



Hampshire
County Council

Bat Survey Report – Preliminary Roost Assessment

Hart Plain Junior School
Waterlooville PO8 8RZ

For
Hampshire County Council
Property Services

November 2021

Hampshire County Council Ecology Team

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Summary

A Preliminary Roost Assessment was carried out to assess the presence or likely absence of bats at Hart Plain Junior School. This work is required to support a planning application.

Hart Plain Junior School is located in Waterloooville. The 2.8-hectare school site comprises a modern school building complex and areas of hardstanding, managed amenity grassland and a tree-lined boundary in a wider landscape of suburban residential dwellings.

The school complex comprises pitched and flat-roofed sections and is a mix of construction styles and ages resulting from multiple extensions.

The proposal is for re-cladding to the southern section of the school buildings. The area affected is a modern, flat-roofed building of brick with SCOLA cladding sections.

Visual bat survey work finds several holes in the brickwork from cables and areas of missing mortar, both providing gaps which could be utilised by individual roosting bats.

Overall, the affected part of the school building is judged to be present low bat roost suitability. The development works have the potential to damage or destroy any roosts and potential to harm individual bats, if present.

Further survey work is recommended to properly establish and characterise the level and nature of bat use at the site. This will enable a suitable strategy to be developed to avoid, mitigate and compensate for any identified impacts in order to satisfy the Local Planning Authority and if necessary, to support any subsequent application for a bat mitigation licence from Natural England.

1. Introduction

Objectives

- 1.1. The purpose of this study was to provide information on the possible presence or likely absence of bats at Hart Plain Junior School, Waterloooville to support a planning application. Where bat roosts are identified, or where their presence cannot be confidently ruled out, the report sets out an assessment of the impacts to these and where necessary makes recommendations for measures to avoid, mitigate or compensate for impacts to bats as necessary, dependent on the nature and scale of the identified impacts.

Site Description

- 1.2. Hart Plain Junior School is located in central Waterloooville.
- 1.3. The school complex includes pitched and flat-roof sections and is a mix of construction styles and ages resulting from multiple extensions. The original section is concrete-encased steel frame, with subsequent brick extensions to the south. The area of proposed works is to the south of the school complex and comprises a modern, flat-roofed SCOLA system-built structure with brick wall sections and extensive areas of glazing and pressed board cladding.
- 1.4. Photos 1 to 4 in Appendix 3 show the main elevations of the area of works.
- 1.5. The grounds include areas of hardstanding and managed amenity grassland and play areas. It also features scattered mature trees and a tree-lined boundary (Photos 5 and 6).

Proposed works

- 1.6. The proposal is for recladding work to the school buildings to the south of the school complex. This will involve replacing various glazed areas and adding cladding to the exterior of the existing brickwork.
- 1.7. Appendix 1 shows the plans of the school as existing, and the development plans as proposed at the time of the Preliminary Roost Assessment.

Limitations

- 1.8. All areas of the site were fully accessible and visible during the survey work. There are therefore no significant limitations to the survey work.
- 1.9. External evidence of bat use, such as droppings stuck to walls or roof faces, are generally rapidly washed or weathered away. However, this is a typical and common factor of visual bat surveys.

2. Methods

Desk-based assessment

- 2.1. A desk-based assessment was carried out by HCCET on Hart Plain Junior School. Geographical Information Systems (GIS) mapping was used in order to identify all records of bats or bat roosts within a 500m radius of the site. Given the localised nature of the proposals this search radius was considered sufficient for assessing risk to all ecological features.
- 2.2. In addition, records were obtained on habitats of particular value to bats such as woodlands, species-rich grasslands, and waterbodies / river corridors.
- 2.3. The Ecology Team has full access to the extensive datasets maintained by the Hampshire Biodiversity Information Centre (HBIC). However, *“whilst every reasonable effort is made to validate information supplied to and by the Hampshire Biodiversity Information Centre, owing to the dynamic and judgmental nature of information relating to wildlife, HBIC disclaims any responsibility for the accuracy or comprehensiveness of the information supplied, and accepts no liability for any indirect, consequential, or incidental damages or losses arising from use of the information”* (Paragraph 4 of the HBIC Data Users Declaration).

Field survey - building and tree roost assessment

- 2.4. A visual daytime bat survey was carried out on 22 October 2021 by Nicole Hawkings and Julie Trelvellick. The weather was 9°C, sunny spells, and wind force B3. There are therefore no significant limitations to the survey work.
- 2.5. Survey methodology used during the work is guided by and consistent with that set out in the Bat Conservation Trust’s *‘Bat Surveys for Professional Ecologists: Good Practice Guidelines’* 3rd edition, (Collins, J. (ed) 2016).
- 2.6. The building was subject to a detailed internal and external search. The aims of this were to identify evidence of bat activity and/or identify the presence of any features that could potentially support roosting bats or features through which bats could gain access to possible roost locations. External areas were

inspected to identify potential bat access points and roosting features. Such features typically include missing, slipped, broken, or bowed roof tiles, gaps around fascias and soffits, gaps in brickwork (such as missing mortar or expansion gaps), lifted chimney, roof, or window flashing, and gaps around window and door casements.

