



HIVE Projects Ltd.

North Manchester General Hospital

Bat Survey Report – South Enabling Works

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EXECUTIVE SUMMARY

1. This report presents the results of bat surveys associated with the North Manchester General Hospital project south enabling works, on behalf of HIVE Projects Ltd. The information provided within this report is to update surveys undertaken in 2020 prior to demolition works commencing from September 2021.
2. An update preliminary roost assessment (PRA) was undertaken by RSK Biocensus in June 2021, updating those undertaken by Ramm Sanderson in February 2020 and WSP in April 2020.
3. Eleven buildings were assessed to offer high suitability for roosting bats, and the building condition had not changed since previous emergence and re-entry surveys were undertaken in July and August 2020 in which no roosts were identified and bat activity levels on site were low. Therefore, a single dusk emergence or dawn re-entry survey was undertaken in July / August 2021 to update the results of the previous surveys.
4. Two common pipistrelle day roosts were identified during surveys. One within building B4 and the other in building B7. Both were located beneath roofing tiles. Additional surveys of these buildings with confirmed roosts were undertaken to inform mitigation.
5. Registration of the site under a Bat Mitigation Class Licence (BMCL) is recommended to satisfy legislative requirements in relation to the above roosts.
6. Habitat enhancements through landscape management, landscaping provisions, bat boxes and lighting strategies are recommended to comply with local and national policy.
7. The data provided within this report are valid for 12 to 18 months. If the proposed works commence after this, then the surveys will need to be repeated to ensure up-to-date information is available to support the development.

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1.0 INTRODUCTION

1.1 Purpose of this report

- 1.1.1 This report presents the results of dusk and dawn emergence and re-entry surveys for bats, associated with the North Manchester General Hospital project south enabling works, on behalf of HIVE Projects Ltd. The information provided within this report is to update surveys undertaken by WSP (2020a) prior to demolition works commencing from September 2021. The southern enabling works boundary is shown on *Figure 1*.

1.2 Landscape context

- 1.2.1 The North Manchester General Hospital is located c.4 km to the north of Manchester city centre, covering an area of c.28 ha. The hospital buildings include a varied arrangement of structures, with older buildings dating back over 100 years. Large areas of hospital car parking are located to the north and east. Soft landscaping raised planting and scattered trees are present throughout the hospital grounds.
- 1.2.2 A linear area of woodland is located to the east of the hospital complex, with smaller pockets to the north-east and south. The River Irk runs through the centre of the eastern woodland. Both the woodland and the River Irk sit within the hospital ownership boundary. Residential areas flank the hospital along all aspects, with large commercial developments to the south-east.

1.3 Background Information

- 1.3.1 Preliminary roost assessments (PRA) were completed at the site by RSK Biocensus in June 2021 (RSK Biocensus, 2021), updating surveys undertaken by RammSanderson (2020) and WSP (2020b).
- 1.3.2 Three trees, one with high suitability for roosting bats, two with moderate suitability were identified by WSP (2020b). These were subject to survey in 2020, with no roosts recorded. During the update PEA undertaken in 2021 (RSK Biocensus, 2021) these trees were not noted to be of suitability for roosting bats. This is likely due to deterioration of PRFs through time and different visibility levels between survey efforts (i.e. glare through binoculars during sunny conditions vs. overcast days). Given the previous survey efforts and deterioration of these trees' suitability, it is considered disproportionate to undertake further survey of these trees.
- 1.3.3 Eleven buildings were assessed to offer high suitability for roosting bats (RSK Biocensus, 2021), confirming previous results (RammSanderson 2020; WSP, 2020b).
- 1.3.4 These buildings were subject to dusk emergence and dawn re-entry surveys from July – August 2020 (WSP, 2020a), where no roosts were identified and bat activity levels were relatively low and attributed to only one species of bat, common pipistrelle (*Pipistrellus pipistrellus*).

1.4 **Validity of data**

- 1.4.1 According to CIEEM guidance (CIEEM 2019), survey data are valid for a period of 12 to 18 months from the date of the first survey. Between 18 months and 3 years a professional ecologist will need to undertake a site visit and may also need to update desk study information (effectively updating the PEA / PRA) and review the validity of the reports.

