

REPORT

Air Quality Assessment

Rickman's Green Village Phase 1

Client: Artemis Land and Agriculture Ltd

Reference: PB9500-RHD-GE-XX-RP-Z-0011

Status: S0/P01.01

Date: 24 November 2022

7.3 Cumulative Effect with Crouchlands Farm, Whole Farm Plan and Phase 2 of the Rickman's Green Village Application

During operation, the potential for cumulative impacts on existing receptors is emissions from development-generated road traffic movements. The cumulative impact of the Rickman's Green Village Phase 1 application with Phase 2, and the adjacent Crouchlands Farm Whole Farm Plan application will be considered as part of the assessment undertaken at a later stage.

8 Summary

This report was prepared as part of a planning application for Rickman's Green Village Phase 1. The assessment considered the potential for Rickman's Green Village Phase 1 to impact on local air quality during its construction and operation.

The impact of the construction was considered in accordance with the latest guidance available from the Institute of Air Quality Management (IAQM, 2016). The assessment defined the sensitivity of the area and the risk of the construction of the development to cause dust and particulate matter impacts. Site-specific mitigation was recommended and with the implementation of this mitigation, the residual impacts from construction activities were considered to be **not significant** in accordance with IAQM guidance.

At this stage of the project the trip generation for scheme has not been finalised, and therefore the assessment of road traffic emissions will be provided as a forthcoming Air Quality Addendum under separate cover. At this stage, the report sets out the methodology that will be used for the assessment.

A Lagoon 3 Risk Assessment was prepared as part of a planning application for the Proposed Development at Crouchlands Farm, Plaistow (planning ref: 22/01735/FULEIA). This assessment was used to inform the consideration of the potential risks to air quality, odour and associated public health that could arise from emissions to atmosphere from Lagoon 3 located to the west of Rickman's Green Village Phase 1. The assessment concluded there is no significant impact from CO₂ (asphyxiation) or CH₄ (explosion) to future users of Rickman's Green Phase 1 in the event of loss of gases and digestate from Lagoon 3. There is potential for impact to human health from H₂S in the worst-case event of a major failure of the gas membrane and/or bund. However, the maximum predicted concentration is indicated to cause eye irritation, and the likelihood of a major failure of the bund or gas membrane is considered to be very low. A number of recommendations were made for the Crouchlands Farm Whole Farm Plan, including deployment of continuous monitors to the north of Lagoon 3 to provide an early warning system of potential failure of the lagoon's liner and monitoring of the lagoon contents, which would be applicable to the Proposed Development.

Operational phase odour emissions from the Farm Hub were considered using the risk-based assessment methodology detailed in IAQM guidance (IAQM, 2018). Given the nature and scale of the odour source, the existing character of the area and location of receptors with regard to prevailing wind conditions, the effect of any potential odour was considered to be **not significant**.

9 References

CDC 2021 Air Quality Annual Status Report (ASR) (CDC, 2021)

Chapman, C., Kite, B. (2021a). Guidance on Decision-Making Thresholds for Air Pollution. JNCC Report No.696 (Main Report), JNCC, Peterborough, ISSN 0963-8091. Air Quality Consultants Ltd. 2021.