

Bat Survey Report

Former Grove High School, Wrexham

Site: FORMER GROVE HIGH SCHOOL

Ref: 14277

Client: COLEG CAMBRIA



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- August 2015 -

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Revision	Description	Date
0	First Draft	18/08/15

1. INTRODUCTION

- 1.1 This report has been produced following an initial ecological appraisal of the former Grove High School site, Wrexham (JWE, 2014). The main building on site was found to have the potential to support roosting bats and the site as a whole had potential to support foraging and commuting bats. The site is proposed for refurbishment and re-development so that it can be used by Coleg Cambria for educational purposes.
- 1.2 Consultation with Wrexham County Borough Council (CBC) revealed that a bat roost assessment was carried out on site in 2013, identifying evidence of roosting bats (bat droppings) within the existing loft space. It was therefore confirmed that further bat survey effort would be necessary in order to accompany the planning application for the proposed scheme, to confirm the current status of bats on site.
- 1.3 This report documents the methodology undertaken with regards to an internal inspection and subsequent bat detector surveys. The findings of the survey effort are reported in detail and recommendations with regards to licensing, mitigation and compensation measures are given.

2. SURVEY METHODOLOGY

- 2.1 The entire survey effort was led by experienced bat surveyor and consultant ecologist Russell Grey (BSc, MCIEEM, CEnv). Russell is a licensed bat surveyor and has extensive project experience of roosting bats at potential development sites.
- 2.2 The survey methodology followed the guidelines provided by the Bat Conservation Trust (Hundt, 2012). An initial inspection of the internal loft space of the main building was undertaken to identify internal features that provide potential roosting sites. Such features include;
- Gable end walls
 - Ridge beams, hip beams and all other roof beams
 - Mortice joints
 - Roof timber joints, particularly ridge and hip beam joints
 - Behind purlins
 - Between tiles and roof lining
- 2.3 A systematic search for evidence of bat usage was then undertaken within the loft space, starting with the floor, particularly below potential access points, and working up any walls and along roof timbers and beams. Evidence indicating bat usage includes;
- Droppings
 - Urine staining
 - Corpses
 - Bat-fly pupal cases
 - Scratch marks
 - Staining from fur oils
 - Feeding remains
 - Squeaking and chattering from bats in occupation at the time of survey
- 2.4 The building was confirmed to have evidence of roosting bats and was therefore classed as having High Bat Roost Potential (Hundt, 2012). A total of three dusk/or bat detector surveys are considered to be suitable survey effort to determine the current presence/absence of roosting bats and to assess the nature of any bat roost.
- 2.5 Two dusk surveys and one dawn survey were carried out, using four surveyors on each occasion to ensure maximum visual coverage of the former school building. Surveyors used a variety of different bat detector devices, including a Wildlife Acoustics EM3, Batbox Duets, a Bat Scanner device and a Wildlife Acoustics SM2Bat+. A schedule of the survey times, dates and weather conditions is given in Table 2 below.

Table 2: Bat Survey Details

Survey	Date	Start Time	Sunset	Survey Duration	Weather
Internal Inspection	April 14 th	09.00	-	1hr 30m	Clear, 14°C, still, dry
Roost Survey 1	July 20 th	20.44	20.59	1hr 45m	30% cloud, 17°C, 11mph south-westerly, dry
Roost Survey 2	July 27 th	21.01	21.16	1hr 45m	100% cloud, 15°C, 4mph west-south-westerly, dry
Activity Survey	August 3 rd	21.07	21.03	1hr 15m	10% cloud, 17°C, 12mph southerly, dry
Roost Survey 3	August 4 th	04.04	05.34	1hr 30m	14°C, 15mph southerly, dry

