

Martin Harris, Manchester

BIODIVERSITY NET GAIN ASSESSMENT

784-B033892 Rev 1



The University of Manchester

May 2022

Tetratecheurope.com

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EXECUTIVE SUMMARY

Contents	Summary
Site Location	The site is located within the University of Manchester campus within the Chorlton-on-Medlock area of central Manchester and is centred at Ordnance Survey National Grid Reference SJ 84424 96602.
Proposals	The construction of a new two-storey music practice building is proposed within the site boundary.
Existing Site Information	As part of this planning application, Tetra Tech have undertaken an Ecological Appraisal of the site in 2022.
Scope of this Survey(s)	- Assess the distinctiveness and condition of the habitat types present on site. - Present biodiversity net gain calculations using the DEFRA Small Sites Metric (JP040), based on the most recent proposals to inform the project on any potential biodiversity losses/gains as a result of the proposed site layouts and landscaping.
Results	Habitat units: - Total pre-development habitat units on site have been calculated to have a biodiversity value of 0 habitat units. - All pre-development habitat units will be lost calculated at a loss of 0 habitat units and the proposed development habitat units have been calculated to have a biodiversity value of 0 habitat units. - Based on these figures it is predicated that the proposed development will achieve no net gain or net loss of habitat units.
Recommendations	In order to achieve a 10% net gain in biodiversity, it is recommended that the plans are altered to incorporate an area of planting, for example a green roof, urban trees or planters. Additional measures: It is recommended that bat and bird boxes are included within the development. These features are currently not accounted for within the Small Sites metric but are considered to also add value to the site. It is recommended that two bat boxes and two bird boxes are integrated into the new building within the site.

GLOSSARY

BNG	Biodiversity Net Gain
CEcol	Chartered Ecologist
CIEEM	Chartered Institute of Ecology & Environmental Management
DEFRA	Department for the Environment, Food and Rural Affairs
HPI	Habitat of Principal Importance
JNCC	Joint Nature Conservation Committee
LBAP	Local Biodiversity Action Plan
LPA	Local Planning Authority
MCIEEM	Full Member of the Chartered Institute of Ecology & Environmental Management
ACIEEM	Associate Member of the Chartered Institute of Ecology & Environmental Management

1.0 INTRODUCTION

1.1 BACKGROUND

Tetra Tech was commissioned by the University of Manchester on 23rd March 2022 to undertake a Biodiversity Net Gain (BNG) Assessment of the site known as Martin Harris, Manchester.

This report has been prepared by Tetra Consultant Ecologist Jade Armstrong BSc (Hons) MSc, qualifying CIEEM member and the conditions pertinent to it are provided in Appendix A.

1.2 SITE LOCATION

The 'site' was located within the University of Manchester campus within the Chorlton-on-Medlock area of central Manchester and is centred at Ordnance Survey National Grid Reference SJ 84424 96602 and postcode M13 9PL – see Figure 1. The site comprises only hardstanding and is immediately surrounded by buildings.

1.3 DEVELOPMENT PROPOSALS

It is proposed that a new two storey building will be constructed within the site to form a new music practice building as part of the University of Manchester campus. No other construction or landscaping is currently proposed.

The proposed post development layout is attached within Appendix B (7989-012AA-A002 P4).

1.4 EXISTING ECOLOGICAL INFORMATION

The site has previously been subject to an Ecological Appraisal in March 2022 (Tetra Tech, 2022) which identified that the site was dominated by hardstanding car park with no vegetation, buildings or structures present within the site. It was concluded that there was negligible scope for protected species to be present within the site due to the absence of suitable habitats.

1.5 PURPOSE OF THE REPORT

The aim of this BNG assessment is to:

- Quantify the pre-development baseline habitat units present on site;
- Quantify the post-development habitat units on site; and
- Calculate the likely change in biodiversity units from pre- to post-development to provide an indication of the biodiversity losses / gains that may occur should the proposed development proceed.

2.0 METHODOLOGY

2.1 BIODIVERSITY OFFSETTING GUIDANCE

The assessment has been made using Natural England's Biodiversity Small Sites Metric (JP040) (Natural England, 2021a), in conjunction with the user guide (Natural England, 2021b). This comprises the following steps, described in Section 2.2.

