

# AIR QUALITY MITIGATION STRATEGY

**Proposed Redevelopment of Leisure Centre,  
Castle Farm Recreation Centre, Kenilworth**  
Prepared for: MACE UK Limited

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## 1.0 Introduction

The Air Quality Mitigation Strategy (AQMS) has been prepared in support of a planning application for the extension and reconstruction of Castle Farm Recreation Centre (“Proposed Development”) in Kelinworth, located within the administrative area of Warwick District Council (WDC).

WDC has published an Air Quality Supplementary Planning Document (AQSPD) detailing a set of criteria to identify proportionate assessment and mitigation requirements. Based upon the nature and size of the Proposed Development, and according to the requirements set out in WDC AQSPD, the Proposed Development is classified as a ‘medium’ development and therefore only requires an AQMS.

WDC has designated five air quality management areas (AQMAs) due to elevated annual average concentrations of nitrogen dioxide (NO<sub>2</sub>). The Proposed Development is located 550m west of the Warwick Road AQMA in Kelinworth. A brief review of passive diffusion tube monitoring (W23,W24,W30,W31,W32) along Warwick Road indicated widespread compliance with the annual mean NO<sub>2</sub> objective of 40µg/m<sup>3</sup>, with the highest concentrations (28.9µg/m<sup>3</sup>) in 2019 recorded at W31, located within the AQMA.

In addition, 2021 annual mean NO<sub>2</sub> background concentrations at the Proposed Development, based on data provided by the Department of Environment, Food and Rural Affairs (Defra) at a 1km x 1km spatial resolution (2018-reference year), are predicted to 11µg/m<sup>3</sup> upon completion. Therefore NO<sub>2</sub> concentrations at the Proposed Development, located away from major roads, is expected to be comfortably below the annual mean NO<sub>2</sub> objective.

### 1.1 Structure of the Report

The AQMS sets out the following:

- A review of relevant guidance for context;
- A description of the proposed development; and
- The relevant mitigation measures as set out in the WDC AQSPD, proportionate to the developments nature and scale.

## 2.0 Guidance

The AQMS has been prepared in accordance to the WDC AQSPD, with the relevant sections reproduced in the following paragraphs. According to the guidance the assessment of air quality should follow three stages detailed below:

1. Determining the classification of the development proposal;
2. Assessing and quantifying the impact on local air quality; and
3. Determining the level of a mitigation required by the proposal to make the scheme acceptable.

Figure 2-1 presents the criteria to be followed in determining the level of air quality assessment and mitigation required.

**Table 1 – Air quality classification of developments**

SCHEME TYPE	MINOR	MEDIUM	MAJOR
Threshold	Below threshold criteria for a Transport Assessment <sup>8</sup> or Travel Plan	Meets threshold criteria for a Transport Assessment or Travel Plan	Medium type developments which also trigger any of the following criteria: i) Where development is within or adjacent <sup>9</sup> to an AQMA or CAZ ii) Where development requires an EIA <sup>10</sup> and air quality is to be considered iii) Where any of the criteria in Table 2 are triggered
Assessment	Exposure Assessment where applicable (see 5.2)	Exposure Assessment where applicable (see 5.2)	Air Quality Assessment required including an evaluation of changes in emissions <sup>11</sup> Exposure Assessment where applicable (see 5.2)
Mitigation	Type 1	Types 1 and 2	Types 1,2 and 3

**Table 2 – Additional Trigger Criteria for Major Developments**

<ul style="list-style-type: none"> <li>• Proposals in areas where sustained compliance with EU Limit Values may be at risk<sup>12</sup></li> <li>• Any development proposing a net increase of 100 or more parking spaces</li> <li>• Any development that could increase the existing traffic flows on roads of &gt; 10,000 AADT by 5% or more</li> <li>• Any development that causes a change in LDV (cars and small vans) flows of:             <ul style="list-style-type: none"> <li>• more than 100 AADT within or adjacent to an AQMA, CAZ or exceedance area</li> <li>• more than 500 AADT elsewhere</li> </ul> </li> <li>• Any developments that could increase traffic flows by 5% or more in road canyons<sup>13</sup> (or creates a canyon) with &gt; 5,000 AADT</li> <li>• Any development that causes a change in HDV flows (lorries, large vans and buses) of:             <ul style="list-style-type: none"> <li>• more than 25 AADT within or adjacent to an AQMA, CAZ or exceedance area</li> <li>• more than 100 AADT elsewhere</li> </ul> </li> <li>• Proposals that could introduce or significantly alter congestion (DfT Congestion) and includes the introduction of substantial road infrastructure changes</li> <li>• Proposals that reduce average speeds by more than 10 km per hour</li> <li>• Proposals that include additional HGV movements by more than 10% of total trips</li> <li>• The construction, widening or repositioning of a road in the vicinity of sensitive receptors<sup>14</sup></li> <li>• Where a centralised combustion unit of thermal input &gt;300kWh is proposed</li> <li>• All biomass boiler and other large novel fuel appliance applications</li> <li>• All stand-by/short-term power generation units regulated by the Environment Agency</li> </ul>
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**Figure 2-1: AQSPD Criteria**

