

REPORT

Merkur Cashino
302-304 Hessle Road
Hull
Noise Assessment

Client: Cashino Gaming Ltd

Reference: PR2002_FINAL

Date: 18/03/2021

Table of Contents

1	<i>Introduction</i>	3
1.1	Background	3
1.2	Site Context	3
2	<i>Methodology</i>	4
2.1	Background	4
2.2	Instrumentation	4
3	<i>Assessment Results</i>	5
3.1	Measurements of Internal Noise Levels	5
3.2	Assessment of Patron Behaviour and Noise Levels	5
3.3	Analysis of Results	7
4	<i>Conclusion</i>	8

1 Introduction

1.1 Background

Archo Consulting Ltd have been appointed to undertake and assessment of patron noise and patron behaviour during the late-night period for a Merkur Cashino site located at 302-304 Hessle Road, Hull. The Hessle Road site has permission for 24-hour operation and the assessment has been undertaken in support of a planning application (reference 20/00400/FULL) for a separate Merkur Cashino site also located in Hull at 106 Newland Avenue, Hull.

Currently, the Merkur Cashino site at 106 Newland Avenue operates from 08:00 to 23:30 and is applying for extended operation until 02:00. A previous noise impact assessment and assessment of patron behaviour for 106 Newland Avenue predicted no impacts. However, concern has been raised regarding potential noise impacts from patrons after midnight due to potentially different behaviour that might be exhibited. Therefore, an assessment has been undertaken at the Hessle Road site to identify the behaviour and noise levels of patrons after midnight and determine if this behavioural pattern will pose any issue to the Newland Avenue site.

1.2 Site Context

The Hessle Road site is located on a busy commercial street with many shops, pubs and food outlets. The Hessle Road site is approximately 3 miles south of the application site at Newland Avenue and both locations are comparable in terms of context and usage. As with the Newland Avenue site, many residential premises are located at first floor level on Hessel road.

2 Methodology

2.1 Background

Internal noise measurements and an assessment of patron noise and behaviour was undertaken at 302-304 Hessle Road, Hull between 10th and 11th September 2020. Measurements of internal noise levels during a busy period were made inside the venue at 18:00 and the assessment of patron behaviour and noise was undertaken between 01:45 and 02:45. A sound level metre was set-up outside the entrance of the Cashino and detailed notes regarding frequency of patrons during this time as well as measurements of any noise generated were recorded.

The assessment was undertaken to determine if any noise breakout from the site would occur and if the behaviour of patrons and any associated noise levels could result in noise impacts at 106 Newland Avenue after midnight.

2.2 Instrumentation

Table 1 below presents the details of the instruments used in the survey:

Table 1: Instrumentation

Instrument	Serial No.	Calibration Due Date at Time of Survey
Norsonic 140 Class 1 Sound Level Meter	1406433	August 2021
Norsonic 1209 Preamplifier	21318	August 2021
Norsonic 1225 Microphone	226973	August 2021
Nor 1252 Acoustic Calibrator	31717	August 2021

3 Assessment Results

3.1 Measurements of Internal Noise Levels

Table 2 below presents the results of the noise measurements made inside 302-304 Hesse Road during a typically busy period. **Appendix A** presents a description of these terms.

Table 2: Internal Noise Measurements

Date & Time	Duration of Measurement				
		L _{Aeq}	L _{Amax}	L _{A90}	L _{A10}
10/09/2020 17:58	15:00	62.6	80.4	64.7	58.6

These measured levels are very similar to those measured within the site at Newland Avenue. Furthermore, it was noted that no noise breakout could be detected outside the venue at any point.

3.2 Assessment of Patron Behaviour and Noise Levels

The site visit was conducted between 01:45 to 02:45 on 11th September 2020 directly outside the entrance of 302-304 Hesse Road. **Table 2** below details the frequency of patron visits to the site, the noted behaviour and associated measured noise levels during this time:

Table 3: Patron Frequency, Noted behaviour and Measured Noise levels

Time	Cashino Site Visits		Comment	Measured Noise Level dB	
	In	Out		L _{Aeq, 1min}	L _{Amax, 1min}
01:51	1	0	Quite talking, not perceptible against background.	47.2	60.6
01:58	1	0	Quite talking	57.4	69.5
01:59	1	0	No sound from patron, car passes generating peak levels.	63.8	75.3
02:14	0	2	1 person smokes outside – No observable sound.	55.3	74.9
02:15	0	0	Car passes	64.4	77.6
02:17	0	1	2 people stand outside talking quietly, faintly perceptible against background.	51.1	62.0

Time	Cashino Site Visits		Comment	Measured Noise Level dB	
	In	Out		L _{Aeq, 1min}	L _{Amax, 1min}
02:20	0	1	Staff member comes outside, quiet conversation occurs.	64.6	77.2
02:23	1	0	No observable sound.	42.8	49.0
02:25	0	0	Humming sound on other side of road and car pass by.	63.5	78.8
02:28	4	0	4 people talk on the other side of the road and walk over to entre Cashino. Conversation is normal level with no shouting or abnormally loud sound. They enter the site.	58.4	70.3
02:29				60.3	73.6
02:30				51.6	67.5
02:40	2	0	No observable sound	50.3	60.0
02:41	2	0	Couple stop and talk outside, then entre. Conversation very quiet.	58.6	72.4
02:42		0		48.0	67.2
02:46	0	0	Car passes	61.1	75.2
02:47	0	0	Car passes	66.4	79.9

It can be observed from **Table 3** above that highest recorded noise events were from cars passing on Hesse road with noise levels measured from patrons talking generally falling lower than these.