- 2.7. The external inspection also aimed to identify any direct evidence of bat use such as droppings adhering to walls, floors or windowsills below gaps, or staining around possible access gaps.
- 2.8. Features were inspected using Opticron Discovery 10x42 close-focusing binoculars and where necessary and safely possible, a ladder. A high-powered torch (Clulite Clubman CB2) was used to illuminate potential roost and roost access features.
- 2.9. Where present and safely accessible, any internal voids and similar spaces were inspected for evidence of bat presence such as live bats, corpses, droppings, feeding remains and staining. The building was subsequently assessed for its suitability to support roosting bats, from 'Negligible' to 'High', in line with the survey guidelines.

Habitat suitability for foraging, commuting and other activity

- 2.10. An assessment was made of the suitability of the site and the surrounding landscape to support foraging, commuting and other flying behaviours such as swarming and social interactions. The assessment was based on the presence of habitat features such as woodland, scrub, hedgerows, grassland, and open water and watercourses, which are highly attractive to bats as both a foraging resource and as commuting routes. The presence of such habitats, particularly in a mosaic with other suitable habitats, typically increases the potential for structures to be exploited by bats where suitable roost and access opportunities are present. The presence of unlit semi-natural vegetation and habitat linkages between the site and the surrounding landscape were also considered.
- 2.11. The table in Appendix 5 sets out the guidelines for assessing roost suitability and foraging habitat quality.

3. Results

Desk-based assessment

- 3.1. Figure A2.1 in Appendix 2 shows the location of the site and its surrounding relevant ecological interest features produced during the desk-based assessment.

Designated sites and notable habitats

- 3.2. There are no statutory sites within 500m of the school.
- 3.3. There are two Sites of Importance of Nature Conservation (SINCs) within 500m, as can be seen on Figure A2.1 in Appendix 2. Park Wood, Havant SINC is 200m south-west of the site, while The Queen's Inclosure SINC is 470m to the east. Both are designated for containing ancient semi-natural woodlands, which have potential for significant roosting/foraging areas for bats.
- 3.4. There are no priority habitats mapped in the HBIC data set as being present on site, however the tree-lined site boundary is linked to a block of Lowland Mixed Deciduous Woodland is adjacent to the south-east corner of the site. Other blocks of Lowland Mixed Deciduous Woodland can be found to the south and east, associated with the recreation ground and SINCs.
- 3.5. The school is located in Waterlooville and the wider landscape is dominated by suburban housing. The school site is adjacent to managed amenity grassland recreation grounds to the east and approximately 100m to the north of an area of managed parkland to the south. Within the suburban matrix there are small semi-natural woodland parcels to the south-east. Outside of the predominantly suburban residential areas the wider landscape includes arable fields, meadows, woodlands and ponds located from approximately 850m to the west however ecological linkage between the school site and the habitats to the east are very poor.

Bat records

- 3.6. There are several records of bat roosts and bat activity within the search area. These are set out in Table 2.1 in Appendix 2. In summary, the search returned

one roost record of a pipistrelle (*Pipistrellus* sp.) from the suburban area to the north-west, and 12 other records of bats using the area. These records cover a time span from 1998 to 2019, and five different species including serotine *Eptesicus serotinus*, noctule *Nyctalus noctula* and myotis *Myotis* sp. bats.

Field survey

- 3.7. The following sections describe the findings of the field survey work. Photos of relevant features described below are shown in Appendix 3, and a plan showing the location of identified features is shown in Figure A4.1 in Appendix 4.

Internals

- 3.8. There are no internal voids.

Externals

- 3.9. The area of works is flat-roofed, with the roofing felt supported by wooden batten extending down in front of the top of the brick walls and cladding panels. Above the cladding sections, the gap between the roofing felt lip and cladding panels is approximately 60mm wide. These gaps are considered unsuitable for supporting roosting bats as the area is exposed and the painted metal material would provide little purchase or shelter for bats (Photo 7). Above the brick sections the wall, the batten and felt roof lip are very close to the brick and provide no gaps. Generally, these sections are in good repair however there are sections where the bricks are damaged and/or the batten under the roofing felt lip has bowed outwards and roofing felt is detached. In these areas there are crevices of up to 25mm wide (Photo 8). These gaps were examined using a torch and were mostly filled with debris, insulation and cobwebs. The gaps are therefore considered to be unsuitable for roosting bats.
- 3.10. Although the brickwork is generally in reasonable repair, there are a few areas with sections of missing mortar. Where possible these were inspected closely and found to be too small to support roosting bats. However, two areas have larger sections of mortar missing: see the noted features 1 and 2 on the map in Appendix 4. Feature 1 is a horizontal gap approximately 6cm wide near the top of the wall of the southern corner of the building (Photo 10). Feature 2 is an

extended area of missing mortar around the bricks and associated gap in the top corner of the cladding panel frame on the south-west face of the building (Photo 9). Both features are considered to have low, but not negligible suitability to support crevice-dwelling bats.

