

Assessment of noise from new ABS drinks cooler condenser

McDonald's
1169 Oldham Road
Failsworth
Manchester
M40 2FU



On behalf of



Project Ref: 7754 | Rev: 0 | Date: 4th November 2022

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Project Name: McDonald's, 1169 Oldham Road, Failsworth, Manchester, M40 2FU

Project Ref: 7726

Report Title: Assessment of noise new ABS drinks cooler condenser

Date: 4th November 2022

	Name	Position	Signature
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Revision	Date	Description

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1 Summary

Planning permission has been granted by Manchester City Council for “*Reconfiguration of site access arrangements, alterations to building elevations including single storey extension to form freezer/chiller unit and creation of a new bin store, erection of single storey detached shelter and associated site works including reconfigured seating area and installation of electric vehicle charging points*” at McDonalds restaurant 1169 Oldham Road, Failsworth Manchester (planning reference 135166/FO/2022¹).

Condition 6 of the Consent states;

6) a) Notwithstanding details submitted, externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Prior to commencement of the development an updated scheme shall be submitted which takes account of existing background noise level data. This shall be submitted to and approved in writing by the City Council as Local Planning Authority in order to secure a reduction in the level of noise emanating from the site. The scheme shall be implemented in full before the use commences.

Acoustic Associates SW Ltd have been instructed by Planware to carry out an on-site background sound survey and prepare a formal report setting out the information required.

The drinks machine at the counter in the restaurant, will be replaced with a new machine (known as the ABS machine) which requires an external condenser. This will be mounted on the roof of the restaurant and will be fully screened from view by any of the neighbours. This is the sole item of plant involved with this planning permission.

This report details the findings of a recent on-site background noise survey, which showed that during the hours of operation of the ABS cooler (7am to 11pm) the background sound level was no lower than 48 dB $L_{A90,T}$. To comply with the requirements of Condition 6 noise from the new ABS condenser will need to be shown to be 5 dB lower than the background, namely 43 dB $L_{a,r}$.

The predicted level of noise emitting from the new ABS condenser will be no louder than 33 dB $L_{a,r}$ outside the upstairs windows of the closest neighbours on Irving Street to the rear of the restaurant. A level which significantly better Local Authority requirement. No further mitigation is therefore required.

This report therefore provides the information to enable the Local Authority to be able to discharge Condition 6 of the Planning Consent.

¹

<https://pa.manchester.gov.uk/online-applications/applicationDetails.do?keyVal=RJJDHKBCM7S00&activeTab=summary>

2 Planning conditions

Planning permission has been granted by Manchester City Council for “*Reconfiguration of site access arrangements, alterations to building elevations including single storey extension to form freezer/chiller unit and creation of a new bin store, erection of single storey detached shelter and associated site works including reconfigured seating area and installation of electric vehicle charging points*” at McDonalds restaurant 1169 Oldham Road, Failsworth Manchester (planning reference 135166/FO/2022²). A copy of the consent is included at the rear of this report.

Condition 6 states;

6) a) Notwithstanding details submitted, externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Prior to commencement of the development an updated scheme shall be submitted which takes account of existing background noise level data. This shall be submitted to and approved in writing by the City Council as Local Planning Authority in order to secure a reduction in the level of noise emanating from the site. The scheme shall be implemented in full before the use commences.

3 Background sound survey

Mr Peter Ashford BSc, MIOA, ANC attended the restaurant on Monday 31st October 2022 to carry out an overnight on-site background sound survey.

The survey, procedures and equipment used were compliant with the requirements of BS7445³.

