

Building Suitability Assessment for Roosting Bats and Nesting Birds

Graig Wen Cottage

Brymbo Road, Bwlchgwn,
Wrexham WA7 2HQ

Prepared for ADC
December 2017



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Version: Rev A

Ref: RC0125.01PRA

SUMMARY

Richard Castell was commissioned in December 2017 by ADC on behalf of Real Planning to undertake an assessment of the suitability of Graig Wen Cottages in Bwlchgwn for roosting bats and nesting birds. The assessment was commissioned to support a planning application for a small-scale redevelopment of two buildings at this site.

It is proposed to convert two adjoining buildings into one residential dwelling. The main building would have the tin roof sheets replaced with tiles and minor structural works to the exterior of the building, including a small, two-storey extension to the rear; the attached outbuilding would be improved resulting a small increase in height and footprint with new timber-clad walls and a tiled roof.

The assessment of the buildings found no evidence of roosting bats and the suitability of both for bats was deemed negligible. The proposed works would be extremely unlikely, therefore, to have any negative impact on roosting bats. Evidence of nesting birds was identified in Building 1 – impacts on this species group could be avoided by appropriate scheduling of works and employing measures to exclude birds from the building.

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1 INTRODUCTION

1.1 Background and Commission

- 1.1.1 Richard Castell was commissioned in December 2017 by ADC on behalf of Real Planning to undertake an assessment of the suitability of Graig Wen Cottages in Bwlchgwn for roosting bats and nesting birds. The assessment was commissioned to support a planning application for a small-scale redevelopment of two buildings at this site.
- 1.1.2 Prior to survey the client provided an illustrative masterplan outlining the redevelopment proposals for the building.

1.2 The Site

- 1.2.1 Sitting within the grounds of a residential property, the adjoining buildings for which the application is being made are centred on OS grid reference SJ 26608 53486.
- 1.2.2 The main building (Building 1) was built in 2004. It is a two-storey structure approximately 7 m in height (to the ridge line) and with a footprint of approximately 11 m by 4 m. It has a double-pitched roof covered with corrugated steel sheets laid over a breather membrane and fixed to timber rafters; the eaves are open and the rafter ends exposed. The main structure of the building is formed by concrete blocks but these have been faced with pointed natural stone on the southeast and southwest elevations. The ground floor space currently used as a workshop store with softwood timber doors and a window on the front elevation and a small window on the rear elevation – windows and doors were closed and in good condition. The main room on the upper floor is used as office space, the smaller second room is used for storage. A roof void runs along the length of the building but its height is restricted by the vaulted ceilings below and a substantial amount insulation material used on its floor; the internal structure is complex with many trusses but no ridgeboard.
- 1.2.3 The adjoining structure (Building 2) is a smaller, two-storey “shed” approximately 4 m in height (to the ridge line) and with a footprint of approximately 4 m by 4 m. It has a double-pitched roof covered with corrugated steel sheets laid over bitumen felt and fixed to timber rafters; the eaves are open. The building has a sawn timber frame with horizontal timber cladding. The southeast elevation has a single ground floor window and a softwood timber door that provides access to the ground floor with stairs leading to the upper floor; the northeast elevation has a single ground floor window and an upper floor softwood timber door – windows and doors were closed and in good condition. Both floors are currently used as a feed store.
- 1.2.4 Images of the buildings are provided at Appendix 1.

1.3 Development Proposals

- 1.3.1 It is proposed to convert the buildings into one residential dwelling. The main building would have the tin roof sheets replaced with tiles and minor structural works to the exterior of the building, including a small, two-storey extension to the rear; the attached outbuilding would be improved resulting a small increase in height and footprint with new timber-clad walls and a tiled roof. Drawings of the existing and proposed are provided at *Figure 1*.

1.4 Legislation and Policy

- 1.4.1 All species of British bat are listed in *Annex IV* of the *European Habitats Directive*, i.e. they are European Protected Species. For European protected species, it is a criminal offence to:
- Deliberately capture, injure or kill any such animal.
 - Deliberately disturb wild animals of any species.
 - Damage or destroy a breeding or resting place of such an animal.
 - Have in one's possession or control, any live or dead animal.