The following section details the observed behaviour of the Cashino patrons entering and leaving the site.

Patron Behaviour

The following observations were made of patron behaviour:

Time window - 01:45 to 02:45:

- A total of 10 patrons entered the site during this time and 4 left. Examination of records kept by the Cashino management indicated an average of 9 patrons an hour entered at any point of the day, indicating the measurement period represented an averagely busy time;
- Patrons were generally alone or in a pair and did not generate any significant noise;
- Any noise generated by patrons was usually masked by cars passing by on Hesse road;
- Patrons were well behaved with no tendency towards shouting or other anti-social behaviour which might be associated with pubs or food takeaway's; and,
- Car pass by events were equally frequent to records of patrons generating any sound.

3.3 Analysis of Results

It was observed that the behaviour of Cashino patrons on Hesse Road was directly comparable to that observed at Newland Avenue. Patrons were typically alone or in a couple or small group and normal-level conversation was the only sound recorded which occurred infrequently. People occasionally stood outside to smoke and had brief conversations at normal speech level with no shouting or otherwise anti-social behaviour. It should be noted that Cashino does not allow patrons who are intoxicated or exhibiting anti-social behaviour to enter the premises and if such behaviour is detected the individuals are told to leave.

It was noted that cars passing on Hesse road generated greater L_{Amax} levels than patrons and these events occurred more frequently. In accordance with *British Standard (BS) 8233:2014 – Guidance on Sound Insulation and Noise Reduction for Buildings*, residential premises must be designed so that the façade facing the greatest source of noise (including window) sufficiently attenuates noise to comply with the night-time internal level of 30dBA. Therefore, any residential premises will have sufficient glazing attenuation to mitigate noise from car pass by events and as such any lower noise events such as patrons talking.

An assessment of patron noise was conducted at 106 Newland Avenue for the night-time period before midnight and predicted no noise impacts. The assessment at Hesse road has indicated that patrons of a Cashino venue after midnight in a comparable environment exhibit the same passive behaviours and tendencies as those observed on Newland Avenue. Therefore, it can be concluded that noise impacts from Cashino patrons are very unlikely to occur if 106 Newland Avenue extends operations to 02:00 and any noise generated will be imperceptible against the current noise climate.

4 Conclusion

An assessment of Cashino patron behaviour and noise levels has been undertaken after midnight at 302-304 Hessle Road, Hull. The assessment has been undertaken to determine if Cashino patron behaviour and noise levels increase after midnight, potentially resulting in noise impacts to residential receptors on Newland Avenue.

The assessment concluded that patrons of the Hessle Road venue did not behave anti-socially, did not shout or generate high levels of noise but conducted themselves in a reserved manor after midnight. These observations are the same as those made of patron behaviour before midnight on Newland Avenue. The previous assessment on Newland Avenue predicted no noise impacts and it can be concluded that, if the venue extends operation until 02:00, no noise impacts are anticipated to occur also during this time period. Furthermore, any noise generated by patrons during this time will be imperceptible against the existing noise climate.

Appendix A – Description of Acoustic Terms

Term	Description
Noise sensitive receptors	People, property or designated sites for nature conservation that may be at risk from exposure to noise and vibration that could potentially arise as a result of the proposed development/project
Noise and Vibration study area	The area assessed for noise and vibration impacts during this assessment
Baseline scenario	Scenarios with the proposed development/project not in operation
Decibel (dB)	A unit of noise level derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 μ Pa, the threshold of normal hearing is 0dB, and 140dB is the threshold of pain. A change of 1dB is only perceptible under controlled conditions. Under normal conditions a change in noise level of 3dB(A) is the smallest perceptible change.
dB(A)	Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB(A) broadly agree with people's assessment of loudness. A change of 3 dB(A) is the minimum perceptible under normal conditions, and a change of 10 dB(A) corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB(A); normal conversation about 60 dB(A) at 1 metre; heavy road traffic about 80 dB(A) at 10 metres; the level near a pneumatic drill about 100 dB(A).
LAeq,T	The equivalent continuous sound level – the sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). LAeq,T is used to describe many types of noise and can be measured directly with an integrating sound level meter.
LA10,T	The A weighted noise level exceeded for 10% of the specified measurement period (T). LA10 is the index generally adopted to assess traffic noise
LA90, T	The A weighted noise level exceeded for 90% of the specified measurement period (T). In BS 4142: 2014 it is used to define the 'background' noise level.
LAm _{ax}	The maximum A-weighted sound pressure level recorded during a measurement.

Rw	Single-number quantity which characterizes the airborne sound insulating properties of a material or building element over a range of frequencies.
Sound Reduction Index (SRI)	Laboratory measure of the sound insulating properties of a material or building element in a stated frequency band.