An un-attended logging sound level meter was placed on the northern boundary, overlooking the houses on Irving Street as shown in photograph over page;

²

<https://pa.manchester.gov.uk/online-applications/applicationDetails.do?keyVal=RJJDHKBCM7S00&activeTab=summary>

³ BS7445-1: 2018 Description and measurement of environmental noise - Part 1: Guide to quantities and procedures



The aerial view shows the juxtaposition of the restaurant building, the monitoring location and the residential neighbours;



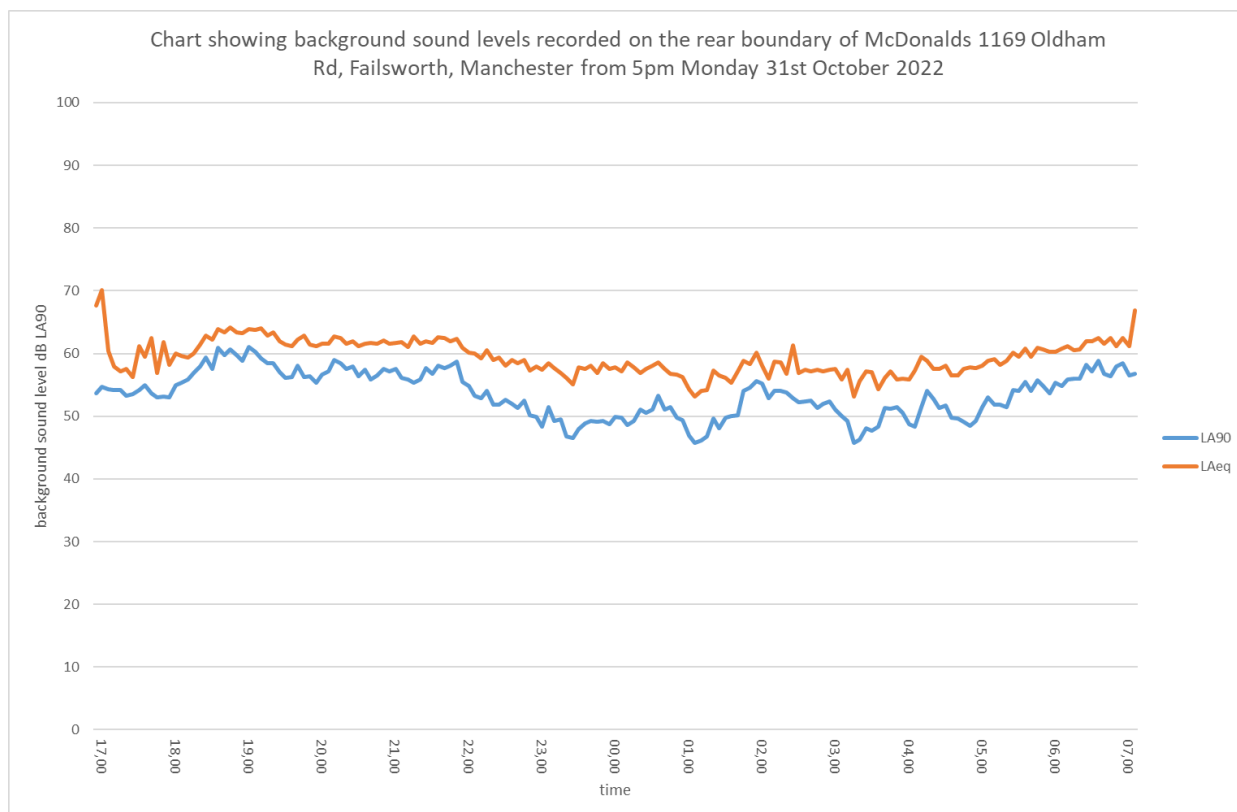
The weather during the survey was mixed, with some spells of rain during the course of the night⁴ but winds were light.

The sound meter/pre-amp/microphone was calibrated using a hand held calibrator before and after the survey, with no adverse variants being observed. Details of the equipment used are given in the table over page.

⁴ <https://www.timeanddate.com/weather/@6691219/historic>

Meter Make	Model	Serial No.	Calibration Date	Calibration Certificate No.	Calibration due date
Rion	NL52	00253718	5-7-22	1129645	5-7-24
Rion	NC74	34794316	5-7-22	1129641	5-7-23

The chart below shows the L_{Aeq} and L_{A90} (background) plotted against time;



The blue line representing the background level, fluctuates over time and declined from 60 dB at 5pm down to 46 dB $L_{A90,T}$ in the small hours of the night. At no point levels level off, which is often an indication of the presence of steady fixed plant noise.

