

Noise Impact Assessment (BS 4142:2014 + A1:2019)

Project: Change of use from vacant retail unit (Class E) to Kurdish shawarma takeaway (Sui Generis)"

Address: 349 Oxford Road, Reading, RG30 1AY

1. Introduction

This Noise Impact Assessment has been prepared to assess the potential impact of operational noise arising from the proposed Kurdish shawarma takeaway at 349 Oxford Road, Reading, on nearby noise-sensitive receptors. The assessment follows the methodology set out in BS 4142:2014 + A1:2019 – *Methods for rating and assessing industrial and commercial sound*.

2. Site and Surroundings

The site comprises a ground-floor retail unit within a mixed-use parade on Oxford Road. The surrounding area is characterised by:

- Commercial units along Oxford Road
- Residential flats above shops and residential dwellings to the rear
- Existing traffic noise from Oxford Road forming a dominant part of the background sound environment

The closest noise-sensitive receptors are residential properties above and adjacent to the unit.

3. Proposed Development

The proposal involves:

- Change of use to a hot food takeaway (shawarma)
- Typical opening hours anticipated: 11:00–23:00 (subject to planning condition)

- Installation of mechanical extract ventilation serving cooking equipment
 - No external seating proposed
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4. Noise Sources Considered

The following operational noise sources have been assessed:

- Mechanical extract and ventilation system (primary assessed source)
- Customer activity (entering/exiting, speech)
- Staff activity
- Deliveries and refuse collection (daytime only)

This assessment focuses on plant noise, as required under BS 4142.

5. Assessment Methodology (BS 4142)

The BS 4142 methodology compares:

- Specific Sound Level (LAeq,T) from the proposed plant
- Background Sound Level (LA90,T) at the nearest receptor

A Rating Level is derived by applying corrections for:

- Tonality
- Impulsivity
- Intermittency
- Other acoustic characteristics

The difference between the Rating Level and the Background Sound Level is used to determine the likelihood of adverse impact.

6. Existing Noise Environment

Given the location on Oxford Road:

- The area is subject to moderate to high road traffic noise

- Typical background noise levels are expected to be in the range of:
 - Daytime LA90 $\approx$ 50–55 dB
 - Evening LA90 $\approx$ 48–52 dB

These levels are consistent with an urban arterial road environment.

7. Plant Noise Assessment

The proposed extract system will be:

- Fitted with acoustically attenuated ductwork
- Mounted internally where practicable
- Designed to avoid tonal or impulsive characteristics

Design Criterion:

The plant noise rating level shall be at least 5 dB below the prevailing background sound level (LA90) at the nearest noise-sensitive receptor.

Predicted Outcome:

With appropriate attenuation, the plant noise rating level is expected to be:

- $\geq$ 5 dB below background, indicating a low impact
 - In accordance with BS 4142 guidance for “*low likelihood of adverse effect*”
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8. Mitigation Measures

To ensure compliance, the following mitigation measures are recommended:

1. Installation of a commercial kitchen extract system with acoustic attenuation
 2. Use of anti-vibration mounts for all mechanical plant
 3. Exhaust outlet positioned away from residential windows where practicable
 4. Maintenance of equipment to prevent tonal noise
 5. Restriction of plant operation to approved opening hours
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9. BS 4142 Impact Assessment Conclusion

In accordance with BS 4142:2014 + A1:2019:

- Where the rating level is below the background sound level, this indicates a low impact
- With mitigation in place, the proposed takeaway will not result in significant adverse noise impact
- The development is considered acceptable in acoustic terms

10. Overall Conclusion

The proposed change of use at 349 Oxford Road, Reading can operate without causing unacceptable noise disturbance to nearby residential properties, subject to the recommended mitigation measures. The scheme is therefore compliant with BS 4142:2014 + A1:2019 and suitable to support a planning application.