whatsoever nature which is caused by their reliance on the information contained in this report.

Version Control Log

Revision	Date	Made by	Checked by	Approved by	Description
01	24/07/2023	SKP	MJP	MJP	Draft for comment
02	17/08/2023	SKP	PS	PS	Revised Draft

CONTENTS

EXECUTIVE SUMMARY	I
1. INTRODUCTION	1
1.1 Background	1
1.2 Objectives	1
1.3 Scope of Works	1
1.4 Contents	1
1.5 Development	1
1.6 General Limitations and Reliance	2
2. PLANNING CONTEXT	3
2.1 Application and Condition 31	3
2.2 Submitted Documentation	4
2.3 Roles and Responsibilities	4
3. REMEDIATION METHODOLOGY FOR LANDSCAPING	6
3.1 2020 Remediation Strategy	6
3.2 Remediation Scope of Works for Landscaping	6
3.3 Discussions with the Environment Agency on Remedial Criteria (DQRA)	7
4. VERIFICATION	8
4.1 Technical Note	8
4.2 Overview	8
4.3 Remedial Strategy Compliance	8
4.4 24 th July Email Correspondence (St William to Ramboll)	11
5. CONCLUSIONS	12

APPENDICES

Appendix 1

Relevant Documentation

EXECUTIVE SUMMARY

Ramboll was instructed by Haringey Council to assist the Council with the assessment of a verification report and advising of the appropriate recommendation for the discharge of planning condition 31 pursuant to planning permission reference HGY/2017/3117. The planning condition relates to land contamination and remediation work at Clarendon Road Gas Works, which is being redeveloped by St William Homes LLP. Atkins is St William's environmental consultant, and it prepared the land contamination remediation strategy and verification report, which Ramboll has reviewed as part of its work.

By way of background, it is understood that Phase 3 of the development is to comprise multiple residential blocks and a large basement. Ramboll's remit was to advise on the soil capping layer for soft landscaping at Blocks D1 and D2 of Phase 3 development (other blocks also form part of Phase 3 but are not assessed by this report). Ramboll has not reviewed any other elements of the remediation required to discharge all of condition 31. Ramboll has previously advised on Blocks A1, A2, A3, A4, B1, B2, B3 and B4, and this report follows a similar format.

Block D1 and D2 landscaping was in progress at the time of verification works undertaken by Atkins. Sampling was performed in areas that were representative of completed soil profiles while landscaping of imported materials continued in other areas. Samples were also taken from 'bulk bags' of soil to be used in the landscaping. Confirmation was provided to Ramboll in a memorandum from St William (dated 6th July 2023) and an email (24th July 2024) that all material has been imported to site for creation of the soft landscaping in D1 and D2. St William commented that all of the landscaping should be placed by early to mid-August. A second memorandum was received from St William (dated 16th August 2023) documenting the placement of the soft landscaping in the D1 area.

Ramboll considers that the remediation work and verification prepared by Atkins is appropriate to discharge the relevant part of condition 31 relating to soil capping layers for D1 & D2. There are some non-compliances within the verification which Ramboll has commented on in this report (and not to be a significant risk).

The following points explain how Ramboll reached this conclusion:

- Evidence has been provided to confirm that the soil capping layer is to be installed and is protective of Human Health and Controlled Waters. This includes a Technical Note by Atkins validating the quality of soil and a separate memorandum from St William confirming the construction of the capping layer.
- Whilst not all of the landscaping has been created for Block D2, evidence has been provided to show that the soil to be used in landscaping has been tested. Ramboll recommends that confirmation is provided from St William when the landscaping in D2 is completed, including placement photographs.
- Ramboll has discussed in this report where the verification reporting is not compliant with the remediation strategy. We have stated our opinion on the significance of non-compliances and these should be considered by the Council in its decision making.

1. INTRODUCTION

1.1 Background

Ramboll was instructed by Haringey Council to assist the Council with the assessment of a remediation verification report and advising of the appropriate recommendation for the discharge of a planning condition (land contamination – condition 31) pursuant to planning permission reference HGY/2017/3117.

1.2 Objectives

Ramboll's objective specifically relates to a review of the following report:

- Technical Note, Phase 3, Clarendon Road, Hornsey, dated 6th July 2023, Atkins ("July 2023 Technical Note").

Ramboll notes that condition 31 is wider ranging than just the work detailed in Atkins' report and Ramboll's report does not include advice for discharging all requirements of condition 31. Rather, our focus is the contents of the July 2023 Technical Note.

1.3 Scope of Works

The following formed Ramboll's scope of work:

- Ramboll undertook a brief review of existing land contamination reports and the relevant Remediation Strategy (Atkins, 2020¹) that forms the specification for the July 2023 Technical Note by Atkins. The review was undertaken so that Ramboll could understand the background to the project.
- Checking that chemical analyses and other aspects of the work meet the remediation criteria.
- Assessing QA/QC adopted during the work for best practice and compliance with the remediation strategy.
- A check that the information provided is robust, clear to understand and meets the requirements of the relevant parts of condition 31.
- The verification follows typical industry practice.

1.4 Contents

- Section 2 of this report presents the planning context for ease of reference.
- Section 3 summarises the remediation strategy, which provided the specification for the verification of the remediation works, and which Atkins Technical Note is based on.
- Section 4 reviews the verification report and other information to part discharge condition 31.
- Conclusions are presented in Section 5.

1.5 Development

By way of background, it is understood that Phase 3 of the development (the subject of this report) is to comprise multiple residential blocks of up to 13 storeys, and referred to as Blocks D1, D2, D3, D4, E1, E2, E3 and F1 as well as a large basement structure which covers approximately 50% of the site area, with the remainder of the Phase 3 area comprising landscaping and vehicle/pedestrian access routes. Ramboll's remit was to advise on soft landscape soil capping layers for areas D1 and D2 of the Phase 3 of the development.

