

Land Quality Management Ltd

For

Walsall Metropolitan Borough Council

Stonegate Estate – Former Willenhall Gasworks

Non-Technical Summary of Inspection of the Stonegate and Trent Park Estates in Willenhall

LQM Report Number: **1339-2(1)**

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LQM obtained, reviewed and evaluated information from the Client and other sources as detailed in the report. LQM's conclusions, opinions and recommendations are based solely on this information.

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2 NON-TECHNICAL SUMMARY OF INSPECTION OF THE STONEGATE AND TRENT PARK ESTATES IN WILLENHALL

(1) This document provides a non-technical summary of the investigation and assessment undertaken by Land Quality Management Ltd (LQM) on behalf of Walsall Metropolitan Borough Council (the Council) on land at Stonegate and Trent Park Estates, Willenhall(the Site) under the provisions of contaminated land legislation that came into force in 2000 as Part 2A of the Environmental Protection Act 1990 (as amended) (Part 2A). LQM's work is fully reported in two technical documents presenting the factual and interpretive aspects of our investigation and risk assessment (LQM, 2019a,b).

2.1 Background

(2) The Stonegate and Trent Park Estates, Willenhall, were developed on or adjacent to land historically occupied by the former Willenhall Town Gasworks.

(3) Land at the two estates has been investigated by the Council since approximately 2006. For the purposes of these investigations, the Council split the land into 10 zones. These investigations concluded that 89 properties in three zones (zones 4, 5 and 7) of the estates met the statutory definition of contaminated land, on the basis of concentrations of benzo[a]pyrene (BaP) within shallow soils (0-1m below ground level), and were formally determined as Contaminated Land by Council officers, under delegated powers, in March 2012 and the developer notified in August 2012. In March 2015, the Council served a Remediation Notice on the developer with respect to zones 4 and 7. This Notice was subsequently appealed by the developer in April 2015. In April 2017, the Secretary of State for the Environment upheld the developer's appeal and quashed the Council's Remediation Notice. The Secretary of State specifically found that the Council had "unreasonably identified the land as Contaminated Land".

2.2 LQM Investigation

(4) LQM were commissioned by the Council in July 2017 to advise on whether or not the Stonegate and Trent Park Estates meet the definition of Contaminated Land in the updated 2012 legislation and statutory guidance. LQM reviewed the available site investigation data and identified the need for further detailed risk assessment based on additional sampling of natural and manmade soil at up to 89 residential properties within the determined zones 4, 5 and 7 and monitoring of groundwater and ground vapours within public open spaces. In February 2018, the Council commissioned LQM to undertake this additional site investigation.

(5) Site investigation works, conducted during February – March and May 2018, involved sampling from hand-dug pits in the rear gardens of the majority of the 89 properties and the installation of groundwater and ground vapour monitoring wells in public open space areas. Permission for soil sampling was not granted for 6 properties, 3 of which had limited historical contamination data. The ground conditions consisted of manmade soil (made ground) beneath, in most locations, a layer of topsoil. Made ground was very variable and contained fragments of brick, masonry or materials associated with the gasworks such as coal and occasionally coke or clinker. Samples taken were tested for substances associated with the heating of coal on former gasworks sites, including polycyclic aromatic hydrocarbons (PAHs); metals (namely arsenic, lead, chromium and hexavalent chromium); cyanide compounds (total, free and thiocyanate); asbestos and soil properties, including pH and Soil Organic Matter (SOM). Groundwater and ground vapour samples were also taken between May and September 2018 from boreholes installed within the public open space. Samples were analysed by a laboratory using accredited test methods.

(6) The site investigation data collected by LQM and the previous investigations were combined to produce a dataset comprising analyses of soil samples, primarily collected from shallow (within the first metre below ground level) top soil and made ground within rear gardens of the determined properties. LQM used this information to carry out a risk assessment to help the Council decide if the land was Contaminated Land under Part 2A.

(7) Under Part 2A, the Council needs to decide whether land poses a "significant possibility of significant harm" (SPOSH) before it can be determined as Contaminated Land. A detailed risk assessment, including the toxicological assessment and assessment of potential hotspots, suggested by the Secretary of State, was therefore carried out by LQM.

(8) Gasworks waste materials contain mixtures of substances made of carbon and hydrogen that are known as polycyclic aromatic hydrocarbons (PAHs). LQM showed that this was the likely source of contamination and the PAHs in the soils were therefore linked to the incomplete combustion of coal during the operation of the former gasworks rather than any other process. LQM showed that the risks from PAH mixtures in soil could be understood by assessing benzo[a]pyrene (BaP), the most important PAH. Elevated concentrations of BaP (and other PAHs) appear to be associated with the discrete fragments of clinker, coke and coal observed in the soils. LQM showed that the toxicity of the PAHs could be represented by the toxicity of benzo[a]pyrene (BaP) alone. LQM evaluated the combined site investigation evidence and concluded that it did not indicate the presence of hotspots of contamination.

(9) As part of the risk assessment process, LQM calculated exposure to soil contaminants at the Site using standard Environment Agency software and compared the estimated exposure against doses

reported in scientific literature as being harmful; a ‘toxicological assessment’. This showed that exposure as a consequence of normal domestic activities was unlikely to represent SPOSH.

2.3 Conclusions

(10) The work undertaken by LQM concluded that there are greater than background concentrations of contaminants at the Site associated with historical industrial activities including waste disposal from the gasworks. However, LQM’s site investigation and subsequent assessment of the combined results has found the concentrations of contaminants in the soils at the Site do not represent an unacceptable risk to human health when considered in light of the Statutory Guidance. This means the land should not be considered ‘Contaminated Land’ under Part 2A of the Environmental Protection Act 1990.

3 REFERENCES

LQM (2019a) ‘Stonegate Estate – Former Willenhall Gasworks: Factual report of site investigation works (Feb-May 2018)’ Dated Jan 2019 (Ref: 1339-1(1))

LQM (2019b) ‘Stonegate Estate - Former Willenhall Gasworks: Interpretation of ground conditions and Part 2A Opinion’ Dated Jan 2019 (Ref: 1339-1/2(1))