- 3.11. In multiple locations holes have been drilled through the walls to run electric cables in and out of the building. Some were too small to be suitable for bats and some were infilled with debris and cobwebs indicating that they are not utilised by bats. However, features 3, 4 and 5 on the map in Appendix 4 are holes for cables running through which have sufficient space to allow a bat entry to the internal wall cavities. These features are all located on the second story of the building, preventing a close examination of the holes, however, they appeared unblocked from the ground vantage, and are considered to have low suitability for support roosting bats.
- 3.12. There were no signs of bats such as droppings, urine staining, fur rubbing marks and feeding signs on any of the surveyed parts of the building.

Habitats for foraging, commuting, and other activity

- 3.13. Figure A1.2 in Appendix 1 shows the on-site habitats and immediate context. The mature trees on site and at the site boundary provide a network of moderate quality foraging habitat, although the hardstanding, buildings and amenity grass playing field are of low quality.
- 3.14. The landscape context of the site is shown in Figure A2.1 in Appendix 2. An area of high-quality foraging habitat of waterbodies and woodland is situated from approximately 850m west of site, however ecological linkage in this direction is poor and limited to suburban gardens. In contrast there is good habitat connectivity to the south-east, where the trees on site are connected to several areas of woodland, including a larger block of woodland 450m east known as The Queen's Inclosure SINC. These woodlands and linking tree lines are likely to be used by foraging and commuting bats.

4. Discussion

Preliminary Roost Assessment

- 4.1. Although in a predominantly urban area, the school is considered to be in an area of moderate quality habitat for bats. The site includes lines of mature trees that are reasonably close to extensive woodland likely used by commuting and foraging bats.
- 4.2. The section of building to be re-clad does not have large internal voids which would be suitable for void-dwelling species. However, several holes in the brickwork from cables or missing mortar provide gaps which could be utilised by individual crevice-dwelling bats. The identified features are unlikely to provide conditions suitable for hibernation but may be used during the bat active season.
- 4.3. The affected part of the building is therefore considered to have low roost suitability. BCT Criteria are as follows:

Low: A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).

Impact assessment

- 4.4. The proposals seek to re-clad the southern end of the school building. This will require extensive works to the exterior, including replacing glazed areas and covering existing brickwork with cladding.
- 4.5. Therefore, the works could destroy or block access to potential bat roosts, and likely disturb, injure, or trap any bats present in these roosts at the time of the works.

Relevant legislation

- 4.6. Bats and their roosts (even when unoccupied) are legally protected under both the Wildlife and Countryside Act 1981 (as amended)¹ and the Conservation of Habitats and Species Regulations 2017².
- 4.7. This legislation makes it an offence to kill, injure or disturb bats, or to destroy or damage their roosts, even when the bats are not present. It also makes it an offence to ‘take’ a bat. For such work to legally proceed, Natural England (the Government’s statutory nature conservation agency) will issue a licence for the work to be able to proceed legally, subject to the proposals meeting certain criteria.

Planning Policy

- 4.8. Paragraph 175 of the National Planning Policy Framework (NPPF) (MHCLG, 2019) requires that when determining planning applications, if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

¹ <http://www.legislation.gov.uk/ukpga/1981/69>

² <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

5. Recommendations

Further surveys

- 5.1. The area of works at Hart Plain Junior School has been assessed as presenting low roost suitability. Following established survey guidance, it is recommended that one emergence survey is completed in suitable weather conditions during the bat active season.
- 5.2. If bats are seen emerging from or re-entering the building, then further surveys may be required to adequately characterise the roost in order to confirm species, status of the roost(s), numbers of individuals, and confirmation of access point(s).
- 5.3. Because bats' behaviour and use of roosts can often change throughout their active season (for example maternity colonies can change sites, or bats may move roost sites across a building depending on the seasonal conditions at the time, such as level of solar warming on tiles depending on the prevailing position of the sun), these surveys need to be spaced at least two weeks apart.
- 5.4. This roost characterisation allows an appropriate strategy to be developed that would ensure that impacts to bats are avoided where possible, that unavoidable impacts can be mitigated (reduced) as far as practicable, and that any residual impacts are properly compensated for during the development.
- 5.5. The planning authority will need full bat information before they can grant planning permission. This is in line with Government guidance as well as local planning policy.
- 5.6. The bat survey season (the period when they are most active and when robust survey data can be obtained) runs from May to September, with the optimum period ending in August. All surveyors should be equipped with a high-specification time expansion or full spectrum bat detector with digital recording capability to allow for subsequent analysis of recorded bat calls following the survey if necessary. Survey work can be supplemented with infrared cameras and additional infrared illuminators.