According to the WDC AQSPD, Stage 2 of the appraisal (referred to as 5.2 in Figure 2.1) details the criteria for undertaking an exposure assessment, as detailed below:

- The proposal is adjacent to or within an AQMA;
- The proposal is in a location 20m from roads at or above the relevant national objective highlighted on the Defra GIS modelled maps - <http://uk-air.defra.gov.uk/data/gis-mapping>; and
- The proposal is one of the following Land Use types; and within 20m of roads with flows >10,000 annual average daily traffic (AADT):
  - C1 to C3;
  - C4 (Homes of Multiple Occupation); and
  - D1.

The classification, assessment and mitigation for new developments is illustrated in flow diagram in Figure 2-2.

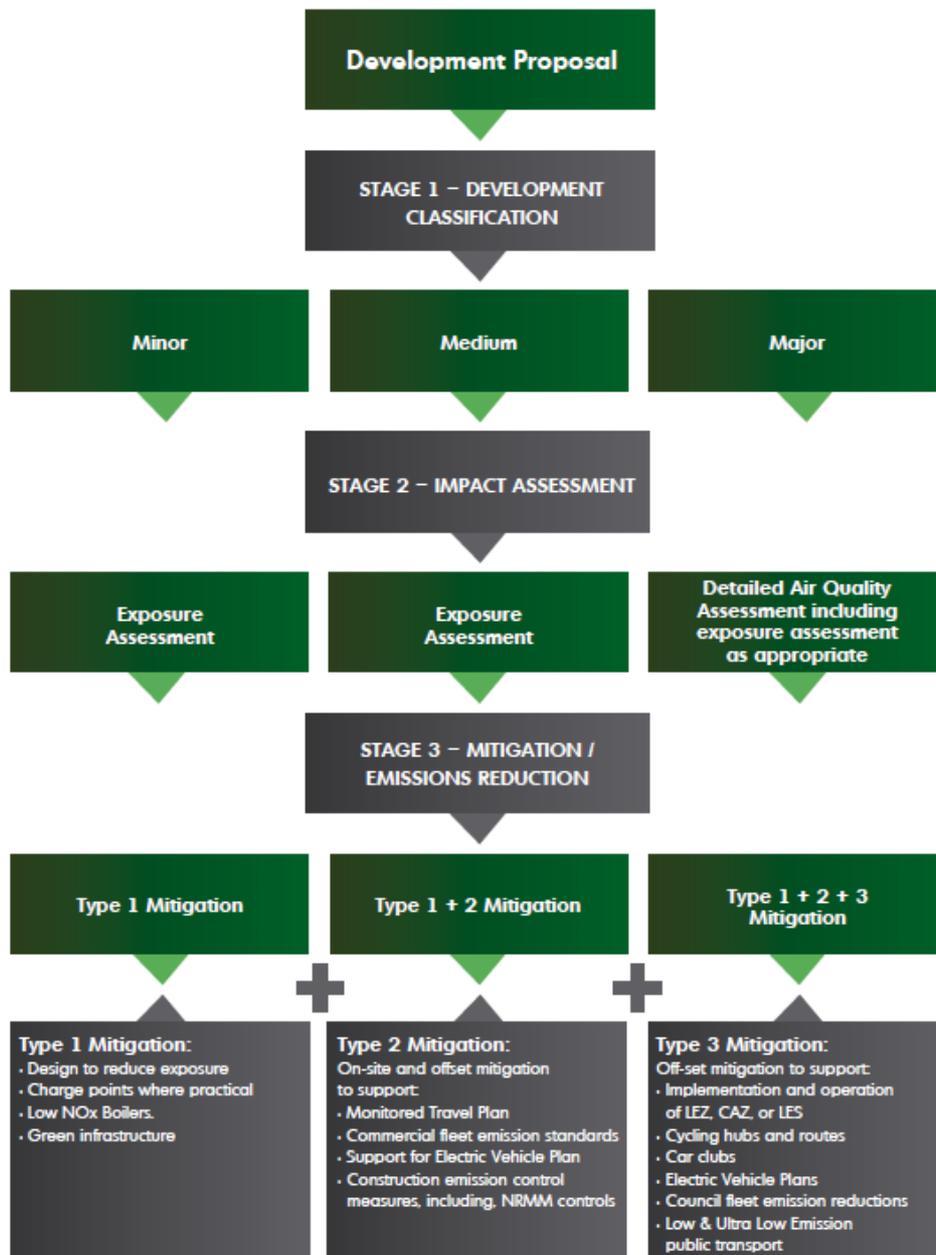


Figure 2-2: Classification, Assessment & Mitigation of New Developments

## 3.0 Existing Facility and Proposed Development

Existing on-site facilities include a main sports hall and typical fitness centre amenities. The existing building has a Gross Internal Area (GIA) of 1,712sqm. The primary site access, and only vehicular access, comprises a simple priority junction served off Fishponds Road. The access comprises a two-way road serving the site car park, which has 78 standard and 4 accessible bays (a total of 82 spaces).

The development proposals comprise the extension and reconstruction of the existing leisure centre which will provide a facility with a GIA of 4,075sqm, made up of 3,060sqm on the ground floor and 1,015sqm on the first floor. The site will continue to serve users of the sports pitches and will retain the children's play area and skate park. Proposed vehicular ingress/egress will continue via the existing access point. Pedestrian and cycle access will also be retained via the pedestrian/cycle link to the north.

The car park will be extended to provide a total of 198 vehicle parking spaces, of which 54 are associated with an overflow area. The development proposals will therefore result in a net increase of 62 parking spaces (excluding the 54 standard bays included as part of the overflow area – given their expected sporadic use). According to the criteria set out in Figure 2-1 the development is therefore classed as 'medium'. In addition the following apply to the Proposed Development:

- annual mean NO<sub>2</sub> background concentrations at the Proposed Development are comfortably below the relevant objective;
- the Proposed Development does not fall under C1, C2, C4 or D1 land use type; and
- the Proposed Development is not located within 20m from a road at or above the annual mean NO<sub>2</sub> objective .