2.0 METHODS

2.1 General

- 2.1.1 The surveys were carried out in accordance with the Bat conservation Trust (BCT) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins 2016). It contains the methodologies for undertaking bat emergence and re-entry surveys. Given the lack of change in building condition (RSK Biocensus, 2021) lack of roosts identified, and low levels of bat activity on site during previous surveys (WSP, 2020a) a single update survey of each structure is considered sufficient to inform demolition works in autumn and winter 2021-22. As roosts were identified at two buildings, additional surveys were completed at these locations.
- 2.1.2 The surveys were carried out by Tom West (survey lead), Will Holden, Lewis Wright, Shona Redman, Adam Penney, Sally Wilding, Claire Hesketh, Daniel Berry, George Offer, Elizabeth Fenn and Jason Ashworth. Tom is a senior consultant, with over four years' experience and is an associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Tom holds a Natural England class 2 license for bats (2019-40871-CLS-CLS).

2.2 Emergence and re-entry surveys

- 2.2.1 Surveyors were positioned in locations with a good view of potential roost access points identified during the PRA (*Figure 2*). The dusk emergence surveys started 15 minutes before sunset and continued for 90 minutes after. The dawn re-entry surveys started 90 minutes before sunrise and continued for 15 minutes after.
- 2.2.2 Electronic equipment capable of detecting and recording the ultrasonic echolocation calls of bats in flight was used to record bat activity (Elekon Batlogger M and Peersonic RPA3 bat detectors). Species were identified from the characteristics of their calls (including peak frequency, minimum and maximum frequency, call duration, and inter-pulse interval). In addition, two infra-red cameras (Canon XA11 infra-red video camera with additional infra-red spotlight) were used to monitor difficult to see areas and/or the most suitable bat roosting features on each survey.
- 2.2.3 The surveys were carried out in weather suitable for bats to be active i.e. no rain, no strong wind and sunset air temperature 10°C or above. See *Table 1* for survey weather.

Table 1: Emergence and re-entry survey weather conditions

Date	Building Refs	Survey Type	Sunset/sunrise time	Start/end time	Temperature (°C) Start / End	Wind (Beaufort) Start / End	Cloud (Octas) Start / End	Precipitation
29.07.21	A9	Dusk emergence	21:10	20:55 / 22:40	16 / 16	1 / 1	6 / 7	None
04.08.21	C4 & C5	Dusk emergence	20:59	20:44 / 22:29	18 / 18	1 / 1	6 / 8	None

Date	Building Refs	Survey Type	Sunset/sunrise time	Start/end time	Temperature (°C) Start / End	Wind (Beaufort) Start / End	Cloud (Octas) Start / End	Precipitation
05.08.21	B1 & D8	Dawn re-entry	05:31	04:01 / 05:46	15 / 15	1 / 1	8 / 7	None
06.08.21	B3 - B9	Dawn re-entry	05:33	04:03 / 05:48	16 / 17	2 / 1	7 / 8	Drizzle 04:40 – 04:45
12.08.21	A8	Dusk emergence	20:43	20:28 / 22:13	17 / 15	1 / 2	1 / 4	None
16.08.21	B3 - B9	Dusk emergence	20:34	20:19 / 22:04	16 / 15	2 / 2	8 / 8	Drizzle last 20 minutes.
26.08.21	B3 – B9	Dawn re-entry	06:07	04:37 / 06:22	15 / 17	1 / 1	8 / 8	None
31.08.21	B3 – B9	Dusk emergence	20:00	19:45 / 21:30	16 / 14	2 / 1	6 / 6	None

2.3 Constraints and limitations

- 2.3.1 Available vantage points due to surrounding structures meant that not all areas of roof of each building were viewable during each survey. However, vantage points were positioned appropriately to allow the identification of fly overs or emergences from these areas.
- 2.3.2 Surveys were undertaken during the optimal time of year and in suitable climatic conditions. Therefore, the data presented is considered valid and robust.
- 2.3.3 During the survey on 16 August 2021, there was light drizzle for the last 20 minutes of the survey. However, temperatures remained relatively high and bat activity continued in a similar vein to the rest of the survey. Therefore, this drizzle was not considered a significant constraint.

3.0 RESULTS

3.1 Dusk emergence survey 29.07.2021

- 3.1.1 No bats were recorded emerging from building A9 from any aspect during the survey.
- 3.1.2 Common pipistrelle were the only species recorded during the survey, with the first bat recorded commuting north-east through the carpark to the west of building A9 at 21:47 (37 minutes after sunset). Activity levels were low, with sporadic foraging and commuting passes occurring over ornamental planting within the carpark.

