

Clarendon Road, Hornsey Regulatory Response Sheet					
Letter reference	PDF Page	Regulator Comment Log	Atkins Response	EA Response 17/05/2023	Atkins Response 5/6/2023
Keltbray. Verification Report. Clarendon Road Phase 3B, Mary Neuner Road, Wood Green, N22 6TZ, London. Document Reference RE6089-VR-GG-Phase3B. Dated December 2022					
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	6	In 2020 Keltbray completed the initial remediation works for the Phase 3 area which included stabilisation of grossly impacted material. These works were reported in a verification report: • Phase 3, Verification Report (RE6075-VR-AHNovember2020-03-Phase 3, Clarendon Road Phase 3, Verification Report, Keltbray, May 2021) It is understood that, at the time of writing, the above report has not been submitted to the relevant planning authority and hence, to date, the relevant planning conditions have not been discharged We confirm that we have not been submitted a copy of this report. We assume this report has been prepared to verify the Stage 1 works.	Phase 3 Stage 1 verification report has now been issued to the Environment Agency by StW. Subsequent Environment Agency comments are addressed within this spreadsheet.	OK	-
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	6	As such all basement construction works were undertaken under the same remediation requirements as detailed in the Remediation Strategy and Remediation Method Statement. The results of which are reported herein. Please confirm this report is intended to report the verification of the Stage 2 works.	Yes, report referenced: RE6089-VR-GG-Phase3B has been produced to verify the Stage 2 (basement excavation) works only.	OK	-
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	13	Detailed Description of Works. The sequence of works conducted at the site is difficult to follow. Please provide the sequence of works conducted for the site, i.e. removal of above ground structures, filling of gasholders, installation of piling mats, dates of piling each block, dates of excavation for each block.	The following works were undertaken on site: - Phase 1 Main Remediation works; 03 June to 16 October 2020. - Piling for the proposed residential blocks D1 and D2; 14 September to 06 November 2020. - Phase 2 Excavation for residential blocks D3 and D4; 11 October to 11 November 2021. - Piling for residential blocks D3 and D4; 08 November 2021 to 16 February 2022. - Phase 2 excavation for residential block E1; 24 January to 18 February 2022.	OK	-

Letter 1: NE/2023/135314/01-L01, 14 February 2023)	15	Table 7: Well Conditions Summary. Table 6-3 of the Phase 3b Foundation Works Risk Assessment provides a summary of the anticipated decommissioning timeframe for each well. Not all of these locations are provided in Table 7: Well Condition Summary. Please provide details of the current status of BH511, BH512, WS507, WS511, BH21-01, BH21-02, BH21-03, WS7. If they were decommissioned, how were they decommissioned? With respect to BH514B - Installation details have been provided. Please also provide a borehole log for this monitoring well.	BH511 and WS511 were unable to be located. BH512 and WS507 were decommissioned in accordance with Environment Agency guidance. Information on the current well network status is provided in the Atkins Groundwater Technical Note, with relevant drawings in the Stage 1 Keltbray report. Log for BH514B is included in Appendix Q of the Keltbray report.	WS507 was included within the program for Phase 3 and Phase 3b, however was decommissioned with WS508 being monitored. Given that the shallow aquifer is discontinuous across the site and the majority of wells are dry this does not give cause for concern. However going forward any deviations from the proposed monitoring strategy should be agreed in advance with the EA. We are still unable to locate the log. Appendix Q of the report contains a monitoring well log however details of the geology are not included.	Noted. No geological log for BH514B was produced. A drillers log presenting the install was referenced and made available in Appendix Q.
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	18	Table 10: Summary of EWC Codes and Disposal Facilities. Not all Permit Numbers provided in Appendix match the table. For example: Camden Plant Ltd, RMS Sunshine Wharf, Thames Wharf, Powerday, Ingrebourne Valley Ltd, Hithermoor Quarry, Ockenden Area III Landfill.	Table 10 has been updated to align with list of disposal facilities utilised and associated permit numbers.	OK	
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	19	Section 3.1 Excavation Validation.....A total of 79 validation soil samples were submitted for testing. Of the 79 samples analysed, no samples reported exceedances for sulphate or detected asbestos. 4 samples exceeded the criteria for total ammonium. These 4 samples were also submitted for leachate analysis. A summary of the leachate results is presented in Table 12. Verification sampling results can be found in Appendix I. Only verification results for Stockpile 7 (old car park) and 8 (imported material) are provided in Appendix I (i.e. 6 of the 79 samples). Stockpile 7 and 8 results are also provided in Appendix E for imported soil results. Please provide all chemical test results in appropriate appendices. Please also clarify which results are relevant to the lower excavation extents and which samples relate to the soils removed from site.	Please see revised Appendix I, J and K with reformatted presentation of chemical results.	OK	