¹ SNC Lavalin (Atkins). Phase 3, Clarendon Road, Hornsey: Remediation Strategy. Rev 3.0, April 2020.

1.6 General Limitations and Reliance

This report has been prepared by Ramboll exclusively for the intended use by the client in accordance with the agreement between Ramboll and the client defining, among others, the purpose, the scope and the terms and conditions for the services. No other warranty, expressed or implied, is made as to the professional advice included in this report or in respect of any matters outside the agreed scope of the services or the purpose for which the report and the associated agreed scope were intended or any other services provided by Ramboll.

In preparation of the report and performance of any other services, Ramboll has relied upon publicly available information, information provided by the client and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll was accurate, complete and available to Ramboll within the reporting schedule.

Ramboll's services are not intended as legal advice, nor an exhaustive review of site conditions and/or compliance. This report and accompanying documents are initial and intended solely for the use and benefit of the client for this purpose only and may not be used by or disclosed to, in whole or in part, any other person without the express written consent of Ramboll. Ramboll neither owes nor accepts any duty to any third party, unless formally agreed by Ramboll through that party entering into, at Ramboll's sole discretion, a written reliance agreement.

Ramboll's scope of services for this assignment did not include collecting samples of any environmental media. Ramboll cannot rule out the existence of conditions, including, but not limited to, contamination not identified and defined by the data and information available to and/or obtained by Ramboll. Specifically, this assessment must not be considered as an asbestos survey (whether in built structures, waste, soils, etc.), even though the subject of asbestos-containing materials may have been discussed in the report.

2. PLANNING CONTEXT

2.1 Application and Condition 31

The site is being developed under Planning Permission HGY/2017/3117. The documents reviewed by Ramboll relate to Areas D1 and D2 of the site and parts, not all, of Condition 31. Details are presented in Table 2.1.

Table 2.1: Planning Applications

Main Planning Application	
Application	HGY/2017/3117
Client	St William Homes LLP
Site	Land at Haringey Heartlands, between Hornsey Park Road, Mayes Road, Coburg Road, Western Road and the Kings Cross / East Coast Mainline, Clarendon Gas Works, Olympia Trading Estate, and 57-89 Western Road London N8 & N22
Description	Hybrid planning permission (part Outline, part Detailed) for the demolition of Olympia Trading Estate and Western Road buildings and structures, and a phased, residential led mixed use development comprising the construction of buildings across the site to include the following 163,300sqm GEA Use Class C3 Residential; 7,168sqm to 7,500sqm GEA Class B1 Business; 1,500sqm to 3,950sqm GEA Class A1-A5; 417sqm GEA Class D1 Day Nursery; and up to 2,500sqm GEA Class D2 Leisure; New Basement Level; Two Energy Centres; Vehicular Access, Parking; Realignment of Mary Neuner Road; Open space; Associated Infrastructure and Interim Works; Site Preparation Works. - Outline Permission is sought for 103,150sqm Class C3 Residential; 7,500sqm Class B1 Business Use; 1,500sqm to 3,950sqm Class A1-A5; and up to 2,500sqm Class D2 Leisure Use; Buildings up to 103.90m AOD; associated cycle and car parking provision; new basement level; energy centre; new public square, public realm works and landscaping; vehicular access and new servicing arrangements; associated highway works; and facilitating works. All matters (Appearance, Landscaping, Layout, Scale and Access) are Reserved. Vehicular access into the Basement Car Park from Mary Neuner Road and Western Road are submitted in detail. - Detailed Permission is sought for the construction of Building A1-A4, B1-B4 and C1; ranging from 2 to 15 storeys to accommodate 622 residential units; 332sqm Class B1 Business Use/Class A1-A5 Use; 417sqm Day Nursery; associated cycle and car parking provision; two basements; energy centre; public realm works and landscaping; vehicular access and new servicing arrangements; associated highway works; Realignment of Mary Neuner Road. This application is accompanied by an Environmental Impact Assessment.
Relevant Condition	<u>Condition 31</u> PRE-COMMENCEMENT - Land Contamination – Part C <u>CON1</u>: Before development commences for each phase other than for investigative work: a) A desktop study shall be carried out which shall include the identification of previous uses, potential contaminants that might be expected, given those uses, and other relevant information. Using this information, a diagrammatical representation (Conceptual Model) for the site of all potential contaminant sources, pathways and receptors shall be produced. The desktop study and Conceptual Model shall be submitted to the Local Planning Authority. If the desktop study and Conceptual Model indicate no risk of harm, development shall not commence until approved in writing by the Local Planning Authority. [This does not form part of Ramboll's remit]. b) If the desktop study and Conceptual Model indicate any risk of harm, a site investigation shall be designed for the site using information obtained from the desktop study and Conceptual Model. This shall be submitted to, and approved in writing by the Local Planning Authority prior to that investigation being carried out on site. The investigation must be comprehensive enough to enable:

Main Planning Application	
	• a risk assessment to be undertaken, • refinement of the Conceptual Model, and • the development of a Method Statement detailing the remediation requirements. The risk assessment and refined Conceptual Model shall be submitted, along with the site investigation report, to the Local Planning Authority. [This does not form part of Ramboll's remit]. c) If the risk assessment and refined Conceptual Model indicate any risk of harm, a Method Statement detailing the remediation requirements, using the information obtained from the site investigation, and also detailing any post remedial monitoring shall be submitted to, and approved in writing by, the Local Planning Authority prior to that remediation being carried out on site. [This does not form part of Ramboll's remit]. And <u>CON2</u>: Where remediation of contamination on the site is required completion of the remediation detailed in the method statement shall be carried out and a report that provides verification that the required works have been carried out, shall be submitted to, and approved in writing by the Local Planning Authority before the development is occupied. Ramboll's focus is verification of part of the remediation work for Areas D1 and D2. Reason: To ensure the development can be implemented and occupied with adequate regard for environmental and public safety.

