



Contaminated Land Internal Memorandum of Technical Advice

To:	Development Management	From:	Head of Public Protection & Prevention
Planning Officer:	Vivienne Pearson	EP Officer:	Environmental Protection Officer
Flare Ref:	249483	Date:	18 April 2023
Planning Ref:	2023/00339/DISCON	Doc Ref:	23-04-18-T265-M01-JWK-WBCDC

SUBJECT: CONTAMINATED LAND DOCUMENT REVIEW:

DISCHARGE OF CONDITION 3 (ROOFING MATERIALS), 4 (FACING MATERIALS), 5 (LANDSCAPING SCHEME), 7 (BOUNDARY TREATMENT), 8 (CONTAMINATED LAND ASSESSMENT), 9 (CONTAMINATED LAND COMPLETION) AND 17 (PARKING LAYOUT) ATTACHED TO PLANNING PERMISSION 2019/36287.

8 HILL CLIFFE ROAD, WALTON, WARRINGTON, WA4 6NX.

The following has been submitted in support of the above planning application:

- **DEL (2023¹) – Demeter Environmental Limited GQRA Report (Ref: 23-01-03_Revision_0): Phase II Site Investigation Report for 8 Hill Cliffe Road, Walton, Warrington, WA4 6NX, dated February 2023, Demeter Environmental Limited, Liverpool**
- **DEL (2022¹) – Demeter Environmental Limited PRA Report (Ref: 22-12-01_Revision_0): Phase I Desk Study Report for 8 Hill Cliffe Road, Walton, Warrington, WA4 6NX, dated December 2022, Demeter Environmental Limited, Liverpool**

The above document(s) and development proposals have been considered and the following comments can now be made with respect to the Contaminated Land Planning Conditions on the 2019/36287 planning application under the 2023/00339/DISCON Discharge Application:

A Preliminary Risk Assessment (PRA) & Conceptual Site Model (CSM):

A review of Preliminary Risk Assessment (DEL, 2022¹) and site investigation proposals provided for the site can be summarised as follows:

- *The proposed scheme comprises the demolition of an existing domestic Garage and the construction of a single new-build Residential Dwelling, with access, gardens/soft-landscaping and infrastructure.*
- *Various unspecified building occupied the site between c1877-1949, after which time the site was cleared and 2x buildings likely to be Domestic Garages were constructed on the site. By c2003 the Domestic Garages were no longer shown on mapping and had been replaced by a single larger unspecified building. Aerial photography from c2012 confirmed that the building was a Domestic Garage. Mapping indicates*

that the site has remained unchanged up to the present day. Potentially contaminative land uses located in close proximity to the site include an In-filled Pond 150m north-west (c1877-unknown) and an In-filled Sand Pit 230m west (c1897-unknown).

- Reporting confirms that drift geology at the site is glacio-fluvial sands (Shirdley Hill Sand Formation), overlying sandstone bedrock (Wilmslow Sandstone Formation). Drift geology at the site is classified as a Secondary (A) Aquifer and the underlying bedrock is classified as a Principal Aquifer.
- The closest surface water feature is unnamed, but is located approximately 64m west of the subject site. There are no surface water abstraction points within 1300m of the site. There are no groundwater abstraction points located within 440m of the site. The site is located within a Groundwater Source Protection Zone III (Total Catchment).
- Reporting confirms that there are 2x areas of in-filled land within 250m of the subject site (In-filled Pond 150m north-west and an In-filled Sand Pit 230m west). There are no historic or registered landfill sites within 250m of the site. The site is not affected by Radon gas, so special protective measures are required for new buildings. The site is identified as not being within a coal mining area.
- A site reconnaissance was carried out in December 2022 and confirmed that the site comprised a Garage on the southern boundary, a stockpile of building materials on the northern boundary and Made Ground (gravel and brick) across the site suggesting a building had been demolished. No invasive plant species or visual/olfactory evidence of contamination was noted during the course of the walkover survey.
- A Conceptual Site Model (CSM) identifies potential soil/water contamination and ground gas sources associated with the former site land-uses as a Domestic Garage; Made Ground on-site; Asbestos/ACM associated with buildings and historic demolition; and 2x areas of in-filled ground within 250m of the site. A Very Low-Moderate potential risk to human health receptors (Site End Users and Construction Workers) and a Low potential risk controlled waters (groundwater) has been identified.
- An intrusive site investigation is recommended in order to characterise ground conditions and potential contamination on-site.

The Preliminary Risk Assessment is deemed **satisfactory** and appropriate for a site of this nature and the proposed development works.

