

13 Storey Building, Bendix Street, New Cross, Manchester M4 5FQ

Noise Management Plan

for GMI Construction, Carvers Warehouse, 77 Dale Street, Manchester M1 2HG

Our Reference	Your Reference:	Issue Date	Author	Approver	Revision History
21644R01MWSW	TBC	11/08/2021	Miles Woolley MIOA	Sam Williams AMIOA	First Issue.

Table of Contents

1	Overview	3
1.1	Introduction	3
1.2	Site Description.....	3
1.3	Key Dates	4
2	Noise Guidance	6
2.1	Best Available Techniques	6
3	Vibration Guidance	7
3.1	General Construction Vibratory Impact Guidance	7
3.2	Vibration Impacts	8
Appendix A: Site Risk Management Schedule		9

1 Overview

1.1 Introduction

- 1.1.1 Environoise Consulting has been commissioned by GMI Construction to provide a noise management plan for proposed enabling works at Bendix Street, Manchester where a 13-storey residential block is proposed with a start date of Monday 23rd August 2021.

1.2 Site Description

- 1.2.1 The proposal site is situated on a plot of land which contains Central Locksmiths and a car park. The site is bound by Smithfield Detox and Rehab to the northwest, Thompson Street to the east, Oldham Road to the south and Bendix Street and the Broadside apartment buildings (the nearest residential receptors) to the west. Figure 1.1 shows the proposal site, surrounding area and previous noise measurement positions to inform a later more detailed noise impact assessment.

Figure 1.1: Proposal site, surrounding area and measurement positions.



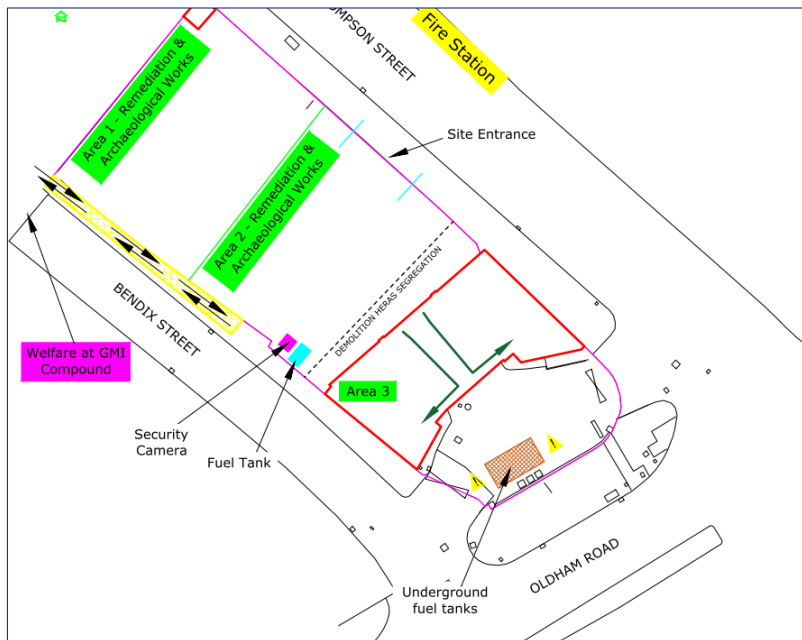
1.3 Key Dates

1.3.1 Key dates¹ are given below for the activities noted.

- Demolition and enabling: Starts 23.8.21 and complete 1.11.2021.
- Piling: Starts 4.11.21 and complete 5.12.2021
- Groundworks and Concrete frame: Start 8.11.2021 and complete 25.11.2022.
- Overall completion (PC): October 2023.

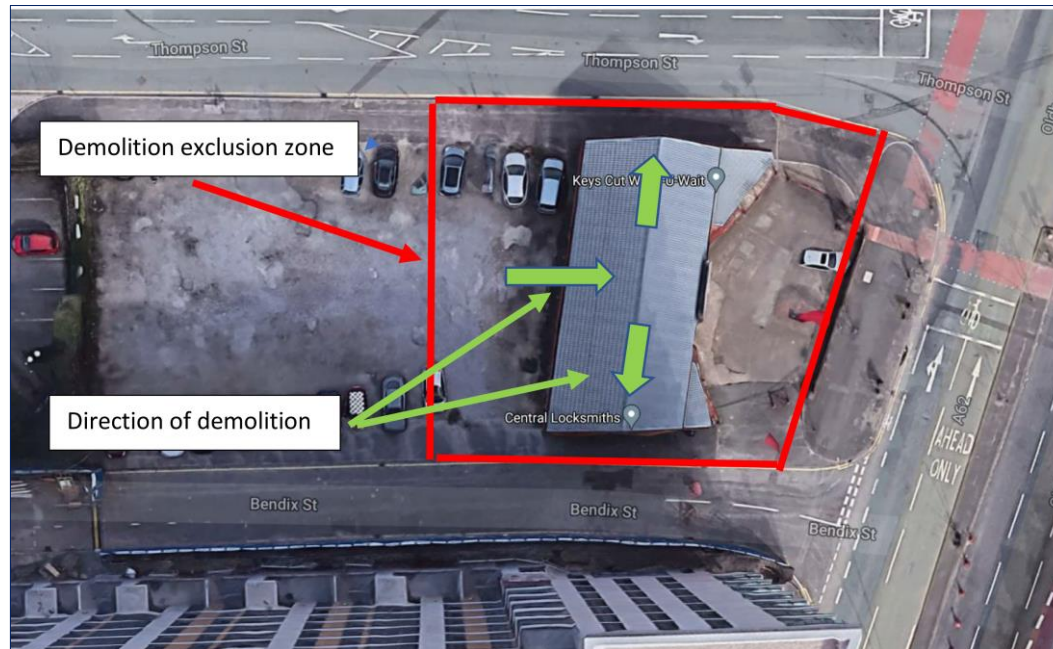
1.3.2 The phase plan is shown in Figure 1.2 with initial works being archaeological and enabling (see welfare compound indicated for Area 1) with demolition being the third phase. Demolition strategy is shown on Figure 1.3.