2.2 HABITAT ASSESSMENT

A habitat condition assessment of the habitats present on site was undertaken in conjunction with the extended Phase 1 habitat survey by Tetra Tech Consultant Ecologist Jade Armstrong BSc (Hons), MSc on 31st March 2022.

2.2.1 Habitats

The pre-development habitats were mapped in accordance with the JNCC Phase 1 habitat types (JNCC, 2010) within the Ecological Appraisal (Tetra Tech, 2022). The areas of identified habitats were calculated in square metres (m²) as per the small site metric. These habitats were assessed during the site survey and, where necessary, were updated to reflect the habitats as currently present on site. The habitats were converted into UKHab¹ classification (UK Habitat Classification Working Group, undated) for using the DEFRA Small Sites Metric (JP040) which are shown in Table 1, with the pre-development habitats shown in Figure 2.

Each of the post-development habitats, as set out on the Post Development Plan (Figure 3), were assigned a UKHab category which was considered to best represent the habitat present post-development. See Figure 3 for the post-development habitats and Table 2 for the conversion categories.

Table 1: Phase 1 habitats present on site and their conversion into UKHab

Phase 1 habitat Category	Corresponding UKHab Category (Figure 2)
Hardstanding	Urban – Developed land; sealed surface

Table 2: Post-development landscaped habitats present on site and their conversion into UKHab

Habitat terminology on Landscape Plan (Drawing 7989-012AA-A002 P4)	Corresponding UKHab Category (Figure 3)
Buildings	Urban – Developed land; sealed surface

2.2.2 Habitat Distinctiveness

Each habitat is assigned a score for distinctiveness. Distinctiveness includes parameters such as species richness, diversity, rarity (at local, regional, national and international scales) and the degree to which a habitat supports species rarely found in other habitats (Treweek *et al.*, 2010). The categories for distinctiveness within the Small Sites Metric (JP040) are shown within Table 3.

¹ UK Habitat Classification system, available from: <https://ecountability.co.uk/ukhabworkinggroup-ukhab>

Table 3: Categories and scores for distinctiveness

Categories	Score
Very High (Section 41 Priority Habitats that are highly threatened, internationally scarce and require conservation action)	8
High (Section 41 Priority Habitats)	6
Medium (Semi-natural habitats not classified as Priority Habitat)	4
Low (Habitat of low biodiversity value)	2
Very Low (Little or no biodiversity value)	0

2.2.3 Habitat Condition

Habitat condition assessments are not required when using the Small Sites Metric as the Small Sites Metric automatically scores the condition of each habitat parcel to simplify the process. Some habitats have a fixed condition in Metric 3.1 and they remain fixed in the Small Sites Metric in the pre and post development.

2.2.4 Strategic Significance

The strategic significance of a site within the Biodiversity Small Sites Metric (JP040) is based upon several factors;

- If the site is identified within a local planning policy as a biodiversity and nature or green infrastructure improvement areas.
- If the habitats are identified as habitats of principal importance (HPIs) or LBAP habitats.

Strategic significance scores in the Small Sites Metric (JP040) are as follows:

- High strategic significance:
High potential & within area formally identified in local policy 1.15
- Low Strategic Significance:
Low potential and not in area defined in local policy 1

The site has been given a score of 1; Low Strategic Significance. The habitats (urban Developed land; sealed surface) within the site have no ecological or biodiversity significance and would not meet the criteria for a HPI or LBAP. The site itself lies within central Manchester and therefore is within Manchester's Local Development Framework adopted 2012 (Manchester City Council, 2012) however, the site does not fall within an ecological area.

2.2.5 Risk Factors

As part of any proposed habitat creation and enhancement, risk factors must be considered to correct for disparity, delay or risk, these are:

- Time to target condition;
- Difficulty of restoration / creation; and,
- If habitat created is undertaken in advance or delayed prior to the development.

To take this into account, creation of a habitat which will take many years to get to target condition or is difficult to recreate, would have a reduced biodiversity value compared to the same habitat already *in situ*. Therefore, to compensate for loss of that original habitat a larger area would be required as an offset.

Default values are provided for a range of habitats as part of the DEFRA Small Sites Metric (JP040). These may be altered if informed by knowledge of the site and proposed management prescriptions, as detailed within the habitat assessment tables. The habitat creation in advance or delay can be changed based on proposed timelines of the development.