B Site Investigation & Generic Quantitative Risk Assessment (GQRA):

A review of site investigation and risk assessment(s) (DEL, 2023¹) carried out at the site can be summarised as follows:

- The site investigation comprised 5x Trial Pits (TP101-TP105) to a maximum depth of 1.80mbgl. Exploratory holes appear to have achieved representative spatial coverage of the site, although no hole was formed within the footprint of the existing (or recently demolished) building on the site.
- Ground conditions were found to be top-soil (0.40mbgl) underlain with brown silty Sand (0.40-0.65mbgl) and red weathered Sandstone (0.65-1.80mbgl). Groundwater strikes were noted in exploratory holes WS01 and WS02 at a depth of 2.20mbgl. Made Ground (reworked top-soil) was encountered in exploratory holes TP101, TP102, TP103 and TP105. No visual/olfactory evidence of contamination was identified during the course of investigative works.

- *6x soil samples were tested for a range of potential contaminants including Metals & Metalloids, speciated PAHs and TPHCWG. Testing for Asbestos appears not to have been included as part of chemical testing suites. Testing results were then screened against GACs derived from the LQM/CIEH 'Suitable for Use Screening Levels (LQM/CIEH, 2015) and CL:AIRE (2014) 'Category 4 Screening Levels' for a Residential end use. No groundwater or leachate sampling was carried out as part of the site investigation.*
- *Soil samples returned contaminant concentrations in excess of GACs for a Residential end use for Lead (TP101-TP104), Arsenic (TP104), Beryllium (TP104) and Dibenz(ah)anthracene (TP103).*
- *On the basis of the site investigation and GQRA, a Moderate potential risk was found to be posed to human health receptors (Site End Users and Construction Workers) and a no potential risk was found to be posed to controlled water receptors.*

The site investigation and/or GQRA **cannot be approved** at this time, due to the following queries and/or missing information:

- *While the site investigation is largely satisfactory, it is unclear whether an Asbestos screen was included as part of chemical testing suites for soil samples. Given the historic building demolition on-site and the presence of Made Ground, there is the potential for Asbestos of ACM to be present on-site. Clarification should be provided as to whether Asbestos screening/testing was carried out and if not, justification should be provided as to why Asbestos/ACM was not a consideration of the site investigation.*

C Controlled Waters Risk Assessment:

A review of the controlled waters risk assessment (DEL, 2023⁴) and consultation carried out for the site can be summarised as follows:

- *The controlled waters risk assessment identified a no potential risk posed to controlled waters by the site and/or proposed scheme.*
- *Given the scale of the proposed development; the absence of a significantly/potentially contaminative former land use; the absence of visual/olfactory evidence of contamination; the absence of mobile contamination identified during site investigations, Environment Agency consultation with respect to potential risk posed to controlled waters is unlikely to be required.*

The controlled waters risk assessment is deemed **satisfactory** and appropriate for a site of this nature and the proposed development works.

The following advice can also be provided:

- *If significant mobile or leachable contamination is identified on-site during the course of the site investigation, then the approval of the controlled waters risk assessment will be rescinded until such time as Environment agency consultation can be carried out with respect to the potential risk posed to sensitive receptors.*

D Ground Gas Risk Assessment:

A review of gas-monitoring data and the ground gas risk assessment (DEL, 2023¹) carried out at the site can be summarised as follows:

- *Gas sources have been identified as Made Ground on-site and 2x areas of in-filled land within 250m of the subject site (In-filled Pond 150m north-west and an In-filled Sand Pit 230m west).*
- *Gas monitoring has not been undertaken as part of the site investigation. The PRA determine that there was no potential risk posed by ground gas ingress, on the basis that there were no credible gas generation sources on the site or within 250m of the site.*

The ground gas risk assessment is deemed **satisfactory** and appropriate for a site of this nature and the

The following advice can also be provided:

- *If gas/vapour generation sources are identified on-site during the course of construction works (eg: organic soils, below-ground petroleum storage), then the approval of the ground gas risk assessment will be rescinded until such time as ground gas conditions at the site have been characterised and suitable remedial measures (if required) are agreed.*

E Remediation Strategy:

Based on the site investigation and GQRA (DEL, 2023¹), the proposed Remediation Strategy for the site/development includes the following remedial measures:

- **Source-removal of Contamination:** *Reporting (DEL, 2023¹) confirms that Made Ground will be excavated to a depth of 300mm and removed from areas proposed for soft-landscaping. It is unclear from proposals whether these excavations are intended to be back-filled with imported or other fill materials.*
- **Cover Systems for Gardens & Soft-landscaping:** *Reporting (DEL, 2023¹) confirms that all areas proposed for gardens will receive a 600mm cover system of unspecified fill materials. A Geotextile separator is to be placed at the base of the cover system. Reporting is rather vague, but appears to suggest that soft-landscaped areas will also receive a cover system (300mm of unspecified fill materials) where these areas are not subject to source-removal as described above.*
- **Other Remediation:** *No other remediation is proposed for the site or the development scheme.*

The Remediation Strategy **cannot be approved** at this time, due to the following queries and/or missing information:

- *While remedial options involving source-removal of contamination and installation of cover systems are acceptable, it will be necessary to specify which remedial option will be applied at which location and under which specification. Reporting text appears vague as to whether source-removal or cover systems are to be employed as a remedial measure. A definitive final remedial specification will need to be presented in the Remediation/Validation Strategy, so that these criteria can be precisely agreed prior to the discharge of Condition [08].*