3.2 Dusk emergence survey 04.08.2021

- 3.2.1 No bats were recorded emerging from building C4 or C5 from any aspect during the survey.
- 3.2.2 Common pipistrelle were the only species recorded, with the first bat recorded at 21:03 (4 minutes after sunset) circling adjacent to the western aspect of building B4. Given the early time this bat was recorded, it is considered likely to have emerged from B4. Only sporadic individual commuting passes were recorded during the remainder of the survey, though these were largely heard, not seen.

3.3 Dawn re-entry survey 05.08.2021

- 3.3.1 No bats were recorded re-entering either building B1 or D8 on any aspect during the survey. In addition, no bat activity was recorded during the survey on building D8.
- 3.3.2 Sporadic common pipistrelle calls were recorded along the tree line to the east of building B1 and Crescent Drive. This included both commuting and foraging calls occurring from 04:01 – 04:50 (41 minutes before sunrise), when activity ended.

3.4 Dawn re-entry survey 06.08.2021

- 3.4.1 A single common pipistrelle was recorded re-entering beneath a roofing tile on building B4 on the western aspect, adjacent to where the building connects to building B9 at 05:23 (10 minutes prior to sunrise). This was the same area the first bat was recorded on the dusk emergence survey on 04 August 2021, confirming the likely emergence during that visit.
- 3.4.2 Frequent commuting and foraging passes were made by common pipistrelle from 04:08 (1 hour, 25 minutes before sunrise) to 04:56 (37 minutes before sunrise), particularly to the east of building B4 along the line of ornamental shrubs, and adjacent tree line of Crescent Drive. No other species were recorded during the survey.

3.5 Dusk emergence survey 12.08.2021

- 3.5.1 No bats were recorded emerging from A8 from any aspect during the survey.

- 3.5.2 Common pipistrelle was the only species recorded, with the first bat recorded at 21:04 (21 minutes after sunset) commuting around the western edge of the building from north west to south east. A further common pipistrelle was observed at 21:24 commuting over the top of the building from west to east (check IR camera to see if it emerged on W side). After this, occasional foraging activity was recorded along the tree line to the south of the building.

3.6 Dusk emergence survey 16.08.2021

- 3.6.1 Two common pipistrelles were recorded emerging from beneath a roofing tile on the south facing pitch of building B7 at 20:37 (3 minutes after sunset). These bats foraged within the adjacent grass courtyard, before one re-entered building B7 at 20:42 (8 minutes after sunset) at the same point the bats had previously emerged, the other commuted south-west away from the building.
- 3.6.2 Common pipistrelle was the only species recorded during the survey, with sporadic foraging occurring within the grassed courtyard, and sporadic commuting passes on the eastern aspect of B4, likely associated with the tree lines along Crescent Drive. Bats remained active during the light drizzle towards the end of the survey.

3.7 Dawn re-entry survey 26.08.2021

- 3.7.1 Two common pipistrelles were recorded re-entering building B7 in the same location the previous emergences were noted, one at 05:14 and the other at 05:15 (53 minutes and 52 minutes before sunrise, respectively). In addition, A single common pipistrelle was recorded at 05:56 (11 minutes before sunrise) re-entering beneath a roofing tile on building B4 on the western aspect, in the same location as previous surveys.
- 3.7.2 Low levels of common pipistrelle activity were recorded throughout the survey, with foraging focused on the grass courtyard south of building B7 and trees to the north of building B4. Commuting passes were sporadic, but largely were bats moving either south or to the east away from the building complex.

3.8 Dusk emergence survey 31.08.2021

- 3.8.1 No bats were recorded emerging from B3-9 from any aspect during the survey.
- 3.8.2 Common pipistrelle was the only species recorded, with the first bat recorded at 20:18 (18 minutes after sunset), commuting to and subsequently foraging within the grass courtyard area adjacent to B7. Further passes were sparse, with only a few commuting passes recorded, but these were largely heard and not seen, representing activity in the wider area, but not around the target buildings.

4.0 EVALUATION AND CONCLUSIONS

4.1 Roosting Bats

4.1.1 Two bat roosts were identified during the surveys undertaken between July and August 2021. These surveys follow on from surveys undertaken by WSP (2020a) in which no roosts were found. The roosts identified in 2021 include:

- Common pipistrelle **day roost** with single bat emerging and re-entering from beneath roof tiles on the eastern aspect of building B4 during three separate surveys (the first observation was incidental and building B4 wasn't targeted during this visit).