2.2 Submitted Documentation

The following documentation was submitted under HGY/2023/1783 in pursuant to discharge of Condition 31 of planning permission HGY/2017/3117 relating to Buildings D1 and D2 only.

- Technical Note. Phase 3, Clarendon Road, Hornsey. Blocks D1 and D2 Verification Report. SNC Lavalin (Atkins) dated 6th July 2023, ("July 2023 Technical Note").
- Memorandum, 6th July 2023, from Edward Friel (St William) to Matthew Pannett (Ramboll). ("St William July 2023 Memorandum")

Background documentation reviewed by Ramboll, associated with the planning application, is outlined below.

- Remediation Strategy. Phase 3, Clarendon Road, Hornsey, SNC Lavalin (Atkins). Rev 3.0, May 2020.
- Phase 3, Clarendon Road, Hornsey: Remediation Method Statement, SNC Lavalin (Atkins), May 2020.

Relevant documentation is appended to this report for ease of reference, see Appendix 1.

A memorandum was subsequently received from St William relating to the placement of soft landscaping on Block D1:

- Memorandum, 16th August 2023, from Chris Davies (St William) to Matthew Pannett (Ramboll) Clarendon Road Phase 3 – D1 Soil Verification ("St William August 2023 Memorandum").

2.3 Roles and Responsibilities

The site is being developed as a residential-led mixed use development by St William. Atkins is the environmental consultant associated with the site development and remedial works were undertaken by Keltbray Ltd.

Placement of the cover system was undertaken by Elite Landscapes Ltd. The works are being completed under the Remediation Strategy (2020) for the site.

Atkins was commissioned by St William Homes LLP to produce a Verification Report following the construction of soft landscaping in Phase 3 Blocks D1 and D2 of the Clarendon Road, Hornsey development.

3. REMEDIATION METHODOLOGY FOR LANDSCAPING

3.1 2020 Remediation Strategy

The Remediation Strategy outlines the remedial works to support development of Phase 3 of the Clarendon Road site, including requirements for landscaping. Only those parts of the Remediation Strategy that are relevant for Ramboll's report are discussed below. The remediation strategy reference is:

- Phase 3, Clarendon Road, Hornsey: Remediation Method Statement, SNC Lavalin (Atkins), May 2020.
- Remediation Strategy. Phase 3, Clarendon Road, Hornsey, SNC Lavalin (Atkins). Rev 3.0, May 2020.

3.2 Remediation Scope of Works for Landscaping

The proposed remediation in relation to soft landscaping included:

- Completion of earthworks formation levels to a depth of 600 mm in soft landscaping
- Placement of cover systems including marker layer, above which is a human health separation layer (HHSL) comprising human health compliant fill including a capillary break layer (CBL), sub-soil and topsoil as required.

Relevant excerpts of the scope of works are reproduced in the next subsections.

3.2.1 Marker Layer

A marker layer will be required in all areas of soft landscaping to remove direct exposure pathways to in-situ material.

Tree pits will require the placement of a marker layer at the base and the sides and linkage with the surrounding marker layer.

The marker layer will be placed beneath the Human Health Separation Layer (HHSL).

3.2.2 Human Health Separation Layer (HHSL)

The HHSL will be placed above the marker layer, be free of all visual and olfactory indicators of potential contamination and will meet the 'Residential without Private Gardens' SSAC (Site Specific Assessment Criteria).

Soft landscaped areas will be completed with a compliant HHSL of no less than 600 mm thickness. In the event that end uses are changed to include private gardens, a minimum 1000 mm HHSL will be required.

The HHSL will include a capillary break layer (CBL) comprising a minimum of 100 mm thickness of Class 6C Starter Layer with a maximum particle size of 75 mm (<5% passing 63 micron and uniformity coefficient <10), overlaying the marker layer. CBL material will be placed above the Marker Layer and is required to comply with the relevant chemical criteria. Surplus crushed materials will be stockpiled for re-use on site.

Subsoil and topsoil will be placed, above the CBL, as required to establish a suitable growth medium. The depth of growth medium will be increased above the capping layer as necessary to meet the demands of the proposed planting regime. Imported material shall also meet the chemical criteria.

For asbestos, HHSL criteria will be below the laboratory limits of detection (no detection) and as summarised in the SSAC tables (presented in the Remediation Strategy report).

Verification samples will typically be collected at a minimum of one sample per 100 m³ for HHSL materials (placed above the Marker Layer) with a minimum sampling frequency for imported materials requiring testing of three per source.

3.2.3 Stockpiling

Excavation works were to be carefully controlled so that any material generated by the activity were thoroughly inspected, segregated, stockpiled and processed to form materials suitable for re-use and managed in line with the relevant specifications and waste management legislation. Materials that are unsuitable for re-use will be removed from the site.

3.2.4 Verification of Fill Materials

Only imported materials will be used as permanent fill within the Phase 3 area (site won material will be confined to the gas holders only), typically comprising certified sub-soil and topsoil. Verification samples will typically be collected at a minimum of one sample per 200m³ for HHSL material (placed above the Marker layer), with a minimum sampling frequency for imported material requiring testing of three per source. Samples will be analysed for the determinants specified.