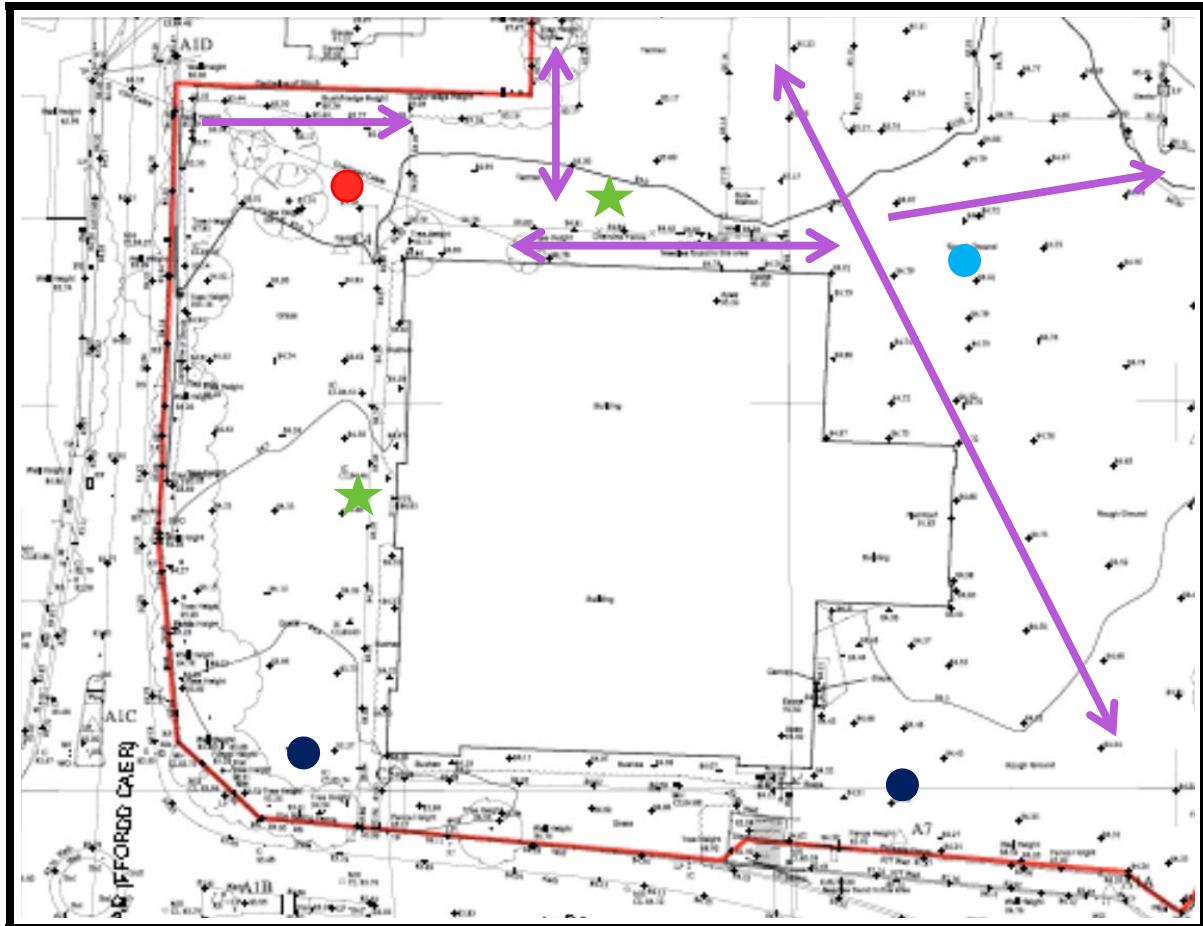
- 2.6 In addition to the dusk and dawn surveys, a single activity survey was also undertaken to determine the level of foraging and commuting activity on site. This activity survey comprised a transect route around the site which was walked simultaneously by two surveyors at opposite points along the route. A total of four stopping points were included along the route, where surveyors paused for 5 minutes to record activity.
- 2.7 The locations of the surveyors during the dusk/dawn surveys, the activity transect route and a summary of the findings of the various survey methods, are shown on Plate 3 below. The findings of each roost survey are illustrated on separate plans in Appendix II.
- 2.8 Although the survey effort is deemed adequate in terms of identifying bat activity on site, it is acknowledged that even this level of survey provides only a relative snapshot into the use or non-use of the site by bats at any given time.

