4.3 Air Quality

4.3.1 This section of the ECR reports the effects and specific commitments of the Consented Scheme on Air Quality. It also describes the various Planning Conditions attached for the topic, as required up to Construction Stage, and identifies how and where information required for such conditions is located.

4.3.2 This section revisits and builds upon (where necessary) Chapter 10: Air Quality of the 2013 ES by assessing the detailed scheme, introducing further mitigation (as required), before concluding whether the detailed scheme is in compliance with the findings of the 2013 ES.

4.3.3 Chapter 10: Air Quality of the 2013 ES, considered the following potential air quality impacts:

- Construction dust impacts (specifically from demolition, earthworks, construction and trackout) in relation to dust soiling, human health and ecology;
- Operational impacts in relation to changes in traffic flow; and
- Operational impacts in relation to plant emissions from the energy centre.

4.3.4 This section of the ECR revisits and builds upon (where necessary) Chapter 10: Air Quality of the 2013 ES, before concluding whether the detailed scheme is in compliance with the findings of the 2013 ES.

4.3.5 This Section has been written by Will Totty of Hawkins Environmental Limited.

Findings and commitments of the 2013 ES

Baseline

4.3.6 The 2013 ES summarised the baseline air quality monitoring data collected in the vicinity of the development site.

4.3.7 The monitoring data included two automatic monitoring stations (one roadside and one urban background, both monitoring NO_2 and PM_{10}) and four roadside diffusion tubes (monitoring NO_2) for the period 2005-2011.

4.3.8 Monitored PM_{10} concentrations were shown to be below the annual NAQO at both the roadside and urban background location across the whole seven-year period.

4.3.9 Monitored NO_2 concentrations were shown to fluctuate across the period with all locations with the exception of the urban background location experiencing exceedance of the annual NAQO at some point across the period.

4.3.10 Dispersion modelling was also undertaken to estimate baseline (2007) and future baseline (2028) concentrations of NO_2 and PM_{10} at the proposed development site.

4.3.11 The dispersion modelling determined that PM_{10} concentrations would be below the annual NAQO across the development site in both the baseline (2007) and future baseline (2028) scenarios.

4.3.12 The dispersion modelling determined that NO_2 concentrations would exceed the annual NAQO across the development site in the baseline (2007) scenario and be below the annual NAQO across the development site in the future baseline (2018) scenario.

Construction phase impacts

4.3.13 The 2013 ES did not assessment construction phase impacts.

Operational phase impacts

4.3.14 Using criteria that have since been updated, the 2013 ES determined that the impact of operational effects pertaining to both increases in traffic emissions as well as emissions from the energy centre would be considered *negligible* at all modelled receptor locations.

Relevant planning conditions

4.3.15 None pertaining to air quality.

Assessment methodology

4.3.16 The assessment of the detailed scheme has entailed a comparison of the likely impacts and effects of the detailed scheme with the scheme assessed in the 2013 ES. As the 2013 ES found that there were no impacts that would give rise to significant effects, and the detailed scheme represents a decrease in trip generation, as well as a betterment in energy strategy by introducing heat pumps, it is considered that the conclusions on the 2013 ES can be upheld without need for detailed assessment.

Assessment of the detailed scheme

4.3.17 There will be a reduction in residential units from 717 units in the scheme assessed in the 2013 ES to 663 units for the detailed scheme.

4.3.18 There will also be a reduction in parking spaces from 253 bays in the scheme assessed in the 2013 ES to 144 bays for the detailed scheme.

Construction stage effects

4.3.1 The site is considered a "*High Risk Site*" overall and a Dust Management Plan is recommended incorporating a number of specific mitigation measures based on the site-specific risks.

4.3.2 As per the IAQM Guidance, with risk appropriate mitigation, residual effects will be considered not significant.

Operational stage effects

4.3.3 There will not be an increase in pollutant concentrations as a consequence of road traffic emissions or emissions associated with the energy strategy, therefore mitigation is not necessary.

4.3.4 The decrease in generated trips relative to the scheme assessed in the 2013 ES as well as the introduction of heat pumps to the energy strategy would be considered, if anything, to be more beneficial to local air quality than the scheme assessed in the 2013 ES.

Cumulative effects

4.3.5 No significant residual effects. The decrease in generated trips relative to the scheme assessed in the 2013 ES as well as the introduction of heat pumps to the energy strategy would be considered, if anything, to be more beneficial to local air quality than the scheme assessed in the 2013 ES.

Conclusions

4.3.6 The 2013 ES did not assess construction stage effects. The assessment of the detailed scheme has determined that with a dust management plan in place, there would be no residual effects.

4.3.7 The 2013 ES determined that there would be no significant adverse effects arising from traffic generation or the energy centre. The decrease in generated trips relative to the scheme assessed in the 2013 ES as well as the introduction of heat pumps to the energy strategy would be considered, if anything, to be more beneficial to local air quality than the scheme assessed in the 2013 ES.

4.3.8 The 2013 ES determined that there would be significant cumulative effects. The assessment of the detailed scheme has not assessed the impact of the proposed development with current cumulative schemes, although it is noted that the contribution to any such effects from the detailed scheme would be not significant in isolation and less than any contribution from the scheme assessed in the 2013 ES.