- 5.7. Surveys would take place during the period when bats are emerging / returning. It is considered that a minimum of 3 surveyors will be needed to effectively monitor the relevant areas. Surveyors would remain in place monitoring and recording bat activity from 15 minutes before sunset to up to 1.5 to 2 hours after sunset for a dusk visit or 2 hours before sunrise until 15 minutes after sunrise for a dawn visit.

Bat mitigation strategy

- 5.8. Once the survey work has been completed, and if bats no bats are seen then no further work would be needed.
- 5.9. However, if bats are found, a mitigation strategy will be developed. Survey work so far suggests that the site is only suitable for supporting small numbers of crevice-dwelling species. Roost features to accommodate these species in residential developments such as is proposed here can readily be incorporated into buildings.
- 5.10. The bat mitigation strategy will need to address four broad areas:
- New roost creation to compensate for the loss of any existing roosts.
 - Temporary roost creation (to ensure no short-term loss of roost during the works, if necessary).
 - Timing of works (to avoid particularly sensitive periods, if necessary).
 - Sensitive hand-stripping methods of key areas during the development to avoid harming any bats that may be present.

Licensing requirements

- 5.11. As discussed above, bats are legally protected. The protection makes it an offence to kill or injure bats, or to disturb them, and to destroy or damage / modify a bat roost.
- 5.12. If bats are present, then once planning permission has been obtained, a European Protected Species Mitigation (EPSM) licence can be applied for. Provided the development can pass three 'derogation' tests, Natural England

will grant the relevant licence to do this work – i.e. to modify a bat roost and disturb bats.

5.13. The three tests are:

1. *the consented operation must be for ‘preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment’; (Regulation 53(2)(e))*
2. *there must be ‘no satisfactory alternative’ (Regulation 53(9)(a)); and*
3. *the action authorised ‘will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range’ (Regulation 53(9)(b)).*

5.14. The planning authority, in considering the impacts to bats and the mitigation strategy, along with the merits of the development as a whole, are also obliged to consider these tests during their determination of the planning application.

5.15. Provided the development accords with local planning policy in all other respects, it is likely that the first two of these tests would be met. The mitigation strategy would address the third test. This will be sufficient to satisfy the planning authority and allow permission to be granted.

5.16. The information provided to the planning authority with the planning application and the full and final bat information would subsequently form the basis of the EPSM licence application to Natural England.

6. Conclusions

- 6.1. Visual bat survey work of the buildings to the south of the school complex at Hart Plain Junior School found no direct evidence of bats. However, but several areas of the structure have suitability to be used by roosting bats.
- 6.2. External inspection identified missing areas of mortar and holes through the brickwork.
- 6.3. The school lies in a landscape of moderate suitability habitat for bats.
- 6.4. Overall, the area of works was judged to be present low bat roost suitability.
- 6.5. The development works have the potential to destroy bat roosts and disturb, kill or injure bats if present at the time of works
- 6.6. Further survey work is recommended to properly establish and characterise the level and nature of bat use at the site. This will enable a suitable strategy to be developed to avoid, mitigate and compensate for any identified impacts in order to satisfy the Local Planning Authority and if necessary to support any subsequent application for a bat mitigation licence from Natural England.
- 6.7. Unless otherwise advised, the findings and recommendations in this report are solely based on the plans and brief provided to HCCET. The results and findings are valid for two years from the date of the initial field survey. HCCET should be contacted if this report is to be used after this period to check if any updating work needs to be undertaken.

References

Chartered Institute of Ecology and Environmental Management (CIEEM). (2013), *Guidelines for Preliminary Ecological Appraisal*. CIEEM; Winchester.

Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). Bat Conservation Trust; London.

MHCLG, (2019). *National Planning Policy Framework*. Ministry of Housing, Communities and Local Government; London.

Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature; Peterborough.

