

Air Quality Assessment

King's Golf and Country Club, Market Bosworth

Prepared by: Steve Leland on behalf of George Denny

Date: July 2025

1. Introduction

This Air Quality Assessment supports the planning application for the development of 126 holiday lodges and a health spa facility at King's Golf and Country Club, Market Bosworth. The purpose of the report is to evaluate baseline air quality conditions and assess the potential impacts associated with both the operational and construction phases of the proposed leisure and tourism development.

2. Site Context and Description

The site is located within the grounds of an allocated and extant leisure and tourism facility, to the north of Station Road. It is bordered by:

- Wharf Farm airstrip to the north
- Existing residential properties to the east
- Station Road to the south
- Open countryside and golf course infrastructure to the west

Vehicular access will be taken from the existing, approved access point to Station Road, established under planning permission 02/00685/COU.

The proposed development comprises holiday lodges intended for non-permanent occupation as part of a leisure and tourism use class. The lodges are not permanent residences and will be subject to seasonal and intermittent occupancy. This limited duration of exposure reduces the relevance of long-term pollutant thresholds typically applied to full-time residential uses.

The lodges will be delivered using off-site prefabricated construction techniques, consisting of composite-clad sections bolted together on site. This modular approach offers several environmental benefits, including:

- Reduced on-site construction time
- Minimal earthworks and excavation

- Lower dust and emissions generation compared to traditional build methods

Importantly, the entire site benefits from an extant change of use planning permission, which establishes the principle of leisure and tourism use. This permission enabled the implementation and construction of the golf course, resulting in the site's significant contouring and highly modified landscape. The site's designation and planning history confirm that the proposed development is fully aligned with the established planning framework.

It is also relevant that the site is capable of accommodating up to 60 touring caravans or motorhomes under existing leisure use provisions without requiring specific notification. This baseline establishes a precedent for transient visitor accommodation on the site and supports the assessment's assumption of limited, short-duration exposure to air pollutants.

3. Assessment Methodology

3.1 Baseline Evidence and Monitoring Approach

The air quality baseline has been established through a review of existing, robust sources of information, including:

- The Hinckley & Bosworth Borough Council (HBBC) 2023 Annual Status Report, which confirms compliance with all UK air quality objectives and the absence of AQMAs in the district
- The Richborough (Station Road) Air Quality Assessment (MEC, Nov 2024), which provides recent, location-specific monitoring and modelling data for a site approximately 0.7 km south of the King's Golf site
- DEFRA's background pollution mapping for the relevant 1 km grid squares (NO₂ and PM fractions)

This evidence base is considered sufficient to characterise local air quality given the low-emission context, lack of significant traffic-generating features, and non-permanent nature of the proposed holiday lodge use.

In contrast with larger residential and mixed-use proposals in the local area, the King's Golf development comprises low-density, seasonal-use holiday lodges. As such, the air quality impact is not only lower in scale but also significantly reduced in terms of exposure duration. This supports the rationale that extensive air quality modelling or new site-specific monitoring is not required for this leisure-based, non-permanent occupancy scheme.

It is recognised that national and local air quality guidance, including IAQM and EPUK

principles, applies exposure-based thresholds when determining the need for detailed assessment. In this case, the proposed development comprises holiday lodges and a health spa facility intended for short-term, non-permanent occupation associated with leisure and tourism use. As such, the site does not constitute a high-sensitivity receptor in the same way as permanent residential housing. The transient nature of occupancy results in significantly reduced exposure duration to ambient air pollutants. Therefore, the scale, receptor type, and low-emission context justify a proportionate, qualitative assessment without the need for detailed dispersion modelling or extensive site-specific monitoring.

3.2 Assessment Benchmarks

Air pollutant levels have been reviewed against the relevant UK Air Quality Objectives, including:

- Nitrogen Dioxide (NO₂): 40 µg/m³ (annual mean)
- Particulate Matter (PM₁₀): 40 µg/m³ (annual mean)
- Particulate Matter (PM_{2.5}): 20 µg/m³ (target annual mean under current policy)

Measured and modelled data presented in Section 5 (Richborough reference) confirms that pollutant levels fall well within these thresholds, and that the contribution from additional development-related traffic is negligible in all scenarios.

4. Local Air Quality Context

Hinckley & Bosworth Borough Council (HBBC) has confirmed that local air quality remains within legal thresholds. Their 2023 Annual Status Report states:

- No Air Quality Management Areas (AQMAs) are in place
- No exceedances of statutory objectives were recorded in 2022

These findings support the conclusion that the area around the site is not subject to air quality constraints and that background pollutant levels are generally low.

5. Reference to Richborough (Station Road) Assessment

The Richborough Air Quality Assessment (MEC, Nov 2024), prepared for a residential development ~0.7 km to the south, provides a strong point of comparison.

Key findings:

- NO₂ concentrations: 8.1–8.9 µg/m³
- PM₁₀ concentrations: 13.2–13.6 µg/m³

- Changes from proposed traffic: $<0.2 \mu\text{g}/\text{m}^3$, representing $<1\%$ of AQAL

All predicted values were well below air quality objectives. As the Richborough site is closer to Station Road and includes more intensive residential use, it is reasonable to conclude that the King's Golf site will experience comparable or lower pollutant levels.

Key distinctions:

- Richborough was assessed for permanent residential dwellings with continuous exposure to outdoor air
- The King's Golf proposal involves holiday accommodation with temporary and seasonal occupancy
- The construction methodology at King's Golf (modular, pre-clad lodges) significantly reduces on-site emissions relative to traditional building methods used at Richborough

As such, air quality constraints at King's Golf are likely to be substantially less significant.

6. Construction Phase Dust Risk

Due to the fact that the lodges are for golfing/leisure and tourism use, they are therefore not subject to full residential exposure assumptions. Furthermore, the use of off-site modular construction and non-excavation methods will substantially reduce dust and emissions during the build phase.

Construction-related risks are therefore low and will be effectively mitigated.

The proposed development is therefore considered acceptable in air quality terms.

7. Mitigation Measures

7.1 Operational Phase

- Installation of low-NO_x heating systems
- Enhancement of walking and cycling links

7.2 Construction Phase

- Implementation of a site-specific Construction Environmental Management Plan (CEMP)
- Monitoring of dust and implementation of adaptive controls during dry/windy conditions

8. Conclusions

- Local background air quality is good and complies with national objectives
- The development will not introduce significant new traffic emissions
- Lodges are for golfing/leisure and tourism use and are therefore not subject to full residential exposure assumptions
- Off-site modular construction will substantially reduce dust and emissions during the build phase
- Construction-related risks are therefore low and will be effectively mitigated

The proposed development is therefore considered acceptable in air quality terms.

Further to comments from the LCC Minerals and Waste Team, it is confirmed that since purchase of the site in September 2016, regular monitoring of potential odour emissions from the sewage treatment works has been carried out, with no odour issues noted on site. This observation is consistent with the findings of Hinckley & Bosworth Borough Council's 2023 Annual Status Report, which confirmed:

- No Air Quality Management Areas (AQMAs) declared
- No exceedances of statutory air quality objectives in 2022

Since receipt of the comments and based on advice from the HBBC Environmental Health Team—who also note that odour perception is subjective—monitoring was increased to a daily routine, with continued results showing no significant or reportable odour incidents.