Material imported to the site shall not be a waste and the supplier of any fill that is not a primary material should be able to demonstrate that their product has been fully recovered and is no longer a waste achieved using either the Waste and Resource Action Programme (WRAP) Quality Protocols or the Definition of Waste: Development Industry Code of Practice. Infill materials may comprise recovered aggregates or material, including imported or site won material.

The contractor is responsible for removal/replacement of any placed fill materials exceeding SSAC and for rectifying any cross contamination which may have resulted from the placement of such materials.

3.3 Discussions with the Environment Agency on Remedial Criteria (DQRA)

Atkins has carried out risk assessments in relation to risks to Controlled Waters. This is outside of the scope of Ramboll's review, however it does influence the remediation criteria used for the soil landscaping as potentially there is a risk of soil contaminants leaching to controlled waters.

It is not completely clear from Atkins' report how the DQRA has influenced the soil verification. Therefore, Ramboll has reviewed verification reports from other areas of the site and compared soil chemical analyses with Ramboll's soil generic assessment criteria to inform Ramboll's assessment of risk.

4. VERIFICATION

4.1 Technical Note

Atkins' July 2023 Technical Note and St William July 2023 Memorandum (as referenced in Section 2.2) provides details of the verification of soft landscaping areas in Phase 3 of the former Hornsey Gasworks in relation to Blocks D1 and D2 only.

4.2 Overview

Atkins' July 2023 Technical Note outlines the verification sampling undertaken of the landscaping cover system in D1 and D2. The landscaping is in the central south and south-east sections of Phase 3 and comprises a number of small areas around the residential blocks which total approximately 95 m². The soft landscaping primarily comprises lawns, tree pits, raised planter beds and hedges.

Atkins note that Block D1 and D2 landscaping was in progress when verification works were undertaken. Samples and photographs were obtained from accessible areas of the site where subsoil and topsoil had been placed and were representative of completed soil profiles. Subsoil and topsoil continued to be imported and placed following this sampling exercise, with materials confirmed as from the same sources and batches as those sampled. Planting had not been completed at the time of sampling.

The cover system is to be installed by Elite Landscapes Ltd; Atkins did not oversee the placement of the cover system. Statements relating to the build-up of the cover system and source of imported material are based on information provided by St William.

St William's memorandum provides further details and confirmation that all materials within areas of soft landscaping will be installed in accordance with the soil remediation strategy. The memorandum was prepared at the request of Ramboll for further evidence.

4.3 Remedial Strategy Compliance

The Atkins Remediation Strategy required soft landscaping within Phase 3 to be completed with cover systems. The following was reported by Atkins and St William.

4.3.1 Cover System Installation Details

The cover system installed by Elite landscapes ltd is reportedly as follows.

Top-down

- 400mm topsoil
- 200mm subsoil
- Geotextile filter membrane
- Gravel filter layer

4.3.2 Source Testing

Topsoil and subsoil were used on site for the cover system; source and approximate volumes as outlined below:

- Landscape Subsoil, 65.53 m³.
- Trugrow Topsoil and Lawn Topsoil, 36 m³.
- Rootzone 80/20 Topsoil, 9.35 m³.

For the topsoil and subsoil, testing was undertaken at the sources on the following dates:

- Landscape Subsoil: 13th February 2023
- Trugrow Topsoil: 23rd February 2023
- Rootzone 80/20 Topsoil: 18th May 2023
- Lawn Topsoil: 18th May 2023.

The analytical results were compared to the target criteria for imported soils and reported in the July 2023 Technical Note to be compliant.

Ramboll has also screened the results against the criteria and concurs that there are no exceedances of the criteria. Ramboll notes that only the Landscape Subsoil was tested for asbestos screen; the other three topsoils were not screened for asbestos. *This is a non-compliance.*

St William noted that *"whilst some of the soil used for landscaping was yet to be installed, St William can confirm that all soil to be used in the D1-D2 landscape areas had been imported at the time of Atkins' soil testing"*.

St William confirmed in its memorandum that: *"Topsoil and subsoil materials used to make up the cover system (installed as a thickness not less than 600mm) were imported by H Sivyer Transport Ltd, with source testing by Tim O'Hare Associates. The soils have been confirmed as manufactured, with associated testing certificate contained within 'Block D1 and D2 Verification Report' Appendix C Source Certificate."*

The verification report included photographic evidence of topsoil and subsoil being installed above a geotextile membrane in D1 and D2 as 600mm. Ramboll considers that this provides evidence of compliance with the soil profile outlined in the remediation strategy. Note, evidence was not obtained from tree pits.

4.3.3 Further Discussion on the Capillary Break Layer (CBL)

The CBL comprising a minimum of 100mm thickness of Class C Starter Layer with a maximum particle size of 75mm was installed below the Marker Layer and has therefore not been tested as part of this verification Technical Note. The Remediation Method Statement specified placement to be above Marker Layer, but the July 2023 Technical Note states that this was amended to allow the full thickness of 600 mm topsoil and subsoil to be placed.

The import details provided in the July 2023 Technical Note are that the shingle was quarried aggregate from South East Angerstien), supplied by H Sivyer Transport Ltd. The volume used was 23.42 m³.

St William confirmed in its memorandum that: *"Where present, soils underlying the imported topsoil, subsoil, marker layer and CBL were validated via Keltbray Remediation report reference: RE6075-GWMR-June 2022-Phase 3 and RE6089-VR-GG-Phase3B 4, dated June 2023. These reports were submitted under planning application HGY/2017/3117 Condition 31 (Land Contamination), Building D1- D4 and E1-E3 in January 2023"*. Atkins stated that as this material has been placed below the Marker Layer and is from a quarried source it is not deemed to pose a risk to end users.