Letter 1: NE/2023/135314/01-L01, 14 February 2023)	21	Section 3.1.1 During the previous remediation works, 38 validation leachate results exceeded the ammonium SSAC. Additional investigation and risk assessment work was completed at the time to demonstrate the suitability of this material to remain in situ without posing a risk to controlled water or future site users. This was detailed in verification report RE6075-VR-AH-November2020-03-Phase 3, Clarendon Road Phase 3, Verification Report, Keltbray, May 2021. We have not been provided with a copy of the above report.	Information provided in the Phase 1 Verification Report which has now been reissued to the EA.	OK	
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	21	Section 3.2 Material Reuse Verification. To verify the 178m³ of material reused, a total of 4 samples were taken from SP7 to ensure its suitability. Results were compared to the SSAC and the generic assessment criteria (GAC) for soil reused below 1.0m. All samples passed the SSAC and GAC for reuse. The testing undertaken satisfied the required frequency of one sample per 250m³. Tables 14 and 15 summarise the results. All material reuse verification results are also included in Appendix L Only 3 results provided in Appendix L for Stockpile 7.	Table has been updated to reflect the correct number of samples.	OK	
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	23	Section 3.3 Imported material verification. To verify the 2,925m³ of 6F5 imported to site, 21 import verification samples were taken and screened against the import criteria. This represents 1 sample per 140m³ satisfying the 1 per 250m³ requirement. All samples passed the import criteria. Table 16 summarises the results, all import material verification test results are included in Appendix L. Appendix L contains results for imported materials in Stockpiles 8, 10, 19 and 22. Only 12 results are presented as opposed to 21. We note results for imported material also appear to be presented in Appendix E - (Stockpile 2, 3, 4, and 8 - 12 samples). Test results do not appear to have been provided	Section amended to include correct number of samples.	This section has been amended to include the 6F5 results. However the results presented do not appear to be solely 6F5 results. Some stockpiles are missing chemical data and the volume does not match other sections - i.e table 8 and 9. Appendix E contains results for imported 6F5 from stockpiles 4, 8, 10, 18 and 22. There are no results for 6F5 stockpiles 13 or 19. Appendix E also contains results for Stockpiles 2 (pea shingle), 3 (Type 1), 9, (Pile arisings), 12 (E2 Excavation). Overall, the sampling regime fits with the verification criteria however the Method Statement states that a minimum sampling frequency for imported materials requiring testing of three per source or one sample per	Section 3.3 has been amended to clarify that the other material (pea shingle and Type 1) are included in the import verification results. The laboratory reports have been amended to remove the samples from non-import material. The volumes presented in table 8 have been amended to match table 9.

