

DMG-240924

4thth December 2024

Chris Fothergill
John Southworth
10 Charles Street
Dukinfield
SK16 4SD

Dear Chris,

Addendum to main acoustic report for the land off Princedom St, Manchester.

This short addendum is in response to queries from Environmental Protection regarding our main report, ref DMG-240924, dated 26th September 2024. The text of the queries is copied in the Appendix below.

Points 1 to 3 have been discussed and clarified. Confusion has arisen due to the several consultancies which have been involved. Firstly, Professional Consult have nothing to do with the subsequent work and were referred to only to comment on consistency in site survey results. Secondly Druk has stepped back from the project and we mistakenly referred to the Druk site surveyor as working for Eco Technology. We have worked very closely with Druk for many years and this was a pasting error. The work carried out by Druk was completed under their name and we used their site survey results. We apologise for any confusion. Note that, other than using their site survey results, Druk have had no further formal involvement.

The 4th and 5th points are primarily what is covered in this addendum. Again they have been discussed with Environmental Protection and this addendum summarises the findings.

Garage to the South

It is not known if any activity takes place in the garage to the south. All previous site work witnessed no activity at all and it is suspected that it is currently fairly inactive. We agreed, however, to carry out an assessment of potential impact based on a similar site.

Note that it is often assumed that garages are noisy businesses. In fact they are generally very quiet with short spells of relatively innocuous activity. Heavy grinding or hammering, etc, are almost unheard of outside of specialist body shops. Typical activity would include wheel removal (air spanner), brakes or wheel bearings being loosened with a hammer (rare but not impossible), Compressor (recharges for a few seconds at a time). Some garages have mechanical ramps which operate for a few seconds. Where MoTs are done, there are brake tests and fuel emissions tests as well. The following assumes that all of these activities take place in a single 1 hour

period (and effectively assumes that this is repeated every hour throughout the day). The following table shows the continuous measurements of the activities, followed by the 1-hour levels adjusted for on-times. All are based on measured levels outside of an open roller shutter door.

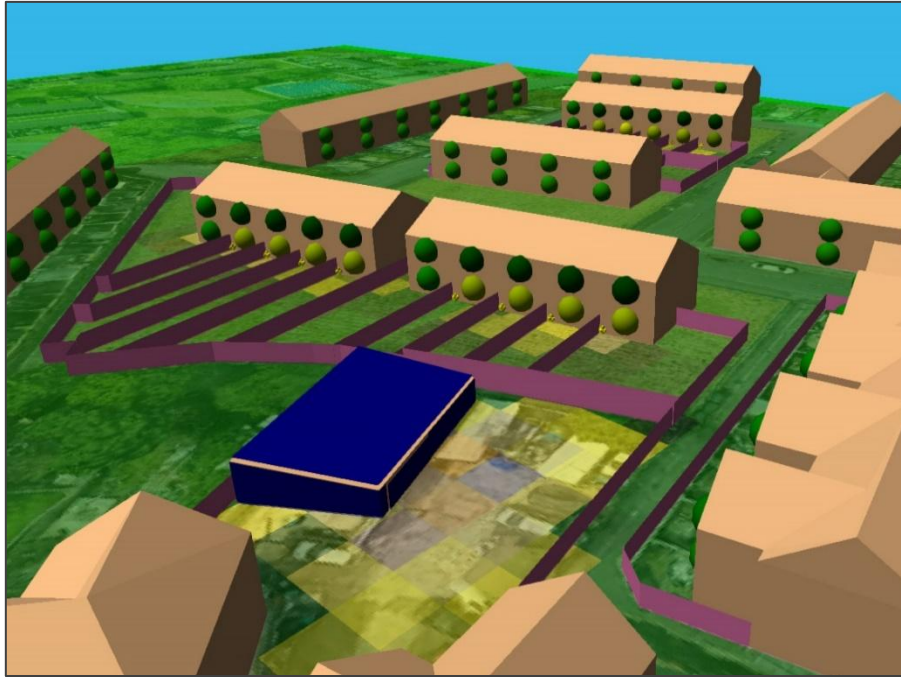
Description	Duration/hr	Index	dB(A)	63	125	250	500	1k	2k	4k	8k
Wheel removal/refit (4x4 bolts on, 4x4 bolts off at 10s each)	Continuous	L _{eq}	68	55	53	38	55	58	62	63	60
	160 s	L _{eq}	55	41	39	24	41	44	49	50	46
Wheel bearing hammered (rarely done) (x 4 wheels at 10 s each)	Continuous	L _{eq}	72	56	63	65	67	68	62	62	61
	40 s	L _{eq}	52	36	43	45	48	49	43	42	41
Car ramp being raised	Continuous	L _{eq}	68	62	52	54	57	62	65	59	47
	15 s	L _{eq}	45	38	28	30	33	38	41	35	23
MoT brake test	Continuous	L _{eq}	62	62	58	51	54	55	55	56	45
	120 s	L _{eq}	47	47	43	37	39	41	40	41	30
MoT diesel emissions test	Continuous	L _{eq}	67	54	74	65	60	61	61	58	51
	38 s	L _{eq}	47	34	54	45	40	41	41	39	31
MoT petrol emissions test	Continuous	L _{eq}	59	63	51	50	55	54	52	47	41
	75 s	L _{eq}	42	46	34	33	38	37	36	30	24
Compressor running	Continuous	L _{eq}	68	66	53	65	66	65	57	53	50
	70 s	L _{eq}	51	49	36	48	49	48	40	36	33