When setting up and retrieving the meter McDonald's plant noise was not discernible.

The restaurant's trading hours were 7am to 11pm.

To comply with the requirements of Condition 6, noise from the ABS drinks machine roof mounted external condenser, which will only operate during opening hours, will need to be less than the recorded background sound level less 5 dB. The lowest background sound level, during opening hours occurred just before 11pm and was 48 dB $L_{A90,T}$, consequently new plant noise will need to be limited to 5 dB less than that, namely 43 dB $L_{A,r}$ (rating level).

4 Proposed plant

The only new plant forming part of this permission will be a single roof mounted condenser, that will sit in the existing plant well on the roof and this will serve the new ABS drinks machine within the restaurant.

The condenser will run as required, but only during opening hours, which are 7am to 11pm.

The cooler for the Manitowoc drinks machine⁵ has a measured operational noise level of 66 dB $L_{Aeq,T}$ at 1m. The photograph below shows this machine;



5 Radiated noise levels

The level of noise radiated to the neighbours from the plant in the roof well has been calculated using 3-D noise modelling software (iNoise⁶), implementing the calculation procedures set out in ISO 9613⁷.

⁵ <https://www.manitowocice.com/asset/?id=dktsnh®ions=us&prefLang=en>

⁶ <https://inoise.com/>

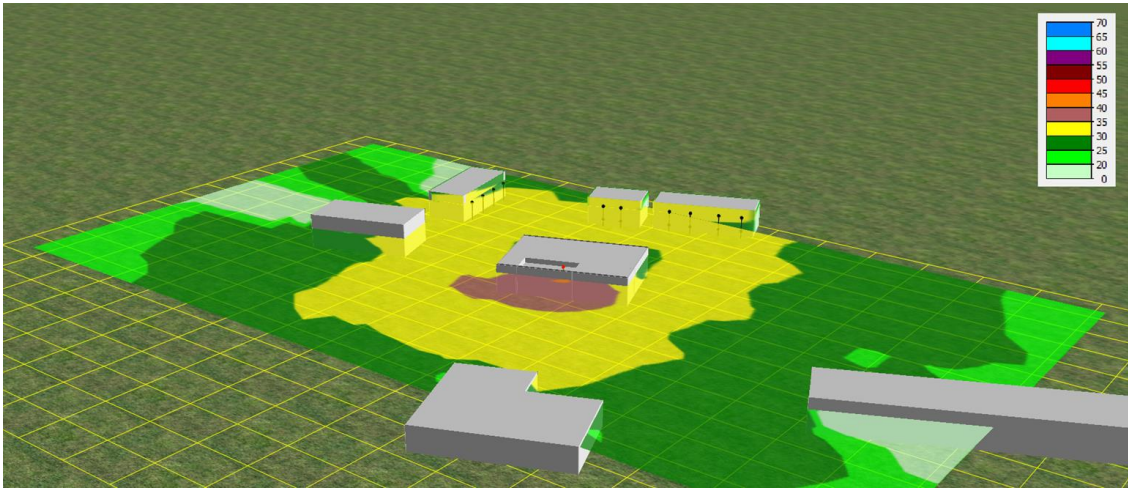
⁷ ISO 9613-2:1996

Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation

The location of the plant and the closest neighbours are shown below;



And in 3D;



The predicted noise from the new ABS condenser are shown in the table below, the highest of which is 33 dB;

Property	Height (m)	L _{Aeq} dB
1 Irvin St	4.5	32
11 Eagar S	4.0	29
11 Irvin S	4.5	32
3 Irvin St	4.5	32
5 Eagar St	4.0	31
5 Irvin St	4.5	33
7 Eagar St	4.0	30
7 Irvin St	4.5	32
9 Eagar St	4.0	29
9 Irvin St	4.5	32

6 Assessment of noise from ABS condenser

The Local Authority require that the “rated level” of plant noise is at least 5 dB below the background sound level, in accordance with BS4142. This Standard stipulates that a “rating level” is the L_{Aeq,T} value plus any character penalties, which cover tonality, impulsivity, intermittency or other characteristics.