- 1.4.2 The above actions can be made lawful through the granting of licenses by the appropriate authorities, i.e. Natural Resources Wales. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety or other imperative reasons of over-riding public interest), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.
- 1.4.3 Bats are also protected under *Schedule 5 of the Wildlife and Countryside Act 1981 (as amended)*. Schedule 5 animals are protected from intentional killing, injuring or taking; possessing (including parts or derivatives); intentional or reckless damage, destruction or obstruction of any structure or place used for shelter or protection; selling, offering or exposing for sale, possessing or transporting for the purpose of sale (alive or dead, including parts or derivatives).
- 1.4.4 All birds, their nests and eggs are protected by law and it is an offence, with certain exceptions, to intentionally or recklessly kill, injure or take any wild bird; intentionally or recklessly take, damage or destroy or otherwise interfere with the nest of any wild bird while it is in use or being built; intentionally or recklessly obstruct or prevent any wild bird from using its nest; or intentionally or recklessly kill take or destroy the egg of any wild bird.

1.5 Survey Aims

1.5.1 Survey aimed to:

- Determine the suitability of the building to support roosting bats and nesting birds.
- Assess the likely impacts of the proposed redevelopment on these species groups.
- Advise on the requirement for further survey, mitigation, compensation or licensing should the proposed re-development be considered likely to result in adverse impacts on roosting bats or breeding birds.

2 METHODOLOGY

2.1 Surveyors and Conditions

- 2.1.1 The assessment was conducted during daylight hours on the 14th December 2017 by Richard Castell BSc. Richard is a highly-experienced, multi-species ecologist with 22 years' experience in the environmental sector, working as an ecological consultant for the past 13 years.
- 2.1.2 Weather conditions during the survey were dry with scattered clouds; the air temperature was 4°C with a 10 mph wind from the southwest.

2.2 Background Data Search

- 2.2.1 The NBN Gateway was consulted for records of bats within a 1 km search area.

2.3 Preliminary Roost Assessment

- 2.3.1 The suitability of the buildings for roosting bats was assessed following guidance outlined in Bat Surveys for Professional Ecologists – Good Practice Guidelines (The Bat Conservation Trust 2016). Accessible roof voids, the exterior of the buildings were inspected for any evidence of bats, e.g. droppings, and to identify any features that could provide suitable roosting sites; inaccessible features were examined from the ground using 8x25 compact binoculars.
- 2.3.2 The potential of each building to support roosting bats was classified according to the suitability for roosting bats in line with the criteria set out at *Table 2.2*. The results of this assessment inform the degree of further survey effort required to determine the presence or likely absence of roosting bats.

Table 2.2: Evaluation of suitability of structures and trees for roosting bats

SUITABILITY	ROOSTING HABITATS
NEGLIGIBLE	Negligible habitat features on site likely to be used by roosting bats.
LOW	A structure with one or more potential roost sites that could be used by individual bats opportunistically. These potential roost sites do not, however, provide enough space, shelter, protection, appropriate conditions ¹ 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); or, A tree of sufficient size and age to contain potential roost features (PRF) but with none seen from the ground or features with only very limited roosting potential.
MODERATE	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).
HIGH	A structure or tree with one or more potential roost sites that are obviously suitable for use by large 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.

¹ For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance

2.4 Breeding Birds

- 2.4.1 The interior and exterior of each building was, where possible, examined for evidence of recent nesting activity and for features that could provide opportunities for cavity-nesting species.

2.5 Limitations to Survey

- 2.5.1 Access to the roof void in Building 1 was limited to views from the loft hatch due to the restricted space inside. The inspection was, however, considered adequate to determine the suitability of the space for roosting bats.

2.5.2 The interior of building 2 could not be accessed but views through the ground floor window were sufficient to determine the construction style of this building and assess its potential for bats.

3 RESULTS

3.1 Background Data Search

- 3.1.1 The data search returned no records of any bat species within 1 km of the Site. An extended 2 km search area produced a 2012 record of a Whiskered/Brandt's Bat *Myotis mystacinus/brandtii* roost to the north.