Ramboll is not able to follow a full audit trail from source to placement for the CBL and cannot confirm the materials used; however, it is worth noting that the CBL is reported to be placed beneath 600mm of soil and therefore at a depth that is unlikely to be exposed through normal site activities (i.e. if the CBL did contain contaminants it would not likely be considered a risk due to its depth in the soil profile). Ramboll therefore considers that the non-conformance with regards to the CBL is not a significant risk.

4.3.4 Stockpiling

St William confirmed in its memorandum that: *"The landscaping soil was imported in bulk bags and was therefore not directly stockpiled on open ground"*. Ramboll considers it unlikely that the soil would have been cross-contaminated, and photographs of the bulk bags were provided in the July 2023 Technical Note. Therefore, this is not considered a significant risk.

4.3.5 In-situ Verification of Cover System

Verification of the cover system on site was undertaken by Atkins. It is noted that at the time of verification sampling, topsoil and subsoil had been placed in some areas of the site, therefore the samples were taken from these areas. Both soil types continued to be imported for use within remaining areas of soft landscaping, under management of St William and the soft landscaping contractor.

Verification works comprised:

- Logging of the soil profile and measurement of the depth in one hand pit.
- Collection of six representative soil samples for chemical analysis (three from imported topsoil and three from subsoil material to supplement the source data provided by the suppliers). This comprised two soil samples from in-situ from the hand pit, and four soil samples collected from marked bulk bags which showed where the soils would be placed. The location of the samples has not been included within the report;
- Laboratory chemical analysis as per the list of analytes included in the import criteria.

Verification works were undertaken on 15th June 2023.

Ramboll has reviewed the photographs included in the July 2023 Technical Note and considers that these provide evidence of the placement of soil in accordance with the strategy in the areas completed at the time of verification sampling, with marker layer, subsoil and topsoil clearly visible. It is noted that the precise thickness of the topsoil is difficult to see in the photographs provided due to the angle of the tape measure, and the topsoil appears to be of between 300-400 mm.

Observations by Atkins in the July 2023 Technical Note included:

- As the material had not been fully placed when the sampling took place, further evidence of the cover system installation, including placement of the CBL, marker layer and subsoil and topsoil is required from St William.

St Williams has confirmed to Ramboll in its memorandum dated 6th July 2023 that: *"All materials within areas of soft landscaping within Building D1 and D2 have been placed in accordance with the soil profiles defined in Section 6.3 of the Phase 3 Remediation Strategy for the Clarendon Road development"*.

Following placement of the soft landscaping in August, St William has since confirmed to Ramboll in its memorandum dated 16th August 2023 that soft landscaping has been completed in the D1 area. The memorandum includes photographs of the two areas of soft landscaping within D1: zones 4 and 5 which show the installation in progress and when completed.

As not all of the material has been placed in D2, Ramboll recommends that St William provides a final communication to state when the landscaping has been completed.

4.3.6 In-situ Chemical Testing and Compliance with the Remediation Strategy

- Chemical analytical data from the six samples collected from topsoil and subsoil, as well as four source samples, were screened against the target criteria for imported soils and none exceeded the criteria. This is compliant with the strategy.

- Atkins reported within the verification report that the chemical analysis completed on the imported topsoil and subsoil samples confirmed no exceedances in any sample. This is compliant with the strategy.
- The number of analytical tests in relation to the volume of imported material is in compliance with the Remediation Strategy (one per 100 m³ was required; approximately 135 m³ was reported to be imported to site, and six samples were tested in-situ/in bulk bags).
- The number of analytical tests in relation to the number of sources of imported material is not in compliance with the Remediation Strategy. The requirement was for three samples per source of material. Six samples were collected for analysis from the topsoil/subsoil on site, yet there are four different sources of topsoil or subsoil used on site. Given that the six samples collected by Atkins and the four samples tested at source all complied with the criteria, this is not considered to be a significant issue.
- The compound 1,1,2,2-tetrachloroethane was not included in Atkins testing suite. However, similar related VOCs were not detected. Vinyl chloride method detection limit is higher than the remediation criteria and therefore cannot be verified. However, no similar chlorinated solvents were detected. Although these are 'technical' non-compliances they are not considered significant.

4.3.7 Imported Material with Regards to Waste

St William provided confirmation in its memorandum to Ramboll that the source of soil used for the capping layer was manufactured.

4.4 24th July Email Correspondence (St William to Ramboll)

St William provided the following commentary (24th July 2023) in relation to a request for information from Ramboll. The enquiry was made as Ramboll had noted non-compliances within the information provided and sought additional supporting information.

"Topsoil and subsoil materials were present on site at the point of sampling, either via placed cover systems or bulk bags provided by the supplier pending placement. HTP01 and HPT02 represent placed topsoil and subsoil respectively, with both samples tested for the presence of asbestos. A further two subsoil samples were taken from bulk bags scheduled to be placed in Zones 1 and 3 (ES4) and Zones 4 and 5 (ES6). Samples ES3 and ES5 were taken from bulk bags of topsoil scheduled for placement in Zones 1 and 3 and Zones 4 and 5 respectively. Sampling locations were agreed between the St William site manager and Atkins' technician whilst on site, with the sampling methodology as detailed in Section 4 of the verification report. Samples ES3 to ES6 were also tested for asbestos.

No variation was identified between placed topsoil and topsoil stored on site in bulk bags. The three samples taken (including asbestos analysis) are therefore considered representative of a single source of topsoil. Three samples are considered sufficient to characterise the imported topsoil and are compliant with the Remediation Strategy, noting the small volume of material placed (<50 m³). Three samples of subsoil are also considered to be compliant with the Remediation Strategy for the c. 65 m³ material placed.