Appendix 1 – Existing and proposed plans

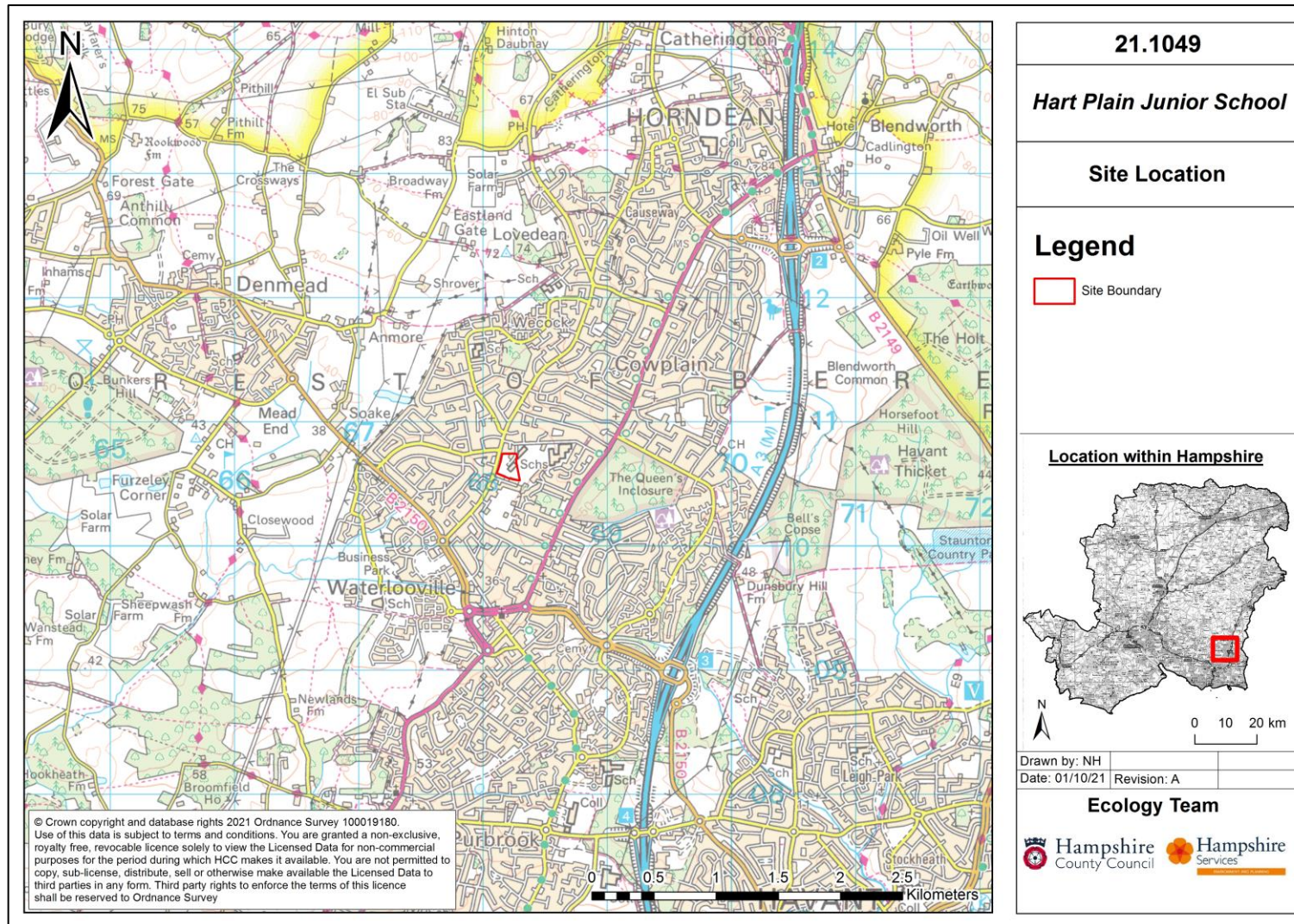


Figure A1.1 – Site location



Figure A1.2 – Aerial image of site including