3.2 Preliminary Roost Assessment

Building 1

- 3.2.1 No evidence of roosting bats was found on either the interior or exterior of this building. The roof void, although open at the eaves, was narrow and only c. 1 m in height, it was also cluttered (roof trusses, storage boxes and insulating material) and lacked a ridgeboard, thus rendering it unsuitable for species such as Brown Long-eared Bat and Lesser Horseshoe Bat. No suitable roosting features for crevice-roosting species were identified in the internal structure of the space and the metal roof also lacked suitable roost sites and had poor thermal properties to support roosting. The presence of nesting Jackdaws *Corvus monedula* along the entire southwest side of the attic is likely to present a further deterrent to bats in spring and summer. Fascia boards at the gable ends of the building were flush with the masonry work. Pointing around the stonework and blocks that formed the exterior walls was in good condition with no gaps or crevices suitable for roosting noted. All windows and doors were closed and in good condition providing no points of egress into the interior of the building. The suitability of Building 1 for roosting bats was therefore assessed as negligible.

Building 2

- 3.2.2 No evidence of roosting bats was found on the exterior of this building. The metal roof lacked suitable roost sites and had poor thermal properties to support roosting; the timber cladding fixed directly to the timber frame was in good condition and provided no suitable roosting features for crevice-roosting species. All windows and doors were closed and in good condition providing no points of egress into the interior of the building. The suitability of Building 1 for roosting bats was therefore assessed as negligible.

3.3 Breeding Birds

- 3.1.1 The c. 100 mm high openings between each rafter at the eaves on the southeast elevation of Building 1 have been large enough for Jackdaws to enter the roof space. The species has established a breeding colony of up to 16 pairs at this side of the building. No evidence of breeding activity by other species, or obviously suitable nesting sites, were noted on this building, nor was any evidence of nesting birds noted on Building 2.

4 EVALUATION

- 4.1 The potential for roosting bats in the two buildings is negligible and, with regard to bats, there are no implications for undertaking the proposed modifications to them.
- 4.2 Evidence of nesting Jackdaw was recorded in Building 1 and, although no evidence of breeding activity could be found in Building 2, its use by birds cannot be ruled out. It is certain, therefore, that any works to the buildings during the core breeding season for British birds would damage or destroy active bird nests. Measures to avoid this unlawful act are recommended.

5 RECOMMENDATIONS

- 5.1 **Recommendation:** The proposed works should be timetabled outside of the main breeding season for birds (March-August inclusive) or, if unavoidable, preceded by a check for active nests by a suitably-experienced ecologist.

Reason: *To avoid destroying or damaging active bird nests.*

- 5.2 **Recommendation:** Measures to prevent Jackdaws entering the roof space of Building 1, e.g. installing wire netting to the eaves, could be employed prior to the start of the nesting season. The netting would need to be secured during daylight hours to prevent trapping any roosting birds.

Reason: *To avoid destroying or damaging active bird nests.*

FERGUSON-LEES, J., CASTELL, R. & LEECH, D. (2011), *A Field Guide to Monitoring Nests*. British Trust for Ornithology

HMSO (1994), The Conservation (Natural Habitats, &c.) Regulations 1994. London.

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HMSO (2006), Natural Environment and Rural Communities (NERC) Act. London

HMSO (1981), Wildlife and Countryside Act (as amended). London.

HUNDT, L. (2016), Bat Surveys: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

IEEM (2006), Guidelines for Ecological Impact Assessment in the United Kingdom. IEEM

MITCHELL-JONES, A.J. (2004), The Bat Workers Manual 3rd ed. JNCC , Peterborough

On-line resources:

- UK BAP www.ukbap.org.uk
- NBN Gateway <https://nbnatlas.org>
- MAGIC <http://www.magic.gov.uk>