3. SURVEY FINDINGS

- 3.1 The internal inspection undertaken in April 2015 included the full area of loft space within the main school building. During the inspection, not more than two bat droppings characteristic of pipistrelle sp. were found in two locations; mid-way along the southern wing and mid-way along the western wing. No further droppings were encountered.
- 3.2 During the first dusk survey, the first bat encountered was a common pipistrelle at 20.52 (shortly before sunset) flying towards the school building from the north and turning west just inside the tree lined boundary and flying off site. No further bat activity was recorded on site until 21.58, when a common pipistrelle was observed in repetitive foraging flights alongside the northern elevation of the school building. This activity continued right through until the end of the survey, at which point at least two pipistrelles were foraging along the edge of the building. At 22.11, a common pipistrelle was observed flying to the northeast corner and turning south along the eastern elevation of the building, feeding, then turning back and returning to the northern side. Two common pipistrelles were observed flying due east from the northeast corner of the building, with social calls and feeding buzzes recorded. Noctule passes were recorded (but not seen) at 22.29 and 22.40, the first was picked up at the southeast and northeast corners and the second at the southeast corner only. No bat activity was recorded at the southwest corner of the site.
- 3.3 The second dusk survey, the first bat encountered was at 21.26 (10 minutes after sunset), a single common pipistrelle flying west to east and entering the site near the northwest corner of the school building. The bat was not recorded at the northeast corner of the building and is assumed to have turned to the north. From 21.50, common pipistrelle activity was again recorded along the northern elevation of the school building, where conditions were particularly sheltered and there is scattered scrub and tall ruderal vegetation. Activity included up to two bats at any given time and on at least one occasion bats would turn north to fly towards the nearest site boundary. These pipistrelles were entering into the site boundary from the north and near to the northwest corner of the building where it is closest to the boundary hedge-line. There was five minutes of light rainfall at 22.25, during which period pipistrelle activity around the building dropped off and restarted again shortly after the rain ceased. No other species of bat were recorded and no bats were encountered at the southeast or southwest corners of the building. The SM2+ device was located along the western elevation of the building for this survey and recorded no bat passes.
- 3.4 The dawn survey was entirely uneventful, with no bats encountered during the whole survey period.

- 3.5 During the activity survey bats were encountered in the following locations only:
- Northeast corner of the site and in residential garden adjacent to the northeast corner; up to three common pipistrelles.
 - Mid-way along the eastern site boundary; up to two common pipistrelles foraging around young trees on site and adjacent mature tree line.
 - Western site boundary, adjacent to the northwest corner of the school building; numerous common pipistrelle encounters, including one bat entering the site from the west at 21.28 and flying east to forage along the building and one bat at 21.33 entering the site from the north and foraging along the building.

Plate 3: Summary of Survey Findings



- ★ Static SM2+ device
- Surveyor with Batbox Duet
- Surveyor with EM3 device
- Surveyor with Bat Scanner
- ↔ Bat flight line

3.6 In summary, no bats were seen to emerge from any part of the building during the two dusk surveys and no bats were seen to enter the building during the dawn survey. Common pipistrelles were recorded at or just after sunset, indicating that there is a roost nearby but there is no evidence to suggest this roost is currently within the site boundary. However, the bat droppings within the loft space indicate that individual bats have used the building as a roost at some point over the last 12 months. It is

therefore concluded that the building supports a day roost for individual common pipistrelles and is used on a highly infrequent basis.

- 3.7 The mix of amenity grassland, scattered trees and occasional scrub and ruderal vegetation found on site, were found to be of value to a small number of common pipistrelles. The northern elevation of the school building and adjacent boundary vegetation appear to be particularly important foraging areas and commuting routes, whilst the northeast corner of the site and northern portion of the eastern site boundary are also preferred foraging and commuting areas. Overall, the value of the site to foraging and commuting bats is confirmed to be **Local**.

4. DISCUSSION

Proposed Scheme

- 4.1 The proposed scheme is to refurbish the existing school building and grounds and to erect a new-build extension on the eastern elevation. Works will include:
- Erection of scaffolding to all external elevations.
 - Roof repairs to pitched roof structure, ridge tiles, slates, lead flashing, roof lights, bargeboards, and lay new membrane / insulation.
 - Roof repairs to flat roofs where required / replace with single ply membrane deck.
 - Replace all windows.
 - Re – point chimney, external walls, and replace decayed bricks where required.
 - Erect new extension as shown on plan in Appendix III.

Likely Impacts

- 4.2 The likely impacts on roosting bats will be the temporary loss during refurbishments of an infrequently used day roost for individual common pipistrelles. The entry/exist points for the roost are unknown as no bats have been recorded using the building during the surveys, although there are numerous entry points beneath slipped/damaged roof tiles and gaps under bargeboards and soffits. The existing roost will be modified through the repair and replacement work to the roof structure and features, including the installation of a new roof membrane.
- 4.3 The likely impacts on the use of the site by foraging / commuting bats include a small loss in trees along the southwest site boundary, removal of occasional semi-mature trees in poor condition elsewhere across the site and the re-occupation of the site and associated enhancements such as lighting, car-parking areas, removal of scattered scrub / tall ruderal vegetation and the planting of ornamental trees. The boundary trees and vegetation will not be adversely affected as there will be no significant tree losses and no artificial lighting around the site boundaries.