- *Where cover systems are proposed for Garden and/or Soft-landscaped areas, please note that the minimum acceptable depth for cover systems within Gardens is 600mm (generally 150mm top-soil underlain with 450mm sub-soil) and the minimum acceptable cover system depth for soft-landscaping is 450mm (generally 150mm top-soil underlain with 300mm sub-soil).*

F Validation Strategy:

Based on the site investigation and GQRA (DEL, 2023¹), the proposed Validation Strategy for the site/development includes the following verification measures:

- **Source-removal of Contamination:** *No information is provided.*
- **Cover System Depth:** *No information is provided.*
- **Imported Fill Materials:** *No information is provided.*
- **Exported Fill Materials:** *No information is provided.*
- **Unexpected Contamination:** *Reporting (DEL, 2023¹) presents a range of potential actions to deal with exported fill materials and waste, but does not present a proposed strategy.*
- **Validation Report:** *No information is provided.*

The Validation Strategy **cannot be approved** at this time, due to the following queries and/or missing information:

- *If source-removal of contamination, details should be provided as to how these works will be validated to ensure the effectiveness of the remediation.*
- *If cover systems are required for gardens/soft-landscaping at the site, details should be provided as to how these remedial measures will be validated to ensure their presence, depth, specification and suitability for use. Where cover systems are installed over any sensitive area of the site/scheme, fill materials used within cover system layers must be chemically validated to confirm suitability for use.*
- *Imported/site-won fill validation sampling frequencies have not been provided. Fill materials imported to site or site-won materials proposed for re-use, especially within sensitive areas (ie: Gardens/soft-landscaping), are required to be chemically validated at prescribed frequencies in order to determine suitability for use. Internal standards adopted by the Authority with respect to fill validation can be found in the Environmental Protection Supplementary Planning Document (WBC, 2013). If no materials are proposed to be imported, this should be stated.*
- *No undertaking has been made for the consideration of unexpected or previously-unidentified contamination encountered during site works. Contingency procedures should be included to legislate for the encounter of contamination during excavation/construction works. These should include cessation of works in the affected area; notification of the Authority; and appropriate risk assessment and remediation/validation procedures as required.*

- *No procedures for the management of materials exported from site for disposal and/or re-use have been provided. These should include as a minimum stockpile management procedures; retention of duty of care and waste transfer documentation; and an undertaking to provide details of export volumes; export destinations; and relevant paperwork to the Authority as part of Completion/Validation Reporting. If no materials are proposed to be exported, this should be stated.*
- *No undertaking has been provided confirming that a Completion/Validation Report will be submitted to the Authority upon completion of site works. This report should comprise information agreed in the Validation Strategy as described above and will be required in order to secure discharge of the Contaminated Land Completion Condition [09] on the existing consent.*
- *A Validation Strategy has not been submitted in support of the Application. Once queries in relation to the site investigation, GQRA and Remediation Strategy (if required) have been resolved, a Validation Strategy for the site/scheme can be agreed.*

G Contaminated Land Condition Discharge Recommendations:

The following recommendations can now be made with respect to the Contaminated Land Planning Conditions on the 2019/36287 planning application under the 2023/00339/DISCON Discharge Application:

- **PREPARATORY WORKS CONDITION (08) STATUS: NO SECTIONS RECOMMENDED FOR DISCHARGE. ALL SECTIONS REMAIN IN FORCE.**
- **COMPLETION CONDITION (09) STATUS: NO SECTIONS RECOMMENDED FOR DISCHARGE. ALL SECTIONS REMAIN IN FORCE.**

As referenced above, a copy of the Environmental Protection Supplementary Planning Document (WBC, 2013) can be obtained at the following web address:

https://www.warrington.gov.uk/sites/default/files/2019-11/supplementary_planning_document_2013.pdf

Please note: *If the above referenced Planning Application(s) are subject to comment for other Environmental Protection considerations, there may be further comments forthcoming from the Environmental Protection Team with respect to Planning Conditions other than contaminated land. However, in the interest of expediting the consultation, comments in relation to contaminated land are being forwarded separately.*

James Warren-King
Environmental Protection Officer (Land)

OTHER REFERENCES:

- CL:AIRE (2014) – CL:AIRE Guidance Document (Ref: SP1010): *Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination*, dated September 2014, Contaminated Land: Applications in Real Environments, London
- LQM / CIEH (2015) - Land Quality Management Limited and Chartered Institute of Environmental (Ref: TBC): *The LQM/CIEH S4ULs for Human Health Risk Assessment*, dated January 2015, Land Quality Press, Nottingham
- WBC (2013) – Warrington Borough Council SPD (Ref: N/A): *Environmental Protection: Supplementary Planning Document*, dated May 2013, Warrington Borough Council Public Protection, Warrington