Photograph 2 – Approximate roost location on B4.

- Common pipistrelle **day roost** with access point beneath a roofing tile on the south facing pitch of building B7, with a maximum of two bats emerging or re-entering during two separate survey visits.



Photograph 2 – Approximate roost location on B7.

4.2 Mitigation and Enhancement

Bat Mitigation Class Licence

- 4.2.1 The Conservation of Habitats and Species Regulations 2017 (as amended) contain three derogation tests for which the LPA and Natural England consider these when deciding whether to grant a license to a person carrying out as an activity that would harm an European Protected Species (EPS). Licensing is usually completed after planning and the three tests considered are:
- The licensed activity must be for imperative reasons of overriding public interest (IROPI);
 - There must be no satisfactory alternative; and
 - The favourable conservation status of the species must be maintained.
- 4.2.1 Two common pipistrelle roosts are to be lost as part of the proposed demolition works and future development. Common pipistrelle are considered 'common or widespread species, whilst day roosts are considered 'low conservation status roosts'. Therefore, the proposed development falls within criteria for registration under a Bat Mitigation Class Licence (BMCL). This approach offers a streamlined application process (usually turned around within 10 working days), but still takes into account the above three tests.
- 4.2.2 Mitigation under the BMCL will be finalised by the registered consultant. Broadly, this will comprise of:
- Provision of two bat boxes (one per roost) on suitable trees within the woodland to the east of the building complex.
 - A toolbox talk to all contractors to discuss working methods, risk of bats being present work areas, what to do if bats are found unexpectedly in and legal status of UK bat species.
 - Working methodology will be agreed in collaboration between the BMCL holder and demolition contractors on site.

Enhancement

- 4.2.3 In line with the National Planning Policy Framework (NPPF 2019) and the Manchester City Councils Core Strategy (2012-2027) (Policy EN15), a number of the following mitigation and enhancement options should be considered to maximise the ecological value of the site's habitats following implementation of the proposed development:
- Input from an ecologist regarding landscape management, with the aim of providing details in regard to habitat management and maintenance in order to ensure the long-term viability of the site for local wildlife.
 - To enhance the sites attractiveness for foraging and commuting bats it is recommended that soft landscaping is implemented incorporating night-scented plants and linear features (such as hedgerows and tree lines). The plants will attract night-flying insects which in turn offer foraging resources for local bats,

whilst linear features will provide commuting corridors across site and connections to off site habitats.

- To enhance the sites suitability for roosting bats, at least 20 bat boxes should be incorporated within the final scheme. This should ideally be using integrated bat boxes (i.e. built into building fabric) or mounted boxes on new builds or suitable retained trees. These should installed at a height of at least 4 m, and orientated on the south-east, south, or south-west aspect of the building or trees.
- External lighting as part of proposals should be designed in line with the Institute of Lighting Professionals (ILP, 2018) *Guidance Note 08/18 'Bats and Artificial Lighting in the UK'* and aim to keep a <1 lux increase in light levels of current and any newly established potential foraging and commuting resources both during the construction and operational phases.

