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3 December 2024
Our reference: 1922663-L01 (00)

Morgan Sindall Construction
10th Floor
1 Eversholt Street
London
NW1 2DN

FAO: Martin Entwistle

RE: HAMPDEN CLOSE, CENTRAL SOMERS TOWN
VALIDATION OF SOFT LANDSCAPING LOCATED ADJACENT TO PLOTS 5 AND 6

Dear Martin

RSK Environment Limited have been commissioned by Morgan Sindall Construction ('the client') to validate soft landscaped areas at the above site, located off Hampden Close in London, NW1 1HW, see **Figure 1**. This report is subject to RSK's service constraints presented in **Appendix A**.

The objective of the report is to enable discharge of NHBC Condition CL-4, which states the following:

"Verification report required for contamination remediation works. The report is to accord with NHBC Standards Chapter 4.1 and is to include verification of the following issues: Show 600mm of clean cover in garden areas.

Validation Report to be produced in line with the NHBC Standards noted Chapter 4.1 and amplified in Standards Extra 47, June 2010 and Technical Extra 8 November 2012. Please ensure photographs supplied are clear and show the soil depth. Show soil imported is clean by testing."

1. REMEDIATION STRATEGY

The site is roughly rectangular in shape, and prior to demolition a community building and playground occupied the area. The site is currently in the process of being redeveloped with two multi-storey residential apartment blocks (identified as Plot 5 and 6), with associated infrastructure and soft landscaping areas. Plot 5 is understood to comprise 20 residential units with Plot 6 comprising 14 residential units. The soft landscaping areas proposed for the site primarily comprise communal areas and public open space, no private gardens are included within the proposed development. A site layout plan is presented as **Figure 2**.

An intrusive geo-environmental and geotechnical site investigation was undertaken at the site by ESG during September 2015 (report ref. D5061-15/2). An additional intrusive investigation was undertaken by RSK during December 2022 (report ref. 1922663-R01 (00)) in order to characterise the ground conditions in relation to the existing development. Previous investigations revealed that the site is underlain by made ground with a proven thickness of 0.60 to 2.80m from ground level, and consisting of a gravelly sandy clay with brick, concrete, ceramic and black top surfacing. This was underlain by the London Clay Formation with the Lambeth Group encountered at depth.

Chemical testing of the made ground recorded elevated concentrations of lead, polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH) and the presence of asbestos fibres, albeit below the hazardous concentration threshold. No other contamination issues were identified in relation to ground gas or groundwater.

Based on the findings of the previous intrusive investigations RSK produced a remedial strategy (report ref. 1922663-R02 (00) for the site. In order to render the site suitable for a residential development the following measures were recommended:

- The placement of a suitable 600mm clean cover system within areas of private gardens with thicknesses reducing to 450mm in areas of communal soft landscaping.
- Installation of a geo-membrane visual marker layer at the base of the required clean capping.
- Placement of contaminant resistant potable water supply pipes, should they lie within shallow made ground.

In relation to the cover system, it was stated that this should comprise a minimum thickness of 600mm, reducing to 450mm in areas of communal soft landscaping, of approved (confirmed chemical suitable for use) topsoil / subsoil underlain by a marker layer. No private gardens are included in the development, as such a 450mm clean cover system is considered a suitable thickness.

2. INSPECTION OF CLEAN COVER SYSTEM

The site was visited by RSK on the 28th October and 13th November 2024 to inspect the communal soft landscaping located adjacent to the newly constructed Plots 5 and 6, as shown on **Figure 3**.

The soft landscaping areas surrounding Plots 5 and 6 predominately comprise strips of new planter beds with a community garden to the east of the plots. It is understood that the soft standing areas of the community garden will be overlain with mulch. The following observations were made during the site visits, and a photograph record is presented in **Appendix B**.

- The ground levels had been reduced within all the soft standing areas and backfilled with imported topsoil and subsoil.
- RSK excavated hand pits and measured the depth of cover during construction at six points across soft standing areas across the site. A minimum of 450mm of topsoil and subsoil was recorded, underlain by a white marker layer.

- The topsoil comprised a brown slightly gravelly silty fine to medium sand with frequent rootlets. The subsoil comprised an orangish brown slightly gravelly clayey fine to medium sand with occasional rootlets.
- A white marker layer was not observed in HP1 located in the communal garden, due to the retained trees in this area. The clean cover in HP1 was recorded to depths in exceedance of 600mm, as such the excess material is considered a sufficient remedial measure in absence of a white marker layer.

3. IMPORTATION OF TOPSOIL AND SUBSOIL

The imported topsoil and subsoil comprised natural materials sourced from facilities at Potters Bar and Purfleet respectively. Source certification provided to RSK prior to importation indicated that these soils are compliant with the relevant British Standards and do not contain elevated concentrations of potential contaminants, see **Appendix C**.

Six topsoil and subsoil samples (referenced HP1 to HP6) were collected during the inspection of the clean cover system and sent for laboratory analysis to confirm consistency with the source certification. A validation location plan is presented in **Figure 3**. The results (see **Appendix D**) are compliant with RSKs Validation Assessment Criteria (VAC) outlined within the Remediation Method Statement. The VACs are presented in **Appendix E**.

Haulage tickets for the imported topsoil and subsoil are presented in **Appendix F**.

4. WASTE

Made ground removed from the soft landscaped areas during the construction of the clean cover system was sent to licensed waste disposal facilities operated by Ingrebourne Valley Ltd - located at Denham Park Farm, Denham and Wennington, Rainham. Examples of waste transfer tickets can be found in **Appendix G**, others can be provided upon request.

5. CONTAMINANT RESISTANT PIPE

An in-situ contaminant resistant potable water supply pipe, supplied by Wolseley UK (Product Reference: GPS 63mm x 25m P-Line Coil SDR11), was observed on site by the RSK engineer. Photographic documentation of the newly installed pipe is provided in **Appendix B**, and additional purchase order details from the supplier are available upon request.

6. CONCLUSIONS

Based on the visual observations made during the site visits, information provided by the groundworker and chemical test results RSK considered that a suitable thickness of approved topsoil and subsoil, underlain by a white marker layer, was placed across the areas outlined on **Figure 1** in line with the remediation strategy.

We trust that the above meets your requirements, but if you have any questions then please do not hesitate to contact the undersigned.

Yours sincerely

For RSK Environment Ltd

Samuel Gredal

Geo-environmental Consultant

Ben Winch

Associate Director

Enclosed:

Figure 1	Site Location Plan
Figure 2	Site Layout Plan
Figure 3	Validation Location Plan
Appendix A	Service constraints
Appendix B	Photographic record
Appendix C	Laboratory test results for imported soils
Appendix D	Laboratory test results for validation samples
Appendix E	Validation assessment criteria
Appendix F	Haulage ticket for imported soils
Appendix G	Haulage tickets for soils removed off-site

FIGURES