The predicted ABS condenser noise is not tonal and at a level 16 dB below the background sound level will have no perceivable intermittency or other characteristics that attract any penalties. Consequently, in this case the L_{Aeq} value equals the rated level (L_{A,r}).

The highest predicted ABS cooler level is 32 dB L_{A,r} outside the 1st floor windows of 5 Irving Street and better the Local Authority background – 5 dB requirement.

Planning Consent Application number: 134022/FO/2022



Town & Country Planning Act 1990 (as amended)

Planning Permission

Applicant

McDonalds Restaurants Limited
11-59 High Road
East Finchley
London
N2 8AW

Agent (if used)

Mrs Sarah Carpenter
Planware Limited
St Andrews Street
33 St Andrews Street South
Bury St Edmunds
IP33 3PH

Part 1 – Particulars of the application/development

Proposal: Erection of single storey side extension to form new chiller compound, together with new bin store, elevational alterations, remote corral and shelter to car park and ancillary works

Location: 1169 Oldham Road, Manchester, M40 2FU

Date of application: 29 July 2022

Application number: 134022/FO/2022

Part 2 – Particulars of decision

Manchester City Council gives notice that the development referred to in Part 1 has been **Approved** in accordance with the application and plans submitted subject to the condition(s) listed below (if any).

Article 35 Declaration

Officers have worked with the applicant / agent in a positive and proactive manner to guide the application through all stages of the planning process and resolve any issues that arose in dealing with the planning application.

Condition(s) attached to this decision

1) The development must be begun not later than the expiration of three years beginning with the date of this permission.

Reason - Required to be imposed pursuant to Section 91 of the Town and Country Planning Act 1990.

2) The development hereby approved shall be carried out in accordance with the following drawings and documents:

-Drawings referenced 12824_AEW_0434_0001, 12824_AEW_0434_0002, 12824_AEW_0434_0050/A, XXXX-SA-XXXX-P034, 6132-0001 and

12824_AEW_0434_0004/B, 12824_AEW_0434_0005/B received by the City Council as Local Planning Authority on 9 June 2022 and 29 July 2022 respectively.

-Furniture specification document received by the City Council as Local Planning Authority on 9 June 2022.

-Paving specification (colour charcoal) received by the City Council as Local Planning Authority on 9 June 2022.

Reason - To ensure that the development is carried out in accordance with the approved plans. pursuant to policies SP1 and DM1 of the Manchester Core Strategy.

3) Prior to the commencement of development, a construction management and demolition management plan outlining working practices during development shall be submitted to and approved in writing by the City Council as Local Planning Authority, which for the avoidance of doubt should include:

- Measures to control noise and vibrations;
- Dust suppression measures;
- Compound locations where relevant;
- Location, removal and recycling of waste;
- Detail of an emergency contact telephone number;
- Parking of construction vehicles; and
- Sheeting over of construction vehicles.

The development shall only be carried out in accordance with the approved construction management plan.

Reason - To safeguard the amenities of nearby residents pursuant to policies SP1, EN19 and DM1 of the Manchester Core Strategy.

4) The materials to be used on the external surfaces of the extension hereby permitted, shall match those of the existing building in type, size, colour and texture.

Reason - To ensure the appearance of the building to be extended is not adversely affected by the materials to be used in the construction of the extension, pursuant to policies DM1 and SP1 of the Manchester Core Strategy.

5) The electric vehicle charging points shown on drawing referenced 12824_AEW_0434_0004/B, received by the City Council as Local Planning Authority on 9 June 2022, shall be installed and operational prior to first occupation of the extension hereby approval and shall be retained thereafter.