5.0 REFERENCES

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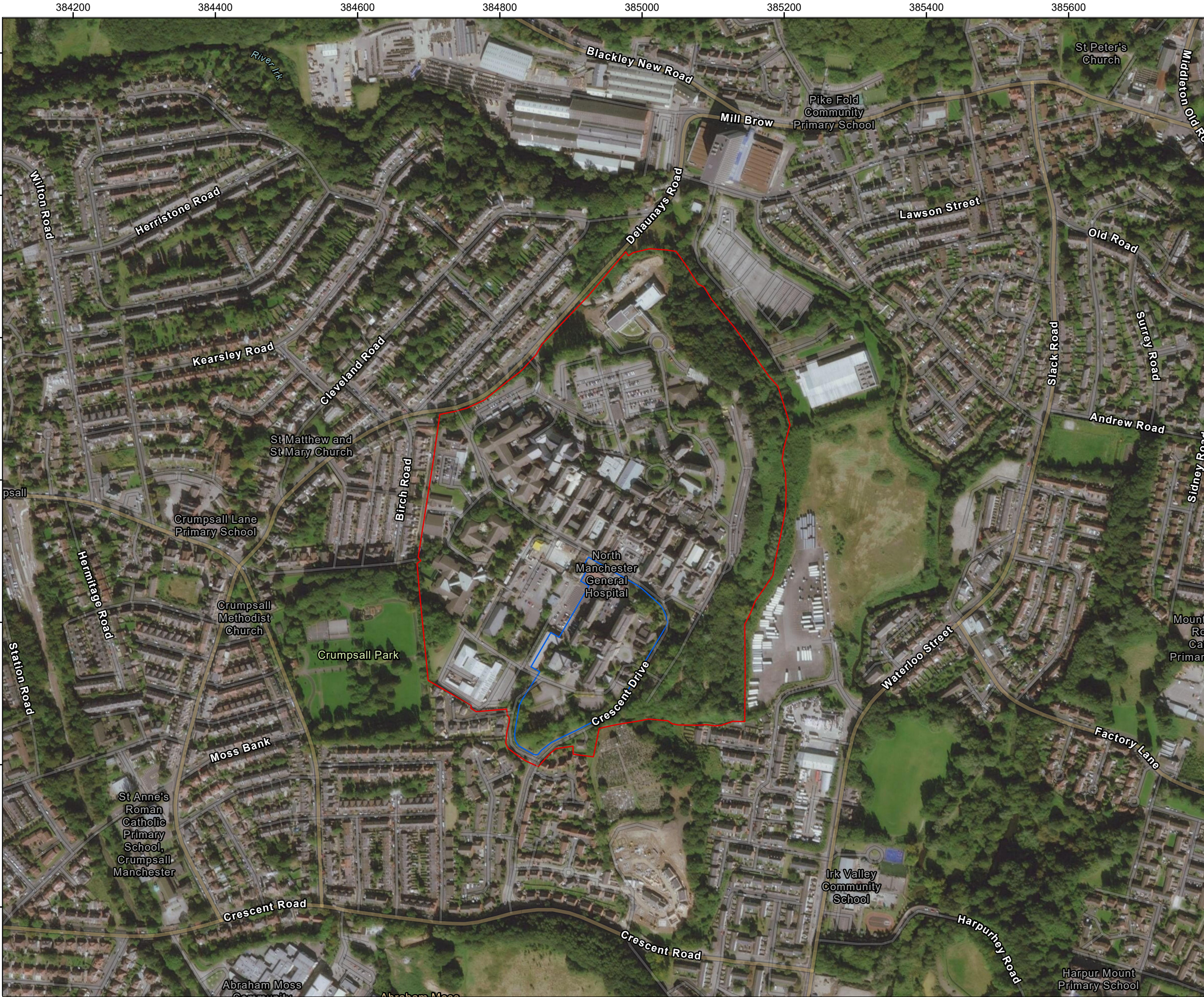
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WSP (2020b) *New Park House Mental Health Unit – Preliminary Ecological Appraisal*, May 2020, Project Number: 70069934.