2.3 LIMITATIONS

To conduct the assessment of habitats pre and post-development required conversion of the JNCC Phase 1 habitat types (Tetra Tech, 2022) and the Post Development Habitat Plan (Figure 3) into UKHab habitat categories. This information is then input into the Metric in terms of the habitat areas being retained, lost or enhanced. Whilst not a significant limitation, when using the metric calculation tool to convert the JNCC Phase 1 habitat types into UKHab types, the different habitat types do not exactly align. Therefore, some habitats were included within a more general habitat category under UKHab to allow the calculation tool to be applied. For transparency, the conversion tables in Section 2.2 set out which habitats have been paired during the conversion.

Note that scores for habitats, hedgerows and rivers are reported separately and therefore should not be summed or averaged to produce a final overall biodiversity value for the site.

The outputs of the metric are not absolute values but provide a proxy for the relative biodiversity worth of a site pre and post development. The calculations within this report should be reviewed and updated should there be any changes to the habitats on site currently. As the change in biodiversity units is determined by subtracting the number of pre-intervention biodiversity units (i.e. those originally existing on-site and off-site) from the number of post-intervention units (i.e. those projected to be provided), this report should be updated should the proposals for the site change (Figure 3).

The metric does not override or undermine any existing planning policy or legislation, including the mitigation hierarchy, which should always be considered as the metric is applied. Furthermore, the metric does not change the protection afforded to biodiversity. Existing levels of protection afforded to protected species (such as for bats) and to habitats, are not changed by use of this or any other metric.

The optimal period to undertake habitat condition assessment for botanical interest is April-September. The survey was completed in March, which is outside the optimal survey window however, given the character of the site (hardstanding) the accurate assessment of the habitats and the dominant species of the respective vegetation types were visible and identifiable and the timing not considered a significant limitation.

3.0 RESULTS

3.1 PRE-DEVELOPMENT BASELINE UNITS

The baseline values for area-based habitats are provided in Table 4. Overall, the area-based habitat were calculated at 0 biodiversity units.

Table 4: Baseline on site habitats

Habitat type (UKHabs)	Distinctiveness	Condition	Area (m ²)	Habitat units
Urban – Developed land; sealed surface	0	N/A	133	0
Total			133	0

3.2 POST-DEVELOPMENT BASELINE UNITS

The development proposals include the creation of a new two-storey music block building. The existing hardstanding will be lost to facilitate the proposals. No other buildings, hardstanding or planting is currently proposed.

The post-development for onsite habitats value is calculated to be 0 habitat units (Table 5). The habitats lost as part of the development are provided in table 5.

Table 5: Created post-development site habitats

Habitat type (UKHabs)	Distinctiveness	Target condition	Time to target condition (yrs)	Area created (Ha)	Habitat units
Urban – Developed land; sealed surface	0	N/A	N/A	133	0
Total				133	0

Table 6: Lost post-development site habitats

Habitat type (UKHabs)	Distinctiveness	Condition	Area lost (Ha)	Habitat units
Urban – Developed land; sealed surface	0	N/A	133	0
Total			133	0

3.3 HEADLINE RESULTS

Due to the nature of the habitats pre- and post-development (urban – Developed land; sealed surface) no condition assessment is required. The calculations from the Small Sites Metric (JP040) are provided in Appendix C.

The pre and post development habitats have been mapped in accordance with UKHab classifications for the use with the Natural England Small Sites Metric (JP040) as shown in Figures 2 and 3.

Headline habitat results are provided in Table 7. This shows that with the implementation of the habitats within the Post Development Habitat Plan (Figure 3), **development proposals would likely result in a net gain/loss of approximately 0 habitat units (0%).**

Table 7: Headline Results

Project Stage	Habitat Type	Units
On-site baseline	Habitat units	0
On site post-intervention	Habitat units	0
On site Total net unit change	Habitat units	0
On site net % change	Habitat units	0%

3.4 CONCLUSION AND RECOMMENDATIONS

Based on the current proposals and outlined assumptions, the proposed development is predicted to result in no overall change for habitat units (0%). As the 10% BNG target is not achieved, it is recommended that the development layout is redesigned where possible to include habitats with biodiversity value which may include a green roof, planters and urban trees.