They are combined together so as to assume that they all happen in the same 1 hour period, as follows:-

Description	Duration/hr	Index	dB(A)	63	125	250	500	1k	2k	4k	8k
All activities in a busy hour	518 s	L _{eq}	59	53	55	51	53	53	52	51	48

The work was carried out on a similar site in West Yorkshire. Full details can be found on the Kirklees Planning Portal, reference 2021/92795. Individual activities were measured outside the open roller shutter doors. The building was then modelled with the open doors represented as vertical area sources and then adjusted to match the measured levels exactly. This gave us a calibrated sound power level per square meter. On that project we reproduced this source on the proposed new buildings in order to calculate their impact. The same is done here where a large (5.7m x 1.9m) open door is assumed on the eastern side of the building, the rest of the building shell being poor quality corrugated metal, with the same sound power per square meter distributed over all internal surfaces.

The following image shows a 3D view of the garage to assist with visualising how things fit together.



The following image shows the modelling results.



Note that:-

- The beige shapes are surrounding buildings and the application site buildings.
- The magenta lines are walls and fences, all 1.8m high.
- The blue lines are the vertical area sources (corrugated metal walls and open doors). The blue hatched area is the sloping area source of the corrugated metal roof.

- The yellow crosses are the ASHP point sources (see later).
- The coloured octagons show the noise levels at the residential facades. The coloured squares show the garden levels.
- Note that the noise contours are shown for guidance only as to how the noise propagates. The contours are for guidance only as to how the sound propagates (for instance we can see the effect of the open doors on the eastern side).

We can see that the levels at the proposed house facades and the nearest gardens show levels up to 34 dB L_{Aeq} . These are well below the typical daytime background levels, and in fact below even the lowest single 5 minute measurement of 37 dB L_{A90} . In our view, characteristic features are unlikely to be “*readily distinctive against the residual sound*”, as BS 4142 puts it. But there is ample headroom for any corrections which others might feel appropriate.

Either way, the existing houses are at least as affected, and in fact a little more affected than the proposed houses. It has been mentioned by Environmental Protection that future occupiers of the garage might bring it back into use, which is entirely fair. However, above assessment makes some fairly extreme worst case assumptions and easily allows for reasonable operations. If future occupiers create excessive amounts noise, then this will affect existing residential use potentially cause nuisance, with or without the proposed development. The agent for change principle cannot reasonably be interpreted as giving businesses free rein to make as much noise as they want.

Would suggest that the impact of the garage is likely to be very low.