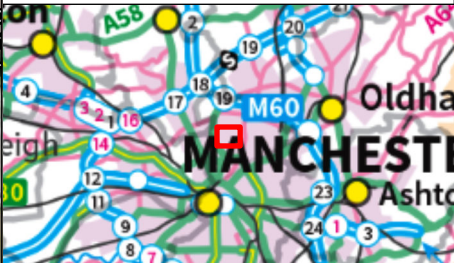
6.0 FIGURES

Figure 1 – Site Location Plan

Figure 2 – Surveyor Positions



- Legend
- North Manchester General Hospital
 - South Enabling Works

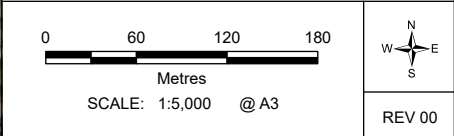


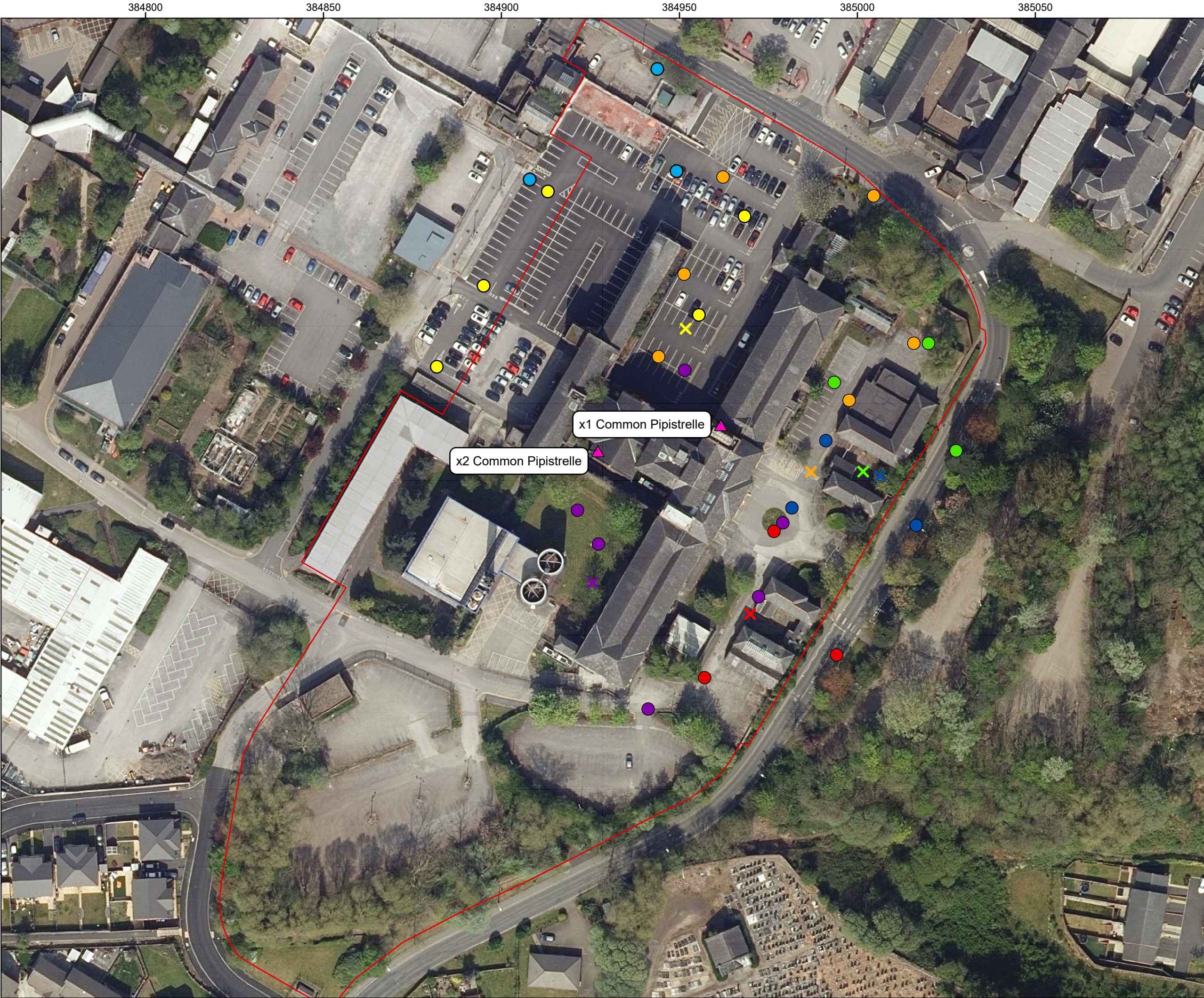
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North Manchester General Hospital - South Enabling Works



TITLE: Figure 1:
Site Location





- Legend:
- Site Boundary
 - Building A8, Infrared
 - Building A8, Surveyor
 - Building A9, Infrared
 - Building A9, Surveyor
 - Building B1, Infrared
 - Building B1, Surveyor
 - Buildings B3-9 (Positions 1), Infrared
 - Buildings B3-9 (Positions 1), Surveyor
 - Buildings B3-9 (Positions 2), Infrared
 - Buildings B3-9 (Positions 2), Surveyor
 - Building C4 & C5, Infrared
 - Building C4 & C5, Surveyor
 - Building D8, Surveyor
 - Confirmed Roosts

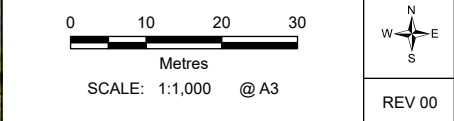


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North Manchester General Hospital - South Enabling Works



TITLE: Figure 2:
Surveyor Location Plan



APPENDIX A – LEGISLATION

Bats

All species of British bat are protected by The Wildlife and Countryside Act 1981 (as amended) extended by the Countryside and Rights of Way Act 2000. This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat while it occupies a bat roost.

Bats are also European Protected Species listed on The Conservation of Habitats and Species Regulations 2010. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats, including in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young; or (ii) hibernate or migrate, where relevant; or (b) to affect significantly the local distribution or abundance of the species to which they belong.
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present.