Legal Protection

- 4.4 All species of bat are protected in the UK under the Conservation of Habitats and Species Regulations (2010). Under this legislation, it is prohibited to injure or kill any bat, or to disturb, damage or obstruct any place of shelter used by bats. As a group of species of conservation concern, bats are a material consideration in the planning process. As a European Protected Species (EPS), full details of the current status of bats on site must be clarified prior to the determination of any planning application in order

that the Planning Authority can be satisfied that a subsequent derogation licence can be obtained from Natural Resources Wales (NRW).

- 4.5 If roosting bats are confirmed to be present within any part of the building due for potentially disturbing or harmful works under the proposed scheme, then a derogation licence will need to be obtained from NRW. Any action that deliberately or recklessly damages or destroys any roost or injures or disturbs any bat, is prohibited without an appropriate derogation licence. The loss of any bat roost would need to be compensated for by the provision of replacement roost(s) within any new development, as well as the provision of suitable foraging and commuting habitat for bats.

Mitigation & Compensation Measures

- 4.6 The 2015 bat detector surveys have observed no bats emerging from or entering into any part of the existing school building. However, internal inspections in 2013 and at the start of 2015 identified scattered bat droppings within the loft space. Therefore it has been concluded that the loft space is likely used as a day roost by individual common pipistrelle bats. The seasonal and highly infrequent use of the roost makes it almost impossible to determine whether it is ever *currently* in use. The importance of this kind of roost is relatively low and impacts can be usually be avoided and/or minimized such that a derogation licence is not required.
- 4.7 As noted above, the scale and magnitude of the likely impacts on roosting bats (where they to be present) are very low. In order to ensure that these impacts remain very low and insignificant, a scheme of Reasonable Avoidance Measures (RAMs) has been produced and is presented in **Appendix IV**. The RAMs include seasonal working restrictions, internal inspection outside of these seasonal restrictions, soft-stripping / soft-demolition of all roof works and an appointed licenced bat-worker to be available on-call for the duration of works.
- 4.8 Compensation measures should be included allowing the continued use of the full loft space by bats via the provision of suitable access points into the refurbished roof structure. Access points will include six bat access roof tiles (http://www.dreadnought-tiles.co.uk/Bat_access_tile.html); two along each of the north, west and south wings, four ridge tiles allowing bat access; two within each of the north and west wing ridges, and four access gaps at the eaves by way of bat bricks (<http://www.nhbs.com/title/184752/bat-brick>); two along each of the north and west wings. A breathable roofing membrane should not be used as they pose a risk of entanglement to bats and also alter the microclimate within roofs in ways which could impact bat usage. It is recommended that traditional roof insulation is used, such as a felt liner and sufficient natural ventilation.

- 4.9 The layout of the site is not proposed to change significantly from the existing; therefore impacts on foraging and commuting bats should be minor. However, lighting should be carefully designed such that it does not impact existing flight lines, in particular along the tree corridor nearest the northwest corner of the school building. In addition, boundaries should be subject to supplementary planting to enhance flight corridors and foraging value. This planting should comprise entirely native species and should offer a diverse structure, comprise berry-bearing species and be attractive to insects.