7 FIGURES

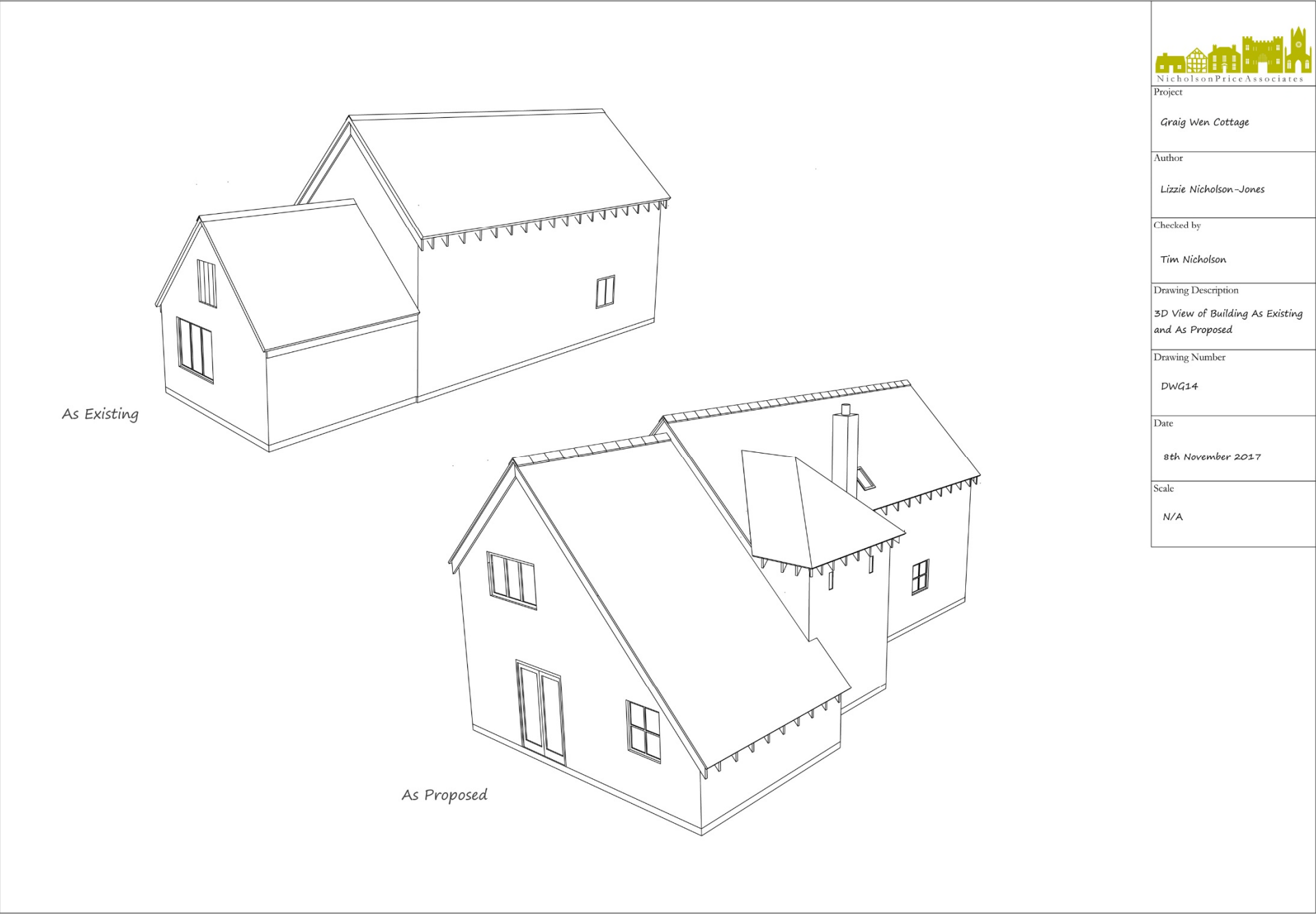
FIGURE 1: 3D VIEW OF BUILDINGS, AS EXISTING AND AS PROPOSED (SE AND NE ELEVATIONS)

FIGURE 2: 3D VIEW OF BUILDINGS, AS EXISTING AND AS PROPOSED (NE AND NW ELEVATIONS)

FIGURE 1: 3D VIEW OF BUILDINGS, AS EXISITING AND AS PROPOSED (SE AND NE ELEVATIONS)



FIGURE 2: 3D VIEW OF BUILDINGS, AS EXISITING AND AS PROPOSED (NE AND NW ELEVATIONS)



APPENDICES

APPENDIX A: PHOTOGRAPHS



P1: Building 1 (southwest and southeast elevations).



P2: Building 1 (northwest and southwest elevations).



P3: Building 1 (southeast and northeast elevations).



P4: Open eaves and evidence of Jackdaw nesting at southeast elevation of Building 1



P5: Jackdaw nest in roof space of Building 1.



P6: Building 1 roof space.



P7: Building 2 (southeast elevation).



P8: Building 2 (northeast elevation).



P9: Building 2 (northwest elevation).