		for Stockpile, 13, 18. Please provide the test results for these stockpiles.		250m3. Please therefore provide all chemical test results.	
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	25	Verification Sample Deviations. Were deviations recorded on the validation samples for results which relate to the lower excavation extents?	Comments on deviations and implications on result integrity provided in Section 3.4.	OK	-
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	26	Waste classification. 54 no. waste classification samples were taken throughout the project to appropriately analyse and classify the waste generated. 48 no. of these were from the soils excavated from the basement works and pile arisings, with 6 samples taken from the discharged groundwater to ensure compliance against the discharge consent. Please provide details as to how the waste was classified. Were any WAC tests undertaken prior to disposal?	Appropriate samples were collected to determine the chemical compisition of the soil, by which the EWC was determined. WAC samples were collected to support landfill acceptance of the material and shared with accepting facilities. Details on waste removed from site are provided in Section 2.8.	Please provide the WAC results in the verification report.	WAC results have been referenced in Section 4 and included as Appendix R.
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	30	Section 5.5 Surface Water Monitoring of Moselle Brook. Please provide reference to where this data is interpreted. Please provide a plan showing the location of the sampling point. Please provide information on how deviations and or time delays between sampling and testing may have affected the results.	Drawing CR3B-KRE-X-0002-GG-JH-2022 - BOREHOLES LOCATIONS updated to show Moselle sampling location. Please see <i>Groundwater Technical Note: Phase 3 – Stage 2 Remediation Works, Clarendon Road, Hornsey. Supplementary Information to Keltbray Phase 3 Groundwater Monitoring Report</i> where commentary on the surface water data is provided.	OK	-
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	32	Section 5.6 Groundwater Monitoring and Plan CR3B-KRE-X-000-XX-M2-CE-1027. The Phase 1b Foundation Works Risk Assessment states that monitoring will comprise the following wells: Phase 3 - 3 shallow boreholes WS506, WS507, WS511, Phase 1b - 4 shallow BH BH21-01, BH21-02, BH21-03 and WS7 Lambeth Group: BH510,	Due to site specific conditions, including acessibility of borehole locations, the ID of proposed monitoring wells could have changed since the submission of the RS / Foundation Works Risk Aseessment. BH21-01, BH21-02, BH21-03 were completed in the added Phase 3B section (north of Phase 3) and WS7 was an existing well in this same section of the site. Therefore, these locations would not have been mentioned in any paperwork prior to the Phase 3B	See comment above	-

		BH513, BH514. The monitoring scheme implemented does not appear to match the above. Please details the rationale for this.	Supplimentary Investigation and RS. Information on the current well network status is provided in the Atkins <i>Groundwater Technical Note Rev 2.0</i> with further discussion detailed in the two Keltbray verification reports.		
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	Appendix Q: PDF Page 4	BH510 and BH513 located either side of the basement construction (located southeast and southwest respectively – broadly downstream based on our understanding of a southerly groundwater flow direction within the deeper aquifers) have not been affected by this issue and continue to provide groundwater monitoring data as required for the FWRA. Based on the data supplied, groundwater appears to be flowing towards the north east rather than southerly. Please provide a groundwater contour plot and amend the discussion if required.	Refer to Atkins <i>Groundwater Technical Note Rev 2.0</i> for discussion on groundwater levels and flow direction.	OK. See comment below.	

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Letter 1: NE/2023/135314/01-L01, 14 February 2023)	36	Section 6.1 Remaining Remedial Actions. Please confirm the remaining groundwater monitoring requirements.	Surface water monitoring was linked with piling, therefore, this has been completed for Phase 3 works as remaining scope for Stage 3 remediation is linked with final finished e.g. soil verification, drainage etc. Groundwater monitoring is proposed for 12 months post casting of each block basement slab. This will continue for Phase 3 / 3B and a groundwater report will be provided per-block going forwards linked with the discharge of planning conditions.	OK	
Atkins, Groundwater Technical Note: Phase 3 – Stage 2 Remediation Works, Clarendon Road, Hornsey. Supplementary Information to Keltbray Phase 3 Groundwater Monitoring Report. Project No. 5196431. Revision P1 dated 14th December 2022.					
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	2	Atkins Limited (Atkins) was commissioned by St William Homes LLP (the client) to complete an interpretation of data presented in Keltbray Groundwater Monitoring Report (Document reference: RE6075-GWMR-PA-June 2022-Phase 3, dated June 2022). This report includes data collected between 23 April 2020 and 23 February 2022. Please provide a copy of 'Keltbray Groundwater Monitoring Report (Document reference: RE6075-GWMR-PA-June 2022-Phase 3, dated June 2022'.	Report issued to the Environment Agency.	We have not yet received a copy of this report. The groundwater quality monitoring data presented in the Keltbray Verification Report indicates that detectable concentrations of PAH and petroleum hydrocarbons were recorded in BH514B during April 2022. This is not discussed within the Atkins Groundwater Technical Note since this report does not discuss data beyond February 2022. See comment below.	
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	3	During the monitoring period, remediation, excavation and piling works were undertaken on-site for the construction of the proposed residential blocks D1–D4 and E1. Additional work for further residential blocks (E2 and E3) was also undertaken at the site, however, this occurred post the period covered by this monitoring and is therefore outside the monitored period. This report has been prepared in relation to Phase 3 Blocks D1 - D4 and E1. Further information relating to excavation for Blocks E2 and E3 and piling for Blocks E1 to E3 is therefore required.	Further monitoring data will be submitted for approval upon completion of agreed monitoring periods.	With reference to Block E, the Remedial Strategy includes groundwater quality monitoring prior to and during piling and up to 3 months after completion of the basement slab. Please note that we will not be in a position to recommend discharge of Conditions 31 and 24 for Blocks E1 to E3 without a review of this data.	
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	8	Lambeth Group Groundwater Level. Please provide a discussion on the direction of groundwater flow and a ground water contour plot.	Please refer to updated <i>Groundwater Technical Memo, Rev 2.0</i> .	Given that the site is located within Zone 1 SPZ associated with a number of wells associated with the NLARS scheme, we consider that the direction of groundwater flow in the Basal Sands and Chalk beneath	Noted.