4.0 REFERENCES

- Baker, J, Hoskin, R, and Butterworth T., (2019). *Biodiversity net gain. Good practice principles for development. Part A: A practical guide*. CIRIA.
- Greater Manchester Combined Authority, (2021), *GMCA Biodiversity Net Gain Guidance for Greater Manchester*. Available at [gmca-bng-guidance-update_250221-final-edited.pdf](https://gmca-bng-guidance-update-250221-final-edited.pdf) (greatermanchester-ca.gov.uk). Accessed April 2022.
- JNCC, (2010), *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*, JNCC: Peterborough.
- Natural England, (2021a), *The Small Sites Metric (JP040)*. <http://publications.naturalengland.org.uk/publication/6047259574927360> Accessed April 2022.
- Natural England, (2021b), *Small Sites Metric Calculation Tool: User Guide* <http://publications.naturalengland.org.uk/publication/6047259574927360> Accessed April 2022.
- Manchester City Council, (2012), *Manchester's Local Development Framework, Core Strategy Development Plan Document*. Available at https://www.manchester.gov.uk/info/200074/planning/6572/local_plan , Accessed April 2022.
- Tetra Tech. Martin Harris, Manchester. *Ecological Appraisal* (2022).
- Treweek et al., (2010). *Biodiversity offsets: possible methods for measuring biodiversity losses and gains for use in the UK*. CIEEM In Practice.
- UK Habitat Classification Working Group, (undated), *Habitat Definitions*, [online] Available at <http://ecountability.co.uk/wp-content/uploads/2018/05/UK-Habitat-Classification-Habitat-Definitions-V1.0-May-2018-1.pdf>, Accessed April 2022.

FIGURES

Figure 1 – Site Location Plan

Figure 2 – Pre-Development Habitat Plan

Figure 3 – Post-Development Habitat Plan



Site Location Plan

Martin Harris

University of Manchester



Legend

Site boundary

Notes:

Drawn by: SB
Checked by: JA
Office: Southampton

Figure No. 1
Revision No. A

0 10 20 30 Meters
Scale 1:1,000 @A3

11 April 2022
NGR: 384422E 396602N

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Pre-Development Habitat Plan
Martin Harris



University of Manchester

Legend

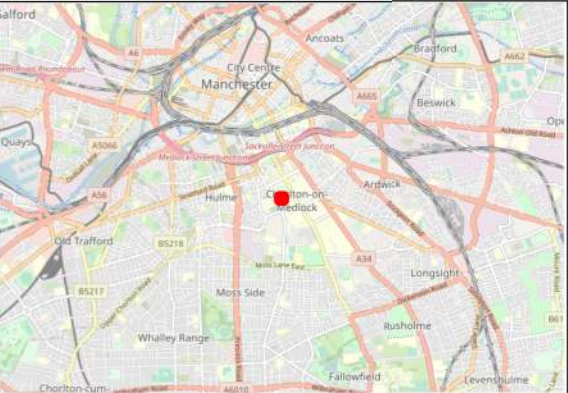
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-  Hardstanding / Urban – Developed land; sealed surface