5. CONCLUSION

- 5.1 Indigo Surveys Ltd has undertaken a suite of bat surveys at the former Grove High School, Wrexham. The site is proposed for refurbishment and extension to bring it back into suitable condition for re-use by Coleg Cambria.
- 5.2 The survey effort comprised an internal inspection, two dusk and one dawn bat detector surveys and one walked activity transect.
- 5.3 The internal inspection identified two locations of bat droppings within the existing loft space, indicative of individual pipistrelle bats. During the bat detector surveys, no bats were observed existing or re-entering the existing school building. The activity survey identified the key foraging areas on site are adjacent to the north side of the existing building and towards the northeast corner of the site. Only common pipistrelle and noctule bats were recorded during the survey effort.
- 5.4 The evidence indicates the existing building is used very infrequently by individual common pipistrelles as a day roost. The conservation value of this kind of roost is very minor. The proposed scheme will cause disturbance and temporary loss during refurbishment works and permanent but minor modifications to the internal roof space.
- 5.5 To mitigate the likely minor impacts on roosting bats, a scheme of Reasonable Avoidance Measures has been prepared and is appended to this report. The scheme details seasonal restrictions to works during which time the risk of bats being present is negligible. Outside of this restricted period, precautionary measures such as internal inspections and soft-stripping and soft-demolition are to be implemented. Compensatory measures include the provision of continued access into the loft space for bats and supplementary planting of the site boundaries.
- 5.6 It is concluded that the conservation value of the existing school buildings for roosting bats is minor. The proposed scheme of RAMs is considered to be adequate and appropriate to avoid and mitigate any potential impacts on roosting bats. Compensatory measures will ensure the continued presence of suitable bat roosting and foraging habitat on site post-development. Overall, the residual ecological impacts are anticipated to be negligible.



Coleg Cambria | **CLIENT**
Former Grove High School, Wrexham | **SITE**
14277 | **REF**
18/08/15 | **DATE**

Appendix I

Caveat

Any and all information supplied to Indigo Surveys Ltd by/on behalf of the client is assumed to be accurate unless otherwise informed. | This advice is limited to the observations made on the date of inspection as detailed herein and any deletion, editing or alteration will result in the advice being null and void in its entirety. | This advice in its entirety may be deemed null and void if remedial works are undertaken on any area of the site, on or after the date of the survey. | No liability is assumed by the author or by Indigo Surveys Ltd for any misuse, misinterpretation or misrepresentation of this advice. | This advice is not valid in adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events. | No responsibility is assumed either by the author of this advice or by Indigo Surveys Ltd for any legal matters that may arise as a consequence. | Neither the author nor Indigo Surveys Ltd will be required to attend court or give testimony as part of this agreement. | The responsibility for any works undertaken on the basis of the recommendations of this advice does not form part of this agreement.