These samples are supported by source data, albeit without asbestos analysis, which confirms subsoil and topsoil provided by H Sivyer Ltd were compliant with the chemical criteria provided in the Remediation Strategy. St William has subsequently confirmed to no further topsoil or subsoil were imported to site following Atkins sampling."

5. CONCLUSIONS

Ramboll has assessed the remediation strategy and its subsequent verification for landscaped areas within D1 and D2 of Phase 3 of St William's Clarendon Road development. The main elements of the remediation and verification work are presented in Table 5.1 along with Ramboll's comments.

Table 5.1 Summary of Remediation Strategy Compliance			
Main Remediation Strategy Topics	Compliant with Remediation Strategy?	Does other evidence provide reassurance that the non-compliance is not a significant risk?	Comment
Marker Layer	Yes	n/a	n/a
HHSL	No	Yes	The Capillary Break Layer as part of the HHSL was specified to be placed above the marker layer, yet has been placed below it. This is not considered likely to affect the capability of the cover system to provide mitigation to human health.
Stockpiling and mixing of soils	Yes	n/a	n/a
Verification of fill material through chemical analysis	No	Yes	Not all of the testing was compliant with the remediation strategy. Based on the evidence provided, Ramboll considers that the overall testing provides an appropriate assessment of imported soil and is not a significant issue. In summary: - Asbestos analysis was not included in the source testing of the three topsoil products. Tests were, however, carried out for subsoil and in-situ/bulk bags delivered to site, which provides an 'overall' assessment. - Sources of soil were required to be tested at a frequency of three per source – this frequency was not achieved. However, as above, soil was tested on-site. - There is a 'technical' non-compliance for some of the VOC testing. This is not considered significant by Ramboll due to other tests carried out.
Confirmation that imported soil is not a waste	Yes	n/a	n/a

Table 5.1 Summary of Remediation Strategy Compliance			
Final placement of soil	No	Final confirmation required from St William for D2	Photographs included in the technical note provide evidence of the placement of soil in accordance with the strategy in the areas completed at the time of verification sampling. It is noted the precise depth measurements of the topsoil are difficult to see in the photographs provided. St William has confirmed to Ramboll that all soil will be placed in accordance with the remediation strategy. The memorandum dated 16th August 20203 shows placement of the soil within D1 is complete. Ramboll recommends that placement of soil in D2 is confirmed for the Council's records when completed.

In conclusion, Ramboll considers that the information provided is appropriate to discharge Condition 31 for Block D1 and D2 (only) in relation to installation of the cover system. Ramboll recommends that final confirmation is received from St William when all of the soil has been placed.

APPENDIX 1

RELEVANT DOCUMENTATION

MEMORANDUM

Via Email

To Matthew Pannett

Date 06/07/2022

From Edward Friel

Subject Clarendon Road Phase 3 – D1/D2 Soil Verification

Dear Matthew,

This memo has been produced by St William to accompany the submission of the soil verification report titled *5196431_Block D1 & D2 Verification Report*, which has been issued to LB Haringey in support of the partial discharge of Condition 31: Land Contamination attached to planning permission HGY/2017/3117.

Importation of Fill

Topsoil and subsoil materials used to make up the cover system (installed as a thickness not less than 600mm) were imported by H Sivyer Transport Ltd, with source testing by Tim O'Hare Associates. The soils have been confirmed as manufactured, with associated testing certification contained within 'Block D1 & D2 Verification Report' Appendix C Source Certificate. The landscaping soil was imported in bulk bags and was therefore not directly stockpiled on open ground.

This material covers all soft landscaping areas associated with Blocks D1 and D2. The total area of which is approximately 485m². Whilst some of the soil used for landscaping was yet to be installed, St William can confirm that all soil to be used in the D1-D2 landscape areas had been imported at the time of Atkins' soil testing.

Capillary Break Layer

Where present, soils underlying the imported topsoil, subsoil, marker layer and CBL were validated via Keltbray Remediation report reference: *RE6075-GWMR-June 2022-Phase 3* and *RE6089-VR-GG-Phase3B 4*, dated June 2023. These reports were submitted under planning application HGY/2017/3117 Condition 31 (Land Contamination), Building D1- D4 and E1-E3 in January 2023.

Cover System Thickness

All materials within areas of soft landscaping within Building D1 and D2 have been placed in accordance with the soil profiles defined in Section 6.3 of the Phase 3 Remediation Strategy for the Clarendon Road development (ref: 5192204_P3_RemStrat_Rev4).

Regards,

Edward Friel
Senior Technical Manager

MEMORANDUM

Via Email

To Matthew Pannett **Date** 16/08/2023

From Chris Davis

Subject Clarendon Road Phase 3 – D1 Soil Verification

Dear Matthew,

This memo has been produced by St William to accompany the submission of the soil verification report titled *5196431_Block D1 & D2 Verification Report*, which has been issued to LB Haringey in support of the partial discharge of Condition 31: Land Contamination attached to planning permission HGY/2017/3117.

LB Haringey have requested that photos of the installed soils comprising the cover systems be provided as evidence of installation. This document includes a key plan identifying the location of installed soils and another identifying positions from where images of the installation were taken. LB Haringey have requested that this memo be provided to yourselves and for your report to be updated to confirm that you have seen evidence of the install. At present only planters 4 & 5 adjacent to D1 are complete. We aim to complete planters 1, 2 & 3 next week and will provide an update to this memo.