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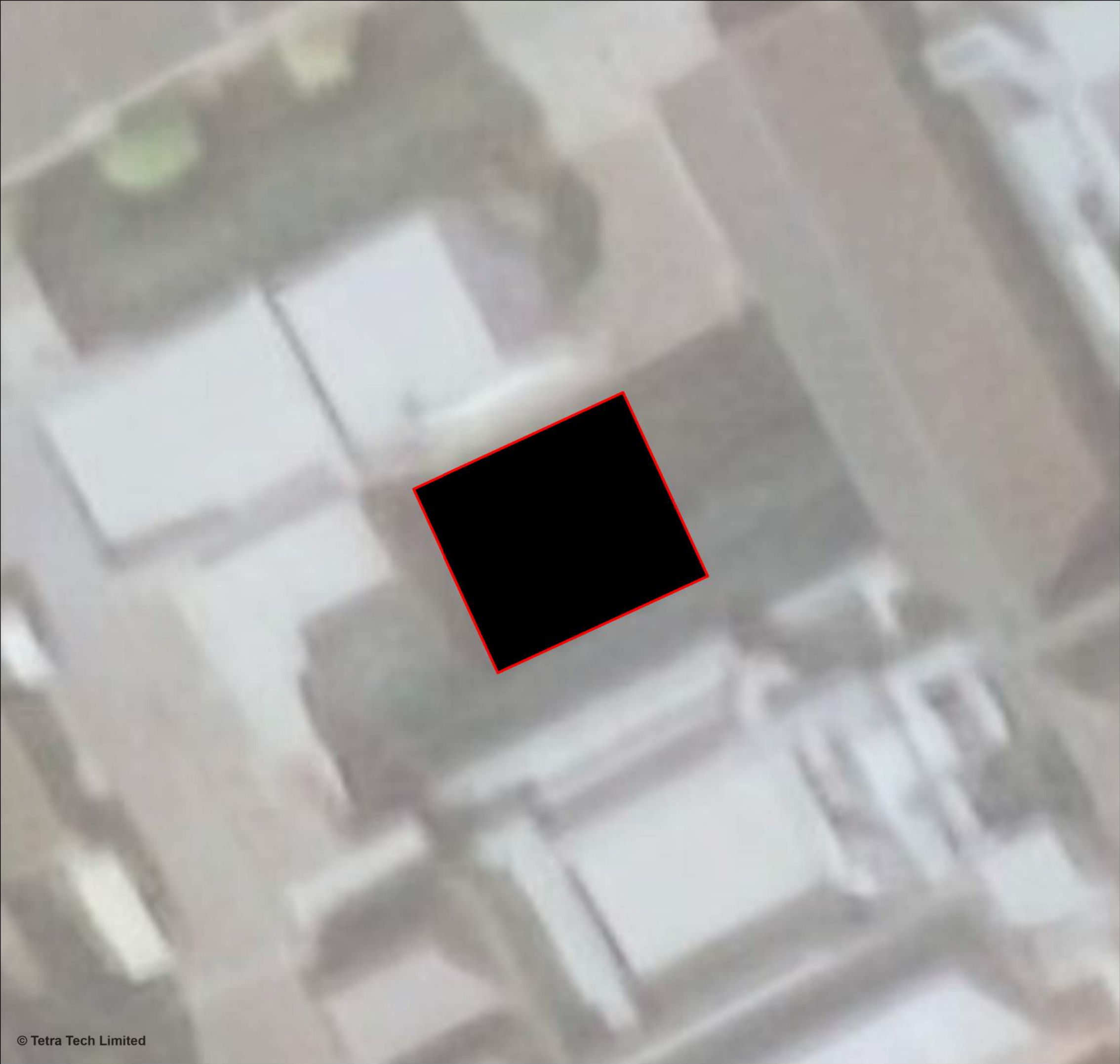
Drawn by: SB	Figure No. 2
Checked by: JA	Revision No. A
Office: Southampton	

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Scale 1:200 @A3	NGR: 384422E 396602N

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Pre-Development Habitat Plan
Martin Harris



University of Manchester

Legend

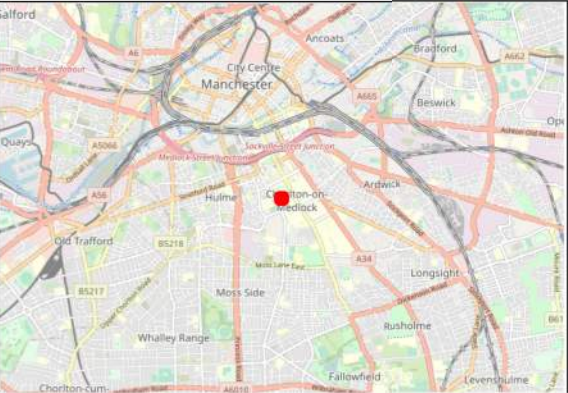
-  Site boundary
-  Building / Urban – Developed land; sealed surface

Notes:

Drawn by: SB	Figure No. 3
Checked by: JA	Revision No. A
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0 5 10 Meters	25 April 2022
Scale 1:200 @A3	NGR: 384422E 396602N