Figure 1.2: Programme of works.



¹ : Confirmed by Chris Alessandra, Senior Site Manager, GMI Construction on 11.08.2021.

Figure 1.3: Programme of works.



2 Noise Guidance

2.1 Best Available Techniques

- 2.1.1 The contractor should be committed to following best practice construction techniques to minimise their noise impact to the receptor with such measures as follows:
- Plant should be shut down when not in use or for long periods of inactivity between uses. Similarly, delivery vehicles should not have engines running idle whilst stationary.
 - Regular maintenance of construction plant.
 - All vehicles and mechanical plant should be fitted with effective exhaust silencers and should be maintained in good, efficient working order.
 - Stationary plant (e.g., generators, compressors and pumps) should be positioned to cause minimum noise disturbance through distance and shielding to NSRs. Additionally, localised screens/enclosures should be used to reduce noise from static sources.
 - All ancillary pneumatic percussive tools should be fitted with mufflers or silencers as recommended by the respective manufacturers.
 - Handled materials should be placed rather than dropped. Care should be taken when unloading vehicles to minimise noise.
 - Compressors should be fitted with and sealed acoustic covers and lined with a suitable sound-absorbent material. Attention should be given to selecting the quietest available and appropriate plant.
 - Delivery routes to the site should be marked so that the noise impact on local residents is reduced; deliveries should be made during the daytime period only.
- 2.1.2 Limiting the start time of works of high noise level can be helpful to reduce the relative noise impact as activities can be done during parts of the daytime where ambient baseline noise levels are typically higher.
- 2.1.3 The impact of noise on residents can be ameliorated by establishing and maintaining a line of communication with affected residents. This should include the informing of residents of any periods of construction which are likely to produce atypically high noise levels.
- 2.1.4 Works should not generally be undertaken outside of the agreed hours of operation. However, if works outside of normal working hours are required, then the residents should be notified.

3 Vibration Guidance

3.1 General Construction Vibratory Impact Guidance

- 3.1.1 Resultant ground borne vibration levels from construction techniques to various NSRs vary significantly as the level is dependent on ground type relative to both the block under construction and the receptor, construction technique and distance. Therefore, the transmission of ground-borne vibration to NSRs during construction cannot be accurately predicted. However, for guidance, Table 3.1 provides estimates of the minimum distances to receivers and equipment that is most likely to be vibration intensive. This allows for a comparison for safe working distances when determining the likely vibration impacts of the construction scenarios as well as 'human response'.

Table 3.1: Recommended safe working distances for vibration intensive plant.

Plant item	Description	Safe working distance (metres)	
		Cosmetic damage*	Human response
Vibratory roller	<50 kN – typically 1 – 2t	5	15 to 20
	<50 kN – typically 2 – 4t	6	20
	<50 kN – typically 4 – 6t	12	40
	<50 kN – typically 7 – 13t	15	
	<50 kN – typically 13 – 18t	20	100
	<50 kN – > 18t	25	
Small hydraulic hammer	300kg 18t to 34t excavator	2	7
Medium hydraulic	1600kg 5 to 12t excavator	7	23
Large hydraulic hammer	1600kg 12 to 18t excavator	22	73

*From BS7385 Part 2 1993 Evaluation and measurement for vibration in buildings Part 2.

3.2 Vibration Impacts

The contractor should be committed to following best practice construction techniques to minimise vibration impact to the receptor, such as:

- Noise caused by vibrating machinery having rotating parts can be reduced by attention to proper balancing.
- Wherever possible, the use of hydraulic attachments is preferred to pneumatic breakers. Where the use of impact hammers is necessary, their attachment to larger and heavier excavators often can reduce the level of vibration.

