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|--------------------|-------------------------------------------|----------|---|
| Project name       | Band on the Wall                          |          |   |
| Design note title  | Planning Condition 9 Discharge            |          |   |
| Document reference | 14957-HYD-XX-ACCO-TN-Planning Condition 9 |          |   |
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| Date               | 14 March 2022                             | Approved | ✓ |

## 1. INTRODUCTION

Hydrock have been appointed to provide acoustic consultancy services for the Band on the Wall redevelopment and extension. This technical note demonstrates compliance with Condition 9 of the planning permission issued by Manchester City Council, reference 127401/JO/2020.

Band on the Wall is an existing music venue and café/bar located on Swan Street in north-east Manchester which has recently been extended at the rear of the venue.

## 2. PLANNING CONDITION 9

Planning Condition 9 of the Planning Permission is as follows:

*“Before the premises is brought into use, the premises shall be acoustically insulated and treated to limit the break out of noise in accordance with a noise study of the premises and a scheme of acoustic treatment that has been submitted to and approved in writing by the City Council as local planning authority. Any works agreed in compliance with this condition shall be verified by a post completion report and test which must be submitted to and approved in writing by the City Council as Local Planning Authority before the premises is brought into use.”*

## 3. COMPLIANCE REVIEW

### 3.1 Facade

The noise impact assessment submitted to the council undertaken by Braiden Acoustics, reference 116642\_FO\_2017-NOISE\_IMPACT-ASSESSMENT-747998, dated June 2017, details an acoustic performance specification for any new façade elements.

This specification was developed with the aim of achieving breakout levels that are 10 dB(A) below the prevailing  $L_{90,T}$  sound levels in each octave band from 63Hz to 8kHz. Whilst this is in line with Manchester City Council's 'Planning & Noise Technical Guidance', such an approach is considered to be flawed in this instance as the majority of the venue façade has been retained and will therefore represent no change to the existing level of noise egress.

Furthermore, the existing façade does not achieve this level of performance. This approach therefore places an unachievably onerous requirement upon the works, as the composite performance of the building is inherently limited by the retained elements.

Nonetheless, the insulation provided by the small area of new façade has been validated to achieve the aforementioned criteria based on the predicted noise-break out from that element alone i.e. the specification as outlined by Braiden Acoustics. When considering break-out from the building as a whole, the target noise levels are unlikely to be achievable due to the limitations of retained elements already discussed herein.

Also, it should also be noted that, it is impossible to demonstrate compliance with the 10dB below background criteria by measurement, as residual noise would be dominant over specific noise (music noise break out). The acoustic performance specification as outlined by Braiden Acoustics for the new build façade is shown in Table 1 below.

Table 1: Acoustic Performance Specification

| Sound Reduction Index (SRI) dB, for each octave band, Hz |     |     |     |      |      |      |
|----------------------------------------------------------|-----|-----|-----|------|------|------|
| 63                                                       | 125 | 250 | 500 | 1000 | 2000 | 4000 |
| 58                                                       | 52  | 55  | 54  | 50   | 54   | 58   |

The new façade wall build-up is as follows:

- Existing cocozza external wall (circa 500mm masonry);
- Lightweight cladding system to fill window openings in the cocozza wall;
- 20mm clear cavity;
- 100mm dense concrete blockwork
- 120mm cavity filled with unfaced, medium-density mineral wool;
- 3No. 15mm Gyproc SoundBloc plasterboard with 3mm skim finish

The predicted composite sound insulation of the new façade is shown in comparison to the criteria in Table 2.

Table 2: Predicted Sound Reduction

|                                    | Sound Reduction Index (SRI) dB, for each octave band, Hz |     |     |     |      |      |      |
|------------------------------------|----------------------------------------------------------|-----|-----|-----|------|------|------|
|                                    | 63                                                       | 125 | 250 | 500 | 1000 | 2000 | 4000 |
| Acoustic performance specification | 58                                                       | 52  | 55  | 54  | 50   | 54   | 58   |
| New External Wall Predicted Levels | 56                                                       | 63  | 72  | 75  | 83   | 88   | 91   |
| Difference                         | -2                                                       | +11 | +17 | +21 | +33  | +34  | +33  |

Table 2 shows that the predicted sound insulation of the façade meets or exceeds the acoustic performance specification as set out in the Braiden Acoustics noise assessment at all octave bands, with the exception of a minor shortcoming indicated in the 63Hz band.

Given the limitations of the retained elements of the façade, this minor shortcoming is considerable to be negligible. The difference in performance could easily be addressed with a subtle adjustment of levels at source if required with no anticipated detriment to audio quality within the venue.

In summary the new elements of meet the performance specification outlined in the Braiden Acoustics Report, and represent an improvement upon the façade elements that were replaced.

## 3.2 Doors

A number of doors which open directly onto the venue have been replaced. Performance data is not available for the doors that have been replaced. However, these doors comprised standard doors that had been uprated to improve acoustic performance.

New specialist steel acoustic doorsets have been installed which provide a performance of  $R_w$  53 dB. These doors are at the upper end of what is acoustically achievable with a single (i.e. not lobbied) doorset. It is therefore considered that the acoustic doors have been installed represent an improvement from the doors that were previously installed.

## 3.3 Testing

Planning Condition 9 outlines a requirement for a '*post completion (...) test*'. As outlined above, the objective to control noise egress in line with MCC's standard guidance is not appropriate in this instance as the majority of the building fabric has been retained. The acoustic design has therefore been based on the principle of either maintaining the performance or providing an improvement where possible.

In addition to the above, it would not be practically possible to measure noise levels that are 10 dB below the prevailing  $L_{A90,T}$  levels, as the ambient sound level would be well (i.e. more than 10 dB per octave band) in excess of this. MCC's guidance can only be applied theoretically, and the testing element of the condition is therefore unnecessary and unenforceable.

In summary, the theoretical review against the acoustic specification outlined by Braiden Acoustics, that has been presented herein, is adequate to address planning condition 9.

## 4. SUMMARY & CONCLUSION

Hydrock have been appointed to provide acoustic consultancy services for the Band on the Wall redevelopment and extension.

Planning Condition 9 refers to any noise breakout of the premises. The criteria as shown in the Braiden Acoustics noise assessment, and predicted sound reduction levels for the newly constructed façade are detailed herein.

In summary, it is considered that the works have resulted in an improvement in acoustic performance. It is therefore considered that aims of Planning Condition 9 have been met, and the Condition should therefore be considered for discharge by MCC.