area of planned works

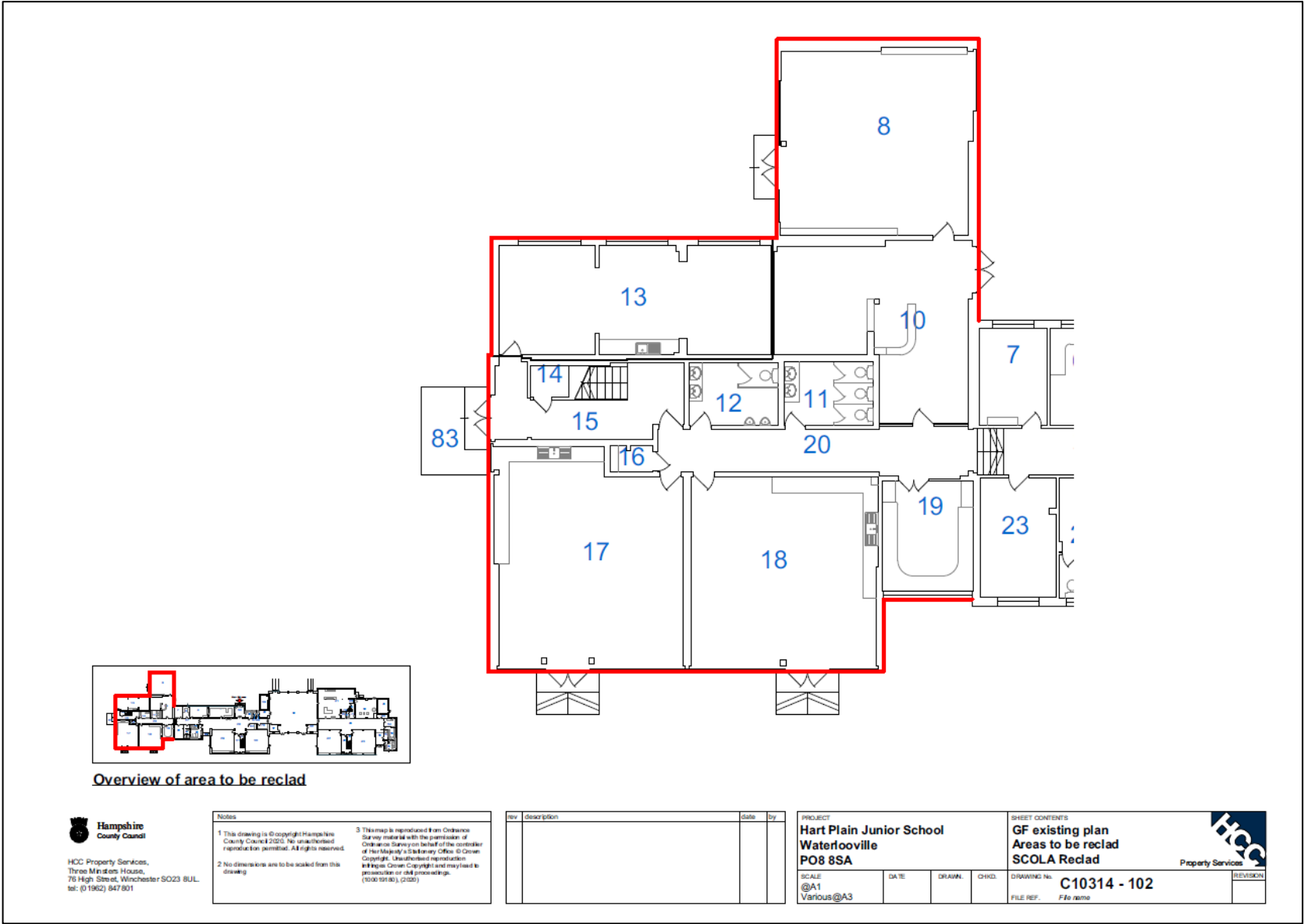


Figure A1.3 – Plan of school building showing areas to be reclad on the ground floor