One final note on the garage is that the fencing included in the modelling is only relied upon to reduce the noise by up to 5 dB. Therefore the fencing does not need to be particularly high-spec. Theoretically, a barrier which is required to provide a 10 dB reduction only needs a density of 3 kg/m² which would be equivalent to around 6 mm thick timber. Of course the fence would be far thicker than this for structural purposes. The important point is that there are no gaps, including allowance for shrinkage and warping. An overlapping 12 to 15 mm fence would be a typical example of a simple acoustic fence.

ASHPs

The image below shows the impact of the ASHPs operating continuously.



We understand that they are for hot water only and so the assumed constant running is exceptionally unlikely, and even more unlikely at night. Note that the software is set up to show the noisiest floor level. Here that is obviously the ground floor, with the level of each house dominated by its own ASHP. The following image shows the levels at first floor only for the application site (but still the noisiest floor for surrounding houses).



The levels are obviously very low but, importantly, dominated by the respective property's own unit. The following close ups show a zoomed in view of the noisiest floor levels along with the same view but with the central unit not running



We can see that the houses either side of the central unit are unaffected by it running or not. We can also see that the central unit's exposure to all the neighbouring units is very low at just 33 dB L_{Aeq} .

We can confidently conclude that the ASHP impact is negligible.
I trust this covered everything but please call us with any queries.

Yours sincerely



Andrew Raymond
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Appendix

Text of queries from Environmental Protection

12a (Noise).

ENVIRONMENTAL HEALTH-

Eco Technology Lcz Ltd 'Assessment of noise' report, Ref. DMG-240924, dated 26th September 2024:

Initial points:

1. The report states that the authors are not aware of any planning conditions. Email correspondence between Chris Fothergill of John Southworth and Robert Smith of Druk Ltd dated 01 August 2024, forwarded to us, stated that the relevant conditions had been provided.
2. The report refers to the agreement of an assessment approach with Rob Smith of Eco Technology on 19 September 2024. The email exchange referred to was with Rob Smith of Druk Ltd.
3. The report states that a partly open window can be expected to provide about 15 dB reduction. The latest advice (Association of Noise Consultants & Institute of Acoustics (2020) Acoustics, ventilation and overheating residential design guide) provides a slightly more conservative figure of 13 dB for a typical domestic room.
4. The assessment should include potential noise emissions from proposed air source heat pumps (ASHPs), and it is understood that the specified units have recently been altered by the developer.

Our main concerns however are with respect to the assessment of the garage site immediately to the south east of the development site (land to rear of 17 Kingscliffe Street):

5. The report states that "*There was also occasional engine revving from what appeared to be a car dealers and garage to the southeast*" and makes no further consideration of this potential noise source and possible impacts on future occupants of the development site. The approach proposed by Rob Smith was to try to obtain measurements of noise emissions from this site to enable a reasonable assessment to be made and, in the absence of such measurements, reference data were to be utilised. The limited measurements obtained from monitoring positions located to the north of Princedom Street, stated to include the occasional engine revving from the site to the south east of the parcel of land to the south of Princedom Street, do not allow a reasonable assessment to be made of any potential impacts to future occupants of proposed dwelling units immediately adjacent to the garage site, and no reference data have been considered.

The Public Access Planning Portal holds information (applications 091080/FO/2009/N1 and 092687/FO/2010/N1) indicating that the site to the south east has historically been in use as a vehicle repair garage, potentially operational during 08:30-16:00 weekdays and 08:30-12:00 Saturdays. This information should

have been obtained by the applicant or their consultants and considered as part of the noise assessment. If a vehicle repair garage is the permitted use of the site, and measurement data representative of fully operational and potentially noise-making activities at the site cannot currently be obtained, then utilising reference data would be the most appropriate method to make a reasonable evaluation of potential noise emissions from the site.

Clarification of the above points is required and we would also comment that there appear to have been several acoustic consultancies involved with this scheme (Professional Consult, Druk, Eco Technology), which may have led to some of the inconsistencies noted above.