Appendix A: Site Risk Management Schedule

Table A1: Assessment of risks with control measures.

Severity Classifications (S)	Probability Classifications (P)	Degree of Risk (R)
1. Minor – Minor accident, resulting in no serious injuries or lost time; little or no damage to property or the environment.	1. Improbable – no known instances of such an event occurring.	0 – 5 = Low Risk; ensure controls are adhered to and activity need not alter.
2. Moderate – Potential injury necessitating less than 3 days off work; damage to property or the environment requiring remedial work.	2. Remote – experience suggests that event rarely occur.	6 – 10 = Moderate Risk; tolerable, but efforts should be made to reduce the risk where cost effective and reasonably practicable.
3. Serious – Accident reportable under RIDDOR 95; serious damage to property or the environment.	3. Possible – experience shows that events occur on occasions.	11 – 15 = Substantial Risk; all practicable measures must be taken to reduce the level of risk; tolerable only where further risk reduction is impracticable or disproportionate to the risk involved.
4. Major – Accident resulting in serious or permanent injury; major or permanent damage to property or the environment.	4. Probable – experience shows that events occur frequently.	16 – 25 = Extreme Risk; Unacceptable except in extraordinary circumstances; all control measures must be taken regardless of cost.
5. Catastrophic – Accident resulting in death or severe disablement; destruction of property; irreversible damage to the environment.	5. Likely – very likely to happen unless actively prevented.	>26. Works must be aborted, and project need to be reviewed.

Table A1 (continued): Assessment of risks with control measures.

Activity	Hazard	Consequence	Degree of Risk			Risk Control Measures	Residual Risk			Risk Owner
			S	P	R		S	P	R	
Access to/ from site	Tripping or slipping hazards and falling objects.	Low risk	2	2	4	Take due care and attention to avoid tripping hazards. Do not work externally at height. Always sign in and out of site if required.	2	1	2	Contractor
Lifting or moving blockwork	injury through heavy load or improper lifting technique	Low risk	2	3	6	Blocks should be less than 20kg. Workers should wear gloves, steel toe cap boots and protective glasses. Workers must lift by bending their knees not their back. Make sure path is not obstructed by items being carried.	2	2	4	Contractor
Handling sheets of plasterboard	Injury through heavy load or improper lifting technique	Low risk	2	3	6	Plasterboard handled should be less than 20kg per sheet. Regardless of the mass several contractors may be needed to carry boards. Workers should wear gloves, steel toe cap boots and protective glasses. Workers must lift by bending their knees not their back. Make sure path is not obstructed by items being carried.	2	2	4	Contractor
Handling sheets of glass	Injury through heavy load/ improper lifting technique or laceration	Moderate	3	3	9	Detailed review of handling and positioning of glass to be done before installation by contractor. Glazing may need to be craned into position due to high mass. All glazed units must be clearly marked with tape/ marker to avoid people walking into the glass. Glazing must be handled with appropriate gloves only. Regardless of the weight, several contractors may be needed to carry units. Workers should wear gloves, steel toe cap boots and protective glasses. Workers must lift by bending their knees not their back. Make sure path is not obstructed by items being carried.	3	2	6	Contractor
Dust inhalation	Injury through being temporarily blinded of damage to lungs	Low risk	2	3	6	Only work in well ventilated space and wear appropriate PPE including dust mask. If cutting material make sure gloves are worn. Signage may be required to prevent other workers entering the space.	2	2	4	Contractor
Hearing damage	Injury to hearing or consequence of verbal communication not being heard	Moderate	3	3	9	Review of construction or demolition methods and all workers exposed to high levels of noise to be provided with suitable hearing protection. In the case of sound insulation testing, suitable signage should be used to warn contractors of high noise risk to certain rooms.	3	2	6	Contractor.

Table A1 (continued): Assessment of risks with control measures.

Activity	Hazard	Consequence	Degree of Risk			Risk Control Measures	Degree of Risk			Risk Owner
			S	P	R		S	P	R	
Social distancing	Spread of Corona virus	Potential injury	4	3	12	Lone travelling. Compliance with signage. Suitable distancing : stay ≥2-metre distance from others on and off site. Suitable PPE : Wear gloves and face mask when in proximity (but still exceeding 2 metres) of others. Discard / remove gloves following site visit and apply antibacterial hand wash following direct contact with surfaces.	4	2	8	Contractor
Feel ill (temperature or persistent cough)	Spread of Corona virus	Potential injury	4	3	12	Do not come to work if you have a high temperature, have a persistent cough or are living with someone who has – always let your employer know. If a worker develops a high temperature or a persistent cough while at work, they should: • Inform their manager and site manager ideally by phone. Return home immediately. • Avoid touching anything. • Cough or sneeze into a tissue and put it in a bin, or if they do not have tissues, cough, and sneeze into the crook of their elbow. They must then follow the guidance on self-isolation and not return to work until their period of self-isolation has been completed.	4	2	8	Contractor