Regards,



Chris Davis
Senior Technical Manager

Testing Key Plan

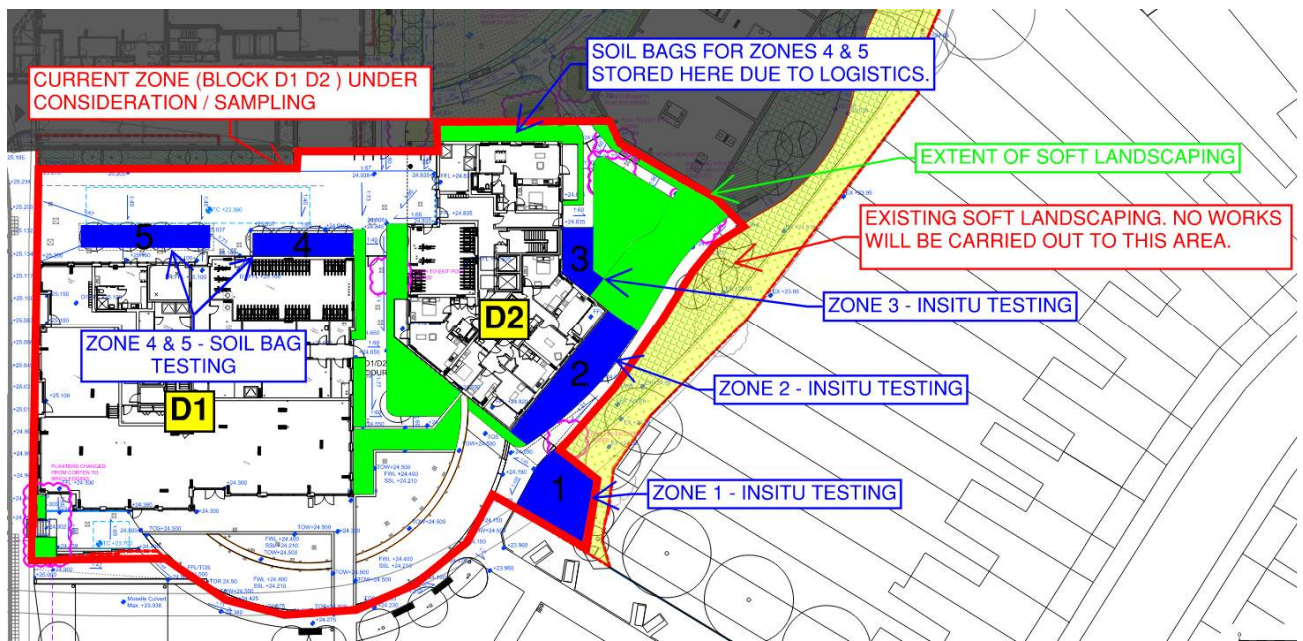
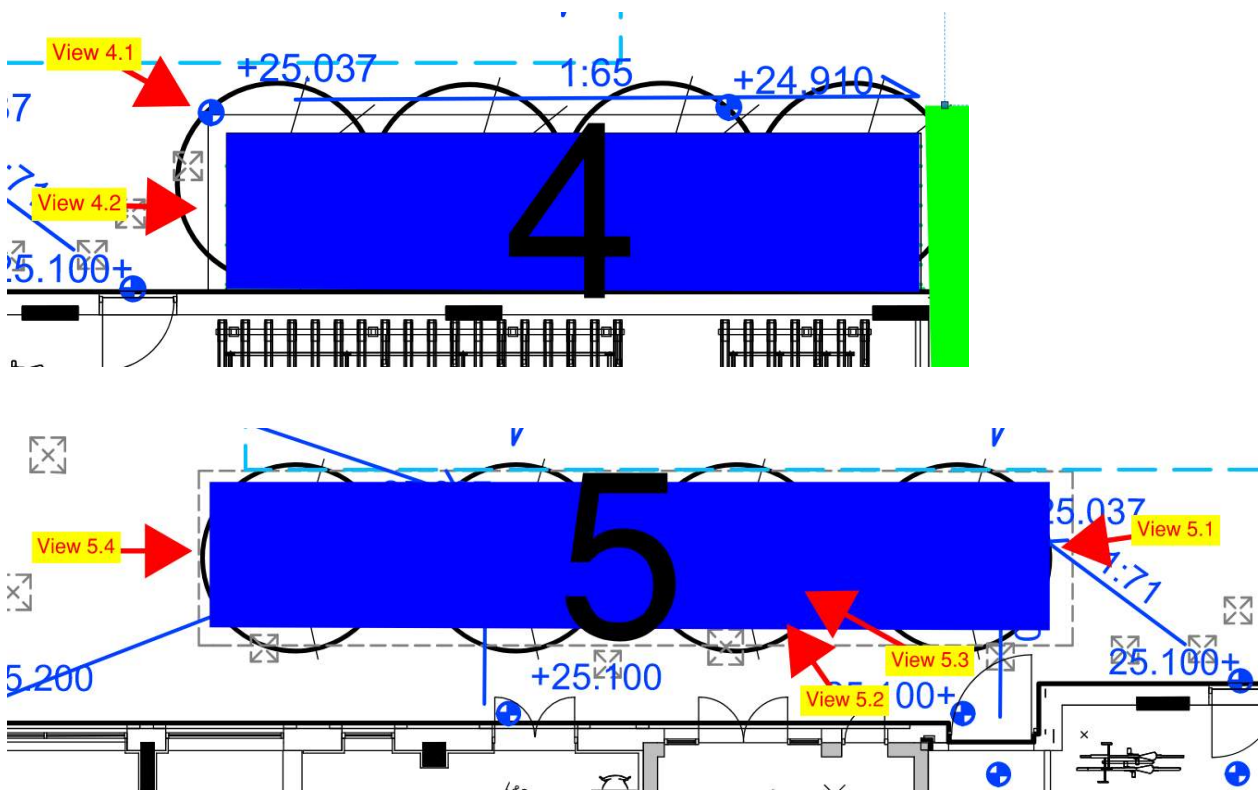