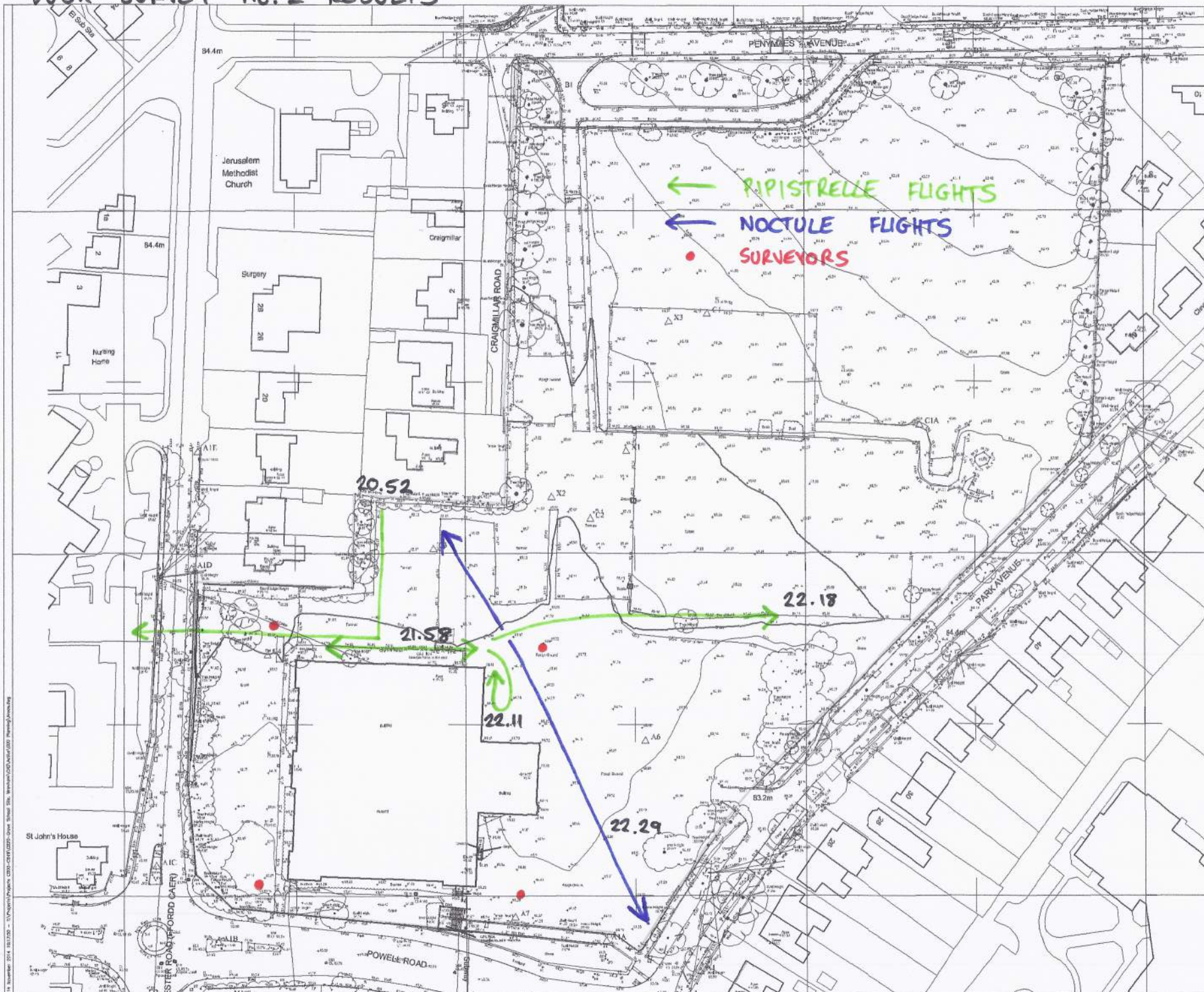


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Appendix II

Bat Survey Results Maps

DUSK SURVEY No. 1 RESULTS



Number C820.100

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Scale: 1:500 (As shown on plan)

Date: 20/09/2014

Drawn by: MC

Checked by: MC

Project: Coleg Cambria Grove Park Site

Location: Former High School, Wrexham

Destination: Topographical Survey

Day No: 86617724581

Surveyed By: MC

Scale: 1:500 (As shown on plan)

Date: 20/09/2014

Drawn by: MC

Checked by: MC

Project: Coleg Cambria Grove Park Site

Location: Former High School, Wrexham

Destination: Topographical Survey

Day No: 86617724581

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Scale: 1:500 (As shown on plan)

Date: 20/09/2014

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Location: Former High School, Wrexham

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Scale: 1:500 (As shown on plan)

Date: 20/09/2014

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Project: Coleg Cambria Grove Park Site

Location: Former High School, Wrexham

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Day No: 86617724581

Surveyed By: MC

Scale: 1:500 (As shown on plan)

Date: 20/09/2014

Drawn by: MC

Checked by: MC

Project: Coleg Cambria Grove Park Site

Location: Former High School, Wrexham

Destination: Topographical Survey

Day No: 86617724581

Surveyed By: MC

Scale: 1:500 (As shown on plan)

Date: 20/09/2014

Drawn by: MC

Checked by: MC

Project: Coleg Cambria Grove Park Site

Location: Former High School, Wrexham

Destination: Topographical Survey

Day No: 86617724581

Surveyed By: MC

Scale: 1:500 (As shown on plan)

Date: 20/09/2014

Drawn by: MC

Checked by: MC

Project: Coleg Cambria Grove Park Site

Location: Former High School, Wrexham

Destination: Topographical Survey

Day No: 86617724581

21.27



Site GROVES SCHOOL
for
COLEG CAMBRIA
Drawing LOCATION PLAN

Number C820.100

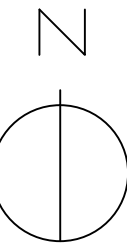
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Coleg Cambria | **CLIENT**
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Appendix III

Proposed Site Layout



NOTES:
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DRAWING. WORK TO FIGURED DIMENSIONS ONLY. CHECK ALL
DIMENSIONS ON SITE. ANY DISCREPANCIES TO BE NOTIFIED
BY THE ARCHITECT.



