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VERIFICATION OF CONTAMINANT REMEDATION ON LAND NORTH OF SITE OF 1, GLENBURN GARDENS, SHREWBURY, SHROPSHIRE

648/R3 v1.1
MW Knight & Sons Ltd.

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1 INTRODUCTION

- 1.1 GeoWater have been commissioned by MW Knight & Sons Ltd to prepare a Verification Report for contaminant remediation at land north of the site of 1, Glenburn Gardens, Shrewsbury, postcode SY2 5SY.
- 1.2 The site has been developed under Planning Permission 22/03693/FUL with a pair of semi-detached dwellings and associated vehicle access and parking. A layout plan is included in Appendix 1.
- 1.3 The site together with land to the south has been the subject of a Desk Study and Site Investigation carried out by GeoWater Ltd in 2021, updated Jan 2023 (GeoWater report 648/R1 v1.3). A Remediation Statement (GeoWater report 648/R2 v1.2, Jan 2023) was subsequently prepared, again for the combined sites, with an appraisal of remedial options and details of works intended to bring the site to a condition suitable for the intended use and ensure that it will not qualify as Contaminated Land under Part 2A of the Environmental Protection Act 1990.
- 1.4 The remedial works on this site are now complete and validation has been carried out as appropriate. This report details all validation results.

2 WORKS CARRIED OUT

- 2.1 Works have been carried out as detailed in Section 3 of the Remediation Statement including;
 - Protection of site workers including: informing personnel; asbestos precautions; hygiene and PPE.
 - Asbestos pick by qualified operatives and removal of asbestos in compliance with waste legislation.
 - Barrier systems formed by building footprints and permanent hard cover.
 - Removal of contaminated soil excavated during plot preparation and from garden areas, in compliance with waste legislation.
 - Import of 200mm clean soil in garden areas.
 - Buried concrete and water pipes to design specification.

See the remediation plan in Appendix 1 (this report applies to Plots 6 and 7 only)

2.2 Validation requirements (as specified in the Remediation Statement) are summarised in Table 1 and subsequent paragraphs provide details of validation carried out.

Remedial measure	Validation
Removal of contaminated soils	Record of ACM found during asbestos pick. Validation sampling of base of any excavations in garden areas to prove low residual risk in remaining soils. Documentation of removed materials.
Import of clean soils to gardens	Pretest soils prior to import. Validation testing of as-laid soils for thickness and contaminants of concern (PAH and asbestos).
Barrier system	As-built plans.
Site worker protection	Retain records of H&S policy and any contaminant discoveries during works, including asbestos observations.
Buried services protection	Documentation of pipe and concrete specifications used.

Table 1: Validation of remedial measures (from Remediation Statement, Section 4)

Site worker protection

2.3 MW Knight & Sons have confirmed to GeoWater that:

- Ground workers were informed of the presence of contaminants on site including mild hydrocarbon contamination and the possibility of asbestos.
- A member of staff trained in asbestos awareness was present during groundworks.
- Appropriate site hygiene and PPE were adopted.

Asbestos pick

2.4 An asbestos pick was carried out by City Environmental Services (contracted directly to MW Knight & Sons Ltd), for this site and the adjacent site to the south. Their record (copy supplied in Appendix 2) indicates that 50kg of chrysotile asbestos were removed from site.

Barrier systems

2.5 Barrier systems comprised building floors and permanent hard surfaces as indicated on the site layout plan in Appendix 1.

Removal of contaminated materials

2.6 MW Knight & Sons have confirmed that surplus soils from footings, service trenches and garden areas were removed from this site (as well as the adjacent site to the south) and Waste Transfer Notes are available.

2.7 Validation sampling was carried out at base of excavation to front (sample ‘6F’) and rear (sample ‘6/7R’) of both plots, with testing for contaminants of concern (PAH and asbestos). Results are attached in Appendix 3, showing acceptable base of excavation contaminant concentrations.

2.8 An additional sample (‘7F’) was taken of a small area provisionally topsoiled at the front of Plot 7. This soil was physically and chemically unsuitable and was removed prior to import of garden soils.

Imported soils

2.9 Clean garden soils were imported from a Bloor Homes site at Stafford Road, Penkridge. Kiwa CMT Testing report 80840/61897 (27354) applies.

2.10 A minimum of 200mm of dark brown sandy silt loam was placed across front and rear gardens of Plots 6 and 7. Validation samples of the top 600mm of material were then collected to determine average concentrations of contaminants of concern over the depth range. (Metals concentrations were also measured in one sample to determine consistency with the source testing results). Results are included in Appendix 3 and summarised in Table 2.

Determinand	Soil description	TS thick	PAH (dB(ah)A)	PAH (B(a)P)	Asbestos
Units	-	mm	mg/kg	mg/kg	ug/kg
Loc ⁿ /Generic criterion	-	200mm	0.28	2.7	none
6/7R	0-200mm Dark brown sandy silt loam 200 – 600mm Yellowish-brown sandy silt with some rounded gravel.	200	<0.10	0.16	None
6/7F	0-280mm Dark brown sandy silt loam 280 – 600mm Yellowish-brown sandy silt with some rounded gravel.	280	0.18	1.75	None

Table 2: Summary of garden soil validation samples

2.11 Measured concentrations of contaminants in gardens are within the Generic Acceptance Criteria applicable to the site.

Buried services protection

2.12 Site Investigation details were provided by MW Knight to the water supply undertaker, Severn Trent Water, who confirmed (email 24 May 2023) that MDPE pipe was acceptable.

Underground concrete specification

- 2.13 Concrete of Design Sulphate class DS-1, ACEC class AC-1s (Table C2 of BRE Special Digest) was acceptable, with the exception of foundations in contact with mobile groundwater where ACEC Class AC-2z was required.
- 2.14 No foundations were to be placed below the water table.

3 CONCLUSION

- 3.1 Contaminant remediation at land north of the site of 1, Glenburn Gardens is now complete as required in the Remediation Statement.
- 3.2 Validation is also complete as detailed in this report.
- 3.3 This report should be submitted to Shropshire Council for their approval and discharge of the relevant Planning Conditions.
- 3.4 This report relies in part on information supplied by others, which is checked for plausibility and consistency; however no liability can be accepted for inaccuracies in supplied information.
- 3.5 This report is written for the sole use of MW Knight & Sons Ltd in respect of the development shown on drawing contained in Appendix 1 (Plots 6 and 7). No liability can be accepted for its use by other parties or for other development proposals.