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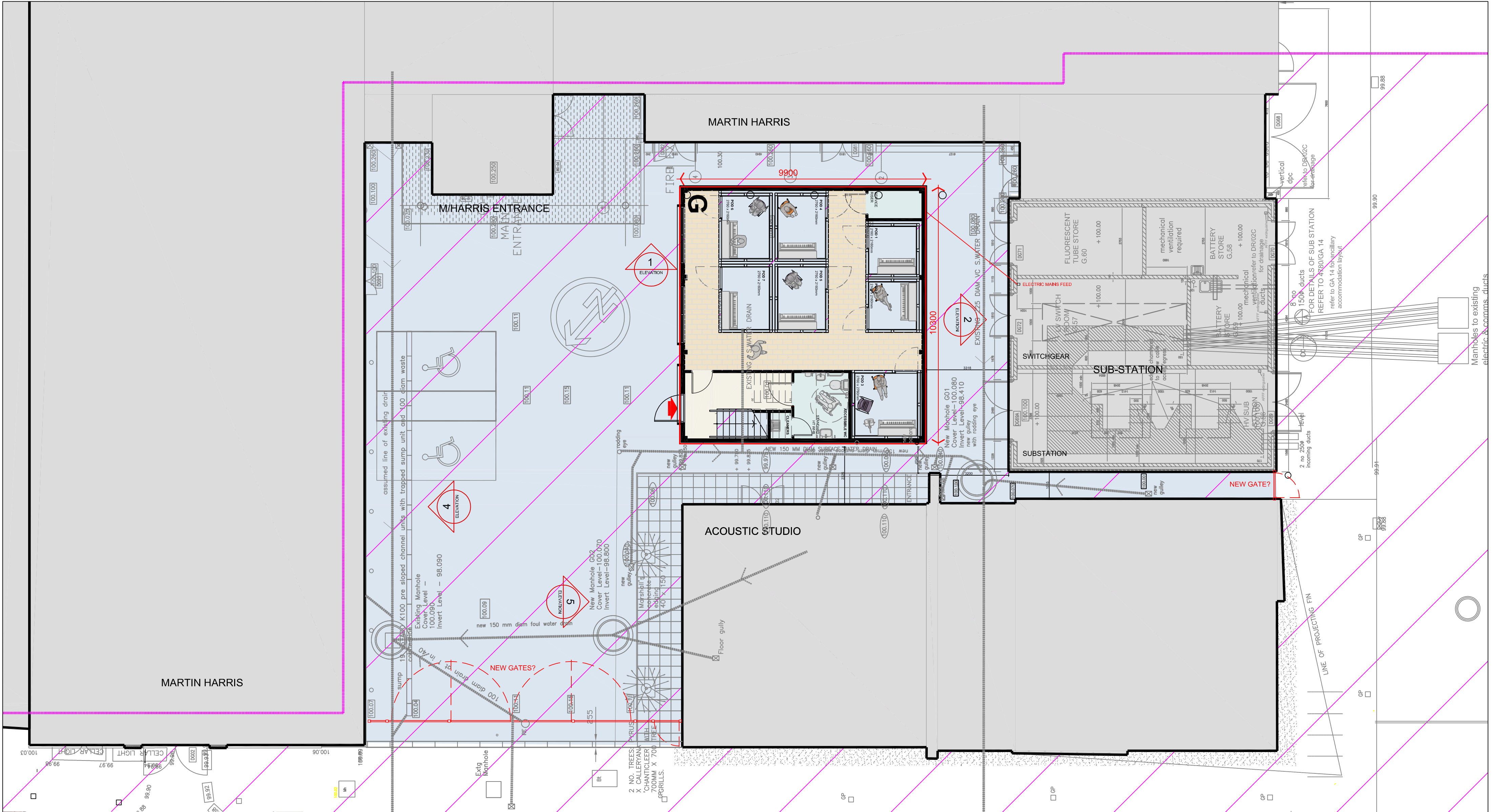
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The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

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APPENDIX B – DRAWING 7989-012AA-A002 P4



MANCHESTER		DESIGN SERVICES UNIT	
The University of Manchester		PRELIMINARY	
PROJECT NAME MUSIC PRACTICE SPACE MODULAR BUILDING FOR M-PODS		PROJECT NO. 7989	
CLIENT NAME MARTIN HARRIS		BUILDING NUMBER 012AA	
SUB-SITE NAME SOUTH CAMPUS		SCALE 1/1 @A1	
SITE NAME SKETCH SCHEME		DATE	
DRAWING NO. 7989-012AA-A002		ISSUE P4	
PROJECT MANAGER		APPROVED	
DRAWN		CHECKED	
Directorate of Estates Beyer Building The University of Manchester Oxford Road Manchester M13 9PL Tel: 0161 275 2625 Fax: 0161 275 3880			

APPENDIX C – BASELINE DATA

Habitat Condition: Urban – Developed land; sealed surface			
N/A – Other			
Criterion	Criterion Description	Result	
		Pass	Fail
No condition assessment required.			
		Total	N/A
Notes:			
-			