## 4.0 Mitigation Measures

According to Figure 2-1, Type 1 and 2 mitigation from the WDC AQSPD are required and are presented below:

- Type 1:
  - 10% of parking spaces (32 amp) which may be phased with 5% initial provision and the remainder at an agreed trigger level. At least 1 charging unit should be provided for every 10 disabled parking spaces. Where 50 parking spaces or more are provided then 1 rapid charging unit (43kW/50kW) per 50 spaces shall also be considered and parking time limited to a maximum of 1 hour for public access car parks.
- Type 2:
  - Monitored Travel Plan, including mechanisms for discouraging high emission vehicle use and encouraging the uptake of low emission fuels and technologies.
  - Measures to support public transport infrastructure and promote use.
  - Measures to support cycling and walking infrastructure.
  - Measures to support an Electric Vehicle Plan.
  - Designated parking spaces and differentiated parking charges for low emission vehicles.
  - Non-road mobile machinery (NRMM) controls.
  - Commercial and industrial development specific:
    - Use reasonable endeavours to use/require vehicle use complying with the latest European.
    - Emission Standard from premises opening and to be progressively maintained for the lifetime of the development.
    - Provide a fleet emission reduction strategy/low emission strategy, including the uptake of low emission fuels and technologies, such as ultra-low emission service vehicles

In recognition of the above requirements, the Proposed Development will include EV charging facilities for 8 vehicles, alongside the preparation and implementation of a bespoke Travel Plan to minimise operational impacts. This Travel Plan aims to reduce single occupancy private car trips to/from the site in favour of more sustainable modes of transport.

## 5.0 Conclusion

The Air Quality Mitigation Strategy has been prepared in accordance to the Warwick District Council's Air Quality Supplementary Mitigation Strategy. It details the applicable mitigation measures that are required for proposals with a 'medium' classification that do not require an exposure assessment, given the nature of the facility and that baseline air quality is comfortably below the relevant air quality objectives.

The Proposed Development is committed to providing EV charging facilities for 8 vehicles, and will include the preparation and implementation of a bespoke Travel Plan to minimise operational impacts.

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