				the site is likely to be variable. Based on the data presented in the report, it appears to flow generally northerly towards the abstraction rather than southerly as specified in the report.	
Letter 1: NE/2023/135314/01-L01, 14 February 2023)	17	Surface Water Monitoring. Please provide information on how deviations and or time delays between sampling and testing may have affected the results	Please refer to updated <i>Groundwater Technical Memo, Rev 2.0</i> .	OK	
Keltbray Remediation. Verification Report. Clarendon Road Phase 3, Mary Neuner Road, Wood Green, N22 6TZ, London. Document Reference RE6075-VR-AHNovember2020-03-Phase3. Dated May 2021.					
Letter 2: NE/2023/135314/01-L02	General	Please clarify whether the report covers Stage 1 and or Stage 2 Verification Works as per the Remedial Strategy (RS) and which blocks the works relate to.	The Phase 3 / 3B area of site covers Blocks D1, D2, D3, D4, E1, E2, and E3. A site plan of these blocks is presented in the Atkins <i>Groundwater Technical Note Rev 2.0</i> .	OK	
Letter 2: NE/2023/135314/01-L02	16	All decommissioning works were completed in accordance to the EA 'Good practice for Decommissioning Redundant Boreholes and Wells' and Section 6.5 of the FWRA. Boreholes were filled using appropriate infill material with permeability properties similar to the original geological strata. The status of the wells across site is listed in Table 8 below and shown in drawing CR3-KRE-X-000-XX-M2-CE-1027_P01, in Appendix A.' Please explain why the monitoring locations deviate from the agreed locations presented in the RS and Foundation Works Risk Assessment. (i.e WS507b decommissioned instead of WS508, what was monitored instead of WS511). (This comment is also provided in the review of Keltbray Verification Report RE6089-VR-GG-Phase3B. Dated December 2022)	Atkins updated <i>Groundwater Technical Note Rev 2.0</i> provides a summary of the boreholes that have been retained. As noted in the Remediation Strategy and Foundation Works RA, and given the extent of earthworks and remediation activities planned on site, proposed monitoring locations were anticipated to come into conflict with enabling / construction works. Where possible the same lateral / vertical extent of monitoring locations has been completed, however, on occasion this was not possible. Current monitoring locations provide ongoing evidence of groundwater quality within the Made Ground and the deeper Lambeth Group (BH510, BH513, WS506, and WS508).	OK See also comment above.	
Regulator Comment Log (NE/2023/135314/01-L02, 06 March 2023)					
Letter 2: NE/2023/135314/01-L02	16	The single deep borehole (BH511) is located under the footprint of a future building, therefore future infiltration in this area will be limited (Note: No perched water was encountered in the Made Ground or on the London Clay in the area of BH511). Noted, however the installation in this borehole provides a direct pathway to the underlying granular Lambeth Group. If encountered prior to the building being developed, it should be sealed appropriately.	Acknowledged and agreed. Risks associated with the lost BH511 are considered to be low. However, an active discovery strategy will be implemented during construction works to locate the standpipe within the London Clay. If located, BH511 will be decommissioned in accordance with Environment Agency guidance <i>Good practice for Decommissioning Redundant Boreholes and Wells</i> .	Noted.	