Image Key Plans – Planters 4 & 5



Planter 4 – View 4.1 In Progress



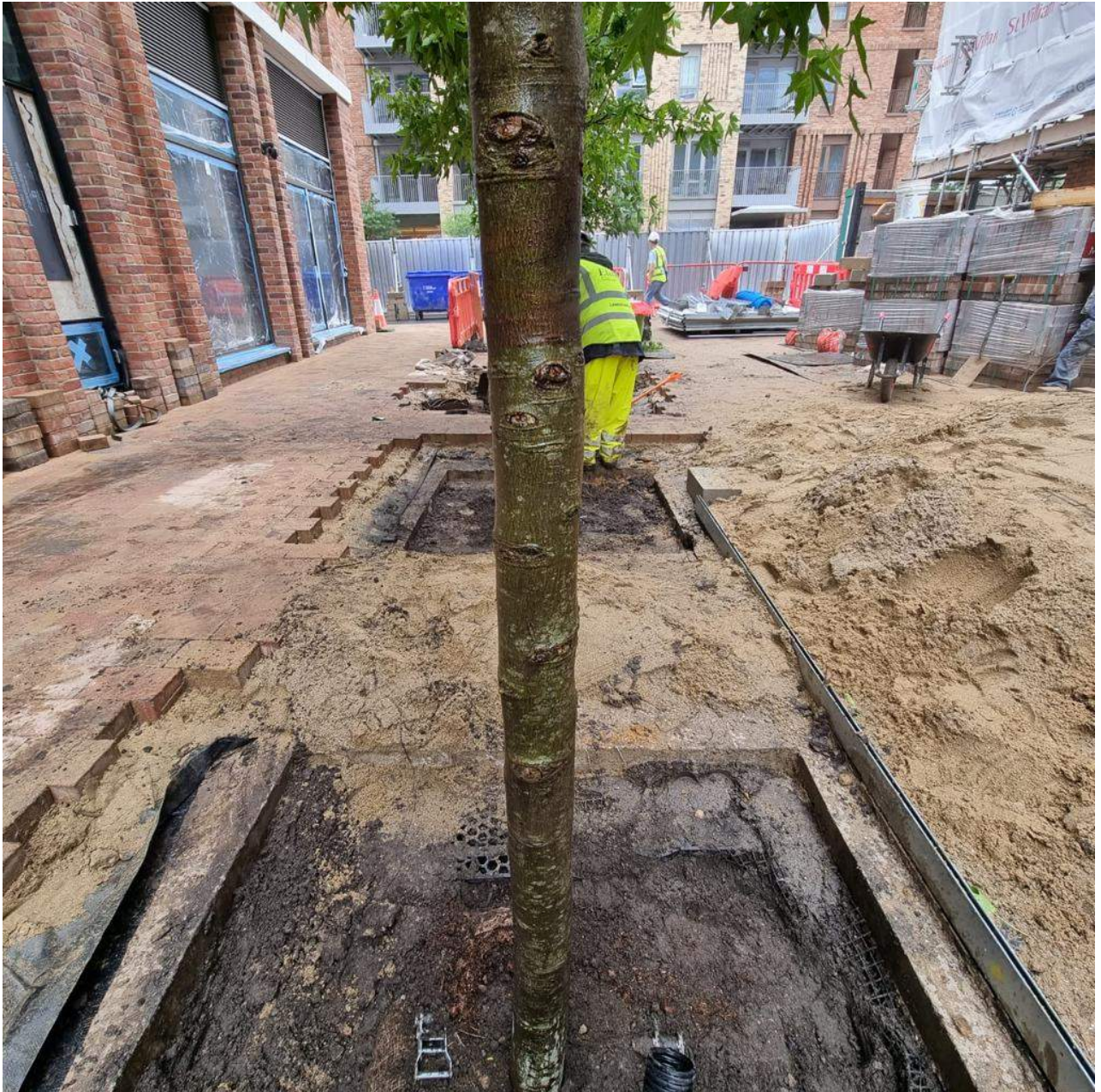
St James, St James House, 26 Bridge Street, Leatherhead, Surrey KT22 8BZ
Registered in England and Wales Number 3190056
Telephone: 01372 364 500 Fax: 01372 364 501

Planter 4- View 4.2 Complete



St James, St James House, 26 Bridge Street, Leatherhead, Surrey KT22 8BZ
Registered in England and Wales Number 3190056
Telephone: 01372 364 500 Fax: 01372 364 501

Planter 5 – View 5.1 In Progress



St James, St James House, 26 Bridge Street, Leatherhead, Surrey KT22 8BZ
Registered in England and Wales Number 3190056
Telephone: 01372 364 500 Fax: 01372 364 501

Planter 5 – View 5.2 In Progress



St James, St James House, 26 Bridge Street, Leatherhead, Surrey KT22 8BZ
Registered in England and Wales Number 3190056
Telephone: 01372 364 500 Fax: 01372 364 501

Planter 5 – View 5.3 In Progress



St James, St James House, 26 Bridge Street, Leatherhead, Surrey KT22 8BZ
Registered in England and Wales Number 3190056
Telephone: 01372 364 500 Fax: 01372 364 501

Planter 5 – View 5.4 Complete



St James, St James House, 26 Bridge Street, Leatherhead, Surrey KT22 8BZ
Registered in England and Wales Number 3190056
Telephone: 01372 364 500 Fax: 01372 364 501