Reason - In the interest of air quality, pursuant to policies DM1 and EN16 of the Manchester Core Strategy.

6) a) Notwithstanding details submitted, externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Prior to commencement of the development an updated scheme shall be submitted which takes account of existing background noise level data. This shall be submitted to and approved in writing by the City Council as Local Planning Authority in order to secure a reduction in the level of

noise emanating from the site. The scheme shall be implemented in full before the use commences.

b) Prior to the operation of any external equipment, a verification report shall be submitted to and approved in writing by the City Council as Local Planning Authority to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic report. The report shall also undertake post completion testing to confirm that the noise criteria have been met. Any instances of nonconformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria.

Reason - To minimise the impact of the development and to prevent a general increase in pre-existing background noise levels around the site, pursuant to saved policies DC26 and DC10 of the Unitary Development Plan for the City of Manchester and policies DM1 and SP1 of the Manchester Core Strategy.

7) Notwithstanding details submitted, prior to above ground development commencing, a scheme for the storage and disposal of refuse shall be submitted to and approved in writing by the City Council as Local Planning Authority. This shall include:

- Estimated volumes and types of waste produced by the development;
- Details of internal and external stores for both waste and recycling, including any plans and designs;
- Location of the proposed collection point and details of the route the collection vehicle will take;
- Details of number and capacity of bins proposed and collection frequency;

The details of the approved scheme shall be implemented as part of the development and shall remain in situ whilst the use or development is in operation.

Reason - In the interests of amenity and public health, pursuant to saved policy DC10 of the Unitary Development Plan for the City of Manchester and policies DM1 and SP1 of the Manchester Core Strategy.

Informatives

Building Regulations 2010

This permission does not grant approval under Building Regulations.

Street Naming & Numbering Requirements

Manchester City Council is responsible for allocating street naming and numbering within Manchester for new developments or property conversions. Individuals or businesses are not permitted to allocate their own property numbers, building or street names.

If your development includes the creation of new dwellings (either new build or conversion of existing buildings), creation of new commercial properties or the subdivision of existing properties you must ensure that you request new or changes to addresses through us so they can be officially allocated and registered in accordance with the Public Health Act 1925 Sections 17-19 & Greater Manchester Act 1981 Section 22.

Failure to do this may result in difficulties for the developer/occupier when requiring services such as connections to utilities, phone lines and postal services and may delay your development.

You can apply online at the following address:

http://www.manchester.gov.uk/info/100011/roads_parking_and_transport/1988/naming_and_numbering_of_houses_buildings_streets_and_roads/2

Mining Information

The proposed development lies within an area which could be subject to current coal mining or hazards resulting from past coal mining. Please read the Standing Advice from the Coal Authority in Appendix A.

Greater Manchester Police (Design for Security) advised the following:

- All new external fittings (i.e. shutters, windows or doors, cycle storage) should be certified to Secured by Design standards;
- All aspects of the proposed extension, particularly doorways should be illuminated with dusk til dawn lighting;
- Coverage for any CCTV systems and alarms will need to be reviewed to check all areas of the development are covered.

Cadent Gas Ltd own and operate the gas infrastructure within the area of your development. There may be a legal interest (easements and other rights) in the land that restrict activity in proximity to Cadent assets in private land. The applicant must ensure that the proposed works do not infringe on legal rights of access and or restrictive covenants that exist.

If buildings or structures are proposed directly above the apparatus the development may only take place following diversion of the apparatus. The applicant should apply online to have apparatus diverted in advance of any works, by visiting cadentgas.com/diversions

Prior to carrying out works, including the construction of access points, please register online at:
www.linesearchbeforeudig.co.uk to submit details of the planned works for review, ensuring requirements are adhered to

The applicant should design and construct drainage system to prevent the increased risk of flooding, to improve and protect water quality and ensure future maintenance of the surface water drainage system.

Date: 21 September 2022

Signed: 

Julie Roscoe
Director of Planning, Building Control & Licensing