- | Legend | | | |
|-----------------------------|--|--------------------|--|
| Armo | | Hodge | |
| Barrier | | Gate | |
| Bottom Of Bank | | Iron Railing Fence | |
| Bollard | | Kerb Line | |
| Borehole | | Palisade Fence | |
| Building | | Paving | |
| Canopy | | Post & Panel Fence | |
| Centreline | | Post & Rail Fence | |
| Chainlink Fence | | Post & Wire Fence | |
| Channel Line | | Ramp | |
| Closure/Fence | | Road Edge | |
| Concrete Edge | | Scrub | |
| Concrete Post & Panel Fence | | Steel | |
| Concrete Slab | | Step | |
| Drop Kerb | | Top Of Bank | |
| Driveway | | Track | |
| Escarpment | | Tire Line | |
| Footpath | | Wall | |

- | Abbreviations | | | |
|---------------|--------------------|------|------------------|
| BT | BT Manhole | IC | Inspection Cover |
| CATV | Cable TV | INV | Invert Level |
| CCTV | Close Circuit TV | LP | Lamp Post |
| DPC | Damp Proof Course | MH | Man Hole |
| EARTH | Earth Point | OH | Overhead Cable |
| EP | Electricity Pole | OSBM | Ordnance Survey |
| ER | Earth Road | RS | Road Sign |
| ES | Escarpment | TP | Telegraph Pole |
| FFL | Finish Floor Level | W | Water Cover |
| G | Gully | WL | Water Level |

A	Proposed site boundary revised. North arrow added.	12.01.14 by GR
REV	DESCRIPTION	DATE BY (CHKD)

Job GROVES SCHOOL
for COLEG CAMBRIA

Drawing SITE PLAN AS PROPOSED

Number C820.101A

Scale	Date	Drawn	(Checked)
1:500@A1	11.14.14	GR	(SV)



Ainsley Gommom
architecture . urban design

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Appendix IV

Reasonable Avoidance Measures (RAMs)

This schedule of RAMs has been produced as a guide for the client and contractors and any other parties that have responsibility and/or an active role in the development of the former Grove High School, Wrexham. It provides instruction on good working practice when undertaking refurbishment works on the existing buildings where there is a risk of bats being present, in order to minimise the risk of disturbing and/or harming roosting bats and thereby causing an offence under the Conservation of Habitats and Species Regulations (2010). The advice here comprises site-specific instructions for works undertaken at the former Grove High School.

The works should be undertaken as follows:

Timing of Works

Bat roosting evidence found within the existing loft space indicates highly infrequent use of the site by individual pipistrelle bats, most likely as a day roost during the summer period. Therefore it is strongly recommended that all refurbishment works to the roof structure and associated upper brickwork be undertaken outside of the core bat activity period, taken as May to August inclusive. Outside of this period, bats are considered highly unlikely to be present on site and the risk posed to harming and/or injuring would be negligible.

If any of the required roofing refurbishment works cannot be undertaken during this low risk period, then the following measures will need to be implemented.

Pre-start Internal Inspection

A systematic search for roosting bats will be conducted by a licenced bat surveyor either on the morning of works or on the day prior to the start of works. The inspection will include all areas of the building suitable to support roosting bats, including gable end walls, ridge beams, mortice joints, timber joints and gaps in internal brickwork. Fresh evidence of bats such as droppings, staining or feeding remains should be used as indicators of likely occupation.

The bat worker will require a high powered torch, head torch, endoscope and suitable gloves to carry out the inspection. Loft boards may also be useful to ensure the entirety of the loft space can be surveyed safely.

If any bats are found during this inspection, then work will not be permitted to start until a derogation licence has been obtained from Natural Resources Wales (NRW).

Soft-strip / Soft-demolition

Following on from the internal inspection detailed above, the working areas of the roof should be approached with caution and dismantled with care. In particular roof and ridge tiles should be removed by hand and the wall head, barge boards and soffits should be carefully opened-up and removed such that any sheltering bat would be seen before the feature were entirely removed or destroyed.

Supervision by a licenced bat worker is not required for this element of the works, provided the contractor is made fully aware of the risks and that the site workers are briefed as to the potential for encountering roosting bats and how to proceed.

If any bats are found during this process then works must cease immediately and a licenced bat worker should be contacted.

Licenced Bat Worker 'On Call'

To facilitate the rapid response of a licenced bat worker in the event of a bat being found during the soft-strip phase of the refurbishment, a bat worker (or workers) will be engaged prior to the start of works to be available 'on call' during this period. The bat worker(s) must be able to attend site on the same day that any bat is found so that appropriate advice can be given. This may be that the bat be left in situ if safe to do so, or else that it is rescued and removed from the working area, placed in a bat box and released later that evening on site.

In the event that a bat is discovered during the stripping works on site, a retrospective licence may be required to be obtained from NRW.