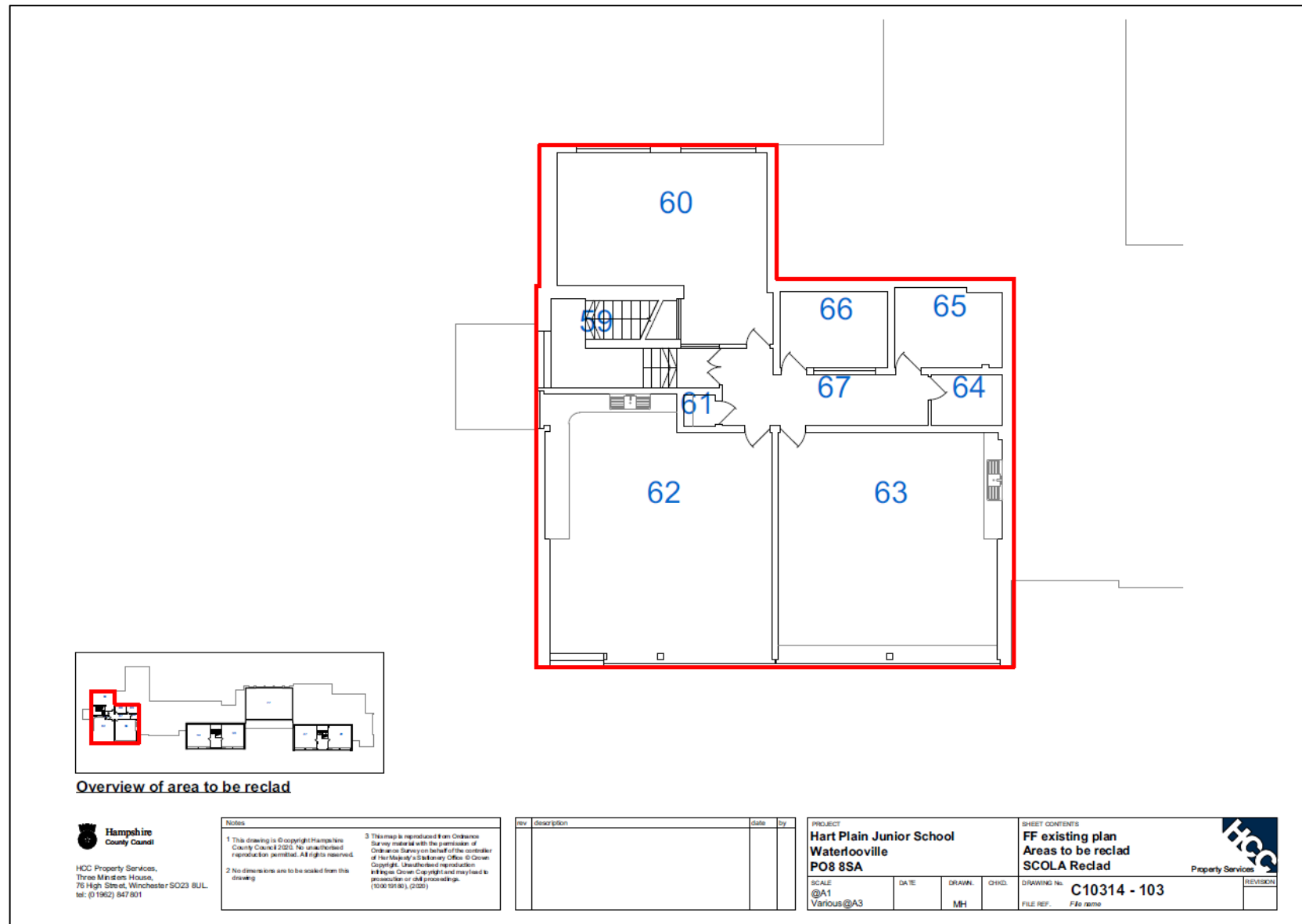


Figure A1.4 – Plan of school building showing areas to be re-clad on the first floor

Appendix 2 – Desk based assessment results

Table A2.1 Bat records within 500m of site

Common name	Taxon name	Details	Distance / bearing from centre of site
Pipistrelle species	<i>Pipistrellus</i> sp.	2005	150m N
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	2012; Survey Type: Bat Detector Survey; Behaviour: Foraging; Habitat: Garden	350m S
Pipistrelle species	<i>Pipistrellus</i>	2001; Bat Detector/Bat Walk	375m SE
Serotine	<i>Eptesicus serotinus</i>	2001; Bat Detector/Bat Walk	375m SE
Noctule	<i>Nyctalus noctula</i>	2005	425m W
Pipistrelle species	<i>Pipistrellus</i>	2005; injured - left fingers missing	500m E
Myotis species	<i>Myotis</i>	2019; Bat detector - full spectrum recording; Fmax 41.0 kHz, 2.7 ms	500m SW
Noctule	<i>Nyctalus noctula</i>	2003; Field Record	525m W
Pipistrelle species	<i>Pipistrellus</i>	1998; Roosting	525m NW
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	2011; Emergence survey; Heard not seen	550m SE
Pipistrelle species	<i>Pipistrellus</i>	2011; Emergence survey; Heard not seen	550m SE
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	2011; Emergence survey; Heard not seen	550m SE
Bats	Chiroptera	2019	625m SW

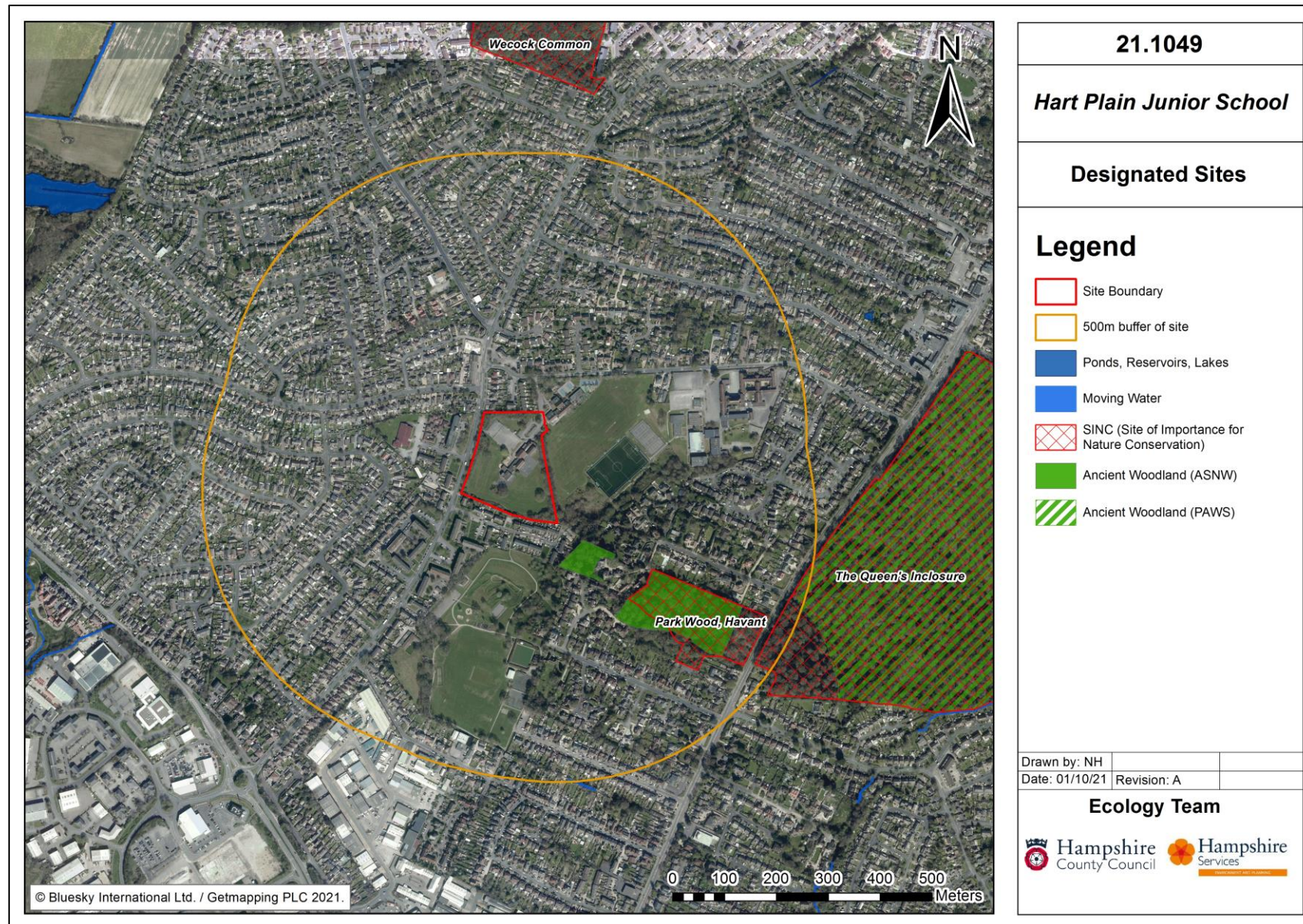


Figure A2.1 – Designated sites and areas of water within 500m of site

Appendix 3 – Photos



Photo 1 North elevation



Photo 2 West elevation



Photo 3 South-west elevation



Photo 4 North-east elevation



Photo 5 School grounds of amenity grassland and tree-lined boundary, looking south-west



Photo 6 Mature trees in school grounds

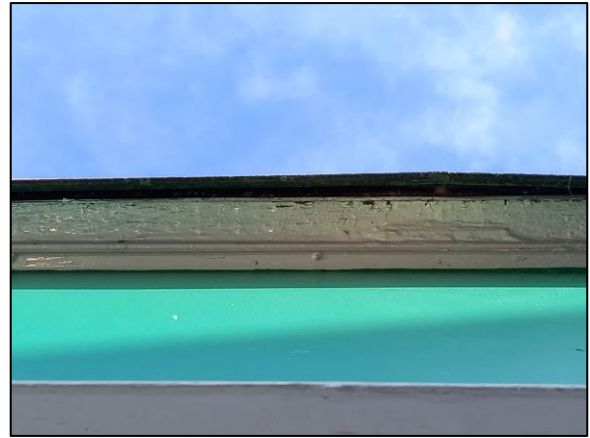


Photo 7 Overhanging lip of roofing felt over window panelling section



Photo 8 Overhanging lip of roofing felt over brick wall section



Photo 9 Missing mortar and small gap at top of panelling on SW elevation (feature 2)



Photo 10 Section of missing mortar at south corner of building (feature 1)



Photo 11 Hole for multiple cables on the NE elevation of room 60 (feature 3)



Photo 12 Hole for cable on the NE elevation of room 63 (feature 5)

Appendix 4 – Plan of site showing roost features and findings



Figure A4.1 – Locations of identified potential roosting features

Appendix 5 – Roost and activity habitat suitability criteria

Table A5.1 Roost and activity habitat suitability criteria

Suitability	Roosting habitat	Habitat for foraging, commuting and other activity
<i>Negligible</i>	Negligible habitat features on site likely to be used by bats	Negligible habitat features on site likely to be used by bats
<i>Low</i>	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain Potential Roost Features (PRFs) but with none seen from the ground or features seen with only very limited roost potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
<i>Moderate</i>	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
<i>High</i>	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland